



## PSG - VICADS 4.3.2

### PRODUCT OVERVIEW:

The Video Image Control and Display System (VICADS®) operates on a Hardened Platform, is Nuclear Certified and provides a video over IP solution for using existing network equipment and infrastructure to control and monitor video cameras. Video surveillance and camera control is available to any authorized workstation connected to the network. Video can be digitally recorded to a central storage area for archival or VICADS® is a highly versatile Video-over-IP hardware and software solution system for viewing and distributing real-time video over existing equipment and infrastructure.

### PRODUCT DESCRIPTION:

GSA Schedule - <https://psgglobal.net/gsa-schedule>

POC - [sales@psgglobal.net](mailto:sales@psgglobal.net)

Features	Benefits
Sturdy, Scalable, Serviceable	– Designed for high reliability minimal downtime applications, expansion without obsolescence and ease of maintenance
Cybersecurity Aware Platform and Information Assurance Posture	– DoD Risk Management Framework (RMF) Compliant Secure, Encrypted Web Configuration Active Directory Integration
Critical Infrastructure Protection of Wide Area Perimeters	– Challenging areas such as Borders, Waterways or Wide Area Perimeters with little or no security are now defensible & enhanced situational awareness is gained through early detection & response
Geographic Information System (GIS) & Ground Based Radar (GBR) Integration	– Active tile high quality GIS mapping interface with pan, scroll and zoom, dynamic status icons, geo-located cameras and interactive operator controls
Redundancy and Regionalization	– Fully redundant hardware configurations for mission critical applications. Regional monitoring and management deployment options
Advanced Video Analytics Integration	– Video realm intelligence can be fully integrated into a common operator picture with the same intelligent event handler and video switching technology
Open Platform Standards Based Approach	– Supports ICD, ONVIF, IETF, NTCIP and other open integration-based protocols and standards - Offers a platform API/SDK to enable easy partner integration for command and control of video



## PSG - VICADS 4.3.2

Hardware Specifications Vault (Dell)	Operating System	Ubuntu server 16.04.7 LTS
	Processor	(2) Intel Xeon Gold 5218 2.3G, 16C/32T, 10.4GT/s, 22M Cache, Turbo, HT (125W) DDR4-2666
	RAID Controller	PERC H740P RAID Controller, 8GB NV Cache, Mini card
	Memory	16GB RDIMM, 3200MT/s, Dual Rank
	Storage	Chassis with up to 12x3.5" HDDs on BP, No Mid-Bay and 4x2.5" HDDs Flexbay, 1 or 2CPU Config
	Network	Broadcom 5720 Quad Port 1GbE BASE-T, rNDC
	Power Supply	Dual, Hot-plug, Redundant Power Supply (1+1), 1100W
	Power Consumption	
	Peripherals	DVD-RW, Mouse, Keyboard
	Form Factor	Rack Mounted (2U)
	Warranty	3/3/3 (material/labor/onsite) Mini Warranty US
	Hardware Part Numbers	
	Software Part Numbers	
Performance Specifications Vault (Dell)	# of Servers	
	# of Recording Servers	Unlimited
	# of cameras	Unlimited
	# of users	Unlimited
	# of Clients	Unlimited
	Digital Matric Switcher	Interfaces with CCDE and provides digital matrix switcher for IVA with live and recorded video automatically delivered to client workstations
	Active Directory Integration	Yes, with Kerberos security for user authentication
	Configuration Interface & Database	Web based (SSL) and PostgreSQL
	Supporting Encoding Protocols	MJPEG, MPEG2 TS/ES, MPEG4 part 10 (H.264)
	Device Discovery Protocols	UPnP, ONVIF, NMRA, Gsauc, Bonjour
	PTZ Protocols	Pelco D, Pelco P, Pelco ASCII, Bosch OSRD, Most TASS Cameras, VICON, VICON NTCIP, VICON Native, Any cameras on Moog QuickSet, Pedestal, Hurley IR, Allegiant Switcher, SONY VISCA, Phillips LTC2600, CCHU iDome, FLIR NexusXML, ONVIF
	Video Analytics Options	Video Motion Detection, Object Video 5x-6 (edge or server based)
	Certifications and Approvals	DoD Approved for PL1N and PL1-PL4, DIACAP compliant
Environmental Specifications Vault (Dell)	Temperature and Humidity Non-Operating	-40°C to 65°C (-40°F to 149°F)
	Temperature and Humidity Operating	10°C to 35°C (50°F to 95°F)
	Heat dissipation (EST)	4100 BTU/hr
Dimensional Specifications Vault (Dell)	Rack mounted	Height: 86.8mm (3.42") Width*: 482.0mm (18.98") Depth*: 751.34mm (29.58")
	Weight	33.1kg (72.91 lbs)



## PSG - VICADS 4.3.2

Hardware Specifications Cyber (Dell)	Operating System	VMware ESXi6.7
	Processor	(2) Intel Xeon Gold 5218 2.3G, 16C/32T, 10.4GT/s, 22M Cache, Turbo, HT (125W) DDR4-2666
	RAID Controller	PERC H740P RAID Controller, LP Adapter
	Memory	16GB RDIMM, 3200MT/s, Dual Rank
	Storage	Chassis with up to 8 x 3.5" SAS/SATA Hard Drives for 2CPU Configuration
	Network	Broadcom 5720 Quad Port 1GbE BASE-T, rNDC
	Power Supply	Dual, Hot-plug, Redundant Power Supply (1+1), 750W
	Power Consumption	
	Peripherals	DVD-RW, Mouse, Keyboard
	Form Factor	Rack Mounted (2U)
	Warranty	3/3/3 (material/labor/onsite) Mini Warranty US
	Hardware Part Numbers	
	Software Part Numbers	
Performance Specifications Cyber (Dell)	# of Servers	
	# of Recording Servers	Unlimited
	# of cameras	Unlimited
	# of users	Unlimited
	# of Clients	Unlimited
	Digital Matrix Switcher	Interfaces with CCDE and provides digital matrix switcher for IVA with live and recorded video automatically delivered to client workstations
	Active Directory Integration	Yes, with Kerberos security for user authentication
	Configuration Interface & Database	Web based (SSL) and PostgreSQL
	Supporting Encoding Protocols	MJPEG, MPEG2 TS/ES, MPEG4 part 10 (H.264)
	Device Discovery Protocols	UPnP, ONVIF, NMRA, Gsauce, Bonjour
	PTZ Protocols	Pelco D, Pelco P, Pelco ASCII, Bosch OSRD, Most TASS Cameras, VICON, VICON NTCIP, VICON Native, Any cameras on Moog QuickSet, Pedestal, Hurley IR, Allegiant Switcher, SONY VISCA, Phillips LTC2600, CCHU iDome, FLIR NexusXML, ONVIF
	Video Analytics Options	Video Motion Detection, Object Video 5x-6 (edge or server based)
Certifications and Approvals	DoD Approved for PL1N and PL1-PL4, DIACAP compliant	
Environmental Specifications Cyber (Dell)	Temperature and Humidity Non-Operating	-40°C to 65°C (-40°F to 149°F)
	Temperature and Humidity Operating	10°C to 35°C (50°F to 95°F)
	Heat dissipation (EST)	2843 BTU/hr
Dimensional Specifications Cyber (Dell)	Rack mounted	Height: 86.8mm (3.42") Width*: 482.0mm (18.98") Depth*: 751.34mm (29.58")
	Weight	28.6kg (63.05 lbs)



## PSG - VICADS 4.3.2

Hardware Specifications Analytic (Dell)	Operating System	Ubuntu server 16.04.7 LTS
	Processor	(2) Intel Xeon Gold 6136 3.0G, 12C/24T, 10.4GT/s , 24.75M Cache, Turbo, HT (150W) DDR4-2666
	RAID Controller	PERC H730P RAID Controller, 2GB NV Cache, Mini card
	Memory	(6) - 16GB RDIMM, 3200MT/s, Dual Rank
	Storage	2.5 Chassis with up to 8 Hard Drives and 3PCIe slots
	Network	Broadcom 5720 Quad Port 1GbE BASE-T, rNDC
	Power Supply	Dual, Hot-plug, Redundant Power Supply (1+1), 750W
	Power Consumption	
	Peripherals	DVD-RW, Mouse, Keyboard
	Form Factor	Rack Mounted (2U)
	Warranty	3/3/3 (material/labor/onsite) Mini Warranty US
	Hardware Part Numbers	
	Software Part Numbers	

Performance Specifications Analytic (Dell)	# of Servers	
	# of Recording Servers	Unlimited
	# of cameras	Unlimited
	# of users	Unlimited
	# of Clients	Unlimited
	Digital Matric Switcher	Interfaces with CCDE and provides digital matrix switcher for IVA with live and recorded video automatically delivered to client workstations
	Active Directory Integration	Yes, with Kerberos security for user authentication
	Configuration Interface & Database	Web based (SSL) and PostgreSQL
	Supporting Encoding Protocols	MJPEG, MPEG2 TS/ES, MPEG4 part 10 (H.264)
	Device Discovery Protocols	UPnP, ONVIF, NMRA, Gsauc, Bonjour
	PTZ Protocols	Pelco D, Pelco P, Pelco ASCII, Bosch OSRD, Most TASS Cameras, VICON, VICON NTCIP, VICON Native, Any cameras on Moog QuickSet, Pedestal, Hurley IR, Allegiant Switcher, SONY VISCA, Phillips LTC2600, CCHU iDome, FLIR NexusXML, ONVIF
	Video Analytics Options	Video Motion Detection, Objet Video 5x-6 (edge or server based)
	Certifications and Approvals	DoD Approved for PL1N and PL1-PL4, DIACAP compliant

Environmental Specifications Analytic (Dell)	Temperature and Humidity Non-Operating	-40°C to 65°C (-40°F to 149°F)
	Temperature and Humidity Operating	10°C to 35°C (50°F to 95°F)
	Heat dissipation (EST)	2843 BTU/hr

Dimensional Specifications Analytic (Dell)	Rack mounted	Height: 42.8mm (1.69") Width*: 482.0mm (18.98") Depth*: 808.5mm (31.8")
	Weight	21.9kg (48.28 lbs)



# VICADS

VIDEO MANAGEMENT SYSTEM

# Video Broadcast Server

Reliable | Intelligent | Certified

## PRODUCT OVERVIEW

The Video Broadcast Server (VBS) is a component of the overall VICADS® video management solution.

The VBS is a very efficient and robust video stream replicator that serves all VICADS viewing clients (Personal Viewers, Softwalls and Radarwalls) distributed across the video network. The VBS supports MJPEG, JPEG (snapshot) and RTSP as source streams and delivers the video over RTSP or MJPEG. The VBS does not perform transcoding so input signals are not modified which adds to the speed and efficiency of the system.

## PRODUCT FEATURES

## BENEFITS

Sturdy, Scalable, Serviceable

Designed for high reliability minimal downtime applications, expansion without obsolescence

Redundancy and Regionalization

Fully redundant hardware configurations for mission critical applications.

Intelligent Load Balancing

Clustered units that load balance intelligently and automatically to manage bandwidth.

High Visual Information Fidelity

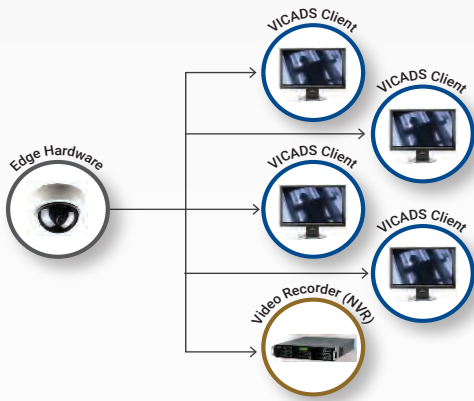
Allows limited edge hardware to produce a single stream regardless of live video clients.

Easy Setup and Maintenance

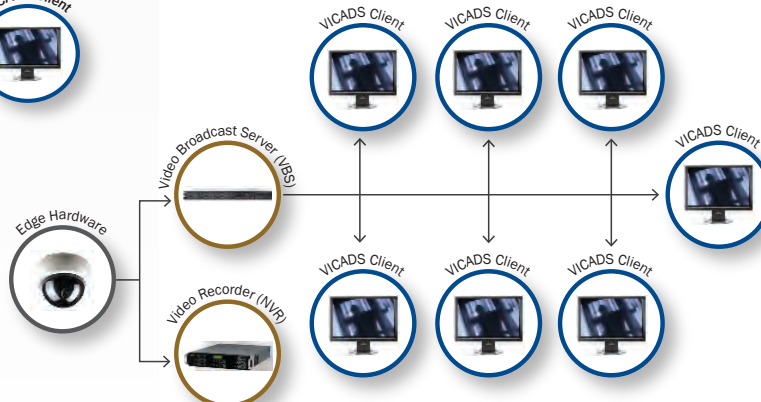
DoD Risk Management Framework (RMF) Compliant Secure, Encrypted Web Configuration

Information Assurance Posture

Integrates with Active Directory and VICADS Server so configuration is quick and easy.



VBS DISTRIBUTION MODEL  
Edge Load = 2  
Client Load = 7 Shown,  
Expansion Unlimited  
Stream expansion= >200



VBS DISTRIBUTION MODEL  
Edge Load = 2  
Client Load = 7 Shown,  
Expansion Unlimited  
Stream expansion= >200

## HARDWARE SPECIFICATIONS

SPECIFICATION	DESCRIPTION	NOTES
Operating System	Microsoft® Windows Server 2016	64 Bit, Member Server
RAID Controller	RAID P408i-a w/ Smart Storage Battery	RAID 0,1,5,6
Storage	2- 960GB SATA SSD Drives	RAID 1, Operating System, 8LFF chassis
Memory	2- 16GB PC4-2666V	32GB RAM
Processor	2- Intel Xeon Silver 4110	Dual Processors, 8C/16T
Network	2- 1Gb network interfaces	RJ-45
Power Supply	2- 500W Power Supply	Redundant
Power Consumption	Max: 4A @ 120VAC / 2A @ 240VAC	Per Supply
Peripherals	2- 1.83 m (6") 10A US	U.S. Power Cords
Form Factor	2- RU (3.5")	With lockable front bezel & dust cover
Warranty	3-year standard, 5-year optional	Limited
Hardware Part Number	10-20003-004 10-37000-001 10-38001-001	VICADS Broadcast Server 2016 HP VICADS Broadcast Server 2016 HP Management /or Spares Kit VICADS (MGMT, VBS, NVR) 5-yr Warranty HP
Software Part Number	10-40003-000	VICADS Broadcast Server Site License, V4

## PERFORMANCE SPECIFICATIONS

SPECIFICATION	DESCRIPTION	
Video Input Formats	JPEG, MJPEG, MPEG4 (RTSP), H.264 (RTSP)	
Video Output Formats	MJPEG, MPEG4 (RTSP), H.264 (RTSP)	
# of Simultaneous Input streams <sup>1</sup>	Configuration dependent	
# of Simultaneous Output streams <sup>1</sup>	Configuration dependent	
Examples with one VBS and teamed 1Gb NICs	50 (input) x 50 (output) {MJPEG} 40 (input) x 40 (output) {MJPEG} 25 (input) x 25 (output) {MJPEG} 200 (input) x 200 (output) {MPEG4/H.264} 175 (input) x 175 (output) {MPEG4/H.264} 125 (input) x 125 (output) {MPEG4/H.264}	4CIF resolution, 30 FPS, Total BW ~1073 Mbit/s 720P resolution, 15FPS, Total BW ~1034 Mbit/s 1080P resolution, 10FPS, Total BW ~955 Mbit/s 4CIF resolution, 30FPS, 2.6 Mbps ea, BW ~1040 Mbit/s 720P resolution, 15FPS, 3.0 Mbps ea, Total BW ~1073 Mbit/s 1080P resolution, 10FPS, 4.3 Mbps ea, Total BW ~1083 Mbit/s
# of Users	Unlimited	
# of Servers	Unlimited; multiple VBS automatically load balance and failover	
Output Resolution Supported <sup>2</sup>	1080P 30FPS Functionally Tested	
Certifications & Approvals	DoD Approved for PL1N and PL1-PL4, DoD RMF compliant	

## ENVIRONMENTAL SPECIFICATIONS

NOMENCLATURE	TEMPERATURE HUMIDITY <sup>3</sup> & ALTITUDE (NON-OPERATING)	TEMPERATURE HUMIDITY <sup>3</sup> & ALTITUDE (OPERATING)	ESTIMATED BTU LOAD <sup>4</sup> (PER SERVER)
VICADS Broadcast Server	-30°C to 60°C (-22°F to 140°F) 5-95% (non-condensing) 9144 m (30,000 ft)	10°C to 35°C (50°F to 95°F) 8-90% (non-condensing) 3050 m (10,000 ft)	1979 BTU/hr (maximum)

## DIMENSIONAL SPECIFICATIONS

NOMENCLATURE	HEIGHT (H)	WIDTH (W)	DEPTH (D)	CLEARANCE (REAR) <sup>6</sup>	WEIGHT <sup>7</sup>
VICADS Broadcast Server 2016 HP	3.44"	17.54"	28.75"	4"	19.5kg (43lbs)

<sup>1</sup> 1 VBS loading recommended @ 50% of total available bandwidth for network interface cards. Multiple VBSs are possible to enhance load characteristics.

Contact factory for details

<sup>2</sup> Higher resolution inputs reduce overall capabilities. Resolutions greater than 1080P and frame rates greater than 30 are not limited by software but are not functionally tested.

<sup>3</sup> Altitude deratings against operating temperature are 1.0°C per 305m (1.8°F per 1000ft). Extended temperatures can be achieved in specific configurations. Contact factory for details.

<sup>4</sup> Heat dissipation (BTU/hr) data is based on 120VAC power input and is provided as an estimate for reference only.

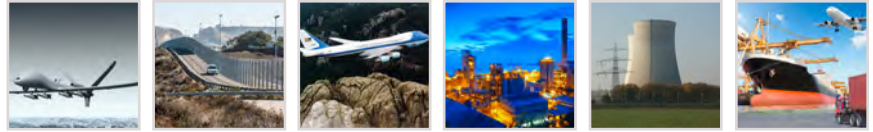
<sup>5</sup> Allow an additional 1 RU (1.75") Air Gap between each racked component.

<sup>6</sup> Clearance is a recommended space budget in addition to machine dimensions to allow for cables & routing.

<sup>7</sup> Exact weight depends upon configuration

<sup>†</sup> Specifications are subject to change without notice. PSG is not responsible for customer use of this data.





# VICADS

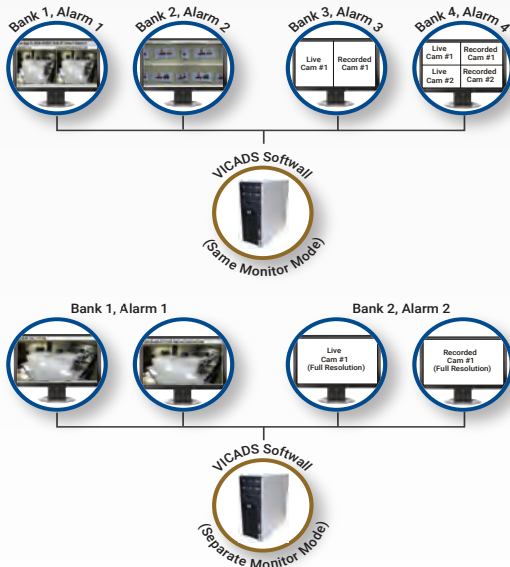
VIDEO MANAGEMENT SYSTEM

# Softwall

Reliable | Intelligent | Certified

## PRODUCT OVERVIEW

VICADS® has replaced traditional analog-based CCTV matrices with an intelligent digital video product and brings this to the operator through a solution known as the VICADS Softwall. Integrated with multiple event input sources such as Command and Control Display Equipment (CCDE), Intelligent Transportation Systems (ITS), Intrusion Detection Systems (IDS) or Access Control Systems (ACS) to deliver a real-time automated video switching & display matrix, intelligent video queuing, event priority processing and situational awareness.



## PRODUCT FEATURES

## BENEFITS

Sturdy, Scalable, Serviceable

Designed for high reliability minimal downtime applications, expansion without obsolescence.

Redundancy and Regionalization

Fully redundant hardware configurations for mission critical applications.

Intelligent Event Integration

Integrated with multiple event input sources to deliver a automated video switching & display matrix.

Intelligent Video Wall

System can be deployed as a smart video wall that allows for administrative command

Cybersecurity Aware Platform & Information Assurance Posture

DoD Risk Management Framework (RMF) Compliant

## HARDWARE SPECIFICATIONS

SPECIFICATION	DESCRIPTION	NOTES
Operating System	WIN10 Enterprise LTSB	HP Z400
Processor	1: Intel Xeon W-2133, 3.6 GHz	Six Cores w/ Hyper Threading
Graphics	1: Nvidia Quadro P4000, 1st GFX, 8GB Graphics	4 ports, max resolution 5120 x 2880
Memory	2: 16GB DDR4-2666- ECC Reg RAM	32GB total
Storage	1: 480 GB SATA Enterprise SSD Drive	Solid State
Network	2: 1Gb network interface	RJ-45 standard, Fiber NIC options available
Power Supply	1000W, Custom PSU, Wide Ranging Active PFC	90% efficient
Power Consumption	1.75A (210W) @ 120VAC, 60Hz	Per station
Peripherals	6: USB 3.1G1 Type-A (rear) 4: USB 3.1G1 Type-A (front) 2: USB 3.1G2 Type-C, DVD-RW, mouse, keyboard	No Monitors included
Form Factor	Tower, Rack Mount (4—RU if racked)	Workstation rack mount kit required
Warranty	3-year standard, 5-year optional	Limited
Hardware Part Numbers <sup>1</sup>	10-20003-001 22-01001-000 10-50000-000 10-70001-000	VICADS Softwall Workstation, Tower, Windows 10 Client Workstation Rack Mount Kit Video System Joystick Controller Dual Port 10GbE Fiber Optic NIC (optional)

## PERFORMANCE SPECIFICATIONS

SPECIFICATION	DESCRIPTION
# of Simultaneous Events	Configuration dependent, maximum of 4 per station
# of Cameras (per event)	Up to 4
# of Simultaneous Video Tiles	Up to 48 per station, 12 per monitor
# of Tours	Unlimited, maximum of 12 on display at each monitor
# Displays, Resolutions	4 @ HDR 4K or HDR 5K
Deployment Options <sup>2</sup>	Integrated as an Intelligent Video Switcher or as an Intelligent Video Wall
Event Modes Supported	<b>Same Monitor:</b> Live and recorded images split screen for up to 4 cameras and 4 events. <b>Separate Monitor:</b> Live and recorded images paired both full screen for up to 4 cameras and 2 events. <b>Quad Monitor:</b> Live and recorded images full screen for up to 2 cameras and 1 event. <b>Single Event:</b> Live and recorded images, one event at a time, varied displays, for up to 4 cameras. <b>Manual Control:</b> Live or recorded images for up to 2 cameras + live images from 1 large resolution camera, for up to 4 monitors
Layouts supported	1x1, 2x2, 2x3, 3x2, 3x3, 3x3 + 1 Main, 3x4, 4x3, 1 + 2x2; portrait and landscape modes supported
Supported Encoding Protocols	MJPEG, MPEG2 TS/ES, MPEG4, MPEG 4 part 10 (H.264)
Active Directory Integration	Yes; with Kerberos security for user authentication
Certifications & Approvals	DoD Approved for PL1N and PL1–PL4, DoD RMF compliant

## ENVIRONMENTAL SPECIFICATIONS

NOMENCLATURE	TEMPERATURE HUMIDITY <sup>3</sup> & ALTITUDE (NON-OPERATING)	TEMPERATURE HUMIDITY <sup>3</sup> & ALTITUDE (OPERATING)	ESTIMATED BTU LOAD <sup>4</sup> (PER STATION)
VICADS Softwall	-40°C to 60°C (-40°F to 140°F) 10-90% (non-condensing) 12,192 m (40,000 ft)	5°C to 35°C (40°F to 95°F) 8-85% (non-condensing)	1365 BTU/hr (typical) 2354 BTU/hr (maximum)

## DIMENSIONAL SPECIFICATIONS

NOMENCLATURE****	HEIGHT (H)	WIDTH (W)	DEPTH (D)	CLEARANCE (REAR) <sup>5</sup>	WEIGHT <sup>6</sup>
VICADS Softwall	15.2"	6.65"	17.5"	4"	17.3 kg (38.2lbs)

<sup>1</sup> Fiber optic network interface option card requires SFP+ fiber optic transceivers sold separately. Please contact the factory for information.

<sup>2</sup> The system can support walls of both types simultaneously, but each wall is either used as an Intelligent Video Switcher or Intelligent Video Wall.

<sup>3</sup> Altitude derating against operating temperature is 1.0°C per 305m (1.8°F per 1000ft). Extended temperatures can be achieved with specific hardware configurations.

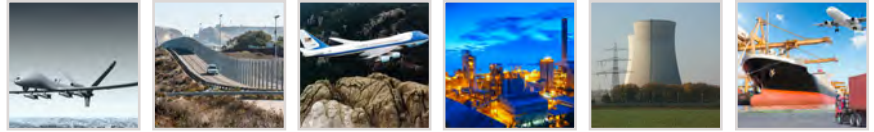
<sup>4</sup> Heat dissipation (BTU/hr) data is based on 120VAC power input and is provided as an estimate for reference only.

<sup>5</sup> Clearance is a recommended space budget in addition to machine dimensions to allow for cables & routing.

<sup>6</sup> Weight provided is maximum. Exact weight depends upon configuration.

\* Specifications are subject to change without notice. PSG is not responsible for customer use of this data.





# VICADS

VIDEO MANAGEMENT SYSTEM

# Server

Reliable | Intelligent | Certified

## PRODUCT OVERVIEW

VICADS® Server provides an Active Directory domain controller, the system configuration and management interface, hosts the system database as well as coordinates all core system services. VICADS Server is the communication broker and processor for the intelligent event handling and video switching. VICADS Server

provides the Network Video Recorder (NVR) interface as well as other third-party equipment interfaces like a SEIWG ICD compliant interface to Wide-area and Long Range Surveillance Thermal Imagers (WSTI/LRTI) and Ground Based Radar (GBR) devices for automatic tracking.

VICADS Server has replaced traditional analog based CCTV matrices with intelligent digital video switcher logic and brings this to the operator through a companion program called VICADS Softwall. The system can be fully integrated with Command and Control Display Equipment (CCDE), Intelligent Transportation Systems (ITS), Intrusion Detection Systems (IDS) and Access Control Systems (ACS). The system supports robust configuration parameters such as event priority assessment, automatic vs. manual call up policies, automatic PTZ presets and intelligent queuing logic for multiple event scenarios.

## PRODUCT FEATURES

## BENEFITS

Sturdy, Scalable, Serviceable

Designed for high reliability minimal downtime applications, expansion without obsolescence.

Redundancy and Regionalization

Fully redundant hardware configurations for mission critical applications.

Intelligent Event Integration

Wholesale replacement of existing analog camera infrastructure not required.

Geographic Information System (GIS) & Ground Based Radar (GBR) Integration

Active tile geo map interface with pan, scroll and zoom, robust automatic tracking logic.

Information Assurance Posture

DoD Risk Management Framework (RMF) Compliant.

Advanced Video Analytics Integration

Video realm intelligence can be fully integrated into a common operator picture.

## HARDWARE SPECIFICATIONS

SPECIFICATION	DESCRIPTION	NOTES
Operating System	Microsoft® Windows Server 2016	64 Bit, Domain Controller
RAID Controller	RAID P408i-a w/ Smart Storage Battery	RAID 0,1,5,6,10
Storage	2- 960GB SATA SSD Drives	RAID 1, Operating System, 8LFF chassis
Memory	2- 16GB PC4-2666V	32GB RAM
Processor	2- Intel Xeon Silver 4110	Dual Processors, 8C/16T
Network	2—GB network interfaces	RJ-45
Power Supply	2- 500W Power Supply	Redundant
Power Consumption	Max: 4A @ 120VAC / 2A @ 240VAC	Per Supply
Peripherals	2- 1.83 m (6') 10A US	U.S. Power Cords
Form Factor	2- RU (3.5")	With lockable front bezel & dust cover
Warranty	3-year standard, 5-year optional	Limited
Hardware Part Number	10-10000-003 10-37000-001 10-38001-001	VICADS Management Server 2016 HP VICADS Management Server 2016 HP Spares Kit VICADS (MGMT, VBS, NVR) 5-yr Warranty HP
Software Part Numbers	10-40000-000 10-40000-001 10-40000-REG	VICADS Server Software & Site License, V4 VICADS System Redundancy License, V4 (optional) VICADS Server Software Regional, V4 (optional)

## PERFORMANCE SPECIFICATIONS

SPECIFICATION	DESCRIPTION
# of Servers	Up to 2 typical (51 max for regional); Single sided or redundant with concurrent or non-concurrent redundancy models supported
# of Network Video Recorders	Unlimited
# of Cameras	Unlimited
# of Users	Unlimited
# of Video Clients	Unlimited (can be any mix of Personal Viewers, Softwalls or Radar Walls)
# of Regional Child Sites	50
Digital Matrix Switcher	Interfaces with event sources and provides digital matrix switcher for immediate visual assessment with live and recorded video automatically delivered to Softwalls or Radarwalls.
Active Directory Integration	Yes; with Kerberos security for user authentication
Configuration Interface & Database	Secure, Encrypted(TLS), Web-based, PostgreSQL
Geographic Information System	Geography Markup Language (GML), PostGIS database
Supported Encoding Protocols	MJPEG, MPEG2 TS/ES, MPEG4, MPEG 4 part 10 (H.264)
Device Discovery Protocols	UPnP, ONVIF, NMEA, GSauce, Bonjour
PTZ Protocols	Pelco D, Pelco P, Pelco ASCII, Bosch OSD, Most TASS Cameras, VICON, VICON NTCIP, VICON Native, Any camera on Moog QuickSet Pedestal, Hurley IR, Allegiant Switcher, SONY VISCA, Phillips LTC2600, COHU iDome, FLIR Nexus XML, ONVIF, NTCIP
Video Analytics Options	Video Motion Detection, Object Video (OV6), AXIS VAPIX
Certifications & Approvals	DoD Approved for PL1N and PL1–PL4, DoD RMF compliant

## ENVIRONMENTAL SPECIFICATIONS

NOMENCLATURE	TEMPERATURE HUMIDITY <sup>1</sup> & ALTITUDE (NON-OPERATING)	TEMPERATURE & HUMIDITY <sup>1</sup> & ALTITUDE OPERATING)	ESTIMATED BTU LOAD <sup>2</sup> (PER SERVER)
VICADS Server	-30°C to 60°C (-22°F to 140°F) 5-95% (non-condensing) 9144 m (30,000 ft)	10°C to 35°C (50°F to 95°F) 8–90% (non-condensing) 3050 m (10,000 ft)	1979 BTU/hr (maximum)

## DIMENSIONAL SPECIFICATIONS

NOMENCLATURE	HEIGHT (H)	WIDTH (W)	DEPTH (D)	CLEARANCE (REAR) <sup>4</sup>	WEIGHT <sup>5</sup>
VICADS Management Server 2016 HP	3.44"	17.54"	28.75"	4"	19.5kg (43lbs)

<sup>1</sup> Altitude derating against operating temperature is 1.0°C per 305m (1.8°F per 1000ft). Extended temperatures can be achieved with specific hardware configurations.

<sup>2</sup> Heat dissipation (BTU/hr) data is based on 120VAC power input and is provided as an estimate for reference only.

<sup>3</sup> Allow an additional 1 RU (1.75") Air Gap between each racked component.

<sup>4</sup> Clearance is a recommended space budget in addition to machine dimensions to allow for cables & routing.

<sup>5</sup> Exact weight depends upon configuration

<sup>†</sup> Specifications are subject to change without notice.





# VICADS

VIDEO MANAGEMENT SYSTEM

## MPEG4/H.264 Network Video Recorder (NVR)

Reliable | Intelligent | Certified

### PRODUCT OVERVIEW

VICADS® NVR hardware design centers on and delivers maximum performance, uptime and reliability. The system is designed to meet 24/7/365 operational requirements for the most demanding and mission critical applications. The system is highly configurable and simultaneously supports many cameras, resolutions, frame rates, encoding protocols, events and fault tolerance needs. Recorders can be centralized or distributed across the video network, they can be single stacks or fully redundant for the highest reliability.

Every VICADS NVR is highly configurable to match the fault tolerance and storage requirements of each unique application. The system is performance built with an enterprise front end recording array designed to handle a constant input load from field devices while simultaneously delivering high quality on demand video to clients.

### PRODUCT FEATURES

### BENEFITS

Sturdy, Scalable, Serviceable

Designed for high reliability minimal downtime applications, expansion without obsolescence.

Redundancy and Regionalization

Fully redundant hardware configurations for mission critical applications.

Range of supported IP cameras and encoders

Wholesale replacement of existing analog camera infrastructure not required.

Video Motion Detection

Supported for any active video feed and can generate alarms at CCDE.

System health monitoring

Equipment actively monitored to report degrading or failed components.

Robust hardware characteristics

Designed for high reliability, minimal downtime and ease of maintenance.

## HARDWARE SPECIFICATIONS

SPECIFICATION	DESCRIPTION	NOTES																								
Operating System	Windows 7 Professional, 64-bit																									
RAID Controller	LSI 9260 w/ battery backup unit	RAID 0,1,5,6,10																								
Storage	2–300GB Enterprise SAS2 10K Varying #'s, 600GB Enterprise SAS2 10K Varying #'s, 2TB Dual Port SAS 7.2K	Configured as RAID 1 for O/S Configured as RAID 1 or RAID 10 for Live Video w/ one hot spare drive for all models except 8 channel Configured as RAID 6 for Long Term Archives w/ one hot spare drive for all models except 8 channel																								
Storage Capacity & Form Factor	<table border="1"> <thead> <tr> <th>CH</th> <th>RU</th> <th>TB</th> <th>CH</th> <th>RU</th> <th>TB</th> </tr> </thead> <tbody> <tr> <td>8</td> <td>1x-2</td> <td>~4</td> <td>16</td> <td>1x-4</td> <td>~6</td> </tr> <tr> <td>32</td> <td>1x-4</td> <td>~12</td> <td>64</td> <td>1x-4</td> <td>~23</td> </tr> <tr> <td>96</td> <td>2x-4</td> <td>~34</td> <td>128</td> <td>2x-4</td> <td>~46</td> </tr> </tbody> </table>	CH	RU	TB	CH	RU	TB	8	1x-2	~4	16	1x-4	~6	32	1x-4	~12	64	1x-4	~23	96	2x-4	~34	128	2x-4	~46	All storage capacities are specified in Terabytes as usable space with O/S and RAID overhead factored out.
CH	RU	TB	CH	RU	TB																					
8	1x-2	~4	16	1x-4	~6																					
32	1x-4	~12	64	1x-4	~23																					
96	2x-4	~34	128	2x-4	~46																					
Storage Application Examples using a 32 channel MPEG4/H.264 NVR	~30 days per channel ~30 days per channel ~14 days per channel	24/7 recording @ maximum # of supported channels, 4CIF resolution and 30FPS (512Kbit bitrate) 24/7 recording @ maximum # of supported channels, 1.3 Megapixel resolution and 30FPS (768Kbit bitrate) 24/7 recording @ maximum # of supported channels, 2 Megapixel resolution and 30FPS (2 Mbit bitrate)																								
Memory	2–4GB DDR3 1600MHz ECC Registered RAM	8GB total (8-32 camera MPEG4/H.264), 16GB total (64-128 camera MPEG4/H.264)																								
Processor	1–Intel Xeon E5-2620 V2, 2.1GHz, 6C/12T, 15MB, 80W	Six Cores																								
Network	2–GB network interfaces	RJ-45																								
Power Supply	2–825TQ-R720UB, 720W 2–846E26-R1200B, 1200W	8 camera MJPEG, Hot swappable, redundant 16-128 camera MJPEG, Hot swappable, redundant																								
Power Consumption	2.36A (239W) @ 120VAC, 60Hz	Per server																								
Peripherals	DVD-RW, mouse, keyboard																									
Warranty	3 year limited	With onsite service available																								

## PERFORMANCE SPECIFICATIONS

SPECIFICATION	DESCRIPTION
# of Recording Servers	Unlimited; Single sided or redundant with concurrent or non-concurrent redundancy supported
# of Cameras	Unlimited
# of Users	Unlimited
Frame Rates	Up to 30FPS, variable frame rates per channel supported
Active Directory Integration	Yes
Configuration Interface & Database	Client Software Based & MSSQL Express 2008
Supported Encoding Protocols	MPEG4, MPEG4, part 10 (H.264) (other formats supported but system sized for MPEG4/H.264)
Devices supported	Over 1000 IP cameras, encoders from over 100 manufacturers
Video Analytics Options	Video Motion Detection standard for any feed
Certifications & Approvals	DoD Approved for PL1N and PL1–PL4, DIACAP compliant

## ENVIRONMENTAL SPECIFICATIONS

NOMENCLATURE	TEMPERATURE & HUMIDITY (NON-OPERATING)	TEMPERATURE & HUMIDITY (OPERATING)	ESTIMATED BTU LOAD <sup>1</sup> (PER SERVER)
VICADS 8 Camera Recording Server (MPEG4/H.264)	-40°C to -60°C (-40°F to -140°F) 5–95% (non-condensing)	5°C to 35°C (41°F to 95°F) 8–90% (non-condensing)	1290 BTU/hr (typical)
VICADS 16, 32, 64, 96 & 128 Camera Recording Servers (MPEG4/H.264)	-40°C to -60°C (-40°F to -140°F) 5–95% (non-condensing)	5°C to 35°C (41°F to 95°F) 8–90% (non-condensing)	1890 BTU/hr (typical)

## DIMENSIONAL SPECIFICATIONS

NOMENCLATURE <sup>2</sup>	HEIGHT (H)	WIDTH (W)	DEPTH (D)	CLEARANCE (REAR) <sup>3</sup>
Each VICADS Camera Recording Server (8 Cameras) including rail kits	3.5"	19"	28.75"	4"
Each VICADS Camera Recording Server (8–128 Cameras) including rail kits	7"	19"	28.75"	4"

<sup>1</sup> Heat dissipation (BTU/hr) data is based on 120VAC power input and is provided as an estimate for reference only. Open Roads is not responsible for customer use of this data.

<sup>2</sup> Allow an additional 1U Air Gap between each component.

<sup>3</sup> Clearance is a recommended space budget in addition to machine dimensions to allow for cables & routing.

<sup>4</sup> Specifications are subject to change without notice. PSG is not responsible for customer use of this data.





# VICADS

VIDEO MANAGEMENT SYSTEM

# Joystick

Reliable | Intelligent | Certified

## PRODUCT OVERVIEW

The VICADS® joystick interfaces with the VICADS Personal Viewer and provides the operator the ability to control Pan-Tilt-Zoom (PTZ) cameras as well as access other control functions provided by the Personal Viewer Software (tours, demand record, camera lists etc.). The VICADS Server actively monitors the resource and can announce a joystick loss alarm to the Command and Control Display Equipment (CCDE) if the unit fails to respond or gets unplugged. Each Personal Viewer in a VICADS System can host a single joystick. The joystick can also be interfaced with the VICADS Softwall as an assessment joystick. When used in this fashion, the system automatically routes control of PTZ cameras to the assessment joystick so that the operator can immediately track and follow targets in the field of view.

## PRODUCT FEATURES

## BENEFITS

Ergonomic and field reversible

Supports both left and right handed operators

Back-lit buttons that are lit when software function is available

Works in dimly lit or dark environments, keys operator into what functions are available for use at any time

Durable and custom button overlay

Provides for text or icon based representation of button functions

Advanced thermal imager control capability

Supports WSTI IR/TV switch, FOV, Pallette, AGC, NUC, Park and Polarity

Joystick loss alarm

Monitor system resources and announce failures at CCDE

Serviceability

1- year warranty



# HARDWARE SPECIFICATIONS

SPECIFICATION	DESCRIPTION	NOTES
Keys	38 backlit keys	Default layout provided, keys programmable
Other functions	Jog wheel, jog shuttle and HID joystick	
Interface	USB 2.0	Cable supplied (6.5'/2m)
Backlighting	Keys backlight automatically	When function available to operator
Ergonomics	Supports both left and right hand operators	Field reversible with single button and flip of button overlay
Mechanical	15"x3.5"x9"	379mm x 89mm x 224mm
Electrical	350mA max	Powered via USB port
Environmental	0°C to 45°C (32°F to 132°F)	Indoor rated
Functions	All available VICADS functions supported	Personal Viewer
Special Functions	Supports additional controls for Thermal Imaging cameras	Palette, AGC, menu etc.
Protocols	Dedicated virtual COM Port, Joystick HID 4-axis 32 key emulation	Virtual COM port with VICADS
VICADS Key Function Overlay	Reversible custom button overlay text based or icon based	Comes with unit; custom overlays possible contact factory
Warranty	1 year limited	
Part Number	10-50000-000	Includes hardware and software
Certifications & Approvals	DoD Approved for PLIN and PL1-PL4, DIACAP compliant, FCC part 15 Class B, EN50130-4, EN61000-6-3, EN60950-1	

Specifications are subject to change without notice.





# PERSONAL VIEWER

SAFE | SECURE | CERTIFIED

## Product Overview

VICADS® Personal Viewer is a distributable video viewing and control station with a purposefully simple, crisp user interface. There are no limits to the number of Personal Viewers that can exist in a VICADS System. As with all VICADS clients, they integrate into the Active Directory environment to deliver single sign on, domain administrator-controlled lists of cameras selectable by the operator for viewing and control. Personal Viewer provides the ability to control Fixed, PTZ and Thermal Imagers as well as offering PTZ coordination policies for multiple operator shared resource scenarios.

Personal Viewer has the capability of selecting different tile layouts, creating and storing view arrangements, creating and storing video tours for automatic surveillance rotation of video feeds. Personal Viewer also offers the ability to control Softwalls that are being used in the static display mode and can push scenes, tours, scene tours and views to these Softwalls which then always display this (even across restarts) until commanded otherwise. Each Personal Viewer can host one VICADS Joystick for the operator to use for PTZ control and management.

Features	Benefits
Sturdy, Scalable, Serviceable	Designed for high reliability minimal downtime applications, expansion without obsolescence and ease of maintenance.
Redundancy and Regionalization	Fully redundant hardware configurations for mission critical applications. Regional monitoring & mgmt deployment options.
Focused, Assessment Based User Interface	Integrated with multiple event input sources such as CCDE, ITS, IDS or ACS to deliver a real-time automated video switching & display matrix, intelligent video queuing, event priority processing and situational awareness.
Intelligent Event Integration	System can be deployed as a smart video wall that allows for administrative command and control with auto-restart and no local operator interface necessary.
Cybersecurity Aware Platform & information Assurance Posture	DoD Risk Management Framework (RMF) Compliant

## HARDWARE SPECIFICATIONS

SPECIFICATION	DESCRIPTION	NOTES
Operating System	WIN10 Enterprise LTSC	HP Z4 G4
Processor	1: Intel Xeon W-2133, 3.6 GHz	Six Cores w/ Hyper Threading
Graphics	1: Nvidia Quadro P4000, 1 <sup>st</sup> GFX, 8GB Graphics	4 ports, max resolution 5120 x 2880
Memory	2: 16GB DDR4-2666- ECC Reg RAM	32GB total
Storage	1: 480 GB SATA Enterprise SSD Drive	Solid State
Network	2: 1Gb network interface	RJ-45 standard, Fiber NIC options available
Power Supply	1000W, Custom PSU, Wide Ranging Active PFC	90% efficient
Power Consumption	1.75A (210W) @ 120VAC, 60Hz	Per station
Peripherals	6: USB 3.1G1 Type-A (rear) 4: USB 3.1G1 Type-A (front) 2: USB 3.1G2 Type-C, DVD-RW, mouse, keyboard	No Monitors included
Form Factor	Tower, Rack Mount (4-RU if racked)	Workstation rack mount kit required
Warranty	3-year standard, 5-year optional	limited
Hardware Part Numbers	10-20000-001 10-50000-000 XX-XXXX-XX	Personal Viewer Station, Tower Video System Joystick Controller Dual Port 10GbE Fiber Optic NIC
Software Part Number	10-40001-000	Personal Viewer Site License

## PERFORMANCE SPECIFICATIONS

SPECIFICATION	DESCRIPTION
# of simultaneous video tiles	Up to 12, plus one full screen
# of Cameras	Unlimited
# of Users	Unlimited
# of Tours	Unlimited, maximum of 12 on display at once
# of Joysticks	Unlimited in system, 1 per station
Layouts supported	1x1, 2x2, 2x3, 3x2, 3x3, 3x3 + 1 Main, 3x4, 4x3
On-Demand Record Feature	Any video tile on display, records to file on local HDD upon operator initiation, records up to four tiles simultaneously
Video Snapshot Feature	Any video tile on display, takes single snapshot and saves picture on local HDD as JPEG
Full Screen Mode Feature	Any single video tile on display, opens separate window full screen
Supported Encoding Protocols	MJPEG, MPEG2 TS/ES, MPEG4, MPEG 4 part 10 (H.264)
Active Directory Integration	Yes; with Kerberos security for user authentication
PTZ Control Interfaces	VICADS Joystick, On Video, On screen
PTZ Coordination Support	System can prioritize multiple operators with priority for shared PTZ cameras
PTZ Protocols	ONVIF, Pelco D, Pelco P, Pelco ASCII, Bosch OSDR, Most TASS Cameras, VICON, VICON NTCIP, VICON Native, Any camera on Moog QuickSet Pedestal, Hurley IR, Allegiant Switcher, SONY VISCA, Phillips LTC2600, COHU iDome, FLIR Nexus XML, NTCIP
Certifications & Approvals	USAF Approved for PL1–PL4, DoD RMF compliant

## ENVIRONMENTAL SPECIFICATIONS

NOMENCLATURE	TEMPERATURE, HUMIDITY & ALTITUDE <sup>3</sup> (NON-OPERATING)	TEMPERATURE, HUMIDITY & ALTITUDE <sup>3</sup> (OPERATING)	ESTIMATED BTU LOAD <sup>4</sup> (PER STATION)
VICADS Softwall	-40°C to 60°C (-40°F to 140°F) 10-90% (non-condensing) 12,192 m (40,000 ft)	5°C to 35°C (40°F to 95°F) 10-85% (non-condensing) 3048 m (10,000 ft)	1850 btu/hr (typical) 3084 btu/hr (maximum)

## DIMENSIONAL SPECIFICATIONS

NOMENCLATURE	HEIGHT (H)	WIDTH (W)	DEPTH (D)	CLEARANCE (REAR) <sup>5</sup>	WEIGHT <sup>6</sup>
VICADS Softwall	15.2"	6.65"	17.5"	4"	17.3 kg (38.2lbs)

<sup>1</sup> Fiber optic network interface option card requires SFP+ fiber optic transceivers sold separately. Please contact the factory for information.

<sup>2</sup> The system can support walls of both types simultaneously, but each wall is either used as an Intelligent Video Switcher or Intelligent Video Wall.

<sup>3</sup> Altitude derating against operating temperature is 1.0°C per 305m (1.8°F per 1000ft). Extended temperatures can be achieved with specific hardware configurations.

<sup>4</sup> Heat dissipation (BTU/hr) data is based on 120VAC power input and is provided as an estimate for reference only.

<sup>5</sup> Clearance is a recommended space budget in addition to machine dimensions to allow for cables & routing.

<sup>6</sup> Weight provided is maximum. Exact weight depends upon configuration

† Specifications are subject to change without notice. PSG is not responsible for customer use of this data.