NUUO NAS NVRmini Specification

NUUO NAS NVRmini

System Diagram

Main Features

- Linux Embedded – Free from PC crash and virus attack
- Server-Client Architecture
- Web-based management (Recommend on IE7 or above)
- Easy installation
- Manage 2/4/8/16 IP cameras
- Online GUI recording schedule

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- RAID 0,1,5,5+spare and 10, prevention of data loss
- Support 25 brands of IP cameras and 735 models
- Support ImmerVision lens
- Support megapixel camera and H.264 compression format
- Support D1, real-time and audio recording
- Up to 128 channels live display on multiple monitors
- **Multiple camera streams to display in LiveView**
- **Support E-map with device indicator**
- Playback system with 5 intelligent search
- Support Point of Sale (POS)
- 2/4 SATA HDD bays Embedded
- **External storage – Up to 16TB total recording space**[1]
- Recording without PC turning on
- **Remote I/O solution** and camera I/O integration
- Supported by NUUO Central Management System
- **Supported by NUUO iPhone iViewer**

Specifications

Model	NV-2020/NV-2040	NV-4080/NV-4160	NV-4080S/NV-4160S
Recording Cameras	1~2(4)[2] / 1~4	1~8 / 1~16	1~8 / 1~16
Playback channels	2(4) / 4	8 / 4	8 / 16
Number of Drives	2xSATA II	4xSATA II	4xSATA II
Max Storage of Compatible HDD	2TB	2TB	2TB
RAID Level	RAID 0,1	RAID 0, 1, 5, 10	RAID 0, 1, 5, 10
I/O Interface	1xUSB 2.0 (for UPS)	2xUSB 2.0 (for UPS)	2xUSB 2.0 (for UPS); 1xeSATA (for external storage[3]: DAS)
LAN Transmission Speed	10/100/1000 Mbps (RJ45)		
Voltage	100-240V	100-230V	100-230V
Power Consumption	39W[4]	56.3W[5]	72W[6]
Device Dimension	92.0 x 145.2 x 213.2 mm	188.2 x 152.5 x 227.6 mm	188.2 x 152.5 x 229.6 mm
Device Weight (without drive)	1.0 kg (2.2lbs)	2.5 kg (5.5lbs)	2.5 kg (5.5lbs)
Temperature	Operating: 5°C to 35°C (±5°C)		
Humidity	Operating: 10%-85%		
Supported IP Camera Brand(s): 25 brands in v2.4			

1 External storage, available in FW v2.4, is designed for NV-4080S/4160S
2 NV-2020 can possess up to 4ch capacity with license activation
3 Check the compatibility list for the compatible DAS model
4 60 W is the maximum power consumption; 39W is 2bays with 250GB disk array (running)
5 72 W is the maximum power consumption; 56.3 W is 4 bays with 1TB disk array (running)
6 72 W is the maximum power consumption

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Compression Format	MPEG4, M-JPEG, H.264, MxPEG (depends on IP camera)		
Recording Performance	Around 60fps at 1.3M Total bitrate: 20Mbps	Around 85fps at 1.3M Total bitrate: 30 / 22Mbps	Around 160fps at 1.3M Total bitate: 65 / 55Mbps
Recording Type	Continuous record, Record by schedule, Event trigger record, Digital input trigger record		
Remote Live View Control	Liveview, PTZ control, Patrol/Focus, Preset set/go, Auto Scan, Snapshot		
Audio & Video Recording	Audio and video recording in synchronization		
POS	Liveview, record and search for every transaction		
Auto Backup	Automatically backup the recorded video of the date before to FTP server		
Intelligent Search	General motion, Missing object, Foreign object, Lose focus, Camera occlusion		
Remote Live View Connection	Live view maximum 16 connections at the same time		
Supported Language	English, Japanese, Traditional Chinese, Spanish, Deutsch, French, Italian, Russian, Czech, Korean, Polish, Dutch, Swedish, Portuguese (Brazil)[7]		
System Minimum Requirement			
Model	**NV-2020/NV-2040**	**NV-4080/NV-4160**	**NV-4080S/NV-4160S**
OS	Windows XP / 2003 / Vista / Win7		
CPU	Intel Core 2 Duo, 2.6GHz		
RAM	1GB		
LAN Transmission Speed	10/100/1000 Mbps (RJ45)		
UI	1. Web browser: Internet Explorer 7 or 8 2. NUUO Client Application Program 3. NUUO iPhone iViewer		

Technical Details

System, Setting, Management and Integration

- **Server-Client Architecture:** Centralizes all video data transaction only via NVRmini to remote clients. With this centralized structure, total camera loading remain the same level, thus ensure good recording quality even with maximum of remote client access.
- **Open Platform:** Supports 735 IP cameras and video servers (encoders) from 25 brands of major network camera manufacturers.
- **Automatic Camera Model Detection:** NVRmini can automatically search for IP cameras in the network (camera should support UPnP protocol or should be implemented its search tool[8]). For those unsearchable cameras, user can manually insert it. The auto detection function will help the user to find the brand and model of the camera after specifying its IP address.
- **Storage Optimization:** NVRmini supports H.264 compression format increasing the storage capacity to nearly 600% of MJPEG and 150% of MPEG4.
- **Friendly GUI Recording Scheduler:** Graphical user interface to setup recording schedule featuring unique day mode and week mode.
- **Event & Action:** 4 camera events including motion detection (if the camera has it), connection lost and camera input; 1 input event from remote I/O box; 3 system events and daily system report through E-mail; 3 instant alarm responses supporting output, E-mail and NUUO CMS alarm system.
- **Online RAID Capacity Expansion and Level Migration:** Support RAID 0,1,5,5+ spare and 10 for maximum capacity or data protection at the HDD level.
- **Point of Sale (POS):** POS text overlay on live view video and recordings. All recorded POS transactions are searchable in the NVRmini database.

[7] Portuguese (Brazil), Traditional Chinese, Czech and Polish is not supported in NVRmini NV-4080 and NV-4160

[8] Support camera search tools of ACTi, Arecont, and Sony in v2.4

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- **Remote I/O**: With the integration of camera I/O and NUUO I/O Box, system can start recording when input triggered, or trigger output as an event happened.
- **The authorities of different kinds of users:** Web Viewer logins to the NAS Server via 4 different user groups: administrator, power user, user, and guest. Each user group has its own distinctive privilege in system configuration, live view camera and playback camera.
- **Log System:** Hardware log keeps track of system operation; NVR log for camera status and user access; NVR event Log for special events.

Remote Operation

- **Multiple Live View Channel:** Up to 16 channels per in web client and 64 channels in Remote Live Viewer client (up to 128 channels on multiple monitors). In addition, Remote Live Viewer client can access and display live video from any NUUO servers (NVR, DVR, NDVR and NVRmini) simultaneously.
- **Multiple Playback Channel:** Up to 16 channels in web playback client/NUUO Playback System.
- **Multi-View:** NVRmini can duplicate the same live view video onto multiple channels and digitally zone in to see the details of different spots on cloned channels without losing the original live view video.
- **Stream Profile:** Live display multiple camera streams with lower bitrate, while still having good quality recorded videos.
- **Intelligent PTZ:** Joystick support on PTZ cameras and software enabled digital PTZ function are both available in NUUO NVR. Preset points and patrol functions are also available on many camera models.
- **I/O Event Control:** Control I/O for event detection, instant action and digital output.
- **E-Map:** Show device indicator on map for easily find and track device location. Furthermore, pop up map to point out the device when an event occurred.

Playback, Search, Export and Secure Data

- **Post-Recording Processing:** Intelligent search, digital PTZ and video enhancement tool.
- **Intelligent Search:** Search recorded video for 5 events including general motion, foreign object, missing object, loss focus and camera occlusion.
- **Video Enhancement:** Fine tune the image's visibility, sharpen, brightness, contrast or even grey scale.
- **Evidence Export:** Snapshot and print video image in BMP/ JPEG; backup video in DAT; save video in ASF/AVI.
- **Action Alert:** Notify users on camera and system event through sound, digital output, E-mail and NUUO CMS alert.
- **Auto Backup:** Automatically backup the recorded video of the date before to a designated FTP server.
- **Manual Backup:** Manual backup or delete recordings of any NVRmini.
- **Watermark:** Protect for original recording from alternation with our watermark verification tool.

Extended Service

- **NUUO Central Management System (CMS):** Ultimate central monitoring solution for grand scale projects and projects with multiple sites. Fully compatible with all NUUO servers (NVR, DVR, NDVR and NVRmini).

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- **External device**

  - **POS BOX:** NUUO Point of Sales system works on NVRmini by overlaying the transaction text from cash register or ATM machines onto live video channels. All POS recordings are searchable.
  - **Remote I/O Box:** I/O signals of NUUO I/O Box are converted to Ethernet through converter, which enables NVRmini to do more sophisticated application, such as starting recording when input triggered, triggering output as an event happened, and much more.
  - **ImmerVision Lens:** PTZ mode, Quad mode and Perimeter mode are supported on liveview and playback. Please refer to ImmerVision's website for qualified cameras.
  - **APC UPS:** Continues to feed the NVRmini power at an event of power outage.
  - **DAS:** The total recording space can be up to 16TB by connecting DAS with NV-4080S/4160S.

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