



## **Blade1-16**

### **1. Sixteen-Channel Digital Video Streaming Recorder**

- 1.1. The Blade1 16-channel digital video streaming recorder shall work with up to 16 conventional analogue cameras and up to 4 IP cameras or encoder/decoder devices to record and transmit images over a network.
- 1.2. Blade1 shall be as manufactured by Vista or an approved equal.
- 1.3. Blade1 shall include, but not be limited to the following:
  - 1.3.1. Blade1 shall use “hybrid” technology by providing both analogue and digital connections for allowing users to integrate existing analogue cameras and Vista digital IP products.
    - 1.3.1.1. Blade1 shall provide sixteen channels of analogue recording.
    - 1.3.1.2. Blade1 shall provide four channels of digital recording.
  - 1.3.2. Blade1 shall provide audio recording on four channels (optional).
  - 1.3.3. Blade1 shall incorporate Triplex functionality for simultaneous viewing, playback and recording.
  - 1.3.4. Blade1 shall include full search capabilities by:
    - 1.3.4.1. Time
    - 1.3.4.2. Date
    - 1.3.4.3. Alarms
    - 1.3.4.4. Motion detection
    - 1.3.4.5. Camera
    - 1.3.4.6. Text
    - 1.3.4.7. Events
    - 1.3.4.8. Daily hours
  - 1.3.5. Blade1 shall provide a frame rate of 25 frames per second, per analogue channel for a maximum of 400 frames per second total per unit at D1.
  - 1.3.6. Blade1 shall be user configured via front panel controls or a connection via Ethernet with a personal computer running included, BladeReader software and a current version of the Internet Explorer web browser.
    - 1.3.6.1. Blade1 shall have an integrated software interface to configure, upgrade and view the following information:
      - 1.3.6.1.1. View live and recorded video
      - 1.3.6.1.2. Set up users
      - 1.3.6.1.3. Configure system settings
      - 1.3.6.1.4. Configure camera settings
      - 1.3.6.1.5. Search recorded video
      - 1.3.6.1.6. View the system information
    - 1.3.6.2. Access to menus shall be set by user status.
      - 1.3.6.2.1. Operator status shall grant access to Display and Info menus.
      - 1.3.6.2.2. Manager status shall grant access to Display, Info and User menus.
      - 1.3.6.2.3. Admin status shall grant access to all menus.
    - 1.3.6.3. Configurable options shall include:
      - 1.3.6.3.1. Search
        - 1.3.6.3.1.1. Date
        - 1.3.6.3.1.2. Cameras/Motion
        - 1.3.6.3.1.3. By Hours



- 1.3.6.3.1.4. Search For...
- 1.3.6.3.2. Archive
- 1.3.6.3.3. Display
  - 1.3.6.3.3.1. Time/Date
  - 1.3.6.3.3.2. Recording/Playback Speed
  - 1.3.6.3.3.3. Playback Time/Date
  - 1.3.6.3.3.4. Camera Titles
  - 1.3.6.3.3.5. Text Insertion
  - 1.3.6.3.3.6. Text Timeout
- 1.3.6.3.4. Users
  - 1.3.6.3.4.1. Add User
  - 1.3.6.3.4.2. Edit User
- 1.3.6.3.5. Cameras
  - 1.3.6.3.5.1. Recording
  - 1.3.6.3.5.2. Rates/Durations
  - 1.3.6.3.5.3. Alarm Input
  - 1.3.6.3.5.4. Motion Detection
  - 1.3.6.3.5.5. Camera Title
  - 1.3.6.3.5.6. Adjust Video
  - 1.3.6.3.5.7. Copy Settings (analogue and IP)
- 1.3.6.3.6. Schedule
  - 1.3.6.3.6.1. Macro
  - 1.3.6.3.6.2. Time
  - 1.3.6.3.6.3. Frequency
- 1.3.6.3.7. Alarms
  - 1.3.6.3.7.1. System Notification
    - 1.3.6.3.7.1.1. Disk Failure
    - 1.3.6.3.7.1.2. Disk Full
    - 1.3.6.3.7.1.3. Network Failure
    - 1.3.6.3.7.1.4. Fan Failure
    - 1.3.6.3.7.1.5. Power Restore
    - 1.3.6.3.7.1.6. Authentication Lockout
  - 1.3.6.3.7.2. Silent Alarm
    - 1.3.6.3.7.2.1. Silent Camera Alarms
    - 1.3.6.3.7.2.2. Silent System Alarms
  - 1.3.6.3.7.3. Alarm Inputs/Outputs
    - 1.3.6.3.7.3.1. Alarm Inputs
    - 1.3.6.3.7.3.2. IP Alarms
- 1.3.6.3.8. IP Settings
  - 1.3.6.3.8.1. Settings
  - 1.3.6.3.8.2. Advanced
  - 1.3.6.3.8.3. Services



- 1.3.6.3.8.4. Streaming
- 1.3.6.3.8.5. Serial Passthrough
- 1.3.6.3.8.6. Network Notification
- 1.3.6.3.8.7. Email Setup
- 1.3.6.3.8.8. Notification Setup
- 1.3.6.3.9. Front Panel
  - 1.3.6.3.9.1. Front Panel
  - 1.3.6.3.9.2. Time/Date
  - 1.3.6.3.9.3. Security
  - 1.3.6.3.9.4. Language
  - 1.3.6.3.9.5. Disk Maintenance
  - 1.3.6.3.9.6. Serial Communications
  - 1.3.6.3.9.7. Firmware Upgrade
  - 1.3.6.3.9.8. Load/Restore Settings
  - 1.3.6.3.9.9. Shutdown
- 1.3.6.3.10. Info
  - 1.3.6.3.10.1. Health
  - 1.3.6.3.10.2. System
  - 1.3.6.3.10.3. Network
- 1.3.7. Blade1shall have two lighting modes to indicate status.
  - 1.3.7.1. Awake
    - 1.3.7.1.1. Light is 100% bright.
    - 1.3.7.1.2. Light is red or green, depending on function.
  - 1.3.7.2. Alarm
    - 1.3.7.2.1. Light is 100% bright.
    - 1.3.7.2.2. Light is red.
    - 1.3.7.2.3. Light is flashing.
- 1.3.8. Blade1shall include infrared remote capabilities.
- 1.4. The digital recorder shall have the following operational features:
  - 1.4.1. Streaming
    - 1.4.1.1. Each Blade1shall support Video Streaming, which is the process that the recorder uses to listen on a specific UDP/TCP port and respond to control messages issued through BladeReader digital video navigation client software or third-party compatible VMS software.
      - 1.4.1.1.1. Blade1shall support multicasting to deliver source traffic to multiple receivers using the least amount of network bandwidth.
    - 1.4.1.2. Blade1shall be able to display and record streamed video using TCP or UDP protocols.
  - 1.4.2. Recording
    - 1.4.2.1. Blade1shall record video on multiple internal hard disk drives. Multiple hard disk drive options shall be available:
      - 1.4.2.1.1. 640GB hard disk drive
      - 1.4.2.1.2. 1280GB hard disk drive
      - 1.4.2.1.3. 2000GB hard disk drive
      - 1.4.2.1.4. 3000GB hard disk drive



- 1.4.2.2. Blade1 shall support the following user programmable record speeds:
  - 1.4.2.2.1. 25 fps
  - 1.4.2.2.2. 12.5 fps
  - 1.4.2.2.3. 5 fps
  - 1.4.2.2.4. 2.5 fps
  - 1.4.2.2.5. 1 fps
- 1.4.2.3. Blade1 shall allow the user to select whether the hard disk recording should automatically overwrite data and how using one of three settings:
  - 1.4.2.3.1. No overwrite
  - 1.4.2.3.2. Overwrite once
  - 1.4.2.3.3. Continuous overwrite
- 1.4.2.4. Blade1 shall be able to continue recording without disruption when the user adjusts the normal record speed.
- 1.4.2.5. The user shall be able to play back images smoothly at normal or fast speeds and in forward or reverse modes, without distortion.
- 1.4.2.6. Blade1 shall include a Search Interface feature that allows the user to search the hard disk for recorded events, such as an alarm condition or a previous recording session.
- 1.4.2.7. Blade1 shall use MPEG-4 video compression to achieve extremely high video compression per megabyte on the hard disk.
  - 1.4.2.7.1. MPEG quality shall be user-selectable on a scale of 1 through 9.
  - 1.4.2.7.2. Resolution shall be user-selectable as CIF, 2 CIF or D1.
- 1.4.3. Connections
  - 1.4.3.1. Blade1 shall include the following connectors:
    - 1.4.3.1.1. Accessory I/O ports
      - 1.4.3.1.1.1. RS-485/422 (2)
      - 1.4.3.1.1.2. Alarm input (16)
      - 1.4.3.1.1.3. Form C alarm relay (4)
      - 1.4.3.1.1.4. USB (4)
    - 1.4.3.1.2. RS-232 serial port: DB-9
    - 1.4.3.1.3. Composite video in: BNC (16) looping auto terminating
    - 1.4.3.1.4. Composite video out: BNC (1), VGA (1)
    - 1.4.3.1.5. Audio in: RCA (4)
    - 1.4.3.1.6. Audio out: RCA (1)
    - 1.4.3.1.7. 10/100/1000 Ethernet: RJ-45
- 1.4.4. Ethernet communications
  - 1.4.4.1. Blade1 shall support LAN/WAN Ethernet access.
  - 1.4.4.2. Blade1 shall support 10/100/1000 Base T networks.
  - 1.4.4.3. Blade1 shall support Dynamic IP Addressing (DHCP).
  - 1.4.4.4. Blade1 shall support Dynamic Domain Name Server (DDNS).
- 1.5. Blade1 shall have the following additional specifications:
  - 1.5.1. Video
    - 1.5.1.1. Available colours shall be to specification YUV 4:2:2, providing up to 16.8 million colours.
    - 1.5.1.2. There shall be 256 grayscale levels.



- 1.5.1.3. Horizontal resolution shall be 720 pixels (NTSC) or 704 pixels (PAL).
- 1.5.1.4. Vertical resolution shall be 480 active lines (NTSC) or 540 active lines (PAL).
- 1.5.2. Audio
  - 1.5.2.1. Input: 315 mV, 400 KOhms, unbalanced
    - 1.5.2.1.1. 4 inputs available
  - 1.5.2.2. Output: 315 mV, 600 ohms, unbalanced
    - 1.5.2.2.1. 1 output available
  - 1.5.2.3. Compression standard: MPEG-1
- 1.5.3. Electrical
  - 1.5.3.1. Power supply: 120 to 240 VAC, 50/60 Hz, auto ranging
- 1.5.4. Environmental
  - 1.5.4.1. Operating temperature range: 32 to 104°F (0 to 40°C)
  - 1.5.4.2. Storage temperature: -4 to 140°F (-20 to 60°C)
  - 1.5.4.3. Relative humidity: 10 to 95% non-condensing
- 1.5.5. Physical
  - 1.5.5.1. Dimensions: 3.51 x 17.42 x 19.92 inches (89 x 442.5 x 509 mm)
  - 1.5.5.2. Weight: 25.0 lb. (11.34 kg)
    - 1.5.5.2.1. Weight shall be the maximum with four hard disk drives installed.
- 1.6. Blade 1 shall conform to these internationally recognized compliance standards:
  - 1.6.1. FCC
  - 1.6.2. CE
  - 1.6.3. UL
  - 1.6.4. C-Tick