VAST 2
View, Search, Control, Integrate

LPR Solution & Data Magnet • Smart Search II • Smart VCA • Cybersecurity Management Solution • Add-on Solutions

VIVOTEK’s VAST 2 is an easy to use IP video management software (VMS). To meet users’ real-world needs, it comes with exciting advancements such as easy operation on single or multiple monitors, custom layout to fit both in corridor and panorama format, rapid export of multi-channel video and acquiring VCA analytics & cybersecurity attack events from VIVOTEK cameras and substations (such as NVRs) in a hierarchical system structure.

VAST 2 is integrated with LPR Solution, Cybersecurity Management Solution, Smart VCA and Smart Search II. Cybersecurity attack and Smart VCA events can be searched and replayed in Event Search and be set as triggers in Alarm Management. In addition, Smart Search II allows users to search for objects or people related videos and provides an option to draw a custom zone to focus on a critical area. To efficiently solve users’ problems and system bugs, VAST 2 provides an automatic problem feedback mechanism to directly connect to VIVOTEK’s FAE system. Any feedback will be handled instantly.

Utilizing automatic configuration wizards, VAST 2 can significantly reduce the time and cost of installing multiple camera surveillance systems. With more advanced setup features such as logical tree, camera configuration, archive management and recording schedule backup solutions, VAST 2 provides easy and intuitive UI with rich functionality to meet the needs of any customer. For efficient video management, VAST 2 also provides multi-layered, interactive 2.5D maps, and sophisticated alarm management. Furthermore, VAST 2’s add-on solutions include failover protection, a transportation solution with GPS coordinates, transaction solutions with POS integration and Data Magnet integration solutions. All of these features combine to make VAST 2 the perfect VMS for use in retail, banking, transportation, and industrial applications.

Key Features
- Cybersecurity Management Solution
- Smart Search II: Powerful Search for Smart Motion Detection
- Smart VCA: AI Powered Video Analytics
- Multi-Monitor Support with Tabbed Windows
- Evidence Lock: Automatically Bookmark Related Recordings when Alarm Triggered
- 2.5D Visualization eMap
- Evidence Export: Manually Export Video Recordings or Alarm Clips
- New Matrix for Video Wall Solution
- Automatic Problem Feedback Mechanism
- Multiple Fisheye Dewarp Modes
- System Overview Dashboard
- Add-on Solutions: Failover, Transportation, Transaction and Data Magnet

New Features
- License Plate Recognition Solution & Data Magnet
- Show Related Data in Live View
- Edit Types of Data Displayed
- Link Saved Data with Recordings
- Display or Export Search Results in Line Graph & Table
- Trigger a Date Magnet Alarm with Preset Criteria
- Send the Live Streaming from Event-Triggering Cameras to Alarm Tab
- Alarm Grouping for Enormous Number of Alarms
- Mute Alarm Notifications
- Multi-Sensor Display Modes: 1P, 1R, 1P2R, 1P3R
- Easy-to-Use Interface for MAC License Users
- Customize the Accessible Time Range of Playback by Users
Highlight Features

Intuitive UI Design
Custom layout adjustment and fisheye ROI control for better security management experience.

Auto Setup
Easy configuration through a fully automated process, saving users’ time and cost to install surveillance devices.

Problem Feedback Mechanism
Quickly detect system problem and feedback to VIVOTEK Technical Support via automatic popup or manual operation.

Multi-Monitor & Tabs
Manage unlimited tasks with multiple screens for intuitive and easy surveillance.
Highlight Features

Thumbnail Search
Efficiently search suspicious video and specific events with thumbnail view.

Scheduled Backup
Automatically back-up of the recording video clip to another network storage device.

Evidence Lock
Manually extend the retention time for video recordings and manage a high number of investigation scenarios.

Evidence Export
Easily export multiple video recording with custom layouts in a specific time period or instant snapshot with a fast click.

Thumbnail Search

Evidence Lock

Evidence Export
Highlight Features

2.5D Visualization eMap
Multiple layers and camera FOV views allow users to instantly pinpoint a selected camera and the location on the map.

All New Matrix
New Matrix provides a video wall feature to view cameras streaming from a VAST 2 server. Users can manage the matrix client(s) directly through the VAST 2 server.

Smart Search II
Allow users to search for objects or people related videos according to the VCA (Video Content Analysis) metadata from camera videos. Users can quickly sort through large amounts of evidence to find precisely what is needed.
Highlight Features

Cybersecurity Management Solution
Integrate cybersecurity attack events from VIVOTEK cameras and NVR to VAST 2 alarm management. In addition to alarm action and notification, VAST 2 becomes the central management site to recognize attack trends and status, as well as acquire attack information.

Data Magnet
Data Magnet enables VIVOTEK’s License Plate Recognition cameras or third-party data sources to integrate into VAST 2, providing rapid access to recording data and supporting simultaneous data display during live streaming. Additionally, users can also utilize Data Magnet’s alarm management to customize alarm triggering rules and actions, enabling users to receive alarm notifications immediately upon preset alarm criteria triggering.

License Plate Recognition Solution
VAST 2 can link license plate information with live streaming and recordings via integration with VIVOTEK’s License Plate Recognition cameras (such as IB9387-LPR). Users can search and analyze historical data and display the number of recognized license plates data in line graphs, export search results or display live streaming video data from alarm event-triggering cameras when license plate information matches preset alarm criteria.
Highlight Features

Alarm Grouping
Users can organize an enormous number of alarms by devices and event types with a one-click-function in the VAST 2 Alarm List. They can also send or pin the live streaming from the same camera in one viewing cell on the VAST 2 Alarm Tab.

Mute Alarm Notifications
Allow users to disable alarm notifications until they are turned back on. They can also set alarm notifications to automatically turn on after a selected period of time.

Multi-Sensor Display Modes
To maximize the high-resolution characteristic of multi-sensor cameras, VAST 2 provides multiple display modes for VIVOTEK’s multi-sensor cameras: 1P, 1R, 1P2R, 1P3R. It allows users to monitor video details in several fields of view simultaneously.
Add-on Solutions

Failover Solution
Reliable backup system designed to transfer recording tasks from N sites to M sites upon the rare occurrence of disk or other malfunction.

Transportation Solution
VAST 2 can trace vehicles through information provided from GPS receivers, track vehicles’ real-time location, and playback videos with recorded visited paths.

Transaction Solution
Retains all transaction details including not only POS data but also associated video footage to create deeper POS knowledge. Enter search conditions to filter transactions more easily.

<table>
<thead>
<tr>
<th>Name</th>
<th>Unit</th>
<th>Subtotal</th>
</tr>
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<tbody>
<tr>
<td>Tomato</td>
<td>1</td>
<td>8</td>
</tr>
<tr>
<td>Banana</td>
<td>1</td>
<td>12</td>
</tr>
<tr>
<td>Drink</td>
<td>2</td>
<td>24</td>
</tr>
<tr>
<td>Cookies</td>
<td>4</td>
<td>28</td>
</tr>
</tbody>
</table>

Total: 72
# Technical Specifications

<table>
<thead>
<tr>
<th>Model</th>
<th>VAST 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Series</td>
<td>Change the Way You Experience VMS</td>
</tr>
<tr>
<td>Software</td>
<td>VAST 2</td>
</tr>
<tr>
<td>Version</td>
<td>2.6</td>
</tr>
</tbody>
</table>

## General

- **Auto Wizard**: Plug & Play Auto Setup
- **Maximum Number of Cameras***: Unlimited
- **Maximum Number of Servers***: Unlimited
- **Maximum Number of Clients**: Unlimited
- **Supported OS**: Windows 10, 7
  - Windows Server 2012, 2016, 2019
  - mac OS Mojave 10.14 (Client Only)
- **Supported Mobile App**: iViewer (iOS/Android)
- **Virtual Matrix***: Supported (VAST 2 Matrix)
- **Tabbed Browsing***: Supported
- **Devices Pack**: Ver. 5.9.276

## LiveView (Local Display)

- **Max. Channels***: 64-channel per Monitor (Supports up to 8 Monitors)
- **Layout**:
  - Equal: 1x1, 2x2, 3x3, 4x4, 5x5, 6x6, 7x7, 8x8
  - Panorama: 1P+6, 2P, 2P+3, 3P
  - Focus: 1+12, 1+16, 1+3, 1+5, 1+7, 1+9, 2+8
  - Vertical: 1V+6, 2V+2, 2V+3, 3V, 3V+4, 4V, 4V+4, 5V
  - Single Layout display
- **Custom Layout**: Supported
- **Layout Configuration Saving**: Supported
- **Layout Rotation**: Supported
- **Stream Application**: Stream Selection & Auto Streaming Size

## View Application

- **E-Map Embedded**: Drag & Drop, Remote I/O Control
- **PIP (Digital Zoom)**: Instant Playback, Video Display Mode (Aspect Ratio & Camera Information)
- **Metadata Display**: VCA, POS and Data Magnet

## Fisheye Dewarp Mode

- **1O, 1P, 1R, 1O3R, 4R, 2P, 4R Pro, 1O8R**

## Fisheye Auto-Pan

- Supported

## Multi-Sensor Display Mode

- **1P, 1R, 1P2R, 1P3R**

## Playback

- **Max. Channels***: 64-channel per Monitor (the max. number of monitors supported depends on the decoding capability of your system)
- **Layout**:
  - Equal: 1x1, 2x2, 3x3, 4x4, 5x5, 6x6, 7x7, 8x8
  - Panorama: 1P+6, 2P, 2P+3, 3P
  - Focus: 1+12, 1+16, 1+3, 1+5, 1+7, 1+9, 2+8
  - Vertical: 1V+6, 2V+2, 2V+3, 3V, 3V+4, 4V, 4V+4, 5V
  - Single Layout display
- **Custom Layout**: Supported
- **Playback Mode**: Asynchronous & Synchronous
- **Playback Control**: Play, Rewind, Pause, Stop, Next/Previous Frame, 1/64X ~ 64X Speed Control, Bookmark
- **Playback Timeline**: Scale Adjustment, Event Timeline Interval Display
- **Search Mode**: Calendar, Event, Alarm, Bookmark, Thumbnail, Smart Search II, Transaction (POS), Data Magnet, Log
- **Evidence Lock**: Supported

## Video

- **Video Format**: MJPEG, MPEG4, H.264 AVC, H.264 SVC, H.265
- **Video Resolution**: Up to 12 Megapixels

## Audio

- **Audio Format**: G.711, G.726, AMR, AAC
- **Audio Capability**: Two-Way Audio
- **Audio Control**: Mute

## Record

- **Additional Recording Time for Event Recording (sec.)**: Pre-Record: 3-15, Post-Record: 10-60
- **Recording Stream Type**: Unicast
- **Recording Stream**: Single
- **Max. Number of Recording Channels**: 256 channels per recording group (Please refer to system requirement when designing your surveillance deployments)
- **Recording Mode**: Continuous, Event, Customized Schedule, Activity Adaptive Streaming
- **Recycle Options**: Recycling time depends on the remaining storage space or the set number of days
- **Recoding File Format**: 3 GP

## External Storage

- **Recording**: NAS (SMB & CIFS)
## Technical Specifications

### Alarm Management

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alarm Period (sec.)</td>
<td>Max. 30</td>
</tr>
<tr>
<td>Alarm Filter</td>
<td>Time, Trigger Type (Camera/Substation/System), Status, Name, Trigger Source</td>
</tr>
<tr>
<td>Alarm Setting</td>
<td>Realtime System Notification (Enable/Disable/Disable for a time period)</td>
</tr>
<tr>
<td>Schedule Type</td>
<td>Continuous, Schedule</td>
</tr>
</tbody>
</table>

### Alarm Result Display

- List View
- Thumbnail View
- Group Mode

### Alarm Status

- New
- In Progress
- False alarm
- Close

### Alarm Result Export

- `.csv` / `.3gp` file

### Additional Time for Exported Alarm Clip (min.)

- Pre-Triggred: 1~10
- Post-Triggred: 1~60

### Data Magnet

<table>
<thead>
<tr>
<th>Data Source Type</th>
<th>VIVOTEK License Plate Recognition, Third party data source</th>
</tr>
</thead>
</table>

### Search Result Display

- List View
- Chart View

### Search Result Export

- `.csv` / `.png` file

### eMap

- Source Import Picture & Folder
- Search Result Display
  - List View, Chart View
- Search Result Export
  - `.csv` / `.png` file
- eMap

### Source

- Import Picture & Folder

### Supported Image Format

- BMP, GIF, JPG, PNG, SVG

### Supported Items

- Camera, Camera DI/DD, DI/DD Device (includes NVR DI/DD), Regional map

### Adjustment

- Vertical Angle Adjustment

### Marked

- Add, Remove, Direction Control, PTZ Control, FOV Control, LiveView & Playback

### Event Notification

- One or more Live Streaming

### PTZ Control

- Mouse Draw & Drag Control

### PTZ Operation

- Direction Control, Home, Focus, Preset, Patrol (Group), Tracking, Pan, Stop, Speed

### PTZ Operation Mode

- Click to Move & Continuous Move

### Wiper Blade Control

- Supported

### Export

- Snapshot
  - PNG & JPEG
- Export File
  - 3GP & EXE

### Player

- One or more Live Streaming

### PTZ

- PTZ Control
  - Mouse Draw & Drag Control
- PTZ Operation
  - Direction Control, Home, Focus, Preset, Patrol (Group), Tracking, Pan, Stop, Speed
- PTZ Operation Mode
  - Click to Move & Continuous Move
- Wiper Blade Control
  - Supported

### Export

- Snapshot
  - PNG & JPEG
- Export File
  - 3GP & EXE

### Player

- Layout
  - Single & Multiple layout display
- Custom Layout
  - According to playback export layout configuration
- Drag & Play
  - Supported (VIVOTEK 3GP & MP4 files)
- Playlist
  - Drag & drop, Play selected videos, Play all videos, Delete selected videos, Delete all videos
- Playback Mode
  - Asynchronous & Synchronous
- Playback Control
  - Play, Rewind, Pause, Stop, Next/Previous Frame, 1/64X ~ 64X Speed Control
- Playback Timeline
  - Scale Adjustment
- Event Timeline Interval Display
- Snapshot
  - PNG & JPEG
- Snapshot for Dewarped Fisheye Camera
- Export Video
  - 3GP

### Backup

- Schedule
  - NAS (SMB & CIFS)

### User Management

- Authentication
  - Basic Account/Windows AD Account
Technical Specifications

User Level
Administrator, Customized User

User Control
Client Permission (Operation & Configuration) & Camera Permission

System

Dashboard
Supported

System Error List
Supported

Server System Status Display
CPU/Memory/Network

Client System Status Display
CPU/Memory

Date & Time
Sync PC

Network
SMTP & HTTPS

Language
Czech, English, French, German, Italian, Japanese, Korean, Persian, Portuguese, Russian, Spanish, Simplified Chinese, Traditional Chinese

Diagnostic Service
Supported

Log Management
Supported

MAC Client
Supported*

* Limitations of MAC Client
1. Video can only be exported in 3GP format.
2. AD login cannot be setup in MAC client.
3. MAC client only supports the joystick AJ001.

Device Integration

VIVOTEK’s Camera
8000 & 9000 Series

VIVOTEK’s NVR
ND & NR & NV Series (ND8321 excluded)

VIVOTEK’s Software
VAST 2

Joystick
VIVOTEK Joystick AJ002

I/O Box
Advantech ADAM-6000 Series
CHYU CYT-133SC
MOXA ioLogik E1210, E1211 and E1212

POS (Add-ons)
POSET
Laitesh
Allsense (Implement in NVR, Searchable in VAST2)

Camera Integration

Camera Insert
Manual & Search

Refresh Devices
Manual

Video Source
VIVOTEK, ONVIF & RTSP Streaming

Basic Setting
User Name, Password & Camera Model Detection

Connection Setting
Configuration Protocol: HTTP, HTTPS

Video Setting
Streaming Protocol: TCP, UDP, HTTP, HTTPS

Video Setting
Video Stream, Codec, Resolution, Maximum frame rate, I-frame period, video quality, FPS, Maximum bit rate

Image Setting
Timestamp, Video title, Video orientation, Mount type (fisheye only), Color, Power line-frequency

Motion Detection Setting
Supported

ONVIF Profile
Profile S

ONVIF Stream
Video (H.264, MPEG4 & MJPEG) & Audio (G.711, One Way)

ONVIF Control
PTZ Control (Up, Down, Left, Right & Zoom In/Out)

ONVIF Discovery
Supported

ONVIF Event
Motion Event, D/O, Video Lost/Restore

VCA Solution

Security Intelligence
Line Crossing Detection, Loitering Detection, Intrusion detection, Face detection, Missing object detection, Unattended object detection, Crowd detection

Business Intelligence
People Counting

Advanced Features

VIVOTEK Exclusives
Panoramic PTZ
Seamless Recording
Activity Adaptive Stream
Smart Search II
Smart VCA Integration
Cybersecurity management solution integration
VCA Counting

Add-ons**

Failover Solution
N x M System Structure

3rd Party Integration
TCP Message, Data Magnet

Transportation Solution
Google Map and User-Defined Maps
Support Vehicle GPS Tracking
Tracks Playback

Transaction Solution
POS Terminal Integration (Serial or Network Ports)
Live Printing of Transactional Data
Transaction Corresponding Video Search

Integration Solution
TCP Trigger

* Please refer to System Requirements Page (http://www.vivotek.com/vast2/#system)
** Advanced license is required. (Additional charges may apply)
### System Requirements

#### VAST 2 Server

<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Server (Recording Channels)</td>
<td>Up to 64-CH Up to 128-CH Up to 256-CH</td>
</tr>
<tr>
<td>CPU</td>
<td>6th Generation Intel® Core™ i3 Processors or above 6th Generation Intel® Core™ i5 Processors or above</td>
</tr>
<tr>
<td>RAM****</td>
<td>4 GB or above 8 GB or above 8 GB or above</td>
</tr>
<tr>
<td>Hard Drive (Enterprise Model Only) Suggestion</td>
<td>1 Volume Group* 2 Volume Group* 4 Volume Group*</td>
</tr>
<tr>
<td>Recording Throughput</td>
<td>1 Volume Group: Max. 200 Mbps**</td>
</tr>
<tr>
<td>Network Interface Card</td>
<td>Ethernet, 1Gbit recommended***</td>
</tr>
</tbody>
</table>

* The size of volume group depends on the total recording server throughput.
** The combined maximum bitrate of cameras cannot exceed the total recording throughput.
*** Please use a dual-channel memory configuration.

#### VAST 2 LiveView & Playback

<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Client (Display Channels)</td>
<td>H.264, 720P, 2Mbps for Each Channel** 8-CH 16-CH 32-CH</td>
</tr>
<tr>
<td></td>
<td>H.264, 1080P, 4Mbps for Each Channel*** 6-CH 10-CH 18-CH</td>
</tr>
<tr>
<td></td>
<td>H.265, 1080P, 4Mbps for Each Channel 3-CH 5-CH 9-CH</td>
</tr>
<tr>
<td>CPU</td>
<td>6th Generation Intel® Core™ i3 Processors 6th Generation Intel® Core™ i5 Processors 6th Generation Intel® Core™ i7 Processors</td>
</tr>
<tr>
<td>RAM****</td>
<td>8 GB or above 8 GB or above 16 GB or above</td>
</tr>
<tr>
<td>Graphics Card*****</td>
<td>1GB RAM, with Direct3D acceleration</td>
</tr>
<tr>
<td>Network Interface Card</td>
<td>Ethernet, 1Gbit recommended</td>
</tr>
</tbody>
</table>

* Independent graphics card is necessary when using Windows Server OS.
** Display requirements of a 3MP fisheye camera is equal to a 720P camera.
*** Display requirements of a 5MP fisheye camera is equal to a 1080P camera.
**** Please use a dual-channel memory configuration.
***** Please update to the latest GPU driver.

If you plan to install both VAST 2 Server & Client on the same PC, please remember to consider the combined loading when evaluating system requirements.

- 60-day trial includes 256-channel camera license and all advanced license features.