

ITEM NO.	TECHNICAL SPECIFICATION	QTY																																						
1	FIXED IP BULLET CAMERA with Surge Protection 1 / 2.9" Black Light CMOS Sensor Min. Illumination : Color : 0.0001 Lux (F1.2,AGC on), 0.1 Lux with IR B/W :0.0001 Lux (F1.2,AGC on), 0.1 Lux with IR Camera should be able to capture and transmit an image size of 3MP (2304 x 1296) at 20 fps, 1080P @25fps Camera is intended to be a bullet style 4 LED array, (2 white light; 2 Infrared Light) 50-60m IR Range Fixed Lens with focal length of 3.6mm True Day & Night with an Infrared Cut Filter, auto Supports DWDR, 3D DNR Motion Detection, Video Loss, Video Block, AI Human Detection, Face Detection Shutter Time/Speed of 1/50(1/60)s to 1/10,000s with Anti-Flicker Applicable to Mobile phone remote Monitoring (iOS & Android) H.265+/H.265/H.264 High Profile Supports WEB, CMS, VMS & Cloud Storage Services Maximum Bitrate of 0.1-10Mbps Audio I/1 (Built in Mic + Audio Output Interface) IP/ Protocol : TCP/IP, HTTP, DHCP, DDNS, PPPoE, SMTP, NTP ONVIF Compliant Voltage 12V DC, PoE (IEEE 802.3af) Ingress Protection:IP67 Grade Operating Temperature of -10°C to +60°C Maximum of 10W power consumption	200																																						
2	FIXED IP BULLET CAMERA with Surge Protection Imaging Device Scanning System 1 / 2.7 Low Illumination 5MP CMOS Sensor Min. Illumination : Color : 0.01 Lux (F1.2,AGC on), 0 Lux with IR B/W :0.001 Lux (F1.2,AGC on), 0 Lux with IR Camera should be able to capture and transmit an image size of 5MP (2592 x 1944) at 6 fps Camera is intended to be a bullet style 4 LED array, (2 white light; 2 Infrared Light) 30m Range Fixed Lens with focal length of 3.6mm True Day & Night with an Infrared Cut Filter and with auto switch Shutter Time/Speed of 1/50(1/60)s to 1/10,000s with Anti-Flicker Applicable to Mobile phone remote Monitoring (iOS & Android) H.264+ High Profile Video Compressions Supports three connection mode, LAN (wired) or Wifi (wireless) and AP Mode Motion Detection, Video Loss, Video Block, AI Human Detection, Face Detection Maximum Bitrate of 0.1-8Mbps Supports two way audio communication Audio Compression G.711a ONVIF Compliant Voltage 12V DC Ingress Protection:IP66 Grade Operating Temperature of -10°C to +60°C Maximum of 5W power consumption Support micro SD-Card / TF Local Storage	141																																						
3	IP PTZ DOME CAMERA with Surge Protection Auto Electronic Shutter Time Supports DWDR, 3D DNR H.265+ (compatible H.265/H.264) encoding algorithm Mobile Phone Remote Monitoring (iOS, Android) Multi Browser Access (IE, Chrome, Firefox, Safari) Information Superposition (ID, IP, DDNS, etc) Supports WEB, CMS, VMS, Cloud services, cloud storage Supports HVR/NVR, ONVIF Protocol <table border="1" data-bbox="217 1585 1305 2143"> <tr> <td>Sensor</td> <td>1/2.8" Starlight CMOS</td> </tr> <tr> <td>Minimum Illumination</td> <td>Color: 0.0001 Lux @ F1.6 B/W: 0.0001 Lux @ F1.6</td> </tr> <tr> <td>Shutter Time</td> <td>Automatic</td> </tr> <tr> <td>Maximum Image</td> <td>1920*1080</td> </tr> <tr> <td>Frame Rate</td> <td>NTSC: 1920 x 1080P @ 25 fps</td> </tr> <tr> <td>Day & Night</td> <td>IR Cut Filter with Auto Switch</td> </tr> <tr> <td>Lens Aperture</td> <td>F1.6 - F2.7</td> </tr> <tr> <td>Lens Focal Length</td> <td>4.7 mm - 84.6mm</td> </tr> <tr> <td>Optical Zoom</td> <td>18X</td> </tr> <tr> <td>IR Range</td> <td>8 LED Lamps 120m</td> </tr> <tr> <td>Rotation Range</td> <td>Horizontal: 0 - 360 deg continuous rotation Vertical: -15 - 90 deg continuous monitoring</td> </tr> <tr> <td>Auto Mode</td> <td>Preset Point/Preset Point Cruise/Horizontal Scan/ Auto Scan/ Path</td> </tr> <tr> <td>PTZ Function</td> <td>Support the turn-on movement, support power memory function</td> </tr> <tr> <td>Protocol</td> <td>TCP/IP, HTTP, DHCP, DNS, DDNS, PPPoE, SMTP, NTP,(HTTPS, SIP, 802.1x, IPv6 Optional)</td> </tr> <tr> <td>Storage</td> <td>Network Storage, internal SD Card to 128G</td> </tr> <tr> <td>Ethernet</td> <td>1*10/100 Mbps Ethernet port, RJ45 port</td> </tr> <tr> <td>Material</td> <td>Metal + ABS Plastic</td> </tr> <tr> <td>Ingress Protection</td> <td>IP66</td> </tr> <tr> <td>Lightning Proof and Anti-Surge</td> <td>TVS4000V</td> </tr> </table>	Sensor	1/2.8" Starlight CMOS	Minimum Illumination	Color: 0.0001 Lux @ F1.6 B/W: 0.0001 Lux @ F1.6	Shutter Time	Automatic	Maximum Image	1920*1080	Frame Rate	NTSC: 1920 x 1080P @ 25 fps	Day & Night	IR Cut Filter with Auto Switch	Lens Aperture	F1.6 - F2.7	Lens Focal Length	4.7 mm - 84.6mm	Optical Zoom	18X	IR Range	8 LED Lamps 120m	Rotation Range	Horizontal: 0 - 360 deg continuous rotation Vertical: -15 - 90 deg continuous monitoring	Auto Mode	Preset Point/Preset Point Cruise/Horizontal Scan/ Auto Scan/ Path	PTZ Function	Support the turn-on movement, support power memory function	Protocol	TCP/IP, HTTP, DHCP, DNS, DDNS, PPPoE, SMTP, NTP,(HTTPS, SIP, 802.1x, IPv6 Optional)	Storage	Network Storage, internal SD Card to 128G	Ethernet	1*10/100 Mbps Ethernet port, RJ45 port	Material	Metal + ABS Plastic	Ingress Protection	IP66	Lightning Proof and Anti-Surge	TVS4000V	101
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4	Network Switches For Command Center 32 Ports, 10G Managed Optical Fiber Switch, 24 Ports Gigabit SFP, plus 4*RJ45 Gigabit ports plus 4*SFP ports 10Gig uplink ports, Built-in power supply Standard 1U Rack Includes SFP Module, LC Dual Fiber Single Mode SFP Transceiver 2x Gigabit LC port 1310nm, at least 20KM transmission distance	1
	28 Ports, L3 10G Managed Switch, 24 Port RJ45ports plus 4*SFP Uplink Ports 10Gig, Built-in power supply Standard 1U Rack Includes SFP Module, LC Dual Fiber Single Mode SFP Transceiver 2x Gigabit LC port 1310nm, at least 20KM transmission distance	1
	Industrial 12 port Full Gigabit POE switch At least 8 x 10/100/1000 Base-T PoE Ports (Data/Power) 2 x 10/100/1000 Base-T Uplink RJ45 Ports (Data) 2 x 100/1000 Base-X Uplink SFP slot Ports (Data) Duplex Setting: Half/Full at least 824Gbps switching capacity Switching latency for 64-byte packet: 17.86 Mpps Able to support Jumbo Frames up to 9.2 kilobytes size at least 30 W POE budget power per port Able to support 240 W maximum power rating Able to support a minimum of 8K MAC Address With Lightning Protection of 6KV 8/20uS IP40 protection Level With Anti Vibration (IEC60068-2-6), Anti Shock (IEC60068-2-27) & Free Fall (IEC60068-2-32) Includes SFP Module, LC Dual Fiber Single Mode SFP Transceiver 2x Gigabit LC port 1310nm, at least 20KM transmission distance	11
	28-port Full Gigabit PoE Switch At least 24 x 10/100/1000M PoE Ports + 2 x RJ45 Ports + 2 x SFP Uplink Ports IEEE802.3af/at Power Consumption of 400W Includes SFP Module, LC Dual Fiber Single Mode SFP Transceiver 2x Gigabit LC port 1310nm, at least 20KM transmission distance	10
5	15U Wall Mount Data Cabinet 15U Data Cabinet, wall mount including 24ports Cat6 Patch Panels shelves, powerstrip and other accessories 4-Port SC Fiber Terminal Box SC Coupler loaded Includes splice tray	9
	Power Distribution Board, Isolation and Protection for Equipment and AC Surge Protection. The size of the PDB shall be constructed such that it will fit in the power supplies if needed, surge protectors, and other components For outdoor use, the PDB shall be designed for outdoor installation and can withstand all types of weather conditions. The PDB must include a circuit breaker for tapping of main power source and It should provide protection against residual current Each line output shall have a one-pole circuit breakers to provide protection against over-current and short circuit AC Surge Protection applicable for protectting AC220-240V Min surge current of 6000A, Min surge voltage of 6000V	9
6	42U Closed Data Cabinet 42U 600*800 Closed Data Cabinet including 24ports Cat6 Patch Panels shelves, powerstrip and other accessories 24-Port SC Fiber Terminal Box SC Coupler loaded Includes splice tray	2
7	Central Management Server Professional Platform for central management and monitoring of cameras, media server, storage devices, authority management for each command center. Linux Operating System with high performance 64-bit multi-core processor; simple and convenient integration Supports multiple connections: Net SDK, GB28181 protocol, ONVIF protocol Able to assign different permission, for Multi-system user grouping with multiple user roles Alarm management and video linkage; Supports uploading various alarm information of IPC and NVR to Command Center such as Motion detection, signal loss, I/O alarm, and video blind; realizes untied management and query of alarm source, alarm event, receiving object, and alarm type; supports alarm linkage recording Simple and convenient integrtion; Platform supports GB28181 protocol, HTTP interaction protocol, HLS, RTSP, PTMP (HTTP-FLV) streaming proctol; provides each platform access to SDK (Phone, Linux, Windows)	2

Automatically Detects IPC, DVR, NVR and other devices connection status, visual display device online, offline status and prompts the cause	
Detailed log management: Quickly troubleshoots problems through logs to ensure stable operation of the system	
Remote configuration: the administrator can manage the centralized monitoring system through web browsers can monitor the device operating status, and can modify various device parameters	
Memory self-start: starts automatically after a sudden power failure: the device maintains the last working state before the power failure	
Intelligent Platform Management Interface (IPMI): intelligent remote monitoring of devices, controls and resumes automatically the server operation	
Adopts 2U chassis intelligent heat dissipation system design, suitable for a variety of application environment	
Operating System	Embedded Linux
Processor	High Performance 64-bit Multi-core Processor
Main Board	Server-grade Mainboard
RAM	8G
Built-in Disk	1T Enterprise Hard Disk
Video Management	Default 200 channel management (Maximum expansion 5000 channels) + Up to 128 channel forwarding (3M stream)
Management Function	Central Management, Front-End Management, User Rights Management, Registration Management, Storage Management, Stream Media Management, Alarm Management, etc
Display Interface	VGA * 1
USB Interface	USB * 6
Network Interface	2 Gigabit NIC Ports and 1 IPMI Port
Radiator	Server-grade radiator
Fan	Server-grade Fan * 4
LED Indicators	Power Indicator, Hard Disk Indicator, Net Port Indicator, Fault Alarm Indicator
Integrated Cloud Platform	
To provide a main administrator account to the customer on the Cloud Platform	
It should include a cloud service operation management platform which integrates project management, equipment management, user management, storage and storage management, and financial management. Manage alarms or notifications from the cameras Motion Detection, Video Loss, Video Block, AI Human Detection, Face Detection	
The system helps administrators provide users with vertical industry cloud platform solutions at PaaS / SaaS level. To supply a platform where users can access unlimited devices at any time, enabling a quick assignment of roles to different users with different management rights, set up multiple project sites, or sub command centers without the need to setup and deploy the server hardware and software saving time and effort.	
It should be able to support multi-level group and a centralized equipment management with a unified configuration. Which will effectively solve the problem of multiple monitoring points.	
It should support equipment batch configuration and maintenance, with a one click deployment	
It should provide remote monitoring in real time, using the web or mobile phone app, users can preview and playback the video, push alarm notification in real time, with system status monitoring.	
Cloud Storage available in D1 and 2MP Plan, using Main Stream and Sub Stream	

8	<p>Network Video Server 128-ch 3M Recording, 64-ch 3M Forwarding up to 24 bays SATA HDD (Max. 10 TB per bay) 2*100/100/1000 Mbps Auto-sensing RJ45 Ethernet Port Supports ONVIF Protocol Supports GB28181 (Optional) Video Compression: H.265/H.264 Professional Embedded Hardware and Software Design, Stable and Reliable Operation; Supports Remote Access, ARSP Mobile Phone Remote Monitoring (iOS, Android)</p> <table border="1"> <tr> <td>Processor</td> <td>Intel xeon E3-1230 V5</td> </tr> <tr> <td>Operating System</td> <td>Embedded Linux;</td> </tr> <tr> <td>Video</td> <td>128-ch 3M Recording, 64-ch 3M Forwarding</td> </tr> <tr> <td>Video Compression</td> <td>H.265/H.264</td> </tr> <tr> <td>Record Mode</td> <td>Manual>Alarm>Motion Detection>Timing</td> </tr> <tr> <td>Inquire Mode</td> <td>Inquiry by Time/Calendar/Event/Channel</td> </tr> <tr> <td>Storage</td> <td>HDD Storage, Network Storage</td> </tr> <tr> <td>Video Output Interface</td> <td>2*HDMI, 1*VGA</td> </tr> <tr> <td>Ethernet Port</td> <td>2*10/100/1000 Mbps RJ45 Ethernet Port</td> </tr> <tr> <td>USB Port</td> <td>3*USB 2.0 Ports, 1*USB 3.0 Port</td> </tr> <tr> <td>HDD</td> <td>24 bays SATA (Max10 TB per bay)</td> </tr> <tr> <td colspan="2">RAID 0, 1, 5, 6, 10, 50, 60</td> </tr> </table>	Processor	Intel xeon E3-1230 V5	Operating System	Embedded Linux;	Video	128-ch 3M Recording, 64-ch 3M Forwarding	Video Compression	H.265/H.264	Record Mode	Manual>Alarm>Motion Detection>Timing	Inquire Mode	Inquiry by Time/Calendar/Event/Channel	Storage	HDD Storage, Network Storage	Video Output Interface	2*HDMI, 1*VGA	Ethernet Port	2*10/100/1000 Mbps RJ45 Ethernet Port	USB Port	3*USB 2.0 Ports, 1*USB 3.0 Port	HDD	24 bays SATA (Max10 TB per bay)	RAID 0, 1, 5, 6, 10, 50, 60		8
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9	<p>Enterprise Grade Hard Disk Drive 6TB Enterprise Grade Excellent random and sequential performance Non-volatile cache (NVC) 2M hours MTBF and 0.44% AFR Up to 255MB/s transfer rate (512e/4Kn); 233MB/s transfer rate (512n) Dual-stage Micro Actuator</p>	128																								
10	<p>Keyboard Controller Supports Network Control mode Supports vector variable speed joystick Quick and easy installation</p>	1																								

11	<p>Digital Video Matrix</p> <p>Supports 8 ch 4K/ 8 ch 1080P Display Output, 32 ch 4k, 128ch 1080P, 256ch 720P/ 512ch D1 video input</p> <p>Supports H.265/ H.264 and other stream decoding (MPEG4 and MPEG2)</p> <p>Seamless output switching among splicing, segmentation, round tour, PIP and roaming</p> <p>Supports standard ONVIF, supports major camera manufacturer protocols</p> <table border="1" data-bbox="220 197 1305 479"> <tr> <td>Video Input Signal</td> <td>Net Test Signal, Video Streaming, Video File</td> </tr> <tr> <td>Support Equipment</td> <td>IPC/NVR/Streaming Media Forwarding Server/Storage Server, etc.</td> </tr> <tr> <td>Input Interface</td> <td>10/100/1000 Mbps Adaptive Network Port</td> </tr> <tr> <td>Resistance</td> <td>75 ohms</td> </tr> <tr> <td>Crosstalk</td> <td>< -60dB @ 4.43 MHz</td> </tr> <tr> <td>Video Output</td> <td>2-ch HDMI Output</td> </tr> <tr> <td>Output Resolution</td> <td>4K, 1080P</td> </tr> <tr> <td>Mosaic</td> <td>2*2, 2*3, 2*4, ... 8*8, etc.</td> </tr> <tr> <td>Split Display Mode</td> <td>2/4/6/8/9/12/14/18/18/20/25/30/32/36</td> </tr> <tr> <td>Others</td> <td>Supports picture-in-picture and roaming</td> </tr> <tr> <td>Maximum Decoding Capacity</td> <td>4-ch 4K/16-ch 180P, 32-ch 720P/ 64-ch D1</td> </tr> </table>	Video Input Signal	Net Test Signal, Video Streaming, Video File	Support Equipment	IPC/NVR/Streaming Media Forwarding Server/Storage Server, etc.	Input Interface	10/100/1000 Mbps Adaptive Network Port	Resistance	75 ohms	Crosstalk	< -60dB @ 4.43 MHz	Video Output	2-ch HDMI Output	Output Resolution	4K, 1080P	Mosaic	2*2, 2*3, 2*4, ... 8*8, etc.	Split Display Mode	2/4/6/8/9/12/14/18/18/20/25/30/32/36	Others	Supports picture-in-picture and roaming	Maximum Decoding Capacity	4-ch 4K/16-ch 180P, 32-ch 720P/ 64-ch D1	2
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12	<p>46" Video Wall CCTV Monitor</p> <p>Support up to 1920 x 1080 resolution</p> <p>High contrast ratio 4,000:1</p> <p>178 degree horizontal and vertical viewing angle</p> <p>HDMI, DVI, VGA, and USB Inputs</p> <p>RJ45 I/O: 1 / 1 ; BNC I/O: 1 / 1</p> <p>Built-in Speaker</p> <p>Fan-less Design, No Noise</p> <p>VESA mount of 500 x 400 (mm)</p> <p>Response Time (ms) 5</p>	8																						
13	<p>Operator Workstation and 22" LED Monitor</p> <p>CPU Intel OctaCore i7</p> <p>Atleast 16GB RAM, Atleast 8Gb Video Card</p> <p>Atleast 1TB HDD</p> <p>Windows 10 Operating System</p> <p>USB Keyboard, Mouse & AntiVirus</p> <p>PC workstation must be branded.</p>	5																						
	<p>Operator Workstation Monitor</p> <p>21.5" screen size</p> <p>Supports up to 1920 x 1080 resolution</p> <p>16:9 display</p> <p>High contrast ratio 1000 :1</p> <p>Fast response time 5ms</p> <p>HDMI/VGA input connection</p>	9																						
14	<p>3KVA On-line UPS</p> <p>Power Rating: 3000 VA</p> <p>INPUT Voltage / Load:208V, 220V, 230V, 240V</p> <p>50 / 60 Hz Auto Sensing</p> <p>Surge Protection: 120V (IEEEC62.41) / 230V (IEEEC1000-4-5 Level 3)</p> <p>Short Circuit Protection: Output Cut-off immediately</p> <p>Indicate line, bypass, inverter, back up,bat capacity, lod capacity, I/P voltage, I/P frequency, O/P Voltage, O/P frequency, internal temperature, fault status.</p> <p>Alarm when battery discharge and UPS fault.</p> <p>RS-232 Serial Port and USB</p> <p>Tower mount</p>	6																						
15	<p>CCTV Console</p> <p>Console must be a CCTV Console table/Rack, design base on the number of monitors and workstation required..</p> <p>Console must be approved by the end user.</p>	2																						
16	<p>Remote Communication Box</p> <p>4G Outdoor wireless router, 300Mbps Transmission Speed</p> <p>2 x 10/100 RJ45 Interface, PoE Powered: 24V 1A</p> <p>Built-in 4G and Wifi Antenna</p> <p>Outdoor Network PoE Switch, 4* 10/100M POE,</p> <p>1*SC Single Fiber Single Mode</p> <p>IEEE802.3, IEEE 802.3u, 802.3af, IEEE802.3x</p> <p>Backplane Bandwidth:1Gbps, Atleast 4K MAC Address</p> <p>VLAN, POE:48V, 802.3at/af, AC 100-240V, IP65</p> <p>Power Distribution Board (PDB), Isolation and Protection for Equipment and AC Surge Protection.</p> <p>The size of the PDB shall be constructed such that it will fit in the power supplies if needed, surge protectors, and other components</p> <p>For outdoor use, the PDB shall be designed for outdoor installation and can withstand all types of weather conditions.</p> <p>The PDB must include a circuit breaker for tapping of main power source and It should provide protection against residual current</p> <p>Each line output shall have a one-pole circuit breakers to provide protection against over-current and short circuit</p> <p>AC Surge Protection applicable for protecting AC220-240V</p> <p>Min surge current of 6000A, Min surge voltage of 6000V</p> <p>Gigabit PoE Network Surge Protector Set</p> <p>Applicable to 10M/100/Gigabit POE Switches, Camera, POE Injector</p> <p>Data protection: 1.2.3.6.4.5.7.8, DC 48V power protection), RJ45 Interface</p> <p>IP PoE Extender 10/100M, 1 * input port, IEEE802.3af/at/bt;</p> <p>+ 2* output port; IEEE802.3af, Extends up to 200m</p>	242																						