JUNE 2018

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**Product Guide Specification**

Specifier Notes: This product guide specification is written according to the Construction Specifications Institute (CSI) 3-Part Format, based on *MasterFormat 2016* and *The Project Resource Manual—CSI Manual of Practice. The Manufacturer is responsible for technical accuracy.*

The section must be carefully reviewed and edited by the Architect or Engineer to meet the requirements of the project and local building code. Words and sentences within brackets [ ] are choices to include or exclude a particular item or statement. Coordinate this section with other specification sections and the Drawings. Delete all “Specifier Notes” after editing this section.

**Section 28 00 00: Electronic Safety and Security**

**Section 28 05 00: Common Work Results For Electronic Safety and Security**

**Section 28 05 19.15: Network Video Recorders**

**256-CHANNEL 3U INTELLIGENT VIDEO SURVEILLANCE SERVER**

1. **– GENERAL**
	1. SUMMARY
		1. Section Includes
			1. Section 28 05 23: Storage Area Network Electronic Safety and Security
			2. Section 28 05 25: Cloud Based Storage for Electronic Safety and Security
			3. Section 28 05 29: Storage Management Software for Electronic Safety and Security
			4. Section 28 05 31: Communications Equipment for Electronic Safety and Security
		2. Related Sections
			1. [Section 28 33 15: Security Detection, Alarm and Monitoring – Security Monitoring and Control – Security Monitoring and Control Software].

\*\*\*\*\*\*\*\*\*\*Specifier’s note: Include those standards referenced elsewhere in this SECTION.

* 1. REFERENCES
		1. Electromagnetic Compatibility
			1. Federal Communications Commission (FCC) ([www.fcc.gov](http://www.fcc.gov))
				1. CFR 47 FCC Part 15 Subpart B
			2. ANSI
				1. ANSI C63.4-2014
		2. Safety
			1. Underwriters Laboratories, Inc. (UL) (www.ul.com)
				1. UL 60950-1
		3. European Standards
			1. EN55032
			2. EN55024
			3. EN50130-4
			4. EN60950-1
	2. SYSTEM DESCRIPTION
		1. Section Includes
			1. Network Video Recorders
		2. Performance Requirements
			1. The 256-channel IVSS shall use an embedded Quad-core processer with embedded Linux operating system to record video from 256 IP camera inputs.
			2. The 256-channel IVSS shall offer 20 face databases and shall store up to 100,000 face images.
			3. The 256-channel IVSS shall offer face recognition algorithms on 16 channels.
			4. The 256-channel IVSS shall be capable of storing up to 160 TB of data from 256 IP camera inputs with up to 32 MP resolution for each IP input.
			5. The 256-channel IVSS shall use the H.265, H.264, MJPEG, and MPEG4 Video compression protocols.
			6. The 256-channel IVSS shall offer 3840 × 2160 resolution for display.
			7. The 256-channel IVSS shall offer a feature to customize the live view layout with support for panoramic displays.
			8. The 256-channel IVSS shall have a maximum incoming bandwidth of
			512 Mbps.
			9. The 256-channel IVSS shall offer a selection of built-in recording options and schedules.
			10. The 256-channel IVSS shall come in a 3U-high casing.
	3. SUBMITTALS

* + 1. Submit under provisions of Section [01 33 00.]
		2. Product Data:
			1. Manufacturer’s data, user and installation manuals for all equipment and software programs including computer equipment and other equipment required for complete video management system.
		3. Dimensional Drawings; include
			1. Overall device dimensions.
			2. Dimensions specific for installation.
		4. Closeout Submittals
			1. User manual.
			2. Parts list.
			3. Maintenance requirements.
	1. QUALITY ASSURANCE
		1. Manufacturer:
			1. Minimum of [10] years of experience in manufacture and design Video Surveillance Devices.
		2. Video Surveillance System:
			1. List certifying bodies (UL, CSA, etc.)
			2. Provide evidence of compliance upon request.
		3. Installer:
			1. Minimum of [5] years of experience installing Video Surveillance System.
	2. DELIVERY, STORAGE AND HANDLING
		1. Comply with requirements of Section 01 60 00.
		2. Deliver materials in manufacture’s original, unopened, undamaged containers; and unharmed original identification labels.
		3. Protect store materials from environmental and temperature conditions following manufacturer’s instructions.
		4. Handle and operate products and systems according to manufacturer’s instructions.
	3. WARRANTY
		1. Provide manufacturer’s warranty covering [2] years for replacement and repair of defective equipment. Warranty varies country to country.
	4. MAINTENANCE
		1. Make ordering of new equipment for expansions, replacements, and spare parts available to dealers and end users.
		2. Provide factory direct technical support via phone and e-mail.
1. **– PRODUCTS**
	1. MANUFACTURERS
		1. [Acceptable Manufacturer:

Dahua Technology USA Inc.

23 Hubble, Irvine, CA 92618

Tel: (949) 679-7777

Fax: (949) 679-5760

Email: sales.usa@global.dahuatech.com]

* + 1. Substitutions: [Not permitted.] [Under provisions of Division 1.]
			1. [All proposed substitutions must be approved by the Architect or Engineer professional.]
			2. [Proposed substitutions must provide a line-by-line compliance documentation.]
	1. 256-CHANNEL INTELLIGENT VIDEO SURVEILLANCE SERVER DHI-IVSS7016DR-4T

		1. General Characteristics:
			1. The 256-channel IVSS shall use an embedded Quad-core processer with embedded Linux operating system to record video from 256 IP camera inputs.
			2. The 256-channel IVSS shall offer 20 face databases and shall store up to 100,000 face images.
			3. The 256-channel IVSS shall offer face recognition algorithms on 16 channels.
			4. The 256-channel IVSS shall be capable of storing up to 160 TB of data from 256 IP camera inputs with up to 32 MP resolution for each IP input.
			5. The 256-channel IVSS shall use the H.265, H.264, MJPEG, and MPEG4 Video compression protocols.
			6. The 256-channel IVSS shall offer 3840 × 2160 resolution for display.
			7. The 256-channel IVSS shall offer a feature to customize the live view layout with support for panoramic displays.
			8. The 256-channel IVSS shall have a maximum incoming bandwidth of
			512 Mbps.
			9. The 256-channel IVSS shall offer a selection of built-in recording options and schedules.
			10. The 256-channel IVSS shall come in a 3U-high casing.
			11. The 256-channel IVSS shall be powered by a 100 to 240 VAC, 50/60 Hz power supply and consume less than 120 W of power.
			12. The 256-channel IVSS shall offer hot-swappable redundant power supply.
		2. Display
			1. The 256-channel IVSS shall offer three (3) HDMI output ports
			(up to 3840 x 2160) and one (1) VGA output ports (up to 1920 x 1080).
			2. The 256-channel IVSS shall offer native display output resolutions of:
			3480 x 2160, 2560 x 1440 1920 × 1080, 1280 × 1024, 1280 × 720, and
			1024 × 768.
			3. The 256-channel IVSS shall offer the following maximum decoding capabilities:
				1. 24 channels of 2 MP at 30 fps
			4. The 256-channel IVSS shall offer up to 36 splits for each screen.
			5. The 256-channel IVSS shall offer an on-screen display that lists the camera title, time, video loss indication, camera lock indication, motion detection, and recording indicator.
		3. Video Detection and Alarm
			1. The 256-channel IVSS shall offer the following trigger events: recording, snapshot, and buzzer.
			2. The 256-channel IVSS shall be capable of detecting motion (396 zones), video loss, tampering.
			3. The 256-channel IVSS shall offer 16 alarm inputs and eight (8) relay outputs.
		4. Interface
			1. The 256-channel IVSS shall offer an interface for a 7-in. HD LCD front cover monitor.
			2. The 256-channel IVSS shall offer two (2) USB 2.0 auxiliary port and two (2) USB 3.0 auxiliary ports.
			3. The 256-channel IVSS shall offer one (1) 3.5 mm audio jack input channel and one (1) 3.5 mm audio jack output channel.
			4. The 256-channel IVSS shall offer one (1) RS232 port for PC communication or keyboard connection.
			5. The 256-channel IVSS shall offer one (1) RS485 port for PTZ control.
		5. Storage
			1. The 256-channel IVSS shall come with 16 SAS/SATA HDD slots, where each HDD can store up to 10 TB.
			2. The 256-channel IVSS shall support RAID 0/1/5/10.
			3. The 256-channel IVSS shall support one (1) eSATA external drive.
			4. The 256-channel IVSS shall offer two SAS 3.0 ports.
		6. Playback and Backup
			1. The 256-channel IVSS shall support up to 16 synchronous output to playback devices.
			2. The 256-channel IVSS shall offer 128 Mbps playback bandwidth.
			3. The 256-channel IVSS shall allow recorded video searches by time/date, alarm, motion detection event, and Exact Search.
			4. The 256-channel IVSS shall allow data backup via a USB device, an eSATA drive, or another network.
		7. Recording
			1. The 256-channel IVSS shall employ the H.265, H.264, MJPEG and the MPEG4 video compression protocols.
			2. The 256-channel IVSS shall offer video recording resolutions of 32 MP, 12 MP, 8 MP, 6 MP, 5 MP, 4 MP, 3 MP, 1080p.
			3. The 256-channel IVSS shall offer a maximum incoming bandwidth of
			512 Mbps.
			4. The 256-channel IVSS shall offer Schedule Record mode, regular, motion detection, or alarm recording.
			5. The 256-channel IVSS shall be capable of recording from third-party devices, including: Dahua, AXIS, Panasonic, and Sony cameras that support CGI.
		8. IP Connectivity
			1. The 256-channel IVSS shall allow full control and configuration capabilities via a TCP/IP network.
			2. The 256-channel IVSS shall offer four (4) RJ-45 ports (10/100/1000 Mbps).
			3. The 256-channel IVSS shall support a maximum of 128 user access points.
			4. The 256-channel IVSS shall conform to the ONVIF 2.4 and to the CGI standard.
			5. The 256-channel IVSS shall support the IPv6 internet-layer protocol for packet switched internetworking across multiple IP networks.
			6. The 256-channel IVSS shall support the HTTP, HTTPS, TCP/IP, UDP, RTSP, IPv4, NTP, DHCP, DNS, IP Filter, IP Search (Support Dahua IP camera, DVR, NVR), P2P.
		9. Artificial Intelligence
			1. The 256-channel IVSS shall offer face recognition on 16 channels
			2. The 256-channel IVSS shall support structured data for gender, age, expression, glasses, moustache, and mask.
			3. The 256-channel IVSS shall offer a Stranger Mode to detect a face not stored in the IVSS database.
			4. The 256-channel IVSS shall offer 20 face databases, and store metadata for up to 100,000 face images.
		10. Installation Requirements
			1. The 256-channel IVSS shall be capable of operating in temperatures between -0°C to +50°C (32°F to +122°F).
			2. The 256-channel IVSS shall receive power from a 100 to 240 VAC,
			50/60 Hz power source and consume less than 120 W of power.
1. **– EXECUTION**
	1. EXAMINATION
		1. Examine areas to receive devices and notify adverse conditions affecting installation or subsequent operation.
		2. Do not begin installation until unacceptable conditions are corrected.
	2. PREPARATION
		1. Protect devices from damage during construction.
	3. INSTALLATION
		1. Install devices in accordance with manufacturer’s instruction at locations indicated on the floor drawings plans.
		2. Perform installation with qualified service personnel.
		3. Install devices in accordance with the National Electrical Code or applicable local codes.
		4. Ensure selected location is secure and offers protection from accidental damage.
		5. Location must provide reasonable temperature and humidity conditions, free from sources of electrical and electromagnetic interference.
	4. FIELD QUALITY CONTROL
		1. Test snugness of mounting screws of all installed equipment.
		2. Test proper operation of all video system devices.
		3. Determine and report all problems to the manufacturer’s customer service department.
	5. ADJUSTING
		1. Make proper adjustment to video system devices for correct operation in accordance with manufacturer’s instructions.
		2. Make any adjustment of camera settings to comply with specific customer’s need.
	6. DEMOSTRATION
		1. Demonstrate at final inspection that video management system and devices functions properly.

END OF SECTION