SANTEC
VIDEO TECHNOLOGIES

**Panorama IP camera
1.3 MP**

Model
SNC-P3601M

Dear customer,

Thank you for purchasing a high quality SANTEC device.

We recommend that you read this manual thoroughly before operating your new system for the first time. Please follow all instructions and observe the warnings contained in this manual.

Please contact your local dealer or use the SANTEC Service Hotline if you have any questions or if you wish to claim for a service or warranty.

You will find further information on our website:
www.santec-video.com

> **SANTEC Service Hotline:**
> +49 / 900 / 1 72 68 32
> +49 / 900 / 1 SANTEC
> (if available from your country)

> support@santec-video.com

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Safety precautions

Caution
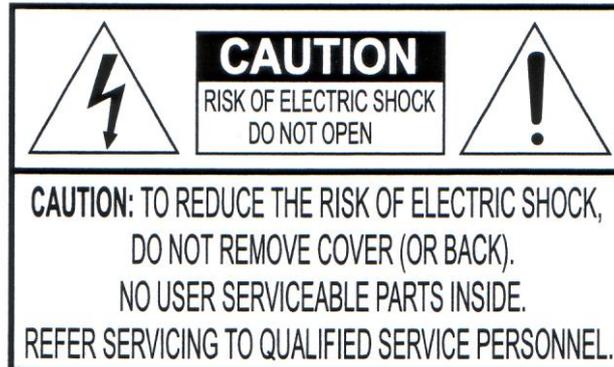
Description of symbols

 Danger: This symbol is intended to alert the user to the presence of un-insulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to a person.

 Warning: This symbol is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

CE compliance

Attention: Any changes or modifications to this appliance which have not been explicitly approved of by the respective regulatory authority, may lead to a prohibition of usage of this appliance.

This appliance complies with the CE guidelines.

Safety instructions

- Before operating the appliance, please read this manual carefully and retain it for further reference.

- Before cleaning the appliance, it has to be switched off and unplugged from the power outlet. Wipe the appliance with a soft damp cloth.
  Do not use harsh cleansers or aerosols for cleaning. The type label may not be replaced.

- Do not use attachments unless recommended by the manufacturer as they may affect the functionality of the appliance and result in the risk of fire, electric shock or injury.

- Never install the appliance in areas exposed to water or other liquids.

- The camera housing complies with class IP-54.

- The appliance has to be installed in a safe and stable location which is able to carry the weight of the appliance. Quick stops, excessive force, and uneven surfaces may cause the appliance to fall causing serious injury to persons and damage to objects.

- Openings in the appliance, if any, are provided for ventilation to ensure reliable operation of the appliance and to protect if from overheating. These openings must not be covered or blocked. Please make sure that the appliance does not overheat.

- The appliance should only be operated from the type of power source indicated on the marking label. If you are not sure of the type of power supplied at the installation location, please contact your local dealer.

- An appliance which is powered through a polarized plug (a plug with one blade wider than the other) will fit into the power outlet only one way. This is a safety feature. If you are unable to insert the plug into the outlet, try reversing the plug. Do not defeat the safety purpose of the polarized plug.

- If the appliance is powered through a grounding-type plug, the plug will only fit into a grounding-type power outlet. This is a safety feature. If your outlet does not have the grounding plug receptacle, contact your local electrician.

- Route power cords and cables in a manner to protect them from damage by being walked on or pinched by items places upon or against them.

- For protection of the appliance during a lightning storm or when it is left unattended and unused for a longer period, unplug the appliance from the wall outlet. Disconnect any antennas or cable systems that may be connected to the appliance. This will prevent damage to the appliance due to lightning or power-line surges.

- Do not overload wall outlets and extension cords as this can result in a risk of fire or electric shock.

- Never insert items into the openings of the appliance. They may touch parts under electric current which may cause an electric shock.

- Never pour any liquids over the appliance.

- In case of any operating interruption or a complete operating failure please switch off the appliance and disconnect it from the wall outlet. Never attempt to service or repair the appliance yourself, as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.

- When replacement parts are required, be sure that the service technician uses replacements parts specified by the manufacturer or that have the same characteristics as the original part. Unauthorized substitutions may result in fire, electric shock or other hazards.

- Upon completion of any service or repairs to the appliance, ask the service technician to perform safety checks to verify that the appliance is in proper operating condition.

- The appliance should only be installed by qualified service personnel and has to comply with local specifications and regulations.

- Never point the camera at an object with a high degree of luminance. Bright vertical or horizontal lines can result in a distortion (outshine) of the entire image on the monitor. This artifact is not an error but a particularity of semiconductor CCDs when they are directly exposed to a powerful light source.

- At the installation site, the camera has to be adjusted to the given light conditions.

- Please respect the local legal regulations on waste if you need to dispose of discarded appliances.

This symbol means that electrical appliances need to be disposed of properly and not simply with unsorted household refuse. Please respect local regulations on waste disposal.

About this user manual

This manual aims at assisting the user on how to operate camera SNC-P3601M.

This manual is subject to rigid quality control. However, no guarantee can be given that mistakes are not present. We reserve the right to make changes to the manual without prior notice.
Before operating the appliance, please read this manual carefully and retain it for further reference.
Verify that all appliance items are included in the delivery. Should items be missing, do not operate the appliance and contact your local dealer.
Never attempt to repair the appliance yourself. This should only be done by qualified service personnel.
Improper handling of the appliance will invalidate the warranty.

Items included in the delivery

1x camera SNC-P3601M	1x IP-finder software
1x allen wrench	1x user manual
1x torx key	4x rubber gaskets
4x screws	

To operate the camera, SanGuard or NUUO software is required which you can purchase from SANTEC.

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1. Installation
(also see the pictures on the following pages)

Camera SNC-P3601M is a colour camera with electronic day/night switching and a pre-installed 360° lens. You will find the technical data at the end of the manual.

1.1 Lens
This camera is equipped with a pre-installed and pre-set 360° lens. When operating the camera, you may need to re-adjust the lens because during the transport the lens might have experienced some vibrations.

Step1: Unwrap the camera.

Step 2: Connect the camera to the power supply and connect it to the network.

Step 3: Open the cameras's web interface in the Internet Explorer.

Step 4: Call up the live.

Step 5: Check if the oval position is centered and straight.

Step 6: Check if the focus adjustment is set properly.

Step 7: If required, adjust the lens. To access the lens, open the camera housing and following the below procedure. Use the allen wrench included in the delivery.

(Continue on next page)

Ensure that the main screw and the focus screw are loose. They have to be loose but don't need to be taken out completely.	
Turn the focus ring left or right until the picture is sharp and clear.	
Turn the master ring left or right to obtain a straight position of the elliptical picture.	
Turn the adjustment screw left or right to obtain a vertical position of the elliptical picture. The elliptical picture has to be in a centered position.	
Turn the adjustment screw left or right to obtain a horizontal position of the elliptical picture. The elliptical picture has to be in a centered position.	
Fix the screws again tightly.	

1.2. Camera installation

Make sure to fix the camera onto a solid basis which is capable to carry the weight of the camera. Ensure that the camera is safely installed by using only suitable screws. If the included screws are not suitable, please replace them by other appropriate screws.

1.3. Power supply

The camera can be operated with 12 V DC via the external power supply unit or with PoE (Power-over-Ethernet) via a PoE switch (Ethernet port).

1.4. Camera overview

Picture 1: Open the camera housing

Screws to open
the camera housing

<u>Picture 2:</u> Reset button

Reset button

<u>Picture 3:</u> Lens adjustment
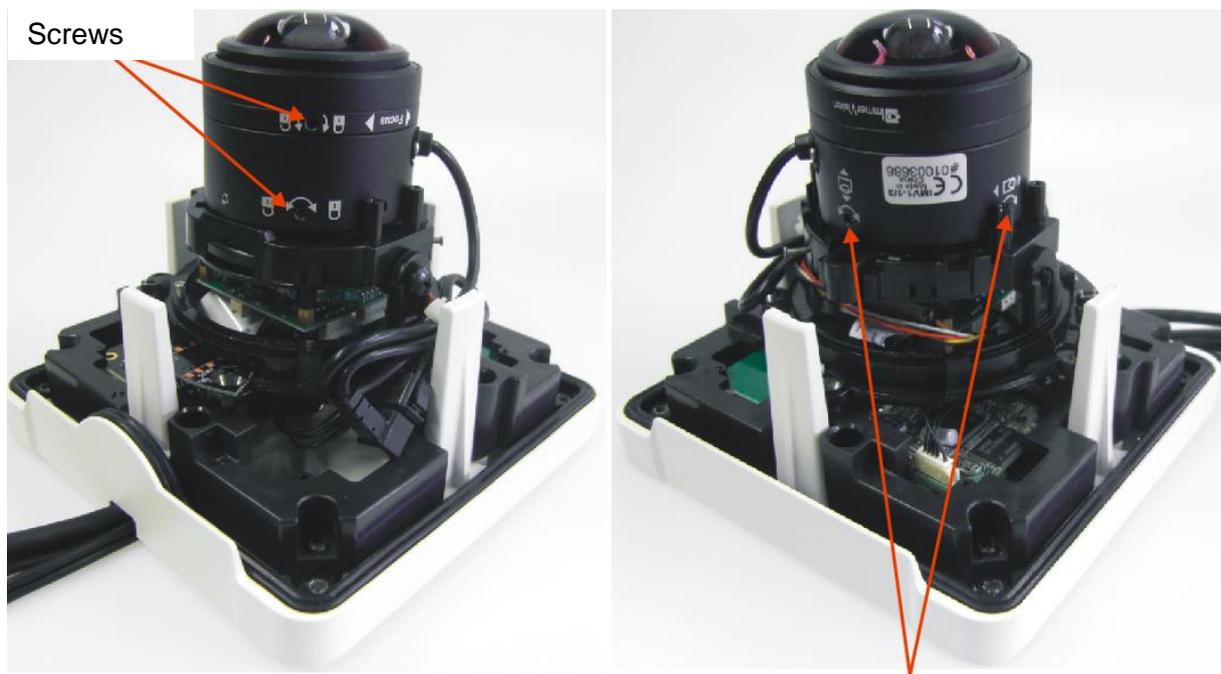
Screws

Screws to adjust the position of the elliptical picture

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Picture 4: Dimensions (mm)
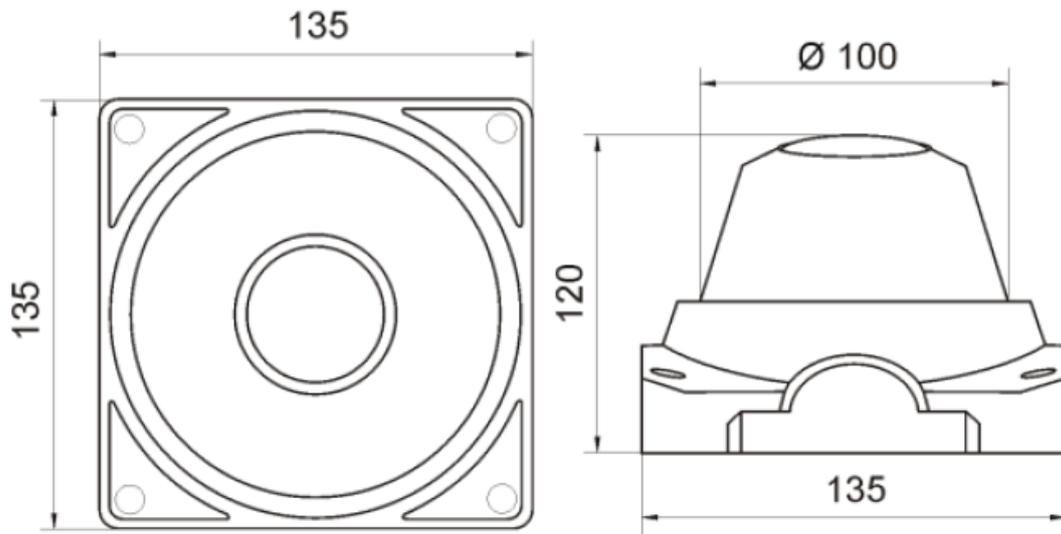
Picture 5: Surface mounting
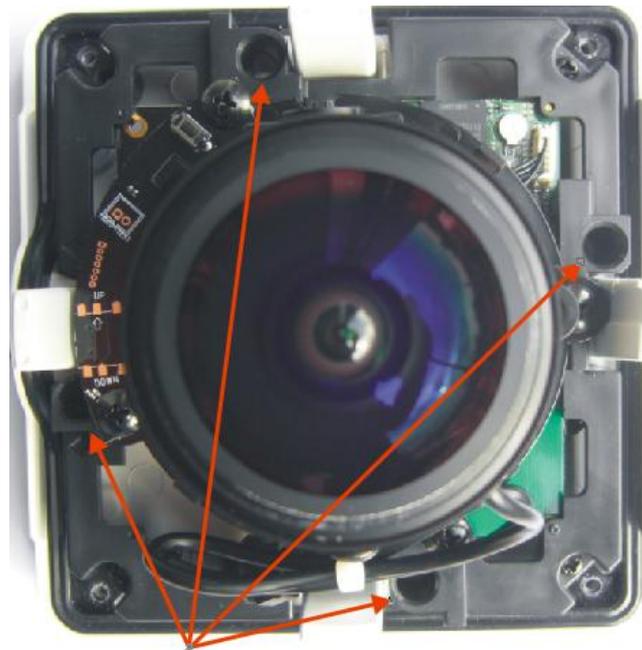
Screws for surface mounting

Picture 6: Connections

Ethernet connection

Voltage 12 V DC

Audio input/output

Alarm input/output

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2. IP settings

The SANTEC IP cameras come with the following default settings:

IP-address	:	192.168.1.168
Subnet mask	:	255.255.255.0
Gateway	:	0.0.0.0
DNS-server	:	0.0.0.0
User ID	:	admin
Password	:	9999

To retain the default settings, press the reset button.

There are the following 3 options to change the IP-address of the camera:

a. IP-finder software
Every SANTEC IP camera comes with the IP-finder software.
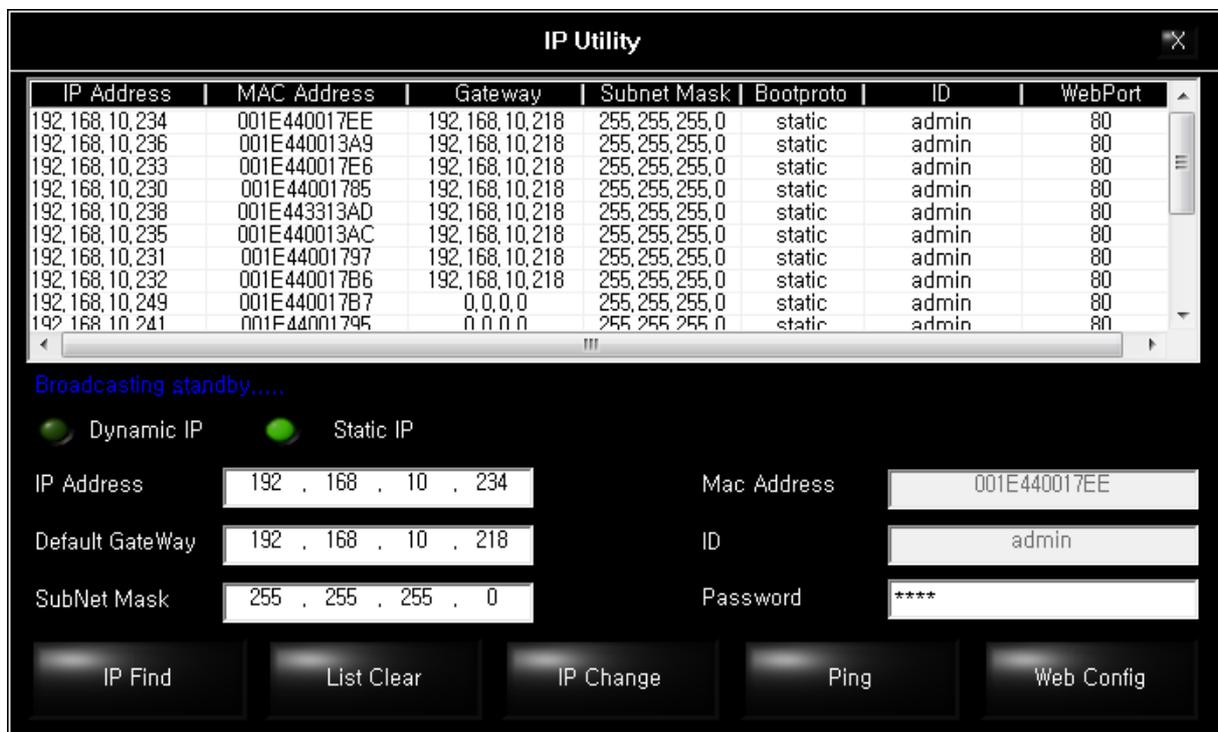
- Select the camera from the list by double-clicking.
- Change the IP settings to the new settings.
- Enter the user name (ID) and the password.
- Click on **IP Change**.

b. Camera web interface
You will find the description of the web interface in the following chapter.

3. Web interface

3.1. Calling-up the camera web interface

Open the Microsoft Internet Explorer and start the connection of the network camera as follows:

- Click on the URL field.
- Type in the URL address of the network camera and press the ENTER key. You will then access the web interface of the camera.
  The default IP-address of the camera is **192.168.1.168**

You need the user ID and the password in order to access the web interface.

The default user ID is *admin* and the default password is *9999*.

Note:

When you call up the camera web interface, it may happen that you are prompted for an ActiveX installation. Please note that the Internet Browser settings allow the installation of ActiveX components.

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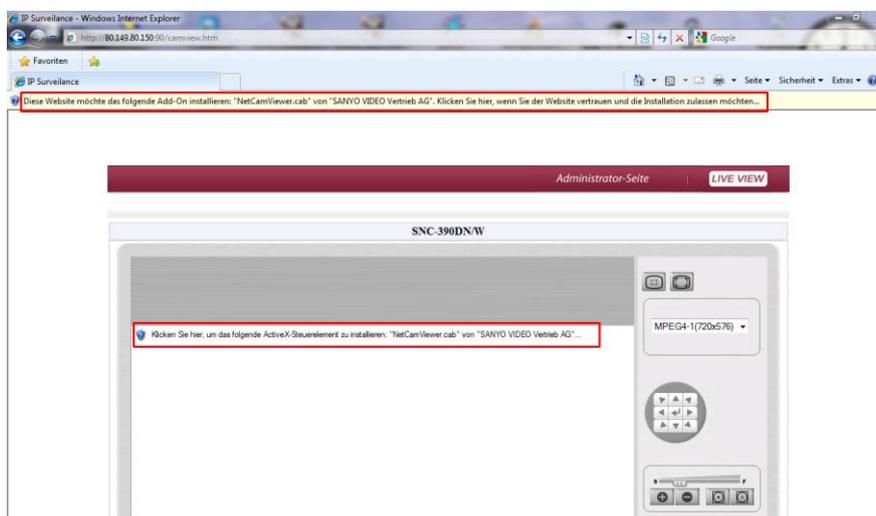
3.2. Live view
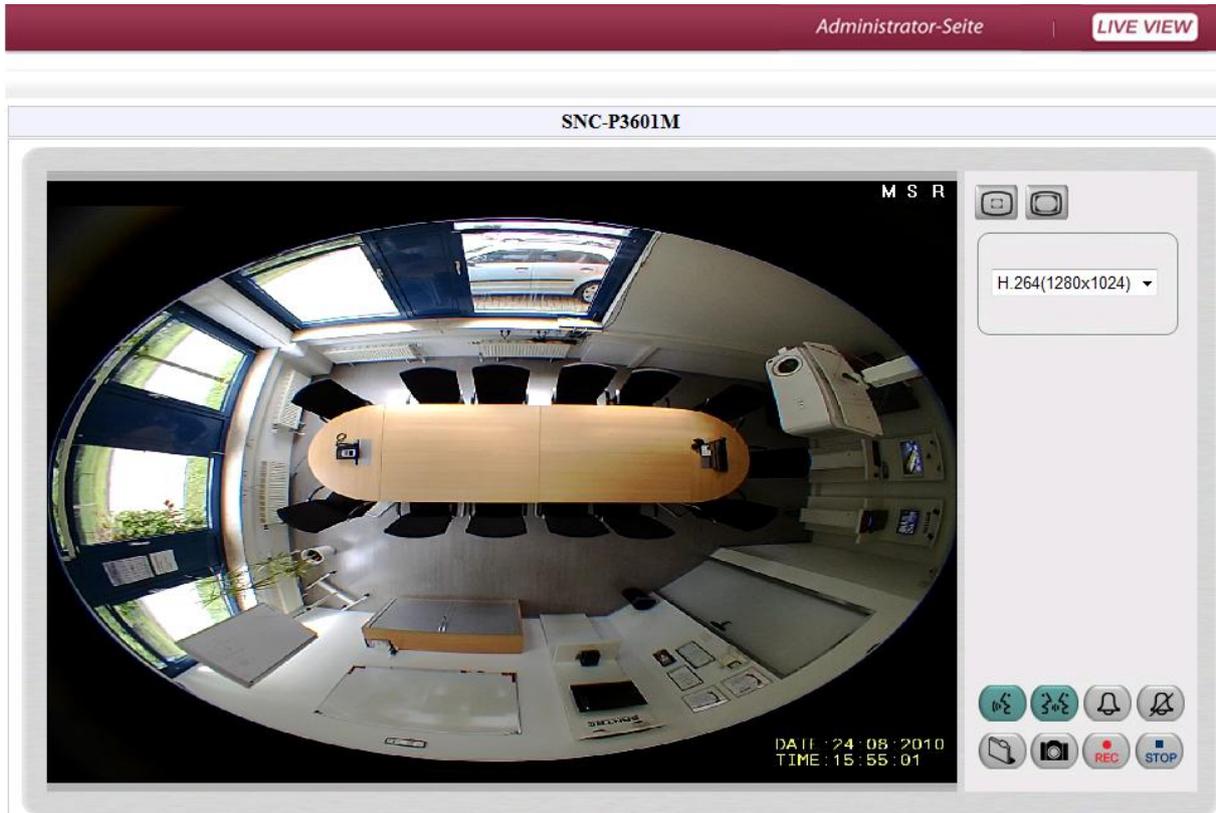
ADMINISTRATOR'S PAGE	Page for camera adjustments
LIVE VIEW	Page for Live-View
	Live-View with 50% resolution
	Live-View with defined resolution
	Digital output (relay) on
	Digital output (relay) off
	Audio on (camera -> web interface)
	Audio off (camera -> web interface)
	Audio on (web interface -> camera)
	Audio off (web interface -> camera)
	Storage location for snapshots and video sequences
	Save snapshot
	Start recording (the video sequence is saved as AVI-file)
	Stop recording

Notes:

- In order to activate the 2-way audio function, press the ⬭ and ⬭ buttons.
- In order to save a snapshot or a video sequence, select the storage location by using the ⬭ button.
- During live mode of the web interface, digital PTZ control is not possible. Please use the SanGuard or NUUO software which you can purchase from SANTEC.

3.3. Setting overview

3.4. System settings

3.4.1. Time / date

The Local Time
Date: 2000/01/01   Time: 01:17:54

The Desired Time
○ Set Manually
Date: 2010 ▾ / 05 ▾ / 10 ▾ (YYYY/MM/DD)
Time: 09 ▾ : 13 ▾ : 28 ▾ (HH:MM:SS)
○ Synchronize with Computer Time
Date: 2010/05/10   Time: 09:12:41
○ Synchronize with SNTP Server
SNTP Server: 0.pool.ntp.org
☑ **Automatically Adjust for Daylight Saving Time Changes.**
Time Zone: GMT+01 Amsterdam,Berlin,Rome ▾

Submit

- **Local time:** The local time is the one as set in the camera.

- **Desired time:** You can change the time which is set in the camera as follows:

  o **Set manually:** Select the desired time and date from the drop-down list.

  o **Synchronize with computer time**: If you select this option, the computer time/date is transferred to the camera.

  o **Synchronize with SNTP server:** If you select this option, the SNTP server time/date is transferred to the camera.

- **Automatically adjust for daylight saving time changes:** This option activates the automatic adjustment to summer/winter time.

- **Time zone**: This is the time zone in which the camera is located. This option is important for daylight saving time changes.

- **Submit:** Click here to apply the new date/time settings to the network camera.

3.4.2. Time stamp

- **Enable time stamp:** The time stamp is displayed.

- **Time stamp position:**
  - UPPER LEFT
  - UPPER RIGHT
  - BOTTOM LEFT
  - BOTTOM RIGHT

- **Time stamp format:**
  - YY/MM/DD
  - MM/DD/YY
  - DD/MM/YY
  - YY/MM/DD TITLE
  (YY = year, DD = day, MM = month)

- **Submit:** Click here to apply the new time stamp settings to the network camera.

3.4.3. User

- **User list:** This list displays the user(s) and their respective authorisations.

- **Delete user:** Select a user from the list to be deleted and click this button.

- **User name:** Enter the user name here which is to be added or modified.

- **Password:** Password of the above user name.

- **Confirm:** Re-enter and thus confirm the password here.

- **Authority:** Authorisation level: admin, operator or viewer.

- **Submit:** Click here to apply the new user settings to the network camera.

4.4.4. Language

Language: English ▾

Submit

- **Language:** Select your language
  - English
  - German

- **Submit:** Click here to apply the new language settings to the network camera.

4.4.5. Camera name

Device-Namen: SNC-P3601M   Bestätigen

- **Camera name:** Enter the name/title of the camera.

- **Submit:** Click here to apply the new camera name to the network camera.

3.4.6. Update firmware

Software Version:	SNC-565IR/W-2.2 [001E440017B6]
ActiveX Version:	1,0,1,9

[_____] [Durchsuchen...] and click [update]

Note Do not move another page and disconnect the power of the device, during the update. Update will take approximately 1 minute.

[Restart]
Warning: System will restart immediately!!

This page displays information on the installed firmware version and the ActiveX components.

- **Search:** Select the firmware file from your PC.

- **Update:** Start the update process.

- **Restart:** Restart the camera.

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3.5 Network

3.5.1 IP-address

- **IP-address:** Enter the 4-Byte IP-address (value from 0 to 255). Every network camera has to have its own IP-address which can be identified in the network.

- **Netmask:** Enter the 4-Byte subnet-mask (value from 0 to 255). By this, the netmask can be identified in which the network camera is located.

- **Gateway:** Enter the 4-Byte gateway (value from 0 to 255).

- **First DNS:** Enter the 4-Byte DNS-server address (value from 0 to 255). The DNS-server transforms the domain name into an IP-address.

- **Second DNS:** Enter the 4-Byte DNS-server address (value from 0 to 255). The DNS-server transforms the domain name into an IP-address.

- **HTTP port:** Displays the specific HTTP port number. Default is 80.

- **Submit:** Click here to apply the new network settings to the network camera.

3.5.2. SNTP (time server for time synchronisation)

SNTP Server:	0.pool.ntp.org

Submit

- **SNTP server:** IP-address of the SNTP server. Can be entered as 4-Byte IP-address or as domain name.
- **Submit:** Click here to apply the new network settings to the network camera.

3.5.3 FTP

FTP Server:	192.168.1.2	Port:	21
User Name:			
Password:			
File Upload Path:	default_folder		

Submit

- **FTP server:** IP-address of the FTP server. Can be entered as 4-Byte IP-address or as domain name.

- **Port:** Port number of the FTP server.

- **User name:** User name to login to the FTP server.

- **Password:** Password to login to the FTP server.

- **File upload path:** Folder path of FTP server in which the video data is to be stored.

- **Submit:** Click here to apply the new network settings to the network camera.

3.5.4. SMTP

If necessary, enable the option „My server requires authentication".

- **Account name:** Account on e-mail server.

- **Password:** Password of account on e-mail server.

- **Sender:** This information is displayed as e-mail sender.

- **SMTP server:** IP-address of SMTP server. Can be entered as 4-Byte IP-address or as domain name.

- **E-mail address:** E-Mail address to which the e-mails are to be sent.

- **Send count (1-8):** Number of files attached to an e-mail.

- **Submit:** Click here to apply the new network settings to the network camera.

3.5.5. DDNS (dynamic domain name system)

- **DDNS host name:** IP-address of DDNS server. Can be entered as 4-Byte IP-address or as domain name.

- **DDNS account:** Account on DDNS server.

- **DDNS password:** Password of account on e-mail server.

- **Submit:** Click here to apply the new network settings to the network camera.

3.5.6. Event protocol

On this page, the events are displayed. You can browse in the events by clicking on the buttons "first page", previous 20" and "next 20".

3.6 Video settings

3.6.1 Encoding

Stream Type	Single ▼
Video Codec	Single MPEG4 ▼
Resolution	MPEG4:720(1280x720) ▼
50Hz or 60Hz	○ 60Hz ◉ 50Hz
Rate Control	CVBR ▼
JPEG Setting	
Quality	high ▼
Frame Rate	N/A ▼
(1)MPEG4 Setting	
Bit rate	4000
Frame Rate	25fps ▼
(2)MPEG4 Setting	
Bit rate	1000
Frame Rate	N/A ▼

Submit

- **Stream type:** Adjustment of video streaming mode
  - Single
  - Dual
  - Triple

- **Video codec:** Adjustment of encoding procedure
  - Stream type: single:
    - H.264
    - MPEG4
  - Stream type: dual
    - H.264 + JPEG
    - MPEG4 + JPEG
    - Dual H.264
    - Dual MPEG4
    - H.264 + MPEG4
  - Stream-Typ: triple

- Resolution: The resolution of each video stream depends on the adjustments of the stream type and the video codecs. The following values can be set:

_____

Stream type	Video codec	Resolution
Single	H.264	• 1280x1024 • 1280x960 • 1280x720 • 720x480 • 640x480
	MPEG4	• 1280x1024 • 1280x960 • 1280x720 • 720x480 • 640x480
Dual	H.264 + JPEG	• 1280x720 + 640x352 • 640x480 + 640x480
	MPEG4 + JPEG	• 1280x720 + 640x352 • 640x480 + 640x480
	Dual H.264	• 1280x720 + 390x192 • 720x480 + 720x480 • 640x480 + 640x480
	Dual MPEG4	• 1280x720 + 390x192 • 720x480 + 720x480 • 640x480 + 640x480
	H.264 + MPEG4	• 720x480 + 720x480 • 640x480 + 640x480
Triple	Dual H.264 + JPEG	• 1280x720 + 320x192 + 640x352
	Dual MPEG4 + JPEG	• 1280x720 + 320x192 + 640x352

- Bit rate: Bit rate mode
  - o CBR: Constant bit rate
  - o CVBR: Variable bit rate

- JPEG adjustment
  - o Quality: HIGH / NORMAL / LOW
  - o Frame rate: 30 / 15 / 7.5 / 3 / 1 fps

- (1) H.264 / MPEG4 adjustment
  - o Bit rate: 64 ~ 4000 Kbit/sec
  - o Frame rate: 30 / 25 / 15 / 13 / 7.5 / 6 fps

- (2) H.264 / MPEG4 adjustment
  - o Bit rate: 64 ~ 4000 Kbit/sec
  - o Frame rate: 30 / 25 / 15 / 13 / 7.5 / 6 fps

- **Submit:** Click here to save the new encoding settings.

Note:
Although the camera provides a number of video modes, single H.264/MPEG4 mode with 1280 x 1024 resolution has always to be set in order to enable a digital PTZ contol using SanGuard or NUUO software.

3.6.2 Camera settings

On this page, you can change the following picture settings:
- o Sens up: OFF / ON
- o Day and night: AUTO / B/W / COLOR
- o White balance: AUTO / SUNNY / SHADOW / INDOOR / LAMP
- o WDR: ON / OFF
- o WDR Level: 1 ~ 10
- o DC IRIS: 0 ~ 200
- o Lens type: DC-IRIS / MANUAL
- o Brightness: 0 ~ 255
- o Contrast: 0 ~ 255
- o Saturation: 0 ~ 255
- o Sharpness: 0 ~ 255
- o Noise Reduction: 0 ~ 255

- **Reset**: The picture settings are reset (as shown on the above screen shot).

- **Submit:** Click here to save the new picture settings.

3.7. Audio settings

- **Audio:** Set the audio mode to:
  o OFF: audio is turned off
  o one-way: audio only from camera to PC
  o two-way: audio in both directions

- **Audio out volume:** 0 - 4

- **Submit:** Click here to save the new audio settings.

3.8. Extended settings

3.8.1. Motion detection
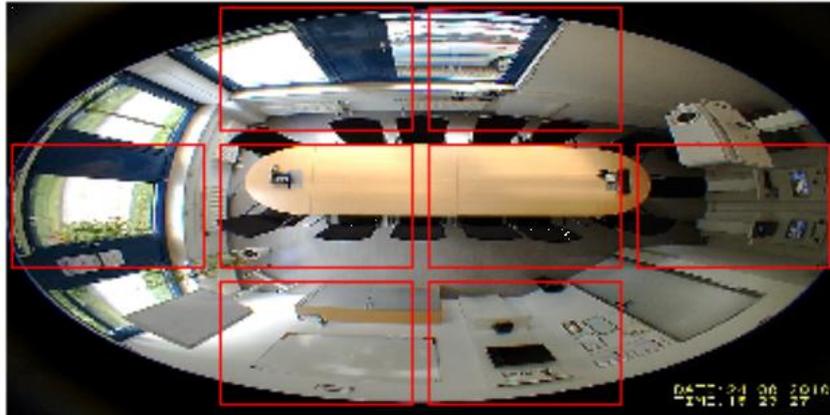
- **Motion detection:** Activation/deactivation of motion detection

- **Sensitivity:** Set the sensitivity level of the motion detection
  o Lowest
  o Low
  o Medium
  o High
  o Highest

- **CCD reference:** CCD reference (20 - 50)

- **Motion detection mask:** Click on the picture to set or to delete an element of the motion detection mask. If a motion occurs in the marked field, it will be detected.

- **Submit:** Click here to save the new motion detection settings.

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3.8.2. Alarm settings

Alarm In(Sensor) :   ○ ON ◉ OFF Active Type: Low ▾

Alarm Out(Relay) :   ○ ON ◉ OFF Active Type: Low ▾

☐ - Trigger an Alarm When Ethernet Is Lost

Alarm Relay Duration **0 second** ▾ Second(s)

Submit

- **Alarm in (sensor):** Activate/deactivate the alarm input
  - Active type "low": This means 0 V. The camera will trigger an alarm if the alarm input has 0 V. To achieve 0 V at the alarm input, the contacts are closed.
  - Active type „high": This means 3.3 V. The camera will trigger an alarm if the alarm input has 3.3 V. To achieve 3.3 V at the alarm input, the contacts are not closed.

- **Alarm out (relay):** Activate/deactivate the alarm output
  - Active type „low": This means 0 V. If the camera triggers an alarm, the alarm output has 0 V.
  - Active type „high": This means 3.3 V. If the camera triggers an alarm, the alarm output has 3.3 V.
  -

- **Trigger an alarm when Ethernet is lost:** The camera can trigger an alarm if the network connection is interrupted.

- **Alarm relay duration:** You can set how long the alarm output should be active since the alarm is not being triggered anymore.
  - 0 second: The alarm output is set to inactivity immediately after the alarm.
  - 10 seconds: The alarm output is set to inactivity 10 seconds after the alarm.
  - 30 seconds: The alarm output is set to inactivity 30 seconds after the alarm.
  - 1 minute: The alarm output is set to inactivity 1 minute after the alarm.
  - Endless: The alarm output remains active until the alarm output is manually set to

    inactivity (press button ⌀ on the "live view" page of the web interface).

- **Submit:** Click here to save the new alarm settings.

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3.8.3. SD-card

3.8.3.1 SD-card settings

- **SD-card enable:** Activate/deactivate the SD-card.

- **SD-card rewrite:** Activate/deactivate the rewriting of the SD-card.

- **Format:** The SD-card is being formatted.

- **Submit:** Click here to save the new SD-card settings.

3.8.3.2 SD-card content

- This page displays the content of the SD-card.

- Click on the respective file name to open it.

- Click on „Delete" to delete the file.

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3.8.4. Recording

3.8.4.1 Recording settings

- On this page you can set the recording modes:
  - Schedule record – upload via FTP
  - Schedule record – save into SD-card
  - Alarm record – upload via FTP
  - Alarm record – save into SD-card
  - Alarm record – upload via SMTP (e-mail sending)

- **Additional setting options:**
  - Buffer: Pre-alarm buffer can be set to: 0 / 1 / 2 / 3 seconds.
  - SD file format can be set to: AVI / JPEG
  - FTP file format: only JPEG

- **Submit:** Click here to save the new recording settings.

3.8.4.2 Recording schedules

- You can set up to 7 schedules in the camera.
- **Submit:** Click here to save the new schedule settings.
- **Remove all schedules:** All existing schedules are deleted.

4. Technical specifications

Camera	SNC-P3601M colour dome camera
Sensor	1/3" 1.3 MP Sony Progressive Scan CMOS
Resolution (pixel)	1.3 MP (1280 x 1024)
Max. frame rate (fps)	25 at 1.3 MP (1280 x 1024)
Compression (video)	MJPEG / MPEG-4 / H.264
Number of video streams	3
Signal processing	Digital (DSP)
S/N ratio	>50 dB
Lens mount	CS
Iris control	DC
Lens type	Built-in 360° ImmerVision lens
Focal length	0.9 – 1.15 mm
Horizontal picture angle	360°
IR cut filter	Electronical
Light sensitivity	1.0 lux
Automatic Gain Control (AGC)	Yes
Digital Noise Reduction (DNR)	Yes
White balance	Auto / Sunny / Shadow / Indoor / Lamp
Backlight compensation (BLC)	WDR
Day/night mode adjustment	Auto / colour / black-white
Camera adjustments	Web interface
Motion detection (zones)	12
Title displayed in picture	Yes
Video output	No
Audio input/output	1x 3.5 mm jack / 1x 3.5 mm jack
Alarm input/output	1x / 1x
Motion detection	Yes
Schedule	Yes
Picture upload	HTTP / FTP / SMTP
Supported management software	SanGuard / NUUO
Supported protocols	HTTP / FTP / SMTP
Supported software standards	Not availabel
Internal memory	SD card (optional)
Ethernet connection	RJ-45, 10Base-T/100Base-TX
Power over Ethernet (PoE)	IEEE 802.3af, Midspan/Endspan
Classification	IP-54
Vandal-proof	No
Heating	No
Mounting	Surface
Camera installation	Screw fastening
Housing colour	RAL 9020 (matt white)
Housing material	Aluminium
Voltage	12 V DC or PoE
Power consumption	4.8 watt
Operating temperature (°C)	-10 to +50
Storage temperature (°C)	-20 to +60
Relative humidity (%)	max. 80
Dimensions W x H x D (mm)	135 x 120 x 135
Weight (g)	1.1 kg
Certification	CE

Subject to technical changes. Errors excepted.

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