User Guide (Ver. 1.3)
Models: N4/8NSL

4/8 Channel Network Video Recorder

About This User’s Guide
Before operating the unit, please read this user’s guide thoroughly and retain it for future reference.
Cautions

Explanation of Graphical Symbols

This symbol indicates the presence of important operating and maintenance (servicing) instructions in the literature accompanying the product.

This symbol indicates the presence of “dangerous voltage” within the product’s enclosure that may be of sufficient magnitude to constitute a risk of electric shock, property damage, personal injury, or death.

WARNING
To reduce a risk of fire or electric shock, do not expose this product to rain or moisture.

CAUTION
Changes or modifications not approved by the manufacture will void the warranty of the product. Using an incompatible battery may increase the risk of fire or explosion. Replace only with the same or equivalent type battery recommended by the manufacture. Discard used batteries according to manufacturer’s instructions.
These precautions must be followed for safety reasons

⚠️ Warning

- Do not use if the unit emits smoke.
- Do not disassemble the unit.
- Do not place any heavy or sharp objects on the unit.
- Do not place on uneven surface.
- Do not expose to shock or vibration.
- Do not move the unit when the unit is powered on.
- Do not block, and allow dust to accumulate in the air vents.
- Do not restrict airflow of the unit; doing so can damage the unit.
- Only qualified and experienced personnel should perform installation and servicing.
- Turn off the power of the NSL when connecting Cameras, Audio Cables.
- The manufacturer is not responsible for any damage caused by improper use of the product or failure to follow instructions for the product.
- The manufacturer is not responsible for any problems caused by or resulting from the user physically opening the NSL for examination or attempting to repair the unit.
- For NSL models with the PoE Switch, it is strongly recommended that the 48V connector is inserted to the PoE Switch before the AC cable is attached to the adaptor.
# Product Components

Please make sure the following components are included as specified below.

<table>
<thead>
<tr>
<th>Desktop: N4NSL / N8NSL</th>
<th><img src="image1.png" alt="Image" /></th>
</tr>
</thead>
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<tr>
<td>Remote Control</td>
<td><img src="image2.png" alt="Image" /></td>
</tr>
<tr>
<td>Battery 1.5V (AAA x 2 EA)</td>
<td><img src="image3.png" alt="Image" /></td>
</tr>
<tr>
<td>Quick Setup Guide &amp; User Guide</td>
<td><img src="image4.png" alt="Image" /></td>
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<tr>
<td>Mouse for NSL</td>
<td><img src="image5.png" alt="Image" /></td>
</tr>
<tr>
<td>Software &amp; Manual CD</td>
<td><img src="image6.png" alt="Image" /></td>
</tr>
<tr>
<td>Power Adaptor (DC48V for POE) &amp; Power cable (110V or 220V)</td>
<td>N4NSL : 1.2A, N8NSL : 2A</td>
</tr>
</tbody>
</table>
## Specifications for NSL

<table>
<thead>
<tr>
<th>MODEL NAME</th>
<th>N4NSL</th>
<th>N8NSL</th>
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</thead>
<tbody>
<tr>
<td><strong>Description</strong></td>
<td>4ch NVR with 4-PoE</td>
<td>8ch NVR with 8-PoE</td>
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</tbody>
</table>

### Video
- **Input**
  - IP Camera (Throughput): 4
  - Normal Resolution: Max. 1920x1080
  - Highest Resolution: Not Support
- **Output**
  - Main Monitor: VGA and HDMI (Max. 1920x1080)
  - Sub Monitor: None

### Audio
- **Input**
  - IP Camera (Network): 4
  - Local Input (RCA): None
- **Output**
  - Local Output (RCA): 1
  - Audio Codec: G.711

### Event
- **Sensor In**
  - IP Camera (Network): 4
  - Local Input (Terminal Block): None
  - Local Alarm Output (Terminal Block): None
- **Motion Detection (from IP Camera)**: Yes

### Serial
- **RS-232C**: None
- **RS-485**: None

### Network
- **Private (IP Camera, Auto Connection)**: 802.3af x 4
- **LAN (IP Camera, Remote Access)**: 10/100 Base-TX
- **Protocols**: TCP/IP, UDP, DHCP, HTTP, NTP, SMTP, RTP, RTSP, ONVIF
- **Streaming**: Relay of the IP Camera's Sub-stream

### Live
- **Frame Rate**: 120fps, 240fps

### Recording
- **Frame Rate**: 120fps, 240fps
- **Recording Mode**: Smart / Continuous / Motion / Sensor / Schedule / Manual
- **Pre Recording**: Max. 20 Minutes
- **Post Recording**: Max. 60 Seconds

### Playback
- **Search**: Smart Search, EZ Search, Date/Time, Event, Archive, Log
- **Multi-Decoding**: 1, 4
- **Playback Speed**: x0.25, x0.5, x2, x4, x8, x16, x32, x64

### Backup
- **Media**: USB drive, External HDD, Network
- **File Format**: BMP, AVI, Proprietary Format
- **Huge Backup**: BMP, AVI, Proprietary Format

### Storage
- **HDD**
  - Capacity of 1 HDD: 3TB
  - Internal HDDs: 1
  - e-SATA: None
  - Capacity of 1 HDD: 3TB
  - Internal HDDs: 1
  - e-SATA: None
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<th>Features</th>
<th></th>
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<td>Input Method</td>
<td>IR, Mouse</td>
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<td>Dynamic DNS</td>
<td>Yes (Free DDNS)</td>
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<tr>
<td>Digital Zoom</td>
<td>Yes</td>
<td></td>
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<tr>
<td>DLS (Day Light Saving)</td>
<td>Yes</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NTP (Network Time Protocol)</td>
<td>Yes</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>S.M.A.R.T</td>
<td>Yes</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Internal Beep</td>
<td>Yes</td>
<td></td>
<td></td>
<td></td>
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<td>Multi-Language</td>
<td>Yes</td>
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<td>e-mail Notification</td>
<td>Yes</td>
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<tr>
<td>Network Access</td>
<td>3G Mobile</td>
<td>iPad / iPhone / Android</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Web Viewer</td>
<td></td>
<td>Windows (IE, Chrome, Firefox, Safari)</td>
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<tr>
<td>PC Client</td>
<td></td>
<td>Single / Multi Client and CMS (64 channels)</td>
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<tr>
<td>Remote Setup and Upgrade</td>
<td>Yes</td>
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<td></td>
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<tr>
<td>Power</td>
<td>Power Supply Voltage</td>
<td>DC 48V 1.2A (57.6Watt)</td>
<td>DC 48V 2.0A(96Watt)</td>
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<tr>
<td>Temperature</td>
<td>Operation</td>
<td>41° F ~ 104° F (5°C ~ 40°C)</td>
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</tr>
<tr>
<td></td>
<td>Storage</td>
<td>14° F ~ 122° F (-10°C ~ 50°C)</td>
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<td></td>
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<tr>
<td>Humidity</td>
<td>Operation</td>
<td>20% ~ 80% (Non-condensing)</td>
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<tr>
<td>Dimension</td>
<td>Unit Dimension (W x H x D)</td>
<td>11.8' x 8.9' x 2.0' (300mm x 227mm x 53mm)</td>
<td></td>
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Please note that specifications and unit exterior design are subject to change without notification.
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1. Main Features

- Automatic IP Camera Detection and connection (Plug & Play)
- Easy Record, Copy and Setup
- Easy Search by Thumbnail Preview
- Easy Copy
- Easy Network
- Easy IP Camera Setup


- Covert camera operation provides enhanced security and administrator control
- Dynamically programmable recording priority, motion detection, alarms and scheduling
- Simple and Easy Graphic User Interface
- Simple Scheduler
- HDMI Output
- VGA Output
- Password to secure installation authorization
- Network software supports 10/100Mbps
- USB 2.0 port for video clip exporting and easy firmware upgrade via USB Flash Drive
2. Initial Boot-up Process

2-1. Initial Boot up and Basic Time Setup

1. During the first boot up, the following logo will be displayed.

![Logo]

2. After the logo, select the language and set date and time as specified below.

**CHOOSE LANGUAGE**

**ENGLISH**

[< PREV]  [NEXT >]  [CLOSE]

Initializing system
It may take a few seconds or minutes to check the system

90%  

Initialize Network....Done

**Select EZ Setup**

EZ Setup will help you to setup your NVR.

Please select one of the options below.

- **EZ Network for Network Setup**
- **EZ Camera for Date/Time and Camera Setup**

[< NEXT >>]  [CANCEL]
2-2. Setting up Daylight Savings Time

To enable Daylight Saving feature/NTP synchronization, take the following steps.

1. Enter the SETUP mode. The default Username is “ADMIN” and Password is “1111”.

   ![Login Setup Screen]

   2. Go to SETUP > SYSTEM > DATE & TIME SETUP

   ![System Setting Screen]

   3. Select ON from the DAYLIGHT SAVING dropdown menu.

   ![Time Zone Setting Screen]

2-3. Setting NTP (Network Time Protocol)

1. SETUP > SYSTEM > NTP SETUP > ON

   ![System Setting Screen]
2. Select the proper TIME ZONE time.

<table>
<thead>
<tr>
<th>State</th>
<th>Standard Time</th>
<th>Daylight-Saving Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>AL Alabama</td>
<td>GMT-6</td>
<td>GMT-5</td>
</tr>
<tr>
<td>AK Alaska</td>
<td>GMT-9</td>
<td>GMT-8</td>
</tr>
<tr>
<td>AK Alaska (Aleutian Islands)</td>
<td>GMT-10</td>
<td>NA</td>
</tr>
<tr>
<td>AZ Arizona</td>
<td>GMT-7</td>
<td>NA</td>
</tr>
<tr>
<td>AZ Arizona (Navajo)</td>
<td>GMT-7</td>
<td>GMT-6</td>
</tr>
<tr>
<td>AR Arkansas</td>
<td>GMT-6</td>
<td>GMT-5</td>
</tr>
<tr>
<td>CA California</td>
<td>GMT-8</td>
<td>GMT-7</td>
</tr>
<tr>
<td>CO Colorado</td>
<td>GMT-7</td>
<td>GMT-6</td>
</tr>
<tr>
<td>CT Connecticut</td>
<td>GMT-5</td>
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</tr>
<tr>
<td>DC District of Columbia</td>
<td>GMT-5</td>
<td>GMT-4</td>
</tr>
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</tr>
<tr>
<td>FL Florida</td>
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<td>GA Georgia</td>
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<td>IA Iowa</td>
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<td>MI Michigan</td>
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<td>GMT-4</td>
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<tr>
<td></td>
<td>State (Abbreviation, Location)</td>
<td>GMT</td>
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<tr>
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</tbody>
</table>

**NOTE:** If you want the unit to automatically synchronize the local time, the Time Zone must be properly set according to your local time zone.
2-4. EZ SETUP
Quick installation Menu for NSL and IP Camera Easy installation(Right-Click on the Main Screen)

![EZ Setup Screen](image)

**Figure 2.4. EZ Setup Screen**

2.4.1. Setup DATE & TIME, IP CAMERA configurations.

![EZ Camera Setup Procedure](image)

**Figure 2.4.1. EZ CAMERA Setup Procedure**

1. Select EZ Camera for Date/Time and Camera Setup, Click NEXT to proceed.
2. Description of EZ Camera Setup is displayed, Click NEXT to proceed.
3. Set up the Date/Time settings and click NEXT to get to the camera setup.
4. Configure individual cameras in the EZ Camera Setup.
   - Select the Channel to configure.
   - Select the Camera Protocol and then click on the scan button; this will scan the networks for any cameras from the particular protocol.
   - Select on the desired Camera from the list, and then check on register.
   - If necessary, click on Preview to Preview the camera, or Setup to change camera settings.
2.4.2. EZ NETWORK

Figure 2.4.2. EZ NETWORK Setup Procedure

1. Select EZ Network for Network Setup.
2. It begins to test and detect the network environment automatically.
3. DDNS hostname will be setting up.
4. If needed, edit the hostname
5. When you finish EZ network setup and close the window, it displays the result.

2.5. PoE Port SETUP

Figure 2.5.1 PoE Port (N4NSL / N8NSL)
2.5.1 Connecting the Camera

Figure 2.5.1.1 IP Camera Connection Diagram (N4NSL, N8NSL)

Figure 2.5.1.2 IP Camera Connection Diagram (NSL Series)
Table 2.5.1. Factory Default of the IP Camera

The following IP Camera settings are recommended for optimal connection with the NSL Series

<table>
<thead>
<tr>
<th>Setup Items</th>
<th>Default</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Network Type</td>
<td>DHCP</td>
<td>The IP Camera must act as a DHCP client for the “Plug and Play”.</td>
</tr>
<tr>
<td>Encoding Type</td>
<td>CBR</td>
<td>The “CBR” is recommended because of the internal buffer design of the NSL Series</td>
</tr>
<tr>
<td>Resolution</td>
<td>1280x720</td>
<td>The maximum performance of the N8NSL is 1080p@240fps or 720p@240fps. To get higher frame rates per channel, 1280x720 is the recommended resolution.</td>
</tr>
<tr>
<td>Frame Rate</td>
<td>25fps</td>
<td>The maximum performance of the N8NSL is 720p@240fps. Therefore 30fps per channel is recommended. (30fps x 8 = 240fps)</td>
</tr>
<tr>
<td>Bit Rate</td>
<td>2Mbps</td>
<td>The maximum throughput of the N8NSL is 40Mbps. Therefore 2Mbps per channel is recommended. (4Mbps x 8 = 32Mbps)</td>
</tr>
<tr>
<td>Sub Stream</td>
<td>CIF 512Kbps</td>
<td>For “Dual Streaming”, the sub stream should be turned on. And for the proper streaming through the WAN connection, CIF@512Kbps or lower bitrates per channel is recommended.</td>
</tr>
</tbody>
</table>

- The NSL Series features a "Plug and Play" function with a PoE Switch.
- The “Plug and Play” functionality requires the IP Camera to be in DHCP mode.
- The NSL automatically assigns an IP Address to the IP Camera. (10.20.30.11 ~ 10.20.30.254)
- The NSL models will automatically map the camera on the PoE Port to the corresponding NVR channel number.
- The NSL PoE Port maximum power consumption
  - [N4NSL – 57.6Watt, N8NSL-96Watt]

Figure 2.5.1.2. Incorrect connection with the PoE Ports

With the NSL Models, it is prohibited to connect a router to the POE Ports to connect the IP Camera, the NSL will not be able to find and connect to the camera. The LAN Port can be connected to a router, but not the PoE Ports.
2-6. IP Camera SETUP (through Web Viewer page)

NSL Series allow remote access to the IP Cameras through an "IP Camera Setup" menu. The PC Web Client features the "IP Camera Setup" menu that can be accessed remotely.

① Click the mouse right button
② Select “IP Camera Setup”.
③ Select Channel Number.
④ It launches the camera’s web setup page.

In order for the web pages to launch from the “IP Camera Setup” menu when accessed from the WAN, Ports 59011 to 59254 on the router must be port forwarded to the NVR. The local address of the NVR can be found in the system information.

2-7. Dual Streaming

- High Quality (Main Profile) Video Stream is used for both Recording and Live Display.
- High Quality (Main Profile) Video Stream can be viewed through the network, when selected.
- Normal (Secondary) Quality Video Stream is used by default when viewing through the network.
3. Front and Rear Panels

3-1. Desktop Front Panel

![Desktop NSL Front panel](image)

**Table 3.1.1. Front LED and Port of NSL**

<table>
<thead>
<tr>
<th>Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>POWER</td>
<td>LED light is on when power is applied to the system.</td>
</tr>
<tr>
<td>HDD</td>
<td>LED light is on when the system is recording video data.</td>
</tr>
<tr>
<td>USB Port</td>
<td>This USB port for archiving footage into a USB device. (USB 2.0)</td>
</tr>
</tbody>
</table>

3-2. Connectors

- Do not power this system on before all the connections are completed.
- Make sure all the connections are properly secured. Faulty connection may result in the system being damaged.

![Connectors for NSL](image)

- **Power Switch:** Use for power on/off.
- **POWER:** DC48V input.
- **PoE PORT:** N4NSL (4 Port PoE-57.6Watt), N8NSL (8 Port PoE-96Watt)
- **WAN PORT:** Network Port for Internet
- **AUDIO OUTPUT:** 1 Connector for Audio Output
- **USB PORT:** Connector for USB Mouse or USB flash memory.
3-3. Remote Control

- **HDMI OUT:** HDMI output port, Connector to the HDMI Monitor, (1280x720, and 1920x1080).
- **VGA OUT:** Connector for VGA Monitor, Main Video Output.

![Remote Controller Button](image)

**Figure 2.3.1. Remote Controller Button**

1. **ID:** To set the remote control ID.
2. **REC:** To start and stop manual recording
3. **SEARCH:** To go to SEARCH menu.
4. **F/ADV:**
   - During playback – To move the playback position 60 seconds forward.
   - During Pause – To move the playback position moves 1 frame forward
5. **F/REW:**
   - During playback – To move the playback position 60 seconds back.
   - During Pause – To move the playback position 1 frame back.
6. **FF:** To fast forward the recording.
7. **PLAY/PAUSE:** To play or to pause the recording in playback mode
8. **REW:** To rewind the recording.
9. **ESC:**
   - During setup – To return to the previous menu screen.
   - During Playback – To exit playback mode
   - **System lock:** To lock a system when pressing ESC button for 5 seconds.
   - **System unlock:** To unlock a system when pressing ESC button for 5 seconds.
10. **SETUP:** To open the SETUP menu.
11. **Direction buttons:** To move menu items or select a channel.
12. **SEQ:** To start auto sequencing the screen in full screen mode. (Toggle)
13. **BACKUP:** To start a backup operations in live or playback mode
14. **0~9:** To select channel (1,2,3,..) or to enter a DVR ID number or use as number key.
4. Setting up the NSL

The following sections detail the initial setup of the NSL.

⚠️ Menu screen will close if user input is not received within 5 minutes.

4-0. Setup – Main Live Screen

To enter the setup menu, right click on the mouse and select setup from the submenu or press the setup button on the remote control.

Table 4.0.1. Live Screen and Quick Operation Window

When the NS prompts the LOG-IN window, enter the PASSWORD using the virtual keyboard, or the front panel, or the remote control. For ADMIN, the factory default password is 1111. It is highly recommended to assign a new password to protect the system. User can assign a new password in SECURITY setup menu.
4-1. Setup – IP CAMERA

Press the SETUP button and enter the password. The IP Camera setup menu is displayed below.

![IP Camera Setup Menu](image)

**Figure 4.1.1. IP Camera mode setup screen**

<table>
<thead>
<tr>
<th>Table 4.1.1. Menu items in IP CAMERA mode setup</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Item</strong></td>
</tr>
<tr>
<td><strong>CHANNEL</strong></td>
</tr>
</tbody>
</table>

Under the column labeled Type, Select IP Camera Manufacturer. Double Click to Scan

**SCAN:** Double click the empty box to search IP camera on the local network.
IP: Enter the address of IP camera to connect, or select from scanned list.
PORT: Enter the port number of IP camera to connect
WEB PORT: Enter the web port number of IP camera to connect
OTHERS: Change the IP camera setting. Double click the empty box and then Log-In box will be pop-up. (Enter ID and PASSWORD of IP Camera)

<table>
<thead>
<tr>
<th>PROTOCOL</th>
<th>Select the protocol for the IP Camera.</th>
</tr>
</thead>
<tbody>
<tr>
<td>SCAN</td>
<td>Automatic IP Camera search on the local network.</td>
</tr>
<tr>
<td>IP</td>
<td>Set up IP camera address.</td>
</tr>
<tr>
<td>PORT</td>
<td>Set up the RTSP port of the IP Camera (default: 554)</td>
</tr>
<tr>
<td>WEB PORT</td>
<td>Set up the web port of IP Camera (default: 80)</td>
</tr>
<tr>
<td>ID</td>
<td>Enter ID of IP CAM</td>
</tr>
<tr>
<td>PASSWORD</td>
<td>Enter the PASSWORD of IP CAM</td>
</tr>
</tbody>
</table>
4-1-1. SCAN Menu

Scan for IP Cameras on network using ONVIF/SPECO protocols.

Figure 4.1.2 IP CAMERA Setup Screen

Figure 4.1.3 Left Image using ONVIF Protocol SCAN, Right Image using SPECO Protocol SCAN

Figure 4.1.4 ONVIF Protocol Profile SCAN Image

1. Select the protocol used by the IP Camera and then click the scan button.
2. Select the IP Camera from the list and then click the register button.
3. After registering, the basic information is displayed.
4. IP cameras using ONVIF protocol require ID, Password and Profile to be correctly entered for proper operation.
5. SPECO protocols only require ID and Password to be correctly entered for proper operation. IP cameras using ONVIF protocol can have their Video, Network and System settings accessed and updated using the ONVIF setup menu.

(ONVIF Setup Menu may not be accessible depending on the ONVIF version used by the IP camera.)
4-1-2. ONVIF SETUP Menu

The NSL Series can search for IP Cameras that are conformant to ONVIF (Open Network Video Interface Forum). In order to search for ONVIF Cameras, the field associated with VENDOR has to be set to ONVIF. Click on the Box associated with SCAN to scan the networks for ONVIF Conformance cameras.

![Figure 4.1.2 IP CAMERA Setup Screen (ONVIF)](image1)

![Figure 4.1.4 ONVIF Camera Scan Window](image2)

![Figure 4.1.5 ONVIF Profile Scan Window](image3)

1. Select ONVIF for Vendor and click the SCAN button.
2. Select the camera on the list and then click the register button.
3. Then, PROFILE and ONVIF setting button will be displayed on the menu. Click PROFILE button and then the detail information of ONVIF will be searched and listed. (If the camera is not on the list, then the ONVIF protocol of the IP CAM is not compatible with the NVR and there not supported.)
④ Double click the listed profile to apply.
⑤ Enter ID and PASSWORD of IP CAM. Registration is completed.

Figure 4.1.6 ONVIF Setup Window
Under ONVIF Setup, the following can be viewed and changed: VIDEO, NETWORK, SYSTEM settings.

<table>
<thead>
<tr>
<th>Menu Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>VIDEO</td>
<td>Video, Encoder to view and change to audio settings.</td>
</tr>
<tr>
<td>NETWORK</td>
<td>View and change Network settings.</td>
</tr>
<tr>
<td>SYSTEM</td>
<td>System information and change your password, factory reset and the camera is rebooting.</td>
</tr>
</tbody>
</table>
4-2. Setup – SYSTEM

In the SETUP menu, select the SYSTEM tab. Then, the SYSTEM menu is displayed as pictured below. Navigate through the menu items or change the settings using the mouse or the remote control.

![SYSTEM Setup Screen](image)

**Figure 4.2.1. SYSTEM Setup Screen**

<table>
<thead>
<tr>
<th>Table 4.2.1. Menu Items in SYSTEM Setup Screen</th>
</tr>
</thead>
<tbody>
<tr>
<td>Item</td>
</tr>
<tr>
<td>DESCRIPTION</td>
</tr>
<tr>
<td>LANGUAGE</td>
</tr>
<tr>
<td>DATE DISPLAY FORMAT</td>
</tr>
<tr>
<td>DATE &amp; TIME SETUP</td>
</tr>
</tbody>
</table>

Select DAYLIGHT SAVINGS using the mouse or the remote control and select the appropriate daylight savings time zone. The options are:

**OFF**: Daylight saving is turned off.

**USA**: Applies the USA daylight saving time.
EU: Applies the EU daylight saving time.
   - Select the GMT AREA using the mouse or the remote control.
   - Set the time difference with the standard time using the mouse or the button.

OTHERS: If the time zone is neither USA nor EU, set the date and time of the daylight saving period.
   - Select BEGIN or END.
   
   Caution
   - Do not set the start time to 23:00 for DLS.
   - DLS cannot be applied if the date of BEGIN and END is the same.

CLIENT ACCESS
Enable/Disable remote access through the network.

NTP SETUP
NTP (Network Time Protocol) which synchronizes the time of the computer systems over variable-latency data networks.

| PRIMARY SNTP SERVER | Pool.ntp.org |
| SECONDARY SNTP SERVER | Time.nist.gov |
| TIME ZONE | GMT +5:00 (Montreal/New York) |
| CONNECTION MODE | TIME |
| CONNECTION PERIOD | 03:00 AM |

PRIMARY SNTP SERVER: Input the address of the primary NTP time-server.
SECONDARY SNTP SERVER: Input the address of the secondary NTP time-server.
TIME ZONE: NTP synchronizes with GMT (Greenwich Mean Time) regardless of geography; user must select time difference from GMT.
CONNECTON MODE: Select the NTP time-server connection mode from TIME, INTERVAL, and ONCE.

CONNECTION PERIOD
   - TIME – Refresh the time at the designated time (e.g. 1AM)
   - INTERVAL – Every 1 hour ~ 24 hours
   - ONCE – Synchronizes time only once. NTP will not synchronize unless the Connection Mode is changed.

NSL sends E-MAIL Notification when the NTP server time is faster than the system time with below message.
*NTP server time is faster than the system time.
In this case, NTP server time is ignored to protect the user data.
User must set the time manually.
SERVER TIME: Mon Oct 10 13:33:12 2011
ID: NS
IP ADDRESS: 172.16.2.46
SEND EMAIL

SERVER TYPE: Select GMAIL, HOTMAIL, AOL, YAHOO or MANUAL)

MAIL SERVER: Enter the appropriate mail server information.
MAIL PORT: Assign Mail Port number.
SECURE OPTION: Select the secure mail server connection method. (SSL or TLS)
ID: Enter the appropriate mail server ID.
PASSWORD: Enter the appropriate mail server PASSWORD
MAIL TO: Enter the appropriate email address to enable sending e-mail reports using a virtual keyboard.
MAIL FROM: To set the email address sent to the destination host.
TEST: E-mail settings sent a test mail to the registered account

UNIT NAME
Name the NS (e.g. Factory)
This feature is to identify the name of the NS under the same network.

SYSTEM
RESTART
SYSTEM
SHUTDOWN
EZ SETUP
Quick installation Menu for NSL and IP Camera Easy installation

SYSTEM
EVENT
NOTIFICATION

HEALTH CHECK – OFF, ON
(Allows the user to set MAIL STATUS periodically) : DAILY or WEEKLY or MONTHLY

<table>
<thead>
<tr>
<th>PERIOD</th>
<th>DAILY</th>
<th>FIRST</th>
<th>SUN</th>
<th>0 H</th>
<th>OK</th>
<th>CANCEL</th>
</tr>
</thead>
</table>

EVENT AND NOTIFICATION – OFF, ON

HEALTH CHECK / RESTART / SHUTDOWN / PANIC RECORD
- Enable Email Notification in the event a problem occurs.

MOTION DETECTION – Enable Email Notification when the camera detects motion.

NO CONNECTION – Enable Email, Beep and Alarm output Notification when the camera signal is lost.

HDD TEMPERATURE – Enable Email, Beep and Alarm output Notification when the HDD temperature.

HDD BAD SECTORS – Enable Email Notification when the HDD has bad Sectors.

HDD ALMOST FULL – Enable Email Notification when the HDD is almost full

HDD FULL – Enable Email Notification when the HDD is full

HDD FAILURE – Enable Email, Beep and Alarm output Notification when the HDD fails.

4-3. Setup – RECORD Mode
In the SETUP menu, select the RECORD tab. Then, the RECORD menu is displayed as pictured below. Navigate through the menu items or change the settings using the mouse or the remote control.

![Figure 4.3.1. RECORD Setup Screen](image-url)
### Table 4.3.1. Menu Items in RECORD Setup Screen

<table>
<thead>
<tr>
<th>Menu Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>SITE</td>
<td>Select a channel for applying the following settings using the mouse or the remote control. To change the values of all channels, take the following steps. Select the button <img src="image" alt="button" /> to change the values of all channels.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Site</th>
<th>Recording Mode</th>
<th>Pre Record</th>
<th>Post Event Rec</th>
<th>Audio</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Continuous</td>
<td>1 MIN(S)</td>
<td>10 SEC(S)</td>
<td>Off</td>
</tr>
<tr>
<td>2</td>
<td>Continuous</td>
<td>1 MIN(S)</td>
<td>10 SEC(S)</td>
<td>Off</td>
</tr>
<tr>
<td>3</td>
<td>Continuous</td>
<td>1 MIN(S)</td>
<td>10 SEC(S)</td>
<td>Off</td>
</tr>
<tr>
<td>4</td>
<td>Continuous</td>
<td>1 MIN(S)</td>
<td>10 SEC(S)</td>
<td>Off</td>
</tr>
<tr>
<td>5</td>
<td>Continuous</td>
<td>1 MIN(S)</td>
<td>10 SEC(S)</td>
<td>Off</td>
</tr>
<tr>
<td>6</td>
<td>Continuous</td>
<td>1 MIN(S)</td>
<td>10 SEC(S)</td>
<td>Off</td>
</tr>
<tr>
<td>7</td>
<td>Continuous</td>
<td>1 MIN(S)</td>
<td>10 SEC(S)</td>
<td>Off</td>
</tr>
<tr>
<td>8</td>
<td>Continuous</td>
<td>1 MIN(S)</td>
<td>10 SEC(S)</td>
<td>Off</td>
</tr>
</tbody>
</table>

- **RECORDING** Assign the recording mode for the selected channel.
  - Options are: Continuous, Motion, Schedule or Disable.
- **SENSOR RECORDING** Select the sensor setting for the selected channel.
- **PRE RECORD** Sensor recording only works with alarm contacts on the IP camera.
- **POST EVENT RECORD** Enable/disable pre-event recording. Pre-event recording time is up to 20 minutes.
- **AUDIO** Enable/disable audio recording for the specified channel.
  - Works with audio contacts on the IP Camera.
- **SCHEDULE** Set the recording schedule.

32
4-3-1. Recording Schedules

To setup a recording schedule, select SCHEDULE in the RECORD menu. Navigate through the menu items or change the settings using the mouse or the remote control.

Select CHANNEL > select NONE, CONTINUOUS or MOTION > Highlight area

To copy a schedule to a different channel, select the channel from the COPY SCHEDULE menu.

Figure 4.3.2. Schedule Recording Setup Screen

- **NONE**: Disable recording during selected timeframe (Highlighted in White)
- **CONTINUOUS**: CONTINUOUS recording (Highlighted in Green)
- **MOTION**: MOTION recording (Highlighted in Yellow)
- **SENSOR**: SENSOR recording (Highlighted in Red)
- **CLEAR**: Clears the schedule.
4-4. Setup – DEVICE Mode

In the SETUP menu, select the DEVICE tab. Then, the device menu is displayed as pictured below. Navigate through the menu items or change the settings using the mouse or the remote control.

![DEVICE Setup Screen](image)

**Figure 4.4.1. DEVICE Setup Screen**

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>BEEP DURATION</strong></td>
<td>Set beep dwell time from 5 to 60 seconds or infinite.</td>
</tr>
<tr>
<td><strong>DIGITAL DETERRENT</strong></td>
<td>Setup schedule and audio recordings for Digital Deterrent.</td>
</tr>
<tr>
<td><strong>SITE</strong></td>
<td>Select specified channel for motion zone setup.</td>
</tr>
<tr>
<td><strong>MOTION ZONE</strong></td>
<td>Select either Full Zone or Partial Zone for motion detection.</td>
</tr>
<tr>
<td><strong>MOTION SENSITIVITY</strong></td>
<td>Set the motion sensitivity for the selected channel.</td>
</tr>
<tr>
<td></td>
<td>Control the motion sensitivity from 1 to 9.</td>
</tr>
<tr>
<td></td>
<td>(9 – Highest sensitivity, 1 – Lowest sensitivity)</td>
</tr>
<tr>
<td><strong>KEY TONE</strong></td>
<td>Enable/disable key tone from front panel usage.</td>
</tr>
<tr>
<td><strong>REMOTE CONTROL ID</strong></td>
<td>Set the remote control ID.</td>
</tr>
<tr>
<td></td>
<td>1. Select ID.</td>
</tr>
<tr>
<td></td>
<td>2. Input the remote control ID number.</td>
</tr>
<tr>
<td></td>
<td>3. An icon will indicate on the Live Screen if the remote control ID is synchronized.</td>
</tr>
<tr>
<td></td>
<td>The options are from 0 to 9</td>
</tr>
</tbody>
</table>
4-4-1. Digital Deterrent

Trigger audio message via motion detection or sensor.

![Digital Deterrent setup screen](image)

Figure 4.4.2. Digital Deterrent setup screen

**Table 4.4.2. Item for Digital Deterrent Setup Screen**

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>IMPORT FROM USB</td>
<td>Import up to 8 sound files from USB.</td>
</tr>
<tr>
<td>EXPORT TO USB</td>
<td>Export the sound file to USB</td>
</tr>
<tr>
<td>RECORD</td>
<td>Select a channel and set up the date and the duration.</td>
</tr>
<tr>
<td></td>
<td>And, select the sound file to play.</td>
</tr>
<tr>
<td>SCHEDULE</td>
<td>Schedule the sound file considering the expected situation.</td>
</tr>
</tbody>
</table>

![Schedule screen](image)
4-4-2. Motion Zone Setup

Select MOTION ZONE using the mouse or the remote control and select either PARTIAL ZONE or FULL ZONE using the mouse control. The default value is FULL ZONE.

If FULL ZONE is selected, the motion zone grid screen is not displayed. Only set the level of sensitivity for MOTION SENSITIVITY.

**FULL ZONE:** The motion sensor is active on the whole screen.

**PARTIAL ZONE:** The motion sensor is active in the set detection frame.

Select the motion detection position using the mouse or the remote control. Then left click on the mouse or left click and drag the mouse pointer to select or deselect the area. Highlighted area indicates the partial motion detection zone. Press the ESC button or right click on the mouse to return to the previous menu.

![Figure 4.4.4: Motion Zone Grid Screen](image-url)
4-5. Setup – DISPLAY Mode
In the SETUP menu, select the DISPLAY tab. Then, the DISPLAY menu is displayed as pictured below. Navigate through the menu items or change the settings using the mouse or the remote control. To return to the previous setup menu screen, press the ESC button.

![DISPLAY Menu](image)

Figure 4.5.1. DISPLAY Setup Screen

<table>
<thead>
<tr>
<th>Table 4.5.1. Menu Items in DISPLAY Setup Screen</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Item</strong></td>
</tr>
<tr>
<td>OSD</td>
</tr>
<tr>
<td>OSD CONTRAST</td>
</tr>
<tr>
<td>MAIN MONITOR SEQUENCE</td>
</tr>
<tr>
<td>SEQUENCE</td>
</tr>
<tr>
<td>SITE</td>
</tr>
<tr>
<td>NAME</td>
</tr>
<tr>
<td>COVERT</td>
</tr>
<tr>
<td>VIDEO OUTPUT</td>
</tr>
</tbody>
</table>
4-6. Setup – NETWORK Mode
Select the NETWORK tab. Then, the network menu is displayed as pictured below. Navigate through the menu items or change the settings using the mouse or the remote control.

![NETWORK Setup Screen](image)

**Figure 4.6.1. NETWORK Setup Screen**

Table 4.6.1. Menu Items in NETWORK Setup Screen

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>NETWORK TYPE</td>
<td><strong>DHCP:</strong> ZS will automatically retrieve an IP address.</td>
</tr>
<tr>
<td></td>
<td><strong>STATIC:</strong> Network information must be manually configured.</td>
</tr>
<tr>
<td>IP</td>
<td>Enter IP address that is assigned</td>
</tr>
<tr>
<td>SUBNET MASK</td>
<td>Enter Subnet Mask that is assigned</td>
</tr>
<tr>
<td>GATEWAY</td>
<td>Enter Gateway that is assigned</td>
</tr>
<tr>
<td>DNS (PRIMARY)</td>
<td>Enter Primary DNS address that is assigned</td>
</tr>
<tr>
<td>DNS (SECONDARY)</td>
<td>Enter Secondary DNS address that is assigned</td>
</tr>
<tr>
<td>DDNS</td>
<td>Dynamic Domain Name System (DDNS) allows a DNS name to be</td>
</tr>
<tr>
<td></td>
<td>constantly synchronized with a dynamic IP address. In other words, it</td>
</tr>
<tr>
<td></td>
<td>allows using a dynamic IP address to be associated with a static domain</td>
</tr>
<tr>
<td></td>
<td>name so others can connect to it by the static name.</td>
</tr>
<tr>
<td></td>
<td>Enable/disable using domain name address through DDNS server.</td>
</tr>
<tr>
<td>NETWORK PORT</td>
<td>Enter the port number.</td>
</tr>
<tr>
<td>NETWORK AUDIO PORT</td>
<td>Display the network audio port (NETWORK PORT + 1).</td>
</tr>
<tr>
<td>WEB PORT</td>
<td>Enter the port number for connection using web.</td>
</tr>
</tbody>
</table>
4-6-1. Network Types

4-6-1-1. DHCP
An IP address is automatically assigned by the DHCP server, which automatically assigns the IP address and other parameters to new devices.

4-6-1-2. STATIC
IP address, Subnet Mask, Gateway, and DNS are manually assigned by the user.
- **IP ADDRESS:** The fixed IP address of the NSL unit.
- **SUBNET MASK:** The subnet mask for the LAN.
- **GATEWAY:** The IP address of the Gateway.
- **DNS (PRIMARY):** The primary address of Domain Name Server
- **DNS (SECONDARY):** The secondary address of Domain Name Server

⚠️ **NOTE**
Unless DNS is properly set, the DDNS and the e-mail features will not work.

4-6-2. DDNS
DDNS (Dynamic Domain Name System) allows a DNS name to be constantly synchronized with a dynamic IP address. It allows using a dynamic IP address to be associated with a static domain name.

Once the setting is completed, the DDNS address will be:
http://hostname.ddns.specoddns.net
For example, if you enter the host name as “NS”, then the address will be:
http://NS.ddns.specoddns.net
Select NETWORK>DDNS. The menu displays as below.

![Figure 4.6.2. NETWORK Setup Screen – DDNS](image)

### Table 4.6.2. DDNS

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENABLE DDNS</td>
<td>Turn DDNS on/off</td>
</tr>
<tr>
<td>HOST NAME</td>
<td>This item allows the user to setup a domain name manually, using virtual keyboard displays as shown.</td>
</tr>
<tr>
<td>SUBMIT/UPDATE</td>
<td>When manual host name input is done, move the cursor to this item and select ON to submit the settings.</td>
</tr>
<tr>
<td>ezDDNS</td>
<td>Enable/disable ezDDNS to register the host name automatically.</td>
</tr>
</tbody>
</table>
4-6-3. Network Port and Web Port
Connecting NSL through a common IP sharing device, each NSL must be assigned a unique TCP port number for access from outside the LAN. This port number is displayed on NETWORK>NETWORK PORT Setup MENU.

NOTE:
If you access the NSL only within the same LAN, the TCP port number does not need to be changed.

Network access beyond a router
To access NSL beyond a router (firewall), you must open the proper TCP ports for live/playback streaming, for commands, for remote backup, and for audio streaming. If these ports are not opened properly, you can’t access the NSL beyond a router.

- **For live/playback streaming, for commands, for remote backup**: Open the port number on NETWORK>NETWORK PORT menu. The default port number is 5445.
- **For bi-directional audio**: Open the port number on NETWORK AUDIO PORT. The default port number is [NETWORK PORT number + 1].
- **For web-viewer downloading and remote firmware upgrading**: Open the port number on NETWORK>WEB PORT menu. The default port number is 80.
- **For IP Camera Setup through web viewer**: Forward ports 59011 ~ 59254 to the NVR.

4-7. Setup – USER MANAGEMENT Mode
In the SETUP menu, select the USER MANAGEMENT tab. Then, the USER MANAGEMENT menu is displayed as pictured below. Navigate through the menu items or change the settings using the mouse or the remote control.

![USER MANAGEMENT Setup Screen](image)

Figure 4.7.1. USER MANAGEMENT Setup Screen
Table 4.7.1. Menu Items in USER MANAGEMENT Setup Screen

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>AUTHORITY SETUP</td>
<td>Only the Admin will have access to the menu.</td>
</tr>
<tr>
<td>PASSWORD CHECK</td>
<td>Select the Checkbox to enable the functions or leave the Checkbox blank to disable the functions.</td>
</tr>
<tr>
<td></td>
<td>- SETUP: Enable/Disable of access to Setup</td>
</tr>
<tr>
<td></td>
<td>- PB: Enable/Disable of access to Playback</td>
</tr>
<tr>
<td></td>
<td>- REC OFF: Enable/Disable of manual Record</td>
</tr>
<tr>
<td></td>
<td>- NETWORK: Enable/Disable of access to Network</td>
</tr>
<tr>
<td></td>
<td>Selected Checkbox: The NSL will ask for a password when the given function is selected for all users.</td>
</tr>
<tr>
<td></td>
<td>Blank Checkbox: The NSL will not ask for a password when the given function is selected for all users.</td>
</tr>
<tr>
<td>ADMIN, USER1, USER2, USER3:</td>
<td>Selected Checkbox: The user can access the function.</td>
</tr>
<tr>
<td>USER NAME SETUP</td>
<td>Change the name of USER1, USER2 and USER3.</td>
</tr>
<tr>
<td>PASSWORD SETUP</td>
<td>Passwords can be changed for ADMIN, USER1, USER2 and USER3. Select USER PASSWORD using the mouse or the remote control. Select username and enter the current password. And, enter a new password, enter the same password again to confirm and select OK. Then the message “PASSWORD CHANGED” is displayed. The factory default password is 1111. <strong>It is highly recommended to assign a new password to protect the system.</strong></td>
</tr>
<tr>
<td>PLAYBACK AUTHORITY</td>
<td>Set authority level of playback on each user.</td>
</tr>
<tr>
<td></td>
<td>Checked box: authorized to playback. <strong>Blank check box:</strong> no authority.</td>
</tr>
</tbody>
</table>
4-8. Setup – STORAGE Mode

In the SETUP menu, select the STORAGE tab. Then, the STORAGE menu is displayed as pictured below. Navigate through the menu items or change the settings using the mouse or the remote control.

![STORAGE Setup Screen](image)

Figure 4.8.1. STORAGE Setup Screen

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>OVERWRITE</td>
<td>When enabled, the NSL will continue recording and overwrite the oldest existing recorded data once the hard drive is full. When disabled, recording will stop once the hard drive is full.</td>
</tr>
<tr>
<td>DISK FORMAT</td>
<td>Once clicked, the user will have to confirm to format the Hard Drive. After confirming, the NSL will reboot, and the format sequence will load. The format sequence allows user to select which HDDs to format.</td>
</tr>
<tr>
<td>Caution: It is recommended to archive any data that you may need in the future before formatting the hard drive.</td>
<td></td>
</tr>
<tr>
<td>DISK INFO</td>
<td>Hard drive information. Displays the following information:</td>
</tr>
</tbody>
</table>
Enable recording limit: The amount of data recorded in HDD will be limited to the most recent number of days as set by “RECORDING LIMIT DAYS”.

Disable recording limit: When OVERWRITE is ON, DVR will continue to record when HDD is full and overwrite older data. When OVERWRITE is OFF, DVR will stop recording when the HDD is full.

Set the recording limit days. (1-90 days)

If the RECORDING LIMIT DAYS are set to 1, the data will be overwritten after 24 hours.

4-9. Setup - CONFIG Mode

In the SETUP menu, select the CONFIG tab. Then, the configuration menu is displayed as pictured below. Navigate through the menu items or change the settings using the mouse or the remote control.

Figure 4.9.1. CONFIGURATION Setup Screen
Table 4.9.1. CONFIGURATION Setup

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>EXPORT TO USB</td>
<td>User can save the current configuration settings of the NSL to a USB flash drive. Plug in the USB flash on the front panel and press the button to start the export process.</td>
</tr>
<tr>
<td>IMPORT FROM USB</td>
<td>User can upload the configuration of the NSL to another NSL using the USB Flash drive. Plug in the USB flash drive on the front panel and press the button to start the import process.</td>
</tr>
<tr>
<td>LOAD DEFAULT</td>
<td>Select this option to reset the system to the default settings. The following settings such as Language, ID, Security User Authentication, Security User P/W, Date format, DLS settings, Network settings, HDD overwrite, Limit recording, HDD serial number, and HDD ERROR time will not be included.</td>
</tr>
<tr>
<td>LOAD FACTORY DEFAULT</td>
<td>Press the button to reset the system to the factory default settings.</td>
</tr>
<tr>
<td>SOFTWARE UPGRADE</td>
<td>Upgrade software to the latest version. After connecting USB flash drive to USB port on the NSL, click SEARCH. It will automatically find the upgrade file.</td>
</tr>
</tbody>
</table>

4-9-1. Firmware Upgrade

1. Create a new folder named “upgrade” in the USB flash drive root directory.
2. Create sub-folder for each model under “upgrade” folder and copy each firmware.
   - N4NSL: main_n4nsl_speco_**_*_201****
   - N8NSL: main_n8nsl_speco_*.*_201****
3. Plug in the USB flash drive on the rear panel.
4. Navigate to CONFIG menu of SETUP.
5. Select SOFTWARE UPGRADE.
6. Follow the procedure from Figure 4.9.2 to Figure 4.9.4.
NOTICE

1. If selecting REBOOT NOW when the USB flash drive is plugged, the following message will pop up: Remove the USB flash drive and select OK.

5. Live, Search and Playback

5-1. Live View
In the Live screen, video inputs from the cameras are displayed as they are configured in the Display Setup screen. Various On-Screen Display (OSD) symbols, which indicate the status of the NSL, are described in Table 5.1.1.
Figure 5.1.1. Live Screen and Quick Operation Window

Table 5.1.1. Status Indicator Icons in Live Viewing Screen

<table>
<thead>
<tr>
<th>Icon</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="Lock Icon" /></td>
<td>Indicates the NSL is locked. Note) to unlock, right click on the live view screen and click on Unlock.</td>
</tr>
<tr>
<td><img src="image" alt="Audio Mute Icon" /></td>
<td>Audio mute. To select audio output, press the Audio after click the right button on the mouse. Toggle from Audio 1 to 4, mute in order.</td>
</tr>
<tr>
<td><img src="image" alt="Alarm Icon" /></td>
<td>Indicates that alarm is set. To set the alarm function, press the Alarm button on the front panel.</td>
</tr>
<tr>
<td><img src="image" alt="Alarm Output Icon" /></td>
<td>Indicates that alarm output is activated.</td>
</tr>
<tr>
<td><img src="image" alt="Event Indicator Icon" /></td>
<td>Event indicator. When there is an event (motion recording, video loss, HDD fail, S.M.A.R.T), this icon will be highlighted.</td>
</tr>
<tr>
<td><img src="image" alt="Network Client Icon" /></td>
<td>Indicates that a network client is connected to the NSL.</td>
</tr>
<tr>
<td><img src="image" alt="Sequencing Mode Icon" /></td>
<td>Indicates that sequencing mode is enabled.</td>
</tr>
<tr>
<td><img src="image" alt="Date and Time Icon" /></td>
<td>Displays the current date and time.</td>
</tr>
<tr>
<td><img src="image" alt="Remote Control ID Icon" /></td>
<td>Remote control ID display. If a remote ID is not set, the message “ALL” is displayed.</td>
</tr>
</tbody>
</table>

46
Displays the amount of recording on the hard disk from 0-99%.

Indicates that HDD is recycled.

Continuous recording in progress.

Manual recording in progress. To set the Manual recording mode, press the Record button on the front panel.

Motion alarm recording in progress.

Sensor recording in progress.

Right click the mouse, and the quick operation window will be displayed as below.

![Quick Operation Window](image)

**Figure 5.1.2. Quick Operation Window**

<table>
<thead>
<tr>
<th>Icon</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>SEARCH</td>
<td>Search button. Click this button to enter the search menu.</td>
</tr>
<tr>
<td>SETUP</td>
<td>Select this option to enter the Setup menu.</td>
</tr>
<tr>
<td>DISPLAY</td>
<td>Select between different multi-view display formats.</td>
</tr>
<tr>
<td>SNAPSHOT</td>
<td>Capture pictures and store as BMP files</td>
</tr>
<tr>
<td>SUPER EZ COPY</td>
<td>Select this option to start EZ Copy Wizard.</td>
</tr>
<tr>
<td>ENABLE MANUAL RECORD</td>
<td>Manual Record button. Click this button to enable manual recording.</td>
</tr>
<tr>
<td>INSTANT PLAYBACK</td>
<td>Instantly playback 10 to 60 seconds of recorded data.</td>
</tr>
</tbody>
</table>

Recommended to be used with record mode set to Continuous.
ADVANCED MENU

**EZ SETUP**
Select this option to start EZ Setup Wizard.

**CONNECT**
Select this option to disconnect/connect from IP Camera.

**AUDIO MUTE**
Select this option to mute audio on all channels.

**ENABLE MAIN MONITOR SEQUENCE**
Sequence button. Click this button to use a sequence function.

**DISABLE ALARM OUT**
Click this button to enable/disable Alarm outputs.

**MANUAL DIGITAL DETERRENT**
Select this option to manually trigger any of the saved Digital Deterrent messages.

**CAMERA INFORMATION**
Press the button to view the record setting of a selected channel.

**SYSTEM INFORMATION**
Press the button to view the system information.

**EXPORT HELP**
Displays window with instructions for exporting video.

**SYSTEM LOCK**
Locks from the unauthorized user access.

**SYSTEM SHUTDOWN**
Select this option to shutdown system.
5-2. Digital Zoom in Live and Playback Screen
NSL series supports Digital Zoom feature during live and playback mode.

1. Double click the target channel.

2. Click the left button of the mouse and drag to make rectangular shape.

5-3. SEARCH Screen
To enter the search screen menu, select SEARCH menu on the screen using the mouse or press SEARCH icon on live screen.

![Search Screen](image)

**Figure 5.3.1. Search Screen**

There are 7 playback options provided in the search menu, such as EZSEARCH, TIME LINE (Calendar), EVENT, GO TO FIRST TIME, GO TO LAST TIME, GO TO SPECIFIC TIME, ARCHIVE, and LOG on the screen.
5-3-1. EZSearch

The EZSearch window is used to find stored video with ease using the thumbnail playback screen.

1. When the EZSearch menu is selected, the user can see a calendar, which displays recorded dates with highlights. Select a specific date on a calendar.
2. Select a channel from Channel Selection Screen. Then, 24 Hourly Thumbnail Search screen displays.
3. Select the hourly thumbnail. Then, Minute Thumbnail Search screen displays.
4. Select the thumbnail of minutes that you want to playback.
5-3-2. Time Line Search

The CALENDAR Search window is used to find the stored video by using the time line bar.

![Figure 5.3.7. Calendar Screen](image1)

![Figure 5.3.8. Time-Line Search Screen](image2)

When the Timeline menu is selected, the user can see a calendar, which displays recorded dates with highlights. Select a specific date and time. Click and drag the red time indicator bar to the desired hour. User can select a specific minutes using a button in the above red box. Press the PLAY button after selecting the specific time. Press the PREV to return to the SEARCH window.

5-3-3. Event Search

The Event Search window is used to find stored video.

![Figure 5.3.9. Event Search Screen](image3)

When the Event menu is selected, the user can see a calendar, which has recorded data. Select a specific date and the event log will be displayed. Press the PLAY button to playback the data or the SAVE button to save the data after selecting the specific data. User can find a data of the specific channel and event using a button in the above red box as following Figure 5.3.10. Press the PREV to return to the SEARCH window.
5-3-4. Go To First Time
User can access from the oldest recorded data on the NSL hard drive by selecting GO TO FIRST TIME on the SEARCH window. Press the PREV to return to the SEARCH window.

5-3-5. Go To Last Time
User can access from the last minute recorded data on the NSL hard drive by selecting GO TO LAST TIME on the SEARCH window. Press the PREV to return to the SEARCH window.

5-3-6. Go To Specific Time
User can search for video data from a specific instance by setting the date and time in the GO TO SPECIFIC TIME menu. Use the mouse or the remote control to change the date and time value and press the PLAY button after setting. If there is no video data in the set date and time, No Data Exist message displays.

5-3-7. Archive List
The ARCHIVE Search window is used to find previously stored video or images.

When the Archive menu is selected, the user can see a calendar, which has recording data. Select a specific date and then the archived data will be displayed. Press the Display button to view the still image or the first frame of the selected video, then the user can save the selected data.
5-3-8. Log List
You can access the LOG list search screen by selecting LOG on the SEARCH window.

![Log List Screen](image)

**Figure 5.3.12. Log List Screen**

When the Log menu is selected, the user can see a calendar, which has a log data. Select a specific date and press NEXT button, and then the log data will be displayed. Press the SAVE button to save the data and then the data is saved as a text file format.

5-4. Play Mode
During playback of a recorded event, the mode changes from SEARCH to PLAY. While in PLAY mode, user may return to the SEARCH screen by pressing the X button on the status bar.

![Play Mode Screen](image)

**Figure 5.4.1. Play Mode Screen**

The following status bar hides automatically and appears again if a mouse pointer is positioned to the bottom of the screen.
### Table 5.4.1. Button Functions in PLAY Mode

<table>
<thead>
<tr>
<th>Button</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="Button" /></td>
<td>2x, 4x, 8x, 16x, 32x speeds at 2x2 screen display mode.</td>
</tr>
<tr>
<td><img src="image" alt="Button" /></td>
<td>2x, 4x, 8x, 16x speeds at 3x3 screen display mode.</td>
</tr>
<tr>
<td><img src="image" alt="Button" /></td>
<td>2x, 4x, 8x speeds at the 4x4 screen display mode.</td>
</tr>
<tr>
<td><img src="image" alt="Button" /></td>
<td>Single Channel backward playback speed 1x, 2x, 4x, 8x, 16x, 32x, 64x</td>
</tr>
<tr>
<td><img src="image" alt="Button" /></td>
<td>Jump/Step backward. The playback position moves 60 seconds backward.</td>
</tr>
<tr>
<td><img src="image" alt="Button" /></td>
<td>Press to play or pause recorded video.</td>
</tr>
<tr>
<td><img src="image" alt="Button" /></td>
<td>Jump/Step forward. Playback position moves 60 seconds forward.</td>
</tr>
<tr>
<td><img src="image" alt="Button" /></td>
<td>2x, 4x, 8x, 16x, 32x speeds at 2x2 screen display mode</td>
</tr>
<tr>
<td><img src="image" alt="Button" /></td>
<td>2x, 4x, 8x, 16x speeds at 3x3 screen display mode.</td>
</tr>
<tr>
<td><img src="image" alt="Button" /></td>
<td>2x, 4x, 8x speeds at the 4x4 screen display mode.</td>
</tr>
<tr>
<td><img src="image" alt="Button" /></td>
<td>Single Channel forward playback speed 1x, 2x, 4x, 8x, 16x, 32x, 64x</td>
</tr>
<tr>
<td><img src="image" alt="Button" /></td>
<td>Slow Mode play. Forward playback speed x1/4, x1/2</td>
</tr>
<tr>
<td><img src="image" alt="Button" /></td>
<td>Press to backup the video.</td>
</tr>
<tr>
<td><img src="image" alt="Button" /></td>
<td>EZCopy button.</td>
</tr>
<tr>
<td><img src="image" alt="Button" /></td>
<td>Return to the previous menu screen, search window, or exit from the Menu.</td>
</tr>
</tbody>
</table>
6. Back Up

6-1. Still Image Backup onto USB Flash Drive
Still images can be captured and archived onto a USB flash drive or an USB external hard drive in live mode or while playing back recorded video.
1. Select a specific channel, which wants to backup on live screen.
2. When you press SNAPSHOT button on Quick operation window, the media selection window screen will display.

![Media Selection Window](image1.png)

3. Once you press START button, the system will capture a still image and archive onto a USB flash drive.

---

**NOTICE**
USB Flash Drive must be in FAT32 file format.

---

6-2. Video Backup onto USB Flash Drive during playback
Video can be captured and archived onto the USB flash drive or a hard drive while playing back the recorded video. In playback mode, press the BACKUP button to launch the backup function.

1. When you press BACKUP button on the selected channel or all channels, the DVR will ask whether to archive a Still Image, a NSF or AVI and select the proper media type.

![Archive Media Type Selection](image2.png)
2. Select USB **STICK DRIVE** (Flash Drive) to back up less than an hour.
   Select USB HDD (Large Backup) to back up from 1 hour to 24 hours.

3. Once you select the channel and duration, the system will start to archive the data to the USB drive.

4. The following image shows the progress of archiving the data.

5. The following shows the image to complete the backup. Select lose to return to the previous screen.
6-2. EZCopy: Video Backup onto USB Flash Drive during playback

Using EZCopy feature, Video can be easily archived onto the USB flash drive or a hard drive.

In playback mode, press the EZCOPY button to launch the backup function.

1. Press EZCOPY button on the selected channel or all channels.

2. Then, EZCOPY START time will display.

3. Move time bar cursor to the time of end of backup and press EZCOPY button. Then, EZCOPY STOP time will display.

4. EZCOPY window will display. The NSL will ask whether to archive a Still Image, a NSF or AVI.
5. After backup format is selected, also select media type and channel(s) to archive the data to the media.

6-3. Transferring Still Images or Video from the ARCHIVE List

The stored data in the hard drive can be found in the ARCHIVE list in the SEARCH window. User can back up still images or video into the storage device from the ARCHIVE list.

1. Select the date to begin searching and navigate through the days using the mouse or the remote control.
2. Once you have selected the date, press the NEXT button to open the list of stored data.
3. Use the mouse or the remote control to scroll through the archive list.
4. Select a list of stored events in the archive list.
5. Once the desired event has been selected, press the DISPLAY button to view the still image or the first frame of the selected video.
6. Press the BACKUP button to launch the archiving function in playback mode.
7. Press the CLOSE button to return to the SEARCH window.

Figure 6.3.1. Archive Search Screen
6-4. Playback of Backup Video

6-5-1. AVI Format

AVI format: AVI format video can be played back by Window Media Player™ or other media player that is compatible with AVI format video.

1. Please install the NS copies “UMS Decoder Filter” folder on USB flash drive with the video.

2. Otherwise, the video and time stamp over video can't be properly playback and displayed on Window Media Player™.

⚠️ Timestamp On AVI. The subtitle is embedded to the video clip file.

The subtitle is embedded to the AVI file. To display a subtitle, user should install a special filter called “UMSDecoderFilter”.

6-5-2. NSF Format

NSF format: NSF format video can be played back using the HDplayer that the NSL copies to “NSPlayer” folder on USB flash drive with video. Use the mouse scroll to use digital zoom in and out feature.
7. Network Access Using the Multi-Sites Network Viewer

7-1. Overview
The SpecoTech Multi Client is a multiple site monitoring client software with; video, audio, and alarm signals from the NSL over the network. The SpecoTech Multi Client does not limit the number of NSL units to register.

The program displays up to 8 NSL units and supports dual monitors.
By attaching a microphone and speaker system to devices on site, the user may make bi-directional audio communication over the network.

7-2. PC Requirements
Minimum PC Requirements

<table>
<thead>
<tr>
<th>CPU</th>
<th>Intel Core i3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Memory</td>
<td>2GB DDR2</td>
</tr>
<tr>
<td>VGA</td>
<td>512MB</td>
</tr>
<tr>
<td>Resolution</td>
<td>1280x720</td>
</tr>
<tr>
<td>Disk Space</td>
<td>1GB</td>
</tr>
<tr>
<td>OS</td>
<td>Windows 2000, XP Professional, XP Home, Vista, 7 (NOTE: Not all versions of Vista and 7 are supported)</td>
</tr>
<tr>
<td>Network</td>
<td>10/100Base T</td>
</tr>
<tr>
<td>Others</td>
<td>Direct X 9.0c or Higher</td>
</tr>
</tbody>
</table>

Recommended PC Requirements

<table>
<thead>
<tr>
<th>CPU</th>
<th>Intel Core i5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Memory</td>
<td>4GB DDR3 or higher.</td>
</tr>
<tr>
<td>VGA</td>
<td>512MB or higher.</td>
</tr>
<tr>
<td>Resolution</td>
<td>1920x1080</td>
</tr>
<tr>
<td>Disk Space</td>
<td>1GB</td>
</tr>
<tr>
<td>OS</td>
<td>Windows 2000, XP Professional, XP Home, Vista, 7 (NOTE: Not all versions of Vista and 7 are supported)</td>
</tr>
<tr>
<td>Network</td>
<td>10/100/1000Base T</td>
</tr>
<tr>
<td>Others</td>
<td>Direct X 10 or higher.</td>
</tr>
</tbody>
</table>

Before installing the program, check the PC specifications. The NSL remote software may not perform correctly if the PC does not meet the minimum requirements.
7-3. Installation of the Program

1. Insert the provided CD in the CD drive and double-click “SpecoTech Multi Client (XXXX).exe”

1. Select a destination folder and click “Next”.

![Select Destination Location](image1)

2. Select the program folder and click “Next”.

![Select Program Folder](image2)

4. The installation status screen is displayed.

5. After the installation is completed, “SpecoTech Multi Client” icon displays on the desktop screen.
7-4. Live Window
When installation is completed, double click the “SpecoTech Multi Client” icon on your desktop to start the program.

7-4-1. Main User Interface

7-4-2. Control Buttons

<table>
<thead>
<tr>
<th>Button</th>
<th>Description</th>
</tr>
</thead>
</table>
| ![Local Playback](image) | **LOCAL PLAYBACK**  
Click this icon to run a playback window to search and play videos that are recorded in the local PC. |
| ![Remote Playback](image) | **REMOTE PLAYBACK**  
Click this icon to run a playback window to search and play videos that are recorded in the remote NSL. |
| ![Site Management](image) | **SITE MANAGEMENT**  
- THUMBNAIL REFRESH: Click this icon to refresh and renew thumbnail image of the connected sites.  
- SITE ADDITION: Click this icon to open ‘Site Addition’ window.  
- SITE DELETE: Click this icon to delete site from the index window, after disconnect a site.  
- NET FINDER: Select the site from the index window and click this icon to modify the information of specific site. |
| ![Connect](image) | **CONNECT**  
Click this icon to connect the selected site/sites. |
| ![Disconnect](image) | **DISCONNECT**  
Click this icon to disconnect the selected site/sites. |
<table>
<thead>
<tr>
<th>Icon</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>SETUP</td>
<td>Click this icon to setup configuration of MULTI CLIENT.</td>
</tr>
<tr>
<td>CAPTURE</td>
<td>Click this icon to capture a still image.</td>
</tr>
<tr>
<td>EVENT LIST</td>
<td>Opens list of events logged by Multi Client.</td>
</tr>
<tr>
<td>PAUSE</td>
<td>Click this icon to play/pause live video.</td>
</tr>
<tr>
<td>ALARM ON</td>
<td>Click this icon to turn on/off alarm outputs.</td>
</tr>
<tr>
<td>RECORD ON</td>
<td>Enable or disable recording of live video to local disk, which has set in</td>
</tr>
<tr>
<td></td>
<td>setup menu.</td>
</tr>
<tr>
<td>AUDIO</td>
<td>Use the volume control bar to set the audio level.</td>
</tr>
<tr>
<td>MIC</td>
<td>Use the microphone volume control bar to set the microphone level.</td>
</tr>
<tr>
<td>PRESET/TOUR/SCAN/MENU</td>
<td>User can control PRESET/TOUR/SCAN/MENU</td>
</tr>
<tr>
<td>CHANNEL SPLIT</td>
<td>To select the numbers of display channel/channels (Single, quad, 9</td>
</tr>
<tr>
<td></td>
<td>channels, and 16 channels) of highlighted site.</td>
</tr>
<tr>
<td>NSL SITE SPLIT</td>
<td>To select the numbers of NS/NSs (1 NS, 4 NSs, 9 NSs, 16 NSs) on</td>
</tr>
<tr>
<td></td>
<td>main display screen.</td>
</tr>
</tbody>
</table>

7-5. Search and Playback Window

7-5-1. Main User Interface

You can access to search window by clicking the search icon (Local Playback / Remote Playback) on the upper right of the Live Window.
### 7-5-2. Main Control Panel

<table>
<thead>
<tr>
<th>Button</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>LOCAL PLAYBACK</td>
<td>Click this icon to run a playback window to search and play videos that are recorded in the local PC.</td>
</tr>
<tr>
<td>REMOTE PLAYBACK</td>
<td>Click this icon to run a playback window to search and play videos that are recorded in the remote NS.</td>
</tr>
<tr>
<td>thumbnail refresh</td>
<td>Click this icon to refresh and renew thumbnail image of the connected sites.</td>
</tr>
<tr>
<td>SITE ADDITION</td>
<td>Click this icon to open ‘Site Addition’ window.</td>
</tr>
<tr>
<td>SITE DELETE</td>
<td>Click this icon to delete site from the index window, after disconnect a site.</td>
</tr>
<tr>
<td>NET FINDER</td>
<td>Select the site from the index window and click this icon to modify the information of specific site.</td>
</tr>
<tr>
<td>CONNECT</td>
<td>Click this icon to connect the selected site/sites.</td>
</tr>
<tr>
<td>DISCONNECT</td>
<td>Click this icon to disconnect the selected site/sites.</td>
</tr>
<tr>
<td>SETUP</td>
<td>Click this icon to setup configuration of SpecoTech Multi Client.</td>
</tr>
<tr>
<td>CAPTURE</td>
<td>Click this icon to capture a still image.</td>
</tr>
<tr>
<td>EVENT LIST</td>
<td>Opens list of events logged by Multi Client.</td>
</tr>
<tr>
<td>EZCopy Start</td>
<td>Click this icon to set the beginning time for backup of the recorded video in AVI format.</td>
</tr>
<tr>
<td>EZCopy End</td>
<td>Click this icon to set the ending time for backup of the recorded video in AVI format.</td>
</tr>
<tr>
<td>BACKUP</td>
<td>Click this icon to backup the recorded video in AVI format.</td>
</tr>
<tr>
<td>AUDIO</td>
<td>Use the volume control bar to set the audio level.</td>
</tr>
<tr>
<td></td>
<td>To select the numbers of NS/NSs (1 NS, 4 NSs, 9 NSs, 16 NSs) on main display screen.</td>
</tr>
<tr>
<td></td>
<td>To select the numbers of display channel/channels (Single, quad, 9 channels, and 16 channels) of highlighted site.</td>
</tr>
<tr>
<td>Image</td>
<td>Description</td>
</tr>
<tr>
<td>-------</td>
<td>-------------</td>
</tr>
<tr>
<td><img src="image1.png" alt="Channel Selection" /></td>
<td>To select the channel to playback.</td>
</tr>
<tr>
<td><img src="image2.png" alt="Calendar" /></td>
<td>The calendar shows dates with recorded video in color.</td>
</tr>
<tr>
<td><img src="image3.png" alt="Timeline" /></td>
<td>To display the recorded data of selected channel or all channels on a time line scale.</td>
</tr>
<tr>
<td><img src="image4.png" alt="Timeline Scale" /></td>
<td>To change a timeline scale from 24 hours to 60 minutes. The timeline shows recorded data in color on the bar. You can adjust the timeline scale and move it to the time you wish to playback. Then click the play icon to display the recorded video.</td>
</tr>
<tr>
<td><img src="image5.png" alt="Playback Buttons" /></td>
<td>Playback buttons.</td>
</tr>
<tr>
<td><img src="image6.png" alt="EZSearch" /></td>
<td>Thumbnail search over the network. - List the thumbnail 24 images from 00:00 to 23:00. - Select one of 24 images every 150 sec for an hour. - Then play the tile * Click the “PREVIOUS” button to go the previous step.</td>
</tr>
<tr>
<td><img src="image7.png" alt="Digital Zoom" /></td>
<td>Digital Zoom Window in Live and Playback. (Only available in Single Channel Viewing)</td>
</tr>
</tbody>
</table>

### 7-6. Setup of SpecoTech Multi Client

Click the setup icon to setup the configuration of Multi Client software. The SETUP window is displayed as below.

**7-6-1. General**

**Security Option:** Set a password for security options. Select security options and set a password.

Then when you access any of selected functions, you need to enter the password.

You can also set the save path for capturing and backup.

**Save Path:** Specify the location to save captured still image for Capture and Backup data.

**Miscellaneous**

**Automatic Reconnection:** If enabled, the software will automatically try to reconnect to the last successful IP address. But, when CLIENT ACCESS is OFF on the NS, the software will not try to reconnect even if it is enabled.

**Always On Top:** If enabled, the software display will be continuously on the top of other windows.

**Time Format:** Change the way the Client software displays the time.
7-6-2. Event
Event log can be archived and searched.

**Event Log:** Specify the location to save event logs and select event to archive.
Event Search: Event log can be searched from the selected time.

7-6-3. Record
Record Setup: You can set the recording conditions as the following; Always, Event, or Auto record. And you can also select target NSL and channel/channels. When you set the recording condition to event, you can set event for motion or alarm with duration.
**Record Local Storage Setup:** You can select the local disk to record and the amount of disk space you want to allow the program to use for recording. You can also select the option to overwrite data or stop recording when the maximum amount of disk space is full.

![Record Local Storage Setup](image)

**7-6-4. Display**

You can select the OSD (On Screen Display) to be displayed.

![7-6-4. Display](image)
7-6-5. Language
English, French and Spanish is selectable.

7-6-6. About
“About” provides network client version information.
7-7. Remote Setup
The menu settings for the NSL unit can be set over network.
Put the cursor of the mouse on the channel, which is connected to the site and right click on the mouse to open the submenu. Then the following window is displayed as below. Select the REMOTE SETUP.

Then the setup window is displayed. The specified menu screen is displayed on the upper left of the screen.
Enter the password of the NSL when prompted. (NOTE: The default password is 1111)
Setting is the same as with the NS menu setting. Refer to the corresponding pages for details on the setting items.

NOTICE
Web Setup is prohibited when NS is in local Setup Menu.
7-7-1. IP Camera
Select IP Camera to set system and time settings.

7-7-2. System
Select System to set system and time settings.

- **DATE DISPLAY FORMAT**: Select the date display format.
- **TIME DISPLAY FORMAT**: Select the time display format.
- **TIME ZONE**: Select the TIME ZONE.
- **DAYLIGHT SAVING**: Select the area for DAYLIGHT SAVING TIME
- **SET DATE & TIME**
  For the date & time changes to be applied, the system will reboot.
  If the users change the time back to the past, it will not show “TIME MISMATCH” message unlike on the local system. The data on the duplicated period time will be deleted without WARNING.
- **CLIENT ACCESS**: Enable/Disable remote access through network client software.
- **NTP SETUP**: Sets whether to synchronize the time using NTP server or not.
  - **Primary SNTP Server**: Input the NTP primary server address.
  - **Secondary SNTP Server**: Input the NTP secondary server address.
- **Time Zone**: Select the time zone.
- **Connection Mode**: Select the connection mode to NTP time server.
- **SEND E-Mail SETUP**: Sets whether to enable/disable e-mail sending function.
  - **SERVER TYPE**: Select GMAIL, HOTMAIL, AOL, YAHOO or MANUAL
  - **MAIL SERVER**: Input the SMTP server name as well as the user ID and password.
  - **MAIL PORT**: Mail port setting.
  - **SECURE OPTION**: Select a secure mail server connection. (SSL or TLS)
  - **ID**: Email User ID
  - **PASSWORD**: Email User Password
  - **MAIL TO**: Input the appropriate email address to enable sending e-mail reports
  - **MAIL FROM (Return Mail Address)**: Set the source e-mail address to be notified to the destination.
- **SEND MAIL TEST**: E-mail settings sent a test mail to the registered account
- **UNIT NAME**: Name the HS
- **SYSTEM RESTART**: Restart the system
- **SYSTEM EVENT NOTIFICATION**

![Diagram](image)

Allows the user to set EVENT NOTIFICATION ON or OFF
- **HEALTH CHECK**
  (Allows the user to set MAIL STATUS periodically) : DAILY or WEEKLY or MONTHLY
  - HDD TEMPERATURE
  - HDD BAD SECTOR
  - HDD ALMOST FULL
- **VIDEO CLIP SETUP**: Setting the duration for pre and post recording.
- **EVENTS AND NOTIFICATION**
- HEALTH CHECK / RESTART / SHUTDOWN / PANIC RECORD:
  Enable Email Notification in the event a problem occurs with the NS.
- ALARM-IN : Enable Email Notification when the camera detects sensor
- MOTION DETECTION : Enable Email Notification when the camera detects motion
- NO CONNECTION: Enable Email, Beep and Alarm output Notification when the camera signal is lost.
- HDD TEMPERATURE : Enable Email Beep and Alarm output Notification when the HDD reaches the maximum temperature
- HDD BAD SECTOR : Enable Email Notification when the HDD has bad sectors.
- HDD ALMOST FULL : Enable Email Notification when the HDD is almost full.
- HDD FULL : Enable Email Notification when the HDD is full.
- HDD FAILURE : Enable Email, Beep and Alarm output Notification when the HDD fails.

7-7-3. Record
Select RECORD tab to set the recording conditions.

These settings apply to the specified channel only.
- Recording Setup
  - RECORDING MODE: CONTINUOUS, SCHEDULE, MOTION
  - PRE RECORD: Sets whether to perform or not pre recording.
  - POST EVENT RECORD: Sets the duration of the event recording.
  - AUDIO: Sets whether to perform or not audio recording.
  - SCHEDULE: Sets the schedule recording.

7-7-4. Device
Select Device to set device settings of the NS
• **ALARM OUT**: Set the sensor, motion, and video loss for triggering alarm relay. HDD Error and Video Loss can be set for triggering a beeping sound. The following settings can be changed to trigger an alarm output.
  - **ALARM DURATION**
• **DIGITAL DETERRENT**: The schedule of digital deterrent can be set and a sound file can be uploaded to the NSL. To set up schedule, select **CHANNEL > select SOUND TYPE > select Area**.
  - **CHANNEL**: Select the Channel to configure audio input
  - **SOUND TYPE**: Select the sound type.

• **CONTROLLER**: Set the controller speed, type and ID.
• **KEYTONE**: Sets On or Off of Key Tone.
• **REMOTE CONTROLLER ID**: Sets an ID number of which remote control to receive commands.
### 7-7-5. Display

Select the **DISPLAY** tab to set the DISPLAY conditions.

<table>
<thead>
<tr>
<th>Channel Name</th>
<th>No Connection</th>
<th>Status Bar</th>
<th>Icon</th>
<th>Record Mode</th>
<th>IP Address</th>
<th>FPS</th>
<th>OSD Contrast</th>
<th>Main Monitor Sequence</th>
<th>Sequence Dwell Time</th>
<th>SITE</th>
<th>Name</th>
<th>Covert</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

These settings apply to all channels.

- **OSD**: Sets whether to display or not date and time as well as channel number on the screen.
- **OSD CONTRAST**: Adjust the character contrast on the screen.
- **MAIN MONITOR SEQUENCE**: Setting for automatically switching the displayed video.
- **SEQUENCE DWELL TIME**: Sets the interval for automatically switching the screens.
- **SITE**: Name, Covert (These settings apply to the specified channel only).

### 7-7-6. Network

**SPECO WEB SETUP**

- **NETWORK TYPE** (*Cannot be altered remotely*)
  - **STATIC**: The address setting mode is manual. Input IP, Gateway, Subnet Mask, and DNS IP.
  - **DHCP**: The address setting mode is automatic.
- **DDNS**: Set whether to use DDNS service or not
  - **HOST NAME**: Allows the user to setup a domain name manually
  - **SUMBIT/UPDATE**: Select ON to submit the settings
  - **ezDDNS**: Enable ezDDNS to register the host name automatically
- **NETWORK PORT**: When connecting multiple NSs to the network, set a unique port number.
- **NETWORK AUDIO PORT**: Display the network audio port (NETWORK PORT + 1).
- **WEB PORT**: Set a web server port number.
7-7-7. User Management

Select the **USER MANAGEMENT** tab to set the **DISPLAY** conditions.

- **AUTHORITY SETUP**: Select which users have access to each function, password check can be implemented for each function accessed.
- **USER NAME SETUP**: Select which Username to change
  - **NEW USER NAME**: Input the new username
- **PASSWORD SETUP**: Select Username to change Password
  - **CHANGE**: Select whether to *KEEP* or **CHANGE** the current password.
  - **NEW PASSWORD**: Input **NEW** Password if **CHANGE** was selected.
  - **CONFIRM PASSWORD**: Input **NEW** Password again to confirm.
- **PLAYBACK AUTHORITY**: User can select which users have access to which channels.
7-7-8. Storage
Select Storage to configure recording settings such as overwriting the hard disk and the setting a storage period for the recording data.

- **OVERWRITE**: Select on to continue recording by overwriting when the hard disk becomes full.
- **RECORD LIMIT**: Sets whether to limit or not the recording data storage period.

7-7-9. Remote Upgrade

Shows the current Firmware version installed on NSL.

- **Browse**: Select BROWSE to locate the firmware file.
- **Upgrade**: Select UPGRADE to upgrade the firmware of the NSL.

7-7-10. Information

Displays general information about the NSL.
7-8. Operation
7-8-1. Addition, Delete, and Modify of NSL Sites

7-8-1-1. Addition of Sites

1. Click SITE ADDITION button. And then the following window will be displayed as below.

- **Site Name**: Input a name that properly describes a site.
- **IP Address**: Input IP address (Public IP address of a router that NS is connected.) or Domain name
- **Port Number**: Default Port Number is “5445”.
- **ID**: Input ID of NS. Default ID is “admin”.
- **Password**: Input network password of NS. Default Password is “1111”.

2. Click OK button. And then the registered site is added on the directory window.

7-8-1-2. Deleting a Site

1. Select the site/sites to delete from the directory window.

2. Click SITE DELETE button. And then the selected site/sites is/are deleted.

7-8-1-3. Modify of Sites

1. Select the site/sites to modify from the directory window.

2. Click NET FINDER button. And then the following window will be displayed as below.
3. Click MODIFY button. And then the modified information is displayed as below.

7-8-2. Connect and Disconnect

7-8-2-1. Connect

1. Select site/sites to connect from the directory window.

2. Click CONNECT button, and then site/sites displays/display as connected.
7-8-2-2. Disconnect
1. Select site/sites to disconnect from the directory window.

2. Click DISCONNECT button, and then selected site/sites disconnected.

7-8-3. Still-image Capture During Live
1. Double-click a channel to capture from the display screen. (Otherwise all channels will be captured.).
2. Click **CAPTURE** button. And then a Capture window will be displayed as below.

3. Set Save Path, File Name, and File Format. And then click OK button.

4. Still image is saved as set in Capture window.

**7-8-4. Recording Video on Local PC During Live**

1. Click **SETUP** button. And then a setup window will be displayed as below.

2. Select Record and set the values.

3. Select Disk and set the values.
4. Click RECORD ON button. And the color of button is changed.

5. Live video data is recorded as set in Record and Disk setup. These video data can be searched and play-backed with Local Playback.

7-8-5. Local Playback and Remote Playback

7-8-5-1. Playback of Recorded Video on a Local PC

1. Click LOCAL PLAYBACK. And then Playback Window will be displayed over the Live Window.

2. Select site/sites to connect from the directory window.

3. Click CONNECT button. And then Green bar displays on Search calendar and timeline scale window.

6. Move the marker on the timeline scale to where there is video data and press the PLAY button.

7. Video data that is recorded on local PC will be play-backed.
8. Use the mouse scroll to digitally zoom in and out from a single channel display.

**7-8-5-2. Playback of Recorded Video on Remote NSL**

1. Click 🔄 REMOTE PLAYBACK. And then Playback Window will be displayed over the Live Window.

2. Select the site to connect from the directory window.

3. Click 🔄 CONNECT. And then Green bar displays on Search calendar and timeline scale window.

4. Move the marker on the timeline scale to where there is video data and press the PLAY button.

5. Video data that is recorded on the remote NS is play-backed.
7-8-6. AVI Backup during Playback

You can back up the recorded videos in AVI format during playback.

1. Double-click the target channel to backup.
2. Select the beginning time by using the search calendar and timeline scale bar.

3. Click EZCOPY START button on the timeline scale to select the beginning point of the backup.

4. Click EZCOPY END button on the timeline scale to select the ending point of the backup. Then, the selected starting point and the ending point on the timeline scale bar will be marked in green.

5. Click BACKUP. And then the BACKUP window will be displayed as below.
6. You can also set the beginning time and ending time on this window. After selecting a channel for backup, click the OK button. The backup will begin.

7. AVI video data is recorded as set in AVI Backup window. AVI format video can be played back by using Window Media Player™ or other media player that is compatible with AVI format video.
8. Network Access Using the Web-Browser Viewer

The NS provides a live remote monitoring feature by web-browser viewer. (NOTE: Web-Browser is only available for Internet Explorer)

1. Check the IP address of the NS from SETUP>SYSTEM>DESCRIPTION>IP ADDRESS or
2. Input the IP address or Domain name address that you pre-registered.

Address: http://172.16.1.52

3. Click this bar. Then the dialog box is displayed.

4. Click "Install" to download and install the ActiveX control.

5. The Web Browser Viewer will be displayed as below after the ActiveX installation

6. Click the CONNECT button on the Left upper corner of web-viewer. Then "Connect" dialog is displayed.
• **Site Name:** Input a name that properly describes a site.
• **IP Address:** Input IP address (Public IP address of a router that NS is connected.) or Domain name
• **Port Number:** Default Port Number is “5445”.
• **ID:** Input ID of NS. Default ID is “admin”.
• **Password:** Input network password of NS. Default Password is “1111”.

7. Then the cameras connected to the NS are displayed on the screen.
8. Use mouse scroll to digitally zoom in and out from a single channel display.
9. Network Access Using the Smart Phone Viewer

9-1. App Viewer for iPhone

1. Enter the Apple iTunes Store.

2. Search “Speco Player” in the App Store.

9-1-1. Live

1. Open the installed “Speco Player” App and click button to add a remote device.

2. Enter the site name, IP or DDNS address, Network Port number (default 5445), ID (default admin) and Password (default 1111). Then, click “Save” button.

* Note: Network Port and Web Port must be forwarded before adding a new site.

3. Select a registered device and select LIVE. Then click “CONNECT” button.

Notice
Data Usage applied without Wi-Fi connection. Please check with your Phone Carrier.

Notice
SPECO Player is for the NS, NSL, VS, HS, DS, RS and HD series DVRs. SPECO VIEWER is not compatible with the T Series DVR’s (TH, TN or TL) or the PC Series

Notice
Data Usage applied without Wi-Fi connection. Please check with your Phone Carrier.

Notice
SPECO Player is for the NS, NSL, VS, HS, DS, RS and HD series DVRs. SPECO VIEWER is not compatible with the T Series DVR’s (TH, TN or TL) or the PC Series.
4. The app will display the selected channel(s). Double tap the channel screen to switch 1 channel display to 4, 8, 10, 16 channels split display depending on the DVR.

5. To select the display mode (1, 4, 9, 10 or 16 split display), tap the arrow menus button

6. Drag and drop channels
   Touch and drag one channel to the other channel to swap the channel location. To swap the channel, drag a channel to another channel.

7. Digital Zoom In-Out
   Double tap on the desired channel to view in 1channel mode. Then use the iPhone zoom feature using two fingers to pinch the screen to zoom in or out on the video image. User can also move the zoomed image around by touching the desired spot and dragging the zoom image.
9-1-2. PTZ Control
To control the PTZ functions of the camera, tap the menu button. Then PTZ menu icons will display. Using the PTZ icon on the screen, control PTZF control.

9-1-3. Playback
1. Select Mode as ‘Playback’ and click ‘CONNECT’ button. Then select Date & Time and click PLAY button.

2. The app will display the selected channel(s). Double tap the channel screen to switch 1 channel display to 4, 8, 10, 16 channels split display depending on the DVR.

3. Tap the menu button. Then Playback menu icons will display.
9-2. App Viewer for Android Phone

1. Enter the Android Market.

2. Search “Speco Player” in the Android Market and install the “Speco Player” app.

Notice
SPECO Player is for the NS, NSL, DS, RS, WRS and HD series. SPECO VIEWER is not compatible with the T Series NS's (TH, TN or TL) or the PC Series.

9-2-1. Live

1. Open the installed “Speco Player” App and select the Live Preview. Then click the menu button of the phone to add a remote device.

2. Select the registered device and select LIVE VIEW and select up to 4 channels or ALL CHANNELS to monitor. Then click START button.

3. The app will display the selected channel(s). Double tap the channel screen to switch 1 channel display to 4 channels split display.
9-2-2. Playback

1. Select the registered device and select PLAYBACK and select up to 4 channels or ALL CHANNELS to search. Then click START button. As soon as setting the date and time to search, the app will start the playback.

2. The app will display the selected channel(s). Double tap the channel screen to switch 1 channel display to 4 channels split display.
9-2-3. PTZ Control
To control the PTZ function of the camera, tap the channel screen, then the channel name will be highlighted in Yellow. Using the PTZ menu icons on the screen, control PTZF.

APPENDIX: Network Connection - LAN

1. Install the network client software from the supplied CD.
2. Check the IP address from SETUP > SYSTEM > DESCRIPTION or SETUP > NETWORK of NS.

<table>
<thead>
<tr>
<th>MODEL NAME</th>
<th>N8NSL</th>
</tr>
</thead>
<tbody>
<tr>
<td>SOFTWARE VERSION</td>
<td>Ver 4.4.0_20141124</td>
</tr>
<tr>
<td>STORAGE SIZE</td>
<td>1740 GB</td>
</tr>
<tr>
<td>IP ADDRESS</td>
<td>172.16.2.41</td>
</tr>
<tr>
<td>MAC ADDRESS</td>
<td>00:02:69:ff:3:7b</td>
</tr>
<tr>
<td>DDNS STATUS</td>
<td>Fail</td>
</tr>
</tbody>
</table>

3. Run the network client software.
4. Input Site Name, Site Address (IP address), Port Number, and Password on the connect window.
   - **Site Name**: Input a name that properly describes a site.
   - **IP Address**: Input IP address.
   - **Port Number**: Default Port Number is “5445”.
   - **ID**: Input ID of NS. Default ID is “admin”.
   - **Password**: Input network password of NS. Default Password is “1111”.

5. Select a site by checking the box, and Press button to connect to the site.
**APPENDIX: Network Connection – Internet and DDNS**

Dynamic Domain Name System (DDNS) allows a domain name to be constantly synchronized with a dynamic IP address. A current dynamic IP address is being associated with a static domain name.

1. Go to SETUP>NETWORK>DDNS and set the DDNS SERVER to ON.

2. Go to SETUP>NETWORK>DDNS>HOST NAME. Manually enter a domain name using the virtual keyboard and click ENTER button.

3. When a manual host name is completed, Go to SETUP>NETWORK>DDNS>SUBMIT/UPDATE and select ON to submit the settings on the SPECO DDNS.

Once the setting is completed, the DDNS address will be:
http://hostname.ddns.specoddns.net
For example, if you enter the host name as “NS”, then the address will be:
http://NS.ddns.specoddns.net
4. When DDNS setting is done, click the APPLY button. Otherwise DDNS setting will not be applied.
5. When you exit SETUP menu, DDNS NOTIFICATION window will pop up.

![DDNS NOTIFY: HOST NAME: n8ns_ffe1c5 STATUS: SUCCESS](image)

![DDNS NOTIFY: HOST NAME: hostname STATUS: ALREADY REGISTERED](image)

6. DDNS registration status can be checked from SYSTEM INFORMATION or SETUP>SYSTEM>DESCRIPTION>DDNS STATUS

7. Check the NETWORK PORT (Default: 5445), WEB PORT (Default: 80), and the IP Address of the NS from SETUP>NETWORK.

![NETWORK](image)

8. Port forward the NETWORK PORT (Default: 5445) and WEB PORT (Default: 80) of the private IP Address of the NS on the network router.

![Please refer to the user manual and guide for the detailed steps for port forwarding for specific router model.](image)
9. Run the network client software.

10. Input Site Name, Site Address (IP address), Port No., and Password on the connect window.
   - **Site Name**: Input a name that properly describes a site.
   - **IP Address**: Domain name or Public IP address of a router that NS is connected.
   - **Port Number**: Default Port Number is “5445”.
   - **ID**: Input ID of NS. **Default ID** is “admin”.
   - **Password**: Input network password of NS. **Default Password** is “1111”.

11. And select the OK button. Then, press button after checking the left check box.