

# NETWORK CAMERA

Installation and Programming Manual

SNO-20XX0 Series



#### **Network Camera**

Installation and Programming Manual

#### Disclaimer

Stortech Electronics does its best to ensure the integrity and accuracy of the contents in this document and cannot guarantee this. The outcome of using this document shall be entirely the user's own responsibility. Stortech Electronics reserves the right to change the contents of this document without prior notice.

- Design and specifications are subject to change without prior notice.
- The default login is Admin, there is no password set when logging in for the first time. It is important that a password is then created.
- It is the responsibility of the user to ensure the security and management of the password.

#### **Important Safety Instructions**

- 1. Read, keep, and follow these instructions.
- 2. Only use the power supplies that are recommended in the manual, failure to do so could result in damaging the product.
- 3. When cleaning the product's surface use a soft, dry cloth or a damp cloth. Do not use detergent or products that contain alcohol, solvents or surfactants or oil constituents, they may damage the product. Especially the viewing bubble/window)
- 4. Do not use excessive force when installing the product, the camera may be damaged and fail to work. If the warranty seal is damaged, the warrantee will be void.
- Install or uninstall the product as described in the manual, failure to do so may damage the product, affect the functions and performance that could invalidate the warrantee.
- 6. Install the product by referring to "Installation & connection" in the user manual.

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Installation

# **Network Connection and Set-up**

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- Connecting directly to a DHCP server
- Router via the PoE/Cable Modem

#### Web-Viewer

- Connecting to the camera
- Password setting
- Log in.
- Plug-in support specification for each browser
- Installing Web Viewer Plugin
- Using a Plug-in free Web Browser
- Using the Live Screen
- Playing the recorder video

# **Setup Screen**

- Setup
- Video & Audio Setup
- Network Setup
- Event Setup
- Analytics Setup
- System Setup

#### **Addendum**

- Specification
- Product Overview
- Trouble Shooting

# **Overview**

#### **Product Features**

- Max. 2megapixel (1920 x 1080) resolution
- 2.1mm & 3.6mm lens options
- Max. 25fps/PAL @ all resolutions,4MP max20fps/PAL (H.265/H.264)
- H.265, H.264 Compression
- Day & Night (ICR) & Colour only options
- WDR, BLS, De-noise
- 12 x 850nm, 10m Illumination
- Privacy Zones
- Image Mirror
- PoE options
- Metal & ABS options
- ONVIF Profile S
- For more information, refer to www.onvif.org.



# **Recommended PC Specifications**

- CPU: Intel(R) Core (TM) i7 3.4 GHz or higher
- RAM: 8G or higher
- Supported OS: Windows 7, 8.1, 10,
- plug-in free web viewer
- Supported web browsers: IE(Best) Google Chrome, MS Edge, Mozilla Firefox (Windows 64bit only),
- plug-in web viewer

# **Packaging List**

- Camera x 1
- Instruction manual x 1 (Via QR Code)
- Self-tapping screw x 3
- Mounting Plug x 3
- Hex-key x 1

# Installation

This camera is waterproof IP6, however the RJ45 socket on the Cat6 is not unless it is paired with the correct weatherproof plug.

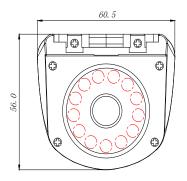
#### Precaution

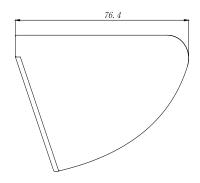
Before installing the camera ensure you read out the following instructions:

- The wall or ceiling that the camera is installed upon to withstand 5 x times the weight of the camera.
- Any excessive force used when installing the product may cause damage and/or malfunction.

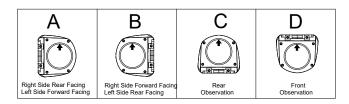
## Installation

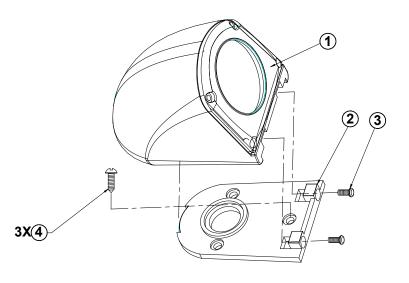
- 1. Loosen the lock screws (3) by applied hex key, remove the mounting base (2) from the camera (1).
- 2. Attach the mounting base to the wall or ceiling, wherever you want to install the camera. Locate a wall stud or ceiling joint and secure the base by the supplied mounting screws (4).
- 3. Fix the camera on the mounting plate.





#### **Camera Module Orientation Matches Letter Orientation Illustrated:**





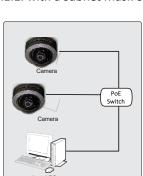
# Connecting the Camera directly to a Local Area Networking (LAN)

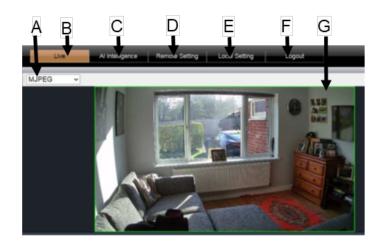
This camera can be connected to using Stortech VMS software, a Network Video Recorder (NVR) or a Web-Browser. This manual will show how to connect and set up via a Web-Browser. The set up via Stortech's VMS software, or an NVR, please refer to the separate manuals.

While it is not always necessary, it is good practice to disable the PC's Wi-Fi.

- 1. The camera's default IP address is 192.168.1.10. Set your PC to an appropriate IP address such as 192.168.1.1. with a subnet Mask of 255.255.255.0.
- Ensure that the camera is powered up, either via a PoE switch or separate power supply.
- Ensure your PC is connected to the same switch and green flashing lights are on both switch ports.
- 4. Launch an Internet Browser on the local PC.
- 5. Enter the camera's IP address in the address bar of the browser.
  - Once the login page appears, click "login". It will ask if you wish to set the P/W now or "next time". It is best practice to set the P/W now.







- A choice of MJPEG (Default), VCL or QuickTime via plugins. You can view your image in 4:3, 16:9 or Full Screen.
- B Live Viewing, to watch the life image
- C Al Intelligence
- <u>D</u> Remote Settings Camera configuration
- <u>E</u> Local Settings
- **F** Logging out of Camera
- **G** Viewing Window

# **Camera Config**

# **OSD Configuration**

1. Name

2. Overlay information

3. Channel Display

4. Time Display

# **Image Control**

1. Default

2. Smart Night

3. Image Mode

Work Mode

5. Onset brightness threshold

6. IR-Cut Reverse

7. Brightness/ Contrast/ Saturation/Hue/Sharpness

8. Defog

9. Flicker Control

10. The Flash strength

Choose the camera's name

Such as resolution

Enable/Disable

Enable/Disable

Returns this page to factory default

Prioritise, White light, Infra-Red light, or Intelligent Light (Camera decides best option).

Options include Standard, Faceless or Numberplate exposures. Reduces any over exposure on objects bright light

Manual

Control the light on/off time.

The numerical valueless than the light will be on earlier and off later

Manually removes the IR-Cut filter during the day.

Adjusts the settings of each over a percentage of 0 - 100

Engages frame integration technology to make foggy/rainy scenes clearer.

Options of 50Hz or 60Hz, strobe light flickering compensation

An exposure setting for indoor fluorescent lights strobe timings.





# **Privacy Zones**

The ability to set up to 4 separate zones to hide sensitive areas from view.

# **Network Configuration**

1.	IP Type	Static, DHCP, Auto
		Dynamic Host Configuration Protocol,
2.	Auto IP	IPv4, IPv6

3. IP Address Entering the Static IP Address

4. Subnet Mask If you have a Static IP Address, you must

set the Subnet Mask. Commonly set to 255.255.255.0 unless IT admin have

allocated one

5. Gateway This is the local IP address of the

broadband router

6. Primary DNS DNS (Domain Name Service) server

address.

7. Alternative DNS Secondary Address

8. MAC Address The unique name given to every IP

product, created in the factory.

#### **Port Configuration**

1. HTTP Port HTTP port used to access the camera via the web browser.

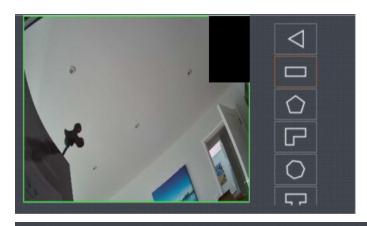
The default is 80(TCP), setting for Safari and Google Chrome browsers to 65535 is not allowed by security policy.

2. Command Port Used in FTP to communicate the TCP

port number to use for the data transfer

channel.

3. Media Port Passive Objects



Network Config	Save	
IP Type	Static	~
Auto IP	Enable	~
IP Address	192.168.1.10	
Subnet Mask	255.255.255.0	
Gateway	192.168.1.1	
Primary DNS	114.114.114	
Alternative DNS	8.8.8.8	
MAC Address	5a:5a:00:25:22:ad	



# **Third Party Trigger**

Not applicable in European and UK Markets

#### **RTSP Streaming port**

1. RTSP

RTSP: Used to transfer videos in the RTSP mode; the default is 554.

# **P2P Configuration**

Not applicable in European and UK Markets







#### **Code Parameters**

There are 10 video streams coming from the camera, the MainStream and 9 SubStream. The process of configuration is the same.

1.	Stream Type	Video or Video & Audio
2.	Video Codec	H.264 / H.265 Compression
3.	Resolution	2560 x 1440, 2304 x 1296, 1920 x 1080, 1280 x 720
4.	I frame interval	Between 1 – 200, the number of Partial frames (P-Frames) between each Full frame (I-Frame).
5.	FPS	The number of frames per second (FPS) max25, (except 2560*1440 20FPS).
6.	Rate Control	CBR (Constant Bit Rate) default / VBR (Variable Bit rate)
7.	Quality	5 settings between Highest, High, Medium, Low, Lowest)

#### MainStream SubStream MainStream Save Video & Audio Stream Stream Type H.264 Video Codec ~ 1080P(1920\*1080) Resolution 100 (1-200) I frame interval 20 ✓ (fps) FPS VBR Rate Control Highest Quality

	Audio Parameters	Save	
	Audio Stream	MIC	~
	audio-in codec	G711U	~
h over a	Input volume		90
	Output volume		<b>O</b> 85

apture configuration	Save	
Image Resolution	640*360	~
Image Quality	Middle	~

#### **Audio Parameters**

1.	Audio Stream	Video or Video & Audio
2.	Audio-in Codex	G711U/ G.711A Formats
3.	Input volume	Adjusts the settings of each over a percentage of 0 - 100
4.	Output volume	Adjusts the settings of each over a percentage of 0 - 100

# **Capture Config**

1.	Image Resolution	640 x 360
2.	Image Quality	High, Middle, Low

# **Alarm Config**

Alarm Out
 AlamOut Name

AlamOut Delay

1 Out Put
Selectable Name

Custom/Keep 1 – 600

How often the cameras sync with the

The network address of the NTP Server

# **System Config**

1. Date Format

2. Time Format

3. Device date time

4. NTP Timing

5. Time zone

DD-MM-YY, YY-MM-DD etc.

12-Hour / 24-Hour Clock

Synchronic with local PC date/time

Network Time Protocol Open/Closed

Select the time zones the cameras are in.

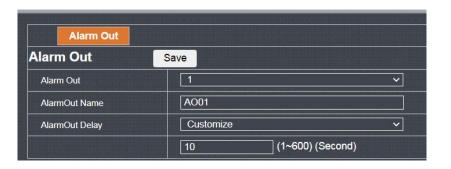
NTP server

## **Daylight Saving**

Sync Interval

7. Server Address

Enable DST
 Daylight Saving Time Mode
 Time Offset
 Start Time
 End Time
 Open / Closed
 Week/ Month
 Between -1& 2 Hours
 Date & Time clocks go forward
 End Time
 Date & Time clocks go backwards







# **Local Setting**

# **User Management**

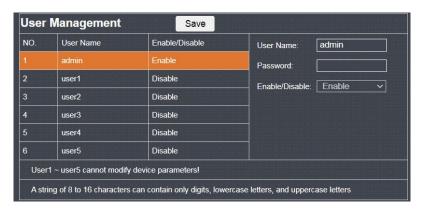
There are 6 Admin (x 1) and 5 user accesses to the camera, only Admin has the ability tole to change any parameters.

#### **Device Info**

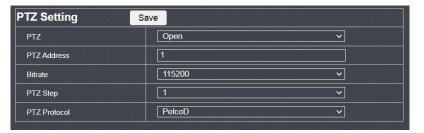
This is for information only, showing Firmware, software, Device Serial Number, and other important pieces of information.

#### **PTZ Setting**

1.	PTZ	Open / Closed
2.	PTZ Address	Based on RS485 addressing
3.	Bitrate	PTZ Bit rate i.e.,115200 (Pelco)
4.	PTZ Step	1
5.	PTZ Protocol	Pelco D







# Specifications

#### **Auto Reboot**

1.	Maintenance Mode	Select the Reboot frequency
2.	Week Plan	Select the day for the Reboot
3.	Maintenance Time	Select the Reboot time
4.	Next Maintenance Time	The time the next Reboot is planned

# Firmware (F/W) Upgrade

When new F/W is released, it can be loaded into the camera from here. It will ask you to brows your PC to the folder holding the F/W update.

#### **Restore Default**

1.	Simple Recovery	To factory setting (not delete user data)
2.		To factory settings (all data delete)
3.	Reboot	Restart the camera

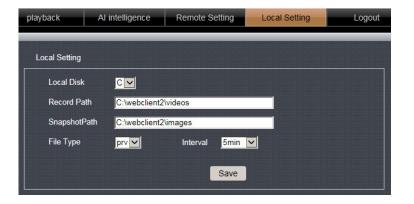


# Firmware Update



# **Local Setting**

Local Disk
 Record Path
 Snapshot Path
 File Type
 Save
 Choose the recording disk
 Video recording position
 Recording position
 Recording format Interval: video recording time (1/5/15/30/60min)
 Save



# Al Intelligence

# **Intelligent Detection**

Human shape detection

1.	Enable	Enable/ Disable
2.	Sensitivity	High, Medium, Low
3.		Sound output, Light alarm, Trigger Alarm out

#### Motion

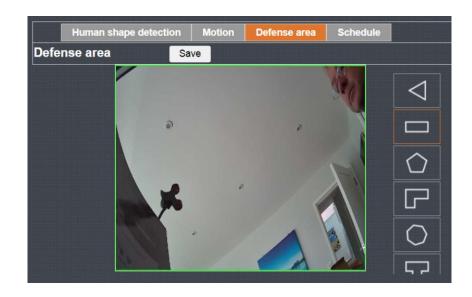
1.	Enable	Enable/	Disable
	Eliable		213421

#### **Defence Area**

The area of interest split into up to 4 zones. There are 6 shape options to maximise your coverage. Triangle, Rectangle, Pentagon, "L" shape, Heptagon, and "T" shape







#### Voice alarm / Audible alarm

Audible alarm
 Humanaid/man mada saund

Enable / Disable

Humanoid/man-made sound type Custom, Police signal, Dog barking, Alert area, Monitoring area, Welcome, Deepwater warning, Private sector, Hazardous area, Valuable – Test &

Check

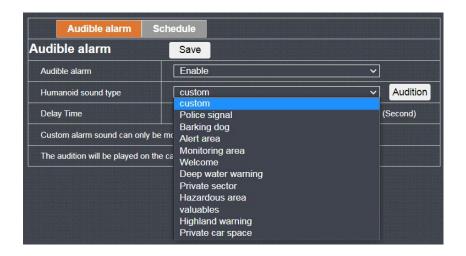
(Not available for this camera, need to contact with external speakers)

3. Delay Time

Select between 1 – 600s

4. Schedule

1 hourly increments by day &time





# Al Intelligence

## **Light Alarm**

1. Lighting mode Always Open / Twinkle (Flashing)

2. Delay record (1-60 secs)

N.B. This function is only triggered by human movement and will only work during the daylight hours

(Not available in this camera, need to connect with different IR LED board)

## Overlay settings.

This function gives the option of having a visual alert of a frame surounding the object of interest, on either the Main or Subcode streams or both.

1.	MainStream	Options of a visual frame around a human of object.
2.	Subcode Stream	Options of a visual frame around a human of object.





	SNO-20XX0T
VIDEO	•
Imaging Device	1/3" 4MP GC4653
Total Pixels	2,560(H) X 1,440(V) approx. 4M pixels
Effective Pixels	1,920(H) X 1,080(V) approx. 2.M pixels default
Min. Illumination	Colour: 0.01 Lux / B/W: 0 Lux (IR LED) TD/N option (Colour 0.01Lux)
IR LEDs	12 x 850nm, 10m Illumination
LENS	
Focal Length	2.1mm & 3.6mm Options
Angular Field of View	3.6mm: 76°(H) ~ 41°(W) / 2.1mm: 104°(H) ~ 56°(W)
Lens / Mount Type	Fixed iris / Board-in type
Image Settings	
Overlay Information	Name, Resolution, Bitrate, Channel Inf, Time, Position
Privacy Zones	Up to 4
Smart Night	Intelligent Mode, Infrared Light, White light
Image Mode	Standard, Faceless exposure, License plate mode
IR-Cut Sensitivity	High, Medium, Low
Delay Interval	10 ~ 600s
IR-Cut Reverse	On/Off
Image Mirror	Close, Flip Horizontal, Flip Vertical, Flip Centre
Image adjustment	Brightness, Contrast, Saturation, Chromaticity, Sharpness
Anti Flash Mode	50HZ, 60HZ, Close
Aperture Type	Auto, Manual
Exposure Time	Auto, 1/25, 1/30, 1/50, 1/60, 1/100, 1/120, 1/150, 1/180, 1/480, 1/960, 1/1,000, 1/2,000, 1/4,000, 1/8,000, 1/10,000
Gain	Auto, 6db, 12db, 18db, 24db, 30db, 36db, 42db
White Balance	Incandescent, Warm, Fluorescent, Natural, Manual, Auto, Locked
Denoise 3D	Auto, Weak, Normal, Strong
BLC	Open, Close
WDR	Auto, Weak, Normal, Strong
Alarm Settings	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
Audible alarm	Sound types, Custom, Dog, Alert, Warning, Monitoring, Hazardous area, Welcome, Private sector, Valuables, Private parking spaces.  Delay time, before next alarm, 5, 10, 20 30 s
Schedules	All Day, Manual (by day/hour), Night, Day
Alarm Output	1 x Name, Delay, Custom/keep, 1 ~ 600 s
Light Mode	Light mode: Always open, Twinkle, Delay 1 ~ 60 s (daytime only)
LIGHT WIOGC	Human &Motion, (High. Med, Low) Audible, Light, Selectable zones
Defence area	(shape/size). Overlay for Human, Area by Main & Sub streams
System Settings	
Date/Time	Format, 12/24hr, Sync to PC, Sync to Network Time, Daylight Saving
System Log	All, System, Configuration, Record, User Management, Alarm Event, Exception Event, Storage Management,
NETWORK	
IP Type	Manual, DHCP, Auto
Ethernet	RJ-45 (10/100 BASE-T)
Video Compression Format	Main & Sub streams: Video & Audio/ Video, H265+ (H.264/H.265), KFI $100 \sim 200$ , FPS ( $1 \sim 20$ ), VBR/CBR.

Resolution	Main code stream: 2560 x 1440, 2304 x 1296, 1920 x 1080, 1280 x 720			
	Sub code stream: 800 x 448, 704 x 576, 640 x 360, 352 x 288			
Port Configuration	HTTP (80), Command Port (6060), Data Port (6066) (Defaults)			
RTSP	Port default 554, Mainstream: rtsp://192.168.1.10:554/live/0/MAIN			
	Sub stream: rtsp://192.168.1.10:554/live/0/SUB			
Max. Framerate	H.265 / H.264: Max. 25fps at all resolutions 2560*1440 (20fps)			
Bitrate Control	H.265 / H.264: CBR or VBR			
Streaming Capability	Multiple streaming (Up to 10 profiles)			
Image latency	Ave. 200ms			
Audio In	Selectable (Mic in / Line in)			
Audio Compression	G.711U G.711AFormats			
Audio Communication	Input & Output volume Adjust.			
IP	IPv4, IPv6			
Protocol	ONVIF, P2P, CGI, HTTP, TCP/IP, IPv4, RTSP, UDP, NTP, DHCP, DNS			
Snapshot Config	Image Resolution: 640 x 360, Quality (High, Med, Low)			
Streaming Method	Unicast / Multicast			
User Access	1 x Admin, 5 x User			
Interface	ONVIF profile S, Proprietor API			
Viewing/Setup S/W	Stortech VMS			
ENVIRONMENTAL				
Operating Temp /Hum	-20°C ~ +55°C /10-95% RH			
Ingress Protection / Vandal Resistance	IP67 / IK10			
ELECTRICAL				
Power	48V PoE (IEEE802.3af, Class3) or RJ45+12V DC			
MECHANICAL				
Colour / Material	Black			
Dimensions (WxH)	76.4 x 60.5 x 56mm			
Weight	203g			

# Al Intelligence

PROBLEM	SOLUTION
When a Windows 10 user accesses the webviewer through Chrome or Firefox, the sound volume of the microphone changes periodically.	This is what happens when the microphone driver has been set to the Realtek driver.     Install the High-Definition Audio device (Windows Default Driver) or a third-party driver as the microphone driver.
No video is displayed when accessing the plug-in free webviewer on Safari via HTTPS.	On the authentication popup window prompted when initially accessing https, click "View Authentication Certificate" and select the "Always trust when connecting to the designated webviewer IP" checkbox.  If the webviewer continues failing to display a video after you select "Next" on the message window below, press the command key+Q to exit the Safari browser, access again and follow the procedures stated above.
I can't access the camera from a web browser.	<ul> <li>Check to make sure that the camera's Network settings are appropriate.</li> <li>Check to make sure that all network cables have been connected properly.</li> <li>If connected using DHCP, verify that the camera is able to acquire dynamic IP addresses without any problem.</li> <li>If the camera is connected to a Broadband Router, verify that port forwarding is properly configured</li> </ul>
Viewer got disconnected during monitoring.	<ul> <li>Connected Viewers become disconnected up on any change to camera or network configurations.</li> <li>Check all network connections.</li> <li>If the camera is connected over an PPPoE network, it is possible for the Viewer to disconnect under poor network conditions.</li> </ul>
The camera connected to the network is not detected in the Stortech VMS software program.	<ul> <li>Turn off the fire wall settings on your PC and then search for the camera again.</li> <li>Some cameras are powered via POE, ensure the POE camera is connected to a POE switch</li> </ul>
No image appears.	<ul> <li>If the transmission method is set to multicast, check whether the router the camera is connected to supports multicast on the LAN.</li> <li>Pls check if the IP camera address is the same as other devices on the LAN.</li> </ul>



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