DNA4000 A&Es
Network Digital Video Recorder
IP Appliance Linux OS

Architectural & Engineering Specifications

1.0 Description

The Network Video Recorder Appliance shall be Dante Security's DNA4000 series. This NVR Appliance shall include a PC Server with a high speed Intel i7 Processor, 4GB to 8GB of RAM Memory and Embedded LINUX Operating System for the highest reliability unlimited expandability. The Series DNA4000 NVR shall be compatible with Dante Security IP and Megapixel Cameras with H.264/MJPEG video compression for unrivaled video quality and reduced storage cost, G.711and PCM Audio compression and a variety of 3rd party IP and Megapixel cameras and encoders.

2.0 General Requirements and Main Features

1. The Network Video Recorder shall be integrated into a 19" Rackmount Server PC appliance
2. The Server PC shall feature a high speed Intel i7 Processor and up to 8GB RAM memory and Embedded Linux OS for installation on multiple sites
3. The Network Video Recorder Appliance shall connect to a maximum 128 IP cameras @ D1 with up to Real time Recording 30fps/NTSC; 25fps PAL and record resolutions @ 8MP, 5MP, 3MP, 1080p, 720p, D1, CIF and VGA
4. Unit shall support up to 32 cameras @1080p HD resolution view in real time
5. Unit shall feature up to up to 6 monitor outputs as HDMI sync or 1VGA+5 HDMI and support multi screen display as 1st screen shall show 1/4/6/8/9/16/32/64 cameras and 2nd through 6th screen shall display 4 cameras
6. Unit shall support 128 camera inputs @ D1 recording resolution
7. Unit shall support 64 camera inputs @ 720p recording resolution
8. Unit shall support 32 camera inputs @ 1080p recording resolution
9. The Network Video Recorder Appliance shall support 16 hot swappable SATA HDDs
10. Unit shall support global HDD Hot-standby and external storage device as independent HDD rack with hot swap
11. Unit shall support multiple RAID modes including Raid 0, Raid1 and Raid5
12. Unit shall feature recording as manual, schedule - regular and continuous, Alarm as video loss, camera blank, Motion Detection and external alarm
13. The Alarm Inputs shall be 16 channels with terminal block connectors; the Relay Alarm outputs shall be 8ch, Relay contact(1A@24VDC), NO/NC programmable, terminal block connectors
14. Unit shall have Network accessibility via Web browser and Client Software
15. Unit shall support Variable bit rate and Constant bit rate
16. Unit shall support virtual as well as 3D Keyboard/Controller for PTZ controls
17. Unit shall feature Privacy Masking with four (4) customized zones for each area
18. The Motion Detection shall include Zones: 396(22×18), Sensitivity: 1~6 (level 6 is highest)
19. The Network Video Recorder Appliance shall feature Pentaplex functions- simultaneously record, display, playback backup and transmit files over network
20. Unit shall feature preview of Video and Audio as 36ch @D1, 9ch @720p, 6ch@1080p resolution
21. Unit shall feature playback of Video and Audio as 36ch @D1, 9ch @720p, 6ch@1080p resolution
22. Unit shall feature Audio with 1channel input, 1 channel output and 1 channel microphone
23. The Network Video Recorder Appliance shall feature back up modes as USB HDD, USB CD and DVD-RW, via eSATA and Network based externally attached storage devices
24. The Network Interface shall be four(4) RJ-45 ports(10/100/1000M) Ethernet ports operating jointly or 4 independent 1000Mbps Ethernet ports
25. It shall feature 4 USB ports - 2 on front panel, 2 on rear panel; unit shall feature 1 eSATA fast port
26. It shall be powered by 100-240VAC, 50-60Hz switching power supply with maximum consumption of 240W Including HDDs
27. Operating Temperature shall be 0C to 40C, humidity 10% to 80% non-condensing
28. 19" Rackmount Case shall be made of galvanized sheet steel and Aluminum side panels
29. Unit shall feature a ball bearing fan with MTBF >100,000 hours and support replacement during operation
30. Unit shall be compliant with CE, FCC and ROHS

3.0 Detailed Functions and Features

1. The Network Video Recorder Appliance shall feature DVR GUI like interface, supports Administrator rights with ID and password; Multiple User groups and level rights with password
2. Unit shall feature User Management to set up alarms, backup of video-audio data in the Network Video Recorder Appliance; system consists of two type accounts, Administrator Groups and User groups
3. Unit shall feature Login & Preview after system booted up, system can automatically check the HDD installed in the NVR is formatted or not
4. Unit shall support HDD functions as: user shall view the information of all HDDs including group name, working status, space information. User may add hot stand-by spare HDD and remove hot spare HDD, view the corresponding analysis information; initialize button; delete the partitions in the HDD; format button; establish the partition in the HDD; select the RAID type user wants to create Raid 5 recommended; check the HDD in the list and complete the setup; user may set different storage policies for various recording types; user may click the Copy button to apply current setup to other channels
5. Unit shall feature right hand click to check local setting interfaces which include several modules such as playback, system information, remote device, HDD management, system management, record setup and shutdown; same feature on Web browser
6. Unit shall support recording, local recording of video and storage of files via Client Software or Web Browser
7. Unit shall respond to external alarm simultaneously (within 200MS), based on user's pre-defined relay setup, system can process the alarm input correctly and prompt user by screen and voice (support pre-recorded audio).
8. Unit shall support central alarm server setup, so that alarm information can remotely notify user automatically. Alarm input can be derived from various connected peripheral devices.
9. Unit shall alert via email through network, sending audio/video data compressed by IPC or NVS to client-ends, then the data will be decompressed and display
10. Unit shall monitor through the Network, connect to ten (10) Users simultaneously via LAN and transmit audio/video data via HTTP, TCP, UDP, MULTICAST, RTP/RTSP, transmit alarm Data via SMTP
11. Unit shall support Web access via WAN
12. Unit shall support schedule record function; save the recorded files in the HDD, client-end PC, or network storage server. User can search or playback the saved files at the local-end or via the Web.
13. Unit shall support network backup, USB record backup function, the recorded files can be saved in network storage server, peripheral USB device CD burner
14. Unit shall support supervised NVR Appliance configuration and control power via Ethernet; support Management via Web Browser
15. The Network Video Appliance shall Support peripheral equipment management such as protocol setup and port connection
16. Unit shall support transparent data transmission through RS232/RS485
17. Unit shall support switch between NTSC and PAL
18. Unit shall support auxiliary functions such as:
    a. Real-time system resources information, running statistics display
    b. Log file
    c. Local GUI output
    d. Shortcut menu operation via mouse.
    e. IR control - shortcut menu operation via remote control
    f. Support Network Video Server remote video preview and control
19. Unit shall support 20 online users simultaneously; image time delay shall be less than 500ms per channel
20. Unit shall support 16-ch standard definition D1 with the transmission rate of 2mbps for each channel; 8-channel @720P with the transmission rate of 4mbps for each channel; 4-channel @1080P with maximum transmission rate of 8mbps for each channel
21. Unit shall Connect the backup device to the USB port of the device, system can automatically detect it and display Status information as ready to use, free space and total space
22. Unit shall support Smart Phone and Appliances such as: iPhone, iPad, Android, Windows

4.0 Remote Device Features and Functions

1. The Network Video Recorder Appliance shall feature the following for IP Cameras:

a. Input information - user can set front-end device information
b. Protocol type: - set the protocol you use to communicate with the front-end device
c. IP address: Please input the IP address of the front-end device
d. Port for the front-end device to communicate with the NVR
e. user name for NVR to login the front-end device
f. password for the NVR to login the front-end device

2. Unit shall support test button to test it can connect to the front-end device or not; user may view the real-time video at the preview pane if the connection is successful; user may view the device basic information as:

a. receiving the front-end information the NVR got after log in
b. device name with SN of the front-end device
c. device model of the front-end device.
e. device type of the front-end device.
f. channel No of the front-end device.
g. address - view the device installation information such as road name, city name

5.0 Network Video Recording/Playback Features

1. The Network Video Recorder Appliance shall feature recording schedule interface menu
a. view the schedule setup for one week
b. feature color bars for user's reference; green color regular recording, yellow for motion detection and red for alarm recording
c. individual channel select "all" to set all channels
d. week day: There are eight options: ranges from Saturday to Sunday and all
e. record types: standard, motion detection (MD), alarm
f. current time: user may click it to restore previous time setup
g. default time: user may click it to restore default start time and end time

2. The Network Video Recorder Appliance shall feature playback interface menu as

a. Display window - display the searched picture or file; support 1/4/9/16-window playback
b. Search type - select to search the picture or the recorded file
c. Calendar - The blue highlighted date means there is picture or file. Otherwise, there is no picture or file; In any play mode, click the date you want to see, you can see the corresponding; record file trace in the time bar.
d. Playback mode and channel selection pane - Playback mode：1/4/9/16. (It may vary due to different series.); the time bar will change once you modify the playback mode or the channel option.
e. Card number search - Click it; you can view card number /domain search interface. Here you can set advanced search
f. File list switch button - Double click it; user may view the picture/record file list of current day; the file list is to display the channel of current selected time bar; the system may display the searched results in a list by use of the mouse to view the file; or double click the mouse to playback; user may input the period in the interface to begin accurate search; File type: R—regular record； A—external alarm record； M—Motion detect record
g. Playback control pane - Play/Pause - three ways for you to begin playback ; play button;
In slow play mode, to switch between play/pause; reverse play In normal play mode, left click the button, the file begins backward play; pause current play;

reverse play mode; In playback mode, click it to play the next or the previous section; click continuously when user is watching the files from the same channel;
in normal play mode, when user pauses current play, user may begin frame by frame playback; or
in frame by frame playback mode, user may click play button to restore normal playback
in fast forward In playback mode, user may click to realize various fast play modes such as fast play 1, fast play 2
in smart search
in the volume of the playback
in snapshot button in the full-screen mode, the system can snapshot 1 picture per second

h. Time bar - to display the record type and its period in current search criteria; user may set the playback channel set in Playback mode and channel selection pane; system begins playback from the position selected; time bar is beginning with 0 o'clock when user sets the configuration; time bar zooms in the period of the current playback time when user is playing the file; green color stands for the regular record file, red color stands for the external alarm record file' yellow stands for the motion detect record file.
i. Time bar unit - option includes: 24H, 12H, 1H and 30min; user may accurately set the time in the time bar to playback the record; time bar is beginning with 0 o'clock when user sets the configuration; time bar zooms in the period of the playback time when file is playing
j. Backup - user may select the file(s) to backup from the file list; system max supports files from four channels; display 32 files from one channel
k. Clip - user may edit the and save content of edited file
l. Record type - In any play mode, the time bar will change once user modifies the search type
m. Smart search - when system is playing, you can select a zone in the window to begin motion detect ion
3. The Network Video Recorder Appliance shall feature Other channel synchronization switch to play when playback function is on - system has the ability to switch to the same period of the corresponding channel to play
4. The Network Video Recorder Appliance shall feature Digital zoom when the system is in full-screen playback mode with left click of the mouse in the screen; by drag mouse in the screen to select a section and then left click mouse to realize digital zoom

6.0 License and Warranty

1. The Series DNA4000 Network Video Recording and Management Software warranty shall be for (1) year to be free from defects from date of purchase.