

Notice Inviting Tender for Design, Supply, Installation, Testing and Commissioning of Server-Based CCTV storage Surveillance System at Hutti Gold Mines Company Limited.

I. INFORMATION:

The Hutti Gold Mines Company Limited (HGML) is a Government of Karnataka undertaking engaged in mining and extraction of Gold. HGML is having main unit at Hutti in Raichur Dist.

II. Approach and Accessibility: The proposed site is located at Hutti of Lingasugur Taluk of Raichur District. The nearest railway station is Raichur which is 80 Kms from Raichur and the nearest airport is Hyderabad airport which is 280 Kms from Hutti.

III. Proposal: The existing CCTV system consists of 180 cameras connected to 7 Nos. Network Video Recorders (NVRs) with an approximate storage retention capacity of 10 days. In order to meet the security and operational requirements, the storage capacity of the existing system needs to be enhanced and supply & installation of 40 Nos. of high-definition cameras at identified locations.

Category	No. of Cameras	Required Retention Period
Critical Locations	40 Cameras	365 days
General Surveillance	140 Cameras	30 days

IV. Scope of Work:

The scope of work includes design, supply, installation, testing, commissioning, integration, training and warranty support for enhancement of the existing CCTV surveillance system along with the required perpetual licenced VMS software at Hutti Gold Mines.

a. System Assessment & Design:

i. Detailed study of:

- Existing NVR specifications
- Current HDD capacity & utilization
- Camera resolution, frame rate, compression (H.264/H.265)
- Bitrate configuration

ii. Calculation of required additional storage capacity based on:

- For continuous recording mode for all cameras.
- Resolution & FPS.
- Retention duration as mentioned above.

b. Supply of Storage Infrastructure: Centralized Storage Solution & HD cameras:

- i. Supply & installation of:
 - Network Attached Storage (NAS) / Storage Area Network (SAN)/ Server based storage. The provided storage system shall have provision to accommodate 20 % of additional drives.
 - Video Management System (VMS) server along with the applicable perpetual licensed software.
 - 40 no's of HD cameras.
 - Required switches, racks (for servers & network), cables, and other required accessories.
- ii. Supply and installation of HDD's: All supplied HDDs shall be:
 - Surveillance-grade (24x7 rated)
 - Minimum 7200 RPM (if applicable)
 - With manufacturer warranty (minimum 3–5 years)

c. Configuration & Integration

- i. Reconfiguration of:
 - NVR storage allocation
 - Camera retention policies along with perpetual licence-based scaling for extending up to 250 cameras (IP, PTZ & VF).
 - Bitrate optimization (if required)
- ii. Segregation of storage allocation:
 - 1 Year retention for 40 cameras
 - 1 Month retention for 140 cameras
- iii. RAID configuration & health monitoring setup.
- iv. Ensuring:
 - No data loss during migration
 - Minimal system downtime

The contractor shall carry out the following works as part of this tender.

1. Supply and Installation of High Definition Cameras:

The contractor shall supply, install, configure and commission 40 numbers of high-definition IP cameras at locations identified by the HGML.

The scope shall include:

- Supply of 4MP or higher resolution IP cameras suitable for indoor and outdoor installation.
- Cameras shall support H.265/H.265+ compression for efficient storage utilization.

- Cameras shall have infrared (IR) night vision capability for low-light conditions.
- Cameras shall be ONVIF compliant and compatible with the proposed Video Management System (VMS).
- Cameras shall be weatherproof with minimum IP67 protection rating for outdoor locations.
- Supply and installation of mounting brackets, junction boxes, protective enclosures and accessories as required.
- Proper alignment, focusing and configuration of cameras for optimal field of view.

The contractor shall ensure proper routing and protection of cables and provide cable trays, conduits, or casing where required.

2. Supply, installation & commissioning of Server and Storage System (NAS / SAS / Server based):

The contractor shall design, supply, install and commission a server-based centralized recording and storage system for the CCTV surveillance system.

The system shall be capable of providing the following video retention periods:

- 40 cameras – minimum 365 days retention period
- 140 cameras – minimum 30 days retention period

The server and storage system shall include:

- Enterprise-grade recording server(s) with suitable processor, RAM and RAID controller.
- Adequate enterprise-class surveillance hard disks designed for continuous 24x7 recording.
- RAID-based storage configuration for data protection and reliability.
- Provision for future expansion of storage capacity by adding additional hard disks up to 20 %.

The server system shall support:

- Simultaneous recording of all cameras
- Live monitoring and playback
- Motion detection recording
- Event and alarm notifications
- User access management

All servers and storage equipment shall be installed in the existing CCTV control room.

3. Supply, installation & commissioning of VMS server & software:

The contractor shall design, supply, install and commission VMS server and software for the CCTV surveillance system.

The Video Management Software shall include:

- Enterprise-grade with suitable processor, RAM etc.

- The VMS shall have lifetime licence for 250 Nos. of cameras.
- The VMS shall support unlimited cameras, 3rd party access control systems (System tested: 1024 channels of cameras, within 32 pcs of Recording Server)
- Shall provide centralized management of video surveillance devices, live monitoring, recording, playback, analytics, alarms, and reporting across one or more sites.
- The system shall support IP cameras and encoders, Network Video Recorders (NVRs), Centralized video storage, Live viewing and playback, Video analytics, Event and alarm management, User and role administration, Mobile and web access with permission, Third-party integrations, Device Management, Audit and logging etc.
- Cyber security Requirements: Shall support TLS 1.2+, HTTPS, AES-256 storage encryptions and MFA, Password policies, Session timeout, IP whitelisting, Device certificates security controls.
- Shall comply ISO 27001, GDPR (if applicable), Local privacy regulations.
- Reporting Requirements: Reports shall include Camera availability, Recording status, Alarm history, User activity, Storage utilization, Analytics statistics etc. The reports shall be export in PDF, Excel & CSV format.
- Meet defined performance SLAs.

4. Networking Infrastructure:

The contractor shall provide all necessary networking components and accessories required for proper functioning of the system (within control room).

This shall include:

- Managed PoE network switches for camera connectivity.
- Core network switch for connecting servers and monitoring stations.
- CAT6 cables / Fiber optic cables wherever required.
- Network patch panels, connectors and cable management accessories.
- Proper termination, labeling and testing of all network cables.

The networking system shall be designed to ensure reliable transmission of video data from cameras to the recording server without packet loss or latency issues.

5. Integration with Existing CCTV System

The proposed server-based CCTV system shall be integrated with the existing 180 cameras and 7 NVRs currently installed in the facility.

The contractor shall ensure:

- Seamless integration of existing cameras into the new centralized server-based recording system.
- Compatibility of existing cameras with the proposed VMS platform.

- Migration of recording functionality from existing NVR-based storage to centralized server storage wherever applicable.
- Continuity of monitoring and recording during the integration process.

The integration shall be carried out without causing major disruption to the existing surveillance system.

6. System Configuration, Testing and Commissioning

After installation of all equipment, the contractor shall carry out complete system configuration, testing and commissioning.

The activities shall include:

- Configuration of cameras, servers and storage systems.
- Configuration of recording parameters and retention policies.
- Verification of live monitoring, recording and playback functions.
- Testing of motion detection and event-based recording features.
- Network performance testing and bandwidth verification.
- Demonstration of system functionality to the authorized representatives.
- Verification of recording functionality, playback from different retention periods, System performance under full load etc.
- Simulation test for storage rollover, Alarm/event-based recording if required
- Submission of Test reports & storage utilization report

The system shall be considered commissioned only after successful completion of testing and acceptance by the owner.

V. Documentation

The contractor shall provide the following documentation after completion of installation:

- As built system architecture diagram
- Storage calculation sheet
- Camera location layout drawings
- RAID configuration details
- Network diagram
- Operation and maintenance, user manuals
- Warranty certificates for all supplied equipment
- Perpetual licences document for all supplied software's
- Other relevant documents as required.

VI. Training

The contractor shall provide onsite training to the designated personnel on the operation and maintenance of the CCTV surveillance system.

The training shall include:

- System operation and monitoring
- Video playback and search
- Data backup procedures
- Basic troubleshooting
- User access management
- Storage & health monitoring
- HDD health check
- Retrieval of archived footage
- Server Health

Necessary training materials and manuals shall also be provided.

VII. Warranty and Support:

- i. The successful bidder shall provide a comprehensive Warranty period of three (03) Year for complete supplied system from the date of successful commissioning and handing over of the system.
- ii. The supplied servers shall have additional two years warranty after completion of initial warranty period of three years for complete supplied system.
- iii. During the Warranty period, the contractor shall be fully responsible for the proper functioning of the entire system, including repair/replacement of defective components, software support, troubleshooting, and maintenance at no additional cost to HGML.
- iv. The contractor shall attend all complaints within 24 hours and restore the system within a reasonable time to ensure uninterrupted operation.
- v. Preventive Maintenance Visits: The contractor shall carry out a minimum of two (02) preventive maintenance visits in every quarter during the Warranty and CAMC period. A detailed maintenance report shall be submitted after each visit, highlighting the system status, observations, corrective actions taken, and recommendations, if any.
- vi. During the warranty period, the contractor shall:
 - Provide free repair or replacement of defective components.
 - Provide technical support and troubleshooting.
 - Ensure system uptime and proper functioning.

All maintenance activities during the warranty period shall be carried out without any additional cost to the HGML.

VIII. Detailed Technical Specifications:

1. High Definition IP Cameras:

The cameras to be supplied shall be high definition network cameras suitable for 24x7 surveillance operation.

Minimum specifications shall be as follows:

General Specifications

- Type: IP based Network Camera
- Resolution: Minimum 5 Megapixel (2592 X 1944) or higher
- Image Sensor: Progressive Scan 1/2.8" CMOS
- Sensor Size: 5.184 mm X 3.888 mm
- Compression: H.265 HEVC/ H.265+ / H.264 / MJPEG
- Minimum Illumination: 0.01 Lux or better
- Day/Night: Automatic IR cut filter
- IR Range: Minimum 100 meters
- Wide Dynamic Range (WDR): Minimum 130 dB
- Lens: Fixed lens 2.8 mm / 4 mm or equivalent
- Frame Rate: Minimum 30 fps
- S/N Ratio: 55 dB
- Local Storage: Micro SD (up to 256 GB)
- Bit rate: 100 K – 12 Mbps

Network Features

- Protocols: TCP/IP, HTTP, HTTPS, FTP, RTSP, DHCP
- Ethernet: 10 Base-T/100 Base-TX Ethernet (RJ-45)
- Compliance: ONVIF compliant
- Dual stream capability
- Motion detection, Crowd detection, Multi Loitering, Intrusion, Tampering, SMD support
- Video motion Alarm input, Recording notification, Tampering

Physical Specifications

- Protection: IP67 weatherproof
- Operating Temperature: -10°C to +55°C or better
- Power Supply: PoE (Power over Ethernet)

Regulatory

- Emission: FCC PART 15, CE (EN 55032), Complies with RCM and UKCA
- Immunity: CE(EN 50130-4), Complies with RCM and UKC
- Safety: UL LISTED TO UL/CSA 62368-1, CE(EN 62368-1), , Complies with RCM and UKCA
- RoHS: CE(EN 63000),UAE(Cabinet Decree No.10 of 2017)

The bidder shall supply all necessary accessories including:

- Mounting brackets
- Junction boxes
- Weatherproof enclosures
- Connectors and fittings

2. Recording Server:

The recording server shall be enterprise-grade and capable of handling all cameras simultaneously.

Minimum specifications:

- Processor: Intel Xeon 6900/6700/6500
- RAM: Minimum 32 GB
- Storage Interface: SAS / SATA
- RAID Controller: Hardware RAID with cache memory
- Network Ports: Minimum 2 × 1 Gbps or higher
- Power Supply: Redundant Power Supply
- Drive Bays: Minimum 12 / 16 Hot Swappable Bays
- Operating System: Compatible with Video Management Software
- Form Factor: Rack Mount

The server shall be designed for continuous 24×7 recording operation.

3. The detailed specification of server, VMS and workstation enclosed as annexure – I and the bidder shall comply the same.

4. Storage Hard Disks:

The storage drives shall be enterprise-grade surveillance hard disks designed for continuous recording.

Minimum specifications:

- Capacity: 20 TB or higher
- Interface: SATA / SAS
- RPM: 7200 RPM or surveillance optimized
- Workload Rating: Suitable for 24×7 surveillance recording
- MTBF: High reliability rating
- RAID compatibility (Dense RAID or erasure coded storage)

The storage system shall support RAID configuration for redundancy and data protection.

5. Video Management Software (VMS):

The Video Management Software shall provide centralized monitoring and management of the CCTV system.

Minimum features:

- Support for minimum 250 cameras and shall be further scalable as per requirement
- Centralized recording and monitoring
- Multi-screen live viewing
- Playback and video search
- Motion detection recording

- Alarm and event notifications
- User authentication and access control
- Audit trail and activity logs
- Mobile monitoring capability
- ONVIF compatibility

The VMS shall support future addition of cameras without major system modification.

6. Network Switches:

The contractor shall supply and install managed PoE network switches.

Minimum specifications:

- Port Type: Gigabit Ethernet
- PoE Ports: As required for cameras
- Switching Capacity: Suitable for high bandwidth video traffic
- VLAN Support
- Layer 2 / Layer 3 managed switch
- Rack mountable design

IX. Storage Capacity Calculation:

The storage capacity required for the system shall be calculated based on the number of cameras, resolution, frame rate, compression type and retention period.

For estimation purposes, the following assumptions are considered:

- Camera Resolution: 4 MP
- Compression: H.265
- Frame Rate: 15 fps
- Average Bitrate per camera: 4 Mbps

X. Future Expansion:

The system shall be designed with scalable architecture to allow:

- Addition of new cameras
- Expansion of storage capacity (up to 30 %)
- Addition of extra recording servers

The contractor shall ensure that the proposed system architecture supports future expansion without replacement of existing infrastructure.

XI. Eligibility Criteria:

The bidder shall satisfy the following minimum eligibility requirements:

1. The bidder shall have successfully executed at least one similar work of value not less than Rs. 1.20 Crores during the last five years in any Government Department, PSU,

Public Limited Company, or reputed private organization. The bidder shall submit copies of Work Orders and corresponding Completion Certificates/Performance Certificates in support of the above experience.

2. The bidder shall possess valid GST Registration, PAN, and other statutory registrations applicable to the work.
3. The bidder shall furnish OEM Authorization Certificate(s) for the proposed major equipment/components, wherever applicable.
4. The bidder shall submit audited financial statements and/or audited turnover certificates for the last three financial years (FY 2023–24, 2024–25, and 2025–26).
5. The bidder shall have achieved a minimum annual turnover of Rs.1.50 Crores in at least two out of the last three financial years (FY 2023–24, 2024–25, and 2025–26). Copies of audited Balance Sheets, Profit & Loss Accounts, and a certificate from a Chartered Accountant in support of the turnover shall be furnished along with the bid.
6. The bidder shall not have been blacklisted/debarred by any Government Department, PSU, or Statutory Authority as on the date of bid submission and shall furnish a declaration to this effect.
7. The bidder shall have adequate technical manpower and service support infrastructure for execution and maintenance of the system.
8. The bidder shall submit the storage sizing report.
9. The bidder shall submit the proposed architecture drawing of the system.
10. The bidder shall submit the undertaking from OEM of the quoted servers for after sales & services support.
11. Technical Specification for the proposed Servers, Cameras & other accessories.

XII. Commercial Terms: The quoted rates shall be **exclusive of GST** and inclusive of all applicable taxes, duties, freight, insurance, packing, forwarding, loading, unloading, installation, testing, commissioning, and all other incidental charges required for successful completion of the work.

XIII. Payment Terms:

- a. Payment shall be released as follows:
 - 50% of the contract value shall be released after supply of all materials/equipment at site and certification by the Engineer-in-Charge or Authorised Officer of HGML.
 - 40% of the contract value shall be released after successful installation, testing, commissioning, and acceptance of the system by HGML.
 - The balance 10% of the contract value shall be retained as Security Deposit/Performance Retention and shall be released after successful completion of the Warranty and CAMC period, subject to satisfactory performance of the system and fulfilment of all contractual obligations.
- b. No interest shall be payable on the retained amount.
- c. Payments shall be made subject to submission of all relevant documents, test certificates, warranty certificates, commissioning reports, and statutory invoices.

XIV. Completion Period:

The entire scope of work shall be completed within 120 days from the date of issue of the purchase order, including supply, installation, testing, commissioning, and handing over of the system.

XV. General Terms & Conditions:

- The bidder may visit the site before submission of bid to understand the site conditions and the requirements.
- The organization reserves the right to accept/reject any tender
- Safety norms must be strictly followed.
- The Hutti Gold Mines Company Limited authorities shall not be responsible for any injury /casualty or loss of life that may take place during the course of contracted work/service and any compensation or expenditure towards treatment for such injury/casualty shall be the sole responsibility of the CONTRACTOR.

XVI. Exclusions (if applicable):

- Civil works
- UPS capacity enhancement (unless specifically included)

XVII. Technical Considerations:

- System shall support continuous 24x7 recording.
- Storage shall have minimum 20% spare capacity after allocation.
- RAID 5/6/10 recommended for data protection.

- Bitrate optimization may be implemented without compromising required video quality.
- Compatibility with existing NVR make/model must be ensured.
- Support / services for installed servers & infrastructures.

Annexure – I

Technical specifications to be complied by the bidders:

a. Detailed Specification of Server:

Sr. No.	Features / Descriptions		Compliances (Yes/No)	Deviation/ Remarks
1	CPU	Intel Xeon 6900/6700/6500		
2	RAM	4GB X 2 (Dual Channel)		
3	Type	Rack-mount 2U		
5	Server O/S	Windows/Linux based		
6	Video Compression	H.265, H.264, MPEG4, MJPEG, MxPEG		
7	Recording Performance	550 Mbps		
8	Removable HDD Trays	Minimum 8 X SATA III		
9	HDD Support	20TB per drive		
10	RAID	0, 1, 5, 6, 10 Support		
11	External Storage	iSCSI, NFS, NAS		
12	External Ports	2 X USB3.0;		
13	External Ports	2 X USB2.0;		
14	Ethernet (NIC)	1 X eSATA (for DAS);		
		1 X VGA / HDMI		
		2 x Gigabit Port, RJ45		
15	Voltage	230V +/- 10 %		
16	Temperature	0°C ~ 40°C (32°F ~ 104°F)		
17	Humidity	5% ~ 95%		
18	Warranty	5 Years Onsite.		

b. Detailed specification of VMS Software:

Sr. No.	Features / Descriptions	Compliances (Yes/No)	Deviation/ Remarks
1.	The system shall be open platform with integration with at least 250 IP camera leading brands in the world. The client OS platform shall be able to run with Microsoft Windows and MAC platforms. (list of integrated brands to be submitted)		
2.	The system shall be Windows/ Linux platform. The OS shall be embedded in device without extra installation. The system shall at least support 550mbps throughput for 8 bay model.		
3.	The central Management Server supports unlimited cameras, 3rd party access control systems (System tested: 1024 channels of cameras, within 32 pcs of Recording Server)		
4.	Image Fusion Technology can manipulate camera views by changing its viewing angle and image size to allow for a seamless multi-pane panoramic view. Up to 10 independent cameras can be set up as single view		
5.	Intelligent Search: Intuitive post-event motion search for suspicious areas on video and post-event 3rd party data keyword search then query related camera recording. The system can also search events and double clicking query associated recording		
6.	Multi-View: Client PC can duplicate the same live view video onto multiple channels and digitally zoom in to see the details of different spots on cloned channels without losing the original live view video		
7.	Individual recycle condition (IRC) for each video. Users can assign retention days for each server based on the importance of the critical storage needs		
8.	Multiple event-based and schedule-based recording modes, including continuous record, record on event, manual record, event-based and schedule-based boosting record. It also supports pre-event and post-event recording for continuous record to make sure ensure that the event is captured		
10.	The system shall support dual gigabit Ethernet ports.		

11.	The system shall be able to synchronize time with NTP server(Internet Time Server)		
12.	The system shall be able to centrally configure all devices and system settings on one interface.		
13.	The system shall support system status watchdog and automatically restart the system when abnormal event happened.		
14.	The system shall be Server-Client Architecture and centralizes all video data transaction only via server to remote clients.		
15.	The system shall include management server, recording server, metadata server, and client for configuring and viewing		
16.	The management server shall be able to centrally manage all servers in the system including configuration, license management, and event monitor.		
17.	The system shall support more features by upgrading, without re-install or re-configuring whole system.		
18.	The system shall be able to extent to unlimited recording servers and metadata server.		
19.	The system shall be able to support unlimited devices include camera and 3rd party devices.		
20.	The system shall support unlimited channels of live viewing for video and metadata from 3rd party application.		
21.	The system shall be able to centrally distribute the activated licenses to cameras/3rd party devices from different recording servers and metadata servers.		
23.	The system shall support user priority of locking PTZ, Preset point and Patrol control. When PTZ control lock, only user with higher or equal control priority can unlock it.		
24.	The system shall be able to view event notification on e-map.		
25.	The system shall be able to popup associated camera video from event list.		
26.	The system shall support volume load balance, enabling user manually distributes cameras recording to different target volumes		
27.	The system shall support individual recycle condition for every camera and 3rd party channel DB.		

28.	Auto-backup/export: The system shall be able to backup recorded video to a remote FTP server according to pre-defined schedule.		
29.	Manual backup/export: The system shall enable user to back up the recorded video manually.		
31.	The system shall provide a verification tool to verify if a snapshot or video clip is modified		
33.	The system shall support RAID 0, 1, 5,6 and 10.		
34.	The system shall support unified user interface for configuring, live view and playback.		
35.	The system shall support viewing live video of IP cameras through operating system including Microsoft and Mac and Microsoft Internet Explorer browser, or Windows Firefox.		
36.	The system shall support minimum 6 monitors through client software.		
37.	The system shall be able to managing all cameras from different servers by classifying cameras to different groups.		
38.	The system shall provide optional layouts to display the videos - 1x1, 2x2, 3x3, 4x4, 5x5, 6x6, 7x7, 8x8, 1+5, 2+8, 1+12, 1+12(central fixed), 1+16(central fixed), full screen and customize layout.		
39.	The instant playback shall enable user sync the video to playback instantly.		
40.	The system shall support video wall for big channels centralized display.		
42.	The system shall support digital PTZ on recorded video.		
43.	The system shall support multiple E-maps layers.		
44.	The system shall support various image formats for E-map: BMP, JPEG, GIF, PNG, TIFF.		

c. Detailed specification of Workstation:

Sr. No.	Features / Descriptions	Compliances (Yes/No)	Deviation/ Remarks
1	Processor : 14th Gen Intel® Core™ i9-14900K vPro® (36 MB cache, 24 cores, 32 threads, 3.2 GHz to 6.0 GHz Turbo, 125W) Standard CPU Air Cooler (for up to 65W CPUs)		
2	Operating System : Windows 11 Pro		
3	Memory : 4 DIMM Slots: Up to 128 GB or up to 4400 MT/s ECC and Non-ECC DDR5 Maximum speed: 4400 MT/s, Maximum capacity: 128 GB, 32 GB: 2 x 16 GB, DDR5, 4400 MT/s, Non-ECC, dual-channel		
4	Hard Disk : 1 TB, M.2 2280, Gen 4 PCIe NVMe, SSD, Self-Encrypting		
5	VIDEO CARD : NVIDIA® T1000, 8 GB GDDR6		
6	WARRANTY : 5Y ProSupport with Next Business Day Onsite service		
7	Wireless Keyboard and Mouse		
8	60" Monitor : 60 inch Resolution / Refresh Rate- QHD 2560 x 1440 at 60 Hz Panel Technology -IPS Adjustability - Height, pivot (rotation), swivel, tilt Ports -HDMI (HDCP 1.4), DisplayPort 1.2 (HDCP 1.4) Cables-1 x DisplayPort cable - DisplayPort to Display Port - 1.8 m 1 x USB 3.2 Gen 1 upstream cable - USB Type A to B		
9	HDMI Cable 10 Meters		
10	Warranty – 5 Years		

Annexure – II**Details of existing NVR and cameras:**

Sl No.	NVR specifications	Channel No	Make of camera	Resolution in MP
1	Make: Honeywell Model: HEN32204	1	Dahua	5
2		2	Dahua	5
3		3	Dahua	5
4		4	Cp-plus	5
5		5	Dahua	5
6		6	Honeywell	5
7		7	Dahua	5
8		8	Dahua	5
9		9	Dahua	5
10		10	Dahua	5
11		11	Dahua	5
12		12	Dahua	5
13		13	Dahua	5
14		14	Dahua	5
15		15	Dahua	5
16		16	Dahua	5
17		17	Dahua	5
18		18	Dahua	5
19		19	Dahua	5
20		20	Honeywell	5
21		21	Dahua	5
22		22	Dahua	5
23		23	Dahua	5
24		24	Dahua	5
25		25	Dahua	5
26		26	Dahua	5
27		27	Dahua	5
28		28	Dahua	5
29		29	Cp-plus	5
30		30	Dahua	5
31		31	Dahua	5
32		32	Dahua	5

33	NVR-2 Make: Honeywell Model: HEN32204	1	Dahua	5
34		2	Dahua	5
35		3	Dahua	5
36		4	Dahua	5
37		5	Dahua	5
38		6	Cp-plus	5
39		7	Dahua	5
40		8	Dahua	5
41		9	Dahua	5
42		10	Cp-plus	5
43		11	Dahua	5
44		12	Dahua	5
45		13	Dahua	5
46		14	Dahua	5
47		15	Dahua	5
48		16	Dahua	5
49		17	PTZ	5
50		18	Dahua	5
51		19	Cp-plus	5
52		20	honeywell	5
53		21	Dahua	5
54		22	Cp-plus	5
55		23	Dahua	5
56		24	Dahua	5
57		25	Dahua	5
58		26	Dahua	5
59		27	Dahua	5
60		28	Dahua	5
61		29	Dahua	5
62		30	Dahua	5
63		31	Dahua	5
64		32	Dahua	5
65	NVR-3 Make: Honeywell model: HEN32204	1	Dahua	5
66		2	honeywell	5
67		3	honeywell	5
68		4	Dahua	5

69		5	Dahua	5
70		6	Dahua	5
71		7	honeywell	5
72		8	Cp-plus	5
73		9	Dahua	5
74		10	honeywell	5
75		11	honeywell	5
76		12	honeywell	5
77		13	Dahua	5
78		14	Dahua	5
79		15	Dahua	5
80		16	Dahua	5
81		17	Dahua	5
82		18	Dahua	5
83		19	Dahua	5
84		20	Dahua	5
85		21	Dahua	5
86		22	Dahua	5
87		23	Dahua	5
88		24	Dahua	5
89		25	Dahua	5
90		26	Dahua	5
91		27	honeywell	5
92		28	Dahua	5
93		29	honeywell	5
94		30	Dahua	5
95		31	Dahua	5
96		32	Dahua	5
97	NVR-04 Make Dahua model:DHI- NVR4432-4KS2/I	1	Dahua	5
98		2	Dahua	5
99		3	Dahua	5
100		4	Dahua	5
101		5	Dahua	5
102		6	Dahua	5
103		7	Dahua	5
104		8	Dahua	5

105		9	Dahua	5
106		10	Dahua	5
107		11	Dahua	5
108		12	Dahua	5
109		13	Dahua	5
110		14	Dahua	5
111		15	Dahua	5
112		16	Dahua	5
113	NVR-05 Make Dahua model: DHI- NVR4432-4KS2 32 channel NVR	1	Dahua	5
114		2	Dahua	5
115		3	Cp-plus	5
116		4	Dahua	5
117		5	Dahua	5
118		6	Cp-plus	5
119		7	Cp-plus	5
120		8	Dahua	5
121		9	Dahua	5
122		10	Dahua	5
123		11	Dahua	5
124		12	Dahua	5
125		13	Dahua	5
126		14	Dahua	5
127		15	Cp-plus	5
128		16	Cp-plus	5
129	NVR-06 Make Dahua model: DHI- NVR4432-4KS2/I	1	Dahua	5
130		2	Dahua	5
131		3	Dahua	5
132		4	Dahua	5
133		5	Dahua	5
134		6	Dahua	5
135		7	Dahua	5
136		8	Dahua	5
137		9	Dahua	5
138		10	Dahua	5
139		11	Dahua	5
140		12	Dahua	5

141		13	Dahua	5
142		14	Dahua	5
143		15	Dahua	5
144		16	Cp-plus	5
145		17	Cp-plus	5
146		18	Cp-plus	5
147		19	Dahua	5
148		20	Dahua	5
149		21	Dahua	5
150		22	Cp-plus	5
151		23	Dahua	5
152		24	Dahua	5
153		25	Dahua	5
154		26	Dahua	5
155		27	Dahua	5
156		28	Dahua	5
157		29	Dahua	5
158		30	Dahua	5
159		31	Dahua	5
160		32	Dahua	5
161	NVR-07 Make Dahua model:DHI- NVR4432-EI	1	Dahua	5
162		2	Dahua	5
163		3	Dahua	5
164		4	Dahua	5
165		5	Dahua	5
166		6	Dahua	5
167		7	Dahua	5
168		8	Dahua	5
169		9	Dahua	5
170		10	Dahua	5
171		11	Dahua	5
172		12	Dahua	5
173		13	Dahua	5
174		14	Dahua	5
175		15	Dahua	5