A&E Specification

O2TML Temperature Reading Panel Kiosk
With Face and Mask Detection

Division 28	Electronic Safety and Security
Section 28 00 00	Electronic Safety and Security
Section 28 20 00	Electronic Surveillance
Section 28 21 00	Surveillance Cameras
Section 28 23 00	IP Cameras

Notes to Security System Specifiers - This A&E specification is written according to Construction Specifications Institute (CSI) 3-Part Format, based on MasterFormat™ (2016 Edition) and The Project Resource Manual – CSI Manual of Practice. CSI MasterFormat 2016 incorporates numerous significant changes affecting electronic safety and security. This document is written to provide flexibility in using either format, although adoption of MasterFormat 2016 is encouraged. All trademarks are properties of their respective owners.

Part 1 General

1.1. Summary of Requirements

A. **O2TML Temperature Panel Kiosk with Face and Mask Detection**
   1. A 2 megapixel Temperature Reading Panel Kiosk with Face and Mask Recognition

B. **Related Requirements**
   1. Section 28 05 00   Common Work Results for Electronic Safety and Security
   2. Section 28 05 19.11   Digital Video Recorders
   3. Section 28 05 19.13   Hybrid Digital Video Recorders
   4. Section 28 05 19.15   Network Video Recorders
   5. Section 28 23 00   Video Surveillance
   6. Section 28 23 13   Digital Video Recorders and Analog Recording Devices

1.2. References

A. **Abbreviations**
   1. AVI   Audio Video Interleave (video file format)
   2. DDNS   Dynamic Domain Name Server
   3. DHCP   Dynamic Host Configuration Protocol
   4. DNS   Domain Name Server
   5. FTP   File Transfer Protocol
   6. GUI   Graphical User Interface
   7. HTTP   Hypertext Transfer Protocol
   8. HTTPS   Secure HTTP
   9. ICMP   Internet Control Message Protocol
   10. IGMP   Internet Group Management Protocol
   11. IP   Internet Protocol

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Web site: www.specotech.com

12. JPEG   Joint Photographic Experts Group
13. MPEG   Moving Pictures Experts Group
14. NAS   Network Attached Storage
15. NIC   Network Interface Controller
16. NTP   Network Time Protocol over Ethernet
17. NVR   Network Video Recorder
18. OSD   On-screen Display
19. PoE   Power over Ethernet
20. PPPoE   Point-to-Point Protocol over Ethernet
21. P2P   Peer-to-Peer
22. PTZPan Tilt Zoom
23. QoS   Quality of Service
24. RTP   Real-Time Transport Protocol
25. RTSP   Real-Time Streaming Protocol
26. SD Card   Secure Digital Flash Memory Card
27. SMTP   Simple Mail Transfer Protocol
28. TCP   Transmission Control Protocol
29. UDP   User Datagram Protocol
30. UPnP   Universal Plug and Play
31. VMS   Video Management System
32. ESD   Electrostatic discharge
33. MSIE   Microsoft Internet Explorer
34. HDD   Hard Disk Drive
35. EZ   Easy
36. FF   Fast Forward
37. FR   Fast Reverse
38. DAS   Direct Attached Storage
39. LAN   Local Area Network
40. WAN   Wide Area Network

1.3. Certifications, Standards and Ratings

A. Reference Standards
1. Networking
   a. IEEE – 802.3 Ethernet Standards
2. Video
   a. ISO/IEC 14496 Standards for MPEG-4
   b. ITU-T Recommendation MJPEG, H264+, H264, H265, H265+

1.4. Submittals

A. Product Data
1. Provide manufacturer's datasheets in printed or electronic form.
2. Provide manufacturer's Installation and operating manuals/guides.

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3. Provide manufacturer's warranty statement.

1.5. Qualifications

A. Manufacturer
1. Company specializing in manufacturing products at least ten years experience.

C. Supplier
1. Authorized distributor of specified manufacturer with at least 5 years.

D. Installer
1. Authorized installer of specified manufacturer with a least 5 years experience.

1.6. Delivery, Storage and Handling

A. Delivery
1. Deliver materials in original, unopened and undamaged packaging in accordance with manufacturer's instructions.

E. Storage
1. Store and guard materials from environmental and temperature conditions in accordance with manufacturer's instructions.

F. Handling
1. Handle and operate products and systems in accordance with manufacturer's instructions.

1.7. Warranty

A. Warranty Period
1. Manufacturer shall warranty Panel for a period of [1] years for the repair or replacement of defective equipment.

1.8. Certifications

B. Certification Types
1. UL
2. IK10
3. IP66
4. CE (EMC/LVD)
5. FCC, Class A
6. RoHS

1.9. Tech Support

A. Support
1. Technical support shall be based in North America.
2. Technical support support shall be via email or toll-free phone number.
3. Technical support shall be available weekdays from 6 a.m. to 6 p.m. EST.

Part 2 Product

2.1. Manufacturer

A. Manufacturer

1. Speco Technologies
    200 New Highway
    Amityville, NY 11701
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    Web Site: www.specotech.com

G. Product

1. O2TML Temperature Reading Panel Kiosk With Face and Mask Detection

H. Product Description

1. Develop a 2 Megapixel thermal imaging panel/kiosk that can detect fever temperature and human faces with or without mask on.

2.2. Product Description

A. General

1. All equipment and materials used shall be standard components, regularly manufactured, regularly utilized in the manufacturer's system.
2. All systems and components shall have been thoroughly tested and proven in actual use.
3. All systems and components shall be provided with the availability of a toll free technical support phone number from the manufacturer. The phone number shall allow for immediate technical assistance for either the dealer/installer or the end user at no charge.
4. All systems and components shall be provided with an explicit manufacturer warranty.

B. Description

1. Panel shall meet the requirements of business, government and general security surveillance applications.
2. Panel shall offer remote network connectivity to a properly specified PC computer that allows transmission of video and control data over the Ethernet network.
3. Panel shall offer a GUI incorporating video display areas, toolbars and control palettes.
4. Panel shall be fitted with a fixed camera lens.
5. Panel shall be fitted with a fixed lens camera having a focal range of 3.97mm. The F number of the lens shall be F1.6.
6. Panel shall employ a high profile H.264, H.265 and MJPEG compression algorithm in the video digitizing scheme.

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7. Panel shall have an LCD screen.
8. Panel shall have the ability to capture and recognize faces.
9. Panel shall have the ability to capture and recognize mask-wearing faces.
10. Panel shall be able to activate an audible alarm with voice capability.
11. Panel shall have the capability to measure body temperature from face view.
12. Panel shall be able to trigger voice alarms upon reading an abnormal temperature.
13. Panel shall be able to trigger voice alarms upon detecting a mask-less face.
14. Panel shall have Wiegand input and ouput in 26 bit and 34 bit format in order to communicate with access control devices.
15. Panel shall provide enough onboard storage to store up to 20,000 faces.
16. Panel shall deploy an accurate face recognition algorithm.
17. The Panel shall provide video over a standard 100Base-T network.
18. Panel shall include necessary hardware to be mounted on a flat surface or wall.
19. Panel shall have optional pedestal/stand/kiosk for free-standing applications.
20. Panel shall continually capture digital video streams. Each stream of video and audio data shall have the capability of being transmitted to a recording device, a viewer client and may be distributed simultaneously across the network.
21. Panel shall provide a GUI for viewing live video with audio with controls to zoom, focus, select main or sub streams, go full screen mode and real-time image adjustments controls.
22. Panel shall support exporting of video and audio clips.
23. Panel shall offer edge recording with pre and post-alarm recording to an SD card, to a remote location via FTP, or to a NAS device. The Panel shall support snapshots to any of the fore mentioned storage media.
24. Panel shall have a GUI to search and playback recorded video with playback controls to play, stop, reverse, fast reverse and fast forward video.
25. The Panel shall have a GUI to support the following functionality: Recording schedule, SD card setup, FTP location setup.
26. The video shall also be capable of alarm notification based on motion via a built-in utility to configure motion detection of objects in the individual Panel scenes. Each Panel can be customized for motion area and sensitivity using grid blocks through the Panel's setup tool. The motion events shall be transmitted to authorized users via an email notification utility.
27. Alarm events can be uploaded to a FTP server and/or via email messaging.
28. The video shall also have selectable digital zoom on any Panel in live view.
29. Panel shall also have full LAN, WAN and Internet connection capability. For live viewing of video at highest quality, the Panel will require a broadband internet connection of a minimum 5 Mbps using either a static or dynamic type IP address. When using a dynamic IP address, DDNS shall be an available feature to track the IP address via a customized URL. The Panel shall support TCP/IP and DHCP protocol.
30. Panel shall support user selectable resolution, frame rate, encoding, bit rate, CBR or VBR, video quality and GOP size set from within the GUI of the IP cameras.

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31. Panel shall implement a Digital Signature for video authentication. It is a standard authentication that is based on a 128-bit message used to verify data integrity

32. Panel shall offer a full multi-user authorization logon function. This function shall offer 3 levels of authorization based on functionality. There shall be an Administrator, User and Guest level offered. Anyone with a correct password shall log into the Panel.

33. The use of dialog messages shall be provided in a comprehensive menu structure.

34. Operation of the Panel shall be facilitated by the use of a web browser that can be Google Chrome, MS Internet Explorer, Apple Safari or Mozilla Firefox.

35. The Panel shall support alarm in and relay out functions. The alarm events shall be transmitted to users via a built-in email utility.

36. The Panel shall contain a lights to indicate status of PoE and network connectivity.

37. The Panel shall be powered by 12VDC power supply.

38. The Panel shall make available a recessed button for the purpose of applying factory default to the Panel's settings.

39. Panel shall support exporting of video in AVI format.

40. Panel shall support exporting video to the viewing client's local storage.

41. Panel shall meet or exceed the following design and performance specifications

42. Panel shall support multi-time zone and DST.

43. Panel shall support analytics to motion detection, face detection, face recognition, temperature reading.

44. Panel shall support DDNS capability via Speco's free DDNS service.

45. Panel shall be auto-discoverable by Speco SecureGuard servers, Speco NVRs and ONVIF compatible third party VMS and recorders.

46. Panel shall make available system information with at least the following Panel information: Model, firmware version, ONVIF version, serial number, MAC address, Speco's support phone number (1-800-645-5516) and email address (techsupport@specotech.com).

47. Panel shall support OSD functionality and overlay the temperature, face details, stream name, current date and time. When in playback mode, display the recorded date and time.

48. Panel shall support RTSP streaming.

49. Panel shall allow changing of image attributes to include the following: Brightness, contrast, saturation, sharpness, gamma.

50. Panel shall allow enable/disable of backlight.

51. Panel shall allow configuring of white balance, day/night mode.

52. Panel shall allow configuring of network parameters (i.e. IP Address, subnet mask, default gateway, primary/secondary DNS servers).

53. Panel shall make the following common network ports configurable: TCP, UDP, HTTP, HTTPS, and RTSP.

54. Panel shall allow enable/disable of DDNS service.

55. Panel shall support PPPoE Authentication.

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56. Panel shall support filtering of network data by IP or MAC addresses.
57. Panel shall allow setup of SMTP (email) servers for email notifications.
58. Panel shall support port forwarding.
59. Panel shall support multicast transmission of video to a user defined multicast address and port. Multicast shall be supported separately on each available stream.
60. Panel shall support QoS for better control of bandwidth utilization within a network environment.
61. Panel shall support watermarks, IP address filtering, password protection.
62. Panel GUI shall allow factory default of settings, import and export of Panel settings and updating of firmware.

C. Electrical Specification
1. Power Input   12VDC@1A
2. Power Supply   12VDC power supply
3. Power Consumption   ≤ 12W

D. Environmental Specification
1. Operating Temperatures -4°F - 140°F
2. Operating Humidity   0% to 95%, non-condensing

E. Environmental Specification
1. Dimension   5.4" (W) x 11.9" (H) x 1.3" (D)
2. Weight   02.6lbs or 1.2kg

F. Mechanical Specification
1. System
   a. Image Sensor: Progressive scan 1/2.7", 2MP
   b. Lens: 2MP dual-lens, f=3.97mm @ F1.6
   c. Lens Mount: M12
   d. WDR: 120db
   e. Backlight: Soft white light, IR light
   f. White Light Distance: 3.3ft-10ft (1m-3m)
2. LCD Screen
   a. Display: 8-inch LCD screen
   b. Resolution: 1280x800
   c. Brightness: 500 lux
   d. Contrast: 500:1
   e. Control Interface: I2C
3. Temperature Measurement
   a. Measuring Range: 32-122°F (0-50°C)
   b. Measuring Distance: 0.5ft-1.6ft (0.3-0.5m)
   c. Accuracy: ± 0.5°F

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4. Face Recognition
    a. Face Height Range: 4ft-7.2ft (1.2m-2.2m)
    b. Face Distance Range: 0.5ft-6.5ft (0.3m-2m)
    c. Recognition Mode: Face: 1 : N
    d. Recognition Duration: ≤ 0.5s per person
    e. Face Capacity: 20,000
    f. Recognition Accuracy: 99.7%
5. Video
    a. Streams   3
    b. Encoding   H.265, H.264, MJPEG
    c. Main Stream Res.   1920 × 1080, 1280 × 720 @ 30fps
    d. Sub Stream Res.   D1, CIF, 480 × 240 @ 30fps
    e. Third Stream Res.   704x480 @30fps
    f. Bitrate   VBR, CBR
6. Audio
    a. Inputs   Built-in MIC
    b. Outputs   Built-in Speaker
    c. Codec   G.711A/G.711U
7. Network Interface
    a. Ethernet   1 x 10/100Mbps (RJ45)
    b. Protocol   UDP, IPv4, IPv6, DHCP, NTP, RTSP,
                               PPPoE, DDNS, SMTP, FTP, SNMP, 802.1x, UPnP,
                               HTTP, HTTPS
8. Wiegand Interface
    a. Input/Output   26/34
    b. Connection   RS485 (half duplex)
9. Door Lock Output   Relay output, NO/NC(optional),
                               delay setting supported
10. Security   User ID & Password protection,
                               IP/MAC address, filtering,
                               digest authentication
11. USB Port   1
12. Anti-Tamper Button   1
13. Exit Button   1
14. Reset Button   1
15. Power Management   Screen sleep, screen protection
16. PTZ   N/A
17. Alarm
    a. Inputs   2 CH
    b. Outputs   2 CH
18. Local Surveillance
    a. Desktop Client   MSIE 11

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19. Remote Surveillance
    a. Control System   Speco Technologies SecureGuard, NRT NVR
    b. Mobile Devices   iOS, Android
20. Local Storage   Micro SD (128GB Max)
21. External Storage   FTP

Part 3 Execution

3.1 Examination

A. Device shall be inspected for physical and cosmetic defects.
B. Package box shall include device, mounting screws, L wrench, installation and user guides on disk.

3.2 Preparation

A. ESD-sensitive parts shall be properly protected against static buildup through the use of static shielding material.
B. Package box shall contain adequate padding to prevent damage to device and parts during shipping.

3.3 Installation

A. Device shall be installed in accordance with the manufacturers' installation guide provided.
B. Device shall be installed by qualified service professionals.
C. Device shall be installed in accordance with the National Electric Code or applicable local codes.
D. Device shall be installed in locations which adequately supports the device's environmental and electrical requirements.

3.4 Field Quality Control

A. Test for proper communication between device and supporting devices.
B. Test for proper operation of device's system software and related software programs.
C. Determine and report all problems to the manufacturers' customer service representatives.

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3.5 Adjusting

    A. Make all necessary adjustments to the device and supporting devices to ensure the proper operation of the device.

    B. Make all necessary adjustments to the devices to satisfy end-user requirements.

3.6 Demonstration and Training

    A. Perform final inspection to validate and ensure proper functioning of device.