Unicorn

Overview

Unicorn is an integrated surveillance platform with management, storage, decoding, and forwarding functions. It can connect and manage various devices including IPC, NVR, smart device, smart recognition access control device, entrance & exit device, cloud device, decoder, network keyboard, access control, alarm control, and expansion disk enclosure. VMS-B200-A16@R is easy to deploy, scalable and stable, and it is widely applicable in LAN-based applications such as parks, buildings, campuses, hotels, venues, and WAN-based applications such as networked supermarkets.

Features

- Powerful connection: 1,000 devices, 2000 channels in stand-alone mode; 2,000 devices, 4,000 channels in primary/replica mode
- Unified management: IPC, NVR, smart device, smart recognition access control device, entrance & exit device, cloud device, decoder, network keyboard, access control, alarm control, expansion disk enclosure, etc.
- Huge storage: Max 16 SATA HDDs, and two 16-slot disk enclosures via miniSAS interfaces; expandable up to 48 disks for recording storage
- Powerful decoding: Outputs 16x1080P videos to three screens (2xHDMI, 1xVGA)
- High bandwidths: 512Mbps incoming bandwidth, 512Mbps storage bandwidth, and 384Mbps forwarding bandwidth
- Strong compatibility: Standard ONVIF, VSS, VIID, and RTSP
- High scalability: Primary/replica expansion for enhanced forwarding performance and storage capacity
- Rich functionality: Basic functions including live view, playback, sequence, view, video wall, e-map, two-way audio, broadcast, alarm linkage; smart functions including perimeter protection, person detection, person recognition, LPR, entrance & exit management, access control, attendance management, mixed-traffic detection, people counting, and data search
- Flexible access: PC client (C/S and B/S), mobile client (iOS and Android)
- Stability: Embedded Linux OS, dual-BIOS, redundant power, and 1+1 hot standby
- Security and reliability: 802.1x authentication, ARP protection, HTTPS, SSH enabling/disabling, network fault tolerance, load balancing, multi-IP configuration, secure password, and IP address filtering

- Operation and maintenance: Provide a comprehensive management dashboard, server status, device/channel online status, HDD status, online users, bandwidth usage, packet loss rate, log search, etc.
- Abundant interfaces: 4 Gigabit copper interfaces, 2 Gigabit optical interfaces, 24 alarm inputs, 8 alarm outputs, 4 USB3.0 interfaces, 2 HDMI interfaces, and 1 VGA interface

Specifications

Model	Unicorn
Live view	
Live view	Play live video by channel or view. 1/3/4/5/6/7/8/9/10/13/16/17/25/32/36/64 image display on single screen.Custom window layout.3/7 window layout in corridor mode;Max 3 auxiliary monitors;Supports view, sequence, snapshot, digital zoom, audio control, PTZ control, patrol, fisheye, 5ePTZ, panoramic linkage, multi-sensor mode, instant playback, recording, watermark, etc.
Playback	
Playback	Play recordings saved on VMS or NVR. Playback types: normal recording, tagged recording, locked recording, smart recording playback, event recording, VCA recording.Normal recording playback supports 1/3/4/5/6/7/8/9/10/13/16 window layout.Max 16-channel synchronous playback on a single client (depending on NVR's stream output performance).Playback speeds: -256x, -128x, -64x, -32x, -16x, -8x, -4x, -2x, -1x, 1/4x, 1/2x, 1x, 2x, 4x, 8x, 16x, 32x, 64x, 128x, 256x (depending on NVR's stream output performance)Supports snapshot, digital zoom, clipping, audio control, locking, tagging, rewinding/forwarding 30 seconds, zooming in/out on the timeline, playback by frame, synchronous playback, recording preview on the timeline, watermark, etc.;Download recordings by file, time, tag, lock.
E-map	
E-map	Supports local and online (AMAP) maps; map files support jpg, png, and bmp formats. Add, delete, edit, and search maps, hot spots (video channel, alarm input, access control) and hot zones.Allows user to choose or customize hot spot icons.Live view (max 4 channels) and playback (max 16 channels) on map. Blinking alarm on map; view/clear alarms.800MB storage space for map resources, max 7 layers of maps.
Video wall	
Video wall	Supports multiple models of decoding devices to create video wall. Allows user to add, delete, edit, search video wall; editable information includes video wall name, size, resolution, bind/unbind decoding channels.Live view, playback, and sequence display on video wall.Save settings as a scene for quick restoration of settings when needed.Play signal source on video wall, virtual LED configuration, screen on/off control.
Alarm configuration	

Alarm management	Alarm subscription, alarm level customization, alarm time template, email contacts management (BS client) Alarm plan configuration: add/delete/edit/search/enable/disable alarm plan; configure alarm linkage actions: live view, goto preset, alarm output, alarm to video wall (BS client also supports recording, email, buzzer, and snapshot)Alarm records search: realtime alarm records, history alarm records; history alarm records support search by alarm source, time, alarm status, alarm time, alarm level.
Audio	
Two-way audio	Two-way audio with a device. Play live video from the device.Start/stop two-way audio, adjust sound volume of MIC and speaker.Shows two-way audio status in the status bar.
Broadcast	Add, delete broadcast group members, start/stop broadcast. Choose one audio channel from the broadcast group to play stream audio.Adjust sound volume of local input and output.
Access control management	
Manual access control	Search doors, view status, open/close doors.
Door entry/exit records	Search entry/exit records, view status, reset/export.
Visitor info management	Sign in/out visitors, configure permission group/blocklist. Edit visitor information, view visitor status.
Access control monitoring	Manage the blocklist library and use it for monitoring.
Blocklist alarm records	Search, view status, reset/export.
Attendance management	Search attendance statistics by time range, department, name, person ID; export search results.
Face detection	
Face library management	Add, delete, edit, and search face libraries; max. 128 face libraries. Add, delete, assign, remove, import, export faces in batches, search faces by name, ID card number, gender, etc.
Face monitoring management	Monitoring type: match alarm, not match alarm. (Alarm records can be searched in the data search module)
Face realtime monitoring	View live video of monitoring cameras, snapshots and comparison records. (Passing people records can be searched in the data search module).
Checkpoint monitoring	
Vehicle library management for checkpoint	Add, delete, edit, search vehicle library information, max 16 vehicle libraries. Add, delete, assign, remove, import, and export vehicles in batches, search vehicles by plate number, plate type, vehicle color, plate color, etc.
Vehicle monitoring	Cause of monitoring: robbed vehicle, stolen vehicle, suspect vehicle, traffic violation, emergency control. (Alarm records can be searched in the data search module)
Checkpoint realtime monitoring	View live video of monitoring cameras. (Passing vehicle records can be searched in data search module).
People counting	
Statistical resource management	Supports filtering areas and channels by keyword.

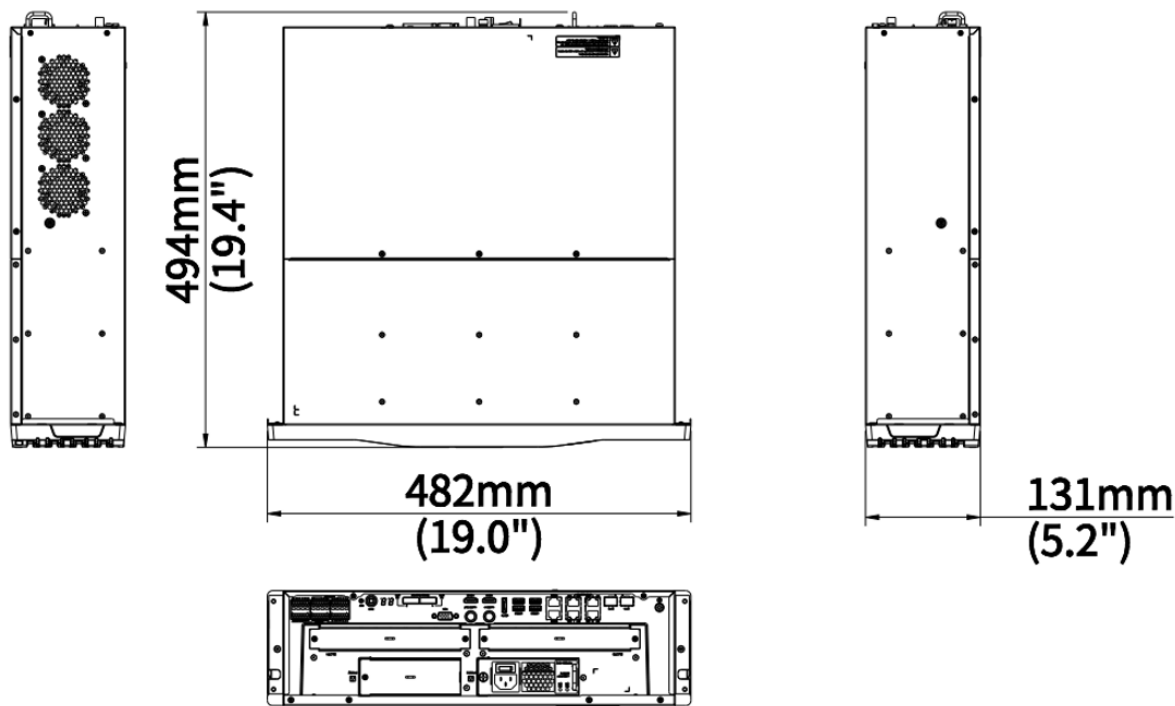|	
People counting area	Add, edit, delete people counting areas; max 8 detection areas, each area includes up to 32 channels. Configure alarms, area name, push cycle, people present alarm thresholds (critical/major/minor), and channels.
Crowd density detection area	Add, edit, delete crowd density monitoring areas, max 16 areas, each area allows one video channel. Configure alarms, area name, push cycle, crowd density alarm thresholds (critical/major/minor), and channels.
Area preview	Double-click a channel in the people counting area to view the live video in the 4-window area.
Realtime statistics	Displays counting results (people in/out/staying/how many more allowed) and access status on the right side and updates in real time. Crowd density (current number of people, how many more allowed), area status.
Reports and statistics	Count by minute/hour/day/month. Support line chart and column chart display, and display entering/leaving/staying statistics separately or in combination.Display entering/leaving/staying statistics of a certain time period or of a channel, export counting statistics.
Mixed-traffic detection	
Mixed-traffic detection	Real-time monitoring and snapshot record display for motor vehicle/non-motor vehicle/pedestrian. Face detection records: search by channel, time, gender, age, etc.Pedestrian detection records: search by channel, time, gender, age, upper garment style/color, lower garment style/color, shoes, and backpack style.Non-motor vehicle detection records: search by channel, time, vehicle type, driving direction, speed; associated facial feature information.Motor vehicle detection records: search by channel, time, plate number, vehicle type, plate color, plate type, color logo, driving direction, speed, and vehicle color.
Behavior search	
Device data search	Search VCA alarm snapshots and recordings by criteria including time range and alarm type (cross line detection, intrusion detection)
VMS data search	Search alarm snapshots and recordings by all/pedestrians/non-motor vehicles/motor vehicles, time range, and alarm type (cross line detection, intrusion detection, enter area, leave area).
Data search	
Face search	Search by attribute, event, and by image: 1. Search by attribute:(1) Search conditions: channel name, snapshot time, gender, age, etc; search records support search by image.(2) View alarm image and recording, object features.(3) Data export.2. Search by event:(1) Search conditions: monitoring type (match alarm, not match alarm), alarm source, alarm time, name, ID number, alarm source, gender, etc.(2) View alarm image and recording, object features.(3) Data export.3. Search by image: Search people pass-through records on NVR and search for an image in a face library on VMS using a face library image (VMS) or a local uploaded face image; view alarm image and recording.
Pedestrian search	1. Search conditions: channel name, snapshot time, gender, age, upper garment style/color, lower garment style/color, shoes, backpack style. View alarm images and object features.Data export.

Motor vehicle search	Search by attribute and event: 1. Search by attribute:(1) Search conditions: channel name, snapshot time, plate number, vehicle type, plate color, plate type, vehicle logo, driving direction, speed, vehicle color.(2) View alarm image and recording, object features.(3) Data export.2. Search by event:(1) Search conditions: monitoring type (match alarm, not match alarm), alarm source, alarm time, plate number, plate color, monitoring cause, vehicle color.(2) View alarm image and recording, object features.(3) Data export.
Non-motor vehicle search	Search conditions: channel name, snapshot time, vehicle type, driving direction, speed. View alarm images and object features.Data export.
Recording backup	
Automatic backup	Supports automatic backup: Add, edit, delete, view backup task schedules. Manually stop/resume backup.
Local backup	Local backup: Search, preview, back up recordings. View partitions of storage media, create folders, format.View backup task progress.
O and M statistics	
Log search	View, acknowledge alarm logs, view operation logs
Attendance management	
Attendance rules	Set automatic attendance calculation time.
Staff schedule	Time period setting, shifts management, staff schedule management 1. Period settings:(1) Normal period (set work hours start and end times, valid sign in and out times, attendance rules). (2) Flexible period (set calculation method, daily work duration, time to switch to the next attendance day).2. Shifts management: Set and view shifts information.3. Staff schedule management: assign shifts, schedule or cancel shifts.
Attendance handling	Leave, resign-in, and resign-in records search 1. Create, edit, delete leave information, choose leave types (causal leave, sick leave, paternity leave, maternity leave, child care leave, annual leave, family leave, funeral leave)/out for business.2. Resign-in and resign-out.3. Search resign-in and out records by person/time/type; edit or delete resign-in and out records.
Attendance statistics	Original data, attendance details, attendance summary 1. Original data: View original data of entry and exit; filter data by department/person/time/body temperature; export data.2. Attendance details: View shifts information, sign-in and out times, attendance status, attendance duration, absence duration; filter data by department/person/time/attendance status; export data.3. Attendance summary: View attendance result, attendance details; filter data by department/person/time; export data.
Storage performance	
Storage performance	16 SATA interfaces, hot-swappable HDD, max 16TB each. Supports RAID0, RAID1, RAID5, RAID6, RAID10, RAID50, RAID60Supports 2 expansion disk enclosures, max 256TB with 32 8TB HDDs.DEU1008 disk enclosure：Up to 8 SATA HDDs, each with up to 8TBDEU1016 disk enclosure：Up to 16 SATA HDDs, each with up to 8TB
Management performance	
Total device management capability	1000

Total channel management capability	2000
Cloud device management capability	256
GB/T28181 device management capability	100
Onvif device management capability	1000
Smart encoding device management capability	100
Access control device management capability	128
Decoding device management capability	30
EZAgent management capability	20
Network keyboard management capability	50
Network disk	8
Security gateway device management capability	128
User management capability	1000
Concurrent online user management capability	300 (max 64 remote online users (connected via P2P, including but not limited to online users on mobile clients))
Replica server management capability	10 (if replica servers≥4, the primary server only engages in management).
Stream performance	
Incoming bandwidth	512Mbps
Outgoing bandwidth	384Mbps
Storage stream bandwidth	512Mbps
Number of recording storage streams	256 channels (IPSAN storage+normal storage+backup storage, total 256 channels. IPSAN storage specification is 150 channels)
Image performance	
Number of smart image storage streams	256 channels
Image push performance	Can receive 100 vehicle or face images per second
Alarm performance	
Alarm receiving and forwarding performance	100 alarms per second
Central playback performance	

Number of central playback channels	24 channels
Central decoding capability	
Decoding Capability	3 ports, total 4-ch 4K@30, 16-ch 1080p@30, 36-ch 720p@30, 64-ch D1@30
Decoding resolution	12 MP/8 MP/6 MP/5 MP/4 MP/3 MP/1080P/960P/720P/960H/D1/2CIF/CIF/QCIF
Built-in decoding output	2xHDMI, 1xVGA; supports simultaneous 4K output via dual HDMI ports (VGA will be unavailable in this case)
Data storage performance	
Max storage for alarm logs	200,000
Max storage for operation logs	200,000
Max storage for face snapshot records	3,000,000
Max storage for face alarm records	3,000,000
Max storage for passing vehicles	3,000,000
Max storage for structured vehicle/pedestrian records	3,000,000
Max storage for access control records	3,000,000
Operating temperature	
Operating environment temperature	-10ºC to 55ºC
Operating humidity	
Operating environment humidity	10% to 90% (noncondensing)
Operating system	
Operating system	Linux
RAM	
RAM	4GB
HDD	
HDD	16 (No HDD is included at delivery)
Interface	
USB	4*USB3.0
VGA interface	1
HDMI interface	2
RS485	1
RS232	1
Alarm	24 in, 8 out
Storage expansion interface	2*miniSAS
Network interface	
Network interface	4*GE copper interface + 2*GE optical interface
Power	

12V DC output	1
Primary power input	Standard: 1 power module, optional: dual power modules, hot-pluggable
Power	100V to 240V AC Supports dual-power redundancy
Expansion power module slot (PSU1)	Standard: 1 x 300W power module, expansion: 1+1 redundancy (different from B800)
Total power consumption	
Total power consumption	<50W (without HDD) ≤165W (with HDD)
Physical size	
Dimensions (with front panel) (H x D x W)	3U, fits in 19" standard cabinet 130.5mm×492mm×481.6mm(remove front panel for HDD installation)
Weight	
Weight	≤ 10.0 kg (not including cards, power module, HDD)
Client computer requirements	
Client computer requirements	64-bit version: OS: Microsoft Windows 7/Windows 8/Windows 10, 64-bitCPU: Intel Core i5 3.1 GHz or higher RAM: 4GB or higher32-bit version:OS: Microsoft Windows 7/Windows 8/Windows10, 32/64-bitCPU: Intel Pentium IV 3.0 GHz or higher, 4 Cores, 3.0GHz is recommendedRAM: 2GB or higherNote: 64-bit operating system needs to be compatible with the 32-bit version software

Dimensions

Rear Panel

(1) Grounding	(2) 1000M SFP interface	(3) 1000M Ethernet interface
(4) RS-485/422	(5) RS-232	(6) USB3.0
(7) eSATA interface	(8) Audio input	(9) HDMI output
(10) Audio output	(11) VGA output	(12)miniSAS interface
(13) Power button	(14) Reset	(15) Alarm input
(16) Alarm output	(17) 12V power output	(18) Reserved
(19) AC power module 1	(20) AC power module 2 (optional)	(21) Reserved

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