DIVISION – 28 ELECTRONIC SAFETY AND SECURITY
LEVEL 1__28 20 00 ELECTRONIC SURVEILLANCE
LEVEL 2__28 23 00 VIDEO SURVEILLANCE
LEVEL 3__28 23 29 VIDEO SURVEILLANCE REMOTE DEVICES AND SENSORS

PART 2 – PRODUCTS

2.01 GENERAL

A. All equipment and materials used shall be standard components that are regularly manufactured and used 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 an explicit manufacturer warranty.

2.02 SRD-842 8 CHANNEL H.264 REAL TIME DIGITAL VIDEO RECORDER

A. The digital video recorder (DVR) shall support 8 channels and provide recording rates of 240 frames per second (fps) on NTSC systems and 200 fps on PAL systems. The DVR shall display high-resolution images at a maximum of 928 x 480 pixels on NTSC systems and 928 x 576 on PAL systems.

B. The DVR shall offer combined VGA/HDMI video output for main display; H.264 video compression and G.711 audio compression; up to 4 audio inputs and 1 audio output, and PTZ control using RS-485.

C. The DVR shall support network monitoring and integration using Samsung central monitoring system.

D. All operation and configuration menus shall be provided in several languages, including English, French, German, Spanish, Italian, Russian, Polish, Czech, Turkish, Netherlands, Portuguese, Swedish, Danish, Rumania, Serbia, Croatia, Hungary, Greek, Finnish, Norwegian, Korean, Japanese, Chinese (Traditional), Thai, Taiwanese.

2.03 DISPLAY

A. Video	
1. Inputs	8 Composite video 0.5-1 Vpp, 75 ohm
2. Resolution	NTSC : 928 x 480, 704 x 480 PAL : 928 x 576, 704 x 576
B. Live	
1. Frame Rate	NTSC : 240fps PAL : 200fps
2. Resolution	NTSC : 928 x 480, 704 x 480 PAL : 928 x 576, 704 x 576
3. Multi Screen Display	1 , 4 , 6 , 8, Sequence , PIP

2.04 PERFORMANCE

A. Operating System	Embedded Linux
B. Recording	

1. Compression	H.264
2. Record Rate	NTSC : Up to 240fps@928 x 480 / PAL : Up to 200fps@928 x 576 NTSC : Up to 240fps@704 x 480 / PAL : Up to 200fps@704 x 576 NTSC : Up to 240fps@704 x 240 / PAL : Up to 200fps@704 x 288 NTSC : Up to 240fps@352 x 240 / PAL : Up to 200fps@352 x 288
3. Mode	NTSC / PAL : Manual, Schedule (Continuous / Event), Event (Pre / Post)
4. Event	Video loss, Motion (Level 1 ~ 10), Alarm
5. Overwrite Modes	Selectable (Stop / Continuous)
6. Pre-alarm	Up to 5sec
7. Post-alarm	Up to 6hour (5,10, 20, 30sec, 1, 3, 5, 10, 20min, 1, 2, 3, 4, 5, 6hour)
C. Search & Playback	
1. Search Mode	Date/Time, Event (Alarm / Motion), Back up, POS (*All search include preview function)
2. Playback Function	Fast forward / backward (2x, 4x, 8x, 16x, 32x, 64x) *Backward play with i-frame only Slow forward / backward (1/2x, 1/4x, 1/8x)
D. Network	
1. Transmission Speed	CIF (NTSC : 480fps, PAL : 400fps)
2. Bandwidth	Up to 8Mbps
3. Bandwidth Control	Automatic
4. Stream	H.264 (CIF)
5. Max. Remote Users	Search 3 / Live unicast 10 / Live multicast 20
6. Protocol Support	TCP/IP, DHCP, PPPoE, SMTP, NTP, HTTP, DDNS, RTP, RTSP, SNMP
7. Monitoring	Webviewer, CMS (SmartViewer, Net-I)
E. Smartphone	
1. Platform	Android, iOS
2. Protocol Support	RTP, RTSP, HTTP, CGI
3. Monitoring	Live 2, Search 1
F. Storage	
1. Internal HDD	Up to 2 SATA HDDs
2. DVD Writer(Back up)	Yes
3. USB (Back up)	2 USB Ports
4. File Format (Back up)	BU (DVR Plater), EXE(Include player), AVI
G. Security	
1. Password Protection	1 Admin, 10 Group, 10 User per 1 group
2. Data Authentication	Watermark

2.05 INTERFACE

A. Monitors	
1. VGA	1 VGA (1280 x 720, 1280 x 1024, 1920 x 1080)
2. HDMI	1 HDMI (1280 x 720, 1280 x 1024, 1920 x 1080)
3. Spot Composite	Digital spot (1CH) *Incldued OSD on screen, multi mode support
B. Audio	
1. Inputs	4CH line in
2. Outputs	1CH line out

3. Compression	G.711
4. Sampling Rate	8KHz
C. Alarm	
1. Inputs	Terminal 8 inputs (NO/NC)
2. Outputs	Terminal 2 relay outputs (NO/NC)
3. Rating	24V DC / 1A, 125V AC / 0.5A
4. Remote Notification	Notification via e-mail
D. Connections	
1. Ethernet	1 RJ-45 10/100/1000 Base-T
2. Serial Interface	RS-485 (Half) for PTZ, System keyboard RS-232 support for POS interface (VSI-pro)
3. USB	USB 2.0, 2 ports
4. Application Support	Mouse, Remote controller
5. RS-485 Protocol	Samsung-T/E, Pelco-D/P, Panasonic, Phillips, AD, DIAMOND, ERNA, KALATEL, VCL TP, VICON, ELMO, GE
6. Coax Protocol	Samsung CCVC, Pelco-C

2.06 GENERAL

A. Electrical	
1. Input Voltage/Current	12V DC adaptor, 4A, 100 ~ 250V AC, 50/60Hz, 48watt
2. Power Consumption	Max. 19W (With 1x HDD)
B. Environmental	
1. Operating Temperature	+0°C ~ +40°C (+32°F ~ +104°F)
2. Operating Humidity	20% ~ 85% RH
C. Mechanical	
1. Dimensions	W345.0 x H52.0 x D254.8mm (14.76" x 2.05" x 10.03")
2. Weight(with HDDs)	Approx. 2.31Kg (5.09 lb)
3. Rack Mountable	Yes
B. Audio	English, French, German, Spanish, Italian, Russian, Polish, Czech, Turkish, Netherlands, Portuguese, Swedish, Danish, Rumania, Serbia, Croatia,Hungary, Greek, Finnish, Norwegian, Korean, Japanese, Chinese (Traditional), Thai, Taiwanese (25 Language)

2.07 CERTIFICATIONS

A. CE mark
B. FCC mark

2.08 WARRANTY

3 years, parts and labor.