

Video Analytics



At a glance

- Up to 115 Channels of Deep Learning Object Tracking analytics per server
- Deep Learning Filter for Improved Detection and False Alarm Rejection
- Up to 40 Zones and Rules per Channel
- Mini PC or 2RU Rack Mount form factor

Wavestore Video Analytics

Wavestore’s Deep Learning Video Analytics capability is a powerful extension to our core VMS software, adding the ability to detect and search for a wide range of behaviours and events, system-wide, to provide a truly intelligent Video Management System.

Utilising virtually any IP camera, Wavestore Video Analytics can easily be deployed as part of a new project or retro-fitted to existing systems. Wavestore Video Analytics servers can provide up to 115 channels of Deep Learning Object Tracking. These include people and vehicle counting with speed and direction filters, intrusion detection and loitering.

Image stabilisation to improve image quality and tamper detection to alert operators of unauthorised camera obstruction or movement, are included as standard.

Video channels are re-streamed to Wavestore Video Management Software (VMS) storage/ recording servers together with metadata which can be used to trigger a host of actions using Wavestore’s ‘Cause and Effect’ event rules engine. Streams with bounding box overlays are also available to ensure operators are instantly aware of detected persons or objects of interest within Wavestore’s WaveView client software.

To improve detection accuracy across the entire scene, as well as minimise false alarms and speed up deployment, a built-in 3D calibration tool is used on set-up to define the height, angle and perspective of subjects over various distances within the field of view. The Metadata from the Video Analytics Appliance can be collected for the creation of counting and heatmap reports. This data can be collected centrally using an additional server.

Deep Learning

Because humans and vehicles are usually the only things of interest, deep learning has been deployed within Wavestore Video Analytics to filter out environmental and other unwanted activity from giving falsepositive alerts.

As such, activity from things like moving trees, clouds, car headlight reflections and animals etc., which can all cause false positive readings, are identified through deep learning and ignored by the analytic algorithms.

This ensures the highest possible levels of accuracy from the system and greatly reduces the opportunity for false alerts.

Wavestore’s applied intelligence through Machine Learning contains three well developed and essential elements:

- A Deep Learning Filter
- A Deep Learning Object Tracker
- A Deep Learning People Tracker

Analytics include:

- Intrusion detection
- Vehicle and People Counting
- Suspicious Activity
- Loitering and Crowding
- Personal Activity
- Occupancy and Queue Counting
- Retail Analytics
- Tailgating
- Abandoned and Removed Objects
- Vehicles and People in Prohibited Areas

Ordering information:

WA-VADLOT-8
WA-VADLOT-12
WA-VADLOT-25
WA-VADLOT-80
WA-VADLOT-115

Wavestore DL Video Analytics Server for up to 115 Deep Learning Object Tracking Analytics Channels.

WA-VADLOPTDR-1
 Wavestore Deep Learning Object Tracking Analytic with Dashboard Reporting

*Other options available. Please contact your local Wavestore representative.

Rule Set and AI Engines

Wavestore Analytics Engine with Deep Learning Filter, Deep Learning People Tracking, Deep Learning Object Tracking and rich library of detection behaviours

Detection Zones and Rules: Multi-segment Polygons and Lines

Intrusion (motion) Detection

Tamper Detection

Detection Behaviour: Enter, Exit, Appear, Disappear, Stop, Direction, Dwell Filter, Abandoned/Removed Object, Tailgating

Logical Rules extend standard rules to allow various behaviour combinations

3D Behaviour: Perspective, Size and Speed Filters

Object Classification: Configurable Max./Min. object sizes and Max./Min. speeds

High accuracy counting for people and vehicles, 20 counters in total

Meta Data, JSON format, Plain XML format



DL Filter



DL People Tracker



DL Object Tracker



Intrusion Detection



Aggressive Behaviour



Fall Detection



Hand Object Interaction



QR reader



Meta Data



Speed Filter



Colour Filter



Logical Rules



Zones & lines



Tamper Detection



Appear Filter



Disappear Filter



Dwell Filter



Enter Filter



Exit Filter



Stopped Filter



Counting



Counting Lines



Tailgating Filter



3D Calibration



Abandoned Object Filter



Removed Object Filter



Direction Filter

TECHNICAL SPECIFICATION	WA-VADLOT-8	WA-VADLOT-12	WA-VADLOT-25	WA-VADLOT-80	WA-VADLOT-115
General					
Maximum No. of Channels	8 / 12 / 25 / 80 or 115 channels of Deep-Learning Object Tracking Video Analytics				
Supported Browsers for Setup	Ubuntu Linux 18.04, IE, Safari, Chrome, Firefox (with HTML5 support) – No plugins required				
Hardware					
CPU	Orin Nano 4GB	Orin Nano 8GB	Intel Core i3 – 13thGen	Intel Core i5 – 13thGen	Intel Core i7 – 13thGen
Graphics Adapter	512 Core Ampere with 16 Tensor Cores	1024 Core Ampere with 32 Tensor Cores	Nvidia GTX1660 Super	Nvidia RTX4060	Nvidia RTX4060TI
AI Deep Learning					
Deep Learning Filter	AI filter to the rule set to very accurately detect human or vehicle targets and their activity. Requires no calibration.				
Event Reporting					
Logical Rules	Combine rules to create specific rules using AND, OR, CONTINUOUS (happened for at least 3 seconds) and PREVIOUSLY (happened within last 3 seconds)				
Event Triggers	Events triggered by Analytic Rules directly or by combinations using Logical Rules are immediately available as Event Causes in Wavestore Event Rules Engine				
System Setup and Diagnostics					
3D Calibration	Tool to enable the scene to be calibrated to accurately establish the type of target; person, group, vehicle, animal etc., regardless of the depth of the scene				
Shake Cancellation	Stabilises image due to camera movement and vibration				
Camera Tamper	Detect changes in video including video-loss, camera covered, camera moved				
Video Sources					
Video Input Method	RTSP & ONVIF				
Supported Video Formats	H.264, MJPEG				
Frame Rates	15fps to 30fps				
Minimum Resolution	320 x 240				
Physical					
Form Factor	Mini PC		2U 19" Rack Mount	2U 19" Rack Mount	2U 19" Rack Mount
Dimensions (D x W x H)	79 x 128.5 x 39.1mm		480 x 482 x 88.8mm	824 x 489 x 88.8mm	824 x 489 x 88.8mm
Weight	Approx 350g		TBD	TBD	TBD
Operating temperature range	0<50 degC		0<40 degC	0<40 degC	0<40 degC
Operating relative humidity	20 < 85% RH		20 < 85% RH	20 < 85% RH	20 < 85% RH
Power					
Power input	DC 12V/5A (1x DC Power Jack)		100vAC < 240vAC	100vAC < 240vAC	100vAC < 240vAC
Power consumption	Max 18 W		500 W	800 W	800 W
Warranty					
Standard warranty	3-year return to base				
Extended warranty	Up to 5-years				

About Wavestore

Wavestore is a leading provider of video management software (VMS) solutions, empowering organizations worldwide to enhance their security infrastructure. With a commitment to innovation and customer satisfaction, Wavestore delivers cutting-edge technology that addresses the evolving needs of modern security environments. By leveraging advanced analytics, intuitive interfaces, and seamless integrations, Wavestore ensures that its clients have the tools they need to protect people, assets, and information effectively.



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