User's Manual



Rev.: 1.13



Table of Contents

Revision History	
Getting Started	
Introducing VAST	
New Features	
Key Features	
VAST Server and Client Components	
Usage Scenario	
Technical Specifications	
VAST Server Functionality	
VAST LiveClient Functionality	
VAST Playback Functionality	
Minimum System Requirements	
VAST Software License	21
Reminders for VAST Software License	
VAST Installation	24
Installing the VAST Software	
·	
VAST Server	
Activating the VAST Server	
How to Configure the Server	
How to Stop/Reboot the Server	
VAST LiveClient Configuration	
Activating the VAST LiveClient and Logging in to a VAST Server	
VAST LiveClient User Interface	
Menu Bar	
Status Panel	
Help Panel	
Quick Access Bar	
Live Video Monitoring Window	
Hierarchical Management Tree	
Camera Control Panel	
Pan/Tilt/Zoom (PTZ) Control Panel	
Two Way Audio Control Panel	
Language Selection	
Alarm Window	
Alarm Filter	
Alarm State	
Instant Playback	
Instant Replay	
Audio Control	
How to Manage Devices	

Insert Cameras	
Seamless Recording	
Enable SVC	
Streaming URL	55
Insert NVR (Network Video Recorder)	
Insert a Video Server	
Update Devices	61
Delete Devices from the VAST Server	
Batch Insert Devices	
Camera Configuration	
View Live Videos	
Dual / Multiple Streams	73
Fisheye Display Modes	
Refresh	
Streaming Server	
Output Camera List	
Get Public IP	
Camera Settings	79
Remove Live Video from the Video Monitoring Window	
How to Change the VAST LiveClient Layout	
Changing the Layout of the Live Video Monitoring Window	
Switch Video Channels	
Configure Layout Mode	
Configure Layout Mode	
Rotating Video Pages	
Edit Layout	
Scheduled Layout Rotation	
Maximize/Minimize the Live Video Monitoring Window	
View Live Video on Dual Monitors	91
Simultaneously Viewing up to 128 Channels	
Using different layouts on each monitor	
View Live Video with Multiple Monitors	
How to Manage Stations	94
Relay Settings	
Insert Sub-stations	
Delete Sub-stations	
Update Stations	
How to Manage User Accounts	100
The Default User Roles and Permissions of User Accounts	
Manage a User Account	
Add a New User Account - Basic Account	
Add a New User Account - Windows AD Account	
Permission of the User Account	
Delete the User Account	
How to Set up Association Management	
Association Management	

How to Set up Alarm Management	111
Alarm Management	111
How to Manage the Virtual Matrix	. 122
The architecture of VAST Matrix	. 122
Installing VAST Matrix Program	. 123
Launching VAST Matrix	. 124
Configuration	. 125
View Settings	. 125
About	. 125
Exit	. 125
VAST Matrix Management	. 126
Matrix Management Settings	. 126
Manage VAST Matrix through VAST LiveClient	. 128
Matrix View Settings	. 129
Search VIVOCam Switches	. 132
How to Configure the Station General Settings	. 133
Server Settings	. 133
Log Settings	. 133
How to Configure Station Network Settings	. 134
Port Settings	. 134
UPnP Settings	. 134
Proxy Settings	. 134
Web Access Settings	. 134
How to Edit Recording Groups	. 135
Recording Storage Settings	. 135
Default Storage Group Settings	. 136
Add New Recording Group(s)	. 138
Multiple Stream Recording	. 139
How to Edit Recording Schedules	. 141
Edit Schedule List	. 142
Add Schedules	. 142
Rename Schedules	. 142
Delete Schedules	. 142
Load/Save Schedule Templates	. 143
Edit Camera List	. 144
Edit Time Frame List	. 145
Add New Time Frames	. 146
Recording Settings	. 147
The Concept of Repeat Frequency	. 149
Repeat Frequency: Daily Setting	. 150
Repeat Frequency: Weekly Setting (Day-based)	. 153
Repeat Frequency: Monthly Setting (Day-based)	. 156
Repeat Frequency: Yearly Setting (Day-based)	. 158
How to Manually Begin /Stop Recording	. 160
How to Edit Scheduled Backup Settings	. 161
Select Backup Source	. 161
Setup Backup Schedule	. 162
Select Backup Target	. 162

How to Configure Station Server Settings	163
DDNS Settings	163
Network Storage Server Settings	164
SMTP Settings	165
How to Use the Talk Panel	166
Add a Camera to the Talk Panel	166
Remove a Camera from the Talk Panel	168
How to Configure E-map Settings	169
Upload an E-map	169
User Interface of E-map Settings Page (View Mode)	170
Quick Access Bar	171
Status Panel	171
User Interface of E-map Settings Page (Edit Mode)	172
Device Management	173
Live View Dialog Settings	174
Open Live View Dialog	174
Send to Single View	174
E-map Link	175
How to Configure Client Settings	179
Snapshot Settings	179
Take a Snapshot	180
Recording Settings	181
Type 1: Record to EXE	181
Type 2: Record to 3GP	181
Type 3: Record to AVI	182
Built-in Media PlayerEXE	185
View Settings	187
Display Location	187
Date and Time Format	188
Video Display Mode	188
Font Settings	
General Settings	190
System Settings	190
Alarm Settings	191
Rotation Settings	
Display Settings	
Joystick Settings	
Enable Joystick	
Joystick Settings - Using VIVOTEK's AJ-001 & AJ-002	
Proxy Settings	
How to Use PiP (Picture-in-Picture)	
Enable PiP	
Global View	
ROI (Region of Interest)	
Digital Zoom In	
Snapshot & Print Zoomed In Image	
PiP Settings	
Multi-touch Mode	208

How to Configure Video Enhancement	
Basic Image Adjustment	
Defog	
Apply a Preset Defog Profile	
Create a New Defog Profile	
How to Search for a Device on the Hierarchical Management Tree	
How to Print a Video Image	
How to Lock LiveClient for Security Concerns	
How to Log out from the VAST Server	
How to Exit VAST LiveClient	
How to Configure a Logical Tree	
VAST Playback Configuration	
Activating VAST Playback and Logging in to a Server	
VAST Playback User Interface	
Menu Bar	
Status Panel	
Quick Access Bar	
Recorded Video Playback Window	
Language Selection	
Query Panel Browsing Page	
Query PanelTime Search Page	
Query PanelEvent Search Page	
Query PanelBookmark Search Page	
Query PanelAlarm Search Page	
Query PanelLog Viewer Page	
Video Clips List Window	
Playback Control Panel	
Rewind	
How to Playback Recorded Video	
Select a Recorded Video Clip	
Remove Recorded Video Clips from Video Cells	
Timeline Slider Bar and Histogram	
Zoom in / out of the Histogram	
Synchronous Playback	
Audio Control	
How to Change the Playback Layout	
Changing the Layout of the Recorded Video Playback Window	
Switch Video Channels	
Configure Layout Mode	
Maximize/Minimize the Recorded Video Playback Window	
View Recorded Video with Multiple Monitors	
How to Backup Recorded Video	
How to Search for a Video Clip in a Specific Period of time	
How to Add a Bookmark	
How to Search for Events	
Select Event Category	
Event Category- All Events	

Event Category- All Motion Events	257
Event Category- All IVA events	258
Event Category- All DI Events	258
Event Category- Named DI Events	259
Start Event Search	260
Backup the Event Videos	261
How to Search for a Bookmark	262
How to Search Logs	
Select Log Category/Log Type/Log Level	264
Search All Local Logs	
Search Login History	
Search Login Activities	
How to Configure Client Settings	
Snapshot Settings	
Export Settings	
View Settings	
Proxy Settings	
General Settings	
System Settings	
Display Settings	
How to Configure Video Enhancement	
How to Search for a Device on the Hierarchical Management Tree	
How to Print a Video Image	
How to Lock VAST Playback for Security Concerns	
How to Log out from the VAST Server	
How to Exit VAST Playback	271
Import and Export Utility	272
Export Utility	272
Import Utility	272
VAST Service Control Tool	274
Appendix A Failover Server Configuration	
Failover Configuration Process	
Appendix B Panoramic PTZ (P-PTZ) Configuration	
Enable Panoramic PTZ on VAST	
Panoramic PTZ - Event Trigger	
Enable or Disable the Panoramic PTZ Functions	293
Appendix C ONVIF Support	294
Appendix D VCA Report	296
Appendix E Support for Digital I/O Modbus TCP Modules	
Appendix F Database Merge Function	312
Appendix G Other Parameters	318

Revision History

Rev. 1.5.2:

- * VAST now supports Video Servers VS8801 & VS8401, and NVR servers NR8201 & NR8301.
- * Automatically saves the last layout when the management session is closed (for both LiveClient and Playback).
- * Added Playback as one of user's previlege options.
- * A web session with an individual camera can be launched by a double-click on a camera's icon.

Rev. 1.6.1:

- * Added description for Adaptive Frame Rate Adjustment with the new SVC codec cameras.
- * Added description for Auto Stream Size functionality.
- * Added functionalities related to FE8171V fisheye camera.
- * Added description for fisheye-specific screen control and playback functions.
- * Replaced some description for the changes/improvements made on the user interface.
- * Modified the graphic size limitation of E-map upload from 5MB to 2MB.

Rev. 1.6.18:

* Corrected editorial errors and added a conceptual drawing for the SVC-T (Temporal) function.

Rev. 1.6.1.11:

* Changed the maximum number of channel number in trial mode to 256.

Rev. 1.7.7:

- * Added description for the Bookmark function.
- * Added functional description related to the Panoramic PTZ feature in Appendix A.
- * Added description for the Instant Replay function.
- * Reflected changes on the new display and layout design.
- * Added Hot key combinations.
- * Removed the 1P3R fisheye display mode, which was removed from specifications later.

Rev. 1.8:

- * Added individual Motion detection window options in the Event Management configuration (see page 112).
- * Added description for new Export video clips function.
- * Added support for user accounts from Windows AD (Active Directory) service. (see page 103).
- * Added G.726 audio codec support.

- * Added digital input options in the Recording Schedule settings. (see page 148)
- * Added contents for the support of ONVIF rev. 2.2 in Appendix D (see page 294).
- * Added new PTZ control options (speed and continuous move) for speed dome cameras. (see page 37).
- * Added description for the Seamless Recording function. (see page 49).
- * User management: increased the number of configurable users to 1,024.
- * Added the Device Pack update option (see page 33).

Rev. 1.9:

- * Renamed and re-organized the Event Management window into the Alarm Management windows. The Filter function is added. (see page 112).
- * Added description for the vertical layouts. (see page 82).
- * Added description for the Video mode option (see page 68).
- * Added description for the common user name and password for multiple cameras (see page 67.
- * Added the Sort devices by name option (see page 191).
- * Added Storage lost as a system log type.
- * Added description for the Alarm search function (see page 232).
- * Added Appendix D for the I/O box support (Digital I/O Modbus TCP Modules). (see page 307).
- * Added the Auto tracking button (see page 36).
- * Added description of the new implementation for multiple event screens on video alarms (see page 117).

Rev. 1.10:

- * Added the ONVIF Batch Insert feature (see page 63).
- * Added the show VCA rules setting in View settings (see page 188). Note that VCA rules are not displayed on the Matrix view.
- * Added information for the Logical Tree configuration (see page 217).
- * Added the video clip information resolution/codec/fps/model name/IP/throughput.
- * Added the feature for enabling/disabling Server GUID while importing VAST configuration. (see page 272).
- * Moved Appendix D ONVIF support to page 294. Moved Appendix E Digital I/O Modbus TCP Modules to page 307.
- * Added Line Crossing and Field Detection as the triggering conditions in Recording Schedule setting.
- * Added the Output Camera List function on a right-click menu (see page 78).
- * Removed the Video settings from the Batch Insert function window.
- * Modified the Activity Adaptive streaming (Recording Settings) on page 47.

Rev. 1.11:

- 1. Described the application rules for the new software license. The new software license replaces the use of hardware dongle. The same software licenses apply to both VIVOTEK cameras and ONVIF cameras. See page 21 for details.
- 2. Added enhancement details for the Alarm state function group. See page 41.
- 3. Added H.265 codec support for the latest H.265 models.
- 4. Added description for the new device pack update function. The older Linux-based NVRs (NR8201/NR8301/NR8401) and ND8301/ND8401 do not support this function.
- 5. Added joystick related configuration options, such as keypad quick switch, channel mapping, and zoom control direction. See page 200.
- 6. Added description for the improved Instant Replay. See page 43.
- 7. Added information about the support for VIVOTEK's managed switches. See page 132.
- 8. Added the options for Disable Background Decode (see Appendix E on page 318), DI/DO status detection, and storage directory reserved space (10%).
- 9. Added Email with snapshot in the Alarm Management window. See page 115.

Rev. 1.12:

- 1. Improved displays of alarm windows with better display layout. The Alarm notification windows can display the dewarped regional views for fisheye cameras. Also, the Alarm search results can be exported to csv files. See page 120.
- 2. Added support for SSL management session with HTTPS login. See page 30.
- 3. Supports Multiple Stream Recording for recording redundancy. Different recording schedules apply to different recording streams. See page 138.
- 4. Supports Seamless Recording of VCA counting data.
- 5. Supports configurable user access time and login time limitations (Expiration). See page 108.
- 6. Supports multicast streaming for Virtual Matrix. See page 130.
- 7 Added the description for VCA People Counting Report utility in Appendix D. See page 296.
- 8. Supports SQLite since rev. 1.12. The related information will display when updating the VAST software.
- Added description for the Database Merge function in Appendix F for migration of recording files across systems. See page 312.

Rev. 1.13:

- 1. Added Failover server configuration as the Appendix A. See page 275.
- Supports bad block/life expectancy event notification from SONY's Smart SD card. See page 114.
- 3. Supports Alarm configuration using the DI/DO triggers from VIVOTEK's sub-station cameras and NVR systems. See page 111. NVR DI/DO on page 56.
- 4. Added the description for pop-up alarm windows on E-maps. See page 191.
- 5. Added the description for adding cameras using the URL command. See page 55.
- 6. Added the description for overlay camera name and time on snapshots. See page 179.
- 7. Added the description for VIVOTEK joystick function integration. See page 201.
- 8. Added the description for the Scheduled Backup enhancement. See page 161.
- 9. Added the description for the User List Export function. See page 108.

- 10. Added the description for the Scheduled Layout Rotation function. See page 86.
- 11. Added description for the Seamless Recording status. See page 49.

This revision also supports Auto Stream Size for Matirx.

Technology License Notice



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Getting Started

Introducing VAST

VIVOTEK VAST is the professional video / central management software designed for managing all VIVOTEK IP surveillance products with intuitive functions and numerous features. It supports hundreds of cameras and stations in a hierarchical structure of system for monitoring, recording, playback and event trigger management with ease-of-use and efficient control. Moreover, VAST also offers the video wall solution, VAST Matrix, for hundreds of cameras live view monitoring.

VAST integrates VIVOTEK network cameras to provide diverse solutions and applications, such as seamless recording with the cameras for uninterrupted video recording and Panoramic PTZ for 360° seamless surveillance solution. VAST performs remote management with full range of the server & client structure and constitutes a robust system for various applications, such as stores, banking and the public space.

New Features

- H.265 compression support
- Multiple Stream Recording
- VCA Counting Report
- HTTP Secure Connection Support
- Multicast Support (Matrix Only)
- User Management Enhancement

Key Features

- 128-channel Live Video Monitoring with Dual Monitors
- 16-channel Synchronous Playback
- Video Wall Solution "VAST Matrix" for Unlimited Live Views
- Auto Stream Size for Reducing Display Loading
- Instant Replay & Playback on Live Client
- Intelligent Alarm Management and Acknowledgement
- Overall Device Management through Intuitive E-map Feature
- Multiple Fisheye Dewarp Support
- Web Access via Internet Explorer
- Logical Tree Management
- Windows Active Directory Integration
- VIVOTEK Exclusive Feature: Panoramic PTZ, Seamless Recording and VCA Counting Solution
- * The number of linked devices will depend on the license on the key dongle.
- * The ability to extend devices is also subject to the network bandwidth and computer performance.

VAST Server and Client Components

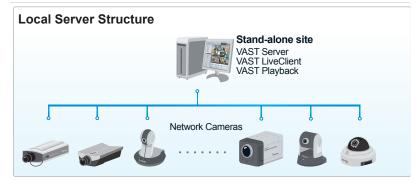
There are four components in VAST: one server component--VAST Server, three client components--**VAST LiveClient, VAST Playback**, and **VAST Matrix**.

VAST Server provides a centralized management site for video recording. **VAST LiveClient** is a client program for the user to login and modify the server's configuration, edit the server's recording storage, schedules and many other functions on the server; **VAST Playback** is another client program for the user to log in and browse the recorded video database and video clips related to specific events on the server.

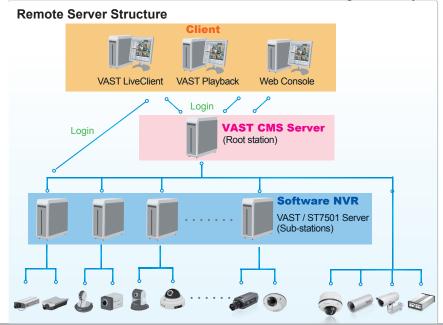
Usage Scenario

The powerful management scalability of VAST makes it suitable for managing small- to large-scale structures.

For users that manage only a few cameras, we recommend installing the client and server components on the same computer. A host with all of the three components installed is recognized as a stand-alone site. All the functions can be simultaneously performed on one single site.



For users who manage large-scale surveillance deployments, please plan the hierarchical structure first. Then you can start to add cameras to each station and connect these sub-stations to the root station. The whole hierarchical management system is thus constructed.



Please refer to page 217 for Logical Tree configuration, which allows for a flexible and useoriented privilege control.

Technical Specifications

Version	1.12
General	
Max. Number of Cameras*	Unlimited
Max. Number of Servers*	Unlimited
Max. Number of Clients	Unlimited
Support OS	Windows 8, 7, Vista, XP Windows Server 2012, 2008, 2003, 2000
Support Web Browser	Internet Explorer 11/10/9
Mobile Support	iViewer (iOS/Android)
Virtual Matrix Support*	VAST Matrix
Devices Pack	.vdp File Update

*Please refer to System Requirements Page (http://www.vivotek.com/vast/#system)

LiveView (Local Display)

Max. Channel	128-Channel (with Dual Monitors)
Layout	Multi Layout Display: 1x1, 2x2, 1+5, 3x3, 1+12, 4x4, 5x5, 1+31, 8x8, 1P+2, 1P+6, 1P+8, 2V, 3V, 4V, 2V+3 Single Layout Display, Full Screen Display, Sequential Display
Stream Application	Stream Selection & Auto Stream Size
View Application	Drag & Drop Remote I/O Control PiP (Digital Zoom) Instant Replay De-interlace Video Display Mode (Aspect Ratio, Hide Borders, Keep Top/Down Borders)
Fisheye Dewarp Mode	Fisheye Display Mode: Regular: 10, 1P, 1R, 103R, 4R Wall Mount: 1P2R, 1P3R Ceiling/Floor Mount: 2P, 4R Pro, 108R
Playback	
Max. Channel	16 Channels
Layout	Multi Layout Display: 1x1, 2x2, 1+5, 3x3, 1+12, 4x4, 2V, 3V, 4V, 2V+3 Single Layout Display, Full Screen Display, Sequential Display
Playback Mode	Asynchronous & Synchronous
Playback Control	Play, Rewind, Pause, Stop, Next/Previous Video Start, Next/Previous Frame, 1/8X ~ 64X Speed Control, Bookmark
Search Mode	Browsing, Date & Time (Fast), Event, Bookmark, Alarm, Log, Timeline, Timeline Scale
Video	
Video Format	MJPEG, MPEG4, H.264 AVC, H.264 SVC, H.265
Video Resolution	Up to 9 Megapixels
Video Enhancement	Basic Mode: Brightness, Contrast, Saturation, Hue Intelligent Mode: Defog, Rain, Snow, Fire/ Smoke
Audio	
Audio Format	G.711, G.726, AMR, AAC
Audio Capability	Two-way Audio

Audia Cantual	Mute Duradaration & Cound Disu				
Audio Control	Mute, Broadcasting & Sound Play				
Record					
Recording Time (sec.)	Pre-Record: 3-15, Post-Record: 10-60				
Recording Stream Type	Unicast				
Recording Stream	Single/Multiple				
Recording Mode	Continuous, Schedule, Manual, Event, Activity Adaptive Streaming				
Recording Setting	Recycle (Unit: Size or Day)				
Recording File Format	3GP				
External Storage Recording	NAS (SMB & CIFS)				
Alarm Management					
Alarm Period (sec.)	Max. 30				
Alarm Filter	Name, Time, Source, Event Type, State				
Alarm Setting	LiveView Alarm Notification: Fixed & Popup Alert Sound				
Schedule Type	Continuous, Schedule, Manual				
Camera Event	Motion, DI/O, Video Lost/Restore, PIR, Tampering, Temperature, IR, PPTZ, Line Crossing Detection, Loitering Detection, Field Detection				
Camera Status	Connection Status, Recording Status, Recording Error				
Substation	Substation Connection Status				
Storage Status	Storage Connection Status, Storage Capacity Status				
Station Status	License Status, Network Status, Virtual Memory Status				
External Devices Event	DI/O (With I/O Box)				
Action	Email, Start Recording, Move to preset location, Set DO, GSM Short Message, HTTP & Client notification				
Alarm State for Management	New, Assigned, In Progress, Resolved, Closed, Later, Reject, Ignore				
Alarm Result Export	.csv File				
еМар					
Source	Import Picture				
Marked	Add, Remove, Direction Control, PTZ Control & Indicator LiveView				
Event Notification	Event Icon Light Flash				
PTZ					
PTZ/ePTZ Control	Panel Control & Mouse Click Control				
PTZ/ePTZ Operation	Direction Control, Home, Zoom, Focus, Iris, Preset, Patrol (Group), Pan, Stop, Speed				
PTZ Operation Mode	Click to Move & Continuous Move				
Export					
Print	Selection Windows & All Windows				
Snapshot	BMP & JPEG				
Export File	AVI, 3GP & EXE				

Technical Specifications

Schedule NAS (SMB & CIFS) HTTPS User Management Wideo Setting Video Quality Authentication Basic Account/Windows AD Account Video Setting Video Quality User Level Administrator, Power User, User, Operator & Guadrations Manual Focus Adjustment & Full Range Scan User Control Permission, Accessible Cameras & Substations Manual Focus Adjustment & Full Range Scan User Login Time By Time & By Day ONVIF Core Spec Version 2.2 or above (By Project) User Login Schedule Weekly Setting ONVIF Core Spec Version 2.2 or above (By Project) Date & Time Sync PC ONVIF Stream Video (L-264, MPEG/A & MPEG) & Audio (C-711, One Way) Network DDNS, SMTP, UPnP, Proxy, HTTPS ONVIF Control PTZ Control (Up, Down, Left, Right & Zoom In/Out) Multicast Matrix Only ONVIF Discovery Discover the other brand camera through Insert Camera & Batch Insert Joystick VIVOTEK USB Joystick All Windows Compatible USB Joystick Al	Backup		Connection Setting	Configuration Protocol: HTTP, HTTPS Streaming Protocol: TCP, UDP, HTTP,			
Authentication Basic Account/Windows AD Account Authentication Basic Account/Windows AD Account User Level Administrator, Power User, User, Operator & Guest Audio Setting User Control Permission, Accessible Cameras & Substations Manual Focus Adjustment & Full Range Scan User Login Time Limitation By Time & By Day IP Address (NTP Server or VAST Server) & Ugating Interval User Login Schedule Weekly Setting ONVIF Core Spec Version 2.2 or above (By Project) User Login Schedule Weekly Setting ONVIF Core Spec Version 2.2 or above (By Project) Date & Time Sync PC ONVIF Control PTZ Control (Up, Down, Left, Right & Zoom In/Out) Multicast Matrix Only ONVIF Discovery Discover the other brand camera through Insert Camera & Batch Insert Language Czech, English, French, German, Italian, Japanese, Persian, Portuguese, Russian, Spanish, Simplified Chinese, Traditional Chinese VCA Solution Joystick VIVOTEK USB Joystick AI Windows* Compatible USB Joystick VCA for Business Intelligence People Counting ViVOTEK AW-GEV Series (VivoCam PoE Switch VIVOTEK AW-GEV Series (VivoCam PoE Switch Advantech ADAM-6000 Series Camera Integration User Name, Password & Camera Model Panoramic PTZ Seamless Recording Standard VCA Integration (Line Crossing & Loitering & Field Detection)	Schedule	NAS (SMB & CIFS)	Connection Setting				
Authentication Basic Account/Windows AD Account User Level Administrator, Power User, User, Operator & Guest Audio Setting Compression & Bitrate User Control Permission, Accessible Cameras & Substations Remote Focus Scan User Login Time By Time & By Day IP Address (NTP Server or VAST Server) & Updating Interval User Login Schedule Weekly Setting ONVIF Core Spec Version 2.2 or above (& Project) User Login Schedule Weekly Setting ONVIF Core Spec Version 2.2 or above (& Project) Obte & Time Sync PC ONVIF Control PTZ Control (Up, Down, Left, Right & Zoom in/Out) Multicast Matrix Only ONVIF Discovery Discover the other brand camera through Insert Camera & Batch Insert Multicast Matrix Only ONVIF Discovery Discover the other brand camera through Insert Camera & Batch Insert Joystick VIVOTEK USB Joystick VCA for Surveillance Motion Detection, Line Crossing Joystick VIVOTEK AW-GEV Series (VivoCam PoE Switch) VCA for Business People Counting Joystick VIVOTEK AW-GEV Series (VivoCam PoE Switch) VOTEK Cameras. Advanced Features Camera Integration VivoTEK Aw-GEV Series (VivoCam PoE Switch) <td>User Management</td> <td></td> <td>Video Setting</td> <td></td>	User Management		Video Setting				
User Level Administrator, Power User, Operator & Guest Remote Focus Manual Focus Adjustment & Full Range Scan User Control Permission, Accessible Cameras & Substations NTP Setting IP Address (NTP Server or VAST Server) & Updating Interval User Login Time Limitation By Time & By Day NTP Setting IP Address (NTP Server or VAST Server) & Updating Interval User Login Schedule Weekly Setting ONVIF Core Spec Version 2.2 or above (By Project) Date & Time Sync PC ONVIF Stream Video (H.264, MPEG4 & MJPEG) & Audio (G.711, One Way) Date & Time Sync PC ONVIF Control PTZ Control (Up, Down, Left, Right & Zoom In/Out) Multicast Matrix Only ONVIF Discovery Discover the other brand camera through Insert Camera & Batch Insert Language Czech, English, French, German, Italian, Japanese, Persian, Portuguese, Russian, Chinese VCA Solution Joystick VIVOTEK USB Joystick All Windows* Compatible USB Joystick VCA for Business Intelligence People Counting Joystick VIVOTEK AW-GEV Series (VivoCam PoE Switch) VIVOTEK AW-GEV Series (VivoCam PoE Switch) Line Crossing Detection, Loitering Detection, Field Detection VivOTEK Amale & Search VIVOTEK Exclusives Panoramic PTZ Seamless Recording Standard VCA Integration (Line Crossing & Loitering & Field Detection)	Authentication	Basic Account/Windows AD Account		FPS, VIGEO QUAITY			
Autor of a CuestRemote FocusManual Focus Adjustment & Full Range ScanUser Login Time LimitationBy Time & By DayIP Address (NTP Server or VAST Server) & Updating IntervalUser Login ScheduleWeekly SettingONVIF Core SpecVersion 2.2 or above (By Project)User Login ScheduleWeekly SettingONVIF StreamVideo (H.264, MPEGA & MJPEG) & Audio (G.711, One Way)Date & TimeSync PCONVIF ControlPTZ Control (Up, Down, Left, Right & Zoom In/Out)MulticastMatrix OnlyONVIF ControlPTZ Control (Up, Down, Left, Right & Zoom In/Out)MulticastMatrix OnlyONVIF DiscoveryDiscover the other brand camera through Insert Camera & Batch InsertLanguageCzech, English, French, German, Italian, Japanese, Persian, Portuguese, Russian, Spanish, Simplified Chinese, Traditional ChineseVCA SolutionDevice IntegrationVIVOTEK USB JoystickVCA for Business IntelligencePeople CountingJoystickVIVOTEK USB JoystickVivoCEM POE SwitchVivOTEK VivoCam POE SwitchPeople CountingI/O BoxAdvantech ADAM-6000 SeriesAdvanced FeaturesPanoramic PTZ Seamless Recording Standard VCA Integration (Line Crossing & Detection, Field Detection Standard VCA Integration (Line Crossing & Standard VCA Integration (Line Crossing & Standa	llserlevel		Audio Setting	Compression & Bitrate			
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User Name, Password & Camera Model Loitering & Field Detection)	Camera Insert	Manual & Search	VIVOTEK Exclusives	Seamless Recording			
Detection VCA Counting Solution	Basic Setting						



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6F, No.192, Lien-Cheng Rd., Chung-Ho, New Taipei City, 235, Taiwan, R.O.C. | T: +886-2-82455282 | F: +886-2-82455532 | E: sales@vivotek.com 🕅 www.vivotek.com

VAST Server Functionality

- Centralized management site for all the logged in clients
- Maintain the configuration of the hierarchical management list
- Hundreds of video recording channels
- Store recorded data onto multiple networked or local hard disks
- Live video for the local/remote LiveClient users
- Retrieval of recorded video for the local/remote Playback users
- Zero latency database recovery
- Multiple stream recording

LiveClient is the management interface to your VAST server. The server-related settings are made via the VAST LiveClient utility. The convenient and intuitive user interface on VAST LiveClient provides access to camera, live monitoring, and recording configurations.

VAST LiveClient Functionality

- Server function control
 - Hierarchical station management
 - User account management
 - Recording storage management
 - Recording schedule management
 - Recorded data backup
 - Event trigger management
- Flexible video live view layout
 - Dual screens for a maximum of 64 or more channels for simultaneous monitoring
 - 1x1, 2V, 1P+2, 3V, 2x2, 4V, 2V+3, 1+5, 1P+6, 3x3, 1P+8, 1+12, 4x4, 5x5, 8x8, 1+31 monitoring layouts (V stands for vertical layout)
 - 1P+2, 1P+6, and 1P+8 Panoramic PTZ layouts
 - Multiple video viewing pages
- Virtual Matrix for video wall display
- Intelligent PiP function
- E-map for overall management
- Network storage for recorded video
- Convenient switching among multiple monitors
- PTZ / E-PTZ operation panel for camera control
- Supports two way audio
- Instant playback for event recording
- Instant replay for immediate playback
- Supports joystick control

Pan Stop Patrol Spe Preset Location:

Remote configuration for network cameras

V LiveClient	of of Manhood & Street, Street, or other		STATE OF TAXABLE	-	_		
System Edit View Configuration	Layout Help					User Name: admin Station Name: VVTK_Station1	CPU 16 %
Ů₽₽₩₽₽∙₡	9 🛃 📲 🖽 🖂 <	→ \$				Login Time: 2014-05-30 17:50:17 Current Time: 2014-05-30 17:57:07	
	🖸 Live View 📩 Matrix View						
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			X VIVOTEK	X VIVOTEK	E VIVOTEK	X VIVOTEK	Y VIVOTEK
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PTZ Two Way Audio Instant Playback Activated mode: Mechanical *	YVIVOTEK	NIVOTEK	X VIVOTEK	* VIVOTEK	NINOTEK	* VIVOTEK	X VIVOTEK
PTZ operation mode: Click to move	XVIVOTEK	X VIVOTEK	X VIVOTEK	X VIVOTEK	E vivotek	X VIVOTEK	X VIVOTEK
TUP	Instant Playback Source	Time Time	e Zone Type Des	cription			
- (_ Zoom) +							

VAST Playback Functionality

- Browse the database of recorded video from the server
- Flexible video playback layout
 - Maximum 16 channels with simultaneous playback
 - 1x1, 2V, 3V, 2x2, 4V, 2V+3, 1+5, 3x3, 1+12, 4x4 video playback layouts
- Supports powerful playback functions
 - 1/8x, 1/4x, 1/2x slow-down playback
 - 2x, 4x, 8x, 16x, 32x, 64x video playback speed
- Intelligent PiP function
- Supports convenient evidence and data exporting
 - Export media files of recorded video
 - Supports snapshot and print out
- Supports convenient switch among multiple monitors
- Search engine:
 - Time search
 - Event search
 - Bookmark search
 - Alarm and Log search

Alarm search result export

- Playback while recording
- Support synchronous/ asynchronous playback

💕 Playback		and the weather		 - 0	
System Edit View Configuration Layout				User Name: admin Station Name: VVTK_Station1 Login Time: 2014-05-30 17:50:30 Current Time: 2014-05-30 17:50:36	CPU 24 % Memory 69 %
Browing Time Search Event Search Bookmark Search P	Sv	NO	EK	VOT	EK
		NO	EK	VOI	EK
	0000000		× H	II II.	0000-00-00 00:00:00
	Index Camera Start	End	Time Zone Description		

Minimum System Requirements

Before installing the VAST software, please make sure your system meets the following recommended minimum system requirements.

If you would like to install ST7501 Server only, please follow the requirements as below:

Server					
Operating System	Windows Server 2000, 2003, 2008, 20 7, Windows 8	12 / Windows XP Professional, Windows			
Recording Channels (4Mbps per CH)	up to 64 CH (256Mbps throughput)	Up to 128CH (512Mbps throughput)			
CPU	3rd Generation Intel® Core™ i5 Processors or above	3rd Generation Intel® Core™ i7 Processors or above			
RAM	4GB or above - 64CH; 8GB or above -	128CH			
Network Interface Card	Ethernet, 1 Gbit recommended				
Graphics Adapter	DirectX 9 compatible 1GB graphics card				
Hard Disk Type	Single recording group w/ one HDD SATA, SCSI, SAS (7200 rpm or faster)	Two recording group w/ two HDDs* in NTFS format			

* Each recording group can receive recordings for 60 channels.

If you would like to install both the server and client programs, please follow the requirements as below:

LiveClient and Playback					
Operating Sys	tem	Windows Server 2000, 2003, 2008, 2012 / Windows XP Professional, Windows Vista, Windows 7, Windows 8			
Clients	720P,4Mbps, H.264*	8CH	16CH	32CH	
(Display	1080P,4Mbps, H.264**	4CH	10CH	18 CH	
	1080P,4Mbps, H.265	2CH	5CH	9CH	
CPU		3rd Generation Intel® Core™ i3 Processors	3rd Generation Intel® Core™ i5 Processors	3rd Generation Intel® Core™ i7 Processors	
RAM		2 GB or above	4GB or above	4GB or above	
Network Interface Card		Ethernet, 1Gbit recommended			
Graphics Adap	oter	DirectX 9 compatible	1GB graphics card		

* Display requirements of the 3MP fisheye camera is equal to a 720P camera.

** Display requirements of the 5MP fisheye camera is equal to a 1080P camera.

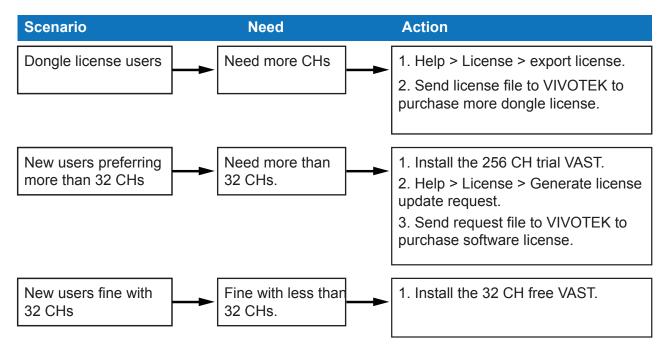
If installing Server and Client on the same PC, the overall loading on the PC is to be evaluated.



- Only users with Administrator privileges can install or use VAST on a Windows Vista system.
- The required hard disk space will depend on the video settings, the number of network cameras and recording group settings. Please add more hard disks if you want to extend the system.
 Below are approximate numbers for a week-long recording. The actual storage space required also depends on imaging parameters, e.g., a complex retail environment that involves many moving objects requires more pixel data to be transmitted over network than a simple environment such as a parking lot.
 32-CH, VGA, about 1 week recording: 750 GB
 64-CH, VGA, about 1 week recording: 2TB x 2
 64-CH, 2-megapixel, about 1 week recording: 2TB x 4

VAST Software License

To activate the software, refer to the flow chart below:



The VAST software provides 32 free channels. Since revision 1.11, the VAST software is activated using a software license instead of the original hardware dongle.

For users running the previous dongle version, there is no need to upgrade their original license. If they need the license for more channels, They can export their license file, and purchase more dongle licenses.

For users who require more than 32 channels, they can install the 256 channel trial version first, and go to **Help** > **License** page, and click on **Generate License Update Request.** Send the request back to VIVOTEK to purchase more channel licenses.

	Purchased	VIVOTEK Used	Other brand Used	Unused
System	320	0 (Free: 17/32)	1	319
•		m		
				Hide <<
	Purchased	VIVOTEK Used	Other brand Used	Unused
* VVTK_Station1	20	0 (Free: 4/32)	0	20
VVTK	300	0 (Free: 13/32)	1	299

When you purchased and received the official software license, use the **Import License** function to activate the official license.

When importing purchased licenses, you can manally select which station/license file to update, or click the **Auto Dispatch** button and let system decide the distribution of license updates especially when there are substations under a managing VAST server.

Before the Auto Dispatch function is available, license has to be individually updated on every substations.

Reminders for VAST Software License

Limitations:

1. The Batch import/export function applies when a managing VAST server needs to collect and update the licensing information from subordinate VAST substations and itself. An enterprise may have a central management server and several VAST instances running in branch offices. In that case, the substations will be listed on the device list, and may not be displayed on a hierarchical structure.

The Batch import/export function is accessed through the **Help** > **License** menu on LiveClient.

/ Impo	ort License	And and			and the second second	-	×
	Name	IP address	Version	Туре	Path		
	VVTK_Station1	192.168.6.205	1.11.0.1	SWLicense			
	VVTK	192.168.40.66	1.10.0.8	KeyDongle			
Г	111	192.168.40.1	1.10.0.8	Trial			
Г	000	192.168.40.37					
•							•
Auto I	Dispatch					OK	Close

- 2. The batch download/import function only takes effect on a VAST instance running on server, not on the Linux-based NVR.
- 3. The trial channels on VAST substations will not be available for use on a managing VAST server (one that manages multiple substations).
- 4. If you access a VAST deployment via a web console, the license related information will not be available.
- 5. In this revision, an identical software license applies to both VIVOTEK and other-brand cameras (ONVIF). You do not need to activate two different kinds of software licenses.
- 6. The Batch export update of the current license profile is supported.
- 7. The licensing mechanism does not apply to machines running Virtualized OSes (VMWare, VirtualBox, Hyper-V, Parallels), either through an upgrade or generating software license on a new installation.
- 8. If VAST is removed and then re-installed, the number of licensed channels remains intact.
- 9. If users plan to integrate the software licenses from previous dongle licenses, problems may occur if users changed the exported license file name.

- 10. The VAST rev. 1.11 supports 32 free channels, and trial licenses for up to 256 channels. Note that the unused trial licenses in a VAST substation will not be available for a managing VAST server. The 32 free licenses will be available for a stand-alone VAST server only.
- 11. The software license verifies its availability on a machine by checking the computer's main components, e.g., GPU or memory. If a VAST server has several of its main components replaced, the software license may become invalid. Note that users can only change 2 components on a substation (server components - CPU/Memory/Graphics card/Network card/Main board).
- 12. For an older VAST installation containing a VAST substation licensed through the dongle, the 32 free channels will be automatically added to the total number of licensed channels. One substation comes with 32 free channels. The added number of licensed channels will be-come available for the managing VAST server.

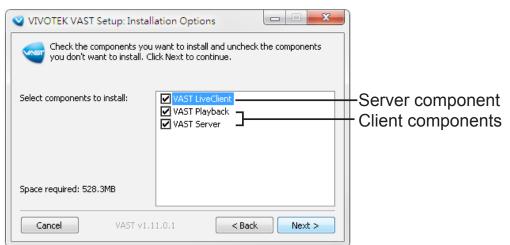
VAST Installation

Installing the VAST Software

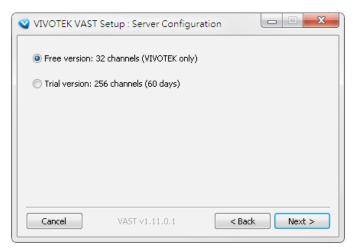
1. Run **VAST_Setup.exe** on your computer. Select the displayed language. Click **I ACCEPT** the License Agreement and specify a location to install the program.

Installer Language	VIVOTEK VAST Setup: License Agreement
Please select the language of the installer	Please read this license agreement carefully before installing.
English OK Cancel	End-User License Agreement
VIVOTEK VAST Setup: Installation Folder	OR CLICKING THE BÚTTON MARKED "I AGREE" OR "YES" - Cancel VAST v1.11.0.1 I Agree
Destination Folder	
Space required: 528.3MB Space available: 560.8GB	
Cancel VAST v1.11.0.1 < Back Next >	

- 2. Select the items you want to install, then click **Next** to continue.
- If you want to install both VAST Server component and Client components, please follow the steps below to install the database.

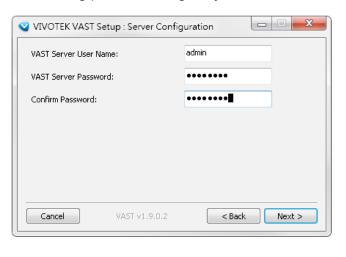


- 3. You can install the free 32 CH version, or, select the Trial 256 CH version, then click **Next** to continue.
- The trial version will expire after 60 days. You can then contact VIVOTEK's sales representatives to purchase the official software license to continue using the software.



In the LiveClient window, you can go to **Help** > **License**, and click on **Generate License Update Request**. You can send the request file to VIVOTEK's sales representatives to facilitate the purchase process.

4. Assign a **username** and **password** for the VAST Server and click **Next** to continue. A strong password is recommended using a minimum of 8 characters, in upper/lower case, and special characters. Resetting passwords regularly is also recommended.





Please record the user name and password for login later.



Once you have created a user account for a VAST station, you can login to VAST Server from any computer over the network through the LiveClient and Playback utilities.

5. An SQL Lite database is automatically installed on your server. In order to avoid conflicts among different databases, we suggest you remove the original database from your computer.

Usually, you do not need to change the Station Listen Port and RTSP port for streaming video. If necessary, e.g., when the port has been occupied by other applications, change the port number.

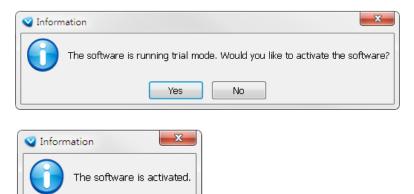
Specify a file recording path on your server. Multiple recording groups can be created, and if you have more than 32 channels, it is recommended to assign a recording path on a different hard drive or RAID volume disk other than your system drive. Click **Install** to continue the process.

VIVOTEK VAST	Setup : Server Confi	guration	
Station Name:		VVTK_Station1	
Station Listen Port:		3454	
RTSP Port:		4543	
Default Recording I	Path:	E:\recording	
Cancel	VAST v1.11.0.1	< Back	Install

The installation process should be completed within several minutes. Shortcuts will be created on your desktop. Double-click on the shortcut to start using the software.

S VIVOTEK VAST S	etup: Installing		
Installing the V	/AST Server		
Output folder: C:\Pr Delete file: C:\Progr Delete file: C:\Progr Delete file: C:\Progr Output folder: C:\Pr Extract: instdrv.exe	ogram Files (x86)\VIVO	TEK Inc\VAST\Serv Inc\VAST\Server\ Inc\VAST\Server\ Inc\VAST\Server\ TEK Inc\VAST\Tool	ver Trial.dat TrialHint.dat SubstationHi
Cancel	VAST v1.11.0.1	< Back	Close

If you installed the trial version, you will be prompted to activate the trial license. Click **Yes** to start using the trial version.



ОK

VAST Server

Activating the VAST Server

VAST Server is a service program that will run automatically when your VAST station starts. Users can also deselect the Auto launch option at windows startup on the VAST Service Control program tray. The program tray icon can be located on Windows tool bar.

How to Configure the Server

Please follow the steps below to configure the VAST Server:

- 1. Find a local/remote computer that has installed VAST LiveClient.
- 2. Activate VAST LiveClient and login to the target VAST Server.
- 3. Configure the server using the VAST LiveClient user interface.

How to Stop/Reboot the Server

Please follow the steps below to stop/reboot the server:

1. Click on the VAST Service Control program tray icon in the toolbar.



2. There are 3 options: Start Service, Stop Service, and Restart Service. It's selectable by a right-click on the Service Control program tray icon.

Open VAST Service Control
Start Service
Stop Service
Restart Service
Exit

VAST LiveClient Configuration

Activating the VAST LiveClient and Logging in to a VAST Server

VAST LiveClient allows you to monitor live video from cameras managed by the VAST Server; it is also the main user interface for server function control.

After installing the VAST LiveClient program, please follow the steps below to activate VAST LiveClient:

- 1. Run the VAST LiveClient program.
- 2. A Login window will pop up. Enter the information as shown below:
 - If you want to login to a remote VAST Server, enter the IP Address, User Name, Password and the Communication Port of the target server correctly. Click Login to log in to the target server.
 - If you want to login to a local host that is running VAST Server, check the Login local station checkbox, then the local IP Address will be displayed automatically. Enter the User Name, Password, and Communication Port of the local server for login. Click Login to login to the target server.

🔍 VAST LiveClie	ent 🔀	VAST LiveClie	nt 🗾
Log in local station		🗷 Log in local sta	ation
Address:	192.168.6.117 🔹	Address:	127.0.0.1
Authentication:	Basic Account	Authentication:	Basic Account
User Name:	admin	User Name:	admin
Password:	•••••	Password:	••••
Port:	3443 🚔 💟 Use SSL	Port:	3443 🚔 🔽 Use SSL
Proxy Settings]	Proxy Settings]
Log in	Cancel Hide <<	Log in	Cancel Hide <<

 Please refer to page 103 for how to enable and configure Windows AD accounts.

3. The VAST LiveClient monitoring window will prompt.

	rk environment needs pen the dialog. Then e				window, then click Proxy
VAST Li	veClient	23	V Proxy Settings	X	
🗖 Log in la	cal station		Enable Proxy		

		Proxy Setting	s and the second s
🔲 Log in local sta	ation	Enable Proxy	
Address:	192.168.6.117 👻	Address:	
Authentication:	Basic Account		
User Name:	admin	Port:	80
Password:	•	User Name:	
Port:	3443 💂 🔽 Use SSL	Password:	
Proxy Settings			OK Cancel
Log in	Cancel Hide <<		

• Available functions of the VAST LiveClient program will be enabled according to the role of your login account. For more details about the privileges of the user account, please refer to **How to Manage User Accounts** on page 100. If you use LiveClient to access a remote VAST server, you can use the SSL login for secure connection.

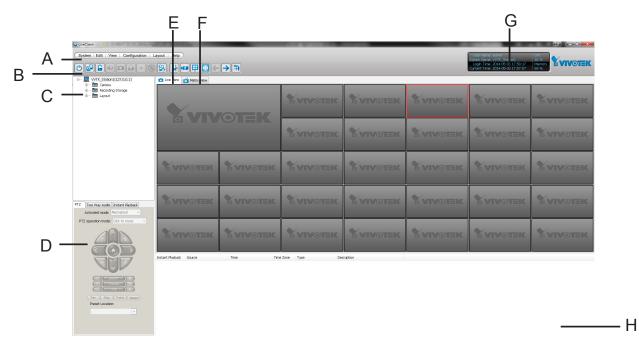
To prevent network layer attack, the management session between a VAST LiveClient and server can be encrypted using the HTTPS connection. HTTPS (Hypertext Transfer Protocol over Secure Socket Layer) encrypts the traffic between web browsers and servers.

When starting the LiveClient, click the More button, and select the Use SSL checkbox.

VAST LiveClient				
🔲 Log in local sta	ation			
Address:	192.168.6.117 👻			
Authentication:	Basic Account			
User Name:	admin			
Password:	•			
Log in	Cancel More >>			

VAST LiveClient		
Log in local station		
Address:	192.168.6.117 -	
Authentication:	Basic Account 👻	
User Name:	admin	
Password:	•	
Port:	3443 🚔 🗹 Use SSL	
Proxy Settings		
Log in	Cancel Hide <<	

VAST LiveClient User Interface



- B. Quick access bar C. Hierarchical management tree A. Menu bar
- D. Camera control panel (PTZ / Two way audio / Instant Playback control panel) E. Live view window F. Matrix view window G. Status panel H. Alarm window

Menu Bar

System Edit View Configuration Layout Help		
Menu Item	Drop-down Options	
System	Lock / Enable Click On Image (Disable Click On Image) / Language / Second View / E-map / Launch Playback / Logout / Exit	
Edit	Manually Begin Recording (Stop Manual Recording) / Snapshot / Print / Record to EXE (3GP, AVI) / Snapshot Zoomed Image / Print Zoomed Image / Find	
View	Logical Tree view/ Device Tree view/ PTZ Panel / Two Way Audio Panel / Instant Playback Panel / Alarm Window / Full Screen / Minimize / Matrix View	
Configuration	Camera Management (Insert Camera / Update Camera / Delete Cameras / Batch Insert Cameras / Camera Configuration) / Station Management / Logical Tree View management / IO Box Management / User Management / Association Management / Alarm Management / Virtual Matrix Management (Matrix Management / Matrix View Settings) / Station Settings (General Settings / Network Settings / Recording Storage Settings / Recording Schedule Settings / Scheduled Backup Settings / Server Settings / Relay Settings) / Client Settings (Snapshot Settings / Recording Settings / View Settings / General Settings / Joystick Settings / Proxy Settings / PiP Settings) / Video Enhancement (Basic Image Adjustment / Defog)	
Layout	Start Rotating (Stop Rotating) / Save to / Delete / Choose	
Help	About / License	

Status Panel

User Name: admin	CPU
Station Name: VVTK_Station1	35 %
Login Time: 2014-04-22 10:23:09	Memory
Current Time: 2014-04-22 11:14:54	61 %

User Name

Station Name (IP Address) Login Time (yyyy-mm-dd hh:mm:ss) Current Time (yyyy-mm-dd hh:mm:ss)

Help Panel

The Help panel provides software revision information and the access to the associated iViewer software in either the iOS or Android version. You can also click on the License button to review the number of cameras and manageable substations.

If necessary, you may also use the Import License button to activate the functionality you separately purchased or generate a license request.



Trial version (Remaining time: 5	52 days)			
Name	Value	Description		
Camera number	256	Maximum number of the total camera channels.		
Other brand camera number	10	Maximum number of the other brand camera.		
Outle strations and set		Maximum number of substations for this license.		
Substation number	0	Maximum number of substations for this license.		
Constation number	U	Maximum number of substations for this license.		

Device Pack Update

A Device Pack consists of information of new VIVOTEK cameras or the updated information for previous models, such as various configurations including resolutions, FPS, DI/DO, etc. For example, some panels, such as the PTZ panel, may not be available for a new PTZ camera. Your VAST server might not recognize the features of the latest VIVOTEK cameras. With the Device Pack, you can configure and implement the latest VIVOTEK models without the need to upgrade the entire VAST software to acquire the associated information. Please visit: http://www.vivotek.com/web/product/productdetail.aspx?Model=VAST. For configurations not specified in the device pack, you can still open a web console with individual cameras to change their configuration.

You can consult VIVOTEK's technical support for the latest Device Pack [CSV files (*.csv)], and use the Update... button in the Help window to replenish camera information. The update information will be displayed, and the update process is completed almost immediately.

Device Pack Update		EX
Old version:	1.0.2	
New version:	1.0.3	
Ready for update.		
		Update Cancel

Quick Access Bar

Ф		$\textcircled{\bullet} \bullet \bigotimes \textcircled{\bullet} \textcircled{\bullet} \textcircled{\bullet} \biguplus \textcircled{\bullet} \textcircled{\bullet} \textcircled{\bullet} \textcircled{\bullet} \textcircled{\bullet} \textcircled{\bullet} \textcircled{\bullet} \textcircled{\bullet}$
lcon	Function	Description
0	Exit	Exit the system
	Logout	Log out from the current station
	Lock	Click to Lock the system for security concerns (🕞 Unlock the system)
	Volume	Adjust the audio volume of the current video (🚺 Mute)
	Snapshot	Capture pictures from the focus live video cell
H	Print	Print out the pictures of focus live view window or all live video cells
	Record to Media	Record media in EXE/3GP/AVI format (
	Alert Sound	Play sound when an event triggers
B ,	Switch Screen	Switch the current window to another screen
#	Adjust SVC Level	Dynamically adjust the SVC control over frame rates
152	Remove All Connections	Remove all live videos from the live view window
Ē	Layout	Change the layout of the live view window
\square	Full Screen	Maximize the live video cell
(Page Up	Switch to the previous live view page
>	Page Down	Switch to the next live view page
1	Start / Stop Rotating	Start or stop live view layout rotating
CO2		

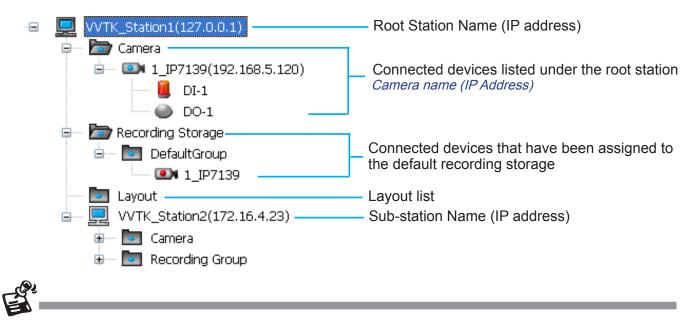
Some buttons will be disabled if the selected devices do not support the corresponding functions.

Live Video Monitoring Window

The "VIVOTEK" logo is displayed where no camera has been assigned to a video cell. The red frame (_____) represents the current selection.



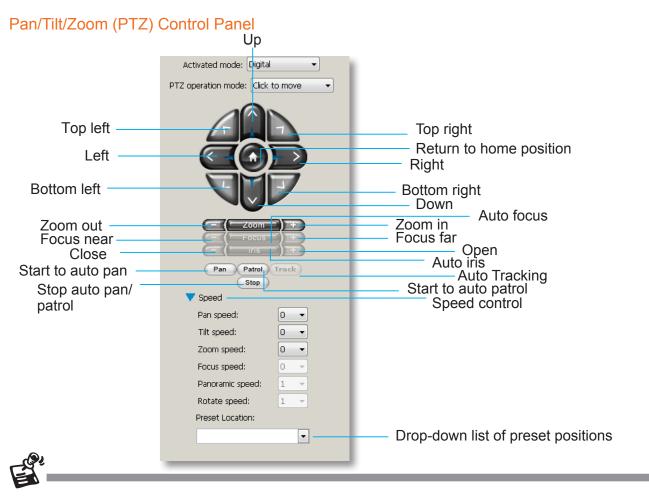
Hierarchical Management Tree



By default, the I/O device connection status display is disabled. You can turn up the display by visiting **Configuration > Client settings > General settings > Keep detecting camera DI/DO status.**

lcon	Description
<u> </u>	A station (The host that's installed with VAST Server)
	A station (The host that's installed with ST7501 Server)
💷 / 💷	VIVOTEK fixed network camera (or ONVIF cameras) Red dot signifies that the camera is recording.
æ / 🕿	VIVOTEK PTZ network camera Red dot signifies that the camera is recording.
🖳 ر 💽	VIVOTEK dome network camera Red dot signifies that the camera is recording.
😍 ا 🌏	VIVOTEK fisheye network camera Red dot indicates that the camera is recording.
i 🔜 /	VIVOTEK video server Red dot signifies that the video server is recording.
📕 / 🛄	Digital input on / off
🥌 I 🌰	Digital output on / off
	A layout of the live monitoring window
2	A station that's not able to be connected currently.
×	A device that's not able to be connected currently.

Camera Control Panel



- There are two types of PTZ control: Digital (E-PTZ for megapixel cameras) and Mechanical (PTZ cameras or fixed cameras with camera control via RS-485). If the connected cameras support PTZ/E-PTZ function, the PTZ option(s) will appear on the drop-down list. For detailed camera control settings, please refer to the user's manual that came with VIVOTEK network camera.
- Click System > Enable Click On Image to use the mouse for the control of the PTZ and E-PTZ functions in the video cells for linked cameras. An icon () will appear in the video cell as shown below.

System Edit View C	1_FD8161	2010/08/03 AM 11:25:
Loc <u>k</u> Ctrl+L Enable Click On Image Language		
Second <u>V</u> iew <u>E</u> -Map Launch <u>P</u> layback		
Logou <u>t</u> E <u>x</u> it		

• You can control the PTZ function through joystick as well. For more information regarding to the joystick configuration, please refer to instructions on page 195.

1

VIVOTEK's latest SD8xxx speed dome series supports the **Continuous Move** control. The **"Click to move"** enables one movement by every mouse click on the PTZ buttons.

When Continuous Move is enabled from the PTZ panel, you can click and hold down the mouse button on an arrow key to command the camera to continue moving to that direction. The move will stop when you release the mouse button. Also, if the pan/tilt/zoom/focus speed is configurable for a PTZ camera, you can use the **Speed** button to display the speed options: pan, tilt, zoom, focus, panoramic, and rotate speeds.

For fisheye cameras, two more options will be available: Panoramic speed and Rotate speed. These two options apply to the onscreen control for the Panoramic and Regional views.



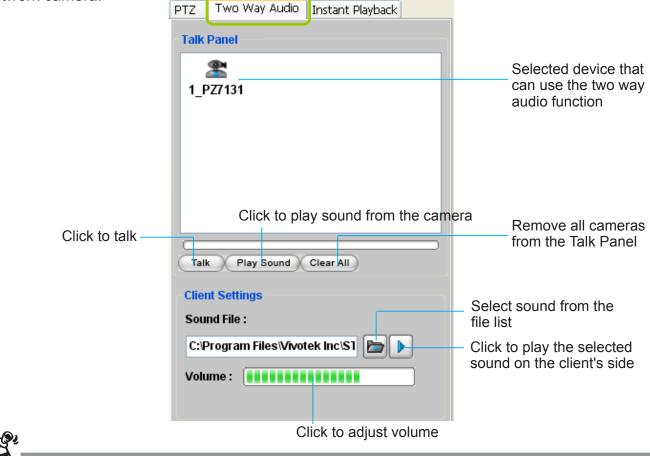
In addition to the PTZ panel, the following hot key combinations are also available:

Ctrl + NumPad (PTZ control)				
Up	Ctrl + 8			
Left	Ctrl + 4			
Home	Ctrl + 5			
Right	Ctrl + 6			
Down	Ctrl + 2			
Focus (Far - Near)	Ctrl + 1	Ctrl + 3		
Zoom (Out - In)	Ctrl + 7	Ctrl + 9		
Pan	Ctrl + /			
Stop	Ctrl + *			
Patrol	Ctrl + -			

Preset locations (pre- configured by users)	Ctrl + 0~9 (number keys above the alphabetic keys)
Full screen	Ctrl + F
Single view	Ctrl + V
Previous layout page	Alt + PageUP
Next layout page	Alt + PageDown
First layout page	Alt + Home
Last layout page	Alt + End
Snapshot	Ctrl + S
Stop alarm	Ctrl + A
Mute audio from current	Ctrl + M
stream	
Start/ Stop rotation	Ctrl + O

Two Way Audio Control Panel

The two way audio function allows the user to remotely communicate with people nearby the network camera.



- For detailed information about **How to Use the Talk Panel**, please refer to page 166.
- Only cameras that come with the two way audio function can be added to the Talk Panel.

Language Selection

VAST currently supports multi-lingual user interfaces including: English, Česky, Deutsch, Español, Farsi, Français, Italiano, 日本語, Português, Русский, 簡体中文, 繁體中文. If you want to select another language for the interface, please click **System > Language** on the menu bar to select the desired language. Please note that if you want to change the language option, a message will prompt to remind you to restart the system.

🔮 LiveClient	
System Edit View Configura	tion Layout Help
Lock Ctrl+L Enable Click On Image Language Language ▶ Second View Launch Playback Launch Playback Launch VCA Report Log out Exit	Cesky Deutsch ✓ English Español Juij Juij Français Italiano 日本語 Português Pycoxwil 简体中文 製造中文 User Defined



If you want to use "User Defined" language, please prepare images and language strings, and upload the files to the following folders:

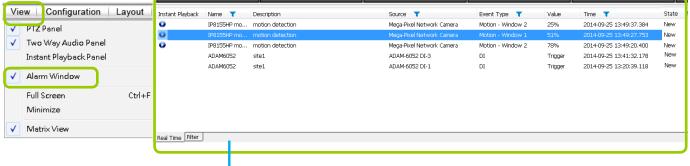
...\VAST\Client\LiveClient\language\zz_UD (language string) ...\VAST\Client\LiveClient\limage (images)

Alarm Window



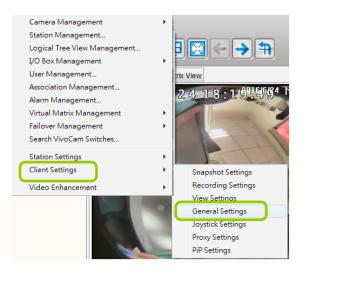
- Only the alarm-related messages will be displayed in this window. An Alarm is a configuration consisting of triggers and reactions set to activate during a specific period of time. The Alarm-related settings is configured in **Configuration > Alarm management**. See page 111 for more information.
- For the event messages of the overall system operation, please refer to the Playback > Log viewer.
- If a VAST server is reset, the Alarms will disappear from the Alarm window. You can go to the Playback utility and use the **Alarm search** function to retrieve the past events.

Click **View > Alarm Window** to open a window showing the real-time information for event triggers. If you want to hide this window, deselect this option on the menu bar.



Event Window

The default Alarm window is set to be fixed on the bottom of the LiveClient. If you want to change the Alarm window as a popup page, please open the **Configuration > Client Settings > General Settings** window to switch the display modes.



General Settings
System Settings
C Automatically log in after logging in to operating system
Automatically display in full screen after login
Auto add newly-inserted camera to video cell
Retrieve RTSP stream on specified port: 4543
Connect substation streaming via relay
Keep detecting DI/DO status
Sort camera by name
Alarm Settings
Enable live alarm notification
Enable alert sound(s)
Enable E-Map popup window
Alarm window mode:
© Popup
Rotation Settings
Enable rotation after login
Rotate the page every 10 \checkmark second(s) (3 ~ 999)
Display Settings
Maximum number of view cells 64 -
✓ Enable auto stream size: Quality first
Enable de-interlace function
Enable Instant Replay on video cell
Default replay length: 30 seconds 💌
Local streaming buffer time: 0 initial millisecond(s) (0 ~ 10000)

The Event Type field in the Alarm window shows the event category and another field Value displays the percentage of motion in the detection window. You can go to the Configuration setting page of the connected device to set the percentage.

Enable motion detection



Alarm Filter

On the Alarm panel, a list of alarms will be displayed. Click on the attributes with a funnel icon.

Insta	nt Playback 🛛 I	Name	T	Description	Source	T	Event Type	T	Value	Time 🝸	State	T	
Q	:	SD DI			SD8161 D	0I-2	DI		Trigger	2015-07-31 11:50:36.426	New		
0	:	SD DI			SD8161 D)I-2	DI		Trigger	2015-07-31 11:50:24.722	New		
Q	:	SD DI			SD8161 D)I-2	DI		Trigger	2015-07-31 11:50:13.750	New		

The Alarm Filter window will prompt. Use the Name, Time selector, and the State checkboxes in the Source and Event Type panes to specify what kinds of alarms will be displayed.

💙 Alarm Filter	March 1	
General Name: State New Assigned In Progress Resolved Closed Later Reject Ignore	Source	Event Type Category Camera Events Camera Status Substation Connection St Storage Status Station Status External Device Events
Time Start Time: 2015/ 7/31 ▼ 10:56:32 ↓ End Time: 2015/ 7/31 ▼ 11:56:32 ↓		< <u>III</u> >
		Apply Cancel

For example, you can set up a filter to display the alarms with a name associated with a specific camera, such as "bullet on the corridor." The name of the alarm is configured in **Configuration** > **Alarm** management on page 111.

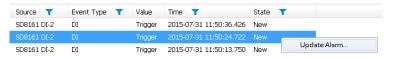
🍳 New Alarm			-	×
General >>	Trigger >>	, Action	>> Schedule	>> Detail
✓ Enable this a ✓ Enable live n Name:				
Description:			* *	
Trigger Period:	5 (sec)	0 -0-	30	
	Back	Nex	t Finish	Cancel

Use the Filter tab at the bottom of the Alarm window to display a different sorted result.

0		IP8155HP mo	motion detection
O		IP8152V-3	ddddd
Real Time	Filter		

Alarm State

Left-click to select an alarm, and then right-click to display the **Update Alarm** button.



You can change the alarm state from the pull-down menu. For example, if someone has already been sent to check out the situation, for example, an intruder broke in through a window, you can select the Assigned status. A 1024 bytes decription can be added into the alarm Note for

larm Information		Alarm H	landling	
Name: * SD DI	*		New	•
Description: * Source: * SD8161 DI-2 Event Type: * DI		Note:	Assigned In Progress Resolved Closed Later Reject Ignore	A
/alue: * Trigger Time: * 2015-07-31 11:50:36.426				

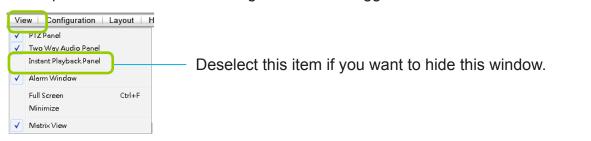
future reference.

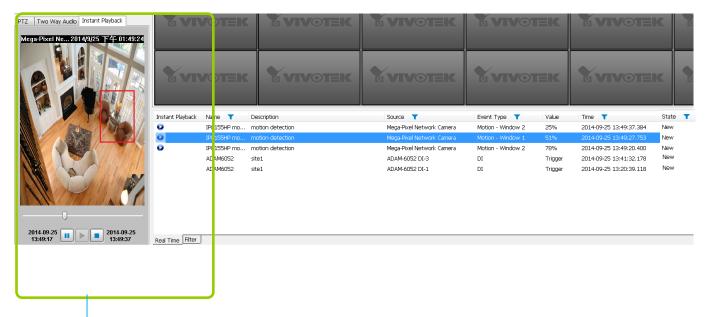
If an alarm is proved as a false alarm, the alarm can be designated as Ignore or Resolved, and so on.

The different alarm states can also be used as the filtering conditions in the Alarm filter. Single or multiple states can be selected in the filter. For example, to display the Resolved alarms only, use the Resolved state as the filter.

Instant Playback

Check **View > Instant Playback** to open the window on the panel. The entries listed in the Event panel are the short recordings made from triggered events.





Instant Playback Window with a slide bar, play, pause, and stop function

The recorded media that was triggered by an event will be indicated with a playable 👽 icon.

You can **double-click** an event on the list to playback the recorded video. Each event contains a video clip of 20 seconds in length. (The default recording data of an event is 20 seconds. For more information about event recording, please refer to page 137.)

Instant Replay

If a camera is currently recording to the VAST server, then a Replay button will be available at the lower left corner of its view cell. This allows you to immediately retrieve the video recording in the past few seconds or minutes.

The Instant Replay function enables you to quickly retrieve videos of what has just happened (20 seconds to 15 minutes ago), without the need to open the Playback utility for the past videos.

Prerequisites for Instant Replay:

- 1. The function is enabled by default, only available on a LiveClient installed on a PC.
- 2. There must be recorded videos of the immediate past. If the video streams from a camera were not recorded, you can not retrieve videos using the Instant Replay function.

NOTE:

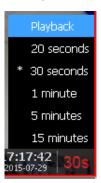
- 1. When using the Instant Replay function and you change the stream number on a video cell, the Instant Replay will be interrupted.
- 2. The Instant Replay will also be interrupted when the time comes for a rotation of Live View pages. For example, if you have multiple Live View pages and you set up a rotation of these pages by every 10 seconds, page swap (rotation) still has a higher priority even if you are viewing the Instant Replay.

How to Use:

- 1. On a selected view cell, mouse over to the lower left corner. A Replay icon will appear.
- 2. Click on it to display the Replay control bar. Click on the play button.



3. The default queue length is 30 seconds. You can click on the number on the right to change the queue length.



The Playback option allows you to directly open the Playback utility. A maximized single view window will open. In this single view, previous recording will be played, but, unlike the smaller Instant playback pane, the playback will continue until manually stopped.

This playback mode is not memorized as the norm the next time you use the Instant Replay function.

The queue length configuration stays with the view cell, and it will not go unless you remove and insert the camera again. 4. To stop the Replay and return to the Live View, click on the Return to Live button.



5. On a Replay view cell, you can apply the same Snapshot, Print, Single view and Full screen control as those on a normal view cell. You can also right-click to display the Display Mode and Video Enhancement functions.

Click and drag the playhead to skip or move to a different point in time on the playback.

An active Replay view cell is indicated by the Replay text indicator and the time of occurrence of the current playback. Replay



To change the default Replay settings, open the Configuration > Client Settings > General Settings menu.

Maximum number of	view cells 64 🔻		
🗹 Enable auto stream	n size: Quality first	•	
🔲 Enable de-interlace	function		
🗹 Enable Instant Rep	lay on video cell		
Default replay leng	th: 30 seconds 🔻]	
Local streaming buffe	r time: 0	millisecond(s)	(0 ~ 10000)

Audio Control

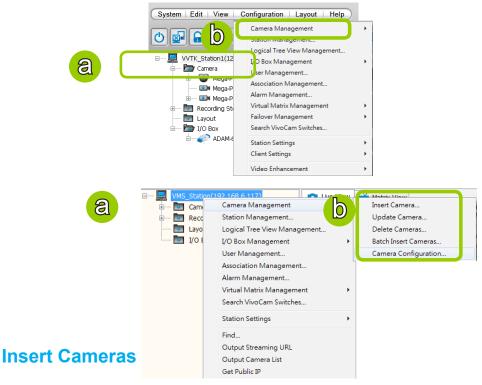


The audio function will be enabled if the device is equipped with an internal or external microphone. For detailed audio control settings, please refer to page 138.

How to Manage Devices

Please follow the steps below to open the Camera Management window:

- a. Select the station from the hierarchical management tree.
- b. Click **Configuration > Camera Management** on the menu bar (or **right-click** the station, then select **Camera Management**).
- c. Then you can choose to insert, update, delete, or batch insert cameras.



Please follow the steps below to add devices to a station:

- a. Click **Configuration > Camera Management > Insert Camera** on the menu bar (or **right-click** the device/station, then select **Camera Management > Insert Camera**).
- b. The **Camera Management Insert** window will pop up. The device tree managed by the station will be displayed in the left Camera List window.
- c. Enter the **Camera Name**, **IP address** (or you can enter an **IP address** and check **Auto** to get a camera name automatically) and configure the **Connection Settings**.
 - If the camera is on the LAN, you can click Search Camera to detect all VIVOTEK network cameras on the LAN. A Camera List window will pop up and show a list of detected cameras on the LAN. On the top of Camera List window, you can select "List the cameras which are not inserted" or "List all cameras". The items listed below will then change accordingly. You can click Mac, IP Address, Model, HTTP port to sort the items. Then select a camera from the list to insert to the station.
 - The streaming protocol determines how the live video stream is sent from the camera to the local computer. Please refer to the note on the next page for a detailed description of each transmission protocol. Specify the recommended live monitoring stream for the device. If you want to change the live viewing stream, please refer to the next page to update the camera settings. Or you can **right-click** the desired cell, then select a desired stream. Please refer to Dual / Multiple Streams on page 73 for a detailed illustration.
 - Click Detect Model to detect the device. The Model Name and MAC Address of the device will
 automatically be displayed in the respective fields if the connection is successful.
- d. If you want to make sure you are connected to the target device, click **Connection Test** to preview the live video from the device.

Camera Management for VVTK_Station1	- Insert				
Camera List	Brand:		∩7·47 2₫∰	1/23 下午 04:48:01	
	Branu;	VIVOTEK	UZITZITO		
	Module:	- 🔻	Pause Clean		
	Camera Name:	🛛 🖾 Auto	Each		
	Address:	192.168.6.175	An Locks Trans Report and Street	- 19 A D A	
	Model Name:	IP8162			
	MAC Address:	0002D1157B40			
				Connection Test	Q
	Connection Se	ttings Recording Settings	-		
	User Name:		Password:		
	Configuration	Protocol: HTTP 🔻	Configuration Port:	80	
	Streaming Pro	tocol: TCP 🔹	Channel:	1	
	Initial	Stream: 1			
	Automatical	y add camera into recording stor	age DefaultGroup	•	
			In:	sert Close	
C	Search Cameras	100			x
C	List the cameras	which are not inserted		Re	efresh
Ca	amera List				
	ИАС	Address	Model	HTTP Port	
	00-02-D1-15-7B-4		IP8162	80	
	00-02-D1-81-73-0	3 192.168.6.101	FE8173	80	

- If you want to use "HTTPS Port", please enable the HTTPs settings on the configuration page of the Network Camera first.
- The characteristics of each protocol are shown in the following table:

Protocol	Description
UDP	UDP uses a simple transmission model without implicit hand-shaking dialogues for guaranteeing reliability, ordering, or data integrity. Thus, UDP provides an unreliable service and data grams may arrive out of order, appear duplicated, or go missing without notice. This protocol allows for almost real-time audio and video streams. However, network packets may be lost due to network burst traffic and images may be obscured. Activate UDP connection when occasions require time-sensitive responses and video quality is less important.
ТСР	TCP provides the service of exchanging data reliably directly between two network hosts, whereas IP handles addressing and routing message across one or more networks. In particular, TCP provides reliable, ordered delivery of a stream of bytes from a program on one computer to another program on another computer. This protocol guarantees the delivery of streaming data and thus provides better video quality. The downside with this protocol is that the real-time effect is worse than that with UDP for a narrower bandwidth.
HTTP	HTTP is a networking protocol for distributed, collaborative, hypermedia information systems. It's the foundation of data communication for the World Wide Web. This protocol allows for the same quality as TCP and the users need not open a specific port for streaming under some network environment. Users inside a firewall can utilize this protocol to allow streaming data through.
HTTPS	This protocol enables authentication and encrypted communication over SSL (Secure Socket Layer), which protects streaming data transmission over the Internet on higer security level.

e. Configure Recording Settings:

Connection Settings	Recording Settings		
-Basic Settings			
Recording Stream:	1	Enable seamless recording	
Pre-event Time:	10 🗧 seconds(3-15)		
Post-event Time:	10 🗧 seconds(10-60)		
Activity Adaptive Stream			

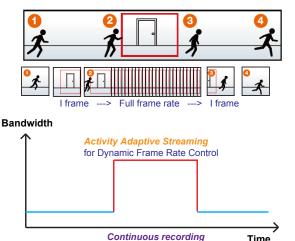
- Recording Stream: By default, the stream source of the recording stream is stream 1, if you want to change it later on, please refer to the previous page to update the camera settings (Update Camera).
- Pre-event time: Enter a number to decide how much time to record before an event is triggered.
- Post-event time: Enter a number to decide the duration of recording after an event is triggered.

Connection Setting Recording Settings	Pre-event time Post-event time
Recording Stream: 1 A	pre- 10 sec. 10 sec.
Pre-event Time: seconds(3-15)	Trigger Activation
Post-event Time: 10 🛓 seconds(10-60)	
Activity Adaptive Stream	
Active	

For example: If both the Pre-event time and Post-event time are set to 10 seconds, a total of 20 seconds of video will be recorded if an event is triggered. This function is supported by the buffer area on a VAST server.

Note the following with the associated configuration:

- The Pre-/Post-event time configuration only applies to event recording.
- The Activity Adaptive Stream (a.k.a., AAS) only applies to the Continuous Recording.

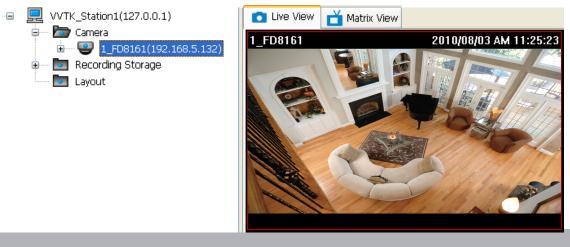


Activity Adaptive Stream (active if possible): Check this item to enable activity adaptive stream recording. For cameras that come with multiple streams features, users can make use of activity adaptive streaming for dynamic frame control.

If you check Activate Activity Adaptive Stream, the VAST server will record full-frame-rate video only when an event is triggered on the camera; otherwise, it will only request the I frame data during normal monitoring, thus effectively save lots of bandwidths and storage.

Camera Management for VVTK_Station1 - I	nsert		
Camera List	Brand:		42:40423 下午 04:48:01
	Module:	Pause	Gent
g	Camera Name:	Auto HEAR	
ll T	Address:	192.168.6.175	- g St. weden full Street
	Model Name:	IP8162	
	MAC Address:	0002D1157B40	
			Connection Test
	Connection Set	ngs Recording Settings	
	User Name:	Passwor	d:
	Configuration F	otocol: HTTP 🔻 Configu	ration Port: 80 🚔
	Streaming Prot	ocol: TCP - Channel	1
	Initial Viewing S	tream: 1	
ſ	🛛 Automatically	add camera into recording storage De	faultGroup
			h Insert Close

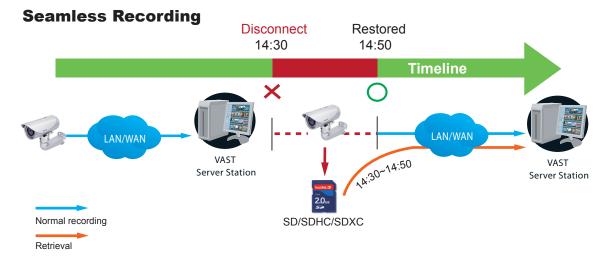
- f. The device will automatically be assigned to the default recording group. Deselect the item if you want to cancel this setting.
- g. You can deselect the "Auto" checkbox behind the **Camera Name** entry, and manually enter a name of your choice, such as "East alley bullet." This name will be used as the folder name for the recorded video files. An index number will still be appended to the folder name. Note that if this name is changed when the recording is taking place, the configuration change will not take effect until the next day.
- h. When all settings are completed, click **Insert** to add the device to the station. The device will be displayed under the Camera List on the left.
- i. To insert additional devices to the station, repeat the above steps.
- j. When completed, click **Close** to exit the camera management window.
- k. Back to the main window, you will find the newly-inserted devices displayed under the station and the live video in the video cell.



->> Tipe:

Seamless Recording

Seamless Recording safeguards critical videos in the occurences of network disconnection. In the event of temporary disconnection, video is stored in individual cameras' SD/SDHC/ SDXC card; and once the connection is restored, a VAST server can automatically resumes the recording. More remarkable is that, a VAST server can simultaneously retrieve the time-tagged videos that were temporarily stored on SD/SDHC/SDXC cards. For information about the latest firmware/software revisions that support this feature, please contact your sales representatives or technical support.



The video data retrieved from SD/SDHC/SDXC card also include event-triggered recordings such as pre- or post-event footages, if events were detected during the network outage.

The Seamless Recording feature is enabled when inserting, updating, or batch inserting cameras in the Camera Management window. The firmware/hadware compatibility of this feature is automatically detected, i.e., this feature is not available when a non-compliant camera is attached. If a compatible camera is attached, a checkbox will be available as shown below.

Enable seamless record	ding	-ݣ͡ৄ- Tips:	
Camera Management for VVTK_Station1	- Insert Camera Name: Address: Model Name: MAC Address:	button on page if the	e Detect model the Insert Camera e Seamless g checkbox does no
	Connection Settings Recording Settings	Brand: Camera Name: Address: Model Name: MAC Address:	VIVOTEK Auto 192.168.6.207 MS8391-EV 00028391C319
	Post-event Time: 10 Image: seconds(10-60) Activity Adaptive Stream Image: Active if possible Min. Pre-event Time: 3 Image: seconds(2-5) Image: Active if possible Min. Pre-event Time: 3 Image: seconds(2-5) Image: seconds(2-5) Image: Active add camera into recording storage DefaultGroup Image: seconds(2-5) Image: seconds(2-5) Image: Automatically add camera into recording storage DefaultGroup Image: seconds(2-5) Image: Seconds(2-5) Image: seconds(2-5) Image: seconds(2-5) Image: Seconds(2-5) Image: seconds(2-5) Image: seconds(2-5)		



- When the SD/SDHC/SDXC card storage space is full, cameras will stop recording. When the network conneciton between VAST server and cameras is restored, videos in the SD card will be transmitted back to the VAST server. Note that the videos that were not recorded during the time when the network was disconnected will not be transmitted.
- If the videos on the cameras belong to those that are about to be erased within 24 hours (e.g., for the lack of storage space on a VAST server), those videos will not be retrieved.

Limitations:

- Retrieving video fragments from a camera can momentarily double the throughput of normal video streaming.
- Video streams recorded using the MJPEG codec is not supported by Seamless recording.
- Seamless recording can only take place from a camera with 1 video stream recorded to a maximum of 3 VAST servers.

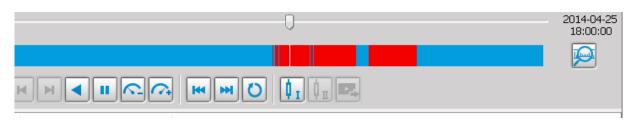
Onscreen Elements for Seamless Recording:

- The associated icons will appear in the Liveview, popup window on e-Map, and the Matrix view. The status icon appears on the upper right of the view cell.
- Below is the description of the Seamless recording statuses and the indicative icons. Normally the video fragments will be retrieved first, and then the event log:

()	Currently not recording video from camera, but is retrieving data from camera due to previous disconnection.
()	Currently not recording video from camera, but is retrieving event log.
۲	Currently recording video to system as well as retrieving data.
\bigcirc	Currently recording video to system as well as retrieving event log.

After a period of time, the gaps of recording (those blue lines or blocks representing network interruptions during the recording) should be gradually stitched up. It is, however, system integrators' responsibility to build a reliable network. Additional bandwidth should also be available for retrieving fragmented recordings from the camera side.

The VAST checks for the need for retrieving fragmented videos by every one minute. If the retrieval failed due to some network faults, the server will re-try the retrieval tasks later on.



In the Playback utility, you can select the tabbed window on top of the device tree to select "**Seamless Recording Status**." If, after a cable disconnection, you can select to check if the Seamless recording has duly performed a recovery.

Playback		\sim								
System Edit View Configuration	Layou		1)						User Name: admin CPU	
		61							Station Name: VMS_Station Login Time: 2017-09-07 16:	D
↺፼ॗॖि॒॒♥▫₽₿		91							Current Time: 2017-09-07 17:31:57 28 %	2 TIJOIEK
Seamless Recording Status Log Viewer		Index Camera	Start	End	Time Zone	Description	Status	Frequency of Recovery		
□ If Wis Station(127.0.1) □ If Statistica If Statistica If Statistica If Statistica If Statistica			. 2017-09-07 17:22:15	2017-09-07 17:23:30	+98:00	54 MG	Standby	6	2017-09-07 173041	
Time Zone: GMT+08:00 Bejing, Chongging, Hor										
Start Time:										
2017/ 9/ 7 👻 12:54:28 👗										
V End Time:										
2017/ 9/ 7 👻 18:54:28 🛬										
Sear	ch	Export All Logs								

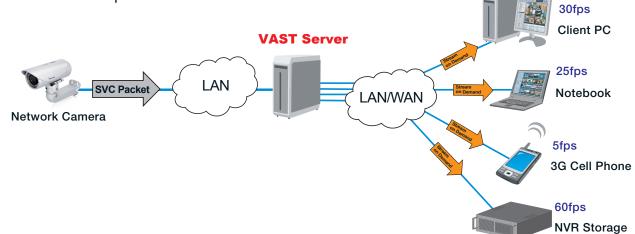
Note that when a cable is disconnected, the Seamless Recording Status may not immediately display a disconnection event. The timeout for a disconnection is 1 minute, and the VAST server and camera will take some time handling the disconnection and re-connection. Even you notice the disconnection on live view, the Seamless Recording Status may take longer than 1 minute to display the current status.

Status	Description
Camera is Disconnected	The connection between server and camera has not been restored.
Standby	Standing by for recovery.
Recovering	Recovering recording data from camera.
Revover failed	Recovery errors occurred, and recovery failed.
Recover successfully	Recovery success.
No Need to Recover	No Need to Recover.

UI Elements	
Item	Description
Start time	Beginning of a disconnection.
End time	The end of a disconnection.
Time Zone	Time zone of the disconnection event.
Description	Length of the disconnection.
Status	The handling status for the disconnection event.
Frequency of Recovery	The attempts made to recover data.
Last Recovery	The time the last attempt was made to recover.

Enable SVC

If the camera to-be-added supports the latest SVC (Scalable Video Coding) feature, select the SVC checkbox to enable the related control. The SVC feature enables streaming of videos for multiple clients from one single set of layered IP packets. Designed for saving bandwidth and CPU load on client stations, the frame rate of a video stream appearing through a view cell can be individually adjusted. This feature applies when an administrator experiences unstable video streaming due to the lack of network bandwidth, less-than-ideal hardware, or during an occurrence of network problems.



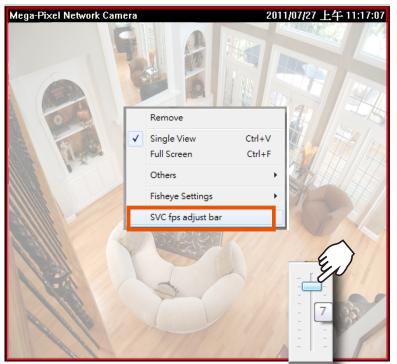
The VAST server (rev. 1.6.1 and later) automatically negotiates with a camera and determines whether a network camera comes with the SVC feature.

To configure the SVC-related feature:

1. When inserting a new camera into your configuration, select the streaming option, usually the stream #1.

💙 Camera Configuration		— X —
Camera Configuration Camera List Camera List VVTK_Station1(127.0. Mega-Pixel Netwo Mega-Pix	Video stream: Stream : Codec type: H.264	ttings Panoramic PTZ mode (MAX 15fps)
Mega-Pixel Netwo	Frame size: H.264 Maximum frame rate: JPEG Video quality: Constant	t bit rate 🔹 4 Mbps 👻
۰ III ا	Copy settings to:	Save Close

2. Right-click on the view cell of an SVC-enabled camera. Select SVC fps adjust bar.



3. A slide bar will appear above the view cell. Click and drag the slide bar. A numeric indicator will display the current selection. See below for the frame rates represented by the numeric indicator.

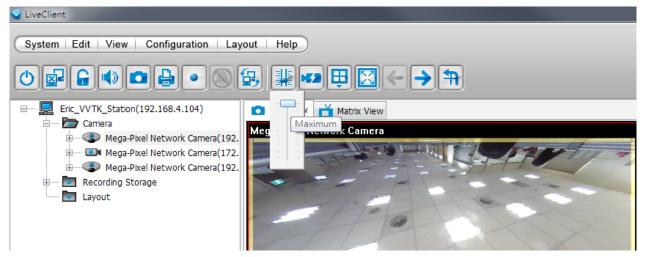
Indicator	Frames per second (fps)		
Maximum	30		
7	26		
6	22		
5	18		
4	12		
3	8		
2	4		
1	1		
Minimum	1/4		



NOTE:

The SVC feature only applies to H.264 and MJPEG streams. It is not applicable to MPEG-4 streams. Please refer to Configuration -> Media -> Video for individaul stream settings.

If you have multiple SVC-enabled cameras, you can enable a collective setting via the **Adjust SVC level** button on the tool bar. The frame rate selected here will then apply to all view cells on the VAST LiveClient console.



Please note that the SVC related setting can not take effect while the LiveClient station is running the Layout Rotation. Stop the layout rotation before configuring the SVC function.

While you save your bandwidth for live viewing, you can still record full-frame-rate video by changing the recording setting. For example, you can enable resource-saving SVC on stream #1 and configure stream #2 to be recorded with full details, in terms of frame size, frame rate, and video quality.

Camera Management for EricVAST_Station1	- Insert
Camera List	Camera Name: Auto Address: 192.168.4.134 Auto Model Name: IP8352 MAC Address: 0002D1117A3D
	Connection Settings Recording Settings Basic Settings Recording Stream: 2 Pre-event Time: 10 10 \$
	Activity Adaptive Stream
< Þ	Image: Weight of the second start o

Streaming URL

You can enter a camera's IP address to add a camera's RTSP streaming for live view and recording, and playback.

To insert a camera using the URL-like command,

1. Select the camera Brand as "URL."

Camera Management for VMS_Station - Insert	
Camera List	Brand: URL Camera Name: Address: 192.168.4.124 Model Name: MAC Address: 0002D13D3882 URL: Ive.sdp Connection Test
	Connection Settings Recording Settings User Name: Password: Configuration Protocol: Image: Configuration Port: Streaming Protocol: TCP Channel: Image: Configuration Port: Image: Configuration Protocol: TCP Image: Configuration Port: Image: Configuration Port: Streaming Protocol: TCP Image: Configuration Port: Image: Configuration Port: Image: Configuration Port: Image: Configuration Port:

- 2. Enter the camera's IP address.
- 3. Enter the camera's MAC address as printed on the camera label, or one found by the Shepherd utility.
- 4. Enter "554" in the Configuration port.
- 5. Enter "live.sdp" in the URL field, as this is part of the original RTSP streaming command: "rtsp://172.18.204.58:554/live.sdp". If streaming stream #2, enter live2.sdp.

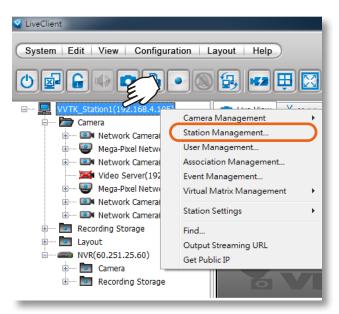
Note that the free 32 channel licenses does not apply when inserting a camera using the URL command. Only the live view, recording, and playback functions are supported if thus connected. All other functions are not supported, such as auto streaming size or changing to another video stream. Camera DI/DO is also not supported.

Insert NVR (Network Video Recorder)

 Before you can include an NVR system into your current configuration, you should enable the corresponding configuration on a web management console with the NVR system. In Configuration > System > VAST, click on the Enabled checkbox and enter a password for authentication.

		×
\$		
-	HTTP Port: 80	
	HTTPS Port: 443	
B	RTSP port: 554	
	CMS & iViewer: 🔽 Allow access	
.	This password is only for CMS connection. iVi the same as NVR	ewer login account is
	Port: 3454	
	CMS password:	
IP IP	Confirm password:	
DDNS		
Service		
	ß	
		Apply
曲		Арру

2. Return to your VAST management screen. Left-click to select your VAST station on the navigation panel, and then right-click to display and select "Station Management..."



(

 The Station Management window will prompt. Enter the Address, Password, and check if the Communication Port match that you set for the NVR. Click on the List Sub-Station Hierarchy button.

Station Management for VVTK_Station1	
Station Tree for VVTK_Station1	Address: 60.251.25.60 Password: ••• Communication Port: 3454 List Sub-Station Hierarchy Insert Search Hierarchical ma nent tree
Delete	Update Close

After a brief delay, the NVR server will be listed in the column. You may also use the **Search** button to locate similar devices if they are reacheable in your local area network.

4. You can then click the **Insert** button to add the NVR server to your configuration. When done, click the **Close** button.

Station Management for VVTK_Station1		×
Station Tree for VVTK_Station1	Address: Password:	60.251.25.60
Gran	Communication Port: List Sub-Station Hierarchy	3454
Station Management Insert Station Elapsed ti	Hierarchical manageme	nt tree 5.60)
Delete		Update Close

5. The NVR will appear in the navigation panel along with its subordinate cameras.

LiveClient					
System Edit View Configuration L					
□····· 📃 VVTK_Station1(192.168.4.105)					
🗄 🗁 Camera					
Image: Network Camera(192.168.4.133					
🖽 🐨 🖳 Mega-Pixel Network Camera(192					
🖽 🚥 Network Camera(192.168.4.104					
₩ ₩ ₩ ₩ ₩ ₩ ₩ ₩ ₩ ₩ ₩ ₩ ₩ ₩ ₩ ₩ ₩					
🚊 🔤 Recording Storage					
🗄 🚥 DefaultGroup					
🔽 Layout					
🗄 🔽 Camera					
🗄 🚥 Recording Storage					

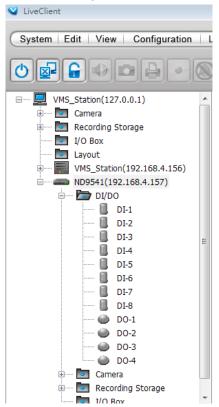
To enable the detection of NVR DI/DO signales,

1. Enter Configuration > Client Settings > General Settings. Select "Keep detecting DI/DO status."

Note that you should restart the VAST console for the configuration to take effect.

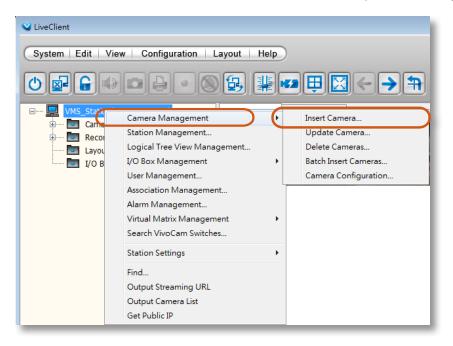
Seneral Settings
System Settings
$\hfill \square$ Automatically log in after logging in to operating system
Automatically display in full screen after login
☑ Auto add newly-inserted camera to video cell
Retrieve RTSP stream on specified port: 4543
Connect substation streaming via relay
☑ Keep detecting DI/DO status
Sort camera by name
Alarm Settings
Enable live alarm notification
Enable alert sound(s)
Enable E-Map popup window
Alarm window mode: () Fixed
🔘 Рорир
Rotation Settings
Enable rotation after login
Rotate the page every 10 second(s) $(3 \sim 999)$
Display Settings
Maximum number of view cells 64 🔹
✓ Enable auto stream size: Quality first
Enable de-interlace function
Enable Instant Replay on video cell
Default replay length: 30 seconds 👻
Local streaming buffer time: 0 $\stackrel{\land}{\checkmark}$ millisecond(s) (0 ~ 10000)
OK Cancel

The NVR's DIs and DOs will be listed on the device tree. Note that the DI/DO status is not supported by NVRs running an embedded VAST software.



Insert a Video Server

1. Left-click on your VAST station, and then right-click to display the **Camera Management** command. Let your cursor stay on the command for a second and then move to the **Insert Camera** command. Click on the command to open its configuration window.



2. See below for the steps to insert a Video Server along with its subordinate cameras.

Camera Management for VVTK_Station1 - I	Insert
Camera List	Camera Name: 2 Auto Address: 192.168.4.115 C Address: 192.168.4.115 A Address: 00ABCDABCDEF
	Connection Settings Recording Settings User Name: Configuration Protocol: HTTP Configuration Port: 80 Streaming Protocol: TCP Channel: 1 Initial Viewing Stream: 1 A Value
< ►	6 Insert Close

- 2-1. You can deselect the **Auto** checkbox to enter a name for the Video Server. If set to Auto and your video server already has a name, that name will be displayed in your device list.
- 2-2. Enter the **Address** of the video server or use the **Search** subtraction to open a Search window.
- 2-3. If you enter its address and it is found after you click on the **Detect Model** Subtron, its **Model Name** and **MAC Address** will be listed.
- 2-4. Before you click the Detect button, you should enter the **User Name** and **Password** for access to the video server. You should also confirm the **Configuration Protocol**, **Configuration Port**, **Streaming Protocol**, and the rest of the networking parameters.
- 2-5. You may select or deselect the checkbox in front of the recording storage option or use the pulldown menu to select the default group or a pre-configured storage group.
- You might use the **Connection Test** button to verify if the stream comes from the device you prefer.
- 2-6. Click **Insert** to include the video server to your configuration.

The Video Server should now be listed on the Camera List.

You can also use the **Search** button to poll the local area network for VIVOTEK's devices. You can select to list all cameras or list those that have not been included in your current configuration. Click on a device, and its detailed information will immediately appear in the **Camera Management**

window on the left. For recording settings, please refer to page 47 as previously described.

Update Devices

Please follow the steps below to update a device via Camera Management window:

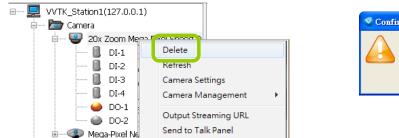
- a. Click **Configuration > Camera Management > Update Camera** on the menu bar (or **right-click** the device/station, then select **Camera Management > Update Camera**).
- b. The **Camera Management Update** window will pop up. The device tree managed by the station will be displayed in the left Camera List window.
- c. Select a device from the list you want to update. Its related information will automatically be displayed in the corresponding fields in the Camera Management window. Then you can modify **Connection Settings** and **Recording Settings** of the device.
- d. After modifying the settings, you can click **Connection Test** to preview the live video from the device.
- e. When all settings are completed, click **Update** to enable the settings.

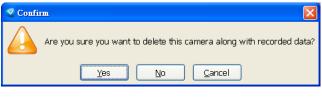
🗆 🖳 🖳 VVTK_Sta	tion1(127.0.0.1)
E Came	
a P	20x Zr Delete
	Refresh
	Camera Settings
	Camera Management Insert Camera
	Output Streaming URL Delete Cameras
L	Mega- Camera Configuration
b	Maga r
Camera Management for VVTK_Station1 -	Update
Camera List	Prand: 20x Zoom 2014/5/30 上午 11:30:36
UVTK_Station1(127.0.0.1)	Brand: VIVOTEK
C 20x Zoom Mega-Pixel Spe	Module: -
Mega-Pixel Network Came	Camera Name: 20x Zoom Mega-f
	Address: 192.168.6.143
	Model Name: SD8363E
	MAC Address: 0002D12150FB Speed dome
	Connection Settings Recording Settings
	User Name: Password:
	Configuration Protocol: HTTP Configuration Port: 80
	Streaming Protocol: UDP 🔻 Channel: 1
	Initial Viewing Stream: 1
	e
۰ III • • • • • • • • • • • • • • • • •	

Delete Devices from the VAST Server

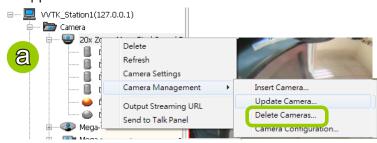
Delete a device:

Right-click the device on the device tree, then select **Delete**. A dialog box will pop up. Click **Yes** to delete the device along with the recorded data; click **No** to delete the device but retain the recorded data; click **Cancel** to cancel the delete action.





- Delete more than one device at a time:
- a. Click **Configuration > Camera Management > Delete Cameras** on the menu bar (or **right-click** the device/station, then select **Camera Management > Delete Cameras**).
- b. The Delete Cameras window will pop up.
- c. Select the devices you want to delete from the list, then click Delete.
- d. A dialog box will pop up. Click **Yes** to delete the device along with the recorded data; click **No** to delete the device but retain the recorded data; click **Cancel** to cancel the delete action.
- e. When completed, click **Close** to exit the **Delete Cameras** window and return to the main window. The deleted device will disappear from the station.





No

<u>Y</u>es

Cancel

Batch Insert Devices

Batch insert is a very useful function that allows user to search, filter, and import a row of devices that are in the same LAN to a VAST station. The basic settings can also be applied to those inserted devices simultaneously, e.g., a common user name and password.

Please follow the steps below to batch insert devices to a station:

- a. Click Configuration > Camera Management > Batch Insert Cameras on the menu bar (or rightclick the station, then select Camera Management > Batch Insert Camera).
- b. The **Batch Insert Cameras** window will pop up. Then click **Search** to open the Search Camera window.
- c. On top of the Camera List window, you can select "List the cameras which are not inserted" or "List all cameras". The items listed below will then change accordingly. You may select ONVIF-compliant cameras as well using the Brand selector.
- d. Use the 4 Filters to narrow down the range of the wanted cameras from the list.
 - IP Range: Type in a range of IP address to narrow down the list; the filter automatically applies after you fill in a correct IP range.

💙 Batch Insert Came	ras		_	
Instruction	Search button Specify Address b Import From File b	•	Edit Connection Settings -> Edit Recording Settings -> Inse Edit Video Settings	art button
# Name	Address	Port Model MAC	Status	Search Specify Address Import From File
C	Search Cameras Brand: VIVOTEK V O List the cameras wh	-h are not inserted		YWOTEK
Camera Name: Connection Setting User Name:	Address Ra		Refresh	
Configuration Prot Streaming Protocc Initial Viewing Stre	Model with	prefix:		
	# Address 1 192.168. 2 192.168. 3 192.168.	.101 80 FE817	3 00-02-D1-81-73-03	Recording Storage Add the cameras to the recording storage: DefaultGroup (3/256 CH) Insert Close
	Select All		OK Cancel	

■ IP with prefix: Type in the prefix of the IP address to narrow down the list.

Searc	1 Cameras			
 ○ List the cameras which are not inserted ⊙ List all cameras 				
- Filters -	Set following filters to n	arrow down the ra	ange of searched cameras.	
	Address Ra <u>ng</u> e:		~	
	Address with prefix:	192.168.5.132		
	Model with prefix:			
	MAC with prefix:			
#	Address	Port Model	I MAC	
□ 1	192.168.5.132	80 FD816	i1 00-02-D1-FD-81-15	

Model with prefix: The user can type in the prefix of the model name or the complete model name of the cameras to narrow down the list.

Search	🛛 Search Cameras				
List the cameras which are not inserted OList all cameras					<u>R</u> efresh
-Filters -					
	Set following filters to na	arrow dow	n the ran	ge of searched can	neras.
	Address Ra <u>n</u> ge:			~	
	Address with prefix:	192.168	.5.132		
	Model with prefix:	FD8161			
	MAC with prefix:				
#	Address	Port	Model	MAC	
□ 1	192.168.5.132	80	FD8161	00-02-D1-F[0-81-15

MAC with prefix: You can type in the prefix of the MAC address of the cameras to narrow down the list.

😴 Search	n Cameras		
	the cameras which are not all cameras	inserted	<u>R</u> efresh
-Filters -			
	Set following filters to na	arrow down the range of searched (cameras.
	Address Ra <u>ng</u> e:	~	
	Address with prefix:	192.168.5.132	
	Mo <u>d</u> el with prefix:	FD8161	
	MAC with prefix:	00-02-D1-FD	
#	Address	Port Model MAC	
□ 1	192.168.5.132	80 FD8161 00-02-D1	L-FD-81-15

e. When the list is filtered, you can select the cameras one by one or check **Select All** to add them to the batch insert list. Then click **OK** to finish searching.

Search Cameras					
O List the cameras which are not inserted O List all cameras Refresh					
Filte		Set following filters to n	arrow dov	vn the rang	e of searched cameras.
		Address Range:	192.168	3.5	~ 192.168.5
		Address with prefix: Model with prefix:			
		<u>M</u> AC with prefix:			
	#	Address	Port	Model	MAC
র র	1 2 3	192.168.5.131 192.168.5.132 192.168.5.119	80 80 80	FD8133 FD8161 IP8132	00-02-D1-08-95-38 00-02-D1-FD-81-15 00-02-D1-32-C3-53
∑ Se	lect A	Ũ			OK Cancel

f. The selected cameras will be shown on the batch insert camera list with the camera information and the connection status. When you click on a camera, a live view will show up on the right side for you to identify the cameras on the list. If you want to remove a camera from the list, click the trash can icon to delete it.

💙 Ba	tch Ins	ert Cameras			_	_			_		P	×
Ins	structi	ion										
			Search button				Edit Connect	ion Settings				
			Specify Address	button	-> Import	t into List ->	Edit Recordir	g Settings	-> Ins	ert button		
C			Import From File	button			Edit Video Se	ettinas				
f) —								Ь			
	#	Name	Address	Port	Model	MAC	Stat	us	h		Search	
1	1	20x Zoom	192.168.6.143	80	SD83	00-02-D1-21	-50-FB OK					
	2	Mega-Pixe	192.168.6.101	80	FE8173	00-02-D1-81	-73-03 OK				Specify Address	
	3	Mega-Pixe	192.168.6.219	80	IP8332	00-02-D1-19	-2D-02 OK			I	Import From File	
g					111				•	CI.I.		
	era Nam	ne: Mega-Pixel	Network Camera									
Cor	nnectio	n Settings Rec	ording Settings									
Us	er Nam	ie:			Passw	ord:						
Co	onfigura	tion Protocol:	HTTP 🔻		Config	juration Port:	80	×				
St	reaming	g Protocol:	TCP 🔹		Chann	nel:	1					
Ini	itial Viev	wing Stream:	1									
		2								Recordir	ng Storage	
										Add the o storage:	cameras to the recordi	ng
								Apply t	d All	DefaultG	roup (3/256 CH)	-
										(none)	roup (3/256 CH)	
									R		Insert Clo	se
)

- g. At the bottom of the window, there is a field for you to alter the camera settings including Connection Settings and Recording Settings. You can apply the new settings to each camera on the list, or click **Apply to All** to apply the same configurations to all the cameras. For more information about Connection Settings and Recording Settings, please refer to Insert Device on page 45 for detailed information.
- h. Specify host: If you want to add a camera to the list, click Specify Address to directly add a wanted camera. Click Add after filling in the correct information. The camera will be added to the list of the Batch Insert Camera window.
- i. By default, all inserted devices will be applied to the default recording group. Deselect the **Add** checkbox if you do not want to assign the selected devices to the default recording group.
- j. Click Insert when all the settings are done. Cameras will be added.

Specify Address		
<u>A</u> ddress:	192.168.5.131	
Configuration Pro <u>t</u> ocol:	HTTP 💌	
Configuratio <u>n</u> Port:	80	
<u>U</u> ser Name:		
<u>P</u> assword:		
Add		

_Q1			
E			

When you modify the camera settings, and when the connection information (User Name, Password, Configuration Protocol, Configuration Port, and Streaming Protocol) does not match the current network environment, the camera will be disconnected and the status of the camera will become "Camera cannot be found" as shown below.

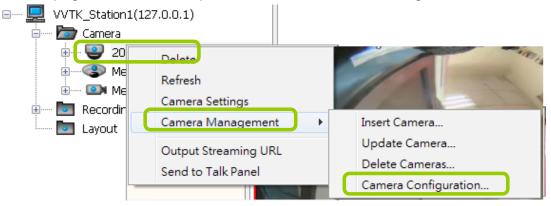
•	Bat	ch Inse	ert Cameras						10000	
	Ins	tructi	on							
				Search button				Edit Connectior	n Settings	
				Specify Address	button	-> Import	t into List ->	Edit Recording !	Settings -> In:	sert button
				Import From File	button			Edit Video Sett	ings	
		#	Name	Address	Port	Model	MAC	Status		Search
	Ē.	1		192.168.5.132 192.168.5.131	443 443	FD8161	00-02-D1-FD- 00-02-D1-0B-		nnot be found. nnot be found.	Specify Address
		3		192.168.5.119	443	IP8132			nnot be found.	Import From File
										THE BALL
	ame	ra Nam	ne:							
				ording Settings						
		er Nam		ording Sectings		Passw	ordu			
	Cor	nfigurat	tion Protocol:	HTTP 🔻		Config	juration Port:	80 🌲		
	Str	eaming	g Protocol:	TCP 🔻		Chann	nel:	1		
	Init	ial Viev	wing Stream:	1						
										Recording Storage
										Add the cameras to the recording storage:
									Apply to All	DefaultGroup (3/256 CH)
										Insert



You can enter a User name and Password and use the Apply to All button to apply this combination to all selected cameras. This way, you do not need to change the user name and password for every individual cameras.

Camera Configuration

The **Camera Configuration** function group provides immediate access to the video streaming and other settings without the need to open a web console. The function group is accessed by selecting a camera on the device tree, and right-click to select **Camera Management** > **Camera Configuration**. If you have new VIVOTEK cameras and the VAST server can not recognize their features, see page 33 for how to update camera information using the Device Pack update.



FOV (Field of View)

The FOV configuration is available for 5 megapixel cameras (such as IP8372 and IP8172P), which allows you to crop a portion of the image captured by the sensor. The FOV setting applies in the scenario where you do not need all of the video a camera can capture. For example, when shooting a parking lot where the upper half of the image is the sky. Cropping a field of view can help save bandwidth and reduce the requirements for storage space.

Save

Close

🗳 Camera Configuration		— X	
Camera List	Video Audio Remote Focus FOV: Video stream: Codec type: Frame size: Maximum frame rate: Video quality:	NTP Settings Panoramic PTZ Fisheye mode (MAX 15fps) • Fisheye mode (MAX 15fps) 1080P Full HD (MAX 30fps) Stream 1 • SVC • 768x768 • 15 fps • Constant bit rate • 6 Mbps •	Cropping Setting
4 <u> </u>	Copy settings to:	Save Close	

Video mode

For cameras having resource limitations such as having a lower frame rate when supporting dual streams, or lower frame rate when using the Rotation mode, its video mode is automatically displayed in the Video window.

Video

This tabbed window privides access to the selection of the live view stream, its compression codec, frame size, max. frame rate, and video quality. Note that the **Constant Bit Rate** methodology can be used to ensure that the size of video stream does not exceed a preferred threshold, regardless of the complexity or the changes of pixels in the image. You should use a maximum of 1080P as **frame size** and 6Mbps as **constant bit rate** for video streams managed by this system.

Camera Configuration		_
amera List	Video Audio Remote Focus NTP Settings Panorami	r PTZ
	Video stream: Stream 1	-
······ Pixel Network		
····· 💷 Mega-Pixel Network	Codec type: SVC	
····· 🔀 Mega-Pixel Network	Frame size:	
····· 💷 Mega-Pixel Network	Frame size: 1056x1056	•
Mega-Pixel Network	Maximum frame rate: 15 fps	
	Video quality: Constant bit rate	• • 4 Mbps •
4 III >	Copy settings to:	Close

If your camera supports the **Smart Stream** function, the related options will be available with the Video quality. Note that only the **Auto mode** option will be available.

Auto: When set to Auto, only the moving objects and the areas around them will be displayed with the Foreground quality. The rest of the screen will be displayed with the Background (lower)

quality.

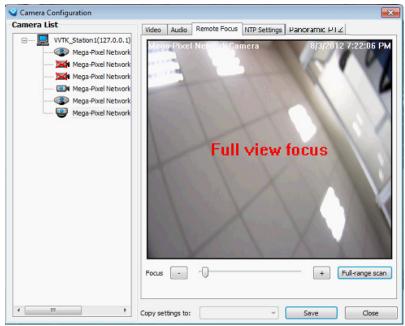
Camera Configuration	_		×
Camera List	Video Audio Remote Focus	NTP Settings Panoramic PTZ	
e 🖳 VVTK_Station1(127.0.	Video stream:	Stream 1	•
💷 Mega-Pixel Netwo	Codec type:	H.264	•
💷 Mega-Pixel Netwo 💷 Mega-Pixel Netwo	Frame size:	1920×1080	•
	Maximum frame rate:	30 fps	-
	Video quality:	Smart stream (auto r 💌	
	Fixed	stant bit rate d quality jood	•
	sma	rt stream (auto mode) Background quality: Medium	•
		Maximum bit rate: 40Mbps	•
• III •	Convisettings to:		
		Save	Close
<	Copy settings to:	Save	Close

Audio

If audio feed is preferred, configure the audio codec type, sampling bit rate, and operating mode in here.

Remote Focus

For cameras supporting the remote focus feature, such as the FD8362E that comes with a motorized lens, this window provides finetune buttons and full-range scan fucntion to help reach the best image focus.



NTP Settings

If cameras' real time clocks are set to be synchronized with a time server, enter the NTP server's address or domain name and specify an Updating interval. If you select the "Synchronize camera time with system automatically" checkbox during the initial setup, the NTP server IP will be the VAST server's IP.

💙 Camera Configuration	And a state of the	X
Camera List	Video Audio Remote Focus NTP S Cable NTP Server NTP server: Updating interval:	Settings Panoramic PTZ 192.168.6.135 One day •
	Copy settings to:	*
		Save Close

Always remember to **Save** your configuration before leaving this window. You can also use the "**Copy settings to**" button below to duplicate your current settings to adjacent cameras.

Panoramic PTZ

Please refer to **Appendix B** Panoramic PTZ configuration on page 288 or the Panoramic PTZ Installation Guide for more information.

Camera Configuration		x
Camera List	Video Audio Remote Focus NTP Settings Panoramic PTZ	
	Enable panoramic PTZ	
Network Camera(
Mega-Pixel Netwo	Enable auto tracking	
	Copy settings to:	e

View Live Videos

The server will automatically add a newly-inserted device to the video cell for live viewing. You also can **double-click** the target device or **drag-and-drop** the target device from the hierarchical management tree to the video cell.



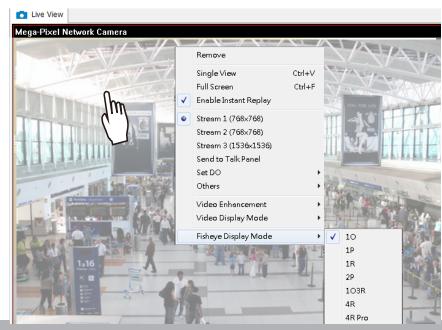
Dual / Multiple Streams

For dual-stream devices, you can **right-click** on the focused cell to select stream 1 or stream 2. For multiple-stream devices, you can select from stream $1 \sim \text{stream 4}$.



Fisheye Display Modes

By default, a circular view is displayed when a fisheye camera is successfully connected. To display Regional, Panoramic, or the combination of different views, **right-click** on a fisheye camera's live view to display the associated commands. The display modes available are: 10 (Original), 1P (Panoramic), 1R (Regional), 2P (2 Panoramic), 1O3R (1 Original & 3 Regional), 4R (Quad Regional), 1O8R (1 Original & 8 Regional), and 4R Pro (4 Proactive) modes.



Fisheye Display Modes: below are conceptual drawings for different display modes.

10 (Single Original) Display mode:

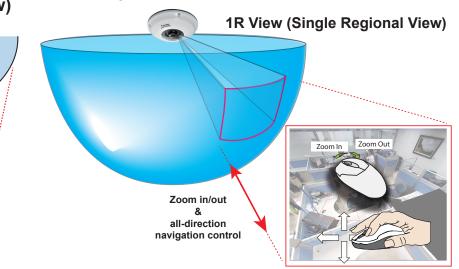
An **Original** oval view covers the hemisphere taken by the fisheye lens.

10 View (Original View)

180° Hemispheric

1R (Single Regional) Display mode:

A **Regional** view crops a portion of the hemisphere as a region of interest. You can zoom in or out or move the view area elsewhere from on the regional view.



A Regional view is dewarped, by correcting images from the distorted oval view to a rectangular and visually proportional image.

1P (Single Panoramic) Display mode:

With image correction algorithms in firmware, the hemispheric image is transformed into a rectilinear stripe in the 1P display mode. Viewers can use the PTZ panel or simply use mouse control to quickly move through the 360° panoramic view.

Note that the 1P view is apt for an overview, the Zoom in/out function does not apply in this mode.



1P (Panoramic) Mode Screen Control

2P (2 Panoramic) Display mode:

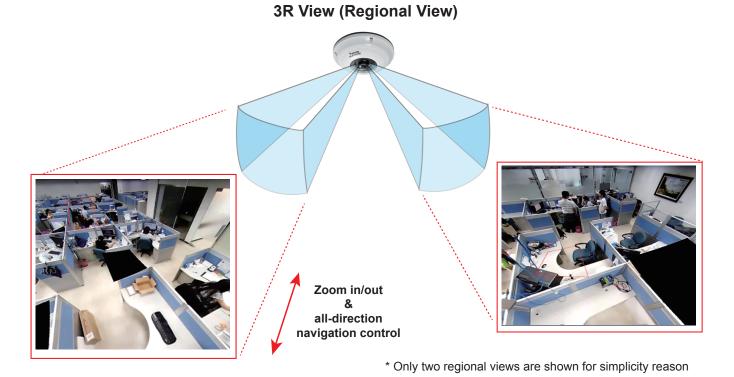
Two dewarped rectangular views are placed one on top of another each showing 180 degree of panoramic view. The 2P view looks like the upper view shows the front of hemisphere, and the lower view the rear half of the hemisphere.

2P (Panoramic) Mode Screen Control

103R (One Original & 3 Regional) Display mode:

Fisheye cameras also support the display of multiple regional views taken from within the same hemisphere, and they can be displayed with or without an Original view in its view cell.



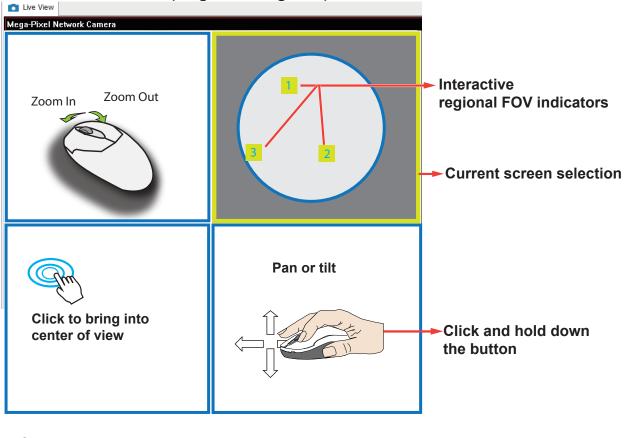
User's Manual - 75

PTZ Mouse Control

The "Mount type" setting also determines the display modes available to your display modes. Please refer to fisheye camera's User Manual for more information.

A highly versatile mouse control is implemented with fisheye cameras. The same control takes effect on a browser management session, on the LiveClient utility, and even on a video playback screen. See the drawing below for how it works.

You can click and hold down the left mouse button to quickly swipe through the field of view, change the view angle, or use the mouse wheel to zoom in/out on a region of interest. However, the PTZ mouse control is only available in the **"R" (Regional) mode**. In the **Panoramic mode**, you can only scroll horizontally across the 180° or 360° panoramic view.



103R (Original & Regional) Mode Screen Control

The various display modes require the support of D3D technologies by your display card on the LiveClient or Playback station. Most off-the-shelf display cards today support this feature.

The onscreen mouse control is very agile. Therefore, use the PTZ panel for more delicate moves in a field of view. **Pan** and **Patrol** moves are also supported if you have configured preset PTZ positions in the camera's firmware. Note that the Pan move takes place in the Panoramic and Regional views, while the Patrol function through preset positions applies only in the Regional views.

Below are the conceptual drawings for other display modes. The available display modes can different with different mount types:

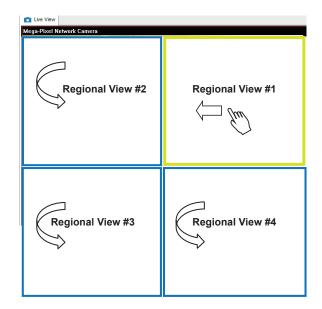
Regular: 10, 1P, 1R, 103R, 4R.

Wall mount: 1P2R, 1P3R.

For more information, you can refer to fisheye camera's user documents.

4R (Quad Regional) Display mode:

Live View Mega-Pixel Network Camera	
Regional View #2	Regional View #1
Regional View #3	Regional View #4



108R (One Original & 8 Regional) Display mode:

Mega-Pixel Network Ca	mera 201	1/09/01 05:41:35
Regional View #3	Regional View #2	Regional View #1
Regional View #4	Original View	Regional View #8
Regional View #5	Regional View #6	Regional View #7

4RPro (4 Regional Proactive) Display mode:

Refresh

Right-click the device, then click Refresh, the camera information will be refreshed from the server.

📃 VVTK_Station1(127.	.0.0.1)
	Delete
🗉 🔤 Mega-Pix	
💀 🔤 Recording Sto	Camera Settings
Layout	Camera Management
	Output Streaming URL
	Send to Talk Panel

Streaming Server

Right-click the station or the device and click **Output Streaming URL**. A .txt file with streaming URL will pop up. Then you can use this URL to link to the live streaming through QuickTime Player.

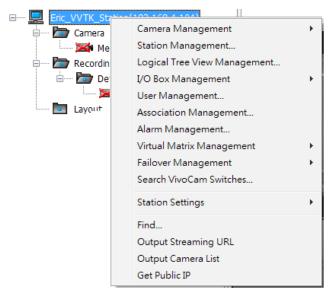
G Sta G Log G I I/O G I I/O	mera Management tition Management gical Tree View Management Box Management er Management kootation Management irm Management tual Matrix Management lover Management arch VivoCam Switches tition Settings d tput Streaming URL put comero part t Public IP				De Re Ca Ca	elete efresh amera Settings amera Management utput Streaming URL end to Talk Panel)	
--	--	--	--	--	----------------------	---	---	--

Output Camera List

This command produces a text file containing cameras' brand name, IP address, and HTTP port information. The camera list file can later be used for Batch Insert function, Import from File.

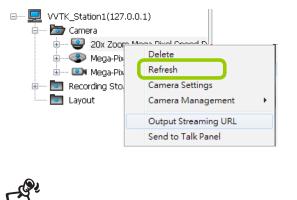
Get Public IP

If your access to Internet is via PPPoE, this function will display the public IP provided by your service provider. If your access to Internet is via a router, please consult your network administrator or consult your ISP for a valid public IP.



Camera Settings

Left-click to select a camera, Right-click, and then click Camera Settings to open a brower's session to the camera.

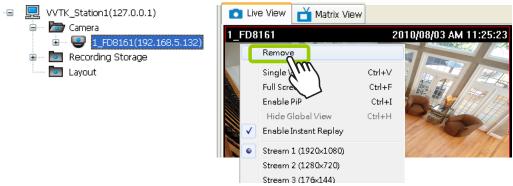


You must have an IE browser rev. 7.0 or above for opening a management session.

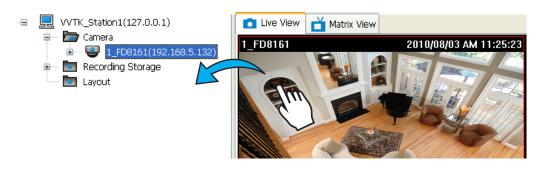
		Configuration
	>System	
Home	System	
System	Host name: Wireless Network Camera	
Security	Turn off the LED indicator	
Network	System Time	
DDNS	Keep current date and time	
Audio and video	C Synchronize with computer time	
Motion detection	C Manual C Automatic	
Camera control	DI and DO	
Maintenance	Digital input: The active state is Low 💌 ; the current state detected is High	
[Advanced mode]	Digital output: The active state is Grounded 💌 ; the current state detected is Open	
	Save	
Version: 0100e		

Remove Live Video from the Video Monitoring Window

There are two ways to remove a live video from the video cell: Method 1. **Right-click** the video cell and select **Remove**.



Method 2. Drag-and-drop the live view from the video cell to the hierarchical management tree window.



If you want to remove all live videos from the video cells, please click ன on the menu bar.



How to Change the VAST LiveClient Layout

Changing the Layout of the Live Video Monitoring Window

VIVOTEK VAST LiveClient supports up to 32-CH simultaneous video viewing on a single monitor and allows you to change the layout of the live video monitoring window based on the number of inserted devices.

Switch Video Channels

To move a video channel to another empty video cell, drag-and-drop the view to the target video cell.



To switch two different channels, **drag-and-drop** one view to the other, then the two different channels will be switched to the opposite.



Configure Layout Mode

Click the **Layout** button 🗐 on the quick access bar. Select a desired layout mode, and the layout window will be changed accordingly. Below we illustrate 15 types of layout modes and the corresponding page numbers:

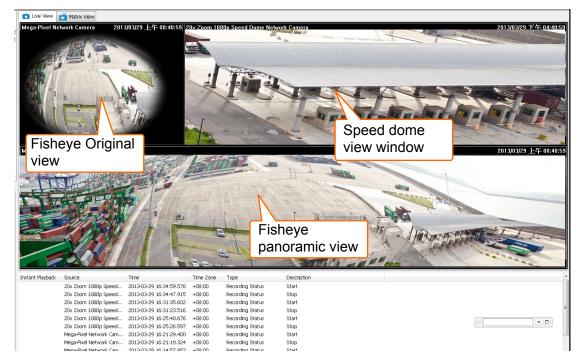
C				⊮≱₿№←→₱
	Layout mode	Description	No. of Video page	
	1 x 1		32	1
	2V		16	
P-PTZ modes	1P+2		20	More than 1 video page;
F-FTZ modes	3V		11	rotation function is enabled
	2 x 2		8	
	4V		8	
	2V+3		7	
	1 + 5		4	
-	1P+6		8	
	3 x 3		3	
	1P+8		6	
	1 + 12		2	
	4 x 4		2	
	5 x 5		1	Only 1 video page; rotation function is disabled
	1 + 31		1	

Configure Layout Mode

Click the **Layout** button is on the quick access bar. Select a desired layout mode, and the layout window will be changed accordingly. Below we illustrate 11 types of layout modes and the corresponding page numbers:

The 1P+2, 1P+6, and 1P+8 layouts apply exclusively to the Panoramic PTZ configurations. Please refer to page 274, **Appendix B Panoramic PTZ Configuration**, for details.

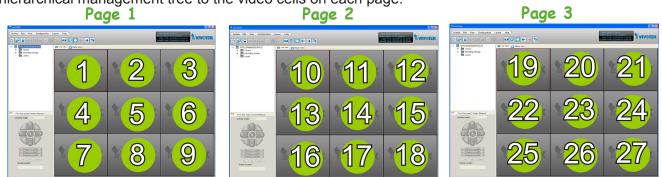
Normally, a Panoramic PTZ layout will consist of 1 fisheye Original view, 1 speed dome field of view, and 1 fisheye Panoramic view as shown below. Note that the interactive click-on-image control only takes place on the Original and the Panoramic views.



Some layout modes (1x1, 2V, 3V, 2x2, 4V, 2V+3, 1+5, 3x3, 1+12, 4x4) will spread all video channels into several pages. Some cameras support the video Rotation function for scenarios such as a tall, long corridor or the inside of a vehicle. The Rotation configuration is made through a web console with such cameras.

	Home Client settings Configuration Language
	Media > Image
System	General settings Image settings Exposure Privacy mask
Media	- Video Settings
Image	Video title
Video	Show timestamp and video title in video and snapshots
Audio	Position of timestamp and video title on image: Top
Network	Timestamp and video title font-size: Small
Security	Color: OB/W OColor
	Power line frequency: O 50 Hz 60 Hz
PTZ	Video orientation: Flip Mirror
Event	Rotate 90 Degrees
Applications	
Recording	Save
Local storage	

For example, under the 3x3 layout mode, you can switch among the pages by clicking \leq and \geq on the quick access bar. To arrange the content of each page, manually **drag-and-drop** cameras from the hierarchical management tree to the video cells on each page.



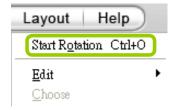
Rotating Video Pages



For layout modes that contain more than one page, the LiveClient provides the rotating function for displaying all video pages in turn.

- To enable this function, click 🗎 on the Quick Access Bar, which will become 🕲 Stop Rotating, and the video pages will start to rotate so that the user does not have to click
 → to move to the next page.
- To disable this function, click 🛞 **Stop Rotating**, which will become 🕋 on the Quick Access Bar.

You can also click Layout > Start to Rotate/Stop Rotating to enable/disable this function.



The default rotating time interval is 6 seconds. If you want to edit rotation settings, please refer to **Rotation Settings** on page 190.

Edit Layout

Please follow the steps below to save a layout:

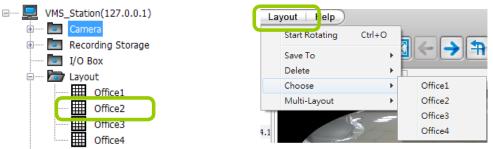
a. Arrange a layout mode and drag devices to their desired video cells.

b. Click Layout > Edit > Save to > New on the menu bar. A Layout Name dialog box will pop up.

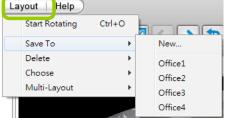
Layout Help		🔮 Save Layout 🛛 🔀
Start Rotation Ctrl+O		Layout Name:
<u>E</u> dit	▶ <u>S</u> ave To ▶ <u>N</u> ew	layout 1
<u>C</u> hoose	Delete	
		OK Cancel

c. Enter a name for the the layout, then click **OK** to enable the setting.

- d. Back to the monitoring window, the new layout will be displayed under the hierarchical management tree as shown below. You can save up to 10 layouts.
- e. To change to another layout, **double-click** the layout options on the hierarchical management tree, or click **Layout > Choose** on the menu bar to select a desired layout.

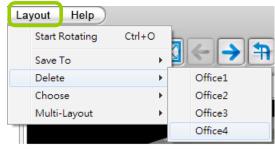


If you want to edit an existing layout, arrange a layout mode and drag devices to the desired video cells, then click Layout > Edit > Save to > New to save as a new layout or an existing layout to replace with the new one.

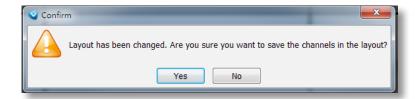


If you want to delete an existing layout, right-click the layout item on the hierarchical management tree or click Layout > Edit > Delete on the menu bar to delete it.

🖃 VMS_Station(127.0.0.1)
🗄 ······ 🔽 Camera
🗄 🚥 Recording Storage
I/O Box
🖶 🛲 Layout
Office1
Office2
Office3
Office4
UMS_Stat Delete
• ND9541(192.168.4.157)

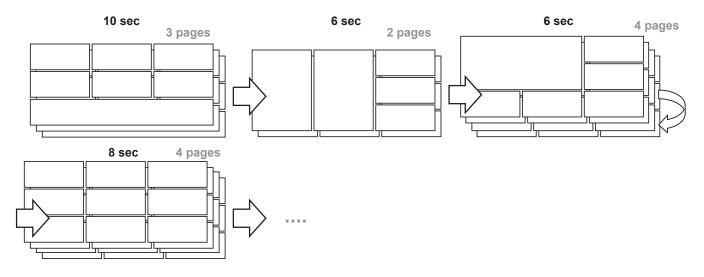


Whenever you close the LiveClient or Playback programs and changes in screen layout have been made, you will be prompted to save your current configuration.



Scheduled Layout Rotation

In a configuration consisting of a large number of cameras, you can configure different layouts containing view cells of different characteristics, e.g., a V view for a vertical, corridor scene, or a P view for panoramic glimpse of the scene. With these layouts, you can configure an automated layout rotation. Each layout will be displayed in turn, for a configurable dwell time.

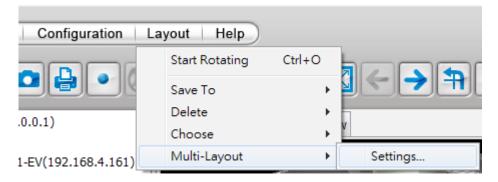


A time frame can be configured for each layout rotation. For example, one rotation may take place during the office hours, while another will take place during the off-office hours. Configuring a time frame for the layout rotation is optional. If not preferred, you can select the "Always" time frame template.

To configure a Scheduled Layout Rotation,

1. The precondition is that you should have multiple layouts created for your application needs.

2. Click on Layout > Multi-layout > Settings.



3. Click on the **Add** to create a new scheduled layout rotation. Enter a name for the layout rotation. Avoid using these non-alphanumeric characters: (<>&'''). -.

ti-Layout: ne Frame List	- 🔁 🖉 🗶			
Time Frame		Load Rule	d Template Sav	e as Template
Add Edit D Yout List	Multi-Layout name		Up	Down
Layout		Name Dwe	I Time Division	
	>>			

Click on the **Edit** *l* button to change the name of the configuration. Click on the **Delete** subtton to remove an existing configuration.

The max. number of multi-layout configurations is 128. Up to 256 individual layouts can pair with a time frame.

Note that you can not edit a multi-layout configuration while it is performing a rotation.

4. Click on the **Add** button on the Time Frame pane to create a time frame. You can manually enter the Start and End time, or drag the time frame for the span of time you prefer. When done, click on the **Add** button to create the time frame.

You can use the **Load Template** button to select a pre-configured template, such as the Officehour, OffOfficehourinWorkday, Weekend, or Workday template. Make adjustments to the span of time. You can save your current time frame as a tempate for later use.

If necessary, select the days within a week, or the effective range for the time frame.

V Multi-Layout Settings
Multi-Layout: Layout-rotation 🔹 🚱 💉
Time Frame List
Time Frame
Time Frame Name: Time frame for Layout Rotation1 Repeat Frequency: Weekly Setting (Day-based) Coad Template Save as Template Save
Weekly Setting (Day-based)
Set time segments in a 24-hour day. Multiple segments are allowed.
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23
Start Time: 00 $\frac{1}{x}$ 00 $\frac{1}{x}$ End Time: 18 $\frac{1}{x}$ 30 $\frac{1}{x}$
Repeat on: Sunday Monday Tuesday Wednesday Thursday Friday Saturday
Range
Start: 2017/ 9/ 8 🔹 End: 🔘 2017/ 9/ 8 💌
Never Stop
Repeat every 1 (* Week(s)
Select all
OK Cancel

Click **Save** to complete the time frame configuration.

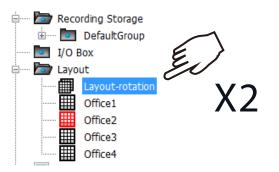
5. Select the layouts that will be included in the Layout Rotation.

When done, click on the **Dwell Time** and **Division** field to edit their appearance and behavior on the live view.

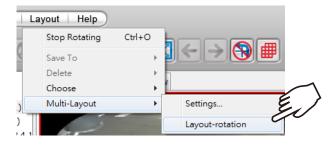
V Multi-Layout Settings				×
	2			
Multi-Layout: Layout-rotation 🔹 🛃 🖉	S			
Time Frame List				
		Load Temp	bto Sovo o	s Template
			ale Save a	sitemplate
Time Frame	Rul	-		
timeframe		y Setting		
Time frame for Layout Rotation1	We	ekly Setting (Day	/-based)	
				4
Add Edit Delete			Up	Down
Layout List				
Available layouts:	Added layou	ts:		
Layout	Name	Dwell Time	Division	
D Office1	Office1	4	4x4	
Office2 Office3	Office2	3	4x4 👻	
	Office3	5	1x1	
Concea >>	Office4	5	2V 1P+2	
			3V	
			2x2	
			4V	
			2V+3	
			1+5 1P+6	
Select all			3x3	
			1P+8	
			1+12	
			1+12 4x4	Cancel
			1+12	Cancel

If necessary, use the Delte 📖 button to remove a layout. Use the move 🝙 🛃 buttons to change the display sequence of configured layouts.

6. You can start a Scheduled Rotation in many ways. Once configured, a Layout Rotation icon will appear on the device list. You can double-click on it to start the rotation.



You can start a Rotation from Layout > Multi-Layout > Layout-rotation.



A rotation automatically starts with pre-configured layouts if you configure the option in **Configuration** > **Client Settings** > **General Settings**.

Seneral Settings
System Settings
Automatically log in after logging in to operating system
Automatically display in full screen after login
V Auto add newly-inserted camera to video cell
Retrieve RTSP stream on specified port: 4543
Connect substation streaming via relay
☑ Keep detecting DI/DO status
Sort camera by name
Alarm Settings
Enable live alarm notification
Enable alert sound(s)
☑ Enable E-Map popup window
Alarm window mode: () Fixed
© Popup
Rotation Settings
Enable rotation after login
Rotate the page every 10 🚔 second(s) (3 ~ 999)
Display Settings
Maximum number of view cells 64 -
☑ Enable auto stream size: Quality first ▼
Enable de-interlace function
Enable Instant Replay on video cell
Default replay length: 30 seconds 🔹
Local streaming buffer time: 0 in millisecond(s) (0 \sim 10000)
OK Cancel

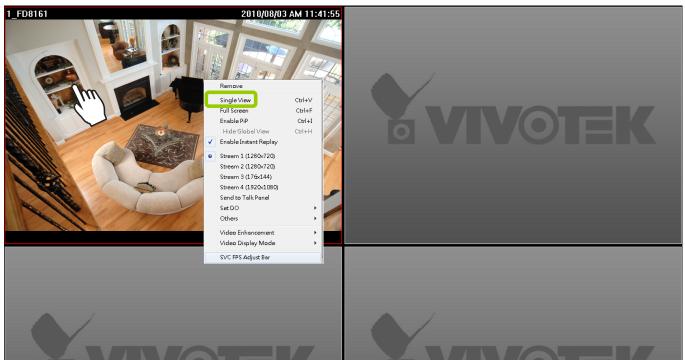
To stop a rotation, click on the Stop button is taking place.

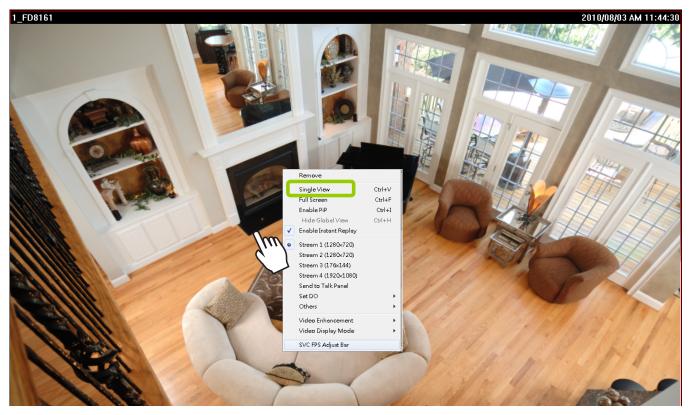
You can also double-click on an existing layout to stop the rotation.

Maximize/Minimize the Live Video Monitoring Window

Single View: to maxmize a video cell to the entire live video window

Double-click the video cell, or **right-click** the video cell and select **Single View**. The focused video will occupy the entire playback window as shown below.





To restore to the original layout, **double-click** the video cell or **right-click** the video cell and uncheck **Single View.**

• Full Screen: Maximize the live video monitoring window to the entire screen

Click **Full Screen** on the quick access bar or **right-click** the video cell and select **Full Screen**. In addition, you can also click **View > Full Screen** on the menu bar to maximize the live video monitoring window.

To restore to the original layout, you can **right-click** a video cell and uncheck **Full Screen** or click the **Esc** button on the keyboard to exit full screen mode.

Vie	w Configuration	Layout H
✓✓	PTZ Panel Two Way Audio Panel Instant Playback Panel	
\checkmark	Alarm Window	
	Full Screen Minimize	Ctrl+F
<	Matrix View	

Minimize: If you click View > Minimize on the menu bar, LiveClient will minimize to the Windows tool bar.

View Live Video on Dual Monitors

VAST also supports live video viewing on dual monitors, allowing you to manage a maximum of 64 channels concurrently on two screens. Moreover, the layout of the video monitoring window on different monitors can be set up individually.

Please follow the steps below to set up dual-screen mode:

- a. Set up dual monitors for your local computer.
- b. Launch VAST LiveClient on monitor 1.
- c. Click **System > Second View** on monitor 1, then the live video monitoring window will be displayed in monitor 2 as shown below.

Monitor 1	Monitor 2						
System Edit View Configuration La							
Lock Ctrl+L							
Canguage	D VIVOTEK SVIVOTEK SVIVOTEK SVIVOTEK SVIVOTEK						
Second View D.1)	SVIVOTER SVIVOTER SVIVOTER SVIVOTER SVIVOTER						
<u>E</u> -Map Launch <u>P</u> layback	SVIVOTEK SVIVOTEK SVIVOTEK SVIVOTEK SVIVOTEK						
Logou <u>t</u> E <u>x</u> it	SVIVOTEK SVIVOTEK SVIVOTEK SVIVOTEK SVIVOTEK						

- d. There are two ways to view live videos. One is to drag-and-drop the target device from the hierarchical management tree window to the video cells. The other is to click any video cell on monitor 1 or monitor 2, then double-click the target device; the live video will be displayed in monitor 1 or 2 in accordance with your selection.
- e. If you click **Switch Screen** by on the quick access bar, the live monitoring window on monitor 1 and monitor 2 will swap.

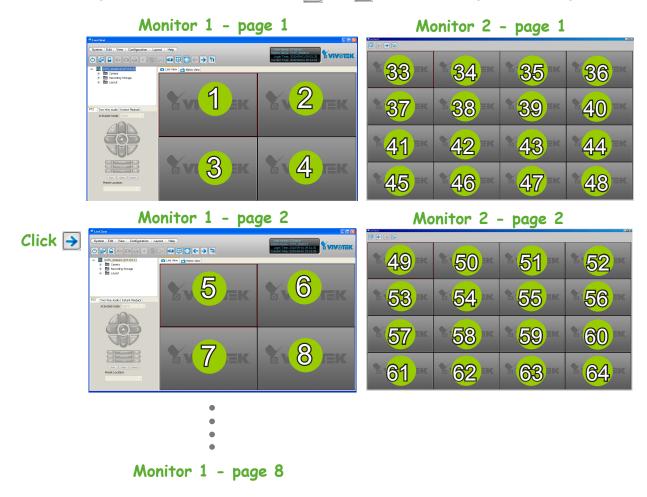
Simultaneously Viewing up to 128 Channels

If you select 1+31 layout on dual screens, you can view a maximum of 128 channels live video simultaneously. In this case, each layout contains 32 channels on 1 video page.

Monitor 1 - 32 channel					Monitor 2 - 32 channel									
System Edit Vew Configuration D D D D D D D D D D D		- 🏓 🛱				Oper Name: 27740mm Station Name: VVID_Station1 Cognition: 2010-00-01.00 1 Current Time: 2010-00-01.15 d		●Lecters						- (# X)
Proc. Seton (11270 011) Acron a Proc. Seton (11270 011) Acron a Proc. Seton (11270 011) Acron (11270 011)	 Dependent Strates 		VIVOTEK	VIVOTEK	VIVOTEK	XVIVOTEK	XVIVOTEK			X VIVOTEK	XVIVOTEK	XVIVOTEK	XVIVOTEK	XVIVOTEK
		OTEK		XVIVOTEK						VIVOTEK	VIVOTEK	EVIVOTEK	XVIVOTEK	YVIVOTEK
PT2 Two Way Audio [Instant Reybuck]	XVIVOTEK	YVIVOTEK		*				XVIVOTEK	Yvivotek	Yvivotek	Yvivotek	YVIVOTEK	YVIVOTEK	VIVOTEK
Actornal mode	XVIVOTEK	YVIVOTEK	YVIVOTEK	* VIVOTEK	VIVOTEK	YVIVOTEK	YVIVOTEK	VIVOTEK	YVIVOTEK	YVIVOTEK	YVIVOTEK	YVIVOTEK	YVIVOTEK	Y VIVOTEK
Print Locitor	VIVOTEK	YVIVOTEK	VIVOTEK	XVIVOTEK	YVIVOTEK	VIVOTEK	YVIVOTEK	VIVOTEK	YVIVOTEK	YVIVOTEK	YVIVOTEK	YVIVOTEK	YVIVOTEK	VIVOTEK

Using different layouts on each monitor

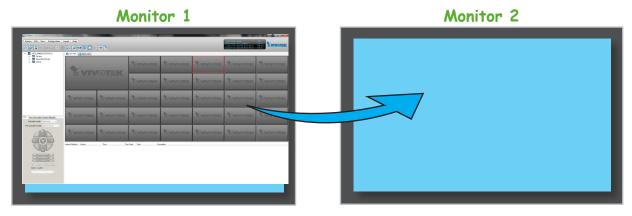
You can also select different layout for two monitors, simply click the **Layout** button I on the quick access bar. Below is an example of the 2x2 layout with 8 video pages on monitor 1 and the 4x4 layout with 2 video pages on monitor 2. You can click I and I to switch among the video pages.



View Live Video with Multiple Monitors

If you have multiple screens in your monitoring center, you can switch the VAST LiveClient Window among these screens.

If you have two monitors, click Switch Screen 3 on the menu bar; the LiveClient window on monitor 1 will switch to monitor 2.



If you have two monitors, a drop-down list will be displayed when you click Switch Screen , on the menu bar. The number of items on this list depends on the number of your screens. Select a desired screen on the drop-down list and the LiveClient Window will switch to the specified screen.



How to Manage Stations

The VAST Server allows you to construct a hierarchical management system by adding more sub-stations to the root station. Under each sub-station, it can also insert sub-stations and network cameras.

Relay Settings

Before adding a sub-station, please follow the instruction below to enable the sub-station's Relay Settings first.

- a. Login to the sub-station.
- b. Select the station from the hierarchical management tree.
- c. Click **Configuration > Station Settings > Relay Settings** on the menu bar (or **right-click** the station on the hierarchical management tree and select **Station Settings > Relay Settings**).

System Edit View	Configuration Layout Help	
	Camera Management Station Management	, ₽ 🛛 < → 🗊
VVTK_Station1(12	Logical Tree View Management I/O Box Management User Management	trix View
20x Zo 	Association Manage Alarm Management Virtual Matrix Management	
📗 D 🗁 Recording St 🎦 Default	Failover Management Search VivoCam Switches	
🔮 2 🍪 M 💽 M 🚰 Layout	Station Settings Client Settings Video Enhancement	 General Settings Network Settings Recording Storage Settings
Initial Initial		Recording Schedule Settings Scheduled Backup Settings Server Settings Relay Settings
	_Station1(127.0.0.1) Camera Management Station Management Logical Tree View Management I/O Box Management User Management Association Management Alarm Management Virtual Matrix Management Failover Management Search VivoCam Switches Station Settings Client Settings Video Enhancement	 Settings settings settings General Settings Network Settings Recording Storage Settings Recording Schedule Settings
		Scheduled Backup Settings Server Settings Relay Settings

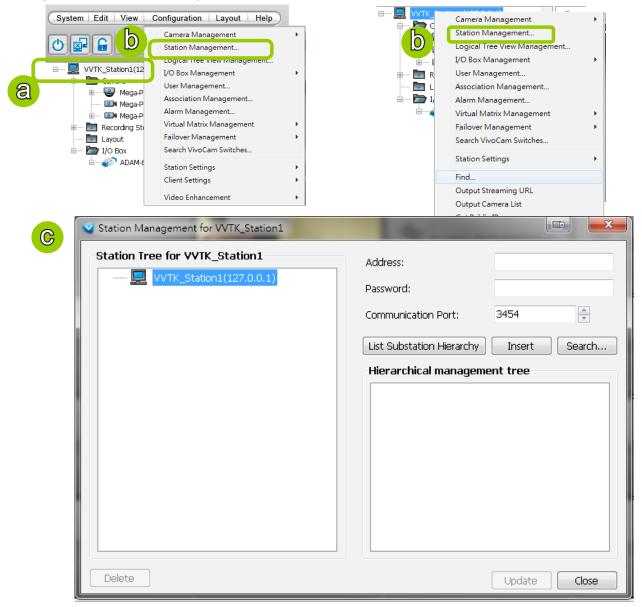
d. The **Relay Settings** window will pop up. Check **Allow Relay Connection** and enter a **Password**. Then click **OK** to enable the settings.

~	Relay Settings 🛛 🔀
	Allow relay connection
	Relay Authentication
	Password:
	Confirm Password:
	OK Cancel

Insert Sub-stations

Please follow the steps below to add sub-stations:

- a. Select a target station from the hierarchical management tree.
- b. Click **Configuration > Station Management** on the menu bar (or **right-click** the target station, then select **Station Management**).
- c. The **Station Management** window will pop up. The hierarchical management tree managed by the target station will be displayed on the left panel.



- d. Before inserting the sub-station, you can click **List Sub-station Hierarchy** button to know if there is any sub-station under it.
- e. Enter the sub-station's **IP address** and **Password (defined in Relay Settings, not login password)**. The default communication port is 3454.
 - If the sub-station is on the LAN, you can click the Search Station button to detect all ST7501 and VAST on the LAN. A Station List window will pop up and show a list of detected cameras on the LAN. On the top of Camera List window, you can select "List the stations which are not inserted" or "List all stations". The items listed below will then change accordingly. You can click Name, IP Address, Model, Http port to sort the items. Then select a device from the list to insert to the station.

- f. When all settings are done, click **Insert** to add the sub-station to the target station. The sub-station will be displayed under the left station tree.
- g. To insert additional sub-stations to the target station, repeat the above steps.
- h. When completed, click **Close** to exit the Station Management window.

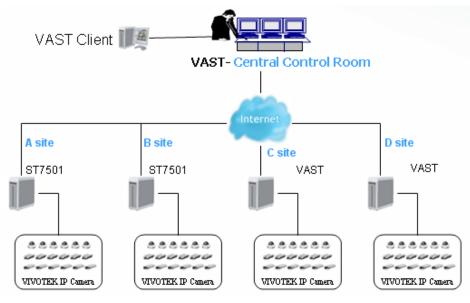
Station Management for VVTK	_Station1			
Station Tree for VVTK_Stat	.16.7.82)	Address: Password:	172.16.4.23	
		Communication		
	C			rch) 🖨
		Hierarchical	management tree	
Delete			Update 🖸	ose h
Search Stations				
 List the stations which List all stations Station List 	are not inserted		Refresh	
Name	Address	Model	HTTP Port	
VVTK_Station1 RD1_NEIL_5235 VVTK_Station1	192.168.6.224 192.168.6.207 192.168.6.135	VAST VAST VAST	3454 12345 3454	
VVTK_Station1	192.168.6.133	VAST	3454	

i. Back to the main window, you will find the newly-inserted stations displayed under the hierarchical management tree.

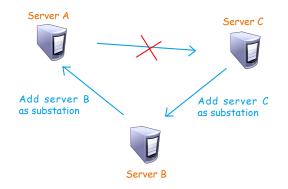




■ You can add VAST or free standard ST7501 as the sub-stations. The number of sub-stations can be added to the server depends on your key dongle. The VAST server will automatically detect the USB dongle installed on your host PC. Following is an illustration for two-level hierarchical architecture:



Please note that the following cyclic relay is not allowed.



Delete Sub-stations

There are two ways to delete a sub-station:

Method 1. Select the sub-station on the hierarchical management tree, then **right-click** to delete.

<u>, пр</u>	Station1(127.0.0.1)								
🖅 🔤 Camera									
😐 🔤 F	Recording Group								
🗖 L	🔤 Layout								
· • • · · · · • • • • • • • • • • • • •	/VTK_Station2(172.16.4.23)								
	Camera Management 🔹 🕨								
	Station Management								
	<u>U</u> ser Management								
	Association Management								
	<u>E</u> vent Management								
	<u>⊻</u> irtual Matrix Management →								
	Station Settings								
	<u>F</u> ind								
	Output Streaming URL								
	Get Public IP								
	Delete								

Method 2. Delete the sub-station via the Station Management window:

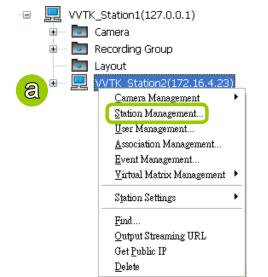
- a. Click the station on the hierarchical management tree, then click **Configuration > Station Manage**ment on the menu bar (or right-click the station, then select **Station Management**).
- b. The **Station Management** window will pop up. The hierarchical management tree managed by the station will be displayed in the left Station List window.
- c. Select a station from the list you want to delete. Its related information will automatically be displayed in the corresponding blanks in the Station Management window.
- d. Click **Delete** to delete it.
- e. To delete additional devices, repeat step c. and d.
- f. When completed, click **Close** to exit the camera management window and return to the main window. The deleted device will disappear from the hierarchical management tree.

Station Tree for VVTK_Station1	Address: 172.16.4.23 Password:
	Hierarchical management tree

Update Stations

Please follow the steps below to update a station via Station Management window:

- a. Right-click the target device on the hierarchical management tree and click Station Management.
- b. The **Station Management** window will pop up. The hierarchical management tree managed by the station will be displayed in the Station List window on the left.
- c. Select a station from the list you want to delete. Its related information will automatically be displayed in the corresponding blanks in the Station Management window.
- d. When all settings are completed, click **Update** to enable the settings.



Station Management for YVIK_Station1		
Station Management for YYTK_Station1 Station Tree for VVTK_Station1 Image: WTK_Station1(172.16.7.82) Image: WTK_Station2(172.16.4.23)	Address: Password: Communication Port: List Sub-Station Hierarchy Hierarchical manageme	
	🖳 VVTK_Station2	(172.16.4.23)
		Update Close

How to Manage User Accounts

VAST allows users to apply multiple user accounts to a station with five levels of user roles: Administrator > Power User > User > Operator > Guest. Each role has different permissions listed as shown below. Moreover, Administrators have the highest privileges, while Power Users can only add/edit users as Power Users, Users, Operators, and Guests.

The Default User Roles and Permissions of User Accounts

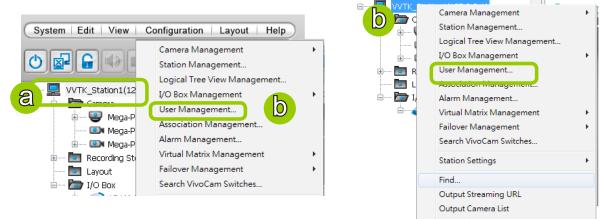
Functions \ User Roles	Administrator	Power User	User	Operator	Guest	Description
Station Management	V	V		-		Add sub-station under the existing station
User Management	V	V	V			Manage user accounts
Camera Management	V	V				Insert and configure the camera settings
Association Management	V	V	V			Access and modify the association settings
Access Alarm Management	V	V	V			Access Alarm management
Modify Alarm Management	V	V	V			Modify Alarm management
General Station Settings	V	V				Modify general station settings
Station Network Settings	V	V				Modify network settings
Access Recording Storage/ Recording Schedule Settings	V	V	V	V		Access the recording group and recording schedule
Modify Recording Storage/ Recording Schedule Settings	V	V	V			Configure the recording group and recording schedule
Manually Record	V	V	V	V		Enable the recording function manually
Scheduled Backup Settings	V	V	V			Configure backup schedule
Access Server Settings	V	V	V			Access server settings
Modify Server Settings	V	V	V			Modify server settings
License Management	V	V				Allow user to manage station licenses
Relay Management	V	V				Allow user to manage station relaying settings
Client Settings	V	V	V	V		Configure the client settings: snapshot, AVI, etc.
Video Enhancement Settings	V	V	V			Allow user to edit profile for video enhancement and assign profile to camera in LiveClient

Privileges \ User Roles	Administrator	Power User	User	Operator	Guest	Description
Modify Directories	V	V	V			Add, remove and rename directories
Delete Station	V	V				Delete sub-station from a (parent) station
Delete Camera	V	V				Delete camera from the station
PTZ Control	V	V	V	V		PTZ control for PTZ cameras and speed domes in LiveClient
Device Control	V	V	V	V		Control the digital output or white light/IR illuminators of the cameras
Talk Control	V	V	V	V		Two way audio function for the cameras
Access Camera Configuration	V	V	V			Access the camera settings
Modify E-map	V	V	V	V		Allow user to modify the E-map
Event Search	V	V	V	V		Use built-in search engine to search specific events
Log Viewer	V	V	V	V		Use built-in search engine to search the log
Backup	V	V	V	V		Back up database manually
Record/Export Media	V	V	V	V		Record live stream or export playback stream to local files
Virtual Matrix Management	V	V				Allow user to manage virtual matrix
Virtual Matrix Control	V	V	V	V		Allow user to control virtual matrix
Playback Authority	V	V				Allow user to access Playback

Manage a User Account

Add a New User Account - Basic Account

- a. Select the station from the hierarchical management tree.
- b. Click **Configuration > User Management** on the menu bar (or **right-click** the station, then select **User Management**).



- c. The **User Management** window will pop up. The user accounts under the station will be displayed under the left User List tree. Up to 1,021 users can be created (not including the default Admin and two internal communication accounts).
- d. Enter the User Name, Password, and specify the User Role of this user.
- e. Click Add to add the user account to the station. It will be displayed under the User List.

User Management for VVTK_Station1	
User List	Account Management
VYTK_Station1	Authentication: Basic Account
vivotek.tw\Eric.Lu	User Name: guard post
ericthegreat123.com\er	Password: •••• Confirm Password: ••••
ericthegreat123.com\Ad	User Role: Power User
< III >	Permission Accessible Cameras Accessible £ Functions Description Station Managem Add substation ur Station Management Manage user accc Camera Managem Insert and configu Association Mana Access and modif Access Event Ma Access event mar Modify Event Ma Modify event mar General Station S Modify general station Station Network Modify network station Access Recording Access the record Modify Record Enable the record Manually Record Enable the record
	Close

Station1		
User List	-Account Manager	ment
VVTK_Station1 Image: State of the state of t	Authentication: User Name: Password:	Basic Account
ericthegreat123.com\use ericthegreat123.com\use ericthegreat123.com\use ericthegreat123.com\Ad ericthegreat123.com\use	Confirm Password: User Role:	••••••
Power User		

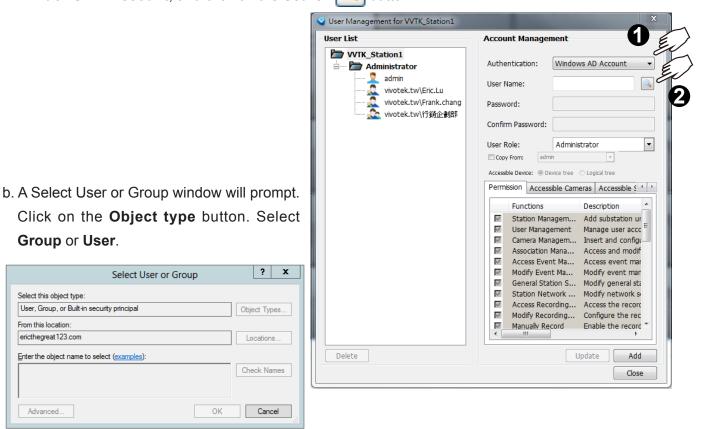
Add a New User Account - Windows AD Account

In an established, enterprise network environment, the support for Windows AD (Active Directory) infrastructure enables ease of integration using the credentials of existing users. Using the same AD authentication methodologies, you can configure the clients or users in an established network to access the VAST server configuration.

Note the following with Windows AD support:

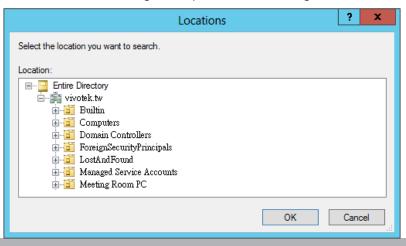
- 1. The ST7501 software does not support Windows AD accounts. However, if you log in to a VAST server which supports Windows AD accounts, the AD account will work for an ST7501 sub-station managed by VAST.
- 2. If you install VAST server on a Windows XP machine with Postqre SQL server, the login using a Windows AD account will not work.
- 3. The VAST server must reside in a domain managed by the AD server.
- 4. This function does not support the environment that spans across multiple AD domains.
- 5. A user account hosted by an AD server cannot be modified in VAST.
- 6. A User Group and its members configured in AD cannot be managed in VAST.
- 7. You cannot add an account having the same name as one you used to log in VAST.
- 8. There are 3 types of account for VAST: VIVOTEK account, AD single user, AD group.

a. To configure a Windows AD user as a VAST user, enter the **User Management** window. Select **Windows AD Account**, and click on the **Search** button.



Object Types	?	x
Select the types of objects you want to find.		
Object types:		
Built-in security principals Aroups		
Users		
ОК	Cano	el

c. You can also click on the **Location** button to specify a search range on a location on the AD hierarchical tree, e.g., a department in an organization.



d. Enter a name for user or group that is known to the AD. Click on the **Check Name** button. The search results will be listed.

	Select Use	r or Group	?	x	
Select this object t	ype:				
User, Group, or B	uilt-in security principal		Object Typ	bes	
From this location:					
ericthegreat 123.c	om		Location	s	
Enter the object na	me to select (<u>examples</u>):				
admin			Check Na	imes	
Advanced		ОК	Cano	xel	
	Mu	Iltiple Names Fo	und		x
	ect matches the following ob or, to reenter the name, clic es:		elect an		
Name	Logon Name (pr	E-Mail Address	Description		older
Administra 🎘 Administra			Built-in account		thegreat 123 thegreat 123

- e. Click to select a user, and then click **OK** to confirm your selection.
- f. Users thus added will be listed on the left in the **User List**. These users or groups will be listed with their domain name listed in front of them and indicated by different icons
- g. Select a **User Role** for the AD user as Administrator, Power user, user, operator, or guest.
- h. Select user's privileges in terms of the **Permission**, **Accessible Cameras**, and **Accessible Substations** from the tabbed windows below.

i. Click the **Add** button to complete the process.

The next time you log in, you can select **Windows AD Account**, enter User Name and Password to access the VAST software.

Note that you should specify the domain name in front of the user name; "domain name\user name."

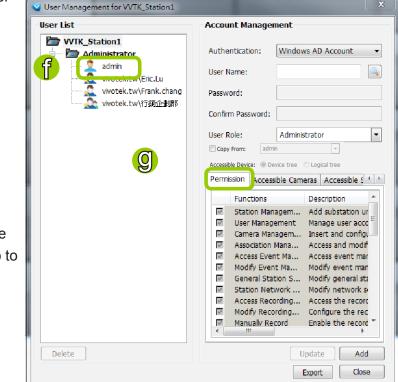
VAST LiveClient			
☑ Log in local station			
Address:	127.0.0.1		-
Authentication:	Windows AD Accou	Int	-
User Name:	vivotek.tw\Eric.Lu		
Password:	•••••		
Port:	3454		
Proxy Settings			
Log in	Cancel Hide	e <<	

Permission of the User Account

Administrator is granted with all access privileges, while other user roles' permission is limited. If you want to modify the permission, please login as the Administrator to configure the settings. f. Select a User account from the User List tree.

g. If you want to set the limit of the permission of the user, click **Permission** tab to check or uncheck the items.

h. If you want to limit the devices accessible by the user, click **Accessible Cameras** tab to select the desired devices.





You can select either a basic user can access a device tree or a logical tree.

i. If you want to configure the access limit of the sub-station accessible by the user, click **Accessible Substations** tab to select the desired devices.



If you want to remove access permission mentioned above from the account, the user will not able to operate some functions listed in the following warning dialog.

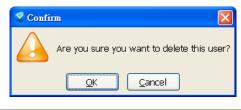
😴 Confi	m 🔀
	Unchecked sub-stations or cameras will have the following permission(s) removed from the account: "Camera Management", "Delete Camera", "Modify Recording Group/Recording Schedule Settings", "Scheduled Backup Settings", "Modify E-Map", "Modify Event Management"

j. When completed, click **Update** to enable the new settings.

	Permission Accessible Cameras Accessible Substations
	○ All substations ③ Selected substations
	Substations
	VVTK_Station2
k	Select all
<u>D</u> elete	Update Add

Delete the User Account

k. Click **Delete**, a delete user dialog will pop up. Click **OK** to delete the user account.





If the Administrator modifies or deletes the User Account, that modified user might be kicked off from the station.

Expiration

Click **Expiration** to configure the extension of time allowed for a user's access. For example, an administrator may want some users to have access to the LiveClient during a specific period of time, while they are forbidden to access when they are not on the duty.

Management for VMS_Station		
ist	Account Management	
VMS_Station	Authentication: Basic Account	
Administrator		
vivotek.tw\enc.lu vivotek.tw\frank.chang	User Name: test user	
vivotek.tw\eric.lu vivotek.tw\frank.chang admin	Password:	
	Confirm Password:	
	User Role: Power User	
	Copy From: admin -	
	Confirm Password: • E User Role: Power User • E Copy From: admin • Accessible Device: • Device tree • Logical tree	
	Permission Accessible Cameras Accessible Substations Expiration	
	Time Frame List	
		Load Template Save as Templa
	Time Frame Rule	
	Weeky Setting (Day-based) Set time segments Set time segments <th>Add Delete Thursday V Friday V Saturday</th>	Add Delete Thursday V Friday V Saturday
	Log-in Limitation Repeat every 1 🔆 Week(s)	
	0 A mins / each time	
	0 🚔 mins / each day	
e		Update

Note that if a new user has the **Administrator** previlege, no Expiration setting will apply to him. The Expiration setting applies to **Power User**, **User**, **Operator**, or **Guest**.

- 1. To start the configuration, enter a user name, password, and then select a **User Role**.
- 2. Click to enter the **Expiration** tab window.
- 3. You can either **Load a Template** or click **Add** to manually configure an Expiration setting. You may also configure a Log-in Limitation by configuring the extension of time a user can access for each day or each login.
- 4. If creating a new template, enter a name for the template.
- 5. Drag your cursor across the timeline, or manually enter the **Start** and **End** time. Click the **Add** button if you manually enter the time span. You can add multiple time spans to the timeline. The time spans will display on screen as red bars.

To delete a time span, click to select a time span and click the **Delete** button.

When done with a manual template configuration, you can click the **Save** button to save the template for later use.

Export: Click to export users' privilege, access list, as a CSV file. The information include Functions Permission, Accessible Cameras, and Accessible Substations. The Logical Tree access information is currently not included.

How to Set up Association Management

VAST LiveClient supports association management which allows the user to configure relative event trigger notifications of connected network devices. (E.g., DI/DO status on the hierarchical management tree, motion detection windows appear in the video cell, the event list in the event window)

Association Management

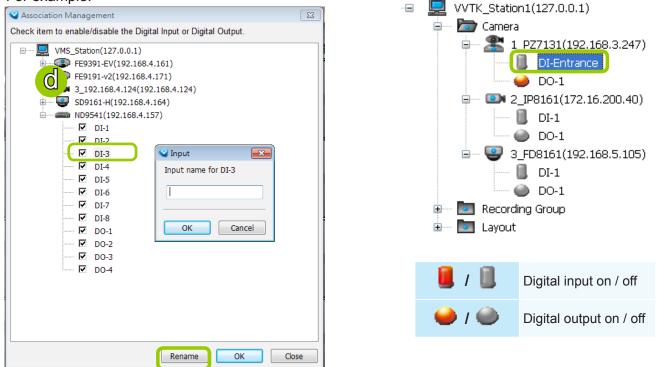
Please follow the steps below to configure assocation settings:

- a. Select the station from the hierarchical management tree.
- b. Click Configuration > Association Management on the menu bar (or right-click the station and select Association Management).



c. The **Association Management** window will prompt. Select or deselect the items and click **Save** to enable the settings. The items you've selected will also be displayed under the hierarchical management tree.

For example:



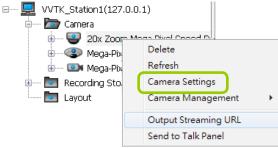
d. If you want to rename the DI device, select the DI item and click the **Rename** button. It will be very convenient for you to recognize the target DI device.



To manually enable DI/DO settings, please right-click the video cell and select Set DO to enable (Trigger) or disable (Normal) the digital output of the linked device.

1_IP8161		20	010/01/27 AM 03:31:28	1_IP8161		2	010/01/27 AM 03:31:28
	<u>R</u> emove				<u>R</u> emove		
	<u>S</u> ingle View Full Screen Enable <u>P</u> iP Hide Global View	Ctrl+V Ctrl+F Ctrl+I Ctrl+H			<u>S</u> ingle View Full Screen Enable <u>P</u> iP Hide Global View	Ctrl+V Ctrl+F Ctrl+I Ctrl+H	
	• Stream 1				• Stream 1		
	Stream 2				Stream 2		
	Stream 3		all all the the		Stream 3		Carlos and and the
1149	Stream 4		THE FILL AND THE FILL AND	1165	Stream 4		THE FITTER STATES IN
	Send to <u>T</u> alk Panel		COMPANY STATE		Send to <u>T</u> alk Panel		The Martin States of the second
	Set <u>D</u> O	Þ	DO-1 🕨 🗸 Trigger		Set <u>D</u> O) – F	DO-1 🕨 Trigger
	<u>O</u> thers	· ·	Normal		<u>O</u> thers	•	✓ Normal
	<u>V</u> ideo Enhancement	•			<u>V</u> ideo Enhancement	•	

Before you configure the DI/DO Settings for VAST, please enable DI/DO settings on your network device and set up the camera correctly on the configuration page. You can **right-click** the device and click **Camera Settings** to open the configuration page.



	Home Client settings Configura	tion Language
	Applications > DI and DO	
System	Digital input	
Media	Normal status:	
Network	Current status: High	
Security	Digital output	
РТΖ	Normal status: Open Grounded	
Event	Current status: Open	
Applications		Save
Motion detection		l.
DI and DO		
Tampering detection		
Audio detection		
Package management		
Recording		

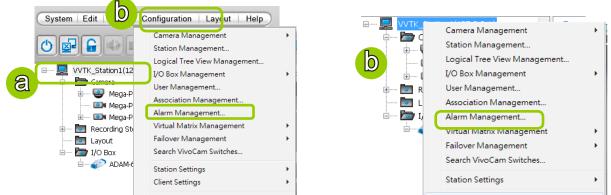
How to Set up Alarm Management

VAST LiveClient supports Alarm management which allows the server to display and respond to particular situations (events).

Alarm Management

Please follow the steps below to configure Alarm management:

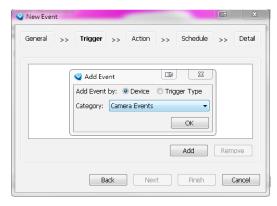
- a. Select the station from the hierarchical management tree.
- b. Click **Configuration > Alarm Management** on the menu bar (or **right-click** the station and select **Alarm Management**).



c. The **Alarm Management** window will prompt. Click **New** to configure a new event. Enter a name and description for the new alarm. When you finish the general settings, click **Next** to set up trigger source settings. The Alarm name you specify here will be displayed on the Alarm panel in the Live view.

🔮 Alarm	Management			×	New Alarm
the syst	em would raise a		sted events. When a	one of them is triggered,	General >> Trigger >> Action >> Schedule >> Detail
Alarm Enab		Triggers DI-1 (Trigger) Motion-1 on Me	Actions Turn DO-3 (AD Start to record	Schedule Always Always	
Nev	/ Edit	Remove	Detail >>	Close	Detect next event after 5 secs Back Next Finish Cancel

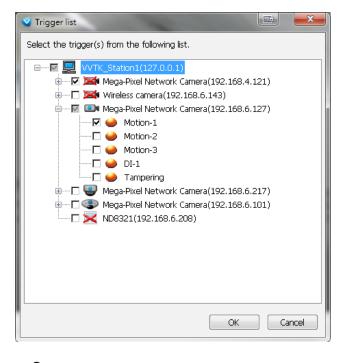
d. Click Add to select the trigger source by Device or Trigger Type.



Note that the **Motion detection** windows are separately configured using web consoles with each individual cameras. Open a web console with the camera to configure Motion detection windows.

The Storage Status includes: Storage connection status and storage capacity status on NVR systems.

Each individual motion detection window can be used as a triggering condition. The Line Crossing and Field Detection packages running on cameras also apply as triggers.





E CON

If you connect your DI/DO devices via an I/O module (I/O box), please refer to page 307, **Appendix E Support for Digital I/O Modbus TCP Modules** for details.



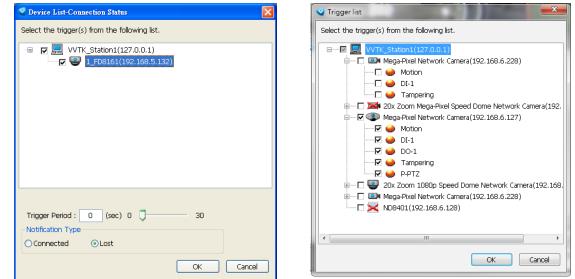
There is a new event trigger type, P-PTZ. The P-PTZ refers to the occurrence of Auto Tracking action in a Panoramic PTZ configuration.



Auto Tracking is configured on the fisheye camera in a Panoramic PTZ configuration.

If you manually configure a detection area for the Auto Tracking function, the P-PTZ event will not be triggered.

e. The Device List window will prompt. Select one or more devices and set the Notification Type. Depending on the trigger source, the Notification Type will be different. Then click **OK** to close the window.



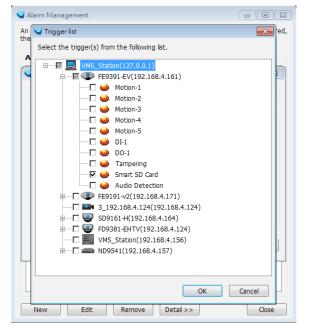
- f. The trigger source(s) will be listed on the window as shown below. If you want to add more Trigger sources, click **Add** and repeat steps d. to e. Then click **Next** to assign action(s) to the trigger source(s).
- g. Click Add to open the Action Settings window.

💊 New Alarm	😢 New Alarm
General >> Trigger >> Action >> Schedule >> Detail	General >> Trigger >> Action >> Schedule >> Detail
Connection Status (Lost) on Mega-Pixel Network Camera, Trigger Period : 5 (Recording Status (Stop) on Mega-Pixel Network Camera, Trigger Period : 5 (; Recording Error on Mega-Pixel Network Camera, Trigger Period : 5 (; Recording Status (Stop) on Mega-Pixel Network Camera, Trigger Period : 5 (; Recording Error on Mega-Pixel Network Camera, Trigger Period : 5 (; Recording Error on Mega-Pixel Network Camera, Trigger Period : 5 (; Recording Error on Mega-Pixel Network Camera, Trigger Period : 5 (; Recording Error on Mega-Pixel Network Camera, Trigger Period : 5 (; Recording Error on Mega-Pixel Network Camera, Trigger Period : 5 (; Recording Error on Mega-Pixel Network Camera, Trigger Period : 5 (; Recording Error on Mega-Pixel Network Camera, Trigger Period : 5 (; Recording Error on Mega-Pixel Network Camera, Trigger Period : 5 (; Recording Error on Mega-Pixel Network Camera, Trigger Period : 5 (; Recording Error on Mega-Pixel Network Camera, Trigger Period : 5 (; Recording Error on Mega-Pixel Network Camera, Trigger Period : 5 (; Recording Error on Mega-Pixel Network Camera, Trigger Period : 5 (; Recording Error on Mega-Pixel Network Camera, Trigger Period : 5 (; Recording Error on Mega-Pixel Network Camera, Trigger Period : 5 (; Recording Error on Mega-Pixel Network Camera, Trigger Period : 5 (; Recording Error on Mega-Pixel Network Camera, Trigger Period : 5 (; Recording Error on Mega-Pixel Network Camera, Trigger Period : 5 (; Recording Error on Mega-Pixel Network Camera, Trigger Period : 5 (; Recording Error on Mega-Pixel Network Camera, Trigger Period : 5 (; Recording Error on Mega-Pixel Network Camera, Trigger Period : 5 (; Recording Error on Mega-Pixel Network Camera, Trigger Period : 5 (; Recording Error on Mega-Pixel Network Error on Mega-Pixel Network Camera, Trigger Period : 5 (; Recording Error on Mega-Pixel Network Error on	g Add Remove
Back Next Finish Cancel	Back Next Finish Cancel

Note that if your camera is using Sony's SR-WM series cards, SD card status events can be used as a trigger.

The event messages look like the following:

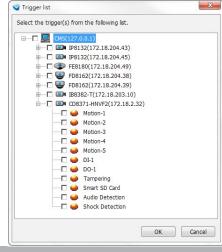
Warning	Error Message Examples
Normally Functioning	The SD card is inserted and there is enough lifespan remaining.
Replacement Recommended	Has reached xx% of the SD card's lifespan.
Has Reached its Lifetime	All the spare blocks have been consumed. The card is read-only.
Card Not Inserted	No SD card is inserted.
Failed to Get Status	Unexpected error has occurred.



The related event messages will prompt on the event list. On seeing the Smart SD events, you should replace your SD card.

Alarm-3 Alarm-3 Alarm-3 Alarm-3	FE9391 FE9391			2017-09-07 16:19:43 2017-09-07 16:10:19	New
		-EV Smart SD Ca	ard Trigger	2017 00 07 16 10 10	
Alarm-3				2017-05-07 10.10.19	New
	FE9391	-EV Smart SD Ca	ard Trigger	2017-09-07 16:09:43	New
Alarm-3	FE9391	-EV Smart SD Ca	ard Trigger	2017-09-07 16:06:58	New
Alarm-3	FD9381	-EHTV Recording S	tatus Stop	2017-09-07 16:01:04	New

The Tampering, Audio Detection, and Shock Detection are also available as a trigger source with cameras that support these features. Shock Detection is available for cameras that come with an acceleration sensor.



There are several types of Action Settings.

- Email: The sever will send a notification via e-mail when a trigger is activated.
 - h. To enable this function, please set up the SMTP server first. Click **SMTP Setting** to open the window and refer to page 165 for detailed information.
 - i. Enter the related informtaion. You can modify the mail content in the blank. If you want to modify the content, click **Insert Macro** to select the parameter. When completed, click **OK** on the bottom to enable the setting.

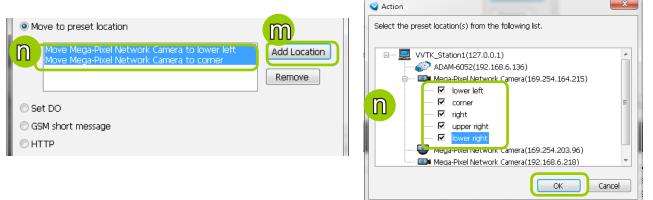
Note that you can insert a snapshot taken by the time of alarm occurence of the recorded video. The snapshot will be sent along with the notification Email. The snapshot comes from camer's stream 1.

	Action		×
	Email		h
1	From :		SMTP Settings
	то :		Test
	Cc:		
	Content:	At \$(EventTime), event type [\$(TriggerType)] occurred on \$(DeviceName)	Insert Macro
	🔘 Start to re	ecord on	
		react leastion	

- Start to record on: The sever will start to record video from selected camera(s) when an event is triggered.
 - j. Click **Add Camera** to select the target camera(s).
 - k. The selected camera(s) will be listed on the left window below. When completed, click **OK** on the bottom to enable the setting.



- Move to preset location: The target camera(s) will move the shooting area to the preset location(s) when an event is triggered.
 - I. To enable this function, please configure some preset locations on the camera configuration page first.
 - m. Click Add Location to select preset location(s).
 - n. The selected preset location(s) will be listed on the left window below. When completed, click **OK** on the bottom to enable the setting.



- Set DO: Select this option to turn on external digital output device(s) when an event is triggered. For more information about how to set DI/DO settings on the target camera, please refer to page109.
 - o. Click Add DO to select DO device(s) and select a DO status (Normal or Trigger).
 - p. The selected DO device(s) will be listed on the left window below. When completed, click **OK** to enable the setting.

	 Start to record on Move to preset location Set DO 	0	
Ø	Turn DO-1 (Mega-Pixel Network Camera) to	Add DO	
	4 III +	Remove	
	◯ GSM short message		

Select the Tirgger Period from the slide bar below. The range is 0 to 30 seconds. The DO trigger signal will return to normal after after this period of time.

Note that the Trigger Period setting does not apply to the camera DI/DO managed by substations.

V Action	X
Select the DO(s) from the following list.	
WVTK_Station1(127.0.0.1) ADAM-6052(192.168.6.136) Mega-Pixel Network Camera(169 Mega-Pixel Network Camera(169 Mega-Pixel Network Camera(169 Mega-Pixel Network Camera(192	Notification Type Normal Trigger
Notification Type	
 Trigger 	
Trigger Period: 0 (sec) 0	30
p L	OK Cancel

- GSM Short Message: The sever will send a short message to a GSM cell phone when an event is triggered.
 - q. Please enter the Phone Number and open GSM Settings window to set related information if necessary. When completed, click OK to enable the setting.

Action	X
💿 Email	
🔘 Start to record on	
O Move to preset location	
💿 Set DO	
e 💿 GSM short message	
Phone Number:	GSM Settings Test
© HTTP	
Client Notification	
	OK Cancel

SSM Notification	- COM Port Setup
GSM Settings	
SIM PIN Number:	
COM Port Number:	COM1 -
Bits per second:	115200 -
Data bits:	8 🔹
Parity:	None 🔻
Stop bits:	1 •
Flow control:	None 🔻
	OK Cancel

Please enter the country code if you use overseas call.

- HTTP: This function allows user to send a CGI command to the linked network camera, such as pan/ tilt/zoom function or enable DO devices.
 - r. You can click **Insert Macro** to select the parameter. Please enter authentification information if necessary. For example: http://192.168.3.66/cgi-bin/admin/setparam.cgi?system_hostname=\$(EventTime) \$(CameraName)

If you want to use special characters such as \$-_.+!*'(),#%+\$,@:;/?=&, please refer to the following table to transfer the Code (Hex).

For example: http://192.168.3.66/cgi-bin/admin/setparam.cgi?system_hostname=123&456 --> http://192.168.3.66/cgi-bin/admin/setparam.cgi?system_hostname=123%26456

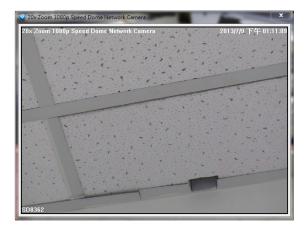
HTTP	
URL:	Insert Macro
Use authentication: 🔲	Test
User Name:	
Password:	

Character	Code (Hex)	Character	Code (Hex)
!	21	,	2C
#	23	-	2D
\$	24		2E
%	25	1	2F
&	26	:	3A
	27	;	3B
(28	=	3D
)	29	?	3F
*	2A	@	40
+	2B	_	5F
		~	7E

Client Notification: On the occurrence of an event, a pop-up window will display to show what is triggering the current event. Select the window size, and select the display duration of the notification window. If not selected, the notification window is manually closed.

Action
🗇 Email
🗇 Start to record on
Move to preset location
Set DO
◯ GSM short message
© HTTP
Client Notification
Notify me with Popup Window. Size: Large 🔹
Close it automatically after 5 😓 seconds
☑ Include the event-triggering camera
Add Camera
Remove
OK Cancel

Include the event triggering camera: You can select to display the screens of other cameras (e.g., cameras that are closely adjacent) when the notification prompts.



s. The action(s) will be listed in the window as shown below.

Then click **Next** to set up schedule(s) to the action(s).

For more information about **Schedule Settings**, please refer to Recording Schedule Settings on page 141. You can assign more than one time frame to one action.

General >> Trigger >> Action >> Schedule >> Detail Image: Schedule >> Trigger >> Action >> Schedule >> Detail Image: Schedule >> Trigger >> Action >> Schedule >> Detail Image: Schedule >> Trigger >> Action >> Schedule >> Detail Image: Schedule >> Trigger >> Action >> Schedule >> Detail Image: Schedule >> Trigger >> Action >> Schedule >> Detail Image: Schedule >> Trigger >> Action >> Schedule >> Detail Image: Schedule >> Trigger >> Action >> Schedule >> Detail Image: Schedule >> Trigger >> Action >> Schedule >> Detail Image: Schedule >> Trigger >> Action >> Schedule >> Detail Image: Schedule >> Trigger >> Action >> Schedule >> Detail Image: Schedule >> Trigger >> Action >> Schedule >> Detail Image: Schedule >> Trigger >> Action >> Schedule >> Detail Image: Schedule >> Trigger >> Action >> Schedule >> Detail Image: Schedule >> Trigger >> Action >> Schedule >> Detail Image: Schedule >> Trigger >> Action >> Schedule >> Detail Image: Schedule >> Trigger >> Trigger >> Action >> Schedule >> Detail Image: Schedule >> Trigger >> Action >> Schedule >> Detail Image: Schedule >> Trigger >> Trigger >> Action >> Schedule >> Detail >> Detail >> Detail Image: Schedule >> Trigger	🔽 New Alarm
Image: Start: 2008/12/8 End: Prode Prode Image: Start: 2008/12/8 End: Prode Prode	General >> Trigger >> Action >> Schedule >> Detail General >> Trigger >> Action >> Schedule >> Detail
Image: Add Remove Add Remove Back Next Next Time Frame Remove Back Next Remove Image: Remove	Turn DO-1 (ADAM-6052) to Trigger Turn DO-2 (ADAM-6052) to Trigger Turn DO-2 (ADAM-6052) to Trigger
Add Remove Back Next Frieh Cancel Add Edit Delete Up Dack Next Frieh Cancel Time Frame Next Prich Cancel Dack Next Next Prich Cancel Dack Next Prich Cancel Dack Next Prich Cancel Dack Next Prich Cancel Dack Next Prich Cancel Dack Next Prich Cancel Cancel Dack Next Prich Cancel Next Prich Cancel Cancel Dack Neekly Setting (Dacy-Dased) Okekly Setting (Dacy-Dased) Set time segments in a 24-hour day, Multiple segments are allowed. Okekly Setting (Dacy-Dased) Cancel Add Delete Repeat on: Sunday Monday Tuesday Never Stop Neth Dialit <	
Back Next Friend Back Next Friend Back Next Friend Back Next Friend Cancel Time Frame Image Start: 2008/12/8 End: Back Prick Cancel Time Frame Image Start: Prick Back <th>Always Weekly Setting (Day-based)</th>	Always Weekly Setting (Day-based)
Back Next Friend Back Next Friend Back Next Friend Back Next Friend Cancel Time Frame Image Start: 2008/12/8 End: Back Prick Cancel Time Frame Image Start: Prick Back <th></th>	
Back Next Friend Back Next Friend Back Next Friend Back Next Friend Cancel Time Frame Image Start: 2008/12/8 End: Back Prick Cancel Time Frame Image Start: Prick Back <td></td>	
Time Frame Time Frame Name: Image Set time segments in a 24-hour day. Multiple segments are allowed. Coad Template Save as Template Save 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 Start Time: 00 \bigcirc <	Add Remove Add Edit Delete Up Down
Time Frame X Time Frame Name: Nways Load Template Save as Template Save Weekly Setting (Day-based) Load Template Save Weekly Setting (Day-based) Colspan="2">Colspan="2">Save as Template Save Weekly Setting (Day-based) Colspan="2">Save as Template Save Weekly Setting (Day-based) Save as Template Save Weekly Setting (Day-based) Save as Template Save Save Save Set time segments in a 24-hour day. Multiple segments are allowed. O Colspan="2">Colspan="2"Colspa="2"Colspa="2"Colspan="2"Colspan="2"Colspan="2"Colspa	Back Next Finish Cancel Back Next Finish Cancel
Time Frame Name: Image Repeat Prequency: Weekly Setting (Day-based) Weekly Setting (Day-based) Set time segments in a 24-hour day. Multiple segments are allowed. 0 1 2 3 4 5 6 7 8 9 10 11 12 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 Start Time: 00 00 00 Repeat on: If Sunday If Tuesday If Wednesday If Thursday If Friday If Saturday Range Start: 2008/12/ 8 End: 0 2035/ 1/ 1 Never Stop	
Time Frame Name: Image Repeat Prequency: Weekly Setting (Day-based) Weekly Setting (Day-based) Set time segments in a 24-hour day. Multiple segments are allowed. 0 1 2 3 4 5 6 7 8 9 10 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 18 20 21 22 23 4 10 10 11 12 13 14 15 16 17 18 19 20 21 22 23 45 6 7 8 9 10 10 10 10 10 10 10 10 11 12 13 14 15 16 17 18 19 20 20 21 21 22 23	Time Frame
Load Template Save as Template Save Weekly Setting (Day-based) Weekly Setting (Day-based) Weekly Setting (Day-based) Set time segments in a 24-hour day. Multiple segments are allowed. 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 Start Time: 00 00 00 00 Add Delete Repeat on: Sunday Monday Tuesday Wednesday Thursday Friday Saturday Range Start: 2008/12/8 End: 2035/1/1 @ Never Stop	
Repeat Frequency: Weekly Setting (Day-based) Set time segments in a 24-hour day. Multiple segments are allowed. 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 Start Time: 00 <t< th=""><th></th></t<>	
Set time segments in a 24-hour day. Multiple segments are allowed. 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 Start Time: 00 • 00 • Add Delete Repeat on: I Sunday I Monday I Tuesday I Wednesday I Thursday I Friday I Saturday Range Start: 2008/12/8 End: 2035/1/1 • • Image Never Stop Image I	
Set time segments in a 24-hour day, Multiple segments are allowed. 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 Start Time: 00 • 00 • Add Delete Repeat on: I Sunday I Monday I Tuesday I Wednesday I Thursday I Friday I Saturday Range Start: 2008/12/8 End: 2035/1/1 • • Image Never Stop Image I	Weekly Setting (Day-based)
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 Start Time: 00 • 00 • • Add Delete End Time: 00 • 00 • • Add Delete Repeat on: ✓ Sunday ✓ Monday ✓ Tuesday ✓ Wednesday ✓ Thursday ✓ Friday ✓ Saturday Range Start: 2008/12/8 • End: 2035/1/1 • • • Never Stop • Never Stop •	
Start Time: O End Time: O O O Repeat on: Sunday Monday Tuesday Wednesday Thursday Friday Saturday Range Start: 2008/12/8 End: 2035/1/1 O O	
End Time: 00 00 Repeat on: Sunday Monday Tuesday Wednesday Thursday Friday Saturday Range Start: 2008/12/8 End: 2035/1/1 Never Stop	
Repeat on: Sunday Monday Tuesday Wednesday Thursday Friday Saturday Range Start: 2008/12/ 8 • End: 2035/ 1/ 1 • Never Stop	Start Time: 00 🚖 00 🚖
Repeat on: Sunday Monday Tuesday Wednesday Thursday Friday Saturday Range Start: 2008/12/ 8 • End: 2035/ 1/ 1 • Never Stop	
Range Start: 2008/12/ 8 End: 2035/ 1/ 1 Never Stop	
Range Start: 2008/12/ 8 End: 2035/ 1/ 1 Never Stop	
Start: 2008/12/8 ▼ End: 2035/1/1 ▼	Repeation: 🗹 Sunday 🔍 Monday 🔍 Tuesday 🔍 Wednesday 🔍 Thursday 🔍 Friday 🔍 Saturday
Start: 2008/12/8 ▼ End: 2035/1/1 ▼	Range
Never Stop	
Repeat every 1 🚔 Week(s)	 Never Stop
	Repeat every 1 🚔 Week(s)

t. When you finish schedule settings, click **Next** to review the detailed information of the new event settings.

🤮 New Alarm	×
General >> Trigger	>> Action >> Schedule >> Detail
	Load Template Save as Template
Time Frame	Rule
Always	Weekly Setting (Day-based)
Add Edit	Delete Up Down
Ba	ack Next Finish Cancel

u. Following is the detailed information of the new event setting. You can click **Back** to modify the event setting or click **Finish** to close the window.

New Alar	m 📒
General	>> Trigger >> Action >> Schedule >> Deta
Bescriptic Triggers: Actions:	* Motion-1 on Mega-Pixel Network Camera, Trigger Period : 5 (sec * Motion-2 on Mega-Pixel Network Camera, Trigger Period : 5 (sec * Motion-3 on Mega-Pixel Network Camera, Trigger Period : 5 (sec * Tampering on Mega-Pixel Network Camera, Trigger Period : 5 (sec * Turn DO-1 (ADAM-6052) to Trigger * Turn DO-2 (ADAM-6052) to Trigger
Schedule	* Always
4	4

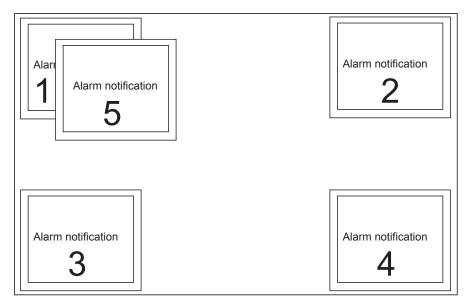
v. Following is an example of an enabled event. You can click **New** to set up more events or click **Close** to exit the window.

Alarm Li Enable	st Name	Triggers	Actions	Schedule			
	ADAM6		Turn DO-3 (AD	Always			
ŏ	IP8155		Start to record	Always			
٥	alarm-2	Motion-1 on Me	Send client noti	Always			
0	Alarm3	Motion-1 on Me	Turn DO-1 (AD	Always			
Click to remove the event							

If your target station has sub-station(s), the **trigger sources** can be selected from the device(s) under the sub-station(s); while the **actions** can only be performed on the device(s) under the target station.

Alarm Notification Windows

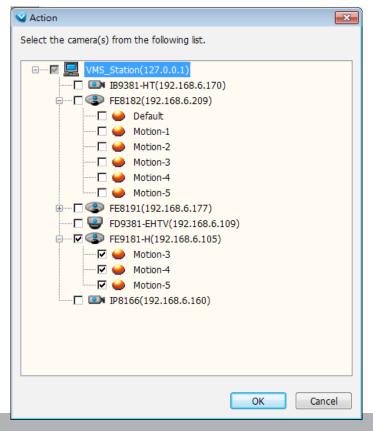
With multiple alarms simultaneously triggered, the notification windows will appear consecutively at the four corners of the screen. With more than 4 alarms, the latter notifications will appear on top of the old ones at a slightly shifted position.



Fisheye Motion Windows

When fisheye cameras are configured with Motion Detection windows and their motion events are triggered in the notification windows, they display in a more comprehensive dewarped, regional view.

If the Alarm triggering condition is configured as DI (digital inputs) or other inputs, you can configure the Alarm Action as displaying Client Notification as well. You can select the "Include the event-triggering camera," to display the pre-configured motion windows. The fisheye cameras' motion windows display in the dewarped mode.





Export All Logs

In the Playback utility, you can select the Log Viewer tab window, display the past events, and export all event logs to a CSV file.

Nayback											_	
System Edit View Configuration	Layout H	Help									S	2 FE9181-H
		ŧ) [2	3 L									FE9181.H
Bookmark Search Alarm Search Log Viewer	• •	Index	Time	Time Zone	Category	Level	Туре	Result	User	Target	Des	
🔜 VMS_Station(127.0.0.1)		1 2 3 4 5 6 7 8 9 10 11	2016-06-13 14-42-45 2016-06-13 14-55612 2016-06-13 14-55613 2016-06-13 14-55715 2016-06-13 14-57730 2016-06-13 14-57730 2016-06-13 14-57740 2016-06-13 14-57746 2016-06-13 14-57746 2016-06-13 14-57746	+08:00 +08:00 +08:00 +08:00 +08:00 +08:00 +08:00 +08:00 +08:00 +08:00 +08:00	Operation Log Operation Log Operation Log Operation Log Event Log Event Log Event Log Event Log Event Log Operation Log	Normal Normal Normal High High High High Normal	Login Update Alarm Manage Update Alarm Manage Update Alarm Manage Alarm Trigger Alarm Trigger Alarm Trigger Alarm Trigger Alarm Trigger	Success Success Success Success Success Success Success Success Success Success Success	admin admin admin admin	Local Local Local Local Local Local Local Local Local	(Liv Sch Sch Alar Alar Alar Alar Alar (Pla	
Category: Al Local Logs User: Log Type: Al Log Love: Al Ug Level: Al	· · · ·											F9181-H
Time Zone: GMT+08:00 Beijng, Chongging, Ho Start Time: 2016/ 6/13 13:59:02 2 End Time: 2016/ 6/13 14:59:02 2		Clear /	All Results Trace Login A	ctivities Expo	rt Al Logs							

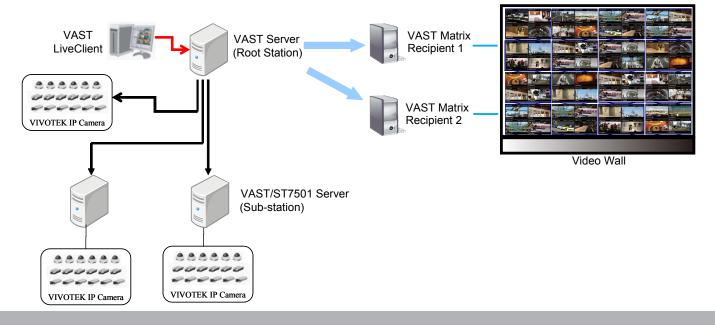
How to Manage the Virtual Matrix

Virtual Matrix is a very useful tool for multiple monitor display and management. Based on the whole surveillance system architecture, it efficiently helps user construct a real-time live video wall in the control center. Under a large-scale hierarchical system, through VAST LiveClient you can only simultaneously monitor up to 128-CH on dual monitors; while Virtual Matrix offers fully extension for numerous channels and screens, thus making VAST a very powerful central management system. Moreover, you can change the layout to 2x2 or 3x3 on each monitor to enlarge the video size, then display the video pages on saperate monitor for close-up monitoring.



The architecture of VAST Matrix

As shown below, the surveillance system architecture is composed of VAST LiveClient, VAST Server with two sub-stations, and VAST Matrix separately on individual hosts. Before constructing the Virtual Matrix, please install and run VAST Matrix Program on Matrix Recipient connected with the video wall. Through the Virtual Matrix connection, you can use LiveClient to log in the root server to remotely manage and display all the live view onto the video wall by easily drag-and-drop. PTZ control is also available as on the LiveClient.



Installing VAST Matrix Program

Please follow the steps below to install VAST Matrix Program:

a. Run VASTMatrix_setup.exe on another host (Matrix Recipient). Then click Next to start installation wizard.



- b. Carefully read to accept the End-User License Agreement for use. Click I Agree to the next step.
- c. Choose the installing path as the destination folder, the required space and available space of the hard disk will be shown below for reference. Click **Next** to the next step.

🕎 VAST Matrix Setup 📃 🗆 🔯	🕎 VAST Matrix Setup 📃 🗌 🔀
License Agreement Please review the license terms before installing VAST Matrix.	Choose Install Location Choose the folder in which to install VAST Matrix.
Press Page Down to see the rest of the agreement. End-User License Agreement PLEASE READ CAREFULLY: This End-User License Agreement ("EULA") is a legal agreement between VIVOTEK Inc. ("VIVOTEK") as licensor, and you, as licensee, for the VIVOTEK software that accompanies this EULA, which includes the video management software VAST Matrix VI and other applicable software (the "Software"). YOU AGREE TO BE BOUND BY THE TERMS OF THIS EULA BY INSTALLING, COPYING, OR OTHERWISE USING THE SOFTWARE OR CLICKING THE BITTON MARKED "I AGRER" OR "YES"	Setup will install VAST Matrix in the following folder. To install in a different folder, click Browse and select another folder. Click Next to continue.
If you accept the terms of the agreement, click I Agree to continue. You must accept the agreement to install VAST Matrix.	Space required: 21.7MB Space available: 69.4GB
VAST Matrix v1.0.0.4	VAST Matrix v1.0.0.4

d. Fill in the connection information with Port, Account & Password for VAST Server to connect to the Matrix Recipient.

👹 VAST Matrix Setup	
	Connection Information Please enter your connection information.
Port:	3455
HTTPS Port:	3444
Account:	root
Password: Confirm Password:	
VAST Matrix v1,12,1,3	< Back Install Cancel

e. Click **Finish** to close the installation wizard, and you might want to run VAST Matrix immediately after installation by selecting the option **Run VAST Matrix**.

🖤 VAST Matrix Setup	
	Completing the VAST Matrix Setup Wizard VAST Matrix has been installed on your computer. Click Finish to close this wizard.
	< Back Finish Cancel

Launching VAST Matrix

Please follow the steps below to install VAST Matrix Program:

a. Click the desktop icon to start VAST Matrix. When it's begun running, there will be a VAST Matrix tray icon on the toolbar for the user to configure easily.





VAST Matrix

b. The VAST Matrix live view window with multiple types of layout will be displayed. The following shows 32-channels layout.

WIVOTEK		Evivotek	YVIVOTEK-	YVIVOTEK-	YVIVOTEK-	Yvivotek
		-XVIVOTEK-	YVIVOTEK-	YVIVOTEK-	YVIVOTEK-	YVIVOTEK
XVIVOTEK-	SVIVOTEK-	-Xvivotek-	Svivotek-	&vivotek-	VIVOTEK	YVIVOTEK
Y VIVOTEK	YVIVOTEK-	EVIVOTEK	Svivotek-	XVIVOTEK	YVIVOTEK-	YVIVOTEK
XVIVOTEK-	EVIVOTEK	-Xvivotek	-Xvivotek-	YVIVOTEK-	XVIVOTEK	YVIVOTEK

c. **Right-click** on the live view window, a function menu will pop up. You may also open the menu by right-click on the tray icon.

<u>C</u> onfiguration <u>V</u> iew Settings	
Language	•
<u>D</u> isplay Client Information <u>A</u> bout Exit	

Configuration

- Connection: Enter the account, password and port information for the VAST Recipient.
- Monitor: It shows the monitor(s) connected to your host. You can select the monitor(s) you wish to display as the video wall.

Others

<u>Auto launch at windows startup</u>: Select this option if you want VAST Matrix to launch when windows starts up in case to avoid the computer reboots by itself and accidentally shuts down VAST Matrix.

<u>Display key frame only</u>: Select this option to display live video with the key frame only in order to save the bandwidth. It also lowers down the CPU loading and memory usage.

<u>Enable de-interlace</u>: Select this option if your linked device does not support de-interlace function. For example: VS7100.

E Configuration	🐺 Configuration	E Configuration
Connection Monitor Others	Connection Monitor Others	Connection Monitor Others
Port: 3455 🚔	Use only the checked monitors:	Auto launch at windows startup
HTTPS Port 3444	Monitor 1	
Account: root		
Password:		
Confirm Password:		
OK Cancel	OK Cancel	OK Cancel

View Settings

Please refer to page 187 for detailed illustration.

About

This dialog that shows the version of VAST Matrix and the simple statement of the version copyright.



Exit Click to close the VAST Matrix.

VAST Matrix Management

Once the VAST Matrix Program is setup completely, the next step is to connect the VAST Server with VAST Matrix Recipient(s). Use LiveClient to log in VAST Server, then click **Configuration** > **Virtual Matrix Management** to configure Matrix Management and Matrix View Settings.

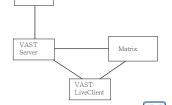
System Edit Vie w 0	Configuration Layout Help		
VMS_Station(127. Camera Camera MB9381- FE8192 Camera	Station Management Logical Tree View Management I/O Box Management User Management Association Management Alarm Management		x View
E0191 FD9381 FD9381 FE9181	Virtual Matrix Management Search VivoCam Switches	•	Matrix Management Matrix View Settings
IP8166	Station Settings Client Settings	•	
Layout Layout Layout Layout			

Matrix Management Settings

Please follow the steps to set up VAST Matrix Recipient(s):

- a. Click **Configuration > Virtual Matrix Management > Matrix Management** to open the Matrix Management window.
- b. Manually enter the Matrix Recipient Info as previous settings, or you click the search button 🕒 to search for the Matrix Recipient(s) on the LAN.

The Managed by menu allows you to let a LiveClient instance manage the Matrix configuration. In normal uses, the configuration is managed by the VAST server.



- c. When the information of the target recipient is filled in, you can use the detect button St to confirm if the filled information is correct.
- d. Click Add, then the recipient will be displayed on the Matrix Recipients list window.

V Matrix Management	Search Matrix Recipien	ıts		×
Matrix Recipients Name Address Port Type Image: Matrix server 192.168.6.143 3455 Server	OList the matrix recipiert	nts which are not inserted s		Refresh
	MAC	Address	Model	HTTP Port
Matrix Recipient Info Managed by: Server Name: Address:	00-18-F3-E9-72-1F	192.168.4.139	VM7502	3455
Port: 3455 🔔 🗇 Use SSL				
Server Address:				
Account:				
Password:	C			
Model:	6			
C Add Update Close	e			



When entering a server address, please avoid entering the XML-related characters: <, >, &, ', and ".

e. Click <u>Edit display settings</u> to set up the viewing interface for the monitors (video wall) connected to the Matrix Recipient host.

🥶 Display Settings			
Rotation Interval Time:	10	*	seconds(3~999)
Enable <u>d</u> e-interlace			
C	C	Ж	Cancel

The Matrix View display is capable of executing rotation. The default interval time is set at 10 seconds.

- f. If you want to set up more Martrix Recipients, repeat the above steps.
- g. If you want to modify the Recipient Info, select it from the list to change settings, then click **Update** to enable the new settings.
- h. When all settings are done, click **Close** to exit the Matrix Management page.



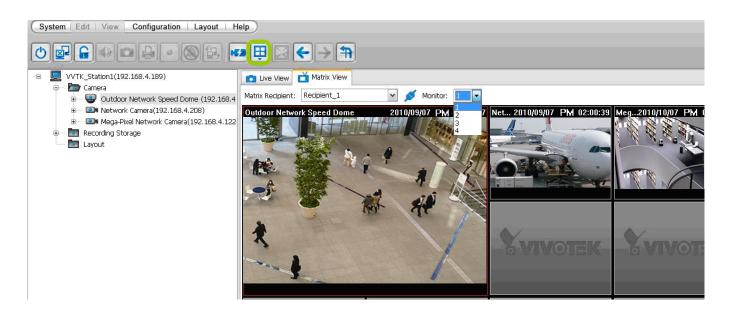
Due to the limitations imposed by the Windows UAC (User Account Control), you need to right-click on the Matrix icon to display and "run as administrator," after you close and re-start the Matrix utility.

Manage VAST Matrix through VAST LiveClient

Once the setup is complete in Virtual Matrix Management, you may go back to the main page of LiveClient, the connection between VAST Server and VAST Matrix will be working successfully. Then you can choose Matrix Recipient and the monitor from the drop-down list for the operation control. Some buttons on the quick access bar will be disabled when you switch from the Live View Panel to Matrix View Panel.

Change the layout

As the following picture shows, you can click 🖽 to change the layout and set new layout group on the Matrix View Panel using the methods same on the use of the LiveClient. The layout on the monitor (video wall) will also change synchronizely once you change the layout on Matrix View Panel.



Т

Connection status

If the VAST Server is not able to connect to the Matrix Recipient, the status icon \checkmark will become \checkmark and show the reason of disconnecting when you slide the mouse to the connection status icon. The "Connection Lost" string will be displayed on the Matrix View window as shown below.



Rotation

VAST Matrix is capable of executing rotation by clicking 1. You can even select another layout group on the Matrix View window without stopping the rotation. If you want to adjust the rotation interval time, please refer to <u>Edit display settings</u> on page 126 for adjusting.

PTZ

VAST Matrix currently does not support PTZ control.

Matrix View Menu	<u>R</u> emove
Right-click on the window to open the menu.	 Stream 1
Remove: Remove the channel from VAST Matrix.	Stream 2
Stream 1 ~ 4: Switch the camera stream between 1 ~ 4.	Stream 3
	Stream 4

Remove All Connections

It's capable of removing all connections from VAST Matrix once by clicking on 🛃 button.

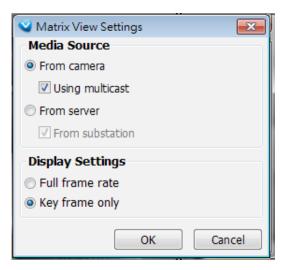
Matrix View Settings

Click Configuration > Virtual Matrix Management > Matrix View Settings to open the window.

Media Source

You can choose the path of media source from camera directly or the CMS server to display on Matrix View.

Display Settings

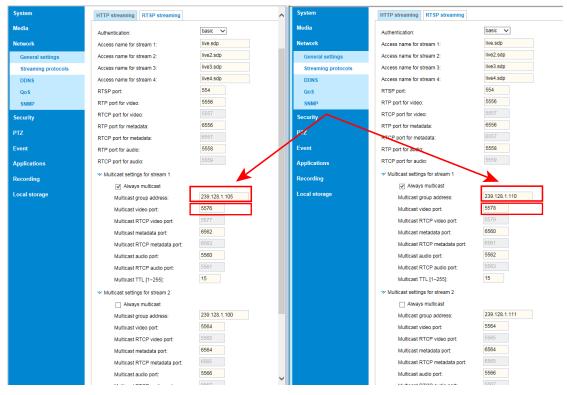


To configure Multicast video streaming for Matrix,

Using Multicast configuration help preserve cameras' system resources while streaming video to a Matrix machine. Before applying the Multicast settings, the related network settings should be properly configured on the individual network cameras.

- 1. Open the web console with the individual network cameras.
- 2. Enter the Configuration > Network > Streaming protocols window.
- 3. Change the Multicast settings for Stream 1 on each camera.

Note that it is very important to configure a **unique Multiple Group address** for each camera. Otherwise, images on the view cells will be overlapped, rendering the Matrix view useless. You can also configure the **unique Multicast video port** into a unique number.



Note that if you change the adress, the same address for stream #2, #3, and #4 will change accordingly.

The 239.0.0.0/8 address range is assigned by RFC 2365 for private use within an organization. From the RFC, packets destined to administratively scoped IPv4 multicast addresses do not cross administratively defined organizational boundaries, and administratively scoped IPv4 multicast addresses are locally assigned and do not have to be globally unique.

When finished with configuration, you can use the Wireshark utility to test the presence of multicast packets.

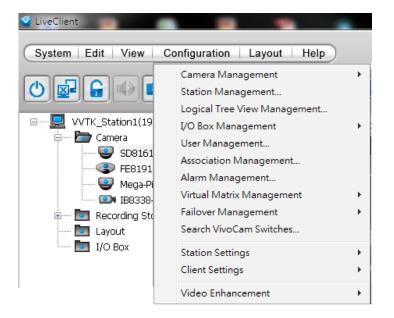
If you select the **Always Multicast** checkbox on the configuration page, multicast traffic will always be detected whether or not the Matrix settings have been synchronized or started between server and the Matrix machine.

🚄 mul	lticast stream data-1.p	capng						
File	Edit View Go C	apture Analyze Statistics	Telephony Wireless Too	ols Help				
4 T	🥂 🛞] 🔝 🗙	\$ \$ \$ \$ \$ \$ \$						
	ply a display filter … «Ctrl-							Expression
	Expression Preferences]	Lah	el: Apply this fil	ter			OK Cancel
No.	Time	Source	Destination	Protocol	Length Info			
	1 0.000000	192.168.6.217	239,128,1,105	UDP	1298 5576 → 5576	Len=1256		
	2 0.004193	192.168.6.170	239.128.1.110	UDP	1458 5578 → 5578			
	3 0.004334	192.168.6.170	239.128.1.110	UDP	1454 5578 → 5578	Len=1412		
	4 0.004451	192.168.6.170	239.128.1.110	UDP	1454 5578 → 5578	Len=1412		
	5 0.004458	192.168.6.170	239.128.1.110	UDP	144 5578 → 5578	Len=102		
	6 0.016482	192.168.6.217	239.128.1.99	UDP	730 5584 → 5560	Len=688		
	7 0.017481	192.168.6.109	239.128.1.114	UDP	1458 5582 → 5582	Len=1416		
	8 0.017493	192.168.6.109	239.128.1.114	UDP	303 5582 → 5582	Len=261		
	9 0.029186	192.168.6.217	239.128.1.105	UDP	1261 5576 → 5576	Len=1219		
	10 0.043583	192.168.6.170	239.128.1.110	UDP	1458 5578 → 5578	Len=1416		
	11 0.043607	192.168.6.170	239.128.1.110	UDP	657 5578 → 5578	Len=615		
	12 0.046375	192.168.6.109	239.128.1.114	UDP	1458 5582 → 5582	Len=1416		
	13 0.046431	192.168.6.109	239.128.1.114	UDP	886 5582 → 5582	Len=844		
	14 0.059328	192.168.6.217	239.128.1.105	UDP	1421 5576 → 5576	Len=1379		
	15 0.074181	192.168.6.170	239.128.1.110	UDP	1458 5578 → 5578			
	16 0 07/286	102 168 6 170	220 128 1 110	סחו	1/15/ 5578 🛥 5578			
> Etl	hernet II, Src: ternet Protocol	Vivotek_3e:1d:97 (00 Version 4, Src: 192.	:s), 1298 bytes captur):02:d1:3e:1d:97), Dst 168.6.217, Dst: 239.1 5 (5576), Dst Port: 55	: IPv4mcas 28.1.105				
0000 0010 0020 0030 0040	05 04 df a9 4 01 69 15 c8 1 83 58 23 8e 1	1 69 00 02 d1 3e 1d 0 00 0f 11 ce d4 c0 5 c8 04 f0 2c 8e 90 f 29 80 80 00 0e 00 6 35 10 00 22 15 0c	a8 06 d9 ef 80 e3 5d d0 11 04 .i. 00 01 34 00 00 .X#	i> .@) 265 "W] .4			
0 7	multicast stream data-1						Packets: 27607 · Displayed: 27607 (100.0%) · Load time: 0:0.477	Profile: Classic

You can choose the display frame rate in the Matrix view as full frame rate or key frame only.

Search VIVOCam Switches

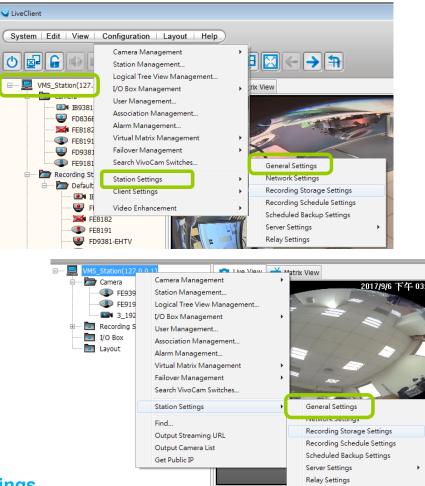
Use the serach managed switch function to locate and open a web console with the managed switches. Double-click on the entry found to open a web console.



voCam Switch List			Refresh
MAC	Address	Model	HTTP Port
00-02-D1-32-A0-D8	192.168.6.126	AW-GEV-264A-370	80

How to Configure the Station General Settings

Select the target station from the hierarchical management tree, then click **Configuration** > **Station Settings** > **General Settings** on the menu bar (or **right-click** the station on the hierarchical management tree and select **Station Settings** > **General Settings**). The **Station General Settings** window will pop up.



Server Settings

In this section, you can modify the Station Name.

Log Settings

In this section, you can set up Log Settings for the station.

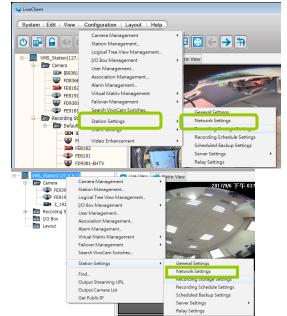
The VAST server allows user to search for the recorded log through VAST Playback. For more information, please refer to **How to Search Logs** on page 263.

- Log level: Select High (only record high-level logs), Normal (record high-level and normal-level logs), Low (record all logs). For detailed information about log levels, please refer to page 264.
- Reserve Time: Enter the time interval that you want to reserve the log record. The maximum value is 365 days.

🛛 Station General Setting 🛛 🗙
Server Setting
Station Name: WVTK_Station1
Log Settings
Log Level: Normal 💌
Reserve Time: 60 🗘 day(s)
<u>OK</u> <u>Cancel</u>

How to Configure Station Network Settings

Select the target station from the hierarchical management tree, then click **Configuration** > **Station Settings** > **Network Settings** on the menu bar (or **right-click** the station on the hierarchical management tree and select **Station Settings** > **Network Settings**). The **Network Settings** window will pop up.



Port Settings

- Server port: The default server port is set to 3454. If you change the server port, please enter the new value while logging the LiveClient next time.
- RTSP port: The RTSP (Real-Time Streaming Protocol) controls the delivery of streaming media. By default, the port number is set to 4543.

UPnP Settings

- Enable UPnP port forwarding: For client to access the VAST Server from the Internet, select this option to allow the server to open ports on the router automatically so the video streams can be sent out from a LAN. To utilize of this feature, make sure that your router supports UPnPTM and it is activated.
- Enable UPnP presentation: If you select this option, shortcuts to VAST Server will be listed in My Network Places.

Proxy Settings

In this section, you can enable, modify, or cancel **Proxy Settings** for VAST Server if your network devices are set up under a proxy.

Web Access Settings

User can access VAST LiveClient and Playback via Internet web browser

(http://IP address:3454). For local host --> http://127.0.0.1:3454. See page 103 for Windows AD account information.



\$

\$

Apply

Network Settings

Server port: \$454

554

Port Settings

RTSP port:



How to Edit Recording Groups

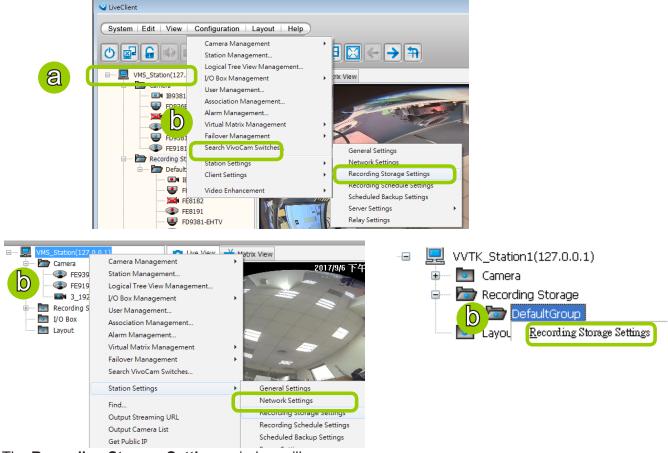
By default, all devices are assigned to the default recording group. You can manually remove a device from the default recording group. However, only those devices which belong to a recording group can produce recorded media files.

Another purpose of setting recording group is that you can divide all the managed devices into several recording groups, and for each recording group, you can assign several hard-disks (with recording paths) to store media data. The live media data will be stored in the first assigned hard-disk initially, and when the available space of the first hard disk reaches the preset reserved space limit, the media data will be stored in the second disk and so on. If the available space of the last disk reaches the reserved space limit, the recorded files in the first disk will be overwritten with the new media data. This procedure is called "Cyclic Recording".

Recording Storage Settings

Please follow the steps below to set up recording groups for a station:

- a. Select the target station from the hierarchical management tree.
- b. Click Configuration > Station Settings > Recording Storage Settings on the menu bar (or rightclick the station on the hierarchical management tree and select Station Settings > Recording Storage Settings). You can also right-click DefaultGroup under the station and click Recording Storage Settings since all devices are assigned to the Default Recording Group by default.



c. The Recording Storage Settings window will pop up.

Default Storage Group Settings

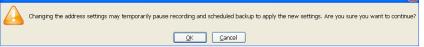
The following example shows the default storage group settings. You can click **Rename** to modify the group name or click **B Delete** to remove the default settings.

1	🗳 Rec	ording	Storage Settings for	VMS_Station					— ×
	Storaç	ge Grou	p: DefaultGroup	-	8				
	Paths	in Stora	ge Group		 	 			
			Ӿ 🖹						
d	Reco	overy	Storage Path				Storage Infor	mation	
			C:\Record				Total:	916.15	GBytes
							Reserved:	91.00	GBytes
							Free:	705.73	GBytes

- d. The default recording path is **D:\Recording**. The total space and free space of the disk is shown on the right for reference.
- e. Add Local Path: Click and another recording path on your local computer. A Select Path dialog will pop up as shown below. When all settings are complete, click **OK** to enable the settings, or click **Cancel** to discard the settings. The default reserved space is 10% of the disk volume.
- f. Add Network Path: Click and a networked storage for recorded data. Please refer to page 164 for detailed information about how to add a new network storage server. Then double-click the **Path** to assign a specific folder as a new recording path.

• • •	Perect Metholik Plotage Peract	
Select Local Path	arage Server List:	
Image: Stress of the stress of th	Address Domain Account 192.168.5.122 192.168.5.122 ritali	
Downloads driver Eric Eric_desktop	OK OK	Close
Path: Ei	 Select network ratif \\192.168.5.122 	
Type: Storage Path Recovery Path Storage Ir formation Total: 488.29 GBytes Free: 131.66 GBytes Reserved: 48 GBytes Click those buttons to modify the file folder under D:\ OK Cancel		
lote that the reserved space is the comparatively mall amount of storage space saved for data ransaction during recording cycles. The reserved pace is not the storage space configured for	Path: \\192.168.5.122\NAS Space Total: 90.45 GBytes Free: 7.81 Reserved: 2 C GBytes	GBytes
deo recording.	OK	Cancel

- g. To modify the settings of a path, select the path from the list, then click **S** Change settings to modify.
- h. To delete a path, select the path from the list and click **S Delete path**. A warning dialog box will pop up as shown below.



- i. By default, all devices are assigned to the **Default Recording Group** in the window on the right. You can select device(s) from the list and click <- to delete device(s) (or **right-click** the device under DefaultGroup tree to delete it). Note that a **Delete Camera** dialog box will pop up. Click **Yes** to delete the device along with the recorded data; click **No** to delete the device but retain the recorded data; click **Cancel** to cancel the delete action. Please note that only those designated devices can record videos.
- j. Click -> to add devices to the **DefaultGroup**.

wandbie .	Cameras:		Added Cameras (6/256):
Group	Name	Address	IB9381-HT FD836B-EHTV
~	IB9381-HT	192.168.6.170	FE8182
V	FD836B-EHTV	192.168.6.233	FE8191
~	FE8182	192.168.6.209	FD9381-EHTV FE9181-H
~	FE8191	192.168.6.177	
V	FD9381-EHTV	192.168.6.109	->
V	FE9181-H	192.168.6.105	

- k. Delete recorded data older than the duration: If you only want to retain recorded data for a duration, check this item and enter a number of day(s). In addition, since VAST Server will do "cyclic recording" automatically, the oldest file will be overwritten by the latest one when the maximum capacity is reached.
- I. When completed, click **Apply** to confirm and save your settings. If you want to cancel all of your editing, click **Restore** to return to the previous settings or click **close** to discard the settings.

Add New Recording Group(s)

If you want to add a new recording group, click 🛃 Add to give a name to the new recording group, which will be displayed on the drop-down list.

The following is an example of recording group list.

💜 Recording	Storage Settings for VMS	Station				×
Storage Gro	up: Recording Group DefaultGroup age Recording Group 1			ecording Group 1 OK Cancel		
Recovery	Storage Path			Storage Informa		
	D:\recording			Total:	916.15	GBytes
				Reserved:	91.00	GBytes
				Free:	449.34	GBytes
Delete rec	corded data older than 7	🚊 day(s)				
Cameras in St	torage Group					
Available Ca	ameras:			Added Cameras ((6/256):	
Group	Name	Address		IB9381-HT		
V	IB9381-HT	192.168.6.170		FD836B-EHTV		
a		152.100.0.170		FE8182		
	FD836B-EHTV	192.168.6.233		FE8191		
~	FD836B-EHTV FE8182					
÷		192.168.6.233		FE8191 FD9381-EHTV		
×	FE8182	192.168.6.233 192.168.6.209	->	FE8191 FD9381-EHTV		
* *	FE8182 FE8191	192.168.6.233 192.168.6.209 192.168.6.177	->	FE8191 FD9381-EHTV		
× ×	FE8182 FE8191 FD9381-EHTV	192.168.6.233 192.168.6.209 192.168.6.177 192.168.6.109	->	FE8191 FD9381-EHTV		
× ×	FE8182 FE8191 FD9381-EHTV	192.168.6.233 192.168.6.209 192.168.6.177 192.168.6.109	->	FE8191 FD9381-EHTV		
× ×	FE8182 FE8191 FD9381-EHTV	192.168.6.233 192.168.6.209 192.168.6.177 192.168.6.109	->	FE8191 FD9381-EHTV		
× × ×	FE8182 FE8191 FD9381-EHTV	192.168.6.233 192.168.6.209 192.168.6.177 192.168.6.109	->	FE8191 FD9381-EHTV		

Please refer to the following limits when you set up recording group(s):

- The maximum number of devices in a recording group is 64-CH. Please refer to the system requirements of the software.
- One recording group can be assigned with several recording paths and perform cylic recording; while one recording path should only be assigned to one recording group.

Multiple Stream Recording

Since software revision 1.12, a camera's stream can be recorded to different storage paths, e.g., the server's internal storage and a Network Attached Storage. If hardware should fail (such as H.D.D. failure) on the VAST server, video can still be retrieved from other storage devices. This feature provides fault-tolerant redundancy for stream recording.

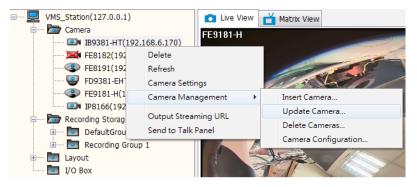
Functional Requirements:

- 1. Each camera can be configured into multiple Recording Storage Groups, and has individual configurations in each storage group.
- 2. Separate recording schedules can be configured for each camera in different storage groups.
- 3. Schedule Backup Settings:

As shown below, when configuring a Schedule Backup, each camera in different storage groups will be listed as individula entries. You can select to back up only one of the recording streams.

Enable schedule	e backup				
Select Backup \$	Source				~
All Cameras	Selected came	eras			E)
Name	Address	Group ^		IB9381-HT (Defa IB9381-HT (Reco	ultGroup)
FD9381-EHTV	192.168.6.109	DefaultGr		109301-H1 (Keco	inding Group 1)
FE9181-H	192.168.6.105	DefaultGr			
IP8166	192.168.6.160	DefaultG	\mathcal{U}		
IB9381-HT	192.168.6.170	Recording 🖕			
<					
	Backup time : 12	. 00 .	->	00:00 12:00	
		*: 00 *			
Select Backup		A : 00 V			
Select Backup Path: E:\rec	Target	×: 00 ×		12:00	
Select Backup Path: E:\rec Maximum folder si	Target			12:00	
Select Backup Path: E:\rea Maximum folder si Delete old ba	Target cording ize: Unlimited			12:00	
Select Backup Path: E:\rec Maximum folder si	Target cording ize: Unlimited ckup data if space i	v is insufficient	<.	Browse	
Select Backup P Path: E:\rec Maximum folder s Delete old ba Dther Options	Target cording ize: Unlimited ckup data if space i	v is insufficient time: 10		12:00 Browse (2 ~ 20)	

4. By default, every camera is recruited into the Default Storage Group. You can select a camera from the device tree, right-click to select **Camera Management > Update camera**.



You can configure different video streams for different storage groups.

In here, you can configure the recording parameters for different storage groups. Note that you should only enable **Seamless Recording** or **Active Adaptive Stream** in one of the storage group. Applying these two functions on multiple streams can over-stress the camera.

Camera List WM5_Station(127.0.0.1) Brand: VIVOTEK Genera Name: IB9381.HT(192.168.6.170) FE8182(192.168.6.177) Address: 192.168.6.170 FF09381.EHTV(192.168.6.177) Model Name: IB9381.HT Model Name: IB9381.HT MAC Address: 0002D13D38E4 Connection Settings Connection Test Storage Group: DefaultGroup Basic Setting Recording Settings Mediang Second Strains Recording Strains: 1 Recording Strains: 1	💙 Camera Management for VMS_Station - Up	odate	×
Pre-event Time: 10 x seconds(3-15) Post-event Time: 10 x seconds(10-60) Activity Adaptive Stream Active	Camera List UVMS_Station(127.0.0.1) UVMS_Station(127.0.1) UVMS_Station(1	Brand: VIVOTEK Camera Name: IB9381-HT Address: 192.168.6.170 Wodel Name: IB9381-HT MAC Address: 0002D13D38E4 Connection Settings Connection Settings Recording Stream: Basic Setting Recording Group 1 Recording Stream: Pre-event Time: 10 Seconds(3-15) Post-event Time: 10 Seconds(10-66) Activity Adaptive Stream	Connection Test
	· · · · · · · · · · · · · · · · · · ·		Update Close

5. When performing Instant Replay or Instant Playback, the system will poll the first available storage group only. If video is not available in the first storage group, playback will fail.

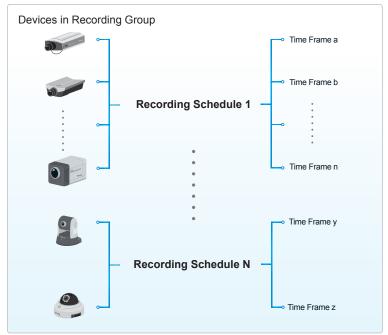
Note that Multiple Stream Recording is not supported when access is made via a web console. From a web console, playback displays the stream that last joined the recording storage group.

When the stream recording takes place on any of the camera's streams, the red indicator will light on on the camera's view cell.

How to Edit Recording Schedules

After editing recording storage settings, you can begin to edit recording schedules for the devices in a recording group. By default, all devices are assigned to the default recording schedule (Please refer to the default time frame settings on page 145). Therefore, once you insert a device to the station, the VAST Server will begin to record live video according to the default recording schedule. You can also manually remove a device from the default recording schedule. Please note that **you cannot assign recording schedules to those devices which have been deleted from a recording group**.

The following is an illustration of a set of recording schedules, which are composed of several time frames. Each time frame has its own time segments, period of time, repeat interval, and recording mode. You can create different recording schedules with simple or complex time frames based on your needs.



In addition, you can arrange the priority of each time frame according to its importance. The recording schedule with the highest priority will be applied first. This capability is very useful because you can specify a new time frame with the highest priority temporarily without modifying the other time frames.

Features of the recording schedules:

- Each device can be assigned to only one recording schedule.
- Each recording schedule may contain many time frames.
- Each time frame has its own repeat frequency and recording mode.

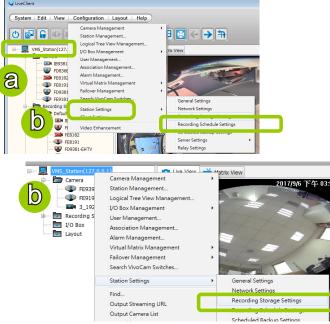
To save time editing recording schedules and time-frames, we also provide a useful **template** function to save your time on schedules/time-frames settings. That is, you can save a specified schedule and download it as a template for future use or upload a well-arranged schedule template designed by others.

Please note that after you save the recording settings in the server, the recording schedule will begin automatically according to your settings.

Edit Schedule List

Please follow the steps below to set up the recording schedules:

- a. Select the target station from the hierarchical management tree.
- b. Click **Configuration > Station Settings > Recording Schedule Settings** on the menu bar (or **rightclick** the station and select **Station Settings > Recording Schedule Settings**).



c. The **Recording Schedule Settings** window will pop up. By default, all cameras under the station are assigned to **Default Schedule**, **Default Time Frame**, and **Default Camera List**.

Add Schedules

d. To add a new recording schedule, click **Add** to enter a name in the Schedule Name dialog box for the new schedule. Click **OK** to confirm the settings or **Cancel** to discard the settings. The new recording schedule will be displayed on the schedule drop-down list.

Rename Schedules

e. To rename an existing schedule, select the schedule from the schedule drop-down list and click **Rename**. A Schedule Name dialog will pop up for you to fill in a name for the new schedule. Click **OK** to confirm the settings or **Cancel** to discard the settings. The new recording schedule will be displayed on the schedule drop-down list.

Delete Schedules

f. To delete an existing schedule, select the schedule from the schedule drop-down list and click **Delete**. A Remove Schedule dialog box will pop up. Click **OK** to confirm or **Cancel** to discard the settings.



L

Load/Save Schedule Templates

- g. If you have a schedule template with time frame settings, you can upload it to simplify the editing of the schedule. Click **Load Template**, and a **Load File** dialog box will pop up. Select the template file and click **Open** to load.
- h. If you want to save a schedule as a template for future use, select the schedule from the schedule drop-down list and click **Save as Template**. A **Save File** dialog box will pop up for you to save the template file.

ര

💙 Recording Schedu	ule Settings for VVTI	K_Station1					×
Schedule List: Defa	ult Schedule 💌	Add Renam	ne Delete Load T	emplate Sa	ave as Template		
g	Load file Look in: My Recent Documents Desktop My Documents	My Documeni	18	•	= 🖻 🕂 🃰 •		
	My Network Places	File <u>n</u> ame: Files of <u>typ</u> e:	TimeTable template(".tc)		• [•	<u>Open</u> Cancel	
h		My Documeni	t\$	•	- È 🕂 💷•		
	My Network Places	File name: Save as type:	TimeTable template(*.tc)		- -	Save Cancel	

Edit Camera List

Please follow the steps below to assign a device to a recording schedule:

- a. Select a recording schedule on the schedule drop-down list.
- b. By default, all devices under the station are assigned to the **Default Schedule**.
- c. Click << to remove devices from the **Default Schedule**. Click >> to add devices to the **Default Schedule**.
- d. Click **Apply** to confirm or **Close** to discard the settings.

Time Frame				Recording Settings
	Rule			Recording Mode: Event
Always	Weekly Sett	ting (Day-based)		
				Triggers
				Motion PIR Tampering
				▼ P-PTZ ▼ Line Crossing ▼ Field Detection
				Digital Input
				 Traditional Recording
				Trigger State Normal State
				Recording from DL activated to DL permal
Add	Edit Delet	e	Up D	Recording from DI activated to DI normal Recording from DI normal to DI activated
		1		C Recording from DI Hormai to DI activated
amera List		b		
N I a a a	Address	Group	Schedule	Mega-Pixel Network Camera Wireless camera
Name		DefaultGroup	Yes	Mega-Pixel Network Camera
Mega-Pixel Ne				
Mega-Pixel Ne Wireless camera	192.168.6.143	DefaultGroup	Yes	Mega-Pixel Network Camera
Mega-Pixel Ne Wireless camera Mega-Pixel Ne	192.168.6.143 192.168.6.127	DefaultGroup DefaultGroup	Yes	Mega-Pixel Network Camera Mega-Pixel Network Camera
Mega-Pixel Ne Wireless camera Mega-Pixel Ne Mega-Pixel Ne	192.168.6.143 192.168.6.127 192.168.6.217	DefaultGroup DefaultGroup DefaultGroup	Yes Yes	
Mega-Pixel Ne Wireless camera Mega-Pixel Ne	192.168.6.143 192.168.6.127 192.168.6.217	DefaultGroup DefaultGroup	Yes	
Mega-Pixel Ne Wireless camera Mega-Pixel Ne Mega-Pixel Ne	192.168.6.143 192.168.6.127 192.168.6.217	DefaultGroup DefaultGroup DefaultGroup	Yes Yes	
Mega-Pixel Ne Wireless camera Mega-Pixel Ne Mega-Pixel Ne	192.168.6.143 192.168.6.127 192.168.6.217	DefaultGroup DefaultGroup DefaultGroup	Yes Yes	
Mega-Pixel Ne Wireless camera Mega-Pixel Ne Mega-Pixel Ne	192.168.6.143 192.168.6.127 192.168.6.217	DefaultGroup DefaultGroup DefaultGroup	Yes Yes	

If you add a Network Device that does not belong to any Recording Group, a warning dialog will pop up as shown below. For more information about how to set up Recording Group(s), please refer to Recording Group Settings on page 135.

2	Camera List						
	Name	Address	Group	Scheduled 1_PZ7131			
	1_PZ7131	192.168.3.247	DefaultGroup	Yes			
	2_IP8161	172.16.200.40		No			
				🔍 Епот			
				The camera is not in recording group.			
Ľ							
				Apply Close			

Edit Time Frame List

Default Time Frame: Weekly (Day-based), Mon.~Sun., 24-hour, continuous recording

💙 Recording Sch	edule Settings for VVTK_Station1	
Schedule List:	efault Schedule 🗸 Add Rename	Delete Load Template Save as Template
Time Frame Lis	st	Recording Settings
Time Frame	Rule	Recording Mode: Event
Always	Weekly Setting (Day-based)	
		TriggersImage: MotionImage: PIRImage: P-PTZImage: PIR CrossingImage: P-PTZImage: PIR CrossingImage: PIR P-PTZImage: PIR
		Digital Input
		 Traditional Recording
		Trigger State Normal State
Add	Edit Delete Up	Down

Click Edit to open the Default Time Frame settings page as shown below.

Time Frame	×
Time Frame Name:	Always Load Template Save as Template Save
Repeat Frequency:	Weekly Setting (Day-based)
-Weekly Setting (I	Day-based)
Set time segments	; in a 24-hour day. Multiple segments are allowed.
0 1 2 3	4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23
Start Time: 00	
End Time: 23	🗘 55 🌪 Add Delete
Repeat on: 🔲 Sur	nday 🗌 Monday 📄 Tuesday 📄 Wednesday 📄 Thursday 📄 Friday 📄 Saturday
Range	
Start: 2013/ 7/10	0 ▼ End: ◎ 2013/ 7/10 ▼
	Never Stop
Repeat every 1	Week(s)

Add New Time Frames

Please follow the steps below to add new time frames to a schedule:

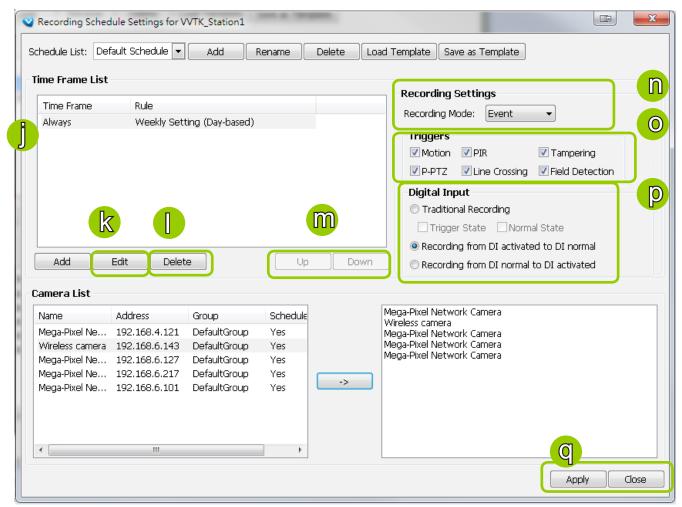
- a. Select a recording schedule from the drop-down list.
- b. Click Add to open the Time Frame Settings window.

Schedule List: D	dule Settings for VVTK_Station1	
Schedule List: D	efault Schedule 🚽 Add 🦳 Rename 🗌 Delete	Load Template Save as Template
Time Frame Lis	t	
		Recording Settings
Time Frame	Rule	Recording Mode: Event 👻
Always	Weekly Setting (Day-based)	
		Triggers
		Motion V PIR V Tampering
		✓ P-PTZ ✓ Line Crossing ✓ Field Detection
		Digital Input
b		Traditional Recording
		Trigger State Normal State
Add	Edit Delete Up D	own

- c. Enter a name for the new time frame.
- d. If you have a time-frame template, you can upload it to simplify the editing of the schedule. Click **Load Template** and the **Load File** dialog box will pop up. Select the template file to load.
- e. To edit the new time frame, select a **Repeat Frequency** from the drop-down list and edit the time segments, applicable days, applicable period of time, and repeat time interval. For the detailed settings of each repeat frequency, please refer to **The Concept of Repeat Frequency** on page 149.
- f. When completed, click **Save** to enable the settings.
- g. If you want to save this time frame as a template for future use, click **Save as Template**. A **Save file** dialog will pop up for you to save the template.

	Time Frame C 9 1 🗙
C	Time Frame Name Time Frame 2 Load Template Save as Template Save
e	Repeat Frequency Weekly Setting (Periods in a week) 💌
	Weekly Setting (Periods in a week)
	Set time segments in a week. Multiple segments are allowed.
	Sun Mon Tue Wed Thu Fri Sat
	0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23
	Start Time Tuesday 🔽 00 🗘
	End Time Thursday 🗸 00 🗘 00 🌲 🛛 Add Delete
	Range:
	Start 2010/ 1/27 👻 End 🔿 2010/ 1/27 💌
	 Never Stop
	Repeat every 1 🗘 Week(s)

- h. If you want to add additional time frames to the schedule, repeat the steps above.
- i. Close the window when you finish the time frame settings.
- j. Back to the Recording Schedule Settings window, the new time frame will be displayed on the Time Frame List.
- k. If you want to edit an existing time frame, select if from the Time Frame List and click Edit to set up.
- I. If you want to delete an existing time frame, select if from the Time Frame List and click **Delete**.
- m. If you want to change the priority of a time frame, select it from the Time Frame List and click **Up** or **Down** to shift its position. The time frame on the top of the list has the highest priority.

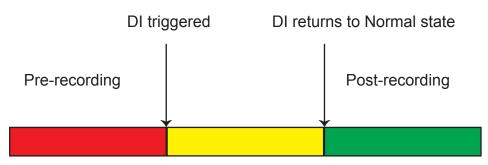


Recording Settings

- n. Select one of the following Recording Modes for the time frame:
 - **None**: No recording action.
 - Continuous: 24-hours continuous recording. If you want to enable Activity Adaptive Streaming, please refer to page 138 for detailed illutration.
 - Event: The server will start to record only when an event is triggered. The recording time length depends on the settings in Recording Storage Settings. The default time length is 20 seconds (10s pre-event time plus 10s post-event time). Please refer to page 137 for more information. For more information about event catagories, please refer to page 257 for detailed information.
- o. Select Trigger Source(s): Motion Detection, Line Crossing, Field Detection, PIR, Tampering Detection, and P-PTZ (Auto Tracking).
- p. Digital Input: See next page for more information.

The Digital Input signal triggers can be configured as follows:

- 1. Traditional Recording: can be triggered when the DI enters the Trigger State or the Normal State. If thus configured, the recording task will end when the post-event recording time is reached.
- 2. The recording starts when DI is triggered, and will end when the DI signal returns to Normal.
- 3. The recording starts when DI is Normal, and will end when the DI signal returns to Triggered.
- 4. The DI-triggered recordings also include the appended lengths of pre- and post-event recordings (default is 10 seconds). Therefore, the length of DI-triggered recording is as follows:

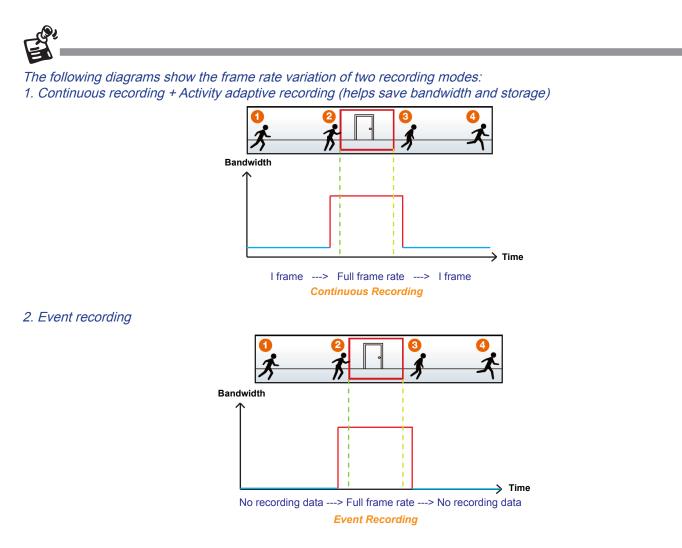


An example for the configuration can be: the recording starts when a door is opened (DI triggered), and the recording stops when the door is closed (DI returns to normal).

When connected, a camera's Digital input signal is automatically detected as pulled-high or pulled-low. Users should then designate the current state as Normal or Trigger. The configuration page is found in **Configuration > Application > Digital Input** on a web console.

Applications	> Digital input	
Digital input		7
Normal status:	High Cow	
Current status:	High	
	Save	

q. Click **Apply** to confirm the settings. Then close the window when you finish the recording schedule settings.



The Concept of Repeat Frequency

VAST offers the following types of repeat frequency. The definition of each type is listed in the following table:

Repeat Frequency	Discription
Daily Setting	 Specify arbitrary time segments within a day, Repeat the segments every N days in the specified period of time.
Weekly Setting (Day-based) (Default Time Frame)	 Specify arbitrary time segments within a day, Apply only on selected days of a week, Repeat the segments every N weeks during the specified period of time.
Weekly Setting (Periods in a week)	 Specify arbitrary time segments within a week, Repeat the segments every N weeks during the specified period of time.
Monthly Setting (Day-based)	 Specify arbitrary time segments within a day, Apply only on selected days of a month, Repeat the segments every N months during the specified period of time.
Yearly Setting (Day-based)	 Specify arbitrary time segments within a day, Apply only on selected days of a year, Repeat the segments every N years during the specified period of time.

Repeat Frequency: Daily Setting

To set up daily repeat frequency, please configure the following items: Daily time segments, applicable period of time, and repeat time interval.

Time Frame	
Time Frame Name Load Template Save as Template Save	
Repeat Frequency Daily Setting	
Daily Setting	
Set time segments in a 24-hour day. Multiple segments are allowed.	Daily time segments
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 Daily timeline control bar	*You can drag the daily timeline bar for more
Start Time 00 🗢 00 🗢	than one time segment
End Time 00 🗘 00 🗘 Add Delete	per day.
Range:	
Start 2010/ 1/27 💌 End 🔿 2010/ 1/27 💌	 Applicable period of time
 Never Stop 	time
Repeat every 1 🗘 Day(s)	- Repeat time interval

Set up daily time segments

You can specify several time segments within a day. The numbers 0~23 on the **hourly timeline control bar** (the purple rectangles) represent the 24 hours in a day.

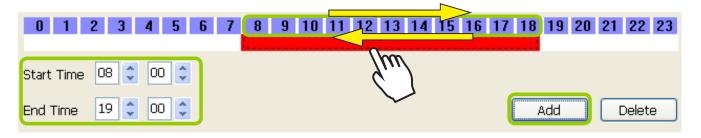
There are two ways to define time segments: one is to use the computer mouse to manipulate the timeline control bars; the other is to fill in the precise start and end time values in the corresponding fields.

Add time segments: Choose either step 1 or step 2 to set up

1. Use the mouse to drag the timeline bars:

- a. Left-click the daily timeline control bar (the purple rectangles) and drag the mouse.
- b. The corresponding time segment will also appear in the Start Time and End Time fields. Click **Add**, then the red timeline bars representing new time segments will appear as shown below. You can drag multiple time segments within a day.

In the following illustration, the yellow arrows show the dragging direction of the mouse. You can drag from left to right or the opposite.



2. Fill in the precise Start Time and End Time:

- a. Directly enter the value in the Start Time and End Time fields, then click Add.
- b. The corresponding red timeline bar will automatically appear as shown below.

0 1 2 3 4 5 6 7	8 9 10 11 12 13 14 15 16 17 18 12 20 21 22 23
a	
Start Time 08 🗘 00 🜲	
End Time 19 🗘 00 🗘	Add Delete

Delete time segments: Choose either step 1 or step 2 to set up

1. Use the mouse to erase the timeline bar: **Right-click** on an existing red timeline bar and drag the mouse. A green timeline bar representing the deleted part of the time segment will erase the red bar as shown below.

In the following illustration, the green arrows show the dragging direction of the mouse. You can drag it from left to right or the opposite.

	9 10 11 12 13 14 15 1	6 17 18 19 20 21 22 23
Start Time 08 🛟 00 🛟	(m)	
End Time 19 🗘 00 🗘		Add Delete
0 1 2 3 4 5 6 7 8	9 10 11 12 13 14 15 1	16 17 18 19 20 21 22 23
Start Time 12 🗘 00 🗘		
End Time 14 🗘 00 🗘		Add Delete

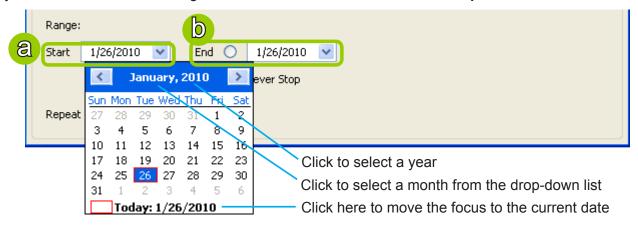
- 2. Use the delete button to remove the entire timeline bar:
 - a. Click an existing red timeline bar or **left-click** the **daily timeline control bar** (the purple rectangles) and drag the mouse.
 - b. The corresponding time segment will appear in the Start Time and End Time fields.
 - c. Click **Delete**, and the selected timeline bar will disappear.

0 1 2 3 4 5 6 7		23
O Start Time 14 🗘 00 🗘	C	
End Time 19 🗘 00 🗘	Add	
0 1 2 3 4 5 6 7	8 9 10 11 12 13 14 15 16 17 18 19 20 21 22	23
Start Time 14 🗘 00 🗘		
End Time 19 🗘 00 🗘	Add Delete	

Set up applicable period of time

For repeat frequencies, you can set up the applicable date and period of time for the time frame.

- a. Specify the start date and time in the **Start** field. A calendar date selector will appear when you click on the drop-down list of **date**. Click **<** or **>** to select the month, then pick a desired day in the calendar.
- b. Specify the end date and time in the **End** field if you have an end time for applying this time frame. If you do not have a terminating time for this time frame, select **Never Stop**.



Set up repeat time interval

The repeat time intervals is "every N day(s)" as shown below. Repeat every 1 day means the time frame would apply for every day within the period of time.

Repeat every	1	*	Day(s)

Repeat Frequency: Weekly Setting (Day-based)

To set up Weekly (Day-based) repeat frequency, please configure the following items: Daily time segments, applicable days within a week, applicable period of time, and repeat time interval.

Time Frame	
Time Frame Name Load Template Save as Template Save	
Repeat Frequency Weekly Setting (Day-based)	
Weekly Setting (Day-based)	
Set time segments in a 24-hour day. Multiple segments are allowed.	
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23	_ Daily Time segments
Daily timeline control bar (24h)	*You can drag more than one time segment
	per day.
End Time 00 🗘 00 🗘 Add Delete	. ,
Repeat on Sunday Monday Tuesday Wednesday Thursday Friday Saturday	_ Applicable days
	within a week
Range:	
Start 2010/ 1/28 💌 End 🔿 2010/ 1/28 💌	 Applicable period of
 Never Stop 	time
Repeat every 1 🗘 Week(s)	- Repeat time interval

Set up daily time segments

Please refer to page 150 for detailed instructions.

Set up applicable days within a week

For repeat frequency--"Weekly (day based)", you can apply the time segments only on selected days of the week.

Repeat on Sunday Monday Tuesday Wednesday Thursday Friday Saturday	Repeat on 🔲 Sunday
--	--------------------

Set up applicable period of time

Please refer to page 152 for detailed instructions.

Set up repeat time interval

The repeat time intervals is "every N week(s)" as shown below. Repeat every 1 week means the time frame would apply for every week within the period of time.

Repeat every	1	\$	Week(s)
--------------	---	----	---------

Repeat Frequency: Weekly Setting (Periods in a week)

To set up Weekly (Periods in a week) repeat frequency, please configure the following items: Time segments within a week, applicable period of time, and repeat time interval.

Time Frame	
Time Frame Name Load Template Save as Template Save	
Repeat Frequency Weekly Setting (Periods in a week)	
Weekly Setting (Periods in a week)	
Set time segments in a week. Multiple segments are allowed.	
Sun Mon Tue Wed Thu Fri Sat	Time segments within
Weekly timeline control bar 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23	a week
Daily timeline control bar (24hr)	*You can drag more
Start Time Sunday 🕑 00 🗘	than one time segment per week.
End Time Sunday 🕑 00 🗘 🔿 🗛 🗛 Delete	
Range:	- Applicable period of
Start 2010/ 1/28 💌 End 🔿 2010/ 1/28 💌	time
 Never Stop 	
Repeat every 1 🗘 Week(s)	- Repeat time interval
	1

Set up time segments within a week

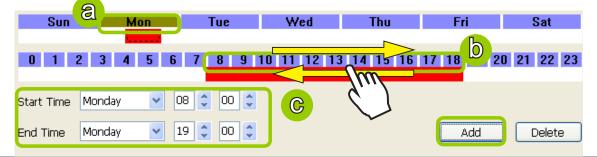
You can specify several time segments within a week. The **weekly timeline contol bar** represents the 7 days of a week, and the **daily timeline contol bar** represents the 24 hours in a day. The daily timeline control bar is only valid when one of the days on the weekly timeline control bar has been selected.

There are two ways to set up time segments: one is to use the computer mouse to draw the timeline control bars; the other is to fill in the precise start and end time value in the corresponding fields.

Add time segments: Choose either step 1 or step 2 to set up

- 1. Use the mouse to drag the timeline bars:
 - a. Click on a day on the weekly timeline control bar. The selected bar will turn green.
 - b. Left-click the daily timeline control bar and drag the mouse.
 - c. The corresponding time segment will also appear in the Start Time and End Time fields. Click **Add**, then the red timeline bars representing new time segments will appear as shown below. You can drag multiple time segments within a day and a week.

In the following illustration, the yellow arrows show the dragging direction of the mouse. You can drag from left to right or the opposite.



2. Fill in a precise Start Time and End Time:

- a. Directly select a day and enter the value in the Start Time and End Time fields, then click Add.
- b. The corresponding red timeline bars will automatically appear as shown below.

The following is an example of an extended time segment from Mon. 8:00 to Fri. 19:00.

	Sun		Mon		Tue	Wed	Th	u i	Fri	b	Sat	
		2 3	(L	6 7	0 0	10 11 12	10 14 1	. 10 17		b	1 00	0.2
		2 3	45	6 7	8 9		13 14 1	5 16 17	18 19	20 2	1 22	23
a	Start Time	Monday	*	08 🗘	00 🗘							
	End Time	Friday	*	19 🗘	00 🗘	J			Add		Delete	•

Delete time segments: Please refer to page 151 for detailed instructions.

Set up applicable period of time

Please refer to page 152 for detailed instructions.

Set up repeat time interval

Please refer to page 152 for detailed instructions.

Repeat Frequency: Monthly Setting (Day-based)

To set up Monthly (Day-based) repeat frequency, please configure the following items: Daily time segments, applicable date(s) of a month/ day(s) of a week, applicable period of time, and repeat time interval.

Time Frame	
Time Frame Name Load Template Save as Template Save	
Repeat Frequency Monthly Setting (Day-based)	
Monthly Setting (Day-based)	
Set time segments in a 24-hour day. Multiple segments are allowed.	
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23	Daily time segments
Timeline control bar (24hr) Start Time OO End Time OO Add	*You can drag more than one time segment per day.
Repeat on Date (of a month)	
January V 2010 C Repeat on the following date(s) of a month:	Applicable date(s) of a month/ day(s) of a
Sun Mon Tue Wed Thu Fri Sat 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 29 30 31	week
	Applicable paried of
Start 2010/ 1/28 ✓ End ○ 2010/ 1/28 ✓ ③ Never Stop ●	 Applicable period of time
Repeat every 1 🗘 Month(s) -	- Repeat time interval

Set up daily time segments

Please refer to page 150 for detailed instructions.

Set up applicable date(s) of a month/ day(s) of a week

For repeat frequency--"monthly (day-based)", you can apply the time segments only on selected days of a month. There are two types of repeat frequencies: Date(s) of a month and Day(s) of a week.

<u>Repeat by date(s) of a month:</u>

Select date(s) from the calendar, and it will be displayed on the right blank as shown below. The following example refers to the $1^{st} \sim 5^{th}$ day of a month.

Repeat on Date (of a month	n) 🔽
January 💉 2010	Repeat on the following date(s) of a month:
Sun Mon Tue Wed Thu Fri	
1 3 4 5 6 7 8 10 11 12 13 14 15 17 18 19 20 21 22 24 25 26 27 28 29 31	5 16 05 2 23

Repeat by day(s) of a week:

Select day(s) from the calendar, and it will be displayed on the right blank as shown below. The following example refers to the $1^{st} \sim 5^{th}$ Friday of a month.

Repe	at on	Da	y (of	a we	ek)	~		
Janu	iary	~	2	010		*	Repeat on the following day(s) of a month:	
Sun	Mon	Tue	Wed	Thu	Fri 1	Sat 2	1st Friday 2nd Friday	
3 10	4 11	5 12	6 13	7 14	8 15	9 16	3rd Friday 4th Friday 5th Friday	Delete
17 24	18 25	19 26	20 27	21 28	22 29	23 30	Suri Friday	
31								

Set up applicable period of time

Please refer to page 152 for detailed instructions.

Set up repeat time interval

The repeat time intervals is "every N month(s)" as shown below. Repeat every 1 month means the time frame would apply for every month within the period of time.

Repeat every	1	*	Month(s)
--------------	---	---	----------

Repeat Frequency: Yearly Setting (Day-based)

To set up Yearly (Day-based) repeat frequency, please configure the following items: Daily time segments, applicable date(s) of a year/ day(s) of a week, applicable period of time, and repeat time interval.

Time Frame	
Time Frame Name Load Template Save as Template Save	
Repeat Frequency Yearly Setting (Day-based)	
Yearly Setting (Day-based)	
Set time segments in a 24-hour day. Multiple segments are allowed.	
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23	Daily time segments
Timeline control bar (24hr) Start Time 00 \$ 00 \$ End Time 00 \$ 00 \$	*You can drag more than one time segment per day.
Repeat on Date (of a year)	
January V 2010 C Repeat on the following date(s) of a year:	_ Applicable date(s) of a year/ day(s) of a
Sun Mon Tue Wed Thu Fri Sat	week
1 2 3 4 5 6 7 8 9	
10 11 12 13 14 15 16 17 18 19 20 21 22 23	
17 10 19 20 21 22 20 24 25 26 27 28 29 30 31	
Range:	Annihophic newled of
Start 2010/ 1/28 V End O 2010/ 1/28 V	 Applicable period of time
Never Stop	
Repeat every 1 🗘 Year(s)	- Repeat time interval

Set up daily time segments

Please refer to page 150 for detailed instructions.

Set up applicable date(s) of a year/ day(s) of a week

For repeat frequency--"yearly (day-based)", you can apply the time segments only on selected days of a year. There are two types of repeat frequencies: Date(s) of a year and Day(s) of a week.

<u>Repeat by date(s) of a year:</u>

Select date(s) from the calendar, and it will be displayed on the right blank as shown below. The following example refers to the $1^{st} \sim 5^{th}$ day of a year.

Repea	at on	Dat	e (o	faye	ar)	~		
Janua	ary	¥	2	2010		-	Repeat on the following date(s) of a year:	
Sun	Mon	Tue	Wed	l Thu	Fri	Sat	01/01	
					1	2	01/02	
3	4	5	6	7	8	9	01/03 01/04	Delete
10	11	12	13	14	15	16	01/05	
17	18	19	20	21	22	23	01/03	
24	25	26	27	28	29	30		
31]

Repeat by day(s) of a week:

Select day(s) from the calendar, and it will be displayed on the right blank as shown below. The following example refers to the January $1^{st} \sim 5^{th}$ Friday of a year.

January 2010 Repeat on the following day(s) of a year: Sun Mon Tue Wed Thu Fri Sat 1 2 January 1st Friday January 3rd Friday January 3rd Friday January 4th Friday January 4th Friday	Repeat	ton	Day	(of a v	veek)	*		
1 2 Januarý 2nd Friday January 3rd Friday	Januar	iry	*	201	.0	*	Repeat on the following day(s) of a year:	
	Sun M	Mon 1	Tue V	/ed Th	nu Fri 1		January 2nd Friday	
10 11 12 13 14 15 16 January Christian		•	-		-		January 3rd Friday January 4th Friday	Delete
17 18 19 20 21 22 23 January 5th Friday							January 5th Friday	
24 25 26 27 28 29 30 31		25	26 3	27 2	:8 29	30		

Set up applicable period of time

Please refer to page 152 for detailed instructions.

Set up repeat time interval

The repeat time intervals is "every N year(s)" as shown below. Repeat every 1 year means the time frame would apply for every year within the period of time.

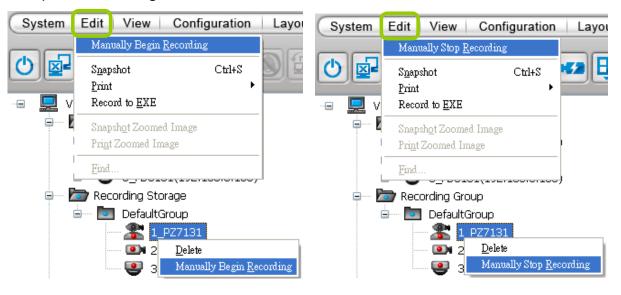
Repeat every	1	÷	Year(s)
--------------	---	---	---------

How to Manually Begin /Stop Recording

By default, all devices are assigned to the default recording storage and default recording schedule. Therefore, once you insert a device onto the station, the VAST Server will begin to record live video according to the default recording schedule. Please refer to **How to Edit Recording Schedules** on page 141.

However, if you have changed the default schedule, you can manually click **Manually Begin Recording** to enable a device without setting up a recording schedule. Please follow the instructions below to manually begin recording.

Select the device from the hierarchical management tree under Default Group, then click Edit > Manually Begin Recording on the menu bar (or right-click the device and select Manually Begin Recording). The string on the menu bar will turn into Manually Stop Recording as shown below and the VAST Server will start to record video from the target camera. Please note that its priority will be higher than the recording schedule, so it will continue unless you click Manually Stop Recording. After you click Manually Stop Recording, the device will then follow the preset recording schedule.



How to Edit Scheduled Backup Settings

VAST LiveClient supports scheduled backup which allows the user to back up the recorded data to another disk.

Please follow the steps below to enable scheduled backup settings:

- a. Select the target station from the hierarchical management tree.
- b. Click **Configuration > Station Settings > Scheduled Backup Settings** on the menu bar (or **rightclick** the station and select **Station Settings > Scheduled Backup Settings**).

System Edit View Configuration Layout Help	
Camera Management Station Management Logical Tree View Management J/O Box Management Association Management Alarm Management FEB192 FEB192 FEB192 FEB193 Search YvoCam Switches Recording St Default Default Client Settings Client Settings Recording Storage Settings	
Video Enhancement Recording Schedule Settings FE8162 Scheduled Backup Settings FE8191 Server Settings FD9381-EHTV Relay Settings	
Image: Wight Station (127, 0.0.1) Camera Management Camera Management Station Management FE939 Station Management Job Station Management Logical Tree View Management Job Station Management View Job Station Management View Job Station Management View Job Station Management View Job Station Management Virtual Matrix Management Virtual Matrix Management Failover Management Station Settings Find Output Streaming URL Output Camera List Get Public IP Scheduled Backup Settings	

c. The Scheduled backup settings window displays.

Select Backup Source

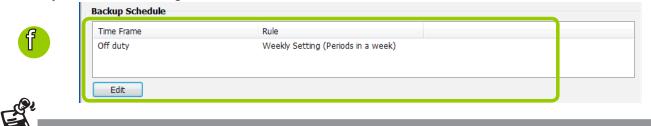
- d. Select the Enable scheduled backup checkbox.
- e. Select the data source you want to backup. If you check **Selected cameras**, you can click >> or << to choose the data source that you want to backup.

	Scheduled Backu	up Settings				×
	Schedule Backup St	tatus : Standby				
d	Enable schedule	backup				
	Select Backup S	ource				
e	All Cameras	Selected cam	eras			
	Name	Address	Group	Backup		
	FE9391-EV	192.168.4.161	DefaultGroup	Yes		
	FE9191-v2	192.168.4.171	DefaultGroup	Yes		
	3_192.168.4	192.168.4.124	DefaultGroup	Yes		
	SD9161-H	192.168.4.164	DefaultGroup	Yes	->	
	FD9381-EHTV	192.168.4.124	DefaultGroup	Yes		
	<u>ч</u>					J

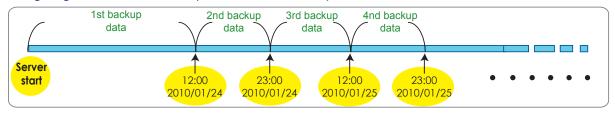
Setup Backup Schedule

f. Click the Edit button to enter the configuration screen. Please note that the backup time interval must not be shorter than 1 hour. For example, 23:40 and 00:15 are not allowed to exist simultaneously.

In the following example, the server will backup the recorded data at 12:00 PM and 23:00 PM everyday once you save the settings.



The following diagram shows the backup schedule and backup data:



Select Backup Target

g. Click **Browse...** to select a path (local path or network storage) to store the backup data. Please note that the disk for backup data should be different from the original recording path, or a warning message will pop up as shown below. For more information about how to set up recording path, please refer to page 136.

🛛 Warning 🔀
Scheduled Backup Path cannot be assigned to the same disk as Recording Path.
OK

- h. Select **Delete old backups if space is insufficient** if you want to do cylic backup due to the limited size of the hard disk.
- i. Select the backup speed. The speed range start from 0 to 100MB/s. "0" stands for no limitation. If bandwidth or system resource is of the concern, you can tune down the backup speed.

Edit			
Select Backup Target			
Path:		В	Browse
🔲 Delete old backup dat	a if space is insufficient		Local
Backup Throughput			Network Clear
Max Throughput:	30	100 MB (0 for unlimited)	
		mb (0 for utilitticeu)	

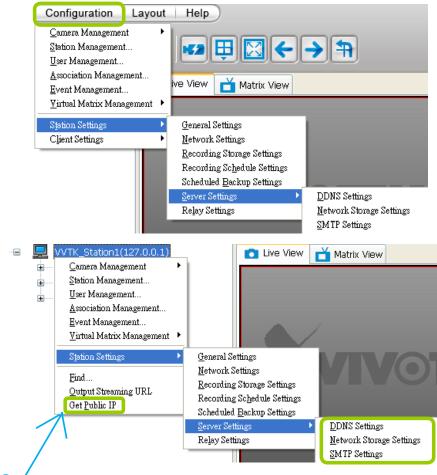
The backup destination folder should look like this "2016-07-06_164500 > DISC_001." A scheduled backup error log will be available for users to examine the backup history.

Since the scheduled backup is a file-based process, if the backup involves an unfinished video file (currently being recorded), the backup process will skip the file.

How to Configure Station Server Settings

VAST LiveClient supports Server Settings including DDNS Settings, Network Storage Settings, and SMTP Settings.

Select the station from the hierarchical management tree and click **Configuration > Station Settings > Server Settings** to open the page (or **right-click** the station and select **Station Settings > Server Settings**).



DDNS Settings

Since the <u>public IP</u> of VAST Server may be a dynamic IP address, DDNS service will give it a fixed domain name.

Select a DDNS provider from the provider drop-down list. VIVOTEK offers 2bthere.net (Safe100. net), a free dynamic domain name service, to VIVOTEK customers. Please refer to the user's manual of VIVOTEK's network camera for detailed DDNS settings.

🔮 DDNS Settings	\mathbf{X}
DDNS: Dynamic dor	nain name service
Provider:	Dyndns.org(Dynamic)
Host name:	
User name:	
Password:	
<u>S</u> ave	

Network Storage Server Settings

The VAST Server allows user to set up network storage path(s) for recorded files. Please follow the steps below to add a new network storage path.

a. Click **Add** to open the Network Host Window.

b. Fill in the related information for the network host. Then click **OK** to save the new settings.

🕙 Network Storage Server Settings 🛛 🔀	🗹 Add Network 🕻 🔘 > Server 🛛 🔀
Storage Server List:	Address:
Address Domain Account	- · · ·
	Domain Name: Host
	User Name: guest
	Password: *****
Add Edit Remove	OK Cancel

c. If you want to add more network host(s), please repeat step a. b.

ose

SMTP Settings

VAST Server allows user to set up SMTP Server to send mail alert when event triggers. For more information about how to set up event management, please refer to page 111.

Please follow the steps below to configure the SMTP Server:

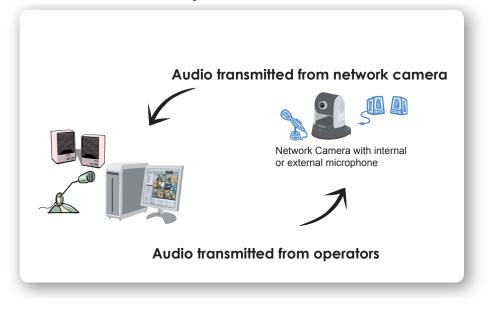
- a. Click **Add** to open the SMTP Settings page.
- b. Enter the related information of your mail server. If your SMTP server requires a secure connection (SSL), check **Use SSL**.
- c. Click **OK** to enable the settings.
- d. Then the new information will appear on the SMTP Settings window as shown below.

1	SMTP Settings		😎 Edit SMTP Setti	ngs 🔀
ſ	Address Authentication SSL		Server - D Address:	Ms.vivotek.tw
			Port:	25
		♣	Use authentication	n: 🗹
	a		User name:	ritali
	<u>A</u> dd <u>E</u> dit <u>R</u> emove		Password:	*****
		ose	Use SSL:	
			O C	<u>OK</u> <u>C</u> ancel
	SMTP Settings			
	Address Authentication	SSL		
0		No		
				f you have more than one SMTP server, you
				can click to arrange the priority.
	Add Edit Remove			

How to Use the Talk Panel

VAST LiveClient supports the two way audio function which allows the user to communicate with people around the network camera. Please enable the two way audio function on the camera side.

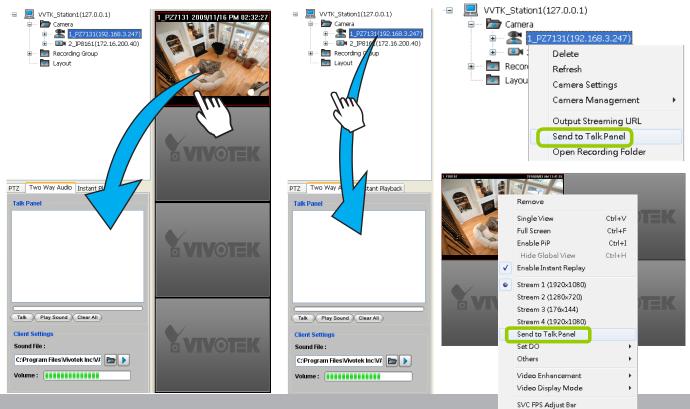
The following is an illustration of the two way audio function:



Add a Camera to the Talk Panel

■ There are several ways to add a Network Camera to the Talk Panel:

Drag-and-drop a camera from the video cell or from the hierarchical management tree to the talk panel as shown below. You can also **right-click** the target camera or the video cell, then click **Send to Talk Panel** on the popup menu.



166 - User's Manual

An icon with the camera name will be displayed in the Talk Panel.

	PTZ Two Way Audio Instant Playback	
	Talk Panel	
	2 1_PZ7131	
	Click to play sound from the car	nera
Click to talk ——	Talk Play Sound Clear All	Remove all cameras from the Talk Panel
	Client Settings	Select sound from the
	Sound File :	file list
	C:\Program Files\Vivotek Inc\S1	 Click to play the selected sound on the client side
	Volume :	sound on the client side
	Click to adjust volume	

- Please note that you cannot **Talk** and **Play Sound** at the same time.
- When you are talking or playing sound, you cannot add other cameras to the Talk Panel. If you want to add more cameras to the Talk Panel, please **Stop Talking** and **Stop Playing** first.

PTZ Two Way Audio Instant Playback	PTZ Two Way Audio Instant Playback
Talk Panel I_PZ7131	Talk Panel I_PZ7131
Click to stop talking Stop Play Sound Clear All	Click to stop playing Talk Stop Playing Clear All
Client Settings Sound File :	Client Settings Sound File :
C:\Program Files\Vivotek Inc\V/ 📄 🕨 Volume :	C:'Program Files'Vivotek Inc'V/

Remove a Camera from the Talk Panel

Remove a camera

Drag a camera from the Talk Panel and drop to the hierarchical management tree window as shown below. The camera icon will disappear.

👜 😨 20x Zoom Mega-Pixel Speed D
Mega-Pixel Network Camera(19
Mega-Pixel Network Camera(19
eren kecording Storage
🖮 🗁 DefaultGroup
20x Zoom Mega-Pixel Spe
Mega-Pixel Network Cam
📟 💷 Mega-Pixel Network Cam
🤍 🔮 Mega-Pixel Network Cam
🗄 🚥 Layout
PTZ Two W y Audio Instant Playback Talk Panel 20x Zoom Mega-P
Char Chart Chart All
Stop Play Sound Clear All
Client Settings
Sound File :
C:\Program Files (x86)\\/TVOTE}
Volume :

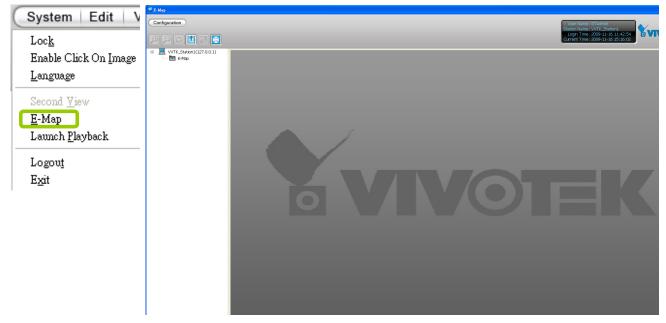
Remove all cameras

Click Clear All, all cameras in the Talk Panel will be removed.

How to Configure E-map Settings

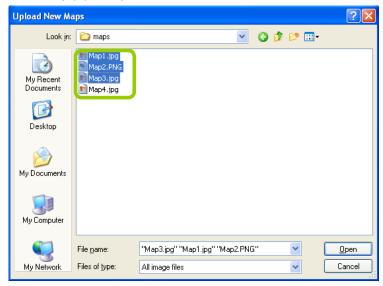
VAST LiveClient supports intuitive E-map function which allows users to upload E-maps for overall devices management.

Click **System > E-map** to open E-map Settings Page:



Upload an E-map

Click 1 to search for E-map(s) to upload.



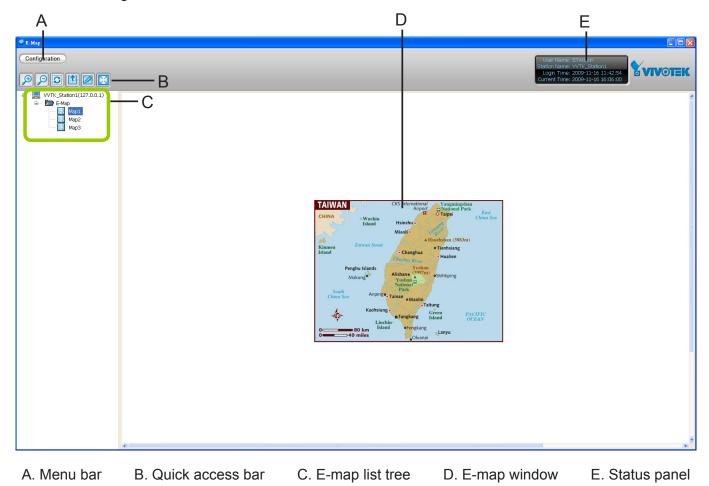
The uploaded E-maps will be listed under the E-map list tree.



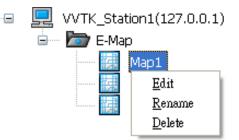
If the uploading procedure fails, please compress the image size of your map (equal or smaller than 2MB) and try again.

User Interface of E-map Settings Page (View Mode)

Double-click an E-map on the tree, it will be displayed on the E-map window as shown below. There are two operation modes of E-map settings page: "View Mode" and "Edit Mode". The following is the "View Mode" illustration.



Right-click the E-map, then you can **Edit**, **Rename**, or **Delete** the E-map.



Right-click an E-map on the tree and click Edit or click is on the Quick Access Bar, it will switch to edit mode.



Quick Access Bar

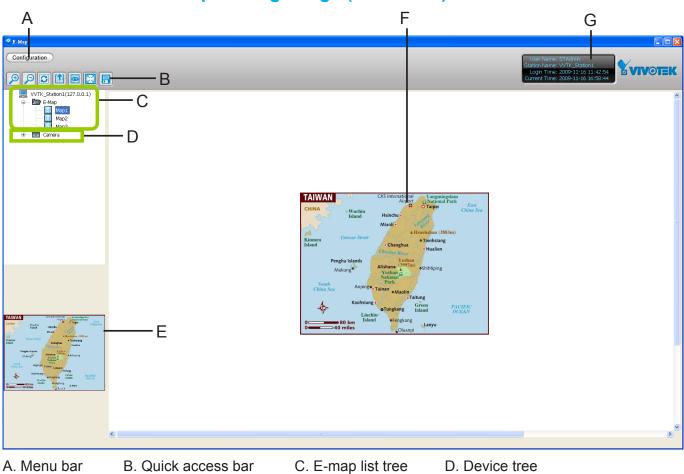


lcon	Function	Description
€	Zoom in	Zoom in the E-map
P	Zoom out	Zoom out the E-map
S	Default size	Adjust the E-map to default size
	Upload	Upload E-map to the login station
	View Mode	Click to switch to view mode
\square	Full Screen	Extend the E-map settings page to full screen
	Save	Save E-map settings

Status Panel

User Name: admin	CPU
Station Name: VVTK_Station1	35 %
Login Time: 2014-04-22 10:23:09	Memory
Current Time: 2014-04-22 11:14:54	61 %

User Name				
Station Name (IP Address)				
Login Time (yyyy-mm-dd hh:mm:ss)				
Current Time (yyyy-mm-dd hh:mm:ss)				



User Interface of E-map Settings Page (Edit Mode)

E. Map preview

F. E-map window

G. Status panel

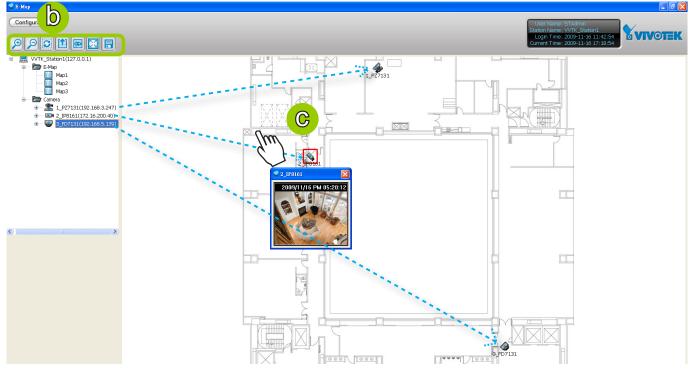
Right-click the E-map, you can **Edit, Rename**, or **Delete** the E-map.



Device Management

Please follow the steps below to edit an uploaded E-map.

- a. **Double-click** the E-map you want to edit, it will be displayed on the E-map window.
- b. Use Quick Access Bar to adjust the size of the E-map. In edit mode, you can also use your mouse to drag the position of the E-map and zoom in or zoom out the E-map.
- c. Drag-and-drop the connected devices to the E-map according to your deployment.

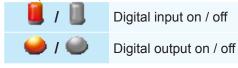


d. **Right-click** the device icon on E-map, you can **rotate** the direction or **delete** the device. The device can be rotated in 8 derections as shown below.



e. You can also drag the DI/DO device under the connected device onto the E-map. If you want to change the status of the **DO** device, **double click** the DO icon on E-map.

For more information about DI/DO settings, please refer to Association Management on page 109.



f. Click 📃 on the Quick Access Bar to save the new settings.

The red frame twinkling around the device means there is event trigger(s) going on. Meanwhile, a live view dialog will pop up beside the model.



Live View Dialog Settings

Click **Configuration** > **E-map Settings** to open the E-map Settings dialog, then you can choose to **Open Live View Dialog** or to **Send to Single View** when you double-click the device deployed on the E-map.

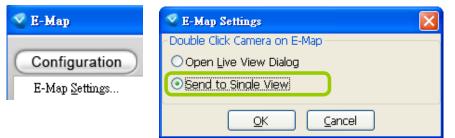
Open Live View Dialog

Select **Open Live View Dialog**: When you **double-click** the device icon on the E-map or when an event triggers, a live view dialog will pop up beside it. It is the default setting in E-map Settings window.

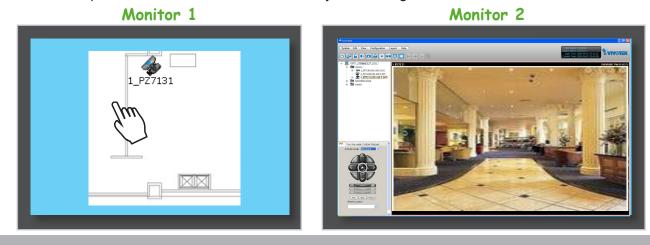
🔮 Е-Мар	🔹 E-Map Settings 🛛 🗙	
	Double Click Camera on E-Map	PZ7131
Configuration	Open Live View Dialog	🛛 1_Pz/131 🛛 🔀
E-Map <u>S</u> ettings	OSend to <u>S</u> ingle View	2009/11/17 AM 10:21:26
	<u>QK</u> <u>C</u> ancel	

Send to Single View

Select **Send to Single View**: When you **double-click** the device icon on the E-map, it will open a single view on the VAST LiveClient.



If you have set up dual monitor, it will be automatically sent a single view to the second monitor.





The live view dialog also supports **click on image**, **PTZ**, and **e-PTZ** as long as the linked device supports and enables those functions. To enable those function on E-map, please check the item "Enable click on image" on the menu bar of LiveClient as shown below. Then an icon will appear in the live view dialog for you to control the cameras.





E-map Link

After completing device deployment on your E-map, you can link an E-map to another E-map. Please follow the steps below to configure E-map link:

a. Select a map you want to edit and enter Edit Mode.



b. **Drag-and-drop** another E-map onto current E-map. A blue frame will appear as shown below. For example: Link Map1 to Map2 by dargging Map2 onto Map1



c. Use \biguplus to move the position of the blue frame.

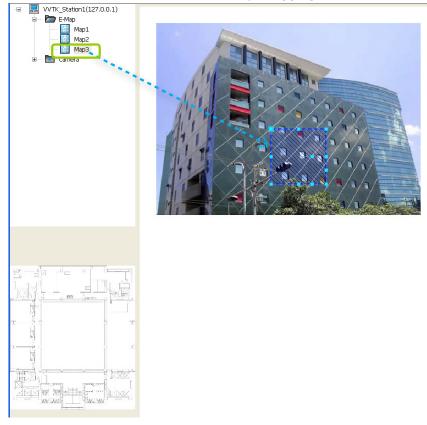
d. Right-click the blue frame to Resize or Delete it.



Click **Resize**, some nodes will appear around the blue frame. Then You can drag the nodes to move the position, rotate the direction, adjust the size, and change the shape.

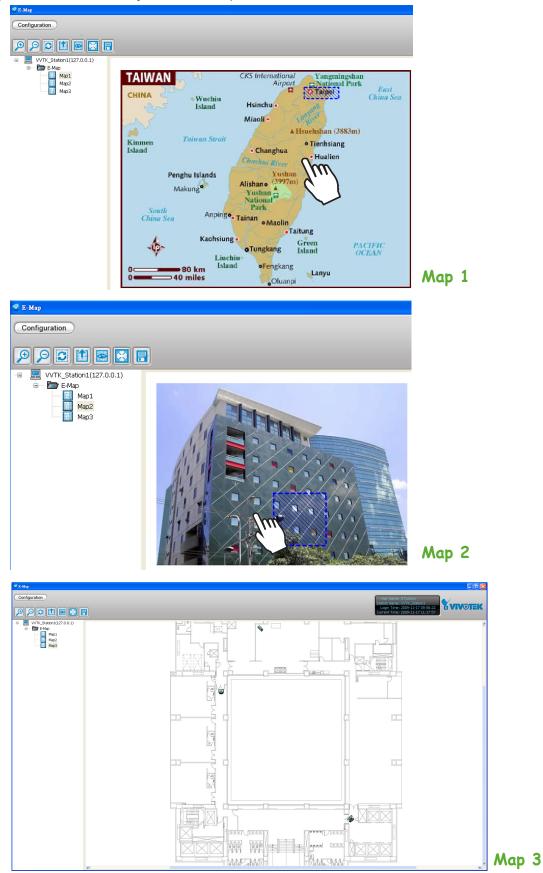


- e. Click 🔲 on the Quick Access Bar to save the new settings.
- f. If you want to set additional map links, please repeat steps a. ~ e. For example: Link Map2 to Map3 by dargging Map3 onto Map2

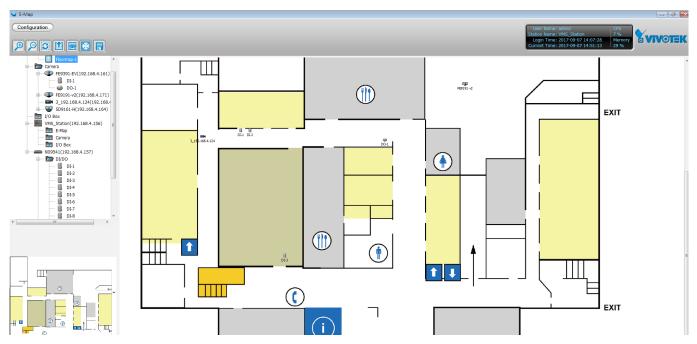


g. Click 🔲 on the Quick Access Bar to save the new settings.

h. Test the web links. Click is on the Quick Access Bar to switch to view mode. **Double-click** the blue frame on Map1, it will automatically switch to map2. Then **double-click** the blue frame on Map2, it will automatically switch to map3.



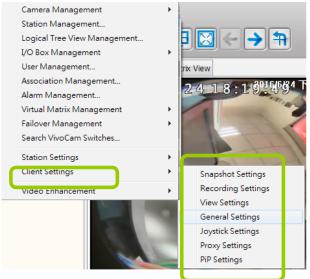
Since VAST revision 1.13, you can also click and drag camera or NVR's DI/DO devices to an E-map. See page 57 for how to enable NVR DI/DO options.



See page 191 for how to enable popup video windows on E-Map. y

How to Configure Client Settings

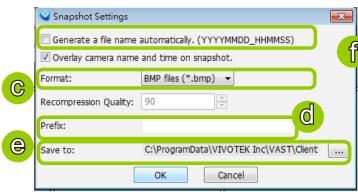
In Client Settings, you can configure Snapshot Settings, Recording Settings, View Settings, General Settings, Joystick Settings, Proxy Settings, and PiP Settings.



Snapshot Settings

Please follow the steps below to configure snapshot settings:

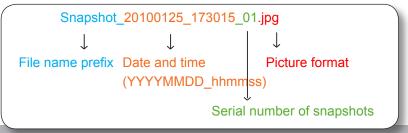
- a. Click **Configuration > Client Settings > Snapshot Settings** on the menu bar to open the **Snapshot Settings** window.
- b. By default, camera name and current time will be printed on the snapshots taken.
- c. Select a picture format for snapshots (**BMP** or **JPEG**). If you select **JPEG** format, you can adjust the recompression quality (from 1 to 100). Note that a higher value would generate higher picture quality but lower compression rate.
- d. Fill in a filename prefix for the snapshots.
- e. The default storage path for snapshots is C:\Users\Public\Documents\VIVOTEKInc\VAST\Client\ LiveClient. If you want to change the storage path, click **Browse** to select another folder.





The recompression quality is only enabled in MPEG-4 streaming. If your stream source is MJPEG, the system will directly save the JPEG image without recompression.

f. If you check **Generate a file name automatically**, VAST will directly save snapshots with the following filename format to the storage folder.



If you uncheck **Generate a file name automatically**, the **Save file** dialog box will pop up when you take a snapshot. The file name prefix will automatically be displayed in the Save File dialog box.

Save file						? 🔀
Save in:	🚞 Snapshot		•	(+ E		
My Recent Documents						
My Documents						
My Computer						
My Network Places	File name: Save as type:	Snapshot_ JPEG files (*.jpg)			•	Save Cancel

Take a Snapshot

Please follow the steps below to take a snapshot of the live video stream:

- a. Select the video cell of which you want to take a snapshot.
- b. Click **Snapshot** on the quick access bar, or **right-click** the video cell and select **Others** > **Snapshot** from the popup menu. You also can click **Edit** > **Snapshot** to take a snapshot.



c. The snapshots will be found in the preset storage folder on your local computer.

Recording Settings

The VAST Server allows you to record the live video in EXE, 3GP, or AVI format to your storage folder.

Type 1: Record to EXE

Record video as an EXE file. The EXE is not only a media file but also a built-in media player. When user execute the EXE, the media file will be played automatically. There is no need to install any other program. For more information about how to use the EXE player, please refer to page 185.

Please follow the steps below to configure EXE record settings:

- a. Click **Configuration > Client Settings > Recording Settings** on the menu bar to open the **Recording Settings** window.
- b. Select **EXE** as the Record Type.
- c. The default storage path is C:\Users\Public\Documents\VIVOTEK Inc\VAST\Client\LiveClient\Record. If you want to change the storage path, click **Browse** loselect another folder.
- d. Select the Length of each file-- Maximum Size (11~2000MB) or Maximum Time Interval (1~150 min).

Í	•	Recordi	ing Se	ettings					x
		Record Type: SGP AVI Record Type: AVI R							
C		Save to:	C:/F	programD	ata\Documents\\	'IVOTEK Inc\VA	ST\Client\Live	eClie	
d		-Lengtł		E <mark>ach File</mark> Size		🔘 Maximum Tir	ne Interval		
		11 			1500	0	20)00 (MB)	
					ОК	Cancel			

e. Click **OK** to enable the settings.

Type 2: Record to 3GP

Record video as a 3GP file. 3GP file is a standard MP4 format compatible with players such as VLC player. Choose this type if you has already installed one of these players.

Please follow the steps below to configure 3GP record settings:

- a. Click **Configuration > Client Settings > Recording Settings** on the menu bar to open the **Recording Settings** window.
- b. Select **3GP** as the Record Type.
- c. The default storage path is C:\Users\Public\Documents\VIVOTEK Inc\VAST\Client\LiveClient\Record. If you want to change the storage path, click **Browse** to select another folder.
- d. Select the Length of each file-- Maximum Size (1~2000MB) or Maximum Time Interval (1~150 min).

ſ	Recording Settings
	 EXE Record video as a 3GP file, a standard MP4 format compatible with players such as VLC, QuickTime, or RealOne. Choose this format if you have already installed one of these players.
C	Save to: C:\ProgramData\Documents\VIVOTEK Inc\VAST\Client\LiveClie
d	Length of Each File Maximum Size Maximum Time Interval 1 1
	(MB)
e	3GP Settings
	OK Cancel

- e. If you check "Record with only standard codec", the video from old models (VIVOTEK 6000-series products) using H.263 codec will not be recorded.
- f. Click **OK** to enable the settings.

Type 3: Record to AVI

Record video as an AVI file, which uses the popular codecs pre-installed in the Windows OS. Please note that the speed may be slower due to the need of decoding the video/audio and re-encoding both into a compatible codec.

Please follow the steps below to configure AVI record settings:

- a. Click **Configuration > Client Settings > Recording Settings** on the menu bar to open the **Recording Settings** window.
- b. Select **AVI** as the Record Type.
- c. The default storage path is C:\Users\Public\Documents\VIVOTEK Inc\VAST\Client\LiveClient\Record. If you want to change the storage path, click **Browse** to select another folder.
- d. Select the Length of each file-- Maximum Size (1~2000MB) or Maximum Time Interval (1~150 min).

	V Recording Settings	
	 EXE Record video as an AVI file, which uses the popular codecs pre-installed in the Windows OS. Please note that the speed may be slower due to the need to decode the video/audio and re-encode into a compatible codec. 	
C	Save to: C:\ProgramData\Documents\VIVOTEK Inc\VAST\Client\LiveClie	Due to the AVI
d	Length of Each File Maximum Size Maximum Time Interval 1 1 (MB)	the maximum f the setting "time larger than 2G be created.
	AVI Settings AVI Frame Rate: 15 (1 ~30) Video Compression Setting OK Cancel	



Due to the AVI file has a limitation on the maximum file size of 2G bytes, if the setting "time length" generates data larger than 2G bytes, several files will be created.

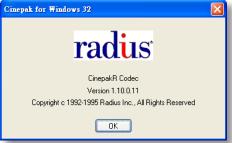
- e. Select the frame rate/ per second.
- f. To modify the video compression settings, click Video Compression Setting to open the AVI Video Compression Setting window. Select the desired video compression algorithm, compression quality, key frame intervals, and data rate in the corresponding fields.

Video Compression Setting	
Compressor: OK Cinepak Codec by Radius Cancel Compression Quality: 100 Configure Configure ✓ Key Frame Every 15 ✓ Data Rate 300 KB/sec	If you do not choose to compress the video, the generated AVI will be very large in file size.

To modify the settings of the compression algorithm: Click Configure, then a dialog box will pop up for you to modify the settings. The dialog box will be different according to the compressor you select. Cinepak for Windows 32



To read the information of a compression algorithm (its version for instance): Click About, and a dialog box will pop up showing the related information. The dialog box will be different according to the compressor you select.



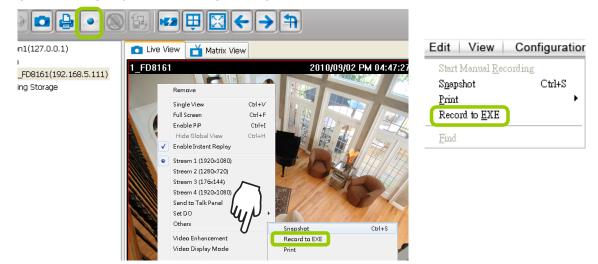
g. To modify the audio compression settings, click Audio Compression Setting to open the AVI Audio Compression Setting window. Select the desired audio quality, format, and attributes in the corresponding fields.

Audio Compression Setting				
Name: [untitled]	Save As Remove			
Format:	PCM			
Attributes:	44.100 kHz, 16 Bit, Stereo 172 kb/sec 💌			
	OK Cancel			

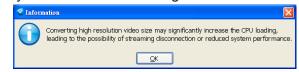
Record an EXE/3GP/AVI File

Please follow the steps below to record an EXE/3GP/AVI file of a live video stream:

- a. Select a video cell or a device from the heirarchical management tree which you want to record to media file.
- b. Click **Record to EXE/3GP/AVI** on the quick access bar, or **right-click** the video cell and click **Record to EXE/3GP/AVI**. You can also click **Edit > Record to EXE/3GP/AVI** on the menu bar. (The UI string will change according to your Recording Settings.)



c. For recording a high-resolution video (1600 x 1200) in AVI type, a dialog box will pop up as shown below to remind you that the CPU loading will increase. Click **OK** to continue the process.



d. The icon • will then change to **Recording EXE/3GP/AVI** •, and a red text string (**EXE/3GP/AVI**) will appear at the bottom right of the video cell. Note that only one video channel can be recorded at a time.



E COL

If you save your video via a LiveClient installed on another computer, the videos will be placed in where you installed the LiveClient utility: e.g., **C:**II **VAST\Client\LiveClient\Record.** On Windows XP: C:\Documents and Settings\All Users\Documents\ VIVOTEK Inc\VAST\Client\LiveClient\Record

e. When you want to terminate the AVI Recording, click the icon
 on the Quick Access Bar. The export process will then terminate and the button will change from
 to
 The recorded media files will be found in the preset storage folder on your local computer as shown below.

Below is the file name format for AVI files:

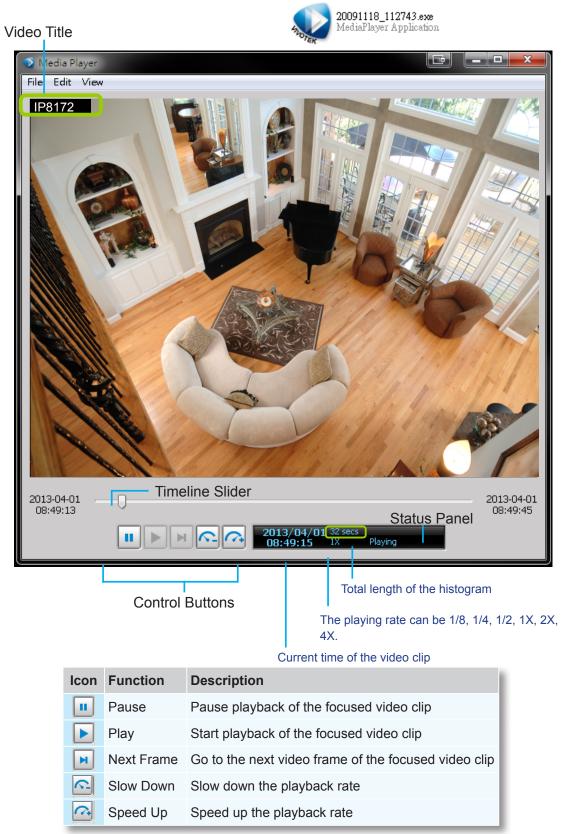




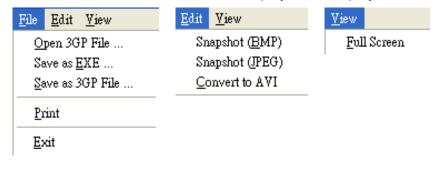
20091118_195800.3gp 3GPP Movie 238 KB

Built-in Media Player--EXE

Below is the icon of footages saved as EXE files. Double-click on it, the recorded video will be played automatically as shown below. You may also open the built-in Media Player in the default location: C:\Program Files\VIVOTEK Inc\VAST\Client\LiveClient. On Windows XP: C:\Documents and Settings\All Users\Documents\VIVOTEK Inc\VAST\Client\LiveClient\Record.



The function menu of the built-in media player are displayed as shown below:



- The built-in player is able to playback 3GP and EXE files.
- The built-in player is able to save 3GP files as EXE files.
- The built-in player is able to save EXE files as 3GP files.
- The built-in player is able to convert EXE and 3GP files into AVI files.
- The built-in player also supports snapshot and print functions.

E C
ED

Below are special notices related to video recording with the fisheye cameras:

- For recorded videos from the fisheye cameras, only the built-in Media Player can playback the Regional or Panoramic views. If you access the recorded videos using other playback software, you will end up seeing the circular-shape Original view.
- When recording videos from fisheye cameras, Regional and Panoramic views can only be preserved in the EXE and 3GP format. If you save the dewarped views, i.e., Regional and Panoramic, as AVIs, only the circular Original view will be preserved.
- Currently the video playback on the Emap window displays the Original view only.
- To display a Regional or Panoramic view, right-click on the Media Player window.



View Settings

This section allows you to set the display mode of a video cell, including **Display Location**, **Date and time Format**, **Video Display Mode**, and **Font Settings**. When you change the settings, the sample window will change accordingly for you to preview the settings.

💙 View Settings					
Display Location					
Display Area 1: Camera Name	▼ Camera Name 2016/6/24 下午 06:07:23				
Display Area 2: Server Date & Time	▼ This is a sample screen.				
Display Area 3: Video Title					
Display Area 4: No Display	▼ Video Title				
Date and Time Format	Font Settings				
Same as Local Computer	Font: System 💌				
© Specify	Color:				
Date Format: YYYY/MM/DD	✓ Size: 10 ▼				
Time Format: Default Time Format	v				
Video Display Mode					
● Hide borders ○ Keep top/down borders ○ Ke	ep the aspect ratio				
$\overline{\mathbb{V}}$ Show motion windows when triggered					
$\overline{\mathbb{V}}$ Display the connecting message when video is lost					
The screen goes blank when video is lost					
VCA					
Show VCA rules					
VCA extra information: none 👻					
ОК	Cancel				

Display Location		Display Area 1	Display Area 2
Display Location	n		
Display Area 1:	Camera Name	Camera Name	:016/6/24
Display Area 2:	Server Date & Time	This is a sam	ple screen.
Display Area 3:	Video Title 💌		
Display Area 4:	No Display	Video Title	
		Display Area 3	Display Area 4

As the illustration shows, there are 4 display areas for you to input information about the live video. Each drop-down list includes many options for you to select: No display, Camera Name, Video Title, Camera Date & Time, Camera DateTime, Server Date & Time, Codec & Resolution, Address, and Network throughput & FPS.

Date and Time Format

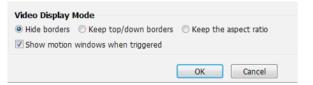
Date and Time Format				
Same as Local Computer				
◎ Specify				
Date Format: YYYY/MM/DD -				
Time Format: Default Time Format				

- Same as local computer: Select this option and then the date and time format will synchronize with the local computer.
- Specify: Select a desired format for the date and time from the drop-down list.

Date format: Select YYYY/MM/DD or MM/DD/YY.

<u>**Time format**</u>: Select the default time format (synchronize with the local computer), 12h AM/PM, or 24h.

Video Display Mode



- Keep the aspect ratio: In the default settings, the size of the video window will change according to the layout of the live view window you choose. However, the frame size may be distorted.
- Keep top/down borders: the camera name, video title, and time will be displayed on the black borders instead of displaying floating text on the screen.



- Keep the aspect ratio: If you select Keep the aspect ratio, the video window will be adjusted to the same frame size as the preview window. This function is disabled as default.
- Show motion window when triggered: If you select this option, the red frame of the motion detection window will appear in the video window when motion is triggered. This function is enabled as default.
- Display the connecting message when video is lost:indow will appear in the video window when motion is triggered. This function is enabled as default.
- Show VCA rules: VCA rules refer to the Line Crossing and Field Detection lines drawn on individual video screens. These VCA functions are configured on the web consoles with cameras, not on the VAST LiveClient.

The Display options can also be accessed by a right-click on the view cell.

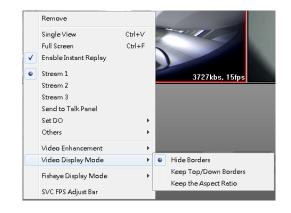
For detailed information about how to set up the layout of the live view window, please refer to **How to Change Video Viewing Mode** on page 81.

Font Settings

This function allows you to change the font on the video cell.

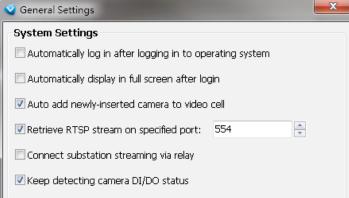
- Font: Automatically lists all fonts installed on your operating system. Select the desired type.
- Color: Select a desired font color (white, red, green, blue).
- Size: Select a desired font size (8, 10, 12, 14).

Font Settings				
Font:	System	•		
Color:		•		
Size:	10 💌			



General Settings

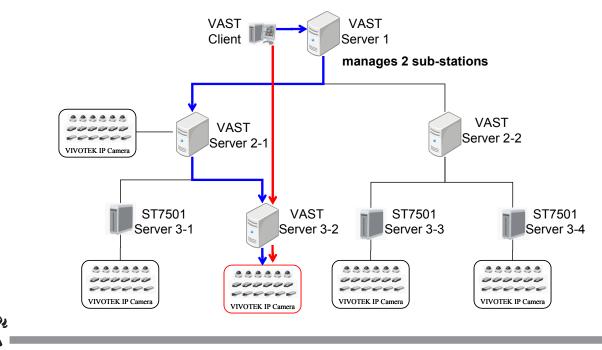
This section allows you to configure the System Settings and Rotation Settings.



System Settings

🔲 Sort camera by name

- Auto login after logging in to operating system: If you check this option, VAST LiveClient will automatically login after you login to Windows without filling in the user name and password. This function is disabled as default.
- Automatically display in full screen after login: If you check this option, the video cells will be displayed in full screen without showing the menu bar or the control panels.
- Auto add newly-inserted camera to video cell: If you check this option, VAST LiveClient will automatically add the newly-inserted device to a video cell. This function is enabled as default.
- Retrieve RTSP streaming on specific port: The default port for RTSP streaming is 4543. If you want to change this port, please check this item and fill in a desired port number.
- Setup substation streaming via relay: This option is not checked by default. As the following diagram shows, VAST Client might directly connect to the streaming under VAST Server 3-2 without requesting the connection via VAST Server 1 and Server 2-1. If you want to get streaming through relaying, please check this option.



If the VAST Server 3-2 is set up behind a firewall, the VAST Client will not be able to access the VAST Server 3-2 directly. You have to get the connetion by relaying.

- Keep detecting camera DI/DO status: The default for this option is enabled. This option enables the VAST server to monitor the DI/DO status from the configured cameras. You may also disable this option.
- Sort camera by name: The positions of cameras on the device tree will be sorted by their camera names.

💙 General Settings 📃 🔀				
System Settings				
C Automatically log in after logging in to operating system				
Automatically display in full screen after login				
Auto add newly-inserted camera to video cell				
Retrieve RTSP stream on specified port: 4543				
Connect substation streaming via relay				
Keep detecting DI/DO status				
Sort camera by name				
Alarm Settings				
Enable live alarm notification				
Enable alert sound(s)				
Enable E-Map popup window				
Alarm window mode: Fixed 				
🔘 Рорир				
Rotation Settings				
Enable rotation after login				
Rotate the page every 10 second(s) (3 ~ 999)				
Display Settings				
Maximum number of view cells 64 🔹				
Enable auto stream size: Quality first				
Enable de-interlace function				
Enable Instant Replay on video cell				
Default replay length: 30 seconds 🔻				
Local streaming buffer time: 0 $\frac{h}{V}$ millisecond(s) (0 ~ 10000)				
OK Cancel				

Alarm Settings

- Enable live alarm notification: Select this option to activate real-time event notification. For example: the event notification of DI/O status on the hierarchical management tree, the event list in the event window, motion detection windows in video window, or the event notification on E-map settings page, etc. This function is enabled as default.
- Enable alert sound(s): If you enable this option, you will hear alert sound on the client side when the event is triggered.
- Enable E-Map popup window: When enabled, a popup window appears on an E-map displaying the current video when a camera-related event occurs.

Note the following with the E-Map popup window:

- The camera that triggers an alarm must be placed on the E-map to have its live video displayed in the popup window.
- When an event occurs, and the related camera is configured into multiple E-maps, the popup window appears on the first available E-map.
- When many popup windows appear, many map views will consecutively appear until all popup windows properly display.
- This feature supports popup windows for cameras under VAST substations or NVR.
- Popup windows only appear when the E-Map is opened; however, the windows will still appear on a live view.
- If a DI/DO trigger is not associated with a specific camera, no popup video window will appear when triggered.
- Fisheye dewarp is also available on the E-map popup windows.

• Please also configure the Client Notification options in the Alarm Management window.

V Alarm Management					
An alarm is associated to one or more interested events. When one of them is triggered, the system would raise an alarm.					
Alarm List					
💙 New Alarm	x				
Action	edule >> Detail				
© Email					
Start to record on					
Move to preset location					
◎ Set DO					
◎ GSM short message					
© нттр					
Client Notification					
Notify me with Popup Window. Size: Large 💌	Remove				
☑ Close it automatically after 🔟 🔶 seconds					
☑ Include the event-triggering camera	inish Cancel				
Add Camera					
Remove					
Cancel	Close				

Alarm window mode: Select Fixed or Popup mode for the event window. For more information about event window, please refer to page 39.

Rotation Settings

- Enable rotation after login: If you check this option, the video cells will start to rotate after you login to the VAST LiveClient. The default setting of this function is disabled.
- Rotate the page every second(s): Fill in a desired interval time for video page rotation. The maximum value is 99 seconds. The default value is set at 6 seconds.

For detailed information about how to set up the layout of the monitoring window and rotation functions, please refer to **How to Change Video Viewing Mode** on page 81.

Display Settings	Display Settings Maximum number of view cells 64
	✓ Enable auto stream size: Quality first
	Enable de-interlace function
	Enable Instant Replay on video cell
	Default replay length: 30 seconds 👻
	Local streaming buffer time: 0 \bigcirc millisecond(s) (0 ~ 10000)

- Maximum number of view cells: This determines the number of view cell on window, and also takes effect with the number of layout pages. For example, if there are 320 channels using the 1+31 layout, there will be 10 layout pages in the LiveClient window. The configuration changes take effect after the LiveClient is re-started.
- Enable auto stream size: The Auto Stream Size feature dynamically adjusts the stream sizes of video feeds from network cameras in order to reduce CPU load and bandwidth consumption.

It is often the case that in surveillance deployments the physical dimensions of monitors, the effectiveness of visual stimulus, and the operators' regions of interest can all be very limited. Streaming large-size videos at all times will be a waste of bandwidth and system computing power. CIF and VGA size videos are usually sufficient for the operators watching surveillance screens.

When enabled, your LiveClient station automatically requests smaller-size streams as video feeds (any from streams $#1 \sim #4$) from the network cameras. For example, the frame size of video stream #4 will be reduced to 320x240 (CIF). Depending on the actual size of view cells on the LiveClient monitoring screen, the VAST server automatically requests different video streams.

When the size of view cells is manually expanded, a VAST server requests a different stream. This is called **Stream Jump**. Shown below are the details of the corresponding stream jumps.

View cell size	Stream jump to
4:3 resolutions	
<= 320x240	stream #4 (CIF)
> 320x240 or 640x480	stream #1
16:9 resolutions	
<= 384x216	stream #4 (CIF)
> 384x216 or 640x360	stream #1
1:1 (fisheye cameras)	
<= 384x384	stream #4 (CIF)
> 384x384 or 640x640	stream #1

Facts about Auto Stream Size:

- The Auto Stream Size takes effect when,
 - 1. The size of view cell is changed.
 - 2. Inserting a new camera, or when the "Auto add newly-inserted camera" feature is applied.
 - 3. Double-click or click-and-drag cameras into view cells.
 - 4. When Auto Stream Size feature is enabled (the configuration on this window).
 - 5. Through the layout change.
- The LiveClient utility automatically adjusts stream selection according to the size of view cells, no user's configuration is required.

- The frame size of stream #1 is user-configurable. The VAST server only resizes stream #4.
- If a user disables the Auto Stream Size function later, the frame size of stream #4 will not be restored to the previous configuration. Stream jump takes place on the display of all connected cameras once the function is enabled.
- The Auto Stream Size function does not apply to the Matrix view.
- If users configured a region of interest before the Auto Stream Size function is applied, e.g., via the ePTZ control, the view cell might display a different live view.
- Below is the general rule for stream selection:

	stream # configured into VGA	stream # configured into CIF
4 streams cameras	Stream 2	Stream 4
3 streams cameras	Stream 2	Stream 3
2 streams cameras	none	Stream 2

- When a smaller stream is selected, the video quality is set to fixed quality as Good.
- The Maximum frame rate is not configured.
- The VAST server automatically selects a video resolution of a specific aspect ratio that best fits the current view cell, and places the video into the view cell.

Limitations:

- For older, single-stream cameras, the Auto Stream Size feature does not take effect.
- When the Auto Stream Size feature is enabled, the NR and ND series NVR configured under the VAST server will be considered as substations. The stream configuration of cameras managed by these NVR substations will not be changed. Only the video codec, bit rate, and frame rate of the video feeds directed through these NVR substations will be changed into a more economic setting.
- For the NR8401 NVR, the Auto Stream Size function may not fully apply. For cameras managed by the NR8401, the following will apply:
 - Large view cell: default viewing stream.
 - Medium view cell: stream #2.
 - Small view cell: the last stream.
- a user disables the Auto Stream Size function later, the frame size of stream #4 will not be restored to the previous configuration.
- Enable de-interlace function: Select this option if your connected device does not support de-interlace function. For example: VS7100.
- Enable Instant Replay on video cell: Here you can change the duration of a playback that happened immediately before a user utilizes the instant playback function.
- Local streaming buffer time: Video frames can be temporarily stored on the cache memory of the VAST server for a short, configurable period of time before they are displayed on the Liveview. If the networking condition is less than ideal, this can help delivering a smooth video stream. Note that this feature is not available on a Matrix view and the web console.

Joystick Settings

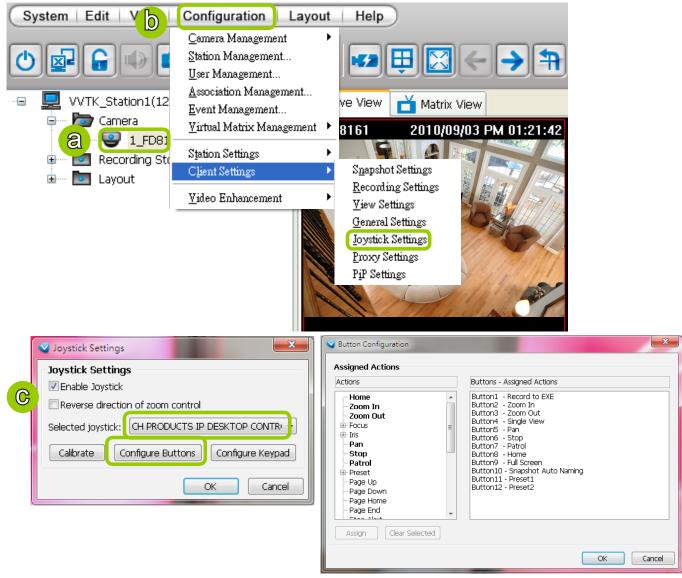
This section explains how to remote control connected network devices with a USB joystick. It's easy to install and configure via the USB interface.

Enable Joystick

Connect to the USB plug of the joystick to a USB port on your computer. Supported by the plug-in in the main page (Microsoft's DirectX), once the plug-in in the main page is loaded, it will automatically detect if there is any joystick on the computer. The joystick should work properly without installing any other driver or software.

Then you can begin to configure the joystick settings of connected devices. Please follow the instruction below to enable joystick settings.

- a. Select the target device from the hierarchical management tree.
- b. Click **Configuration > Client Settings > Joystick Settings** on the menu bar to open the **Joystick Settings** window. If your joystick is working properly, it will be displayed on the drop-down list.
- c. Select the joystick you want to configure. Check **Enable Joystick**, then click **Configure Buttons** to open Buttons configuration window.



Reverse direction of zoom control

Due to different designs in joystick zoom wheel, you can select this checkbox to reverse the zoom in/out directions.



Buttons Configuration

In Button Configuration window, the left column shows the actions you can assign, and the right column shows the functional buttons and assigned actions. The number of buttons may differ from different joysticks.

Please follow the steps below to configure your joystick buttons:

a. Choosing one of the actions and click **Assign** will pop up a dialog. Then you can assign this action to a button by pressing the joystick button or select it from the drop-down list.

For example: Assign Home (move to home position) to Button 1.

Actions		Buttons	Assigne	d Actions
Home Zoom In	^	Button1 Button2		
- Zoom Out	😎 "B	Iome"		
⊞- Focus				
Pan				assign to "Home" or
Stop	sele	ect the button i	from the	list below.
Patrol ∎-Preset				
Plage Up			*	
- Page Down		tton1		
- Record to AVI		tton2		
- Snapshot Auto Naming		tton3 tton4		
		tton5		
		tton6		
<u>A</u> ssign <u>Cle</u> ar Selected	Bu	tton7		
		tton8		<u>O</u> K <u>C</u> ancel
		tton9		
	IBU	tton10		<u>O</u> K <u>C</u> ancel
		tton11		

b. Click **OK** to confirm the configuration.

🤜 Buttons Config	guration	×
Assigned Actions Actions Actions Actions Com In Com Out Focus Fis Pan Stop Patrol Preset Pres	Fress the joystick button to assign to "Home" or select the button from the list below. Button1 Click "Ok" to assign "" to button1	
Assign	Clear Selected	
	<u></u> K	<u>C</u> ancel

c. The Assigned Action will appear beside Button 1 in the right column as shown in the following diagram. Note that a button can only be assigned with an action. If you want to modify the settings, select the action on the list and click **Clear Selected**.

Suttons Configuration					×
	Buttons Button2 Button3 Button4 Button5 Button6 Button7 Button8 Button9 Button10 Button11 Button12	Home	ed Actions		
			<u> </u>	<u>C</u> ance	

d. If you want to assign additional actions, repeat step a.~c. When all settings are complete, click **OK** to save the settings or click **Cancel** to discard the settings. You may also assign buttons to jump around matrix screens.

Actions	Buttons - Assigned Actions
 Stop Alert Audio Mute Rotate Record to EXE Snapshot Auto Naming Print Lock Full Screen Single View Previous Matrix Next Matrix Next Monitor 	Button1 - Record to EXE Button2 - Zoom In Button3 - Zoom Out Button4 - Single View Button5 - Pan Button6 - Stop Button7 - Patrol Button8 - Home Button9 - Full Screen Button10 - Snapshot Auto Naming Button11 - Preset1 Button12 - Preset2
Assign Clear Selected	

e. Click **OK** to save the settings or click **Cancel** to discard the settings.

🔮 Joystick Settings		×
Joystick Settings Enable Joystick		
Selected joystick:	CH PRODUCTS IP DESKTOP CON 🔽	
	Calibrate Configure Buttons	
		!



- If you want to assign Preset actions to your joystick, the preset locations should be set up in advance.
- If your joystick is not working properly, it may need to be calibrated. Click Calibrate to open the Game Controllers window located in the MS Windows control panel and follow the instructions for trouble shooting. For more information, please refer to the MS Windows help files for details.

🔮 Joystick Settings		×
Joystick Settings Enable Joystick		
Selected joystick:	CH PRODUCTS IP DESKTOP CON	
	Calibrate Configure Buttons	
	QK Cance	!

The joystick will appear in the Game Controllers list in the Windows Control Panel on your computer. If you want to check out your device, go to the following page: Open Start > Control Panel > Game Controllers.

Game Controllers	? 🛛
These settings help you configure the game co your computer.	ntrollers installed on
Controller	Status
CH PRODUCTS IP DESKTOP CONTROLLER	ΟΚ
Add Remove	Properties
Advanced	Troubleshoot
	ОК

Configure keypad

For joysticks that come with a keypad, you can use the combination of a number assigned to a camera and the Enter key on keypad to quickly move to the camera's current view. The current view will be displayed in a single view. To configure the number representative of each camera, double-click to open a configuration window. The number used for quick switch must be mapped to an existing channel.

Also note the following:

- 1. The keypad key representative can be a 4-digit numeric combination.
- 2. If a number key is pressed without pressing the Enter key within 3 seconds, the command is cancelled.
- 3. You should have at least ONE EMPTY view cell.
- 4. A Rotation operation will be halted when using the keypad quick switch function.
- 5. This quick switch function does not take effect on the cameras managed by VAST substations.

<	Joystick Keypad Mapping		
	Camera Name	Key Number	
	FE8191-shepherd test	1	
	Mega-Pixel Network Camera	2	
	IB8338-H	3	
	SD8161	4	
	Sav	e Cla	ose

11 •	
<u>O</u> K <u>C</u> ancel	

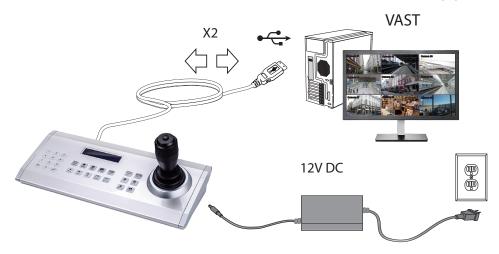
Joystick Settings - Using VIVOTEK's AJ-001 & AJ-002

The AJ-001 and AJ-002 joysticks come with some defaults working with a VAST server.

- Channel quick switch: Enter 1 to 4 numbers and press "Enter" on the keypad to bring the channel into a full view. For example, enter 0010 and press Enter, CH 10 camera view will prompt on screen. Note that the number keys and Enter must be pressed within 3 seconds.
- Currently, this function does not apply to cameras managed by sub-stations.

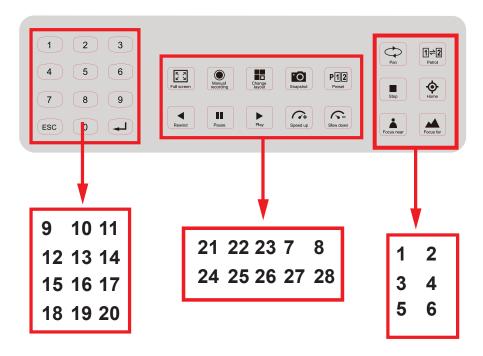
Following are the conditions for making the connection:

- 1. The joystick can either be powered by a DC 12V adaptor or via the USB. If powered by USB, plug the USB cable twice to the USB port to enable USB power.
- 2. Connect the included USB cable between the USB ports on the joystick and a VAST server.



KEYPAD DEFINITION

Below is the keypad numbering sequence:



1	Pan	9	#1	17	#9	25	Pause
2	Patrol	10	#2	18	Cancel/Clear/Esc	26	Play
3	Stop	11	#3	19	#0	27	Speed Up
4	Home	12	#4	20	Enter	28	Speed Down
5	Zoom in	13	#5	21	Full Screen		
6	Zoom out	14	#6	22	Manual recording		
7	Snapshot	15	#7	23	Change Layout		
8	Preset	16	#8	24	Rewind		

Since VAST rev. 1.13, the following keypad functions will be available as the defaults for the joystick.

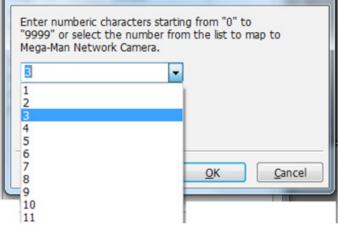
Use the combination of "Preset Move Combo" (button 8) + number keys + Enter. For example button 8 + 1 + 0 + Enter -> Preset #10.

1x1 Pressing the layout button changes the current view cell layout. Press to change the layout from top to bottom as shown on the left. 2V 1P+2 3V 2x2 4V You can see the default definitions for the keypad in the Joystick configuration windows. 2V+3 × 1+5 Joystick Settings Joystick Settings 1P+6 Enable Joystick 3x3 Reverse direction of zoom control 1P+8 Selected joystick: 3D Joystick Keyboard • 1+12C<u>a</u>librate Configure Buttons Configure Keypad 4x45x5 <u>0</u>K Cancel 1+31🔮 Button Configuratio 8x8 Assigned Actions Buttons - Assigned Actions Button1 - Pan Button2 - Patrol Button2 - Patrol Button3 - Stop Button4 - Home Button5 - Zoom In Button6 - Zoom Out Button8 - Preset Move Combo Button19 - Keypad Number 1 Button10 - Keypad Number 1 Button11 - Keypad Number 3 Button12 - Keypad Number 3 Button12 - Keypad Number 3 Button13 - Keypad Number 6 Button15 - Keypad Number 6 Button15 - Keypad Number 6 Button17 - Keypad Number 6 Button17 - Keypad Number 7 Button18 - Keypad Number 8 Button19 - Keypad Number 8 Button19 - Keypad Number 9 Button19 - Keypad Number 8 Button12 - Keypad Number 8 Button12 - Keypad Number 9 Button21 - Ful Screen Button21 - Ful Screen Button22 - Change Layout Button25 - Pause Button25 - Pays Button28 - Siow Down Button28 - Siow Down Actions Buttons - Assigned Actions Home Zoom In Zoom Out Focus Iris Pan Stop Patrol Preset Page Up Page Down Page Home Page End Stop Alert Rotate Record to EXE Previous Matrix Next Matrix Previous Monitor Next Monitor Keypad - Escape - Preset Move Combo - Instant Replay Playback D- Common Assign Clear Selected OK Cancel

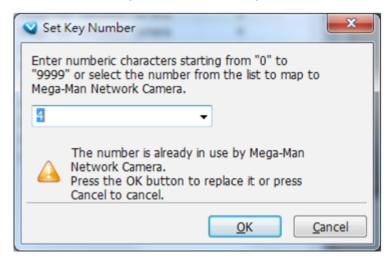
If you should need to change the mapping table, use the Keypad Mapping function.

x

Joystick Keypad Mapping	×				
Camera Name	Key Number				
30x Zoom Mega-Pixel Speed	1				
Network hi Camera	2				
Mega-Man Network Camera	3				
Mega-Man Network Camera	4				
Mega-Man Network Camera	5				
Mega-Man Network Camera	6				
Mega-Pixel Network Camera	7				
Mega-PixeIl Network Camera	8				
Mega-Man Network Camera	9				
Mega-Man Network Camera	10				
Mega-Man Network Camera	11				
Sav	e <u>Ç</u> lose				
Set Key Number					



The below message shows a mapping table ID conflict.



Below is the normal server status information.



The capture below shows the status when using a keypad to quickly switch to a camera's live view.



PTZ/ E-PTZ Function

In addition to using the PTZ control panel, you may also control the rotation handle of the joystick to remote control a PTZ/ E-PTZ network camera with ease.

<u>Pan/Tilt</u>: Move the rotation handle of the joystick; you can pan the camera to the desire position. There will be blue line displaying the moving direction in the center of the video image as the diagram 1 below.

<u>Zoom in/Zoom out</u>: Shift the rotation handle clockwise to zoom in the camera on an image or go counterclockwise to zoom out the camera on an image. There will be a circle and four vectors in the center of the video image as the diagram 2, 3 below.



Pan/Tilt (Move the rotating handle back and forth)



Zoom in (Turn the rotating handle clockwise)



Zoom out (Turn the rotating handle counter-clockwise)

Proxy Settings

In this section, you can enable, modify, or cancel **Proxy Settings** for client if your VAST Server is under a proxy. If you change the proxy settings, please fill in the new value next time you login the LiveClient next time.

💙 Proxy Setting	gs 📃 💌
🔲 Enable Proxy	
Address:	
Port:	80 🔹
User Name:	
Password:	
	OK Cancel

💙 VAST LiveClie	VAST LiveClient				
🔲 Log in local sta	ation				
Address:	192.168.6.117				
Authentication:	Basic Account				
User Name:	admin				
Password:	•				
Port:	3443 🔮 🗹 Use SSL				
Proxy Settings					
Log in	Cancel Hide <<				

How to Use PiP (Picture-in-Picture)

PiP (Picture-in-Picture) is an intuitive function for user to simultaneously view a Global View and ROI (Region of Interest) for live monitoring. The digital zoom in function can only focus on the interested area and represent the details of megapixel video. Moreover, the multi-touch mode is a very user-friendly interface for digital zoom in.

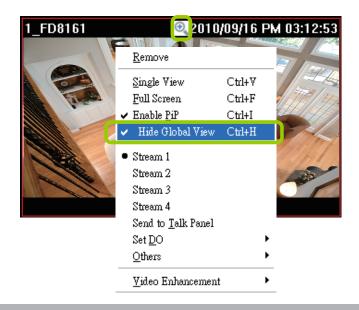
Enable PiP

Right-click the video cell and select **Enable PiP**. If you want to disable PiP, click the option again to uncheck it. After you enable the PiP function, a movable global view window and a ROI frame will be displayed as shown below.



Global View

The global view is the original view with the size scaled down to 160x120. It is movable and you can drag it anywhere in the live view window. If you want to hide the global view, **right-click** the video cell and select **Hide Global View** from the menu. An icon (a) will appear on top of the live view window.



ROI (Region of Interest)

The ROI frame is capable of being resized and dragged in any direction upon the global view window as e-PTZ function.

Digital Zoom In

Through digital zoom in, the live view window will be filled with the zoomed in ROI image. The maximum magnification of the ROI frame is 16x zooming. The zoomed in area will change as the ROI frame is dragged and resized. You can also easily zoom in and zoom out the ROI frame by rolling the mouse back and force.

Snapshot & Print Zoomed In Image

You can snapshot and print the zoomed in image.

Edit	View	Configuration		
Man	ually Begin	<u>R</u> ecording		
S <u>n</u> ap <u>P</u> rint Reco		Ctrl+S		
Snapshot Zoomed Image Print Zoomed Image				
Eind				

PiP Settings

The PiP Settings is for you to adjust the initial position of the global view window.

Click **Configuration > Client Settings > PiP Settings** to open the window. On top of it, you may choose the horizontal position with left / middle / right side of the live view window, or you can customize the percentage of space distance from the border of the live view window as an option. It is also fully applied for vertical position with top / middle / bottom side of the live view window. When it's done, you may click on **Apply to existing windows** to enable the settings.

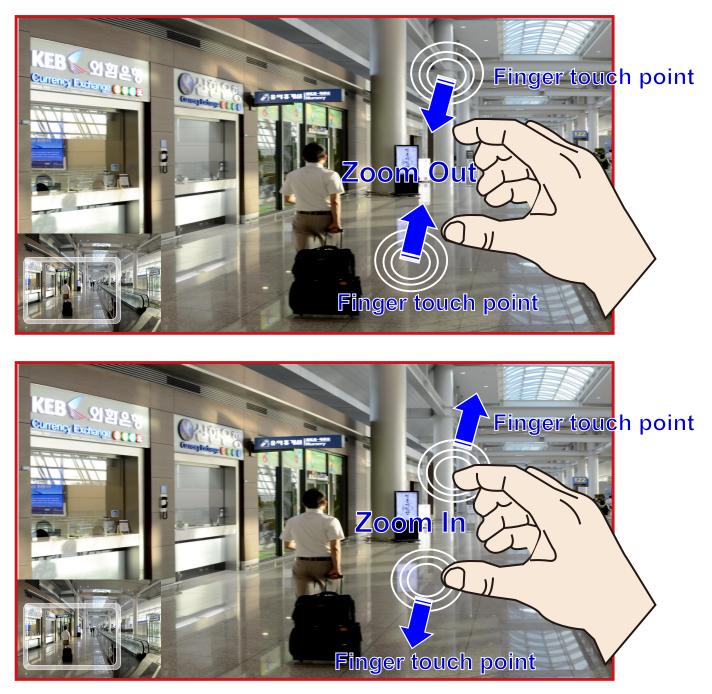
Configuration Layo	ut Help	🤜 PiP Settin	gs 🛛 🔀
Camera Management Station Management User Management Association Management Event Management Virtual Matrix Management Station Settings	 58.4 	─ Initial Position <u>H</u> orizontal: <u>V</u> ertical:	Right Aligned Yew Window Right Aligned Yew Window 0 Image: Second Se
Client Settings	 Snapshot Settings 		Apply to existing windows
⊻ideo Enhancement	 <u>Recording Settings</u> <u>View Settings</u> 		
	<u>G</u> eneral Settings Joystick Settings <u>P</u> roxy Settings P <u>i</u> P Settings		<u>QK</u> <u>Cancel</u>

Ê

- If the position of ROI and global view will be saved and applied for the next open. It will be removed when the live view cell is removed.
- The PiP function is also applied in VAST Playback.

Multi-touch Mode

VAST also supports advanced multi-touch mode for PiP. You can easily zoom in or zoom out the image by touching the multi-touch monitor with two fingers.



How to Configure Video Enhancement

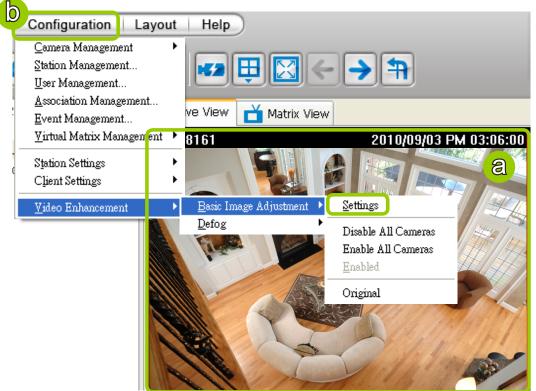
The LiveClient allows you to enable post-image enhancement and defog for video live view.

Basic Image Adjustment

This function allows you to configure basic image adjustment including Brightness, Contrast, Saturation, and Hue.

Please follow the steps below to set a profile for post-image adjustment settings:

- a. Select the target video cell.
- b. Click Configuration > Video Enhancement > Basic Image Adjustment > Settings on the menu bar to open the Profile Settings window. (Or you can right-click the video cell and select Video Enhancement > Basic Image Adjustment > Settings from the popup menu.)

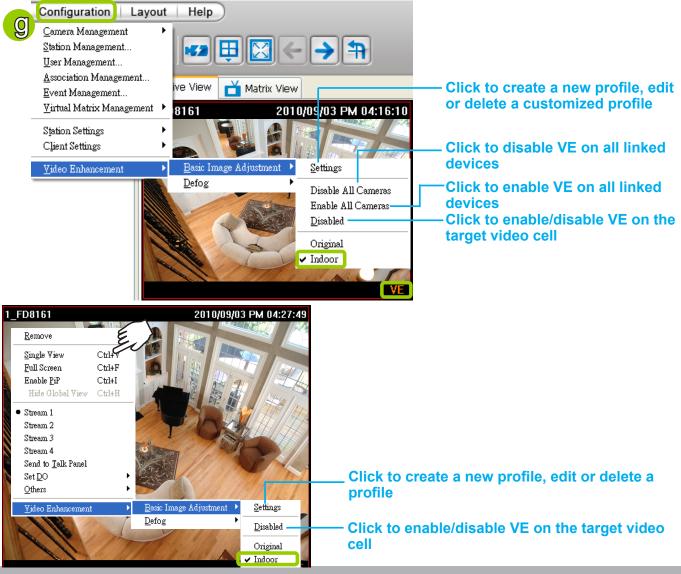




- c. Adjust the values of Brightness, Contrast, Saturation, and Hue. You can preview the image from the window on the right. A "VE (Video Enhancement)" text string will appear at the bottom right of the preview window.
- d. When completed, click **Save as Profile** and enter a name for the new profile.
- e. The new profile will be displayed on the drop-down list. This profile can be applied to all video cells.
- f. If you decide to apply the selected profile to the target video cell immediately, click the **OK** button. Otherwise, click **Cancel** to close the window.

	🖉 Basic Image .	Adjustment - for 1_	FD8161		
	Current Profile			9	
	-Profile Setting	Original _S Indoor			
C	Brightness:	-128	128	27	1_FD8161 2010/09/03 PM 04:09:01
	Contrast:	₀ —Ţ—	128	20	
	Saturation:	o —Ţ——	128	20	
	Hue:	-180	180	0	VE
d	Save <u>a</u> s Profile	Update Prof	ile <u>D</u> elete Pro	file	G Cancel

g. Back to the main page, a "VE" text string will also appear at the bottom right of the video cell and the new profile will also appear and be selected on the popup menu as shown below.



210 - User's Manual

Defog

This function allows you to configure post-image defog.

Apply a Preset Defog Profile

Please follow the steps below to set post-image defog settings:

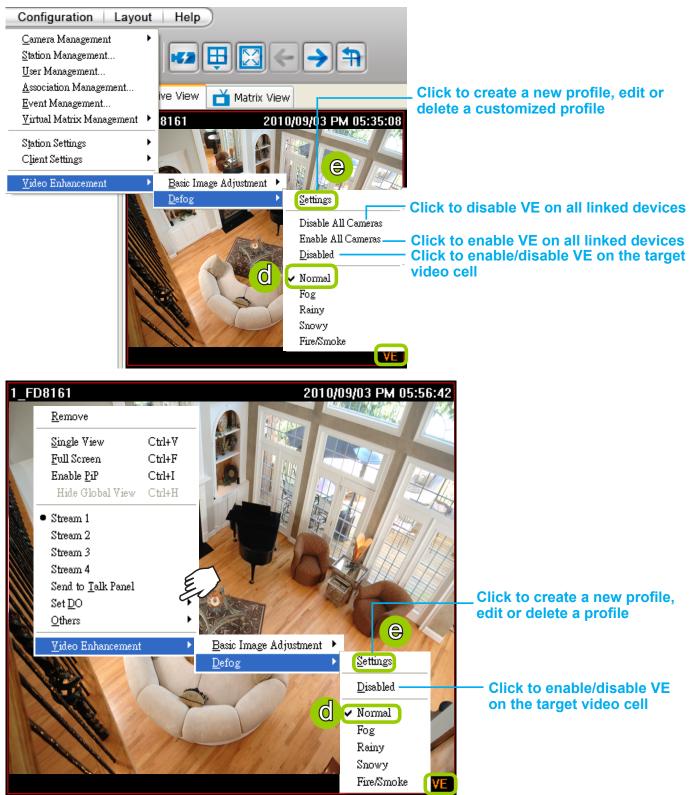
a. Select the target video cell.

6

- b. Click Configuration > Video Enhancement > Defog or right-click the video cell and select Video Enhancement > Defog.
- c. There are some preset profiles for you to apply to the target video cell. You can select one from the list accoding to the environment.



d. The string of the selected profile will be selected as shown below. A "VE" text string will also appear at the bottom right of the video cell.



Create a New Defog Profile

e. Click Settings on the popup menu to open the Profile Settings window.

		Defog Settings	s - for 1_FD8161	×
		Current Profile:		
	ſ	Profile Settings	Normal Fog Rainy	
f		Block Size:	Fire/Smoke Customize 5 3 3 1 FD8161 2010/09/03 PM 06:07:45	
		Strength:	1 5 3 3	
		Threshold:	0 255 130 🗘 VE	
Q		Save <u>a</u> s Profile	Update Profile Delete Profile OK Cancel	

f. Adjust the values of Block Size, Strength, and Threshold. You can preview the image from the right window. A "VE (Video Enhancement)" text string will also appear at the bottom right of the preview window.

Block Size: Brush diameter from thick to thin (Value 1~5)

Strength: Brush stroke from soft to strong (Value 1~5)

Threshold: Brush pixel from loose to dense (Value 0~225)

- g. When completed, click **Save as Profile** and enter a name for the new profile.
- h. The new profile will be displayed on the drop-down list. This profile can be applied to all video cells.
- i. If you decide to apply the selected profile to the target video cell immediately, click the **OK** button. Otherwise, click **Cancel** to close the window.

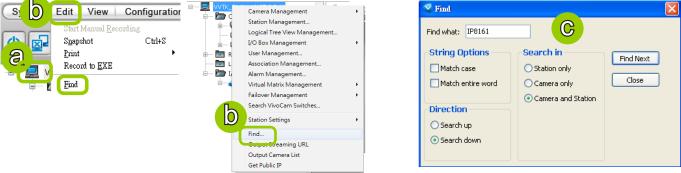
How to Search for a Device on the Hierarchical Management Tree

This function allows you to conveniently search for an inserted device, which is useful when many devices have been inserted.

Please follow the steps below to find a device on the camera list:

a. Click the station on the hierarchical management tree.

b. Click Edit > Find on the menu bar (or right-click the station and click Find).



- c. The Find window will pop up for you to set your search criteria.
 - Find what: Enter a string in the blank. The string can be the full or partial name of the device you want to search for.
 - String Options: Match case represents that the search results should be identical to the string in lower-case or upper-case letters, the string can be part of a word. Match whole word means that the search results should be identical to the string for every character, and that the string should be a complete word or phrase. If you select both options, the search results should conform to all criteria listed above.
 - Direction: Select search up or search down.
 - Search in: Select search in station or camera.



d. Click Find Next, the seaching result will be marked as shown below.

	🖃 💂 VVTK_Station1(127.0.0.1)	😴 Find	X
Search results	Camera 1 PZ7131(192.168.3.247) 2 JP8161(172.16.200.40) 3 FD8161(192.168.5.105) Camera 3 FD8161(192.168.5.105) Camera Camera Camera 2 JP8161(192.168.5.105) Camera Camera Camera 2 JP8161(192.168.5.105) Camera	Find what: IP8161 String Options Search in Match case Station only Match entire word Camera only Direction Search up Search down Search down	Close

e. If there is nothing found in the camera list, a message will pop up as shown below:



How to Print a Video Image

There are two ways to print out an image of live video:

1. Select a video cell, then click **Print** lo on the quick access bar, or **right-click** the video cell and select **Print** from the popup menu. A Print window will pop up for you to choose the printer.

		■₿⊠(←→	1	
(127.0.0.1)	🚺 Live Vi		ew		
)8161(192.168.5.111) Storage	1_FD816	Remove Single View Full Screen Enable PiP Hide Global View Enable Instant Replay	Ctrl+V Ctrl+F Ctrl+I Ctrl+H	2010/09/	02 PM 04:47:23
		Stream 1 (1920×1080) Stream 2 (1280×720) Stream 3 (176×144) Stream 4 (1920×1080) Send to Talk Panel Set DO Others	my	Snapshot	Ctrl+S
		Video Enhancement Video Display Mode		Record to EXE	CUITS
		SVC FPS Adjust Bar		Snapshot Zoomed Ima	ge

- 2. You can also click **Edit > Print** to print out an image from a video.
 - Focus Cell: Print out an image of the target video.
 - All Cells: Print out an image with all video cells in the monitoring window.

Edit	View Cor	nfiguration	Layout F
Manu	ually Begin <u>R</u> ecord	har	
S <u>n</u> ap:	shot	Ctrl+S	
<u>P</u> rint		۱.	<u>F</u> ocus Cell
Record to <u>E</u> XE			<u>A</u> ll Cells
-	sh <u>o</u> t Zoomed Imag Zoomed Image	6	1_FD8

How to Lock LiveClient for Security Concerns

If you are away from your computer, for security reasons, we suggest you lock the program. When LiveClient is locked, the user must fill in the correct password to unlock and access the program again.

- To lock LiveClient, click Unlock on the quick access bar or click System > Lock on the system menu. The Unlock icon will then turn into Lock .
- To unlock LiveClient, fill in the correct password in the popup window.

System Edit View	😴 Input 🛛 🗙
Loc <u>k</u> Ctrl+L Enable Click On <u>I</u> mage Language	The application is locked. Please enter the password for STAdmin. ****
Second <u>V</u> iew <u>E</u> -Map	<u>OK</u> <u>Cancel</u>
Launch <u>P</u> layback Logout	
Exit	

How to Log out from the VAST Server

To logout from the current server, click **Logout** on the quick access bar or click **System > Logout** on the menu bar. A confirmation window will pop up. Click **OK** to confirm or **Cancel** to return to the VAST LiveClient window.

System Edit View	Confirm 🛛
Loc <u>k</u> Ctrl+L Enable Click On <u>I</u> mage	This will terminate the current connection. Are you sure you want to continue?
Language	
Second <u>V</u> iew	
<u>E</u> -Map	
Launch <u>P</u> layback	
Logou <u>t</u> E <u>x</u> it	

How to Exit VAST LiveClient

To exit VAST LiveClient, click **Exit** on the quick access bar or click **System > Exit** on the menu bar. A confirmation window will pop up. Click **OK** to confirm or **Cancel** to return to the VAST LiveClient window. When you exit the program, your user account will be automatically logged out from the current server.

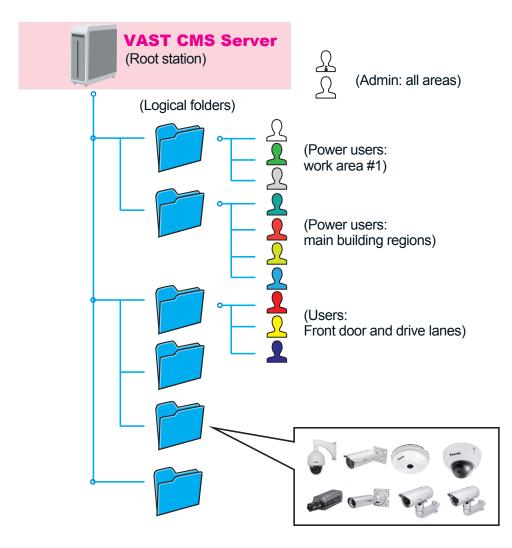
am?

	Confirm
System Edit View	
Loc <u>k</u> Ctrl+L Enable Click On <u>I</u> mage	Are you sure you want to exit the progr
Language	QK <u>C</u> ancel
Second <u>V</u> iew	
<u>E</u> -Map	
Launch <u>P</u> layback	
Logou <u>t</u> E <u>x</u> it	

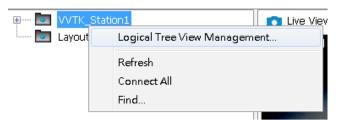
How to Configure a Logical Tree

A Logical Tree view is available since rev. 1.10 for both LiveClient and Playback. The Logical Tree view allows you to re-define the logical relationships between the real-world deployment and the physical devices (cameras). For example, according to your deployments, you can designate several cameras to be listed under a logical sub-directory named as "Building A," and the other cameras into "Building B." In this way, you can re-arrange your cameras and devices on a tree view that is geographically accurate.

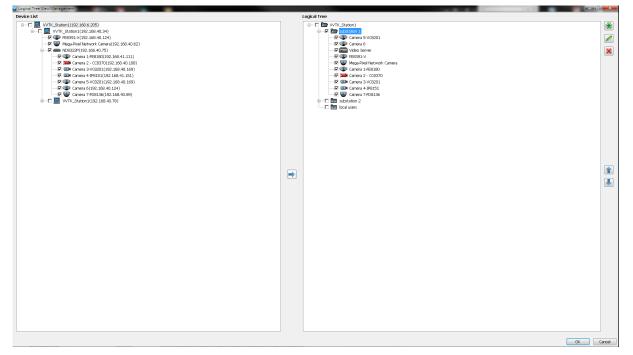
In addition to this, the logical folders can also be used to create privilege groups for users with different access rights. This enables an administrator to easily and flexibly align user privileges with his camera deployments.



To configure a Logical Tree, either right-click on the Device list root entry (VVTK_Station1), or visit the top menus through **Configuration** > **Logical Tree View management**.



You will then enter the **Logical Tree View** management window. Left click on the root directory, and then right-click to display the **Add** command.



A Logical tree can also display and include the cameras from VAST substations. To enable connection with substations, make sure the **Relay Settings** is enabled both on the VAST Root and substations.

System Edit View Configuration Layout Help	
Camera Management Station Management Logical Tree View Management Logical Tree View Management Logical Tree View Management Uo Box Management User Management Association Management Association Management Alarm Management VITUAL Matrix Management Failover Management Search VivoCam Switches Station Settings Find Output Streaming URL Output Camera List Get Public IP	 Recording Schedule Settings Relay Settings Relay Settings

🔹 Relay Settings 📃 💌		
Allow CMS connection		
Relay Authentication		
	Password:	
	Confirm Password:	
	OK Cancel	

To create a logical folder, enter a name for the sub-directory. The name can be a geographical indicator or whatever name your prefer; such as Building A, Site 1, etc. Add a short description.

💙 Add New I	Folder
Name:	
Description:	
	OK Cancel

You can also create logical folders under sub-directories, e.g., a "Corridor" under "Building A." Do this by selecting a sub-directory with a left-click and then right-click on it.

Logical Tree		
Add		
Edit		

Note that the root directory can not be edit.

You may also left-click to select a sub-directory, and use the **Add**, **Edit**, and **Delete** buttons to create, edit, or remove sub-directories. Use the arrow buttons to change the positions of sub-directories or devices on the logical tree.

When done, click the **OK** button at the low right corner of the window. Configuration changes will be preserved.

You should then insert cameras to a preferred directory:

- 1. Open the device tree to select camera. Left-click to select the checkboxes in front of cameras.
- 2. Select the checkbox of a preferred sub-directory. Make sure the checkbox is selected and the directory is highlighted.
- 3. Click the **Move** button in the middle of the screen.

Cameras will be listed under the target sub-directories.

Logical Tree View Management	
Device List	Logical Tree
Image: Second system WTK_Station1(192.168.40.34) Image: Second system FEB391-V(192.168.40.124) Image: Second system Work Camera (192.168.40.62) Image: Second system NDB Image: Second system Second system Image: Second system NDB Image: Second system Second system Image: Second system Second system <th>Image: Control of the second secon</th>	Image: Control of the second secon
Update	

Use the Sort and Find functions on the Device List on the left panel if it is hard to locate a device.

When done with the configuration, click the OK button, and select from the top menus **View** > **Logical Tree View**. The Logical Tree View will become the standard display for your VAST configuration.

System Edit View Configuration Layout Help	
Logical Tree View	$\overline{)}$
C Device Tree View	
Image: Site in the second s	let
Alarm Window	
Full Screen Ctrl+F Minimize	
Layout 🔽 Matrix View	

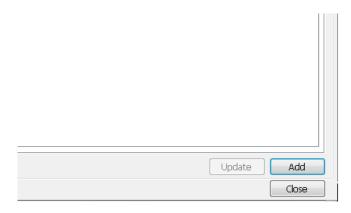
When done with the creation of logical folders, you can move to the **User Management** window. You can then define users' access rights using the logical folders you created. For example, you may let a user access a specific logical folder while forbidding him from the others.

- 1. When you assign Accessible Devices for a user, select the **Logical tree** button on the lower right.
- 2. Select the **"Selected logical tree nodes**" button. You can then select or deselect logical folders to confine the accessible devices for a user.

Note that an administrator has access to all devices, and hence the selection is not available for an administrator.

ser List	Account Management
VVTK_Station1 Administrator Vivotek.tw\piff.huang Vivotek.tw\fank.chang Vivotek.tw\kate.wang admin Power User Total	Authentication: Basic Account User Name: Test1 Password: Confirm Password: User Role: Power User
	Copy From: Test Accessible Device: O Device tree O Logical tree
	Permission Accessible Logical Tree All logical tree Selected logical ree VVTK_Station1 Image: Compare S-VC8201 Image: Compare S-VC8201 Image: Compare S-VC8203 Image: Comp

3. Click the **Add** button on the lower right.



4. The User account information will prompt. Click **OK** to proceed.



5. You can repeat the above steps to create more user accounts using the limited access configuration via the use of logical folders.



- The Refresh, Camera Settings, Output Streaming URL, Send to Talk Panel commands are available for cameras listed in the Logical Tree View.
- The DI/DO, Recording Storage, and I/O Box are not available on a Logical Tree View.
- The root directory (default VVTK_Station1) can not edited or removed.
- A camera can be added to different sub-directories; however, it can not be added twice into the same sub-directory.
- A camera managed by a sub-station can be added into the Logical Tree.
- The Logical Tree View can not be edited through a web console with the VAST server.
- Cameras added to the VAST configuration will not be automatically added to the Logical Tree View.
- By default, only the administrator and power user are authorized to configure the Logical Tree View.

VAST Playback Configuration

Activating VAST Playback and Logging in to a Server

VAST Playback allows you to search and playback recorded media data from VAST Server.

Once you insert a device into the hierarchical management tree of VAST LiveClient, it will automatically be displayed on the hierarchical management tree of VAST Playback. You can then begin to use VAST Playback to view recorded or backup video clips.

After installing the VAST Playback program, please follow the steps below to activate VAST Playback:

- 1. Run the VAST Playback program. If you have already run VAST LiveClient, you can also click System > Launch Playback to activate VAST Playback.
- 2. A Login window will pop up. Fill in the information as shown below:
 - If you want to login to a remote VAST Server, enter the IP address, user name, password and communication port of the server. Click Log in to login the target server or Cancel to exit the system.
 - If you want to login to your local host which is running VAST Server, check the Login local station checkbox, and the local IP Address will be displayed automatically. Enter the User Name, Password, and Communication Port of the local server to log in. Click Login to log in to the target server or Cancel to exit the system.

💿 VAST Playbac	k 🖻 💌	
🔲 Log in local station		
Address:	192.168.6.135 🗸	
Authentication:	Basic Account	
User Name:	admin	
Password:	•	
Log in	Cancel More >>	

🕺 VAST Playbac	k 🖻 💌
🗷 Log in local sta	ition
Addres.	127.0.0.1
Authentication:	Basic Account 🔹
User Name:	admin
Password:	•
Log in	Cancel More >>

3. The VAST Playback main window will be displayed.



If your network environment need to set up proxy, click More >> to extend the login window, then click Proxy Setting to open the dialog. Then enter related information to link to your proxy server.

💊 VAST Playback 📃 💌		
🗆 Log in local station		
Address:		
Authentication:	Basic Account 🗸	
User Name:		
Password:		
Port:	3454 🚔	
Proxy Settings	Working Offline	
Log in	Cancel Hide <<	

📎 Proxy Setting:	; 🗈 💌
🗹 Enable Proxy	
Address:	
Port:	80
User Name:	
Password:	
	OK Cancel

Available functions of the VAST Playback program will be enabled according to the role of your login account. For more details about the privileges of the user account, please refer to How to Manage User Accounts on page 100.

VAST Playback User Interface

ASIFIAY	back User Interface	D
A System Edit View Confi B	guration Layout Help)	
C	00.1) Intevark Granes arma Intervark Krama 40421 40422 Hottevark Granes	VIVOTEK
	EVIVOTEK	VIVOTEK
	Index Camera Start End Thre Zone Description 1 Mega Presi Network Ca 2014-04-22 08-07-10 2014-04-22 10:23:18 +06:00 1 hour 30 mms 8 sec	G

C. Query panel (Browsing / Time search / Bookmark search / A. Menu bar B. Quick access bar Event search / Alarm search / Log viewer) D. Status panel E. Recorded video playback window F. Playback control panel G. Video clips list

Menu Bar

System	Edit View Configuration Layout Help	
Menu Item	Drop-down Options	
System	Lock / Language / Launch LiveClient / Logout / Exit	
Edit	Snapshot / Print / Snapshot zoomed image / Print zoomed image / Find	
View	Logical Tree View / Device Tree View / Backup Status /Exporting Status / Browsing / Time Search / Event Search / Bookmark search / Alarm search / Log Viewer / Full Screen / Minimize / Query Panel / Video Clips List	
Configuration	Client Settings (Snapshot Settings / Export Settings / View Settings / Proxy Settings / General Settings / PiP Settings)	
Layout	Change Layout	
Help	About	

Status Panel

User Name: admin	CPU
Station Name: VVTK_Station1	35 %
Login Time: 2014-04-22 10:23:09	Memory
Current Time: 2014-04-22 11:14:54	61 %

User Name
Station Name (IP Address)
Login Time (yyyy-mm-dd hh:mm:ss)
Current Time (yyyy-mm-dd hh:mm:ss)
CPU and memory usage in percentage

Quick Access Bar



	Function	Description
С	Exit	Exit the system
	Logout	Logout from the current station
	Lock	Click to Lock the system for security concerns (Duclock the system)
	Volume	Adjust the audio volume of the target video (
	Snapshot	Capture the picture of the target video
b	Print	Print out the picture of the target video
#	SVC Level	Exert SVC control of video playback frame rate
15/2	Remove All Connection	Remove all live videos from the live video monitoring window
Ð	Layout	Change the layout of video monitoring window
	Full Screen	Maximize the live video monitoring window
B	Switch Screen	Switch to another screen
t	Synchronous Playback	Click to enable synchronous playback for multiple channels

Some buttons will be disabled if the selected device does not support those functions.

Recorded Video Playback Window

The "VIVOTEK" logo indicates that no camera has been assigned to the video cell.



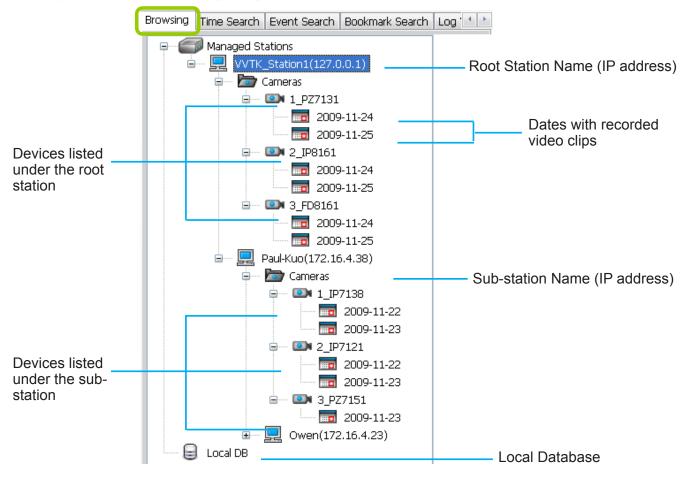
The red frame () represents the focused cell.

Language Selection

VAST current supports user interfaces in multiple languages; and language options are available in: English, Deutsch, Español, العربية, Français, Italiano, 日本語, Português, Русский 簡体中文, and 繁體中文, User Defined If you want to select another language for the interface, please click System > Language on the menu bar to select a desired language. Please note that if you want to change the language option, a message will remind you to restart the system.



Query Panel-- Browsing Page



You can hide this panel in order to maximize the single playback view from the **View** menu.

lcon	Description
	Station list including server and local database
	A station (a computer that has installed VAST Server)
	A station (a computer that has installed ST7501 Server)
	The camera that exists on the hierarchical management tree of LiveClient.
	The camera that has been removed from the hierarchical management tree of LiveClient (off-line). However, its recorded video (if any) is still accessible from the server.
	Dates with recorded video clips.
	Local database for backup data. For more information about how to upload backup data to the list, please refer to page 250.
_	



See page 217 for how to configure a Logical Tree View.

Browsing Time Search Event Search	n Bookmark Search Log 🛀	
 ✓ VVTK_Station1(127.0.0.) ✓ Cameras ✓ 1_PZ7131 ✓ 2_IP8161 ✓ 3_FD8161 ✓ A_FD8161 ✓ Cameras ✓ Cameras ✓ Owen(172.16.4.2))	Select station(s)/ device(s) that you want to search for recorded files
Time Zone: GMT+08:00 Beijing), Chongging, Hong k 🔽	
Start Time:		
2009/11/23 💌 08:50:15	* *	
End Time: 2009/11/26 09:50:15	÷	 Specify search period of time
	Search	Click to start to search, the results will be shown on the video clips list

Query Panel--Time Search Page

You can hide this panel in order to maximize the single playback view from the **View** menu.

The **Time Zone** setting is automatically synchronized with that on your client computer.

Query Panel--Event Search Page

Browsing Time Search Event Search Bookmark Search	
	Select station(s)/ device(s) that
□····· ☑ 20x Zoom Mega-Pixel Speed Dome Network C	you want to search for recorded files
Mega-Pixel Network Camera	lies
····☑ Mega-Pixel Network Camera ····☑ Mega-Pixel Network Camera	
Search Categories: All Events 👻	Select an Event Category
Motion - Window 1	
Motion - Window 2 Motion - Window 3	Click to add search criteria
Motion - Window 4 Motion - Window 5	
IVA - Moving Object	
IVA - Loiterina Detection	
Add Remove	Click to remove search criteria
Time Zone: GMT+08:00 Beijing, Chongging, Hong Kor 💌	 Specify search period of time
✓ Start Time:	
2014/ 6/ 5 👻 15:49:42 🚔	
End Time:	
2014/ 6/ 5 👻 16:49:42 👗	
	Click to start to search, the
Display in New Result List	results will be shown on the video clips list

Query Panel--Bookmark Search Page

Browsing Time Search Event Search Bookmark Search 4 arm Search	
WTK_Station1(127.0.0.1) Gameras Image Pixel Network Camera Image Pixel Network Came	Select station(s) that you want to search for bookmarks
Bookmark Name:	Select a name to serach for
Time Zone: GMT+08:00 Beijing, Chongging, Hong Kong, Kuala l 💌	Select a time zone
8/ 1/2012 ▼ 14:52:56 End Time: 8/ 1/2012 ▼ 15:52:56 ▼	Specify search period of time
Search	Click to start to search, the results will be listed on the video clips list

Query Panel--Alarm Search Page

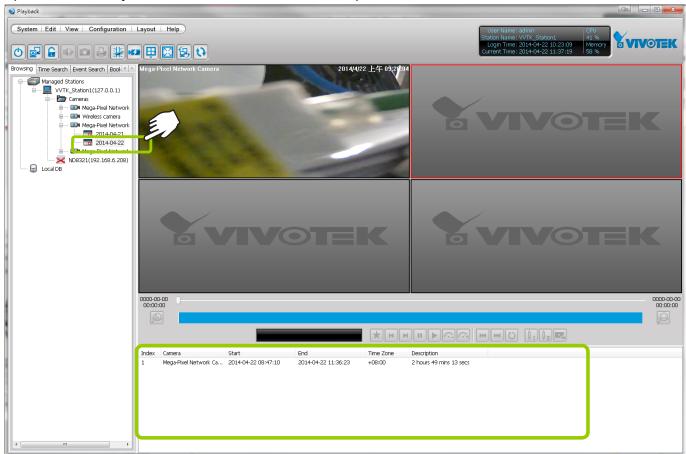
🔮 Playback		
System Edit View Configuration Layout Help		
Time Search Event Search Bookmark Search Alarm Search Log • •		
	1 Alarm 2 Alarm 3 Alarm 4 Alarm	 Select station(s) that you want to search for bookmarks
Filter Time Zone: GMT+08:00 Beijing, Chongging, Hong Kong, Kuala Lu ✓ Start Time:		Click to configure the search conditions Select a time zone
✓ Start Time: 2016/ 6/ 1 ▼ 08:59:32 ▲		
✓ End Time:		Specify search period of time
2016/ 7/ 5 👻 10:59:32 🔍	Export All Logs	Click to export a log files for the occurrences of alarms
		Click to start to search, the results will be listed on the video clips list

Query Panel--Log Viewer Page

Bookmark Search	Alarm Search	Log Viewer		7	
- Pa	Station1(127. aul-Kuo(172.1				Select station(s) that you want to search for recorded logs
Category:	All Local Log	s	*		Select a Log Category
User:			*		- Select a User Account
Result:	All		*		- Select a Result Type
Log Type:	All		~		- Select a Log Type
Log Level:	All		~		- Select a Log Level
		Including	above level		
Start Time:		g, Chongging,	Hong k 💌		
2009/11/26 💌	08:50:16	¥			Specify search period of time
2009/11/26 V	09:50:16	<u>^</u>			
2005/11/20	03/00/10		Search -		Click to start to search, the results will be listed on the video clips list

Video Clips List Window

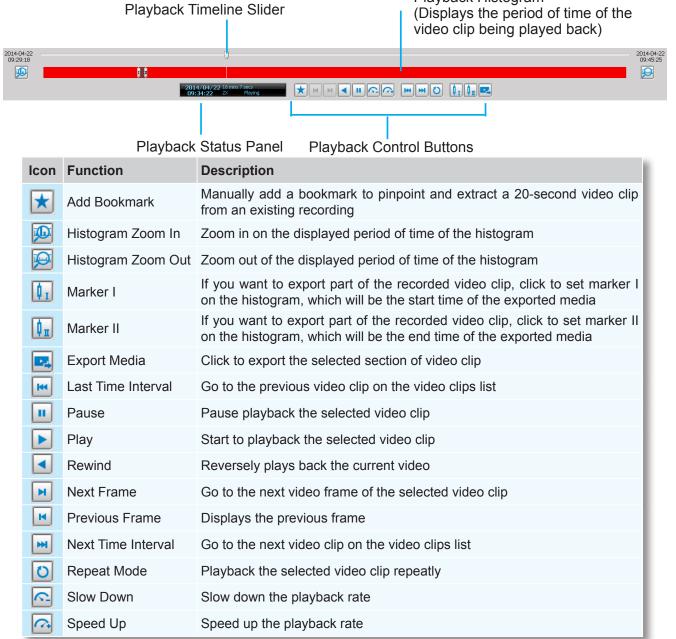
If you select an **option "date"**, the video clips will be displayed in the video clips list window. An option "date" may contain more than one video clip.

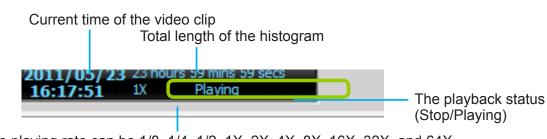


You can hide this panel in order to maximize the single playback view from the **View** menu.

Playback Control Panel

When you double-click a video clip to play, the playback control panel will be enabled for you to use. Playback Histogram





The playing rate can be 1/8, 1/4, 1/2, 1X, 2X, 4X, 8X, 16X, 32X, and 64X.

Rewind

The Rewind function enables users to reversely playback from a specific point in time on a video playback window. Once the occurrence of an event is ensured, this function can facilitate the process of finding the evidences that appeared before the occurrence.

The Rewind function also applies to the Synchronous Playback mode. The following also apply:

- 1. The maximum playback speed is 64x. (I-frame only when speed is higher than 16x)
- 2. When you pull the time slider during the Rewind playback, short interruptions may occur.
- 3. When switching from the playback mode to the Rewind playback, the playback speed remains the same. The same applies when switching from Rewind to the playback mode.

Limitations:

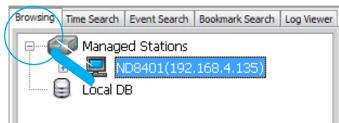
- 1. Short delays may occur when switching from playback to rewind, due to limitations by the hard disk access speed and network speed.
- 2. When doing the forward playback, the previous frame function is not available. When doing the rewind playback, the next frame function is not available.
- 3. The Rewind playback on multiple streams requires system performance resources.

How to Playback Recorded Video

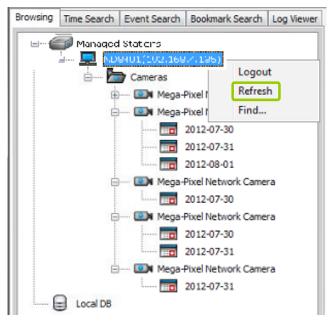
Select a Recorded Video Clip

Please follow the steps below to select a video clip:

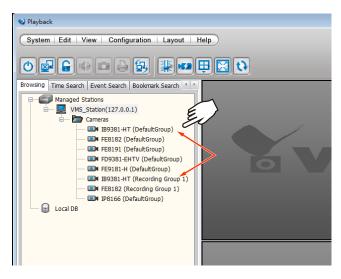
1. On the **Bowsing** page, click the plus sign (+) to expand the hierarchical management tree.



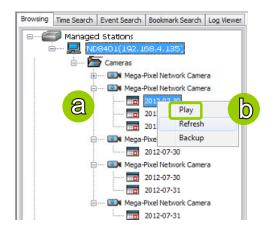
2. **Right-click** a station, device, or option "date" on the hierarchical management tree and click **Refresh** to display the recorded video clips.

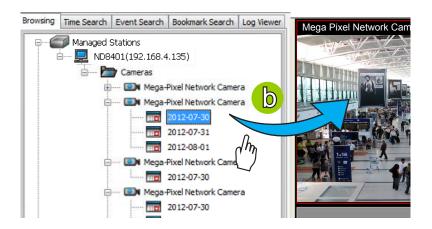


If a camera is configured with Multiple Stream recording, all its recording group configurations will be listed on the device tree.

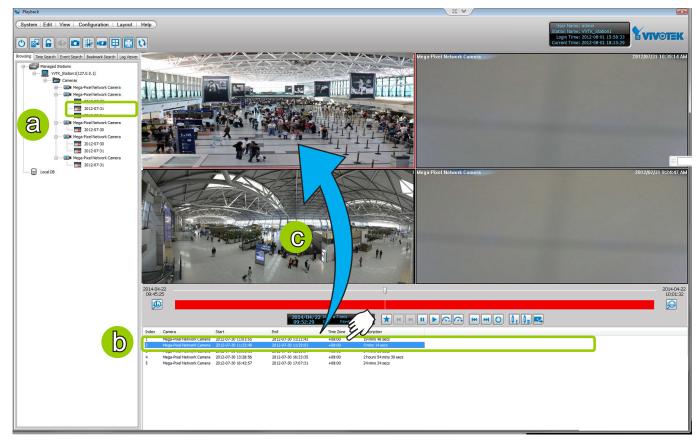


- 3. There are two ways to view the video clips of a date.
 - View all video clips of a date:
 - a. Select an option "date" from the hierarchical management tree.
 - b. **Double-click** the option "date" or **right-click** the option "date" and click **play**, and it will start to play in an available video cell. (You can also directly **drag-and-drop** the **option** "date" to a desired video cell in the recorded video playback window. The video clip will start to play.)





- View only one of the video clips of a date:
 - a. Click on a "date" on the hierarchical management tree. The corresponding video clips will be listed in the video clip list window.
 - b. Select a video clip from the video clip list window.
 - c. **Double-click** the video clip, then it will start to play in an available video cell. (You can also directly **drag-and-drop** the video clip to a desired video cell in the recorded video playback window. The video clip will start to play.)

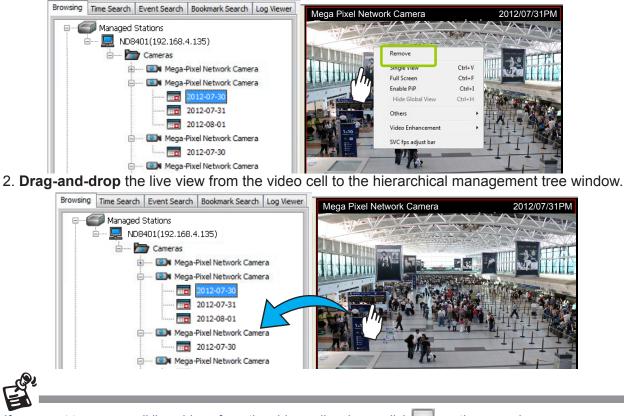


4. Then you can make use of the playback control panel to playback the selected video clip. Please refer to **Playback Control Panel** on page 235.

Remove Recorded Video Clips from Video Cells

There are two ways to remove a recorded video clip from the video cell:

1. Right-click the video cell and select Remove.

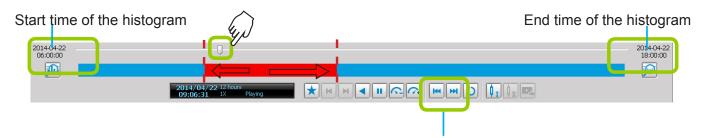


If you want to remove all live videos from the video cells, please click 💶 on the menu bar.



Timeline Slider Bar and Histogram

The red part of the histogram shows the period of time of a video clip. The timeline slider bar will move forward as the video is on playback. You can manually move forward/backward the **Timeline Slider Bar** to the desired position as shown below.



The current time of the video clip will be displayed on the status panel. It will change according to the current position of the timeline slider bar.

Histogram zoomed in Total time length

As the second picture shows, by clicking **Histogram Zoom In**, the total time of the histogram will shorten to half of the original period of time, while the red part of the histogram that shows the period of time of the video clip will extend to twice the original time span.

In addition to clicking is and is to zoom in/ out of the histogram, you can use the mouse directly to drag the histogram to zoom in part of the focused video clip. For example:

a. Drag a section of the histogram. You can drag it to either direction.



b. The section will be extended as shown below.

Zoom in / out of the Histogram





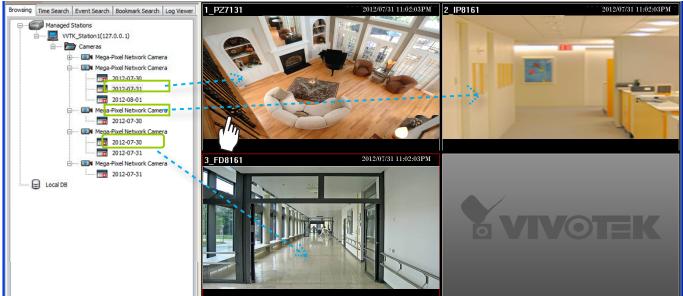
For more functions of the playback control buttons, please refer to page 235 for detailed description.

Synchronous Playback

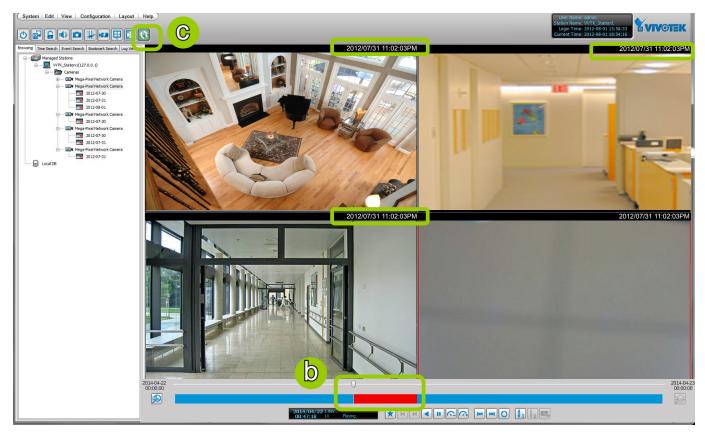
VIVOTEK VAST Playback supports synchronous playback, which allows you to review up to 16-channel video clips simultaneously during the specific time point.

Please follow the steps below to enable synchronous playback:

a. Drag-and-drop the option "date"s to the video cells.



- b. Drag the Timeline Slider Bar to the specific time point.
- c. Click the synchronous playback button 💟 on the quick access bar. The selected channel will start to sychronously playback as shown below.



- d. You can move forward/backward the Timeline Slider Bar to another time point, and all of the time stamps on the video cells will change accordingly.
- e. If you want to stop synchronous playback, click the non-synchronous playback button 🔃 again.



The following illustration shows that during the specific time, there is no recorded video on the camera.

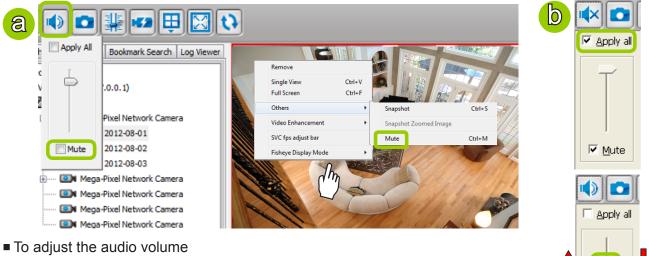


Audio Control

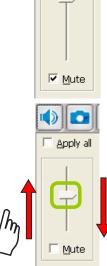


The audio function will be enabled if the device is equipped with an internal or external microphone. Please follow the steps below to adjust the volume or turn on/off the audio of the focused video:

- To turn off the audio (Mute Mode)
 - a. Click Audio On 💿 on the quick access bar and check Mute. Or you can right-click on the video cell to open the popup menu, then click **Others > Mute**. The mute option in the popup menu will then be selected.
 - b. If you want to turn off the audio of all live video, select Apply all.
 - c. The Audio icon will then change from 🚺 to 💌

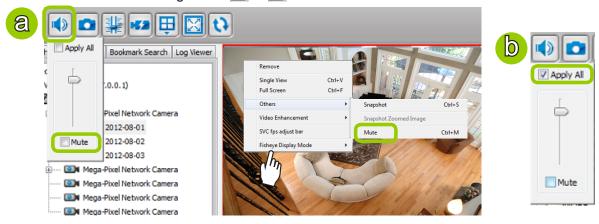


- a. Click Audio On 💿 on the quick access bar.
- b. Drag-and-drop the slider bar. Slide to a higher position for louder volume.



To turn on the audio

- a. Click Mute 🚾 on the quick access bar and uncheck Mute. Or you can right-click on the video cell to open the popup menu, then click **Others > Mute**. The mute option in the popup menu will then be unchecked.
- b. If you want to turn on the audio of all live video, select Apply all.
- c. The Audio icon will then change from 💌 to 🚺.



How to Change the Playback Layout

Changing the Layout of the Recorded Video Playback Window

VIVOTEK VAST Playback supports up to 16-CH simultaneous recorded video playback on a single monitor and allows you to change the layout of the recorded live video playback window based on the number of inserted devices.

Switch Video Channels

Drag-and-drop a video channel to another empty video window.



To switch two channels, **drag-and-drop** one view to the other, then the two channels will switch positions.



Configure Layout Mode

Click the **Layout** button 🖳 on the quick access bar or click **Layout > Change Layout** on the menu bar. Select a desired layout mode and the layout window will change accordingly. Below we illustrate 6 types of layout modes:

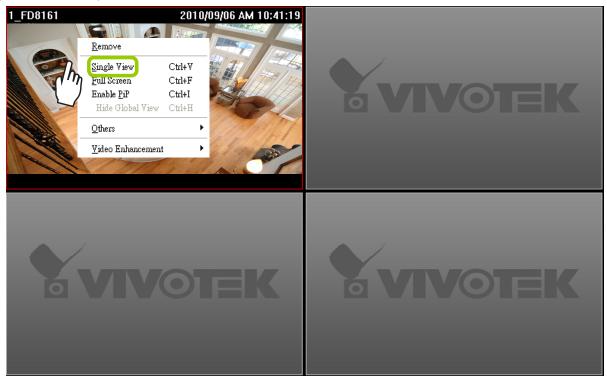
	₽ ₩ * 2	₽₩₽	t
V Playback	Layout mode	Description	
System Edit View Configuration Layout Help	1 x 1		
	2V		
Time Search Event Search Bookmark Search # 2x2 □-□ VMS_Station(127.0.0.1) ✓ 4V □-□ Cameras 2V+3	3V		
−	2 x 2		
□ IB9381-HT (DefaultGroup) 1+12 □ IP8166 (DefaultGroup) 4x4	4V		
	2V+3		
	1 + 5		
	3 x 3	Ħ	
	1 + 12		
	4 x 4		

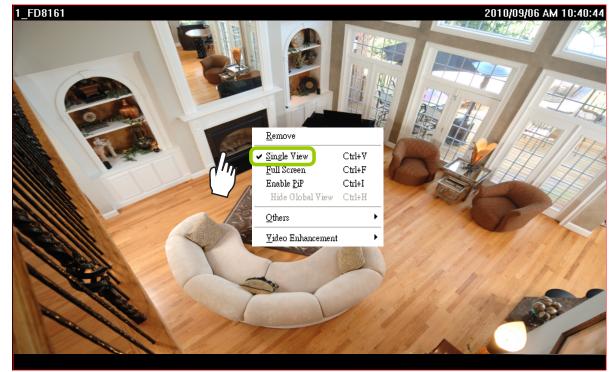
User's Manual - 245

Maximize/Minimize the Recorded Video Playback Window

Single View: to maxmize a video cell to the entire video playback window

Double-click the video cell, or **right-click** the video cell and selec **Single View**. The focused video will occupy the entire Playback window as shown below.





To restore to the original layout, **double-click** the video cell or **right-click** the video cell and uncheck **Single View.**

• Full Screen: to maxmize the video playback window to the entire screen

Click Full Screen 🔯 on t	he quick access bar or right-click t	he video cell and select Full Screen.
	ick View > Full Screen on the men	u bar to maximize the recorded video
playback window.	V Playback	



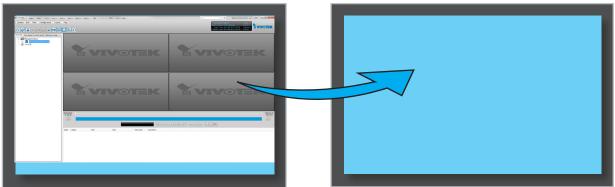
To restore to the original layout, **right-click** the video cell and uncheck **Full Screen**. You also can press the **Esc** button on the keyboard to leave the full screen mode.

Minimize: If you click View > Minimize on the menu bar, the Playback window will minimize to the Windows tool bar.

View Recorded Video with Multiple Monitors

If you have multiple screens in your control center, you can switch the VAST Playback Window among these screens.

If you have two monitors, click Switch Screen so on the menu bar, the Playback window of monitor 1 will switch to monit@Anitor 1
Monitor 2



If you have three or more monitors, a drop-down list will be displayed when you click Switch Screen on the menu bar. The number of options on this list depends on the number of your screens. Select a desired screen from the drop-down list and the Playback Window will then switch to the specified screen.

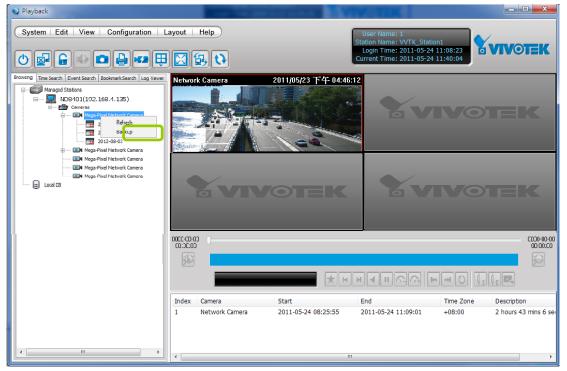


How to Backup Recorded Video

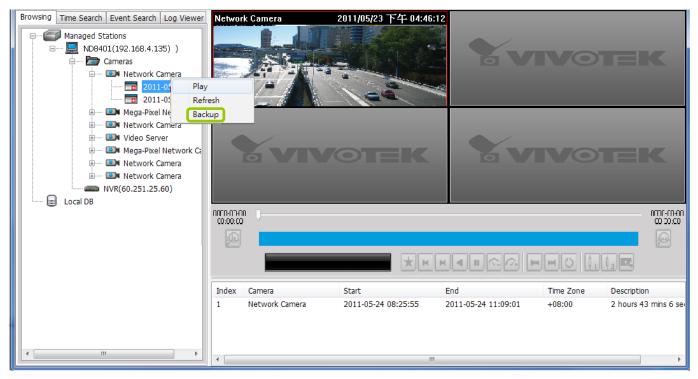
In addition to the Schedule Backup function of VAST LiveClient introduced on page 61, the VAST Playback also features to backup recorded video clips from the **local database**. Please open the **Browsing** page and follow the steps below to backup recorded video:

a. Select the target files.

• <u>To backup all recorded video of a selected device</u>: **Right-click** the device and click **Backup**.



To backup all recorded video of the day: Right-click the option "date" and click Backup (or select the date and click the Backup button below).



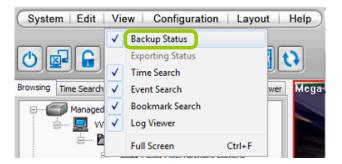
To backup part of the recorded video of the day: Select the date and choose the video clip(s) from video clip window. Then right-click the selected option(s) and click Backup. Note: Use the combination of the Shift key and left mouse click to select multiple video clips.

💈 Playback		
System Edit View Configuration Lay	s	User Name: STAdmin tation Name: VVTK. Station1 Login Time: 2009-11-27 10:09:00 urrent Time: 2009-11-27 13:39:23
Browshing Time Search Event Search Log Viewer Worksged Stations VTR_Station1(127.00.1) Worksged Stations VTR_Station1(127.00.1) Worksged Stations VTR_Station1(127.00.1) Worksged Stations VTR_Station1(127.00.1) Worksged Stations VTR_Station1(127.00.1) Worksged Stations VTR_Station1(127.00.1) VTR_Station1(VIVOTEK	VIVOTEK
	VIVOTEK	VIVOTEK
	2000.00 20 000.	MANNA MARKANANA MARKANANA MARKANANANA MARKANANA MARKAN
	Index Camera Start End 1 1_P27131 2009-11-25 12:54:54 Eackap 2 1_P27131 2009-11-26 13:42:34 Eackap 3 1_P27131 2009-11-25 15:52:50 Move Main	Time Zone Description 2:19 +08:00 47 mins 25 secs 2:35 +08:00 2 hours 10 mins 1 sec secards 5:39 +08:00 1 hour 12 mins 49 secs
	($\sqrt{h_{\eta}}$

b. A **Backup Settings** window will pop up. Specify the time span and select a storage path, then click **Backup**. The system will start to backup and popup a window showing the backup status.

Backup Settings	Backup Status		
Start Time: 1/16/2013 ▼ 00:00:00 ▲ End Time: 1/16/2013 ▼ 23:59:59 ▲ Save to:	Mega-Pixel Network Camera 2013-01-16 00:00:00 ~ 2013-01-16 23:59:59 Backup Mega-Pixel Network Camera has completed. Close		
E:\Recording\2013-01-16\3			
Backup Cancel			

If you close the status window, you can also open it again by clicking **View > Backup Status**.



d. When the backup is complete, you will see an information dialog. The recorded data will be restored in the specific folder.

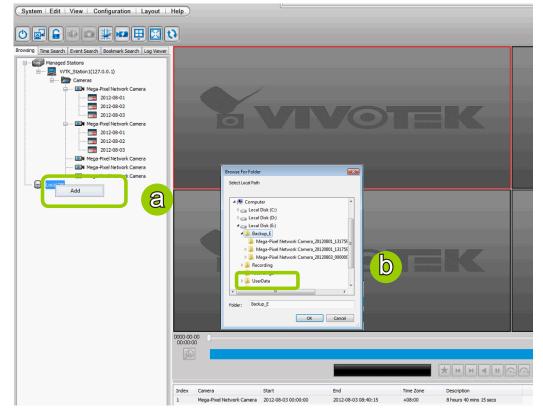
How to View Backup Files

The VAST Playback also allows users to playback backup files, including **Schedule Backup** by VAST LiveClient and **Recorded Data Backup** by VAST Playback.

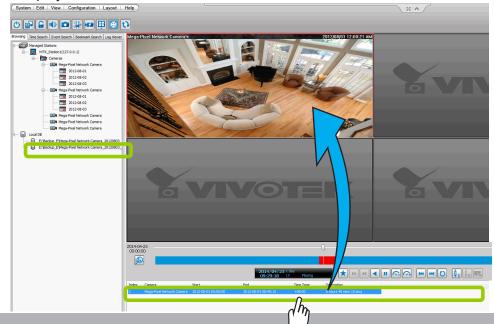
Please follow the steps below to view backup files:

a. Right-click Local DB and click Add.

b. A Load Backup File window will pop up as shown below. Select the *.dif file to upload.



c. The following is an example of uploaded file, and you can **double-click** it or **drag-and-drop** it to a video cell to playback.

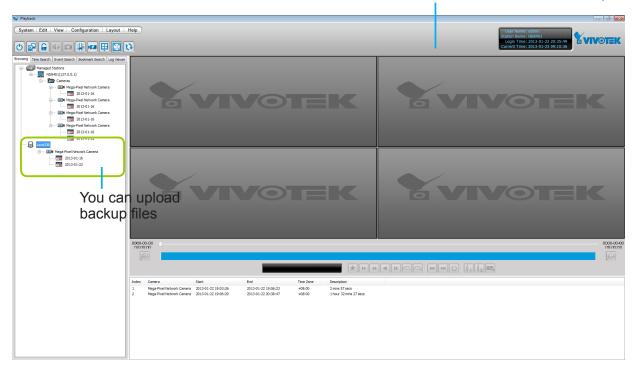


روي
E.

If you want to playback the backup files from the local database, you can also click **Working Offline** in the Login Window without the account information. The VAST Playback will launch as shown below.

🛿 VAST Playback			
	☑ Log in local station		
	Address:	127.0.0.1	
	Authentication:	Basic Account	
	User Name:	1	
	Password:		
	Port:	3454 💌 🔲 Use SSL	
	Proxy Settings	Working Offline	
	Log in	<u>C</u> ancel <u>H</u> ide <<	

No user account information required

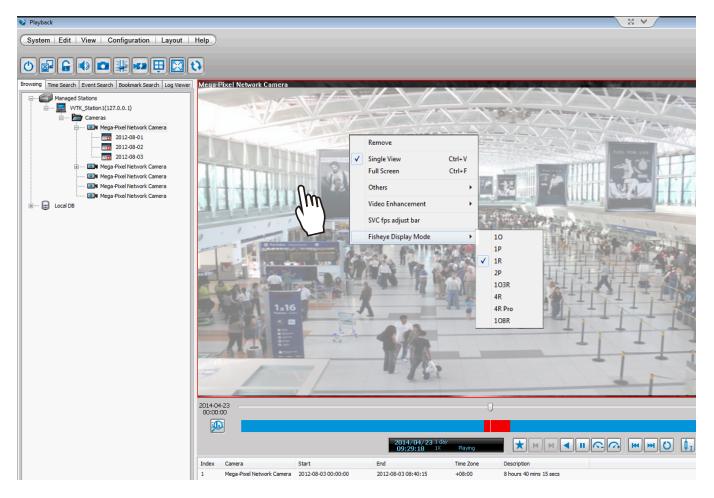


Model-specific Functions (FE Series Fisheye)

The VAST Playback program offers model-specific functions through a right-click menu. For example, if you playback a video clip made from an FE8171V fisheye camera, a right-click on the playback screen will bring up the Display mode options. You can even exert mouse control while playing a recorded video. You can zoom in, zoom out, and change the view angle as if you are investigating a 3D scenario kept in a recorded point in time.

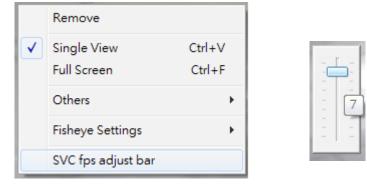
Note that ePTZ functions via the mouse control only takes place in a Regional view, e.g., the 1R or 1O3R mode.

The **Display mode** options and **mouse control** methodologies are identical to those described on page 74 and the following pages.



To configure the SVC-related feature:

1. Right-click on the playback window of an SVC-enabled camera. Select SVC fps adjust bar.



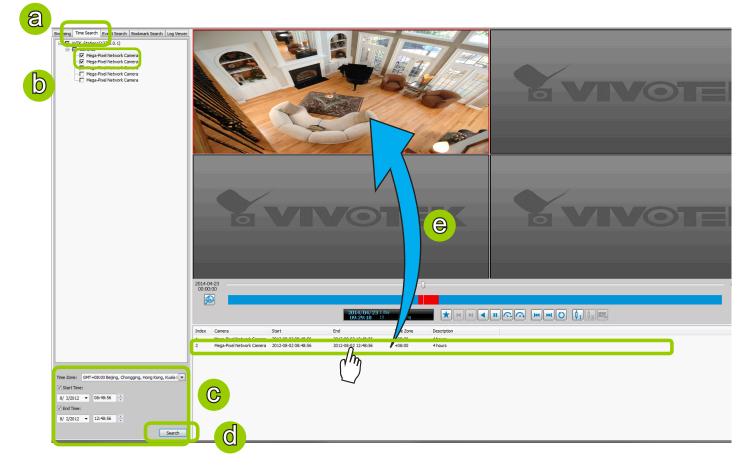
2. A slide bar will appear above the view cell. Click and drag the slide bar. A numeric indicator will display the current selection. See below for the frame rates represented by the numeric indicator. Please refer to page 52 for the introduction of this feature. Changing the SVC vaule takes immediate effect on the number of frames per second shown with the video being played.

Indicator	Frame rate per second (fps)
Maximum	30
7	26
6	22
5	18
4	12
3	8
2	4
1	1
Minimum	1/4

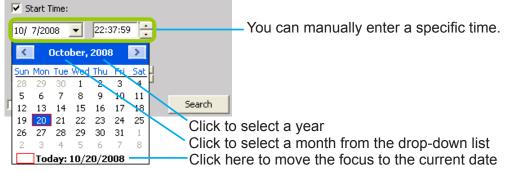
How to Search for a Video Clip in a Specific Period of time

Please follow the steps below to use **Time Search** function:

a. Open the Time Search page.



- b. Select the target station(s)/device(s) that you want to search for video clips.
- c. Specify the time span. You can choose to set up the start time only, the end time only, or both the start time and end time. The search results will only include the video clips within the time span. If you uncheck both the start time and end time, the search results will include all video clips recorded by the selected device(s).



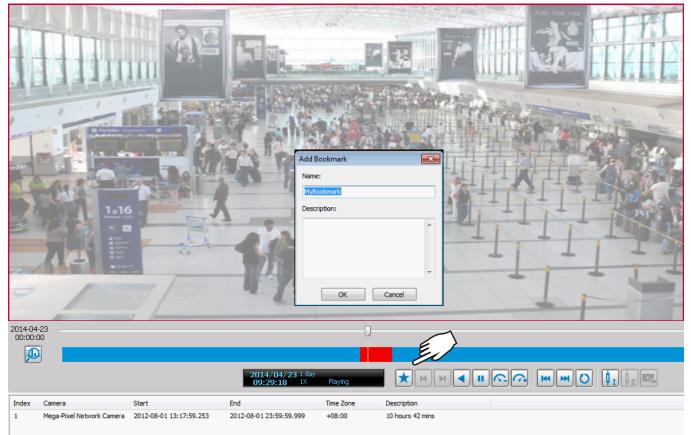
- d. Click Search to start time search.
- e. View the retrieved video clips.

How to Add a Bookmark

Bookmark is a convenient tagging function that allow your to pinpoint and extract a 20-second video clip from out of a video recording. When you see somehting of your interest while browsing through a recorded video

- 1. Click on the 🔀 Bookmark button,
- 2. Enter a name for the bookmark, such as "thief spotted."
- 3. You may enter a short description in the Description field. You may also search for the bookmarks you created later on.

A bookmark comprises a video clip starting from 10 seconds of before and ends at 10 seconds after the point in time you selected.



Please refer to page 231 for how to search for bookmarks.

How to Search for Events

The VAST Playback program offers users an intuitive event search engine for retrieving video clips from the database of recorded videos based on different search criteria such as motion, IVA, or DI events.

Please follow the steps below to search for recorded events:

a. Open the **Event Search** page.



- b. Select the target station(s)/device(s) that you want to search for events.
- c. Specify the **Event Category**. For detailed information, please refer to **Select Event Category** on the following page.
- d. Specify the time span for event search. You can choose to set up the start time only, the end time only, or both the start time and end time. The search results will only include the events within the time span. If you uncheck both the start time and end time, the search results will include all events from the selected device(s). Please refer to step c. on the previous page for detailed information.
- e. Start event search. Please refer to page 260 for detailed information.
- f. View the retrieved video clips. **Double-click** on it or **drag-and-drop** it to the video cell. It will playback in repeat mode.

Note: The length of each video clip will depend on your settings of pre-event time & post-event time for the recording storage. The default setting is **20 seconds**. For more infromation, please refer to page 137 for detailed information.

Select Event Category

The following introduces the event search categories: All Events, All Motion Events, All IVA events, All DI Events, Named DI Events, PIR, Tampering, Tamperature, Video Loss/ Restore, IR Trigger/Normal, and P-PTZ. You can also add or remove customized events from the list.

Event Category- All Events

If you select the **All Events** category, all of the events including motion detection, digital input, and intelligent video analysis, PIR, tamper detection, and tamperature alarm will be listed in the search results. You can click **Add** or **Remove** to change the search criteria options.

Search Categories:	All Events	~	
Motion - Window 1 Motion - Window 2 Motion - Window 3 IVA - Moving Object IVA - Loitering Dete IVA - Camera Tampr IVA - Others	All IVA Events All DI Events Named DI Events ction		
Add Re	move		

Event Category- All Motion Events

If you select the **All Motion Events** category, all detected motion events will be included in the search. You can click **Add** or **Remove** to change the search criteria options.

Motion - Window 1 Motion - Window 2 Motion - Window 3 Search Criteria Window1 Window2 Window3 Window4 Window5 OK Cancel	Search Categories: All Motion Events 💌	Customized Events
OK Cancel	Motion - Window 2	
		Window1 Window2 Window3 Window4 Window5
		OK Cancel

The parameters of the motion detection windows, such as motion percentage and the time of occurrence are also recorded in the database of the server. If you wish to change the parameters of the motion detection windows such as the position, size, detection sensibility, and motion percentage, please link to the camera's Configuration page to modify the values.



Enable motion detection

Event Category- All IVA events

If you select the All IVA events category, all detected IVA events will be included in the search. Cameras with embedded intelligent video content analysis are capable of detecting IVA events such as moving objects, loitering, and tamper detection.

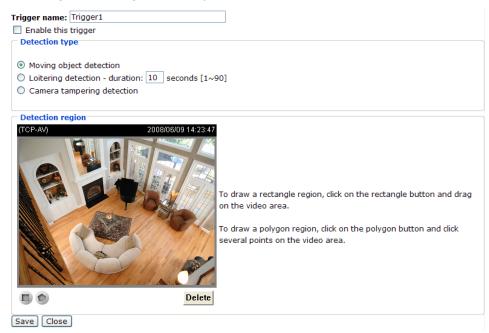
The embedded video content analysis, superior to the conventional motion detection function, is capable of distinguishing between creature's motions, static backgrounds or natural movements such as swaying trees, waves or sunsets to prevent false alarms from environmental noises.

With camera tamper detection, it can detect incidents such as camera redirection, blocking or defocusing of cameras, or even spray-paint. Additionally, a suspicious object in the pre-defined detection region will trigger alarms once the dwell time of the object is longer than the given time.

You can click Add or Remove to change the search criteria items.

Search Categories: All IVA Events 🖌 🗸	Customized Events
IVA - Moving Object IVA - Loitering Detection IVA - Camera Tampering IVA - Others	Event Type: All IVA Events
17A - OUIBS	Moving Object Loitering Tampering Others
Add Remove	OKCancel

If you want to change the parameters of IVA, such as the detection region, loitering duration, etc, please link to the camera's Configuration page to modify the values.



Event Category- All DI Events

If you select **All DI Events** category, all triggered DI signals will be included in the search. The DI events signify that there is a Digital-Input signal detected by the camera; its corresponding information such as DI-Trigger or DI-Normal signal and the time of occurrence are also transmitted and recorded in the database of the server.

You can click Add or Remove to change the search criteria options.

•	Search Categories: 🛛 All DI Events 🛛 👻	Customized Event
	DI - Trigger DI - Normal	Event Type: All
		Search Criteri
	Add Remove	ОК

DI Events 📃 Normal Cancel

For more information about DI/DO settings on the connected devices, please refer to page 109 for detailed illustration.

Event Category- Named DI Events

This category allows you to select only **Named DI Events**--the DI device which you have renamed in the LiveClient. Please refer to Association Management on page 109 for more information about how to rename DI device.

Click **OK** and fill in the name you want to search on the left window.

Search Categories: Named DI Events 👻	Customized Events
	Event Type: All DI Events 🔹
	Search Criteria
	🗖 Trigger 📃 Normal
	OK Cancel
Add Remove	

The new search criteria will be displayed in the search categories column as shown below. You can click **Add** or **Remove** to change the search criteria options.

Search Categories:	Named DI Events 💌
Entrance (DI - Trigg	ger)
Add Re	emove

Start Event Search

After you specify all of the search criteria mentioned above, check/uncheck **Display in new result list** and click **Search** to begin event search.

If Display in new result list is unchecked, all search results will be displayed on the original event list window as shown below.

Search Categories: All Motion Events Motion - Window 1 Motion - Window 2 Motion - Window 3			DTEK	0	VIVOI	TEK
Add Remove	0000000	j -			7 m m O (1)	
Start Time:	Index	Camera	Time	Time Zone	Туре	Description
2009/11/30 🕑 09:26:43 🛟	1	Mega-Pixel Network Ca	2014-09-25 14:01:20	+08:00	Motion - Window 1	19%
	2	Mega-Pixel Network Ca	2014-09-25 14:02:39	+08:00	Motion - Window 1	43%
	3	Mega-Pixel Network Ca	2014-09-25 14:15:03	+08:00	Motion - Window 1	38%
2009/11/30 💉 10:26:43 🗘	4	Mega-Pixel Network Ca	2014-09-25 14:17:37	+08:00	Motion - Window 1	37%
	5	Mega-Pixel Network Ca	2014-09-25 14:18:03	+08:00	Motion - Window 1	35%
Display in New Result List Search	1	Mega-Pixel Network Ca		+08:00	Motion - Window 1	28%
		Mega-Pixel Network Ca	2014-09-25 14:18:32	+08:00	Motion - Window 1	39%
Unchecked						Only one page

- In the above picture, The Type field in the search result page shows the event category, and the Description field displays the motion percentage of the detection window. Please refer to page 257 for more information about Motion Events.
- If you select **Display in new result list** and click **Search**, the search results will be displayed on a new page as shown below. This allows you to place the search results of each search category on an individual page. You can set up to 5 pages in the event list window.

Search Categories: All Events			NOTE	K		NOTE	K
	0:00:00:00						0000-00-0C (C 00 00
Add Remove	P						
Time Zone: GMT+08:00 Beijing, Chongging, Ho 🗸				* N N			
✓ Start Time:							
2009/11/30 🔻 09:26:43 🛟	Index	Camera	Time	Time Zi		Description	<u>^</u>
2009/11/30 💟 09:26:43 🗘	1	3_FD8161	2009-11-30 09:44:54	+08:00	PIR	Trigger	
End Time:	2	3_FD8161 3 FD8161	2009-11-30 09:44:54 2009-11-30 09:44:55	+08:00 +08:00	PIR PIR	Trigger Trigger	
2000/14/00 10/00/40	4	3_FD8161	2009-11-30 09:44:55	+08:00	PIR	Trigger	
2009/11/30 💟 10:26:43 🗘	5	3_FD8161	2009-11-30 09:44:56	+08:00	PIR	Trigger	
	6	3_FD8161	2009-11-30 09:44:56	+08:00	PIR	Trigger	~
☑ Display in New Result List Search						Page 2	Page 1

Checked

You can set up to 5 pages.



The P-PTZ event type refers to those triggered by the Auto Tracking actions.

Backup the Event Videos

Please follow the steps below to backup the evnet videos on the results list:

a. Select the video clips you want to backup. You can select more than one video clip.

b. Right-click the selected video clips and click Backup.

Index	Camera Time		Time Zone	Туре	Description	^
1	3_FD8161 2009-	-11-30 09:44:54	+08:00	PIR	Trigger	
2	3_FD8161 2009-	-11-30 09:44:54	+08:00	PIR	Trigger	
3	3_F <u>D8161 2009</u>	<u>11-</u> 30 09:44:55	+08:00	PIR	Trigger	
4	3 FI Clear All Results	BO 0) M (55	+08:00	PIR	Trigger	
5	Backup	30 OS (56	+08:00	PIR	Trigger	
6	3		+08:00	PIR	Trigger	~
	Show <u>M</u> illiseconds				Page 2 Page	91

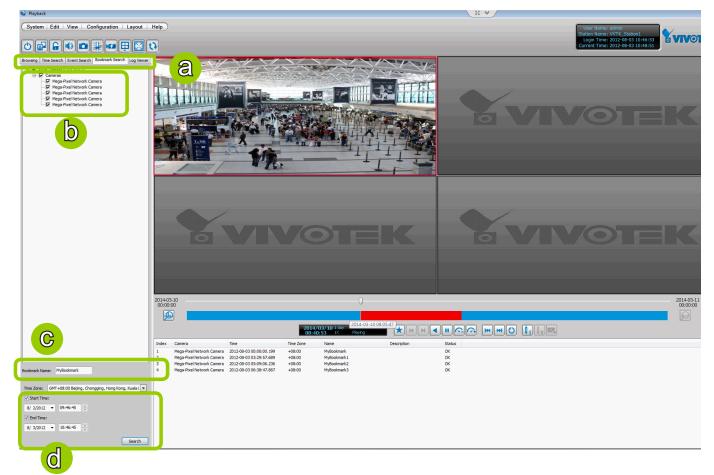
c. A **Backup Settings** window will pop up. For more information about how to set up the Backup Settings, please refer to page 248. For more information about how to view backup files, please refer to page 250 for detailed illustration.

How to Search for a Bookmark

Please follow the steps below to use **Bookmark Search** function:

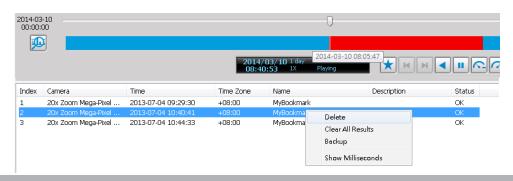
a. Click on the tabbed menu to open the Bookmark Search page.

b. Select the cameras which have video clips you have placed bookmarks on.



- c. Enter the name of bookmark.
- d. Specify a range of time during which the video streams were recorded and its points in time were bookmarked.
- Click **search**. You can then click on a bookmark to display the short video clip extracted from within the recorded video.

To remove an existing bookmark, left-click to select an entry, and then right-click to display the Delete button. Bookmarks will be indicated as "Invalid" if the videos where the bookmarks were appended were erased, e.g., when the original recording was erased by cyclic recording.



How to Search Logs

The VAST Playback program offers a convenient log engine for searching all local logs based on different search criteria such as log category, log type, and log level. The search results will be displayed in the log viewer window along with the detailed log history.

Please follow the steps below to search logs:

- a. Open the Log Viewer page.
- b. Select the target station where you want to search logs.
- c. Specify the Log Category. For detailed information, please refer to Select Log Category on page 264.
- d. Specify the **User Account**. If you have added other user accounts to the station, you can select one to search its login history. For detailed information about user account, please refer to **How to Manage User Accounts** on page 100.
- e. Specify the **Search Result**. Select **All** to display all search results; select **Success** to display successful log activities only; select **Fail** to display failed log activities only.
- f. Specify the Log Type. For detailed information, please refer to Select Log Type on page 264.
- g. Specify the Log Level. For detailed information, please refer to Select Log Level on page 264.
- h. Specify the search time span. You can check the start time only, the end time only, or both the start time and end time. The search will only include the events within the time span. If you uncheck both the start time and end time, the search will include all events saved by the server. Please refer to page 254 for detailed information.
- i. Start the log search and the results will be displayed on the log list window.

owsing Time Search	Event Search Log Viewer	Index	Time	Time Zone	Category	Level	Type	Result	User	Target	Description
(1	2010-01-18 10:56:05	+08:00	System Log	High	Server Start	Success		Local	Service Name=VAST Recording
VVTK_Sta	tion1(192.168.5.122)	2	2010-01-18 10:56:05	+08:00	System Log	High	Server Start	Success		Local	Service Name=VAST Query Ser.
		3	2010-01-18 10:56:16	+08:00	System Log	High	Server Start	Success		Local	Service Name=VAST Backup Se.
0		4	2010-01-18 10:56:18	+08:00	System Log	High	Server Start	Success		Local	Service Name=VAST Event Ser
		5	2010-01-18 10:56:21	+08:00	System Log	High	Server Start	Success		Local	Service Name=VAST Configurati
		6	2010-01-18 11:26:30	+08:00	Operation Log	Normal	Login	Success	STAdmin	Local	(LiveClient) User Account=STA
		7	2010-01-18 13:11:22	+08:00	Operation Log	Normal	Login	Success	STAdmin	Local	(Playback) User Account=STAd
		8	2010-01-18 16:14:24	+08:00	Event Log	High	Camera Connected to	Success		Local	Target Camera Name=1_IP8330
		9	2010-01-18 16:14:25	+08:00	Operation Log	Normal	Insert Camera	Success	STAdmin	Local	New Camera Name=1_IP8330,
		10	2010-01-18 16:14:25	+08:00	Event Log	High	Camera Recording Stop	Success		Local	Target Camera Name=1_IP8330
		11	2010-01-18 16:14:27	+08:00	Event Log	High	Camera Recording Start	Success		Local	Target Camera Name=1_IP833
		12	2010-01-18 19:58:22	+08:00	Operation Log	Normal	Logout	Success	STAdmin	Local	(Playback) User Account=STAd
		13	2010-01-18 19:58:41	+08:00	Operation Log	Normal	Update Layout	Success	STAdmin	Local	Target LMS Name=Default Map,
		14	2010-01-18 19:58:41	+08:00	Operation Log	Normal	Logout	Success	STAdmin	Local	(LiveClient) User Account=STA
		15	2010-01-18 19:59:12	+08:00	Operation Log	Normal	Login	Success	STAdmin	Local	(LiveClient) User Account=STA
		16	2010-01-18 20:07:24	+08:00	Operation Log	Normal	Logout	Success	STAdmin	Local	(LiveClient) User Account=STA
		17	2010-01-19 09:33:42	+08:00	System Log	High	Server Start	Success		Local	Service Name=VAST Query Ser
		18	2010-01-19 09:33:43	+08:00	System Log	High	Server Start	Success		Local	Service Name=VAST Recording
		19	2010-01-19 09:33:44	+08:00	System Log	High	Server Start	Success		Local	Service Name=VAST Backup Se
		20	2010-2010-09:33:44	+08:00	System Log	High	Server Start	Success		Local	Service Name=VAST Event Ser
		21	201 33:46	+08:00	System Log	High	Server Start	Success		Local	Service Name=VAST Configurati
		22	20. C 33:46 33:46	+08:00	Event Log	High	Camera Connected to	Success		Local	Target Camera Name=1 IP8330
gory:	All Local Logs	23	20. 🕑 33:4 🛛	08:00	Event Log	High	Camera Recording Start	Success		Local	Target Camera Name=1 IP833
		24	2010 .9:56	18:00	Operation Log	Normal	Login	Success	STAdmin	Local	(LiveClient) User Account=STA
		25	2010-01-19 13:53	8:02	Operation Log	Normal	Logout	Success	STAdmin	Local	(LiveClient) User Account=STA
		26	2010-01-19 15:11:1		Operation Log	Normal	Login	Success	STAdmin	Local	(LiveClient) User Account=STA
lt:	Al	27	2010-01-19 15:27:57		On Con Log	Normal	Insert User	Success	STAdmin	Local	New User Name=User1, New R
ic.	A	28	2010-01-19 17:12:12	+08:1	6	Normal	Login	Success	STAdmin	Local	(Playback) User Account=STAd
Туре:	Al	29	2010-01-19 18:35:12	+08:00		Normal	Logout	Success	STAdmin	Local	(Playback) User Account=STAd
rype:	All	- 20	2010 01 10 10:35:15	100:00		al	Logout	Success	STAdmin	Local	(LiveClient) User Account=STA
		31	2010-01-20 09:28:08	+08:00	5, 29 /	a	Server Start	Success		Local	Service Name=VAST Ouerv Ser
.evel:	All	34	2010-01-20 09:20:10	+00:00	System Lou	രി	Server Start	Success		Local	Service Name=VAST Event Ser
		33	2010-01-20 09:28:10	+08:00	System Loa	SI	Server Start	Success		Local	Service Name=VAST Backup Se
		34	2010-01-20 09:28:10	+08:00	System Loa	- sun	Server Start	Success		Local	Service Name=VAST Recording
		35	2010-01-20 09:28:12	+08:00	System Loa	High	Server Start	Success		Local	Service Name=VAST Configurati
		36	2010-01-20 09:28:13	+08:00	Event Log	High	Camera Connected to	Success		Local	Target Camera Name=1 IP8330
e Zone: GMT+08	3:00 Beijing, Chongging, Hong Kong, Kuala Lumpur, 💌	37	2010-01-20 09:28:14	+08:00	Event Log	High	Camera Recording Start	Success		Local	Target Camera Name=1 IP833
tart Time:		38	2010-01-20 17:31:59	+08:00	Event Log	High	Camera Recording Stop	Success		Local	Target Camera Name=1 IP8330
tart Time:		39	2010-01-20 17:33:19	+08:00	Event Log	High	Camera Disconnected f	Success		Local	Target Camera Name=1 IP8330
.0/ 1/ 2 🔽 08:	31:21	40	2010-01-20 17:38:20	+08:00	Event Log	High	Camera Recording Start	Success		Local	Target Camera Name=1 IP833
.0/ 1/ 2 💌 00.		41	2010-01-20 17:38:26	+08:00	Event Log	High	Camera Connected to	Success		Local	Target Camera Name=1 IP8330
nd Time:		42	2010-01-22 14:16:39	+08:00	Operation Log	Normal	Login	Success	STAdmin	Local	(LiveClient) User Account=STA
no mno.		43	2010-01-22 14:20:21	+08:00	Operation Log	Normal	Logout	Success	STAdmin	Local	(LiveClient) User Account=STA
10/2/2 🔽 09:	31:21	44	2010-01-22 14:41:13	+08:00	Operation Log		Login	Success	STAdmin	Local	(LiveClient) User Account=STA
, -,		45	2010-01-22 18:28:13	+08:00	Operation Log	Normal		Success	STAdmin	Local	(LiveClient) User Account=STA
	Search	Clear A	All Results Trace Login Ad	tivities Export	All Logs						Local Logs Login History Login Ac

Select Log Category/Log Type/Log Level

The following table shows the breakdown of log category, level, and type. The search results will be different according to your selections.

Log Categories	Log Levels	Log Types
Operation Log	Normal	Login / Logout Insert User Update User Name Update User Password Update User Password Update User Privilege Delete User Insert Station Update Station Information Update Station Information Delete Station Insert Camera Update Camera Information Delete Camera Set Recording Group Insert Recording Schedule / Update Recording Schedule / Delete Recording Schedule Insert Event Management / Update Event Management / Delete Event Management Insert Recording Group / Update Recording Group / Delete Recording Group Insert Recording Group / Update Recording Group / Delete Recording Group Insert Recording Path / Update Recording Group / Delete Recording Group Update Camera to the Recording Group / Delete Recording Path Insert Camera to the Recording Group Delete Camera information in the Recording Group Delete Camera information in the Recording Group Move Recording Path Move Camera to another Recording Group Insert Layout / Update Layout / Delete Layout Set Digital Output Update Scheduled Backup Update Scheduled Scheduled Scheduled Scheduled Scheduled Scheduled Scheduled Scheduled S
	High	Manually Begin Recording Manually Stop Recording
	Low	Camera PTZ, Iris, Focus, Pan, Patrol Control Click on Image Select Preset Location
System Log	High	Server Start / Server Stop Trial Expired Key Dongle Lost Virtual Memory Low Network Lost / Storage lost

Log Categories	Log Levels	Log Types
Event Log	High	Camera Disconnected from the Server / Camera Connected to the Server Parent Station Connection Lost / Parent Station Connection Restore Sub-station Disconnected / Sub-station Connected Camera Recording Start / Camera Recording Stop Start Scheduled Backup / Stop Scheduled Backup Event Trigger

Search All Local Logs

			Log Cate	gory						
				Log Lo	evel					
					Log Type					
Index	Time	Time Zone	Category	Level	Туре	Result	User	Target	Description	~
1	2009-12-09 09:50:54	+08:00	System Log	High	Server Stop	Success		Local	Service Name=VAST Backup	
2	2009-12-09 09:50:54	+08:00	System Log	High	Server Stop	Success		Local	Service Name=VAST Event S	
3	2009-12-09 09:50:55	+08:00	System Log	High	Server Stop	Success		Local	Service Name=VAST Query S	
4	2009-12-09 09:50:55	+08:00	System Log	High	Server Stop	Success		Local	Service Name=VAST Recordi	
5	2009-12-09 09:50:55	+08:00	System Log	High	Server Stop	Success		Local	Service Name=VAST Configur	. =
6	2009-12-09 09:50:56	+08:00	Event Log	High	Camera Disconnecte	Success		Local	Target Camera Name=1_PZ7	,
7	2009-12-09 09:50:56	+08:00	Event Log	High	Camera Disconnecte	Success		Local	Target Camera Name=2_IP8	
8	2009-12-09 09:51:42	+08:00	System Log	High	Server Start	Success		Local	Service Name=VAST Recordi	
9	2009-12-09 09:51:44	+08:00	System Log	High	Server Start	Success		Local	Service Name=VAST Query S	
10	2009-12-09 09:51:47	+08:00	System Log	High	Server Start	Success		Local	Service Name=VAST Event S	. —
11	2009-12-09 09:51:48	+08:00	System Log	High	Server Start	Success		Local	Service Name=VAST Backup	
12	2009-12-09 09:51:50	+08:00	System Log	High	Server Start	Success		Local	Service Name=VAST Configur	
13	2009-12-09 09:51:51	+08:00	Event Log	High	Camera Connected t	Success		Local	Target Camera Name=2_IP8	
14	2009-12-09 09:51:51	+08:00	Event Log	High	Camera Connected t	Success		Local	Target Camera Name=1_PZ7	
15	2009-12-09 09:51:52	+08:00	Event Log	High	Camera Recording Stop	Success		Local	Target Camera Name=3_FD8	~
Clear A	I Results Trace Login	Activities	Export All Logs					Local Lo	ogs Login History Login Activi	ities

Click to export all search results from the list Click to remove all search results from the list

Search Login History

Select **Login History** from the log category field and click the **Search** button below, the search results, including all login logs, will be displayed on the Login History page.

Browsing Time Sean	ch Event Search Log Viewer	Index	User	Login Time	Login Result	Logout Time	Logout Result	Time Zone	Description
- 👤 wtk_s	tation1(192.168.5.122)	1 2 3 4	STAdmin STAdmin STAdmin STAdmin	2010-02-01 09:41:38 2010-02-01 11:05:53 2010-02-01 11:48:55 2010-02-02 09:31:04	Success Success Success Success	2010-02-01 11:48:52 2010-02-01 20:16:21 2010-02-01 20:16:15	Success Success Success	+08:00 +08:00 +08:00 +08:00 +08:00	Playback LiveClent Playback LiveClent
Category:	Login History 💌								
User:									
Result:	All								
Log Type:	All								
Log Level:	All								
Time Zone: GMT+	-08:00 Beijing, Chongging, Hong Kong, 🔽								
Start Time:									
2010/ 2/ 1 💌 0	8:31:21 😂								
End Time:									
2010/ 2/ 2 💌 0	19:31:21 😂								
	Search	Clear /	All Results	Trace Login Activities Ex	oort All Logs			Local Lo	ogs Login History Login Activities

Search Login Activities

This function allows you to search the operations the user performed during the login period of time. You can search for login activities on the Local Logs or Login History page.

- Search Login Activities on the Local Logs page:
 - a. Click on the Local Logs page.
 - b. Select a login/logout option from the list.
 - c. Click **Trace Login Activities** (or you can **right-click** the selected login/logout option on the list, then click **Trace Login Activities**).

Index	Time	Time Zone	Category	Level	Туре	Result	User	Target	Description
1	2010-01-18 10:56:05	+08:00	System Log	High	Server Start	Success		Local	Service Name=VAST Recording
2	2010-01-18 10:56:05	+08:00	System Log	High 🗖	Cerver Start	Success		Local	Service Name=VAST Query Ser
3	2010-01-18 10:56:16	+08:00	System Log	High	Ver Start ver Start	Success		Local	Service Name=VAST Backup Se
4	2010-01-18 10:56:18	+08:00	System Log	High L	ver Start	Success		Local	Service Name=VAST Event Ser
5	2010-01-18 10:56:21	+08:00	System Log	High		Success		Local	Service Name=VAST Configurati
6	2010-01-18 11:26:30	+08:00	Operation Log	Normal	Login	<u>Suc</u> cess	STAdmin	Local	(LiveClient) User Account=STA
7	2010-01-18 13:11:22	+08:00	Operation Log	_ N ∩ mal`	LOGIN Clear All Results	tess	STAdmin	Local	(Playback) User Account=STAd
8	2010-01-18 16:14:24	+08:00	Event Log	1h	Carne Trace Login Activ	ities		Local	Target Camera Name=1_IP8330
9	2010-01-18 16:14:25	+08:00	Operation Log	(<i>I''</i>)	Inser		STAdmin	Local	New Camera Name=1_IP8330,
10	2010-01-18 16:14:25	+08:00	Event Log	I J	Carrie Show Millisecond:			Local	Target Camera Name=1_IP8330
11	2010-01-18 16:14:27	+08:00	Event Log	\checkmark	Caméra Necoruing Start	ouccess		Local	Target Camera Name=1_IP833
12	2010-01-18 19:58:22	+08:00	Operation Log	Normal	Logout	Success	STAdmin	Local	(Playback) User Account=STAd
13	2010-01-18 19:58:41	+08:00	Operation Log	Normal	Update Layout	Success	STAdmin	Local	Target LMS Name=Default Map,
14	2010-01-18 19:58:41	+08:00	Operation Log	Normal	Logout	Success	STAdmin	Local	(LiveClient) User Account=STA
15	2010-01-18 19:59:12 📈	+08:00	Operation Log	Normal	Login	Success	STAdmin	Local	(LiveClient) User Account=STA
16		ວ 08:00	Operation Log	Normal	Logout	Success	STAdmin	Local	(LiveClient) User Account=STA
17	2010-01-19 09:33:42	<mark>ク</mark> 08:00	System Log	High	Server Start	Success			Service Name=VAST Query Ser
Clear /	Il Results Trace Login A	Activities Expo	t All Logs					a	Local Logs Login History Login Activitie

d. The search results of the login activities will be displayed on the Login Activities page as shown below.

1 2010-01-18 11:26:30 +08:00 Operation Log Normal Login Success STAdmin Local (LiveClient) User Account=STA 2 2010-01-18 16:14:25 +08:00 Operation Log Normal Insert Camera Success STAdmin Local New Camera Name = 1_1P8330, 2 2010-01-18 16:12:52 +08:00 Operation Log Normal Insert Camera Success STAdmin Local New Camera Name = 1_1P8330,	Index	Time	Time Zone	Category	Level	Туре	Result	User	Target	Description
	1						Success			(LiveClient) User Account=STA
2 2010 01 10 10 F0.41 200.00 Occurrent Leaders Level Medical Level Charles Contract Mc News Definite Meri	2	2010-01-18 16:14:25	+08:00	Operation Log	Normal	Insert Camera	Success	STAdmin	Local	New Camera Name=1_IP8330,
3 2010-01-18 19:58:41 +08:00 Operation Log Normal Opdate Layout Success STAdmin Local Target LMS Name=Default Map,	3	2010-01-18 19:58:41	+08:00	Operation Log	Normal	Update Layout	Success	STAdmin	Local	Target LMS Name=Default Map,
4 2010-01-18 19:58:41 +08:00 Operation Log Normal Logout Success STAdmin Local (LiveClient) User Account=STA	4	2010-01-18 19:58:41	+08:00	Operation Log	Normal	Logout	Success	STAdmin	Local	(LiveClient) User Account=STA

Clear All Results Trace Login Activities Export All Logs Login Histor	ry Login Activities
Search Login Activities on the Login History page:	
Search Login Activities on the Login Fisioly page.	

- a. Click on the **Login History** page.
- b. Select a login/logout option from the list.
- c. Click **Trace Login Activities** (or you can **right-click** the selected login/logout item on the list and click **Trace Login Activities**).

Index	User	Login Time		Logout Time	Logout Result	Time Zone	Description	
1	STAdmin	2010-02-01 09:41:38	Success	2010-02-01 11:48:52	Success	+08:00	Playback	
2 3 4	STAdmin STAdmin STAdmin	2010-02-01 11:05:53 2010-02-01 11:48:55 2010-02-02 09:31:04		All Results Login Activities Milliseconds	Success Success	+08:00 +08:00 +08:00	LiveClient Playback LiveClient	
Clear /		Trace Login Activities	Export All Logs				Local Logs L	agin History Lagin Activities

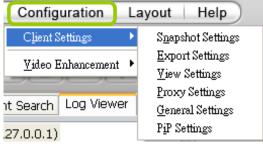
d. The search results of the login activities will be displayed on the Login Activities page as shown below.

			-		-			-		-
Index	Time	Time Zone	Category	Level	Туре		Result	User	Target	Description
1	2010-02-01 11:05:53	+08:00	Operation Log	Normal	Login		Success	STAdmin	Local	(LiveClient) User Account=STA
2	2010-02-01 20:16:21	+08:00	Operation Log	Normal	Logout		Success	STAdmin	Local	(LiveClient) User Account=STA
Clear A	Il Results Trace Login Ad	tivities Export	t All Logs						Local L	ogs Login History Login Activities
~										
	l									
When	n vou select All	in the Loa	Level field	l. the	search r	esults w	ill inclua	le all log	levels. I	f vou select Low in the
		-						-		f you select Low in the
Log	Level field and s	select Inclu	uding abov	re lev	el as sl	nown in	the pictu	ure on th	e left be	f you select Low in the low, the search results cluding above level as

shown in the	oicture on the	right below, the search resu	Its will only include	Normal-level	and High-level logs.
Log Level:	All	~	Log Level:	Low	~
		Including above level			🗹 Including above level

How to Configure Client Settings

On Client Settings, you can configure Snapshot Settings, Export Settings, View Settings, Proxy Settings, and General Settings. It allows you to save snapshots and media files on the local computer.



Snapshot Settings

When you play a recorded video, VAST Playback also allows you to take snapshots. For detailed information about **Snapshot Settings**, please refer to page 179.

Export Settings

When you playback a recorded video, the VAST server allows you to export part of the recorded video in EXE, 3GP, or AVI format to your local computer. Before exporting a media file, please set up Export Settings first. For detailed information about how to set up EXE, 3GP, and AVI **Export Settings**, please refer to Record Settings on page 181.

The default exporting path is: C:\ProgramData\VIVOTEK Inc\VAST\Client\PlayBack\Export

Limitations

- 1. The size of exported footage depends on the file size limitation. When the limitation is reached, files will be concluded regardless of the length of your selection.
- 2. The Export button will not be available when there is another exporting task.
- 3. If the time settings on camera and VAST server are inconsistent, the export task will generate files of unexpected length.
- 4. The minimum export length is 1 minute. The maximum is 150 minutes. However, due to the embedded limitation, the approximate max. file size is 3.7GB.

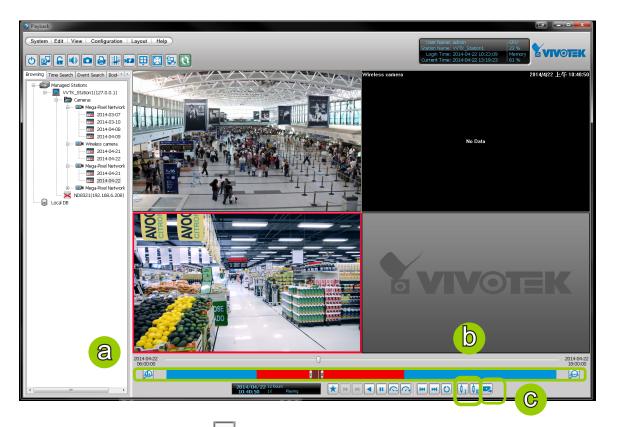
Export an EXE/3GP/AVI File

Please follow the steps below to convert part of an EXE/3GP/AVI file of recorded video:

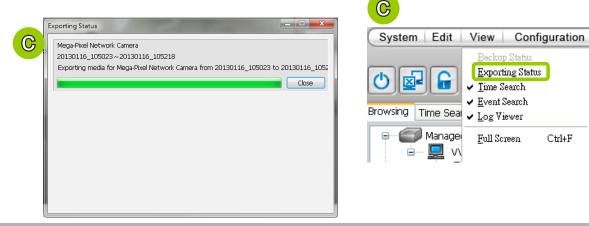
- a. Playback a video clip from which you want to export a media file.
- b. Set a period of time. Move the timeline slider bar to the desired start time and click Marker I 41. Move the timeline slider bar to the desired end time and click Marker II 41.



Currently exporting video files from the NVR series is not supported.



- c. Click Export EXE/3GP/AVI , the server will start to export the data and popup a window showing the exporting status. If you close the status window, you can also open it again by clicking **View > Exporting Status**.
- d. When the export is complete, you will see an information dialog. The exported data will be restored in the preset storage folder on your local computer (C:\ProgramData\Documents\VIVOTEK Inc\VAST\ Client\PlayBack\Export).



View Settings

This section allows you to set up the display mode of video cell. For detailed information about **View Settings**, please refer to page 187.

Proxy Settings

Please refer to page 205 for detailed illustration.

General Settings

System Settings

Please refer to page 190 for detailed information.

Display Settings

Enable de-interlace function: Select this option if your connected device does not support de-interlace function. For example: VS7100.

🕈 General Settings 🛛 🔀					
System Settings					
Retrieve RTSP stream on specified port: 554					
Connect substation streaming via relay					
Display Settings					
Enable de-interlace function					

How to Configure Video Enhancement

The Playback also allows you to enable post-image enhancement and defog for video viewing. Please refer to page 209 for detailed information.

How to Search for a Device on the Hierarchical Management Tree

The Playback also allows you to conveniently search for an inserted device. Please refer to page 214 for detailed information.

How to Print a Video Image

The Playback also allows you print out an image of live video. Please refer to page 215 for detailed information.

How to Lock VAST Playback for Security Concerns

If you happen to be away from your computer, for security reasons, we suggest you lock the program. When VAST Playback is locked, the user must enter the correct password to unlock and access the program again.

- To lock Playback, click Unlock on the quick access bar or click System > Lock on the system menu. The Unlock icon will then turn into Lock .
- To unlock Playback, click and enter the correct password in the popup window.

😢 Playback	Confirm
System Edit View Configuratie Lock Ctrl+L Launch LiveClient Launch System Manager	
Logout Exit	OK Cancel

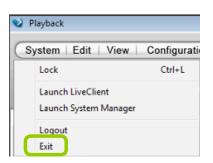
How to Log out from the VAST Server

To log out from the current server, click the station and click **Logout** on the quick access bar or click **System > Logout** on the menu bar. You can also **right-click** the station and click **Logout**. A confirmation window will pop up. Click **OK** to confirm or **Cancel** to return to the VAST Playback window.

Lock Ctrl+L	Browsing Time Search Event Search Bookmark Search Log Viewer	Confirm	
Launch System Manager	Managed Stations	This will terminat	te the current connection. Are you sure you want to continue?
Logout Exit			OK Cancel
	im Me Refresh		

How to Exit VAST Playback

To exit VAST Playback, click **Exit** on the quick access bar or click **System > Exit** on the menu bar. A confirmation window will pop up. Click **OK** to confirm or **Cancel** to return to the VAST Playback window. When you exit the program, your user account will be automatically logged out from the current server.



😢 Confir	m 💌
	Are you sure you want to exit the program?
	OK Cancel

Import and Export Utility

VAST supports import and export utility for user to keep record of all server settings. You can use the export file to copy the configuration on another host.

Export Utility

Please follow the steps below to export the server settings:

- a. Under Microsoft Windows, choose "Start > All Programs > VIVOTEK Inc > VAST > Tools > Importexport Utility."
- b. The **Import/Export Utility** window will pop up. Click **Export** and select a target folder. The system will start to export a .bin file.

backup.bin

Hide Detail

Close

Options Export current settings Configuration settings Import previous settings Restore Copy settings Mext Cancel 5 Start service Import previous settings Import previous settings Import previous settings	

Import Utility

Please follow the steps below to import the server settings:

- a. Under Microsoft Windows, choose "Start > All Programs > VIVOTEK Inc > VAST > Tools > Importexport Utility."
- b. The **Import/Export Utility** window will pop up. Click **Import** and select the export file. The system will start to import the file.

You should then select the **Restore** or **Copy** settings options.

Restore: If this is selected, the VAST server GUID will also be restored. This option applies when you need to restore as crashed server.

Copy Settings: This applies you use the exported profile to duplicate your configuration to multiple computers. A new server GUID will be generated.

	Warning	X X
	⚠	Import will drop all current settings in the station. The system will still recycle the video files in the original paths when the new settings with new paths is imported. Would you like to continue?
Import/Export Utility Options Export current settings Configuration settings Import previous settings Restore Copy settings Next Cancel		 Import/Export Utility 3.Stop service Processing Import is started at 2010-03-11 14:22:17 Verify import file (C:Documents and Settings\rital\东面\backup.bin) done Prerequisites checking done Stop service

VAST Service Control Tool

VAST service control tool is a tool for server control and for user to be aware of the VAST Server status. It starts up as Windows OS startup.

Under Microsoft Windows, choose "Start > All Programs > VIVOTEK Inc > VAST > Tools > VMServiceControl."



You may also find it in the system tray icon of the tool bar, which indicates that the service is running: 💞

It shows a disconnection icon when the service is stopped:

A menu for the service control tool will pop up when you **right-click** on the icon:

Open VAST Service Control	VAST Service Control 📃 🗉 💌
Start Service	Service Status
Stop Service Restart Service	Version: 1.12.1.4 Status: Running
Exit	Start Stop Restart
	Close

Here you can manually start, stop and restart the service.

Appendix A Failover Server Configuration

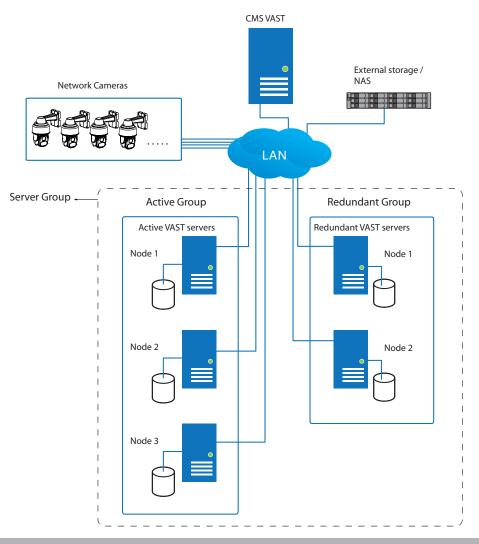
VAST servers can be configured into two groups: Active and Redundant. The Active group performs daily recording and monitoring tasks, while the Redundant group acts as the standby servers. In the event of server failures, the Redundant group becomes active, and takes over the recording task.

The Redundant server group configuration consists of the following:

- 1. One VAST server designated as the **CMS** (Central Management server) VAST central management server.
- 2. At least one VAST server in the Active group.
- 3. At least one VAST server in the Redundant group.
- 4. Gb/s network or higher-speed connection among the servers. All Active and Redundant groups can reside in different subnets, provided that static IPs are configured for these servers.

IMPORTANT:

For a Redundant server configuration, you must first enlist VAST servers in the **Sites** configuration page before configuring the Redundant server groups. See the **Sites** configuration page.



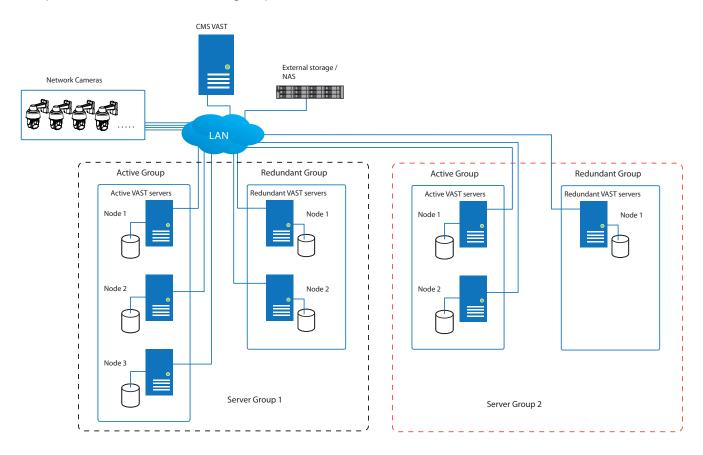
Below are the definitions of server roles:

- 1. **CMS** VAST server: The main access portal for the configuration.
 - 1-1. CMS server is where the **Failover** configuration takes place.
 - 1-2. CMS continuously polls to check the hearbeats to monitor the statuses of all Active and Redundant servers.
 - 1-3. CMS regularly backs up the configurations on Active servers.
 - 1-4. CMS assigns redundant server(s) to the takeover of a failed Active server.
 - 1-5. In a Redundant server configuration, the CMS is supposed to be up and running at all time. If the CMS server fails, the server failover and failback operation will not take place. It is therefore preferrable to install the CMS server at a high up-time environment, such as on a VMWare configuration.
- 2. Active servers: Active VAST servers are the work horses that perform recording and monitoring tasks.
- 3. **Redundant** servers: The Redundant servers are actually active-standbys. They participate to continue video recording in the event of active server failures. It is recommended for the Redundant server to have an equivalent or higher processing power than the Active servers. The same applies for the storage volume and write performance.

Note that you cannot configure a Redundant server by opening a local console.

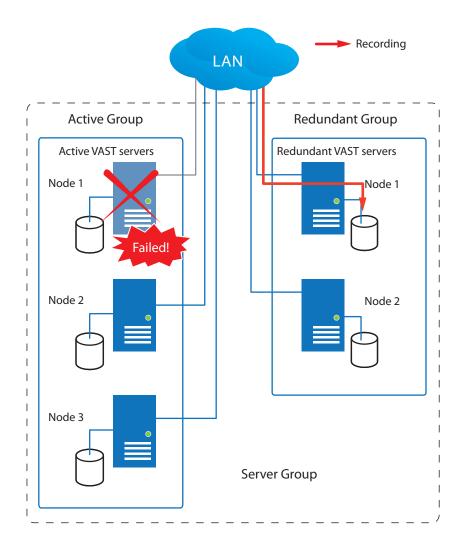
The conditions during the failover are illustrated below:

Multiple Active and Redundant groups can be created.

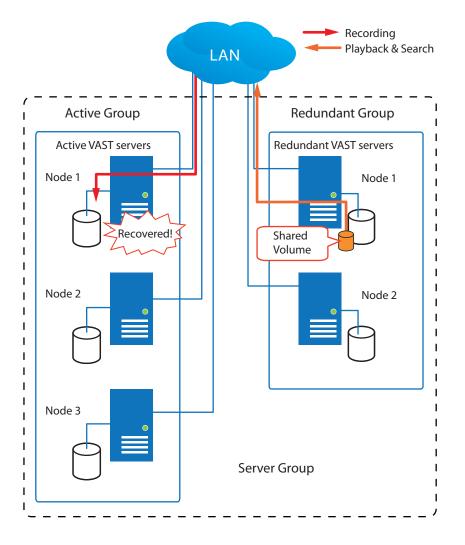


Each Redundant server can serve as the backup for ONE Active server. Depending on the number of the Active and Redundant servers, if the number of failed servers exceeds the number of Redundant servers, the failover will be abandoned. For example, if 2 Active servers failed, and there is only 1 Redundant server available, the second Active server that failed will be abandoned.

In the event of a server failover, a VAST server in the Redundant group takes over the recording task. Note that depending on the network environment, the takeover can take up to 5 minutes.



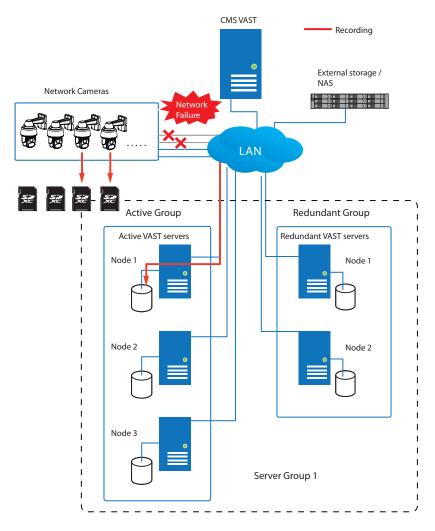
Once the server in the Active group is restored to normal operation, and a CMS server requests for the recordings and data occurred during the time the active server failed, the requests will be fulfilled by a shared volume on the redundant server. Due to the concerns with network bandwidth and processing power, the restored active server does not synchronize its recording pool with that on the redundant server.



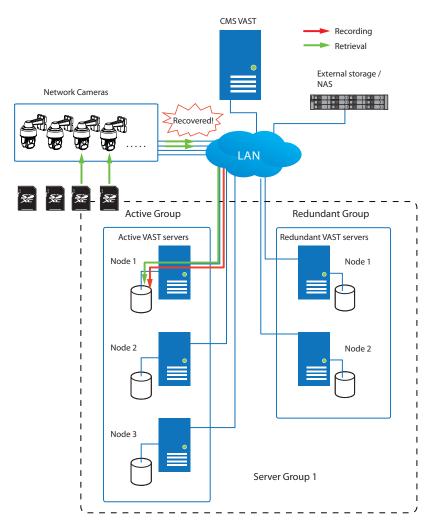
The recovery path should be available in the network neighborhood, with a name that looks like the following: ActiveServer1_91AAF3D06B6C47_\RecGroup1.

If an Active server has 3 recording groups, then each Redundant server will have 3 recording paths accordingly.

In terms of network failure, the VAST2 configuration supports Seamless Recording. For cameras equipped with an SD card, video is recorded to the SD cards in the event of network failure. Of course, the camera must be powered by a secondary power source, such as a DC 12V input. In cases such as the only PoE switch or PoE mid-span fails, power is lost.



Once the network connection is restored, the VAST2 servers resume the recording task and also retreive video segments from the SD cards. The video segments recorded during the network failure will be stitched up with those occurred before and after the network failure. The retrieval speed varies depending on the available network bandwidth and CPU resources.



To enable Seamless recording, find the associated option in **Configuration > Camera Management > Camera Update**, and select the Seamless recording checkboxes. Camera models that support the Seamless recording option will have it listed.

💟 Camera Management for VMS_Station - Update		×
Camera List WMS_Station(127.0.0.1) FE9391-EV(192.168.4.161) FE9191-v2(192.168.4.161) J122.168.4.124(192.168.4.124) SD9161-H(192.168.4.164)	Brand:VIVOTEKCamera Name:FE9191-v2Address:192.168.4.171Model Name:FE9191-v2MAC Address:0002D15AD1BF	S VIVOTEK
	Connection Settings Recording Settings Storage Group: DefaultGroup Basic Settings Recording Stream: 1 Pre-event Time: 10 Seconds(3 Post-event Time: 10 Seconds(1 Activity Adaptive Stream Active	

Failover Configuration Process

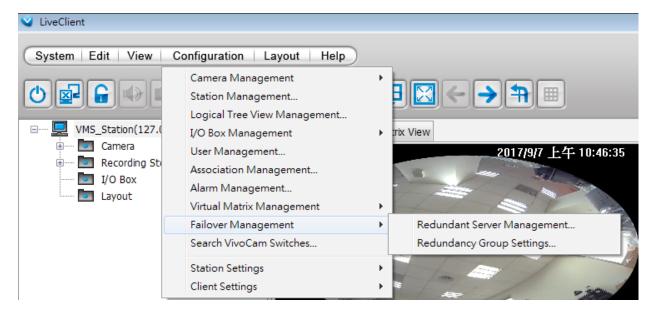
Before Failover configuration, you need to add other servers to your Failover configuration.

- If you are adding a Redundant server, enter the "Redundant Server Management" screen.
- When adding a Redundant server, you can provide a Windows account 802.1x domain user name and password. A Redundant server requires this because a full access to the recorded data is required during the failover and failback process.

To configure Redundant servers,

- 1. Install VAST server on a server chosen as the active standby.
- 2. On the server chosen as the VAST CMS server, open **Configuration > Failover**

Management > Redundant Server Management.



Note that it is a must for the Redundant server to be installed differently by selecting a "**Redundant server**" checkbox during the installation process.



3. Enter the IP address and Windows AD credentials for access to the Redundant server. Click the Add button when done, and click the Done button to leave this page.

Red	undant Serv	/er Mana	gement		
edui	ndant Serv	ver List			
	Name		Address	Port	
P	VMS_Stati	on	192.168.4.156	3454	
edui	ndant Serv	ver Info			
ddre	355:				
ort:	3454		🗧 🔲 Use SSL		
	dows Acco		rtional) nformation to access red	cordings	
	main Name:	Host			_
Don	nam Name:	HUSL			•
Use	r Name:	guest			
	sword:	•••••	••		
Pase					

An Active server must have a CMS password configured for the hierarchical configuration.

Note that on the Active servers, you should configure them as the subordinates to your CMS VAST server. On a web console with these servers, open the Site management page, and select "Allow CMS connection." Create a common password for the CMS hierarchy.

💜 Relay Settings	
Allow CMS connection	
Relay Authentica	tion
Password:	•••••
Confirm Password:	•••••
ОК	Cancel

Two agents will be running on the Active and Redundant servers, "stunnel" and "VMSWebServer." Make sure they are not blocked out by your firewall. These agents can be found in the default folders below:

C:\Program Files (x86)\VIVOTEK Inc\sTunnel\stunnel.exe C:\Program Files (x86)\VIVOTEK Inc\VAST\Server\VMSWebServer.exe + - 0 Allowed apps \times ✓ ひ Search Control Panel Q File Edit View Tools Allow apps to communicate through Windows Firewall To add, change, or remove allowed apps and ports, click Change settings. Change settings What are the risks of allowing an app to communicate? Allowed apps and features: Name
SHIELD Streaming NvStreamer TCP Exception
SHIELD Streaming NvStreamer UDP Exception
SHIELD Streaming SSAS UDP Exception
SHIELD Streaming SSAS UDP Exception
SmartScreen
Store
Store
Store
Store
Store Purchase App
Stanter 1:5 offloading and load-balancing pr
StuppP
C stupper
Tske a Test Name Private Public v V V Y Y Details... Remove Allow another app...

4. Enter Configuration > Failover Management > Redundant Group Settings. Enter the

OK Cancel

Group name	, Description,	and click on	the Edit butt	ion 🖉 .
------------	----------------	--------------	---------------	---------

Redundancy Group Settings Group List	Group Information
Group List	Group Information Name: Failover group Description: Failover server site1: CMS server 192.168.4.165; jactive server 192.168.4.167; redundant server 192.168.4.157 Members: Redundant Server Redundant Server
	Network Interrupt Settings Reply threshold: 30 Image: Seconds (5~3600)
Delete	Sync Update Add

5. Select the Active and Redundant servers and move them to the list of Selected servers. The Active and Redundant servers you enlisted should all be listed below. Select the members of the Redundant group, and click OK to complete.

Sedundancy Group Settings	E Contraction of the second se
Countiet	Choun Information
Select Group Members	
Availabe	Selected
	OK Cancel

The default for the network disconnection timeout is 30 seconds. It is not recommended to configure a very short timeout, e.g., 5 seconds, because if doing so, a temporary network disorder can make servers consider the Active server(s) have failed.

Using the failover function requires Failover license. On the CMS server, you can check the number of channels in Help > Failover license. Below are the requirements for running a failover configuration:

1. In a Redundant server group, the number of licensed channels = No. of Active server channels x No. of Redundant server(s).

For example,

There are 3 Activer servers with 100, 125, and 165 channels.

There are 2 Redundant server.

The number of failover license channels are: $165 \times 2 = 330$.

	License Information			
ļ	System Failover Local			
		Purchased	Used	Unused
	Failover	64	0	64
			Import License Generate License	cense Update Request Close

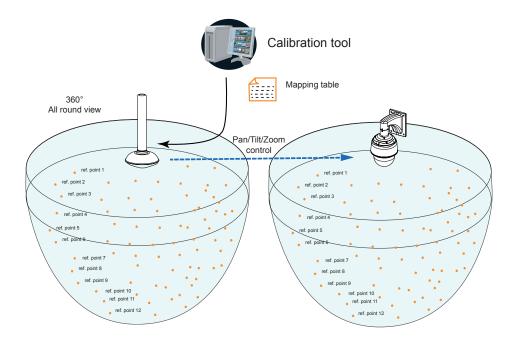
2. Error prompts will display if there are not sufficient failover channels when you create a Redundant server group.

Information [CMS_VMS_Station-12.205] The following features exceed the r *Failover Number	number allowed by the license. Please contact our sales representatives to upgrade.
V Information	ОК
The following features exceed the r *Camera Number *Failover Number	number allowed by the license. Please contact our sales representatives to upgrade.

Appendix B Panoramic PTZ (P-PTZ) Configuration

Enable Panoramic PTZ on VAST

The process of configuring two cameras (1 fisheye and 1 speed dome) into the Panoramic PTZ configuration takes place on a PC using the calibration tool. The Auto Tracking feature is configured using a web console with the fisheye camera. A Panoramic PTZ package should comprise two cameras running specific firmware for this application and a software CD containing all necessary utilities. For configuration details, please refer to the **Panoramic PTZ Installation Guide**.

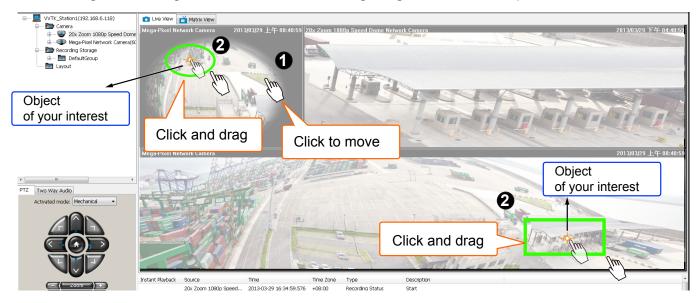


To exert Panoramic PTZ control on VAST:

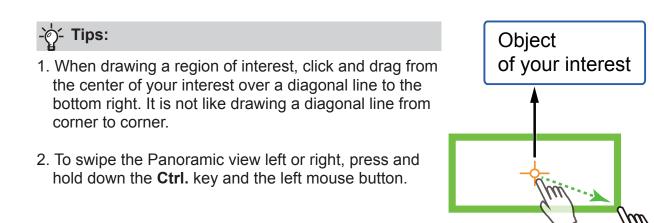
- 1. Once these two cameras are configured into an interactive pair, insert these cameras into your VAST configuration.
- 2. Select a preferred layout using the Layout 🙂 button. The 1P+2, 1P+6, and 1P+8 layouts are specifically designed for the Panoramic PTZ configuration.
- 3. Taking the 1P+2 layout as an example, once they are listed on the device list, click and drag the fisheye camera to the upper left and the bottom view cells. Place the speed dome in the upper right view cell.

Fisheye 10	Speed Dome
Fisheye 1P	

- 4. Right-click on the fisheye's view cell to change its Display mode either into the **1O** (Original) or the **1P** (Panoramic) mode. Note that the Panoramic PTZ control does not take effects on the "**R**" (Regional) mode and the combinations of other display modes.
- 5. There are two different ways to quickly exert Panoramic PTZ control. The pan, tilt, and zoom actions are made from the fisheye's 360° hemispheric overview:
 - 5-1. Click on a spot on the fisheye's Original or Panoramic view where you detected a condition of your interest. The speed dome will aim its lens at the corresponding position to cover that field of view.
 - 5-2. Click and drag a region of interest either on the Original or on the Panoramic view. The speed dome will move to that region and zoom in to fill the same proportion of view into its view cell.
 - On the Original view, click-and-drag creates a circular region of interest.
 - On the Panoramic view, a square region.
 - If you draw a small region, the speed dome will zoom in on the scene. The smaller the region, the larger the zoom-in ratio. A large region makes the speed dome to zoom out.



The speed dome camera automatically performs optical zoom in/out to best fit the selected field of view until the maximum and minimum zoom ratio is reached.





- The fisheye and the speed dome are made into an interactive pair using the calibration tool. The VAST software provides the control interface only. If the cameras have not been properly configured, the Panoramic PTZ function will not take effect.
- 2. If the password of the speed dome camera has been changed, you will need to open a web console with the fisheye camera to change the coordinate password.
- 3. You may need to reset the fisheye camera if the speed dome camera is powered on after you started the VAST software.
- 4. The precision level of the interactive positions between the view cells of the fisheye and the speed dome is determined by the mapping table. Make sure you have inserted a sufficient number of reference points and make good association of these points using the calibration tool.
- 5. Currently the associated event trigger by Auto Tracking is not supported on VAST. The associated event triggering is configured through a web console with the fisheye camera:

General settings	Import/Export files	
Enable Panora	amic PTZ	
Enable Auto tr	acking	
Auxiliary c	amera informatio	on
IP addr	ess:	172.16.90.172
НТТР р	ort:	80
Controller came	era account	
User na	me:	
Passwo	rd:	
		Test
Associate the a	uto tracking event with	h the auxiliary camera's manual trigger 🔲 1 📄 2 📄 3
		Save

5-1. You should then create an event setting using the manual triggers as triggering sources.5-2. When Auto Tracking takes place, the pre-configured event settings on the speed dome camera can take associated actions, e.g., taking a snapshot, recording to SD, or triggering the DO pins.

- 6. The Panoramic PTZ function is currently not available on the Matrix or web console mode in VAST.
- 7. If the interactive camera pairs (Panoramic PTZ cameras) are managed under VAST substations, then all of the VAST instances, such as the primary VAST server, the substations, and the client side must be running the revision that supports P-PTZ.

Panoramic PTZ - Event Trigger

The P-PTZ-related event types include: "triggered" and "returned to normal" when Auto Tracking takes place. Below are the configurable options with the event configuration:

 When configuring a recording schedule, the Auto Tracking actions can be selected as one of the event triggers. The configuration is found in Configuration > Station Settings > Recording Schedule Settings.

ime Frame List						Recording Settings
Time Frame	Rule					
Always		ting (Day-based)				Recording Mode: Event -
PPTZ	Weekly Sett	ting (Day-based)				Triggers
						Motion VIVA PIR
						✓ Tampering P-PTZ
						Digital Input
						✓ Trigger State ✓ Normal State
	Edit Delet	e			Up	
amera List			Schoduls			
amera List Name	Address	Group	Schedule		Mega-Pixel N 20x Zoom M	Down etwork Camera equa-Pixel Speed Dome Network Camera
amera List Name Mega-Pixel Ne		Group DefaultGroup	Schedule Yes Yes		Mega-Pixel N 20x Zoom M Mega-Pixel N	Down etwork Camera
amera List Name Mega-Pixel Ne 20x Zoom Me	Address 192.168.6.228	Group	Yes		Mega-Pixel N 20x Zoom M Mega-Pixel N	etwork Camera ega-Rivel Speed Dome Network Camera etwork Camera
amera List Name Mega-Pixel Ne 20x Zoom Me Mega-Pixel Ne	Address 192.168.6.228 192.168.6.101	Group DefaultGroup DefaultGroup	Yes Yes		Mega-Pixel N 20x Zoom M Mega-Pixel N	etwork Camera ega-Rivel Speed Dome Network Camera etwork Camera
amera List Name Mega-Pixel Ne 20x Zoom Me Mega-Pixel Ne	Address 192.168.6.228 192.168.6.101 192.168.6.127	Group DefaultGroup DefaultGroup DefaultGroup	Yes Yes Yes	->	Mega-Pixel N 20x Zoom M Mega-Pixel N	etwork Camera ega-Rivel Speed Dome Network Camera etwork Camera
amera List Name Mega-Pixel Ne 20x Zoom Me Mega-Pixel Ne	Address 192.168.6.228 192.168.6.101 192.168.6.127	Group DefaultGroup DefaultGroup DefaultGroup	Yes Yes Yes	->	Mega-Pixel N 20x Zoom M Mega-Pixel N	etwork Camera ega-Rivel Speed Dome Network Camera etwork Camera

2. When Auto Tracking is enabled, its actions are considered as one of the system event types. In Configuration > Event Management, P-PTZ is configurable as a Trigger Type in Event Management > New Event > Trigger. This event trigger can be associated with different actions, such as Email, recording, moving to a preset location, GSM message, HTTP, Client notification, etc.

🕙 Event Ma	anagement			×		🛛 New Event									×
An event is edit an exis	ting one.	on of triggers, action:	s, and schedule. You	i can add a new event or		General	>>	Trigger	>>	Acti	ion	>>	Schedule	· >>	Detail
Enable	Name	Triggers	Actions	Schedule										D	
0	Event 1		Send client noti	Always				🕙 Add Ev	/ent				×		
O	Event 2	P-PTZ (Trigger)	Start to record	Always				Add Even	t by:	🔘 Devi	ice	🖲 Trig	ger Type		
0	Event 3	P-PTZ (Trigger)	Send client noti	Always				Category:	Car	nera Eve	ents		•		
								Type:	Mo Mot				•		
									DI-	1					
									DI-: DI-:					4 Re	move
									DI-						
New	Edit	Remove	Detail >>	Close				E	Bar DI-I					hr	Cancel
									DI-	3					
						_			DO DO						
									DO	-3					
					_				DO DO					_	
						Time Zone	Т	ype	DO DO						
									DO	-8	. .				
									PIR	eo Loss/	/Resto	ore			
										npering nperatu	ro				
									IR						
										Movin Loiter			on		
										- Came					

Auto Tracking can also function as a Device type in the Event Management configuration.

♥ Trigger list							
Select the trigger(s) from the following list.							
□▼ 🛄 VVTK_Station1(127.0.0.1)							
📮 🔤 Mega-Pixel Network Camera(192.168.6.228)							
🗖 🧁 Motion							
🗖 🥌 DI-1							
🔤 🗖 🧼 Tampering							
🖶 🖂 🖾 🖾 20x Zoom Mega-Pixel Speed Dome Network Camera(192.							
📄 🗹 🕙 Mega-Pixel Network Camera(192.168.6.127)							
🗹 🔶 Motion							
DI-1							
🖂 🖉 👙 DO-1							
Tampering							
P-PTZ							
 Image: Construction of the second state of the second							
□							
4 III +							
OK Cancel							

Once triggered, the P-PTZ Trigger and P-PTZ Normal events will create two short videos for a length of 30 seconds.

Note that the P-PTZ event is not triggered by Panoramic PTZ control on the view cells, it is triggered by Auto Tracking. Auto Tracking takes place when a moving object enters the preconfigured region of interest. Please refer to the **Panoramic PTZ Installation Guide**.

3. Events triggered by Auto Tracking are also recorded into system logs.

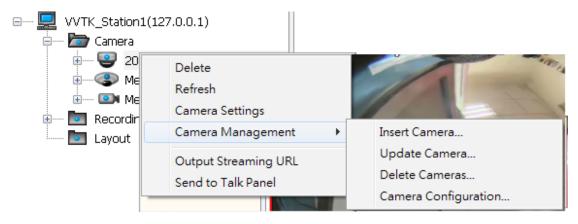
	1	A CONTRACTOR OF				
					_	
		1 the	120,10		2013/6/16 下午 08:15:33	7
Instant Playback	Source	Time	Time Zone	Type	Description	
Instant Playback	Source SF8172	Time 2013-06-19 15:41:47.087	Time Zone +08:00	Type P-PTZ	Description Normal	
	SF8172	2013-06-19 15:41:47.087	+08:00	P-PTZ	Normal	
	SF8172 IP7160	2013-06-19 15:41:47.087 2013-06-19 03:41:43.821	+08:00 +08:00	P-PTZ Motion - Window 1	Normal 13%	

4. As the result, in **Playback** > **Event Search** panel, Auto Tracking (P-PTZ Trigger/Normal) is also a search condition.

Search Catego	ries: All Events 🔹
Video - Loss Video - Restoi IR - Normal IR - Trigger P-PTZ - Trigge P-PTZ - Norm	er
Add	Remove
Time Zone:	GMT+08:00 Beijing, Chongging, Hong Kong, Kuala 💌
🔽 Start Time	:
2013/ 7/ 3	 ▼ 13:52:05
End Time:	
2013/ 7/ 9	▼ 14:52:05 🙀
Display in Ne	ew Result List Search

Enable or Disable the Panoramic PTZ Functions

You can manually enable or disable the Panoramic PTZ function in **Configuration > Camera Management > Camera Configuration**:



- 1. Select the fisheye camera by a single click, and then open the panoramic PTZ panel from the tabbed menu.
- 2. You can enable or disable the panoramic PTZ or the Auto Tracking functionality using the checkboxes.
- 3. Click the Save button, and the saving progress window will prompt.

mera List	Malaa	1					1	
	Video	Audio	Remote Focus	NTP Settin	ngs H	Panoramic PT7		
VVTK_Station 1(127.0.0.1)	Video s	stream:			Stream	n 1		
Mega-Pixel Network	Codec	tuner		ſ				
Mega-Pixel Network	Couec	type.		l	SVC			
Mega-Pixel Network	Frame	Frame size:			1056x1056			
Mega-Pixel Network								
🕲 Mega-Pixel Network	Maxim	um frame	rate:	1	15 fps			
	Video (quality:		ſ	Constr	ant bit rate 🔻	4 Mbps	
				l	Consta	ant bit rate 🔹	* MDps	

4. Click Close to end the configuration process.

Appendix C ONVIF Support

ONVIF is supported in an environment where the VAST server can detect and record video streams from the cameras made by other manufacturers.

The following are supported.

ONVIF camera icons on the device tree.

Brand name selection is also available on the configuration window.

Camera Management for VVTK_Station1	- Insert
Camera List	Brand: VIVOTEK VIVOTEK Module: VIVOTEK ONVIE Camera Name: Auto Address: 192.168.6.219 Model Name: IP8332 MAC Address: 0002D1192D02
	Connection Settings Recording Settings User Name: Configuration Protocol: HTTP Configuration Port: 80 Streaming Protocol: TCP Channel: 1 III Initial Viewing Stream: 1
< >	Automatically add camera into recording storage DefaultGroup Insert Close

- 2. Insert/update/delete camera from the device tree.
 - 2-1. Detect ONVIF cameras.
 - 2-2. Connection test.
 - 2-3. camera password authentication.
 - 2-4. Supports HTTP and HTTPS streaming protocol.
 - 2-5. Supports multiple streaming.
- 3. Live view/recording/playback.
 - 3-1. Audio G.711 support.
- 4. Mechanical PTZ support with the exception of Focus, Iris, Pan, Patrol, and preset location operation.

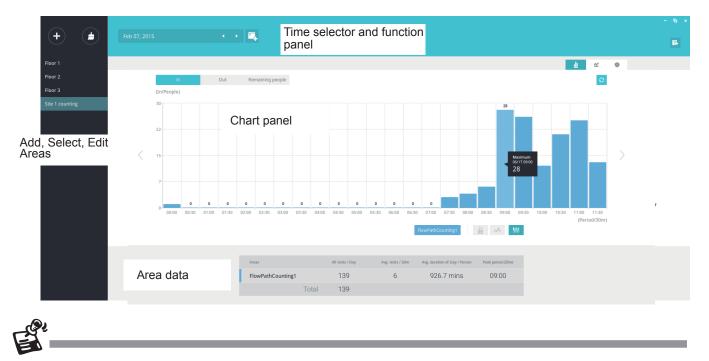
Limitations:

The following limitations apply to ONVIF cameras made by other manufacturers. Some features may be implemented in later releases of software.

- 1. Users should ensure that your other brand cameras support ONVIF.
- 2. The connection statuses of the other brand cameras will not be displayed on the device tree.
- 3. For mechanical PTZ cameras, the Focus, Iris, Pan, Patrol, and preset locations functions will not be supported. The associated buttons and control elements on the UI screen will not be disabled.
- 4. Does not support the Batch Insert Camera function.
- 5. Does not support Camera Configuration.
- 6. Does not support Active Adaptive Stream (AAS) function.
- 7. Does not support Event related functions, including event recording, event management, instant playback, event search, etc.
- 8. Does not support camera DI/DO.
- 9. Does not support Two Way Audio.
- 10. Does not support Auto Stream Size.
- 11. The ONVIF user authentication (account and password) may not comply with those configured via a web console.
- 12. The number of multiple profiles can vary.
- 13. The number of accessible profile can vary. Some might have only one profile to be connected.
- 14. Does not support Click on Image.

Appendix D VCA Report

The VCA Report utility is started from **System** menu > **Launch VCA Report**. The VCA Report utility provides comprehensive graphs and line charts for quick access to the data collected through VIVOTEK's People Counting modules, such as the SC8131 stereo camera. Statistical results is refreshed by hour or minutes, and you can compare the results acquired through different time periods or among different surveillance areas. These data help figuring the customer flow in retails so that shop owners can optimize the arrangement of store layout, or mange queues more efficiently.



The configuration of detection methods in People Counting still occur on a web console with individual cameras. It is not configurable through the VAST LiveClient.

Prerequisites:

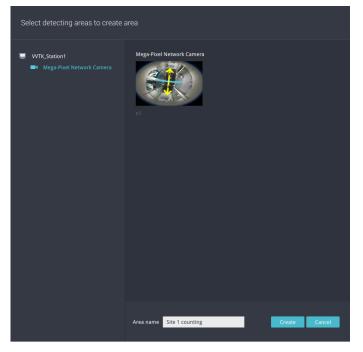
The prerequisites for using the VCA Report are:

- 1. Cameras running the VCA utilities have been configured and added into the VAST deployment. The instances of available VCA rules will be listed in the **Area** panel.
- 2. The life expectancy of VCA records is 5 years.
- 3. Currently the utility supports Windows XP, 7, and 8.
- 4. The latest revision v.1.12 supports Seamless Recording, in order to retrieve collected data and recording during Ethernet disconnection. Provided that an SD card is installed on the SC8131 camera, the VAST station gradually retrieves data from the SD card after the connection is restored.

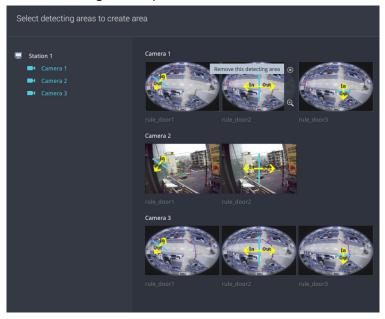
To begin using the VCA report:

Create Areas

- 1. Click on the **Add** button in the **Area** panel. Cameras running the VCA utilities will be listed. Click to select cameras. Those running multiple detection rules will be displayed on screen. Data collected for these rules is kept in camera's flash memory.
- 2. Click to select one or more cameras.
- 3. Enter a name for the area, and then click the **Create** button.
- 4. The Areas thus added will be listed on the Area panel on the left side of the screen.



If you have multiple detection rules on cameras, you can manually remove some of them from the list by mouse-overing the rules. After you configured an area, you can still right-click on an area to configure its parameters.



If only one camera is selected, its name will apply as the Area name. If not, enter a name for the area. 5. Click to select one or multiple areas. Those selected will be highlighted in a different color.

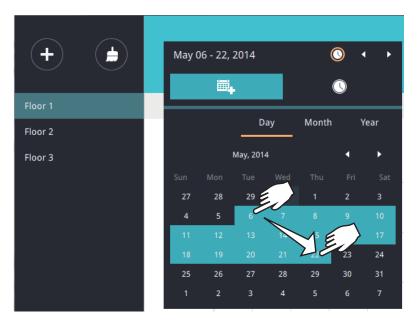


Select Date & Time

6. By default, the time displayed on the calendar is the current system time on the client

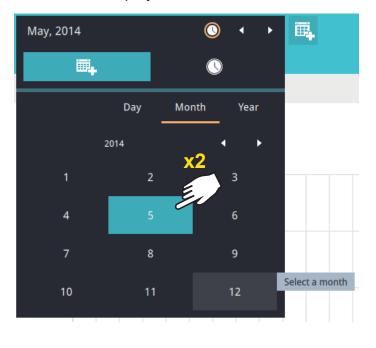
computer running the utility. Select from the **Date** selector **use** on top.

- 7. Select a date or span of time from the calendar or use the and **Time** Selector to select a span of time.
- > Single-click to select a date or click and drag to select multiple dates.
- > You can select a month or a year using a single click. If you select a month, the timeline unit will be days within the month. If you select a year, the timeline units will be the months in a year.
- In the Month or Year panel, single click to select the entire month or an entire year. Doubleclick to select sub-units, e.g., days within a month. If you double-click on a Month panel, you will enter the Day panel.



You can select a different month in the **Month** or **Year** panels. The **Calendar** panel disappears if left unattended for 2 seconds.

On a **Month** panel, double-click to select a month, and the **Day** panel for that particular month will display.





- When a date is selected, the Date and Time panel will not automatically close, and the configuration changes will not take effect until it is closed. You can click on the outside of the panel to leave the panel.
- You can select multiple days to form a span of time. Select one date with a single click and select multiple dates by draging your cursor across the screen to a preferred end date.
- To select a year, click to open the **Year** panel. Single click to select a year. Multiple years can be selected using the click and drag method.

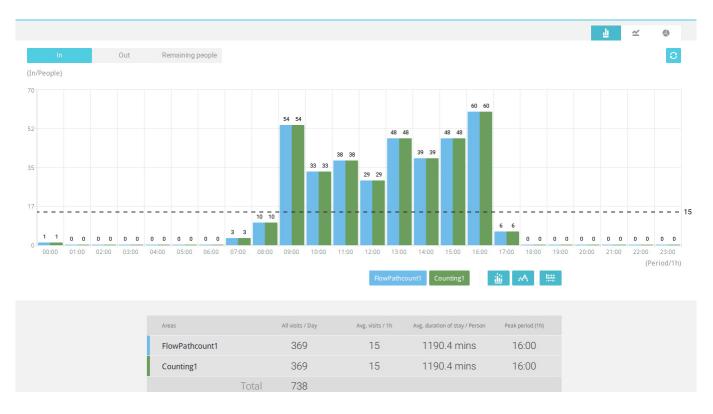
8. Select the hours to be included in the statistical poll using multiple clicks on the chart.

Single-click to select an hour or click and drag to select multiple hours.



Note that you can only compare the counting results from two spans of time if you select only one Area. If you selected multiple Areas, you can not compare the results from multiple time spans.

9. Click outside the Calendar panel. The statistical results will display. The default display is the bar chart. Below is a sample screen showing the results polled from 3 areas. Up to 8 areas can be selected in one view.



Select different display modes using the Bar

, Line 🗹 , or Pie

chart buttons.

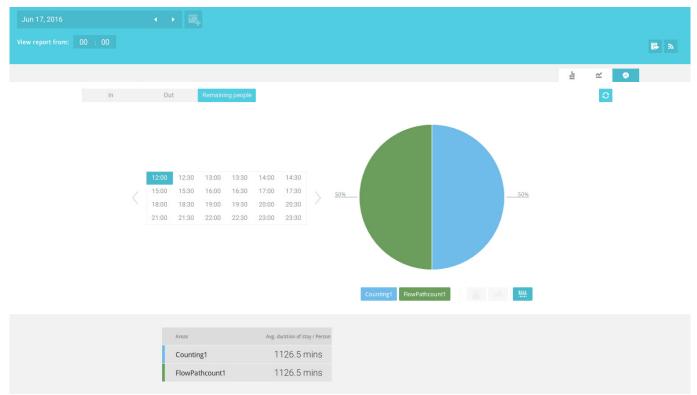
- 🕗

Line chart.



ш

Pie chart.



Note that the timeline units can vary depending on the span of time you selected on the Calendar panel. If a date was selected, hourly data will display in chart. If a year was selected, monthly data will display in chart.

Use the following functional buttons to change the display parameters

Show data on chart _____: Displays the collected numbers on chart.

Average : Displays the average number per time span unit (e.g., per hour). If the interval is changed to 30 mins, the average number will be halved comparing to the number acquired by every hour.

Report Interval : Configure the intervals for polling data from the camera. The default for displaying results is by every hour. If you enter 30 minutes as the display interval, all data will be listed on the basis of the 30 minutes time span. The configurable range is 1 to 1440 mins.



Use the **Refresh** button

to poll the latest data from camera.



Use the time selector on the **View Report from** pane to select the start time of your statistics view window. Data collected before that time will not be displayed.

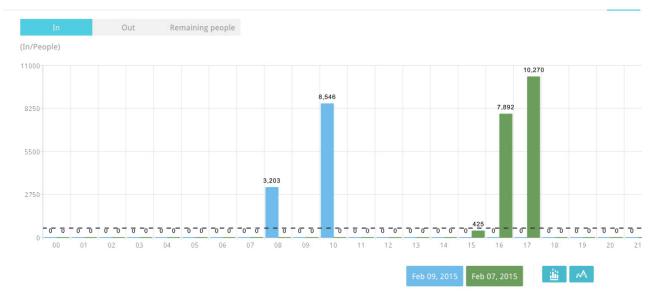




If you selected only one area, you can use the Shift key to select multiple areas (or two spans of time). You can select multiple dates in the Calendar panel.

Data on a time line will be generated. To close the window, use the close button on the second date information. Equivalent spans of time can also be used for comparison. For example, you can compare the data in a span of 4 days against another span of 4 days.

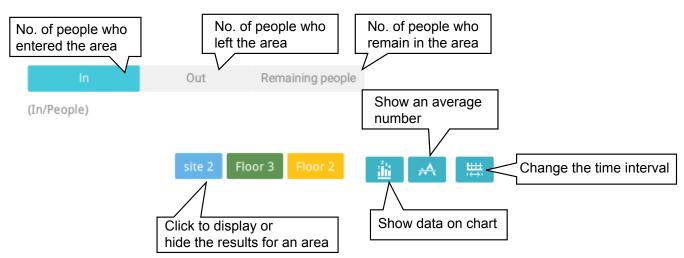
Note that the Compare function only applies when you select to display only one area on screen.



In a comparison result displayed in a line chart, mouse over to the peak value to display the percentage of an increase or decrease rate.



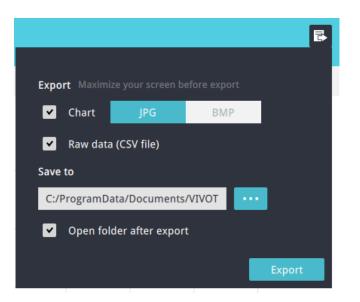
See below for the functions of buttons on screen.



In addition to the charts, a summary of displayed data will be listed below showing the areas involved, visits/Day or Month, Average visits / Hours / Days, Average duration of stay / person, and the Peak hour.

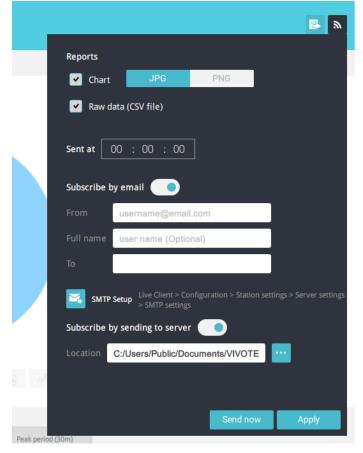
Areas		All visits / 4 days	Avg. visits / Day	Avg. duration of stay / Person	Peak day
Floor 3		490,870	122,718	106.3 mins	12/04
Floor 2		959,482	239,870	105.9 mins	12/02
site 2		3,873,510	968,378	108.0 mins	12/01
	Total	5,323,862			

10. When done with displaying the results, you can use the **Export** button to produce an image file to preserve the current results. Both a spreadsheet and a graphic chart will be produced.



11. Click the Reports Subscription button to configure the regular report sent to your Email account or a specific location on the server itself. Select the report chart image in JPEG or PNG, and CSV data files. Slide the email button to enable the Email notification.

Select the time to deliver your mail notification. Enter valid Email addresses as the sender and receiver addresses and make sure the SMTP mail server configuration has been properly configured on your VAST server. This VCA mail notification utilizes the mail service on VAST for regular notification. You can then receive Email notification every day on your Email account. You can enter up to 5 recipient addresses.



Note that the notification contents is your current field of view, including a Bar, Line, and Pie chart combined into one image file. The In/Out/Remaining results will be generated into 3 charts. Each Area will generate one CSV file, and each CSV data file will contain In/Out/Remaining/Summary information.

The generated file names will look like this: 20160226_test02_Remain.jpg for charts and 20160226_Summary.csv for CSV files. The Email subject will be "VCA Daily Report - 2016/02/26."

Note that if you manually export a report, the default is sending the data collected until one hour before the manual export. For example, if you generate the report at 14:07, the report will only cover the data collected until 13:59. You may use the Refresh button to manually

immediate data inputs (those occurred between 14:00 and 14:07).

Below are the messages with the Email test function.

SMTP Setup Live Client > Configuration > Station settings > Server settings > SMTP settings
SMTP Setup Live Client > Configuration > Station settings > Server settings > SMTP settings

- If changes have been made to the VCA People Counting configuration through a web console, Refresh the connection with a network camera from the Device Tree. You can leftclick to select a camera and right-click to display the **Refresh** command.
- The object height information detected by cameras is displayed on screen. You can select to display such information in centimeters or inches in Configuration > Client Settings > View Settings.

💙 View Settings		
Display Locatio	n	
Display Area 1:	Camera Name	Camera Name 2016/6/14 上牛 09:19:03
Display Area 2:	Server Date & Time	This is a sample screen.
Display Area 3:	Video Title	
Display Area 4:	No Display	Video Title
Date and Time I	Format	Font Settings
Same as Local	Computer	Font: System 👻
Specify		Color:
Date Format:	YYYY/MM/DD 👻	Size: 10 💌
Time Format:	Default Time Format 👻	
-Video Display M	lode	
	○ Keep top/down borders ○ Keep th	ie aspect ratio
Show motion v	vindows when triggered	
☑ Display the con	necting message when video is lost	
The screen go	es blank when video is lost	
VCA		
Show VCA rule	5	
VCA extra informa	none cm	
	inch OK	Cancel

Appendix E Support for Digital I/O Modbus TCP Modules

This revision, rev. 1.9, supports Advantech's I/O Modbus TCP Modules 6000 series. The VAST server can receive digital inputs and trigger digital outputs via the I/O modules.

The Advantech I/O modules come with configuration utilities, such as the Adam/Apax.NET. Connect the DI/DO wires to the module and the Ethernet wire from the module to the local network.

Proceed with the following to configure the I/O module:

1. Use the Search function to locate the I/O module on the network.

🔀 📈	antec	h Ao	dam/Apax .NET Utility (Win32) Ve	ersion 2.05.06	-	
File	Too	ls	Setup Help			
8 🖃		Se	arch Device			
		Ad Gra Tel Prin Ma Ma Ma Ses	Id Devices to Group oup Configuration rminal for Command Testing nt Screen onitor Stream/Event Data onitor Peer to Peer onitor GCL IO Data Message onitor APAX moor Networks	ting Network setting: MAC address: IP address: Subnet address: Default gateway:	00-D0-C9-F0-EF-3B 172.18.100.22 255.255.0.0 172.16.0.1	Apply change

2. It is recommended to configure a static IP for the I/O module.

3. You may then test the DI/DO device connectivity using the software utility.

🕻 Advantech Adam/Apax .NET Utility (Win32) Version 2.05.06		
File Tools Setup Help			
🖹 🔜 🤊 🏥 🖋 🛸 🕨 💼			
Erial	ADAM-6052 16-ch source type DI	O module	
⊂ COM1 ∋ Ethernet	Channel setting Modbus		
- 🚱 169.254.187.20			
	DIO	DI 6	DO 4 🛛 🗖 FSV
🗄 🚪 192.168.6.136-[ADAM6052]			
⊕ <mark></mark> 6052 	DI 1	DI 7	DO 5 🔽 FSV
	DI2	DO 0 T FSV	DO 6 DO F FSV
😡 Others 🛃 Favorite Group			
- 🌉 ADAM4500_5510Series	DI 3	DO 1 🛛 🗂 🗖 FSV	DO 7 🕥 🗖 FSV
COM1	DI 4	DO 2 🔽 🗍 🗖 FSV	
	DV F		
	DI 5	DO 3	
	The Fail Safe Value (FSV) of co		
		if the module's WDT is enabled and it ge , FSV unchecked Logic Low State.	Apply FSV
	Communication WDT	P2P/GCL WDT	
	DO3~DO0 Source: Failed	DO7~DO4 Source: Failed	

4. To configure the I/O modules in VAST, open the **Configuration** > **I/O Box Management** > **Insert I/O Box Device** window.

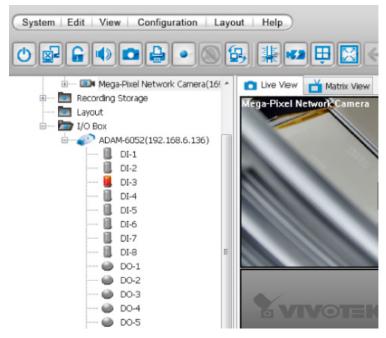
System Edit View	Configuration Layout Help	$\mathbf{)}$	
Ů፼₽₽●	Camera Management Station Management	Þ	ۥ⊞⊠←→ᡨ
□····· 🔜 VVTK_Station1(12 □····· 🔂 Camera □····· 🔮 Mega-Pi	I/O Box Management User Management Association Management	•	Insert I/O Box Device Update I/O Box Device Delete I/O Box Devices
€····· 🞱 Mega-Pi €····· 💁 Mega-Pi €····· 💁 Recording Sto	Alarm Management Virtual Matrix Management Station Settings	+ +	
I/O Box	Client Settings Video Enhancement	۲ ۲	

5. Select the Module model name, enter IP address, User Name, Password, and then click the Insert button.

VI/O Box Management for VVTK_Station1 - Insert						
I/O Box List						
📃 VVTK_Station1(127.0.0.1)	Brand:	Advantech 👻				
	Module:	ADAM-6052 -				
	Device Name:	ADAM-6052				
	Address:	192.168.6.136	Port:	502		
	User Name:	admin				
	Password:	••••••				
	Number of DI:	8	DI Name:			
	Number of DO:	8	DO Name:	•		
			In	sert Close		

308 - User's Manual

6. Click Close to close the window. The I/O module and its DI/DO entries should be listed on the device tree under the I/O box sub-directory. As shown below, once a DI is triggered from the I/O module, the associated DI icon will be lighted. Audible notification can also be heard from the VAST server.

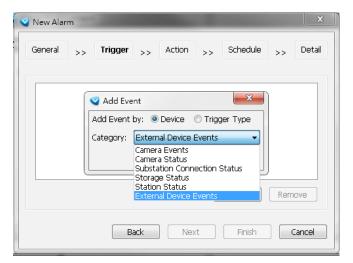


7. You can also double-click on a DO icon to manually trigger the digital output. Double-click again to cancel the trigger.

System Edit View	w Configuration Lay
Ů₽₽₩	
🕀 🚥 💷 Mega	a-Pixel Network Camera(16! 🔶
🗄 🔤 Recording	Storage
🛅 Layout	
🖮 🗁 I/O Box	
	M-6052(192.168.6.136)
U	DI-1
U	DI-2
U	DI-3
- <u>I</u>	DI-4
U	DI-5
- <u>I</u>	DI-6
- <u>I</u>	DI-7
- II	DI-8 XZ
	DO-1
	DO-2
	DO-3
	DO-4
	DO-5
	DO-6
	DO-7
····· 🍅	DO-8
•	4

8. You can also implement the digital inputs and outputs from the I/O module in your alarm setting. For example, a DI can be wired to an intrusion detector; and when the DI is triggered, an associated DO can be used to sound an alarm.

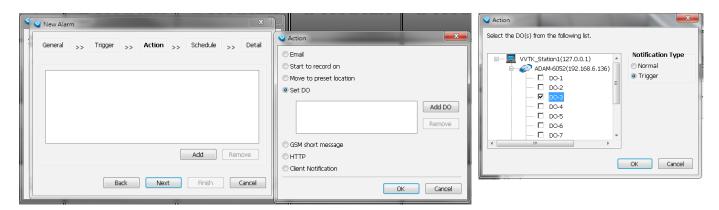
To configure the Alarm setting, enter the **Configuration** > **Alarm management** window. Configure a new alarm. On the Trigger window, select the Trigger Category as **External Device Events**.



9. The DIs and DOs on the I/O module will be listed. You can then select one or more DIs as the triggers.

(Trigger list
Se	elect the trigger(s) from the following list.
	□▼ 🛄 VVTK_Station1(127.0.0.1)
	🖮 🗹 🌮 ADAM-6052(192.168.6.136)
	🗹 🥌 DI-1
	🗖 🥌 DI-2
	🖂 🥥 DI-3
	🗹 🥌 DI-4
	— 🗖 🥌 DI-5
	— 🗖 🥌 DI-6
	🗖 🥌 DI-7
	— 🗖 🥌 DI-8
	🗖 🥌 DO-1
	🗖 🥌 DO-2
	— 🗖 🥌 DO-3
	🗖 🥌 DO-4
	🗖 🥌 DO-5
	🗖 🥌 DO-6
	🗖 🥌 DO-7
	OK Cancel
5	

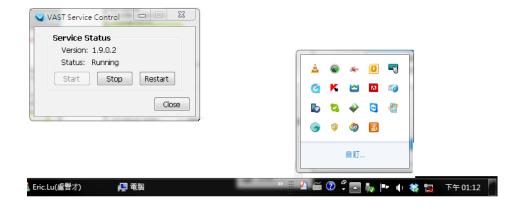
10. On the Action panel, you can select to trigger DOs, for example, as the reacting actions



Note that once a DO is triggered, you should manually disable the DO.



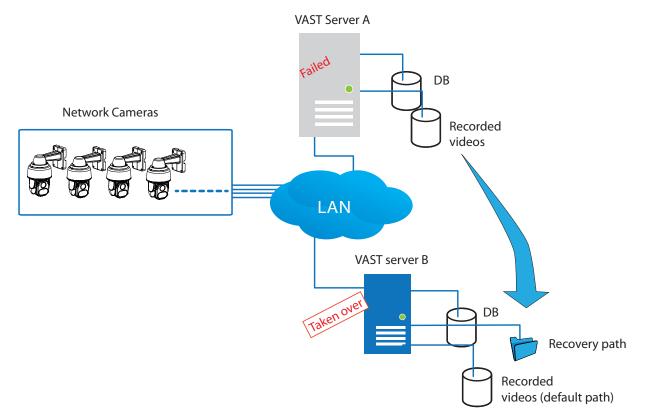
If an I/O module is started later than the VAST server, you may not be able to access the I/O module. You should then re-start the VAST service.



Appendix F Database Merge Function

The Database Merge function applies in the following scenario:

1. A VAST server A failed or was intentionally depleted. The precondition is that the disk drives containing the recordings remain intact.

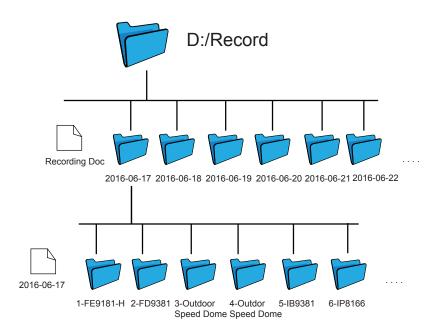


2. The VAST server B is used to continue video recording. The previous recordings on server A can be retrieved by attaching the hard disk(s) to server B or manually copying to a storage device on server B. You can then designate the location of these files as the "Recovery path" from server B. An administrator can then use the VAST Playback to access the past recordings.

Note that you can also configure a separate recycle policy for that Recovery path.



- It is **IMPORTANT** to move or copy the entire storage group folder, e.g., D:/recording/2016-06-17/1-FE9181-H..., which is a root directory configured by VAST server as the recording folder. The default recording folder contains file folder structure, video files, and database metadata. If you copy the video files only, the database data will not be synchronized, and you will not be able to access the recordings using the VAST Playback utility.
- The video streams received from cameras will not be recorded on to the Recovery path folder. It is designed to maintain previous recordings. The Recovery path folder becomes static.



 It is also a good habit to export and preserve your VAST system configuration to prevent losses in the event of system failure. In case you want to migrate or upgrade your VAST server, you can use the Import-Export utility to duplicate your VAST configuration to another server. Copy the configuration file and import the configuration from another VAST server.

VIVOTEK Inc Installation Wizard 2 VAST VAST VIVOTEK Inc VAST VIVOTEK Inc VIVOTEK Inc VIV	
💾 Import/Export Utility	
Options Export current settings Configuration settings	
Import previous settings	
C:\Users\eric.lu\Desktop\20160630_backup.bin	
Nex	xt Cancel

When the file folder is ready for server B, designate the location of recovered files from another VAST server, go to Configuration > Station Settings > Recording Storage Settings.

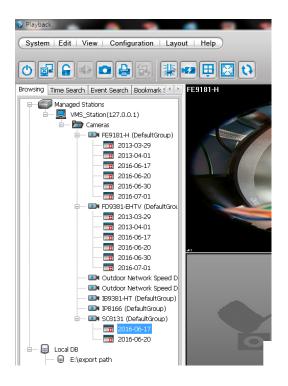
Select the recording folder that contains the recordings from the counterpart VAST server. Select the **Recovery Path** check circle and click **OK**.

✓ Recording Storage Settings for VMS_Station	×
Storage Group DefaultGroup 💽 🚱 🗭	
Recovery Storage Path C:\Record-1 Recording_backup B: Recording_backup Reference B: Reference Reference B: Record-1 Record:12.168.4.105_28x Zoom Speed Dome Network Camera_ B: shared_Rta Spanish_UM B: storage_export System Volume Information B: temp B: temp	/tes /tes /tes
Delete recorded data older than	-
Available Cameras: Group Name FE9181-H FD9381-EHTV Outdoor Network Sp Outdoor Network Sp IB9381-HT JP8166 SC8131 OK Cancel Total: 1862.89 GBytes Reserved: 186 GBytes OK Cancel Total: 193.32 GBytes Reserved: 186 GBytes	nera nera
Restore Apply	Close

Click the Apply and Close button.

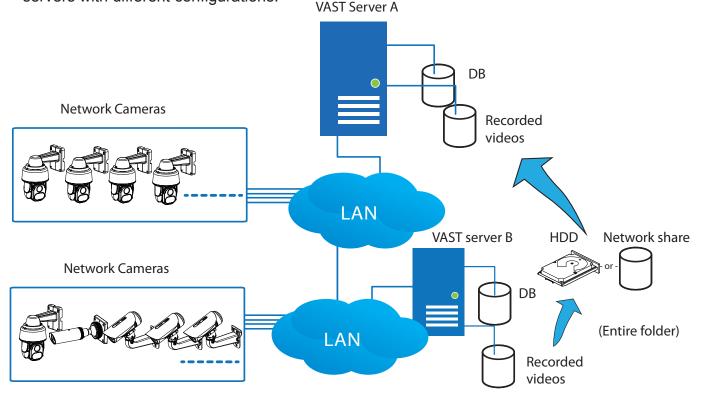
🎱 Recordii	ng Storage Settings for VMS_	Station				— ×
Storage G	roup: DefaultGroup 💌	🕂 💉				
Paths in St	orage Group					
	N 🔀 🔀 🖪					
Recovery	Storage Path			Storage Info	mation	
	C:\Record-1		l	Total:	1862.89	GBytes
\checkmark	E:\recovery_path			Reserved:	186.00	GBytes
				Free:	1193.32	GBytes
🔲 Delete i	ecorded data older than 7	day(s)				
Deleter	ccoraca data olaci chan	v uuy(3)				
Cameras in	Storage Group					
Cameras in Available	5 .			Added Camera	as (7/256):	
	5 .	Address		FE9181-H	as (7/256):	
Available	Cameras:	Address 192.168.6.105		FE9181-H FD9381-EHTV Outdoor Netwo	ork Speed Dom	
Available Group	Cameras: Name			FE9181-H FD9381-EHTV Outdoor Netwo Outdoor Netwo	ork Speed Dom	
Available Group	Cameras: Name FE9181-H FD9381-EHTV Outdoor Network Spe	192.168.6.105 192.168.6.109 192.168.6.169		FE9181-H FD9381-EHTV Outdoor Netwo Outdoor Netwo IB9381-HT IP8166	ork Speed Dom	
Available Group	Cameras: Name FE9181-H FD9381-EHTV	192.168.6.105 192.168.6.109 192.168.6.169 192.168.6.169		FE9181-H FD9381-EHTV Outdoor Netwo Outdoor Netwo IB9381-HT	ork Speed Dom	
Available Group	Cameras: Name FE9181-H FD9381-EHTV Outdoor Network Spe Outdoor Network Spe IB9381-HT	192.168.6.105 192.168.6.109 192.168.6.169 192.168.6.169 192.168.6.170	->	FE9181-H FD9381-EHTV Outdoor Netwo Outdoor Netwo IB9381-HT IP8166	ork Speed Dom	
Available Group	Cameras: Name FE9181-H FD9381-EHTV Outdoor Network Spe Outdoor Network Spe IB9381-HT IP8166	192.168.6.105 192.168.6.109 192.168.6.169 192.168.6.169 192.168.6.170 192.168.6.170	->	FE9181-H FD9381-EHTV Outdoor Netwo Outdoor Netwo IB9381-HT IP8166	ork Speed Dom	
Available Group	Cameras: Name FE9181-H FD9381-EHTV Outdoor Network Spe Outdoor Network Spe IB9381-HT	192.168.6.105 192.168.6.109 192.168.6.169 192.168.6.169 192.168.6.170	->	FE9181-H FD9381-EHTV Outdoor Netwo Outdoor Netwo IB9381-HT IP8166	ork Speed Dom	
Available Group	Cameras: Name FE9181-H FD9381-EHTV Outdoor Network Spe Outdoor Network Spe IB9381-HT IP8166	192.168.6.105 192.168.6.109 192.168.6.169 192.168.6.169 192.168.6.170 192.168.6.170	->	FE9181-H FD9381-EHTV Outdoor Netwo Outdoor Netwo IB9381-HT IP8166	ork Speed Dom	
Available Group	Cameras: Name FE9181-H FD9381-EHTV Outdoor Network Spe Outdoor Network Spe IB9381-HT IP8166	192.168.6.105 192.168.6.109 192.168.6.169 192.168.6.169 192.168.6.170 192.168.6.170		FE9181-H FD9381-EHTV Outdoor Netwo Outdoor Netwo IB9381-HT IP8166	ork Speed Dom	
Available Group	Cameras: Name FE9181-H FD9381-EHTV Outdoor Network Spe Outdoor Network Spe IB9381-HT IP8166	192.168.6.105 192.168.6.109 192.168.6.169 192.168.6.169 192.168.6.170 192.168.6.170	->	FE9181-H FD9381-EHTV Outdoor Netwo Outdoor Netwo IB9381-HT IP8166	ork Speed Dom	
Available Group	Cameras: Name FE9181-H FD9381-EHTV Outdoor Network Spe Outdoor Network Spe IB9381-HT IP8166	192.168.6.105 192.168.6.109 192.168.6.169 192.168.6.169 192.168.6.170 192.168.6.170	->	FE9181-H FD9381-EHTV Outdoor Netwo Outdoor Netwo IB9381-HT IP8166	ork Speed Dom	
Available Group	Cameras: Name FE9181-H FD9381-EHTV Outdoor Network Spe Outdoor Network Spe IB9381-HT IP8166	192.168.6.105 192.168.6.109 192.168.6.169 192.168.6.169 192.168.6.170 192.168.6.170	->	FE9181-H FD9381-EHTV Outdoor Netwo Outdoor Netwo IB9381-HT IP8166	ork Speed Dom	

If you are running the **Playback** utility, close and re-start the Playback utility. Open the device tree, and you should be able to see previous recordings listed under each camera. This indicates previous recordings can be accessed from the recovery path and the databases on the two VAST instances have been synchronized.

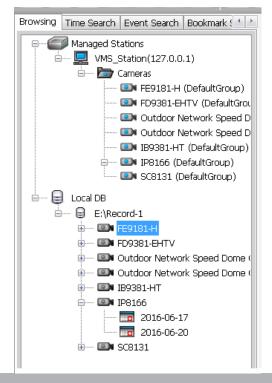


In addition to the use of Recovery path, if you need to access the recordings made by a different VAST server, you can also manually copy the entire storage group folder, such as D:/recording, to a hard drive or a network share, and then avail the recordings on the new server.

Different from the use of Recovery Path (Database Merge), this scenario applies to two VAST servers with different configurations.



On the Playback window, right-click the Local DB icon to display the **Add** command. Select the folder where the recordings reside. The recordings should be listed under each of the cameras.



Note that as the folder structure remains intact, you can still manually remove some of the video files within, if they are not of your interest.

316 - User's Manual

The **Export Storage** is another backup function.

To export video recordings to a specific target folder, enter Configuration > Station Settings > Recording Storage Settings. Click the Browse button to select a target folder.

Select the default storage group, click on the **Export** button **b**. Select all cameras (default) or manually select specific cameras from the list. If you want to select individual cameras, use the arrow buttons to move cameras to the right column. Select the time span of the export using the selectors below. The minimum span is one day. Click OK to proceed.

Note that the videos thus exported can not be indexed in the Playback utility's device list. Each video clip should be watched individually.

<u>_</u>	8 🕺 🛃								
Recovery	Storage Path				Storage I	nformation			
	C:\Record-1				Total:	916.15	GBytes		
*	E:\recovery_path E:\storage_export		 Export Storage Output Folder Destination Path: 						Browse
ameras in : wailable (Storage Group		Name SC8131 IP8166	Address 192.168.40.1 192.168.6.160					
Group	Name FE9181-H FD9381-EHTV Outdoor Network Spe Outdoor Network Spe IB9381-HT	A 19 19 19	IB9381-HT Outdoor Netw Outdoor Netw FD9381-EHTV FE9181-H		DefaultGroup DefaultGroup DefaultGroup	->			
~	IP8166 SC8131	19 19	Select Time Perio Start Time: 2016			End Time	: 2016/ 6/3	:0 🗢	

Depending on the length of time span and the number of selected cameras, the export process may take several minutes or longer to complete.



- If the members of the original VAST configuration (cameras) have been changed, the VAST server will not be able to locate the original MAC addresses, and may not be able to retrieve past recordings.
- The **Export Storage** function only takes effect on the VAST server local console. It is not available on a web console.

Appendix G Other Parameters

Disable background decode:

Administrators can choose to disable the background decode for other view cells when entering a single view of a specific camera. This can help reduce the CPU load on a server short of system resources.

This function can be evaluated in two aspects:

- 1. For a server with abundant system resources, there is less stress when disabling and enabling background decode. When a user leaves a single view and enters a multi-cell view, the background decode starts again, and a powerful server handles this process more smoothly.
- 2. For a server with less resources, this feature can reduce CPU load. However, latency can occur during the process when returning from a single view back to a multi-cell view.

This feature is enabled by editing the ClientSetting.ini file in C:\ProgramData\VIVOTEK Inc\ VAST\Client\LiveClient.

64	GeneralSetting]
65	AutoFullScreen=0
66	AutoAddCam=1
67	SSE=1
68	EnableRTSP=0
69	RTSPPort=4543
70	StreamingRelay=1
71	SubscribeCamera=0
72	SortCamera=0
73	LiveEvent=1
74	LocalAlert=0
75	EventWindowType=0
76	RotateSec=10
77	AutoRotate=0
78	DeInterlace=0
79	SyncAudioVideo=0
80	AutoStreamSize=1
81	AutoStreamSizeMode=0
82	InstantReplay=1
83	DefaultPlaybackLength=1
84	BufferTime=0
85	GDIOnly=0
86	GPUDecode=0
87	GPUDecodeMaxNumber=0
88	MinPTSpeed=-1
89	MaxPTSpeed=-1
90	DisableBackgroundDecode=1