D8DS/D16DS Base Model Digital Video Recorders
TECHNICAL SPECIFICATIONS
SECURITY SYSTEM
DIVISION 13 - SPECIAL CONSTRUCTION
SECTION 137_ _ - SECURITY CCTV SYSTEM

PART 2 - PRODUCTS

2.01 GENERAL

A. All equipment and materials used shall be standard components, regularly manufactured, regularly utilized in the manufacturer's system.

B. All systems and components shall have been thoroughly tested and proven in actual use.

C. 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.

D. All systems and components shall be provided with an explicit manufacturer warranty.

2.02 SPECO TECHNOLOGIES DS SERIES DIGITAL VIDEO RECORDING SYSTEM

A. Speco Technologies D8DS/D16DS Digital Video Recording (DVR) System shall meet the requirements of business, government and general security surveillance applications. The system shall offer remote network connectivity to a properly specified PC computer that allows transmission of video and control data over the Ethernet network. The DVR shall offer multiple continuously recorded digital video and audio channels onto a hard drive medium. The DVR shall incorporate an embedded Linux® operating system using a proprietary software application for control, management and display. The DVR shall offer simultaneously view live or playback while continuing to record and network transfer. The DVR shall employ a high profile H.264 compression algorithm in the video digitizing scheme. The DVR shall provide full digital video and audio surveillance over a standard 100Base-T network by the use of a GUI incorporating video display areas, toolbars,control palettes and site/device trees.

B. The DVR shall collect multiple channels (8 or 16) of analog video, multiple channels of audio and digitize them for the purpose of display, archive and requested distribution across the Ethernet network. Cameras shall be the primary analog input devices. Each channel of video data shall have the capability of being recorded, displayed, played back, archived and distributed simultaneously across the network. 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 camera scenes. Each camera can be customized for motion area and sensitivity using grid blocks. The motion events shall be transmitted to authorized users via an email notification utility. The video shall also have selectable digital zoom on any camera in live view and playback mode. The video recording capability shall be fully scheduled using the built-in utility.

C. The DVR shall also have full LAN, WAN and Internet connection capability. The DVR will require a broadband internet connection of a minimum 256 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 DVR supports TCP/IP and DHCP protocol.

D. The DVR shall offer user selectable resolution and frame rate within the GUI. The settings choices shall be:

1. 960 x 480 pixels (960H) at 480 fps.
2. 720 x 480 pixels (D1) at 480 fps.
3. 320 x 240 pixels (CIF) at 480 fps.

E. The DVR shall utilize a Digital Signature video authentication algorithm. It is a standard authentication that is based on a 128-bit message used to verify data integrity.

F. The DVR shall incorporate a series of EZ (easy) features used to simplify installation and configuration of the unit. These features shall include EZ-Record, EZ-Network EZ-Copy and EZ-Search.

G. The DVR shall offer a full multi-user authorization logon function. This function shall offer five levels of authorization based on Main Menu functions. There shall be an Administrator and User level offered. Anyone with a correct password shall log into the DVR.

H. The DVR shall offer a GUI capable of complete recorder configuration and operation. Sub-features such as defined video display and control, component setup, recording setup, network setup and the use of dialog messages shall be provided in a comprehensive menu structure.

I. Operation of the system shall be facilitated by the use of a monitoring screen whereby a security operator can perform a full scope of surveillance duties using the front panel controls and indicators, the remote application software, the CMS software, a keyboard or a mouse. The DVR shall use a HDMI / VGA Main Monitor output, as a spot monitor, and a composite Call Monitor output; programmable for video display sequencing.

J. The DVR shall be configurable for several foreign languages, other than English.

K. The DVR shall support the use of PTZ type cameras on an RS-485 bus using built-in protocols from several manufacturers.

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

M. The DVR shall be an Embedded Linux based system. There shall be a variety of hard drive sizes from 500GB to 9TB. The front panel shall contain a full function button set and 2-USB ports.

N. The recorder shall also be equipped for installation in a standard 19 in. (48.2 cm) rack mount using removable rack ears. The rear panel shall contain (8 or 16) video input ports (BNC), HDMI Main Monitor, Spot Output (BNC), Call Monitor Output (BNC), VGA Main Monitor Output, Audio In/Out inputs, eSATA, RS-232 input, LAN (Network) port, and 1 USB connector.

O. The DVR shall support the video formats NSF and AVI.

P. The DVR shall support and be equipped with an IR remote control.

Q. The DVR shall support and include a Multi-Client application for multi-DVR remote access.

R. The DVR shall include a customer 3-year limited warranty.

S. The DVR shall support an operating temperature range of 41 degrees F to 104 degrees F.

T. The DVR shall be 2.83 inches (7.1 cm) high (4 RU), 14.92 inches (37 cm) wide and 13.38 inches (33.9 cm) deep. All dimensions exclude rack mount ears and connectors. They shall weigh 12 lb (5.4 kg) with one hard drive. They shall have a screened steel case construction and be finished in black color.

U. The digital video recorder shall meet or exceed the following design and performance specifications.

2.03 ELECTRICAL SPECIFICATIONS

A. Power Input	100-240 VAC, 50/60 Hz, auto-sensing
B. Power Supply	Internal, auto protection
C. Power Consumption	Start up @90 Watts, running @ 60 Watts
D. Cable Type	1 USA standard (117 VAC, 3 prongs, 6 ft or 1.8 m)

2.04 ENVIRONMENTAL SPECIFICATIONS

A. Operating Temperature	41° to 104°F (5° to 40°C)
B. Operating Humidity	20% to 80%, non-condensing

2.05 PHYSICAL SPECIFICATIONS

A. Construction	Steel cabinet
B. Finish	
1. Front Panel	Black metallic matte finish
2. Chassis	Black metallic matte finish
C. Dimensions	14.9” W x 13.38” D x 2.83” H
D. Mounting	Rack mount kit included 1 RU per unit
E. Unit Weight	11.2 lbs. (3 kg)

2.06 MECHANICAL SPECIFICATIONS

A. System
   1. Operating System — Embedded (Linux)
   2. User Interface — Semitransparent on-screen graphic overlays

B. Video
   1. Video Standards
      a. Input — Up to 4, 8 or 16 channels (BNC)
      b. Output — HDMI / VGA / composite
   2. Video Encoding — H.264 (high profile)
   3. Video Resolutions — NTSC
      a. D1 — 960 x 480 @480 fps
      b. VGA — 720 x 480 @480 fps
      c. CIF — 360 x 240 @480 fps
   4. Video Inputs/Connectors
      a. Analog — 8 or 16 BNC, looping, 75 ohms, 1.0 Vp-p
   5. Video Termination — Hi-Z, 75 ohms, software controlled
   6. Display/Recording Speed — Real time
   7. Display Modes — Full screen, 2 x 2, 3x3, 4x4
   8. Video Outputs — 1, BNC
1, HMDI
1, VGA
1, BNC Call monitor

C. Audio
   1. Audio Connectors
      a. Audio Inputs — Line in – 4channels
      b. Audio Main — 1 RCA
      c. Audio Outputs — 1 RCA

D. Network Interface — 1 Gbps Ethernet
RJ-45, 10/100 Mbps

E. PTZ Control
   1. PTZ Interface — Keyboard/mouse, front panel, remote control or through a remote client
   2. PTZ Protocols

Analog

Samsung MPT-230	Samsung MRX-1000
WPT-101-V15	MINI-PT-DOME
LG LPT-A100L	LG Multix
BOSCH	SK-D106
SANYO HSSP	Honywell
TRC-DSCP	MERITLI-LIN
DS-120	SCC-641
Panasonic	VC-C50I
NIKO NK-97	Newborn Dome

DY-255	SJ-100
HRX-700	SPD-1600
ERNA	ELBEX
SD-290	Sony EVI-D30
Dynacolor DSCP	Won WOO
Dongyang DSC-230S	Dongyang DSC-230M
Dongyang DPC-100	Dongyang DSC-240
Dongyang DRX-500	Dongyang DRX-502A
Pelco C-protocol	Pelco D-protocol
Pelco P-protocol	Pelco CM6700
COSTAR 2500	VICON V2311RB3
VICON VPS-1300	VICON 422R
CNB Camera	KALATEL KTD-312
Sensomatic PTZ	Elmo PTC-1000
Cannon VC-C4	Hitron ScandomeII
WOOJU DRX-502A	

F. Alarms/Relays
   1. Alarm/Relay Outputs — 1
   2. Sensor Inputs — 4

G. Auxiliary Interface
   1. USB 2.0 — 3 high-speed USB 2.0 ports

H. Front Panel Indicators/Functions
   1. Indicators
      a. Power — Green
      b. HDD Status — Red blinking
   2. Buttons — Function keys

I. Remote Control — Full remote control operation of pan, tilt, and zoom (PTZ) functions through TCP/IP network

J. Remote Surveillance
   1. Client Software — Windows 2000, XP, Vista, Windows 7, Mac OS.

K. External Storage — eSata (2TB)

2.07 CERTIFICATIONS

A. CE (EMC/LVD)
B. FCC, Class A
C. RoHS

2.08 WARRANTY

A. Three years, parts and labor

2.09 SPECO TECHNOLOGIES MODEL NUMBERS

Model	Hard Drive Space
A. D8DS500	500GB
B. D8DS1TB	1TB
C. D8DS2TB	2TB
D. D8DS3TB	3TB
E. D8DS4TB	4TB
F. D8DS6TB	6TB
G. D8DS9TB	9TB

A. D16DS500	500GB
B. D16DS1TB	1TB
C. D16DS2TB	2TB
D. D16DS3TB	3TB
E. D16DS4TB	4TB
F. D16DS6TB	6TB
G. D16DS9TB	9TB