

Next Level Security Systems HD Decoder (DC-400) Architecture and Engineering Specification

PART 1. GENERAL

1.1. SUMMARY

- A. The Next Level Security Systems (NLSS) HD Decoder is a High Definition, Video Decoder. It is an open-standards, network-based platform that interoperates with third party IP Cameras and it has local storage for display of media files. It has a web browser interface to the system for local and remote management.

1.2. REFERENCES

- A. FCC Part 15 Class B
- B. EN 55022:2006+A1:2007
- C. EN 61000-3-2:2006
- D. EN 61000-3-3:1995 + A1:2001 + A2:2005
- E. EN 55024:1998 + A1:2001+A2:2003
- F. IEC 61000-4
- G. CISPR 22 3rd Edition, 1997
- H. ANSI C63.4
- I. ICES-003 Issue 4 (2004)
- J. RoHS Compliant

1.3. SYSTEM DESCRIPTION

- A. The HD Decoder shall be a standards-based, networked platform that integrates Video Surveillance with IP Cameras and media file playback in a single device.
- B. The HD Decoder shall operate in standalone mode or with NLSS Gateways.
- C. The HD Decoder shall support live video, recorded video, simultaneous live and playback of recorded video.
- D. The HD Decoder shall support live audio and recorded audio.
- E. The HD Decoder shall support video walls utilizing one decoder per physical monitor.
- F. The HD Decoder shall support a web server for multiple web browsers as the interface to the system.
- G. The HD Decoder shall not require any specific application software to be loaded on client devices.

- H. The HD Decoder shall not require any licensing for individual cameras.
- I. The HD Decoder shall not impose artificial limits on the number of cameras supported.
- J. The HD Decoder shall support multiple HD Decoder in the same network without imposing a fixed limit on the number of HD Decoders.

1.4. SUBMITTALS

A. General: Submittals shall be made pursuant to applicable contracts

B. Product Data:

The following Product Data shall be provided:

1. Data Sheets
2. Quick Start Guide
3. User Manual

1.5. DELIVERY, STORAGE, AND HANDLING

- A. Comply with manufacturer's requirements
- B. Deliver materials in manufacturer's original, unopened, undamaged containers with original identification labels
- C. Protect stored materials from environmental and temperature conditions following the manufacturer's instructions
- D. Handle and operate products and systems according to the manufacturer's instructions

1.6. PROJECT SITE CONDITIONS

- A. Operations Environment: 0-50 degrees C

PART 2. PRODUCTS

2.1. ACCEPTABLE MANUFACTURER

- A. The HD Decoder shall be supplied by:

Next Level Security Systems

6353 Corte Del Abeto, # 102

Carlsbad, CA 92011

760-444-1410

www.nlss.com

- B. Substitutions:

No substitutions are accepted unless specified and approved by the manufacturer.

2.2. NLSS HD DECODER

- A. The HD Decoder shall be a standards-based, networked platform based on Linux, SQL, Apache, Flash, and a Browser interface.
- B. The HD Decoder shall support an easy to use, intuitive, web based interface to the system.
- C. The HD Decoder shall support multiple simultaneous users on the system.
- D. The HD Decoder shall support multiple security levels of Operator, Administrator, and Superuser.
- E. The HD Decoder shall support the following web browsers and flash player:
 - 1. Internet Explorer version 8.0 and above
 - 2. Mozilla Firefox version 3.6 and above
 - 3. Google Chrome version 8.0 and above
 - 4. Apple Safari 5.0 and above
 - 5. Adobe Flash Player 10.1 and above

2.3. NLSS HD DECODER HARDWARE

- A. The HD Decoder shall have one (1) or more 1GB Ethernet ports.
- B. The HD Decoder shall have six (6) or more USB 2.0 ports.
- C. The HD Decoder shall have an internal Hard Disk Drive (HDD) of not less than 250 GB.
- D. The HD Decoder shall consume forty (40) watts of power or less.
- E. The mechanical dimensions shall be less than 7"x 7"x1".

2.4. NLSS SYSTEM FEATURES

- A. The HD Decoder shall support local firmware (FW) upgrade.
- B. The HD Decoder shall support remote FW upgrade.
- C. The HD Decoder shall support export of system logs.
- D. The HD Decoder shall support DHCP/DNS and Static Internet Protocol (IP) Address provisioning.
- E. The HD Decoder shall support Secure Shell (SSH).
- F. The HD Decoder shall support local and remote IP networks through use of routers, switches, and VLANs.
- G. The HD Decoder shall support the following IP protocols:
 - 1. TCP/IP, UDP, HTTP, HTTPS, RTP, RTSP, DHCP, DNS, ARP, ICMP, IGMP, SIP, NTP, Bonjour

2.5. NLSS VIDEO FEATURES

- A. The HD Decoder shall automatically discover IP Cameras (and Video Encoders) in the network.
- B. The HD Decoder shall be able to read the video configuration parameters of IP cameras in the network.
- C. The HD Decoder shall support multiple video streams with different video parameters on one IP camera.
- D. The HD Decoder shall support H.264 Main Profile, MPEG4, and MJPEG video compression formats.
- E. The HD Decoder shall support video resolutions of HD 1080p (1920x1080), HD 720p (1280x720), D1, 4CIF, VGA, CIF and non-standard resolutions up to 1920x1280.
- F. The HD Decoder shall support aspect ratios of 16:9, 4:3 and non-standard aspect ratios.
- G. The HD Decoder shall support frame rates up to 30 frames per second (fps) for HD 1080p streams.
- H. The HD Decoder shall support Constant Bit Rate Model and Variable Bit Rate Model.
- I. The HD Decoder shall support multiple bit rates for video.
- J. The HD Decoder shall support multiple video compression formats, resolutions, aspect ratios, frame rates, bit rate models, and bit rates simultaneously.
- K. The HD Decoder shall support configuration of RTSP video streams from IP cameras that are not automatically discovered.
- L. The HD Decoder shall support configuration of HTTP MJPEG Server Push video streams from IP cameras that are not automatically discovered.
- M. The HD Decoder shall support rotated video received from IP cameras and video encoders.
- N. The HD Decoder shall support multiple third party IP cameras and video encoders from the following vendors:
 - 1. Arecont
 - 2. Axis
 - 3. Bosch
 - 4. IQInvision
 - 5. Panasonic
 - 6. Pelco

7. Sony

2.6. NLSS VIDEO DISPLAY FEATURES

- A. The HD Decoder shall support 1x1, 1x2, and 2x2 views displayed on the monitor.
- B. The HD Decoder shall support sequences of views.
- C. The HD Decoder shall support individual and global configuration of the duration of each step in a sequence.
- D. The HD Decoder shall support video walls via multiple HD Decoders.
- E. The HD Decoder shall support rotated display of 90, 180, and 270 degrees.
- F. The HD Decoder shall support an On Screen Display (OSD) that includes the source camera or media information.

2.7. NLSS THIRD PARTY ACCESSORY SUPPORT

- A. The HD Decoder shall support Pan, Tilt, and Zoom (PTZ) IP Cameras via the Axis USB T8311 joystick.
- B. The HD Decoder shall support USB keypads from Genovation (MicroPad 630).
- C. The HD Decoder shall support USB keypad from Connectland (CL-USB- NUMSPC).
- D. The HD Decoder shall support a Remote Control from CE Compass / Ortek (VRC-1100).

2.8. NLSS AUDIO FEATURES

- A. The HD Decoder shall support G.711, G.726, and Advanced Audio Codec (AAC) audio coding.
- B. The HD Decoder shall support live audio from IP cameras.
- C. The HD Decoder shall support recorded audio from file-based media.
- D. The HD Decoder shall support audio in sync with recorded video.
- E. The HD Decoder shall support audio mute control via the browser.

2.9. NLSS MEDIA FILE SUPPORT

- A. The HD Decoder shall support the following file formats, video codecs, and audio codecs stored locally on the device.

File / Container	Extension	Video Codec	Audio Codec
MPEG4	MP4	H.264	AAC
MPEG4	MP4	MP4	AAC

MPEG4	MP4	WMV	AAC
Quicktime	MOV	H.264	AAC
Flash	FLV	H.264	AAC
Flash	FLV	H.264	MP3
Flash	F4V	H.264	AAC
Matroska	MKV	H.264	AAC
WMV	WMV	WMV	AAC

PART 3. EXECUTION

3.1. EXAMINATION

- A. Examine area for proper installation and operation
- B. Remedy any unacceptable conditions before proceeding.

3.2. INSTALLATION

- A. Install equipment in accordance with manufacturer's instructions.
- B. Install equipment in accordance with the National Electrical Code or applicable local codes
- C. Ensure installation is secure and protected from accidental or weather damage.

3.3. DEMONSTRATION

- A. Demonstrate proper functioning at final inspection

3.4. TECHNICAL SUPPORT AND TRAINING

- A. Verify that technical support is available from the manufacturer and web-based training is available