NUUO NAS NVRmini 2 Specification

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System Diagram

Wireless IP Surveillance Solution

Main Features

- Linux embedded – free from PC crash and virus attack
- **High throughput for megapixel camera recording**
- **Support Stream Profile for remote live view bandwidth control (Original / 300 kbps / 100 kbps)**
- **Support mobile client for iPhone / iPad / Android[1]**

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[1] Please check the supported camera spec list on website. Besides, to use this feature, you have to enable 2nd stream function on web setting page first.

- Panorama 360° PTZ (ImmerVision and VIVOTEK fisheye)
- Web-based configuration, live viewer, playback (Recommend on IE8 and later)
- RAID 0,1,5,10 for maximum capacity or data protection
- Online GUI recording schedule
- Support megapixel cameras and H.264 compression format
- Digital PTZ and multi-view
- **Real-time digital output, Email alert and push notification on mobile**
- Remote I/O solution and camera I/O integration
- Up to 128 CH remote live view with multiple monitors
- Support joystick for easier camera control
- Playback with 5 types of intelligent event search
- **Point of Sale (POS)**
- E-map with indicator
- Digital watermark
- Auto port-forwarding
- NTP server synchronization
- Support 62 brands of IP cameras and over 1500 models (with free monthly update)
- **Alarm source of NUUO Central Management System**

Specifications					
Model	**NE-2020/NE-2040**		**NE-4080/NE-4160**		
Recording Cameras	1~2(4)[2] / 1~4		1~8(16)[3] / 1~16		
Playback Channels	2(4) / 4		8 / 16		
Number of Drives	2xSATA II		4xSATA II		
Max Storage Per Drive	3TB		3TB		
RAID Level	RAID 0,1		RAID 0,1,5,10		
CPU	Marvell 88F6283 1.0GHz		Marvell 88F6282 1.6GHz		
RAM	256MB		512MB		
I/O Interface	2xUSB 2.0 (for UPS)		2xUSB 2.0 (for UPS); 1xeSATA (for DAS)		
LAN Transmission Speed	10/100/1000 Mbps (RJ45 x1)		10/100/1000 Mbps (RJ45 x2)		
Voltage	100-240V		100-240V		
Power Consumption	40W[4]		90W[5]		
Device Dimension (HxWxD)	140.0 x 109.8 x 219.0 mm		140.0 x 183.4 x 219.0 mm		
Device Weight (Without Drive)	2.12 kg (4.67lbs)		2.97 kg (6.55lbs)		
Temperature	Operating: 0°C-40°C				
Humidity	Operating: 5%-95%				
Supported IP Camera Brand(s): 62 brands in v1.6.1 (with DP v2.6)	ACTi	Alphatech	Arecont	ARM	AXIS
	BASLER	BOSCH	Brickcom	Bullwark	Centrix
	CISCO	CNB	COP	CORUM	Dahua
	Digital Watchdog	D-Link	DYNACOLOR	Eneo	Ernitec
	Everfocus	Fine	Forenix	GE	Grandstream
	Grundig	Guardeon	Guardliner	HIKVision	Honeywell
	IQinVision	Jetstor	LevelOne	LG	Linksys
	Lumenera	Mobotix	NetworkCamera	Onvif	Panasonic
	Pelco	PiXORD	Probe	Rover	Samsung
	SANTEC	SANYO	Shany	Sony	StarDot
	Sunell	Techson	Telview	TOSHIBA	TRUEN

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[2] NE-2020 can support up to 4 cameras capacity with license activation (license type: 2ch)
[3] NE-4080 can possess up to 16ch capacity with license activation (license type: 2/4/8ch)
[4] 40 W is the maximum power consumption
[5] 90 W is the maximum power consumption

	UDP	Videosec	Vision Hi-Tech	Vista	VIVOTEK
	Zavio	3Svision			
Compression Format	MPEG4, M-JPEG, H.264, MxPEG (depends on IP camera)				
Recording Performance	Around 60/120fps at 1.3M Total bitrate: 40Mbps		Around 240fps at 1.3M Total bitate: 80Mbps		
Recording Type	Continuous record, record by schedule, event trigger record, digital input trigger record				
Remote Live View Control	Live view, preset/go, PTZ, remote I/O, snapshot, multi-view, digital PTZ, advanced E-Map, bandwidth monitoring				
Audio & Video Recording	Synchronized audio and video recording				
POS	Live view, record, playback, 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 64 connections per server at the same time				
Supported Language	English, Czech, Deutsch, Dutch, Finnish, French, Hebrew, Hungarian, Italian, Japanese, Korean, Polish, Portuguese (Brazil) , Russian, Simplified Chinese, Traditional Chinese, Serbian, Spanish, Swedish, Turkish				
Remote Client System Minimum Requirement					
Model	**NE-2020/NE-2040**		**NE-4080/NE-4160**		
OS	Windows XP (32-bit) / Win7 (32 and 64-bit)				
CPU	Intel Core 2 Duo, 2.6GHz				
RAM	1GB				
LAN Transmission Speed	10/100/1000 Mbps (RJ45)				
UI	1. Web browser: Internet Explorer 8, 9 2. NUUO client application program 3. NUUO iPhone, iPad, Android mobile live viewer[6]				
Technical Details					

· **System, Setting, Management and Integration**

  ◾ **Server-Client Architecture:** Centralizes all video data transaction only via NVRmini 2 to remote clients. With this centralized structure, total camera loading remains at a stable level, thus ensuring good recording quality even when reaching maximum number of remote client access.

  ◾ **Open Platform:** Support over 1500 IP camera models and video servers (encoders) from 62 brands of major network camera manufacturers.

  ◾ **Automatic Camera Model Detection:** NVRmini 2 can automatically search for IP cameras in the network (camera should support UPnP protocol or should be implemented its brand's search tool[7]). 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 2 supports H.264 compression format which helps increasing the storage efficiency to nearly 600% higher than MJPEG and 150% higher than 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 supported by camera), connection lost and camera input; 1 input event from remote I/O box; 3 system events and daily system report by E-mail; 5 instant alarm responses supporting output, Email, E-map popup, push notification on mobile and NUUO CMS alarm system.

  ◾ **Online RAID Capacity Expansion and Level Migration:** Support RAID 0, 1, 5, and 10 for maximum capacity

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[6] Please check the supported camera spec list on website. Besides, to use this feature, you have to enable 2nd stream function on web setting page first.
[7] Support camera search tools of ACTi, Arecont, D-link, and Sony.

or data protection at the HDD level.

- **Point of Sale (POS):** POS transactions received through NUUO POS box or Ethernet (TPC/IP client). POS text overlay on live view video and recordings. All recorded POS transactions are searchable in the NVRmini 2 database.

- **I/O Event Control**: 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.

- **Various Authorities of Different Kinds of Users:** Web Viewer logins to NVRmini 2 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 records.

- **Synchronization with NTP Server:** Synchronize time weekly/monthly to keep the accuracy of recording time.

- **Log System:** Hardware log keeps track of system operation; NVR log for camera status and user access; NVR event Log for special events; Export and Backup Log for exporting video or video backup action.

- **User Friendly:** Provide users HELP page on the webpage for quick start tips and troubleshooting.

· **Remote Client Operation**

- **Multiple Live View Channel:** Up to 64 channels of remote connections per unit. Remote Live Viewer client supports 64 channels from multiple servers, and could display up to 128 channels with multiple monitors. In addition, Remote Live Viewer client can access and display live video from any NUUO Mainconsole family servers simultaneously.

- **Multiple Playback Channel:** Up to 16 channels in web playback client/NUUO Playback System.

- **Monitor Resolution:** 800x600, 1024x768, 1200x900, 1280x1024, 1440x900, 1600x1200, 1680x1050, 1920x1080, 1920x1200.

- **Multi-View:** NVRmini 2 can duplicate the same live view video onto multiple channels and digitally zoom in to see the details of different spots on cloned channels without losing the original live view video or using extra camera licenses.

- **E-Map:** Show device indicator on map for easy finding and tracking device location. Furthermore, pop up map to point out the device when an event occurred.

- **Stream Profile:** Live display multiple camera streams with lower bit rate, while still recording at highest possible quality.

- **Multiple Mobile Clients:** Support mobile live viewer for iPhone, iPad, and Android.[8]

· **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. The action exporting video or video backup will be recorded in NVRmini 2's log system.

- **Alarm Notification:** Notify users on camera and system event through sound, digital output, E-mail and NUUO

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[8] Please check the supported camera spec list on website. Besides, to use this feature, you have to enable 2nd stream function on web setting page first.

CMS alert.

- **Auto Backup:** Automatically backup the recorded video of previous dates to a designated FTP server.

- **Manual Backup:** Manually backup or delete the recordings from any NVRmini 2.

- **Watermark:** Protect original recordings from alternation with NUUO 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 Mainconsole family servers.

· **External Device**

- **POS Box (from serial port to Ethernet):** NUUO Point of Sales system works on NVRmini 2 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 2 to do more sophisticated application, such as starting recording when input triggered, triggering output as an event happened, and much more.

- **Panorama 360° PTZ:** Several modes are supported on live view and playback. ImmerVision[9]: Original mode, PTZ mode, Quad mode and Perimeter mode. Vivotek: Original mode, Rectilinear mode, Full-view panorama mode, and Dual-view panorama mode.

- **APC UPS:** Continues to feed the NVRmini 2 power in an event of power outage.

- **Joystick:** Joystick support on PTZ cameras and software enabled digital PTZ function are both available in NVRmini 2. Preset points and patrol functions are also available on many camera models.

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[9] Please refer to ImmerVision's website for qualified cameras.