ARCHITECT & ENGINEER SPECIFICATIONS
SECTION 16780
VIDEO SURVEILLANCE SYSTEMS

HSR-X200 Digital Surveillance Recorder

PART 2   PRODUCTS

2.01   CCTV TIME LAPSE VIDEO RECORDER SPECIFICATIONS

A. VIDEO - GENERAL REQUIREMENTS
    1. The HSR-X200 shall be a single channel, 80GB digital hard disk time-lapse video recorder.
    2. The HSR-X200 shall accommodate an additional 80GB HDD to extend the recording time or allow disk mirroring of the primary drive.
    3. The HSR-X200 shall typically be a drop in replacement for analog time-lapse tape based VCRs that are typically used with multiplexers that accept external switching pulses. However, installer shall verify the compatibility with the manufacturer or field test to assure compatibility.
    4. The recorder shall be able to download archived data to a Memory stick, Compact Flash Card or Micro Drive with a PC Card adapter recommended by the manufacturer.
    5. Users shall be able to remotely access, review and control the recorded information with the HSR-X200 via a computer network using an optional LAN PC Card recommended by the manufacturer.
    6. The recorder shall have built-in decoding capability for encoded video utilizing multiplexers manufactured by Sony, Sanyo, Robot or Dedicated Micros.
    7. The HSR-X200 shall be able to perform Record and Playback simultaneously.
    8. The HSR-X200 shall support the following languages on the on-screen menu: English, French and Spanish.
    9. The HSR-X200 shall have two security lock levels: a User and Administrator level. User level can be set to allow the viewing and playback operations only on the unit, or include recording operation.
    10. The HSR-X200 shall have a 2x Digital Zoom.
    11. The HSR-X200 recording area shall consist of three areas or partitions on the HDD for recording: Normal, Alarm, and Archiving area. The size of these areas shall be user selectable up to the following:
        Normal &/or Alarm Record area – up to 99% maximum.
        Archive Area – Minimum of 1%, maximum of 10%
        User shall have the option of being able to overwrite data when the HDD is full for both the normal and alarm record areas.
    12. The HSR-X200 shall have Pre-Alarm recording capability .When set, upon alarm initiation, pre-alarm data shall be recorded onto the Alarm Record area for user specified duration.
    13. The HSR-X200 shall have a Pre-reverse play function by pressing the Play (Pre-reverse play) button during recording within 1 to 99 minutes.
    14. The HSR-X200 shall be controllable via RS-232 from a personal computer (PC)
    15. The Jog/Shuttle control as well as the other operational controls shall be located on the front panel.

B. DIGITAL RECORDING REQUIREMENTS
1. The recorder shall be capable of recording 671 hours at 1 picture per second, in high quality picture mode.
2. The HSR-X200 shall be capable of double the recording time with an optional 80GB hard disk drive (HSBK-X201).
3. The recorder shall use the Motion-JPEG compression format.
4. The HSR-X200 shall utilize a real time operating system (OS) for increased reliability.
5. The HSR-X200 shall provide High-Resolution and High Picture quality recording and playback with both Field and Frame recording.
6. The NTSC high resolution recordings shall be 720 x 240 pixels in (Field) mode and 720 x 480 pixels in (Frame) mode.
7. There shall be 5 selectable picture quality modes for each (Field) and (Frame).
8. Picture quality modes shall be as follows: LOW, MID, HIGH, SUPER and HYPER.
9. The recorder shall have a high refresh rate of 60 fields/sec NTSC, on both recording and playback.
10. The Motion JPEG shall provide 27 levels of recording cycles for both (Fields) and (Frames).
12. The HSR-X200 shall work with externally switched multiplexers. The HSR-X200 shall have built-in decoding for Sony, Sanyo, Dedicated Micros and Robot multiplexers, to allow specific single camera view, without going through the multiplexer or viewing over a local area network (LAN).
13. The HSR-X200 shall have network capability for remote video transmission and control over TCP/IP network with an optional network (10 Base-T or 100 Base-TX) Ethernet type LAN Card inserted into the PC Card slot on the rear panel of the HD Recorder recommended by the manufacturer.
14. The HSR-X200 shall have a built-in web server to allow viewing, control of the unit via a PC's web browser.
15. Control and image transmission of the HSR-X200 via network shall have the following minimum PC requirements:
    Hardware: Pentium III 400 MHz or higher, Minimum 64MB RAM
    Software: Windows 95/98/Me/2000/NT4.0 with service pack 5 or higher, Internet Explorer 5.0 or higher.
16. Supported viewer languages shall be English, French, German and Spanish
17. The HSR-X200 shall only support one user at a time over a local area network.
18. The HSR-X200 shall have 3 user levels over the network designated: ID1, ID2, ID3.
    User level 1 or ID1 access privileges shall be limited to viewing current camera selected.
    User level 2 or ID2 access privileges shall allow operator to select a specific camera, and
        perform operations related to playback of stored data.
    User level 3, or ID3 shall be the administrator level.
19. Pressing the EXIT/OSD buttons for more than 3 seconds shall disconnect the HSR from the network connection.
20. Front panel controls shall be disabled during network operation.
21. Archive backup shall be to an optional DDS drive via an optional PCMCIA type II SCSI card recommended by the manufacturer.

22. Image downloading shall be possible by using a Memory Stick®, Compact Flash Card or Micro Drive with a PC Card Adapter inserted into the Front Panel of the HSR-X200 recorder.
23. Download of stored images from the HSR-X200 to a client PC shall be supported. Maximum number of images per download shall be limited to 1000 or 5 minutes at a time whichever limit is reached first.
24. The HSR-X200 shall support HDD Mirroring function when optional 2nd HDD (HSBK-X201) is installed.

C. VIDEO-ELECTRICAL REQUIREMENTS
  1. The input voltage shall be 120 volts AC (+/- 10%), 60Hz.
  2. The power consumption of the HSR-X200 shall be 0.4 amps.
  3. The signal system shall be EIA/NTSC.
  4. The Horizontal resolution shall be more than 500 TV lines in the HYPER mode.
  5. The signal to noise ratio shall typically be 48dB.
  6. The image file size based picture quality shall be as follows for each mode:

HYPER:	56 kB/picture
SUPER:	42 kB/picture
HIGH:	30 kB/picture
MID:	22 kB/picture
LOW:	15 kB/picture

  7. The image capture resolution shall be as follows:

Field mode:	720 x 240 (pixel)
Frame mode:	720 x 480 (pixel)

  8. The Video inputs and outputs shall be as follows:

Input/loop outputs:	1 Channel, VBS, VS (BNC) 1.0 Vp-p, 75 ohms, unbalanced.
	1 Channel, S-VIDEO (Mini DIN 4 Pin).
	Loop out connector: BNC (1) / S-Video (1)
Outputs:	1 Channel, VBS, VS (BNC) 1.0 Vp-p, 75 ohms, unbalanced.
	1 Channel, S-VIDEO (Mini DIN 4 Pin).

  9. The HSR-X200 shall have a 24-hour power protection failure for settings, time/date and record modes.

D. AUDIO REQUIREMENTS
  1. The recorder shall have single channel monaural audio.
  2. The microphone input shall be 1channel monaural (Mini jack) -60dB, 10k ohms unbalanced.
  3. The line input shall be monaural (RCA pin jack) -8dB, 77k ohms.
  4. The line output shall be monaural (RCA pin jack) -8dB, 600 ohms.
  5. The audio signal to noise ratio shall be 40dB.
  6. The audio distortional shall be less than 4% at 1 kHz.
  7. Audio recording shall be possible if the speed is 10 fields/second or more for field recording and 5 frames/second or more for frame recording in NTSC. Audio playback shall only be possible using the same speed as it was recorded in.

E. ALARM REQUIREMENTS
1. HSR-X200 shall have a user settable Multi-point Activity sensor which shall monitor the variation of luminance signal level and trigger an alarm when a luminance level change is detected.
2. The sensitivity level shall have 10 user selectable levels from 1-10, with 1 being the highest sensitivity or lowest threshold level or detection.
3. The multi-point activity detection system shall detect the variation of luminance signal level and trigger an alarm.
4. The multi-point activity setup screen shall divide the full screen into an 8 x 10 'spots' and the user shall be able to independently set the the 'spots' ON or OFF.
5. The HSR-X200 shall have 4 methods of retrieving alarm images for playback.
   A. Alarm Search shall allow searching for images recorded in the alarm recording area, from the associated alarm list. Up to 8 alarms shall be displayed on the screen with each occurrence showing the date and time of each alarm. By selecting an event the targeted image shall be played back in a full screen display.
   B. The Alarm Thumbnail Search shall display a list of events in nine thumbnail screens. Users shall be able to select the start of playback from the selected thumbnail image.
   C. The time date search shall be performed on both the Normal recording and Alarm recording area. Users shall be able to designate date and time (hour, minute)and a thumbnail preview shall be shown until selected for full screen playback.
   D. The Activity Detection Search function shall search for images which include any movement to a reference image by setting activity detection in playback mode. Users shall be able to set the activity detection for any point on the 8 x 10 'spots'. The HSR-X200 shall allow post activity search on a single camera recorded, or multi-camera recorded via a multiplexer of the following makes: Sony, Sanyo, Dedicated Micros, Robot.
6. The HSR-X200 shall also allow searching for data stored in its archive area.
7. The HSR-X200 shall have 4 alarm mode settings.
         A. Mode 1 : Execute alarm recording regardless of timer setting
         B. Mode 2 : Execute alarm recording only while timer recording is in progress
         C. Mode 3 : Execute alarm recording only outside of the timer recording
         D. Mode 4 : Execute alarm recording w/in the timer setting, but unit is not in record mode

F. MECHANICAL REQUIREMENTS
   1. For rack mount accessibility, the HDR shall feature front panel controls.
   2. The HD recorder dimensions shall be 16 5/8" (W) x 3 7/8" (H) x 14 7/8" (D) 420 x 96 x 376mm
   3. The HD recorder shall weigh 12lb 2oz (5.5kg)
   4. The recorder shall be capable of workstation surface mounting or in a standard EIA 19" rack mount, with a rack mount kit.
   8. Interface connection for external alarm or switching pulses shall be via push in spring connectors.
   9. Front and rear optional slots shall be PCM-CIA type II slots.

G. ENVIROMENTAL REQUIREMENTS
   1. Operating temperature shall be from 41°F to 104°F (5°C to 40°C).
   2. The operating humidity shall be less than 80%.
   3. The recorder shall be suitable for indoor applications.

H. ACCESSORIES

Supplied:
1. AC Power Cord (1)
2. Rack Mount Kit (1)
3. Operation Manual (1)

Optional:
1. Hard Disc Drive (HSBK-X201, 80GB)
2. SCSI Card (SlimSCSI 1460, Adaptec)
3. DDS tape backup, Sony SDT-D9000
4. PC Card adapter: MSAC-PC2
5. Sony Memory Sticks: MSA-64A (64MB) or MSA-128A (128MB)

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HSR-X200