March 2017

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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 19.11: Digital Video Recorders**

**TRIBRID 4 MP DVR - 4/8/16-CHANNEL 4-MP 1U DIGITAL VIDEO RECORDER**

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. Federal Communications Commission (FCC) ([www.fcc.gov](http://www.fcc.gov))
        1. CISPR PUB.22,FCC Part 15 Subpart B and ICES 003 Issue 6
     2. Underwriters Laboratories, Inc. (UL) (www.ul.com)
        1. UL 60950-1 and CAN/CSA C22.2 No. 60950-1-07, Information

Technology Equipment - Safety - Part 1: General Requirements

* + 1. Conformite Europeenne(CE)

1. EN 55032:2012+AC 2013(Class B)
2. EN 61000-3-2:2014
3. EN 61000-3-3:2013
4. EN 55024:2010
5. EN 50130-4:2011
6. IEC 61000-4-2:2008
7. IEC 61000-4-3:2006+A1:2007+A2:2010
8. IEC 61000-4-4:2012
9. IEC 61000-4-5:2014
10. IEC 61000-4-6:2013
11. IEC 61000-4-8:2009
12. IEC 61000-4-11:2004
    1. SYSTEM DESCRIPTION
       1. Section Includes
          1. Digital Video Recorders
       2. Performance Requirements
          1. The Tribrid 4 MP DVR shall be an embedded processer with Embedded Linux operating system to record video from HDCVI, CVBS, and IP data sources.
          2. The Tribrid 4 MP DVR shall be capable of storing up to 16 TB of data from [four (4) HDCVI/CVBS camera inputs and two (2) IP camera video inputs] [eight (8) HDCVI/CVBS camera inputs and four(4) IP camera video inputs] [sixteen(16) HDCVI/CVBS camera inputs and eight (8) IP camera video inputs] with up to 5 MP resolution for each IP input.
          3. The Tribrid 4 MP DVR shall use the Smart H.264+ and H.264 Video compression protocols.
          4. The Tribrid 4 MP DVR shall have a maximum bandwidth of [24] [48] [96] Mbps.
          5. The Tribrid 4 MP DVR shall automatically detect and recognize the transmission protocol (HDCVI or CVBS) of each attached analog camera.
          6. The Tribrid 4 MP DVR shall offer a selection of built-in recording options and schedules.
    2. 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,FCC,CE, 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 [3] 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:

**Zhejiang Dahua Vision Technology Co., Ltd.**

Address：No.1199 Bin’an Road, Binjiang District, Hangzhou, China.

Tel: +86-571-87688883

Fax: +86-571-87688815

Email:overseas@dahuasecurity.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. TRIBRID 4 MP DVR - 4/8/16-CHANNEL 4-MP 1U DIGITAL VIDEO RECORDER   
     DHI-HCVR7204AN-4M DHI-HCVR7208AN-4M DHI-HCVR7216AN-4M  
     1. General Characteristics:
        1. The Tribrid 4 MP DVR shall be an embedded processer with Embedded Linux operating system to record video from HDCVI, CVBS, and IP data sources.
        2. The Tribrid 4 MP DVR shall be capable of storing up to 16 TB of data from [four (4) HDCVI/CVBS camera inputs and two (2) IP camera video inputs] [eight (8) HDCVI/CVBS camera inputs and four(4) IP camera video inputs] [sixteen(16) HDCVI/CVBS camera inputs and eight (8) IP camera video inputs] with up to 5 MP resolution for each IP input.
        3. The Tribrid 4 MP DVR shall use the Smart H.264+ and H.264 Video compression protocols.
        4. The Tribrid 4 MP DVR shall have a maximum bandwidth of [24] [48] [96] Mbps.
        5. The Tribrid 4 MP DVR shall automatically detect and recognize the transmission protocol (HDCVI or CVBS) of each attached analog camera.
        6. The Tribrid 4 MP DVR shall offer a selection of built-in recording options and schedules.
        7. The Tribrid 4 MP DVR shall be powered by a [DC12 V, 4 A] [DC12 V, 4 A] [DC12 V, 5 A] power supply and consume less than 15 W of power (without HDD).
     2. Display
        1. The Tribrid 4 MP DVR shall offer one (1) HDMI and one (1) VGA display interface.
        2. The Tribrid 4 MP DVR shall offer display resolutions of: 3840 x 2160, 2560 × 1440, 1920 × 1080, 1280 × 1024, 1280 × 720, and 1024 × 768.
        3. The Tribrid 4 MP DVR shall offer [1/4/6] [1/4/8/9/16] [1/4/8/9/16/25] multi-screen display.
        4. The Tribrid 4 MP DVR shall offer an on-screen display that lists the camera title, time, video loss indication, camera lock indication, motion detection, and recording indicator.
     3. Interface
        1. The Tribrid 4 MP DVR shall have [four (4) HDCVI/CVBS camera inputs and two (2) IP camera video inputs] [eight (8) HDCVI/CVBS camera inputs and four(4) IP camera video inputs] [sixteen(16) HDCVI/CVBS camera inputs and eight (8) IP camera video inputs].
        2. The Tribrid 4 MP DVR shall offer one (1) USB 2.0 auxiliary port and one (1) USB 3.0 auxiliary port.
        3. The Tribrid 4 MP DVR shall offer one (1) RS485 port for PTZ control.
        4. The Tribrid 4 MP DVR shall offer one (1) Audio In port and one (1) Audio Out port, with a two-way talk capability.
     4. Storage
        1. The Tribrid 4 MP DVR shall come with two (2) SATA ports that can each support an 8 TB HDD.
     5. Playback and Backup
        1. The Tribrid 4 MP DVR shall allow recorded video searches by time/date, motion detection event, Exact Search, and Smart Search.
        2. The Tribrid 4 MP DVR shall offer the following playback functions: Play, Pause, Stop, Rewind, Fast Play, Slow Play, Next File, Previous File, Next Camera, Previous Camera, Full Screen, Repeat, Shuffle, Backup Selection, and Digital Zoom.
        3. The Tribrid 4 MP DVR shall allow data backup via a USB device or another network.
     6. Recording
        1. The Tribrid 4 MP DVR shall employ the Smart H.264+ and the H.264 video compression protocols.
        2. The Tribrid 4 MP DVR shall offer video recording resolutions of 4 MP, 1080p, 720p, 960H, D1, HD1, BCIF, CIF, and QCIF.
        3. The Tribrid 4 MP DVR shall allow a bit rate between 1 Kbps to 6144 Kbps per channel.
        4. The Tribrid 4 MP DVR shall offer dual recording at the following rates:
           1. Main Stream: 4 MP(1 to 15 fps), or 1080p/720p/960H/D1/HD1/BCIF/CIF/QCIF (1 to 25/30 fps)
           2. Sub Stream: D1/CIF/QCIF(1 to 25/30 fps)
        5. The Tribrid 4 MP DVR shall offer the following built-in recording modes:
           1. Manual
           2. Schedule, regular or continuous
           3. Motion Detection
           4. Tampering
           5. Video Loss
           6. Stop
        6. The Tribrid 4 MP DVR shall offer a recording interval between 1 minute and 60 minutes. In addition, the Tribrid 4 MP DVR shall offer a pre-record interval of between 1 second to 30 seconds, and a post-record interval of between 10 seconds to 300 seconds.
        7. The Tribrid 4 MP DVR shall be capable of recording from third-party devices, including: Dahua, Arecont Vision, AXIS, Bosch, Brickcom, Canon, CP Plus, Dynacolor, Honeywell, Panasonic, Pelco, Samsung, Sanyo, Sony, Videotec, and Vivotek.
     7. IP Connectivity
        1. The Tribrid 4 MP DVR shall allow full control and configuration capabilities via a TCP/IP network.
        2. The Tribrid 4 MP DVR shall offer one (1) RJ-45 port (1000 M).
        3. The Tribrid 4 MP DVR shall support a maximum of 128 user access points.
        4. The Tribrid 4 MP DVR shall conform to the ONVIF 2.4.1 and to the CGI standard.
        5. The Tribrid 4 MP DVR shall support the IPv6 internet-layer protocol for packet switched internetworking across multiple IP networks.
        6. The Tribrid 4 MP DVR shall support the IPv4/ IPv6, HTTP, HTTPS, SSL, TCP/IP, UDP, UPnP, SNMP, RTSP, RTP, SMTP, NTP, DHCP, DNS, PPPOE, DDNS, FTP, IP Filter.
        7. The Tribrid 4 MP DVR shall support the IOS and the Android mobile operating systems.
     8. Installation Requirements
        1. The Tribrid 4 MP DVR shall be capable of operating in temperatures between   
           -10°C to +55°C (+14°F to +131°F), 86 to 106 kpa.
        2. The Tribrid 4 MP DVR shall receive power from a DC12V power source and consume less than 15 W of power (without HDD).

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