**Document History**

|  |  |  |
| --- | --- | --- |
| **FW version** | **Date** | **Change List** |
| **V1.0** | 2012/1/23 | Initial |
| **V1.1** | 2013/7/11 | 1. New HDD compatible 2. Touch panel support 3. Compatible with Windows 8 (32/64 bit) and IE 10 (32 bit) |
| **V1.1.2** | 2013/9/6 | 1. Add supported joystick functions 2. Add reminders on compatible monitor 3. Mark NS-8060 compatible HDD |
| **V1.2** | 2013/10/23 | 1. Remove AXUS from DAS supporting list due to its possibly unqualified performance 2. Mark NS-8060 compatible HDD (updated) |
| **V2.0** | 2014/03/03 | 1. Add HDD compatible list for NS-8065(RAID). 2. Compatible with Mac Safari and Windows Chrome |
| **V2.0.1** | 2014/07/03 | 1. Add WD Purple series HDD compatible list |
| **V2.0.1** | 2014/09/04 | 1. Add limitation on web browser support |
| **V2.1** | 2014/09/25 | 1. Add IE11 support |
| **V2.1** | 2014/11/11 | 1. Add Seagate 6TB Enterprise HDD support |
| **V2.1** | 2014/11/14 | 1. Add Seagate SV35 + SRS series support 2. Add ezNUUO browser support |
| **V2.1.5** | 2015/02/05 | 1. Support new joysticks |
| **V2.2.2** | 2015/05/05 | 1. Add Seagate Surveillance 4TB (HDD is CV13)support |
| **V2.2.3** | 2015/06/10 | 1. Add Seagate Surveillance support |
| **V2.2.4** | 2015/10/12 | 1. Add WD Surveillance 6TB and Toshiba Enterprise 4TB support 2. Add NS-8065 Surveillance support list |
| **V2.2.5** | 2015/11/04 | 1. Remote Client |
| **V3.0.0** | 2016/03/01 | 1. New client pack 6.1.705.5 |
| **V3.0.0 Hotfix** | 2016/05/05 | 1. Fix critical Bug |
| **V3.1.0** | 2016/10/03 | 1. Seagate rebranding update for Surveillance and SkyHawk 2. Mark NP-8160 compatible HDD (new nvr product) |
| **V3.2.0** | 2016/12/15 | 1. NP-8160 support 4K2K local display |
| **V3.3.0** | 2017/02/18 | 1. Support USB joystick on local display |
| **V3.5.0** | 2017/08/25 | 1. Update Remote Client to 6.1.705.15 2. Add Seagate: ST8000VX022 & ST10000VX0004 for NP-8160 |

1. **Hard Drives**

Classify the compatible HDD into three types, enterprise, video surveillance and desktop. We recommend user to choose enterprise-level HDD and video surveillance-level HDD, which are with better command timeout control and reliability.

For the following conditions, we only suggest using enterprise-level HDD:

1. When the number of HDD is more than, or equal to, 5 HDDs.
2. When the NVR is installed on rack.

Green series hard drives should never be used with NUUO recorders to avoid data lost due to long wake up time from a sleeping drive.

**[3.5-inch Hard Drives]**

**Enterprise**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Vendor** | **Family** | **Model** | **Capacity** | **Interface** | **FW** | **Tested Model** | | | |
| **NS-1040**  **NS-1080** | **NS-8060** | **NS-8065**  **(RAID)** | **NP-8160** |
| **HITACHI** | Ultrastar A7K2000 | HUA722010CLA330 | 1TB | SATA 3Gb/s | JP4O | V |  |  |  |
| **SEAGATE** | Constellation ES.3/  Enterprise 3.5 | ST6000NM0024 | 6TB | SATA 6Gb/s | SN02 | V | V |  |  |
| ST4000NM0033 | 4TB | SATA 6Gb/s | 0001 | V |  |  |  |
| ST3000NM0033 | 3TB | SATA 6Gb/s | 0001 | V |  |  |  |
| ST31000524NS | 1TB | SATA 3Gb/s | SN12 | V |  |  |  |
| Constellation CS/ Terascale | ST2000NC000 | 2TB | SATA 6Gb/s | CE02 | V | V | V |  |
| ST4000NC000 | 4TB | SATA 6Gb/s | CE02 | V | V | V |  |
| **WD** | WD RE4 | WD2003FYYS | 2TB | SATA 3Gb/s | 01.0 | V |  |  |  |
| WD1003FBYX | 1TB | SATA 3Gb/s | 01.0 | V | V |  |  |
| WD5003ABYX | 500GB | SATA 3Gb/s | 01.0 | V |  |  |  |
| WD RE | WD4000FYYZ | 4TB | SATA 6Gb/s | 01.0 | V | V |  |  |
| WD3000FYYZ | 3TB | SATA 6Gb/s | 01.0 | V | V |  |  |
| WD2000FYYZ | 2TB | SATA 6Gb/s | 01.0 | V | V |  |  |
| **Toshiba** | MG03ACAxxx | MG03ACA300 | 3TB | SATA 6Gb/s | FL1A | V | V |  |  |
| MG03ACA200 | 2TB | SATA 6Gb/s | FL1A | V | V |  |  |
| MG03ACA100 | 1TB | SATA 6Gb/s | FL0A | V | V |  |  |
| MC04ACA xxx | MC04ACA400E | 4TB | SATA 6Gb/s | FP2A | V | V |  |  |

Some listed devices may not be available, please check with your local vendors.

**Video Surveillance**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Vendor** | **Family** | **Model** | **Capacity** | **Interface** | **FW** | **Tested Model** | | | |
| **NS-1040**  **NS-2080** | **NS-8060** | **NS-8065** | **NP-8160** |
| **SEAGATE** | SV35+SRS | ST3000VX004 | 3TB | SATA 6Gb/s | CV26 | V | V |  |  |
| ST2000VX004 | 2TB | SATA 6Gb/s | CV26 | V | V |  |  |
| ST1000VX002 | 1TB | SATA 6Gb/s | CV26 | V | V |  |  |
| SV35 Series | ST3000VX000 | 3TB | SATA 6Gb/s | CV12/CV26 | V | V |  |  |
| ST2000VX000 | 2TB | SATA 6Gb/s | CV12/CV26 | V | V |  |  |
| ST2000VX002 | 2TB | SATA 6Gb/s | CV01 | V |  |  |  |
| ST1000VX000 | 1TB | SATA 6Gb/s | CV12/CV26 | V | V |  |  |
| Surveillance | ST6000VX0001 | 6TB | SATA 6Gb/s | VN02 | V | V | V | V |
| ST5000VX001 | 5TB | SATA 6Gb/s | VN02 | V | V |  |  |
| ST4000VX000 | 4TB | SATA 6Gb/s | CV13 | V | V |  | V |
| ST3000VX006 | 3TB | SATA 6Gb/s | CV11 | V | V |  |  |
| ST2000VX003 | 2TB | SATA 6Gb/s | CV11 | V | V |  |  |
| ST1000VX001 | 1TB | SATA 6Gb/s | CV11 | V | V |  |  |
| SkyHawk | ST10000VX0004\* | 10TB | SATA 6Gb/s | AV01 |  |  |  | V |
| ST8000VX022 \* | 8TB | SATA 6Gb/s | AV01 |  |  |  | V |
| ST4000VX007 | 4TB | SATA 6Gb/s | CV13 | V | V |  |  |
| ST3000VX010 | 3TB | SATA 6Gb/s | CV11 | V | V |  |  |
| ST2000VX008 | 2TB | SATA 6Gb/s | CV11 | V | V |  |  |
| ST1000VX005 | 1TB | SATA 6Gb/s | CV11 | V | V |  |  |
| Surveillance + SRS | ST6000VX011 | 6TB | SATA 6Gb/s | VN02 | V | V |  |  |
| ST5000VX011 | 5TB | SATA 6Gb/s | VN02 | V | V |  |  |
| ST4000VX002 | 4TB | SATA 6Gb/s | CV13 | V | V |  |  |
| ST3000VX005 | 3TB | SATA 6Gb/s | CV11 | V | V |  |  |
| ST2000VX005 | 2TB | SATA 6Gb/s | CV11 | V | V |  |  |
| ST1000VX005 | 1TB | SATA 6Gb/s | CV11 | V | V |  |  |
| Enterprise NAS | ST6000VN0001 | 6TB | SATA 6Gb/s | AN02 | V | V |  |  |
| ST5000VN0001 | 5TB | SATA 6Gb/s | AN02 | V | V |  |  |
| Enterprise NAS+SRS | ST6000NV011 | 6TB | SATA 6Gb/s | AN02 | V | V |  |  |
| ST5000NV011 | 5TB | SATA 6Gb/s | AN02 | V | V |  |  |
| **WD** | Purple Series | WD60PURX | 6TB | SATA 6Gb/s | 0A80 | V | V | V | V |
| WD40PURX | 4TB | SATA 6Gb/s | 80.0 | V | V |  | V |
| WD30PURX | 3TB | SATA 6Gb/s | 80.0 | V | V |  |  |
| WD20PURX | 2TB | SATA 6Gb/s | 80.0 | V | V |  |  |
| WD10PURX | 1TB | SATA 6Gb/s | 01.01A01 | V | V |  |  |

Some listed devices may not be available, please check with your local vendors.

\*Newly tested compatible hard drive models

**Desktop**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Vendor** | **Family** | **Model** | **Capacity** | **Interface** | **Firmware** | **Tested Model** | | | |
| **NS-1040**  **NS-1080** | **NS-8060** | **NS-8065** | **NP-8160** |
| **HITACHI** | [Deskstar 7K1000.D](http://www.hitachigst.com/internal-drives/deskstar/deskstar-7k1000d) | HDS721010DLE630 | 1TB | SATA 6Gb/s | 5R0 | V | V |  |  |
| Deskstar 7K3000 | HDS723030ALA640 | 3TB | SATA 6Gb/s | MKAO | V |  |  |  |
| HDS723020BLA642 | 2TB | SATA 6Gb/s | MN6O | V |  |  |  |
| HDS723015BLA642 | 1.5TB | SATA 6Gb/s | MN6O | V |  |  |  |
| **SEAGATE** | Barracuda 7200.11 | ST31500341AS | 1.5TB | SATA 3Gb/s | CC1H | V |  |  |  |
| Barracuda 7200.12 | ST31000528AS | 1TB | SATA 3Gb/s | CC38 | V |  |  |  |
| ST3500413AS | 500GB | SATA 3Gb/s | CC35 | V |  |  |  |
| Barracuda 7200.14 | ST3000DM001 | 3TB | SATA 6Gb/s | CC46 | V |  |  |  |
| ST2000DM001 | 2TB | SATA 6Gb/s | CC46 | V |  |  |  |
| ST1000DM003 | 1TB | SATA 6Gb/s |  | V |  |  |  |
| Barracuda LP | ST31500541AS | 1.5TB | SATA 3Gb/s | CC34 | V | V |  |  |
| Barracuda XT | ST33000651AS | 3TB | SATA 6Gb/s | CC45 | V | V |  |  |
| ST32000641AS | 2TB | SATA 6Gb/s | CC13 | V |  |  |  |
| **WD** | WD Caviar Black | WD2002FAEX | 2TB | SATA 6Gb/s | 05.0 | V |  |  |  |
| WD1002FAEX | 1TB | SATA 6Gb/s | 05.0 | V | V |  |  |
| WD Red  NAS Hard Drives | WD30EFRX | 3TB | SATA 6Gb/s | 80.0 | V | V |  |  |
| WD20EFRX | 2TB | SATA 6Gb/s | 80.0 | V |  |  |  |
| WD10EFRX | 1TB | SATA 6Gb/s | 01.0 | V |  |  |  |

Some listed devices may not be available, please check with your local vendors.

**[2.5-inch Hard Drives] For 1bay device only**

**Enterprise**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Vendor** | **Family** | **Model** | **Capacity** | **Interface** | **Firmware** |
| **WD** | WD AV-25 | WD 10JUCT | 1TB | SATA 3Gb/s | 01.0 |
| WD5000LUCT | 500GB | SATA 3Gb/s | 01.0 |

Some listed devices may not be available, please check with your local vendors.

1. **Monitor Support**

|  |  |
| --- | --- |
| **Output Source** | **Resolution** |
| HDMI  VGA | 1024x768, 60Hz  1280x720, 60Hz  1280x1024, 60Hz  1920x1080, 60Hz  2560x1440, 60Hz  3840x2160, 60Hz |

We improve HDMI compatibility in FW v1.1.2.

1. HDMI cable should be HDMI certificated, and its signal transmission quality depends on the diameter of wire (AWG) and the length of cable. If the length of your HDMI/VGA cable is over 1M, add a “repeater” to strengthen the signal.
2. When the UI/video image isn’t at the correct location, correct it by the “auto adjust” function on the monitor or adjust it manually.
3. If encountering display issue, please use remote control to press the “10+” button, release it and press the “.” button to switch monitor resolution (switching sequence: auto (default) → 1024x768 → 1280x720 → 1280x1024 → 1920x1080 → 3840x2160(Only NVRsolo Plus support)). If it fails, please check the signal out via PC to make sure monitor is under standard regulations.
4. **Touch Panel Support**

|  |  |
| --- | --- |
| **Vendor** | **Model** |
| **Acer** | T232HL |
| **ViewSonic** | TD2220 |

1. **UPS Support**

|  |  |
| --- | --- |
| **Vendor** | **Model** |
| **APC** | APC Smart-UPS XL 3000VA (SUA3000XL) |
| **APC** | APC Back-UPS ES 500VA (BE500TW) |

1. **DAS Support**

|  |  |  |  |
| --- | --- | --- | --- |
| **Vendor** | **Model** | **Host Interface** | **HDD** |
| **Promise** | SmartStor DS4600 | eSATA | SATA |

1. **UPnP Router (auto port-forwarding)**

|  |  |
| --- | --- |
| **Vendor** | **Model** |
| **D-Link** | DIR-300 |

**Note: This is the model we tested for auto port-forwarding function. Basically, all router possess UPnP function should be compatible.**

1. **Joystick Support**

|  |  |
| --- | --- |
| **Vendor** | **Model** |
| **Axis** | T8311 |
| **Axis** | 295 |
| **Logitech** | Attack 3 |

**Note: NUUO supports all the models of joysticks that are compatible with Windows.**

**Supported functions:**

|  |  |
| --- | --- |
| **Type** | **Function** |
| **View & Camera** | Goto View #  Goto Previous Camera  Goto Next Camera |
| **Screen Layout Switch** | Switch Screen Layout  Toggle Single Camera View  Toggle Full Screen |
| **PTZ Control** | Goto Preset Point #  Zoom Out  Zoom In  Start/Stop Patrol |

1. **Web Browser**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Web** | **Internet Explorer 8 (32 bit)** | | | | |  |  | |
| **OS** | Windows XP-SP3 32 bit | | Windows 2003-SP2 | Windows Vista-SP2 | Windows 7 32/64 bit | Windows 8  32/64 bit | | Windows 10  32/64 bit | |
| **PASS/FAIL** | PASS | | X | X | PASS | - | | - | |
| **Web** | **Internet Explorer 9 (32 bit)** | | | | |  |  | |
| **OS** | Windows XP-SP3 32 bit | | Windows 2003-SP2 | Windows Vista-SP2 | Windows 7 32/64 bit | Windows 8  32/64 bit | | Windows 10  32/64 bit | |
| **PASS/FAIL** | - | | X | X | PASS | - | | - | |
| **Web** | **Internet Explorer 10 (32 bit)** | | | | |  |  | |
| **OS** | Windows XP-SP3 32 bit | | Windows 2003-SP2 | Windows Vista-SP2 | Windows 7 32/64 bit | Windows 8  32/64 bit | | Windows 10  32/64 bit | |
| **PASS/FAIL** | - | | - | - | PASS | PASS | | - | |
| **Web** |  | **Internet Explorer 11** | | | | | | | |
| **OS** | Windows XP-SP3 32 bit | | Windows 2003-SP2 | Windows Vista-SP2 | Windows 7 32/64 bit | Windows 8/8.1  32/64 bit | | Windows 10  32/64 bit | |
| **PASS/FAIL** | - | | - | - | PASS | PASS | | Pass | |
| **Web** | **Chrome\*** | | | | |  |  | |
| **OS** | Windows XP-SP3 32 bit | | Windows 2003-SP2 | Windows Vista-SP2 | Windows 7  64 bit | Windows 8  64 bit | | Windows 10  64 bit | |
| **PASS/FAIL** | - | | - | - | PASS | PASS | | Pass | |
| **Web** | **Safari v6.1\*** | | | | |  |  | |
| **OS** | MAC OS X 10.6 | | MAC OS X 10.7 | MAC OS X 10.8 | - | - | |  | |
| **PASS/FAIL** | - | | PASS | PASS | - | - | |  | |
| **Web** | **Safari v7.0\*** | | | | |  |  | |
| **OS** | MAC OS X 10.6 | | MAC OS X 10.7 | MAC OS X 10.8 | - | - | |  | |
| **PASS/FAIL** | - | | PASS | PASS | - | - | |  | |

-: not available

X: not compatible

\*Below functions are not supported on Safari or Chrome.

* POS
* Fisheye dewarp

**9.ezNUUO**

ezNUUO is supported on Windows Internet Explorer and Windows Chrome only. It is not supported on Mac Safari.

1. **FTP**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **OS** | Windows XP-SP3 32 bit | Windows 2003-SP2 | Windows Vista-SP2 | Windows 7 32/64 bit | Windows 8  32/64 bit |
| **PASS/FAIL** | PASS | X | X | PASS | PASS |

X: not compatible

1. **Remote Client**

Remote PC System Requirements

|  |  |
| --- | --- |
| **Remote PC Minimum Requirements** | |
| **OS Supported** | Windows XP 32 bit, Windows 7 32/64 bit, Windows 8 32/64 bit, Win10 32/64-bit |
| **CPU** | Intel Core 2 Duo, 2.6GHz |
| **RAM** | 1GB |
| **User Interface** | HTTP Web browser - Internet Explorer 8, 9, 10,11 (32 bit)  NUUO client application program |