**SECTION 28 23 13**

**VIDEO SURVEILLANCE CONTROL AND MANAGEMENT SYSTESM**

**Advanced Technology Video ATVision IP VMS Client Software**

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*This guide specification is intended for use by the design/construction professional and any user of Advanced Technology Video (ATV) products to assist in developing project specifications for security and video surveillance systems.*

*Notes in Italics, such as this one, are explanatory and intended to guide the design professional/specifier and user in the proper selection and use of materials. This specification should be modified where necessary to accommodate individual project conditions.*

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1. **GENERAL**
	1. SUMMARY
		1. Section includes Video Surveillance Control and Management Systems (VMS).
		2. Related Sections:
			1. Section 28 23 16 – Video Surveillance Monitoring and Supervisory Interfaces
			2. Section 28 23 19 – Digital Video Recorders and Analog Recording Devices.
			3. Section 28 23 23 – Video Surveillance Systems Infrastructure
			4. Section 28 23 29 – Video Surveillance Remote Devices and Sensors.
	2. SYSTEM DESCRIPTION
		1. Description: Video surveillance and monitoring at points as indicated on Drawings.
			1. ATVision IP Video Management System Client Software
		2. Performance Requirements
			1. Compatible with either Microsoft Windows or Apple Mac operating systems.
			2. Support connectivity to IP cameras, network video recorders and digital video recorders.
			3. Smart, automatic discovery of all devices
			4. Easy PTZ and alarm controls
			5. Multiple user and authority management levels
			6. ONVIF compliant for network video interoperability.
			7. Full featured application with real-time live view, remote search and playback, file backup and alarm event notification.
			8. Support up to 4 Live Monitors, with 16 channels per monitor
	3. DEFINITIONS
		1. H.264 (also known as MPEG4 Part 10): a powerful encoding format that compresses video much more effectively than older (MPEG4) standards. Recording video in H.264 format requires approximately 30% less storage than traditional MPEG-4.
		2. PTZ: refers to a movable camera that has the ability to pan left and right, tilt up and down, and zoom or magnify a scene.
	4. SUBMITTALS
		1. Submit under provisions of Section 01 33 00 - Submittal procedures.
		2. Shop Drawings: Indicate electrical characteristics and connection requirements, including system wiring diagram.
		3. Product Data: Submit catalog data showing electrical characteristics and connection requirements for each component.
	5. CLOSEOUT SUBMITTALS
		1. Section 01 70 00 - Execution and Closeout Requirements: Closeout procedures.
		2. Project Record Documents: Record actual locations of cameras and routing of cabling.
		3. Operation and Maintenance Data: Submit instructions for operating system and performing routine trouble shooting procedures.
	6. QUALIFICATIONS
		1. Manufacturer: Company specializing in manufacturing products specified in this section with minimum ten years documented experience.
		2. Supplier: Authorized distributor of specified manufacturer with minimum 5 years documented experience.
		3. Installer: Authorized installer of specified manufacturer with 5 years documented experience and with service
	7. ENVIRONMENTAL REQUIREMENTS
		1. Section 01 60 00 - Product Requirements.
		2. Deliver materials in manufacturer’s original, unopened, undamaged packaging; 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 for installation, environmental, mechanical or electrical requirements and within thermal stress limits.
		5. Ensure conformance with operating limitations according to applicable data sheet.
	8. FIELD MEASUREMENTS
		1. Verify field measurements prior to fabrication.
	9. WARRANTY
		1. Provide manufacturer’s warranty covering [3] years for CCTV products to repair or replace defective equipment.
		2. Exchanges available for product failures.
	10. MAINTENANCE SERVICE
		1. Section 01 70 00 - Execution and Closeout Requirements: Maintenance service.
		2. Make ordering of new equipment for expansions, replacements, and spare parts available to dealers and end users.
		3. Provide factory direct technical support via phone or e-mail, or any time via Web.
			1. Provide toll-free numbers to contact customer support.
		4. Provide on-site training and on-line training via web.
2. PRODUCTS
	1. VIDEO MANAGEMENT SOFTWARE
		1. Manufacturers:
			1. Advanced Technology Video
			2. Substitutions: Section 01 60 00 - Product Requirements: Not Permitted.
		2. ATVision IP VMS Client Software
		3. General Requirements:
			1. The Video Management System (VMS) client software shall consist of the following:
				1. No license or annual maintenance fees
				2. Free lifetime upgrades
				3. Compatible with computers utilizing Microsoft Windows or Apple Mac operating systems.
				4. ONVIF compliant for network video interoperability.
				5. Complete End-to-End Video Solution with Analog or Digital Devices with Unified Configuration and Viewing Capabilities
				6. Full featured application with real-time live view, remote search and playback, file backup and alarm event notification.
				7. Scalable from one to thousands of devices with consistent and seamless transition
		4. The VMS Client shall operate in a Microsoft Windows or Apple Mac environment.
		5. The VMS Client shall capture video, alarm, audio and associated data from single or multiple IP cameras or recorders.
		6. The VMS Client shall be capable of exporting video clips to external storage devices without third party software. All video clips shall include an executable player that verifies no tampering has occurred and can be played on standard PC’s.
		7. The VMS Client shall be capable of operating with non-ATV model IP cameras through the ONVIF protocol, Profile S specification.
		8. The VMS Client shall be licensed by Advanced Technology Video to the end user at no cost and without annual maintenance fees. Lifetime client software upgrades shall be included at no cost as well.
		9. The following are the minimum system and hardware requirements for the VMS Client:
			1. Operating System: Microsoft Windows 7 or Apple Mac 10.10
			2. CPU: Intel Core i5
			3. RAM: 4GB
			4. Ethernet Connection: 100Mbps
			5. Graphics Card: Gaming rated, with 2GB at 1080p; 4GB at 4k resolution
		10. The VMS Client shall provide configurable individual camera parameters for, but not limited to, the following items:
			1. Model Type / Name
			2. IP address / MAC address
			3. Firmware version
			4. Registered / Unregistered
		11. The VMS Client shall be able to display real-time event notification and device status.
		12. The VMS Client shall provide control of Pan-Tilt-Zoom (PTZ) cameras via screen buttons.
		13. The VMS Client shall provide an interactive mapping interface (EMAP) for displaying device placement within a site or facility.
		14. The VMS Client shall be capable of displaying up to sixty-four (64) live cameras concurrently per monitor, and shall be capable of handling up to four (4) “live” monitor displays. Each monitor shall have the ability of customized viewing layouts.
		15. The VMS Client shall provide various search modes:
			1. Date / Time
			2. Event
			3. Bookmark
3. EXECUTION
	1. EXISTING WORK
		1. Disconnect and remove abandoned video surveillance equipment.
		2. Extend existing video surveillance installations using materials and methods compatible with existing installations as specified.
		3. Clean and repair existing video surveillance equipment remaining or to be reinstalled.
	2. 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.
		3. Non-compliance with security instructions may result in loss of data.
		4. Ensure environmental, mechanical and electrical requirements are met.
	3. PREPARATION
		1. Protect devices from damage during construction.
	4. INSTALLATION
		1. Install devices in accordance with manufacturer’s instruction at locations indicated on the floor plan drawings.
		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.
			1. Ground and bond video surveillance equipment in accordance with Section 26 05 26.
		5. Location must provide reasonable temperature and humidity conditions, free from sources of electrical and electromagnetic interference.
	5. FIELD QUALITY CONTROL
		1. Test proper operation of all video system devices.
			1. Communication between VMS and recorders or cameras.
			2. Independent operation of alarms, and cameras.
		2. Test proper operation of all VMS modules.
		3. Determine and report all problems to the manufacturer’s customer service department.
	6. MANUFACTURER'S FIELD SERVICES
		1. Section 01 40 00 - Quality Requirements: Manufacturer's field services.
		2. Furnish manufacturer’s field representative to supervise final wiring connections and system adjustments.
	7. ADJUSTING
		1. Section 01 70 00 - Execution and Closeout Requirements: Requirements for starting and adjusting.
		2. Make proper adjustment to video system devices for correct operation in accordance with manufacturer’s instructions.
		3. Make any adjustment of camera settings to comply with specific customer’s need.
	8. DEMONSTRATION AND TRAINING
		1. Demonstrate at final inspection that video management system and devices function properly.

END OF SECTION