UTC Fire & Security

A United Technologies Company

TruVision Megapixel IP Dome Camera User Manual

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Manufacturer

Authorized EU manufacturing representative:
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Certification

CE N4131

FCC compliance

Class A: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

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Contact information

For contact information, see www.utcfireandsecurity.com.

Content

Chapter 1
Introduction

Product overview

This is the user manual for TruVision megapixel IP dome camera models:

1.3 megapixel IP dome cameras:

- TVD-M1120-3-N 1.3 megapixel vandal-proof dome
- TVD-M1120-3-P 1.3 megapixel vandal-proof dome

2.0 megapixel IP dome cameras:

- TVD-M2110-2-N 2.0 megapixel dome
- TVD-M2110-2-P 2.0 megapixel dome
- TVD-M2110V-3-N 2.0 megapixel vandal-proof dome
- TVD-M2110V-3-P 2.0 megapixel vandal-proof dome

Features

This section describes the TruVision megapixel IP dome camera features.

- Supports TCP/IP, HTTP, DNS, RTP/RTCP and PPPoE protocols
- Programming and setup through a browser interface
- Live viewing over the network
- 50/60 Hz selectable flicker control
- Mono and bi-directional audio
- Digital pan/tilt/zoom (PTZ) (2.0 megapixel IP box camera only)
- Supports remote upgrades and maintenance
- H.264 video compression with dual capability
- Supports 4CIF, 2CIF, CIF and QCIF

- SDHC card for local storage

Chapter 2
Installation

This chapter provides information on how to install the TruVision megapixel IP dome camera.

Installation environment

When installing your product, consider these factors:

- **Electrical**: Install electrical wiring carefully. It should be done by qualified service personnel. Always use a proper PoE switch or a 12 VDC or 24 VAC UL listed Class 2 or CE certified power supply to power the camera. Do not overload the power cord or adapter.
- **Ventilation**: Ensure that the location planned for the installation of the camera is well ventilated.
- **Temperature:** Do not operate the camera beyond the specified temperature, humidity or power source ratings. The operating temperature of the camera is between -10 to 60°C (14°F to 140°F). Humidity is below 90%.
- **Moisture:** Do not expose the camera to rain or moisture, or try to operate it in wet areas. Turn the power off immediately if the camera is wet and ask a qualified service person for servicing. Moisture can damage the camera and also create the danger of electric shock.
- **Servicing**: Do not attempt to service this camera yourself. Any attempt to dismantle or remove the covers from this product will invalidate the warranty and may also result in serious injury. Refer all servicing to qualified service personnel.

Package contents

Check the package and contents for visible damage. If any components are damaged or missing, do not attempt to use the unit; contact the supplier

immediately. If the unit is returned, it must be shipped back in its original packaging.

Package contents:

- Camera
- Multilingual Installation Sheet
- CD with User Manual in several languages

CAUTION: Use direct plug-in UL listed power supplies marked Class 2 or LPS (limited power source) of the required output rating as listed on the unit.

Cable requirements

For proper operation, adhere to the following cable and power requirements for the cameras. Category 5 cabling or better is recommended. All network cabling must be installed according to applicable codes and regulations.

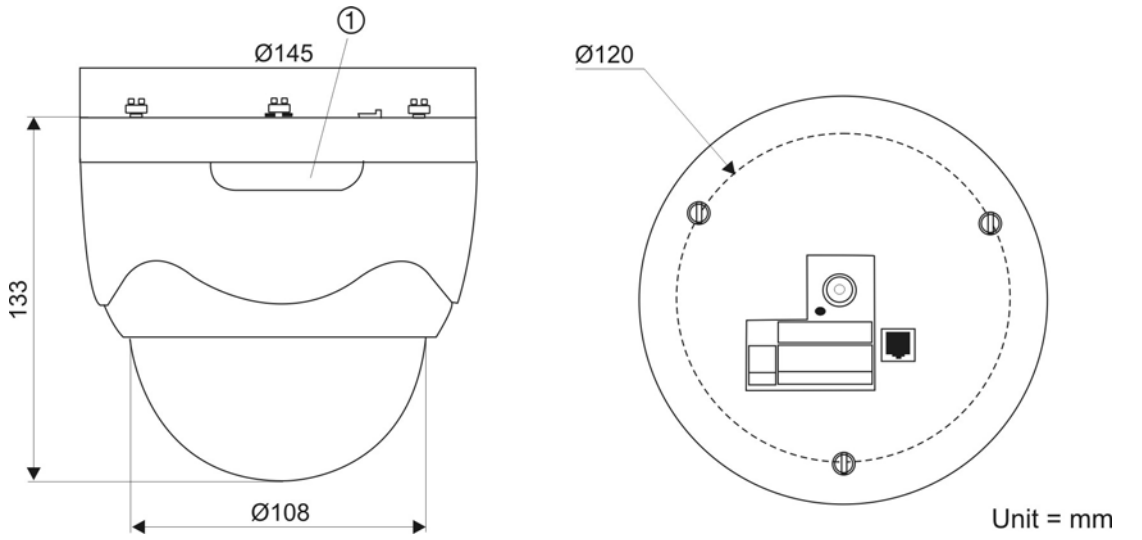
Table 1 below lists the requirements for the cables that connect to the camera.

Table 1: Recommended cable requirements

Cable type	Requirements
Data	For RS-485: 22 gauge (0.64 mm) shielded, two-conductor, twisted-pair (STP) cable
Video	75 ohm RS-59 coaxial cable with BNC ends
Power	24 VAC cable

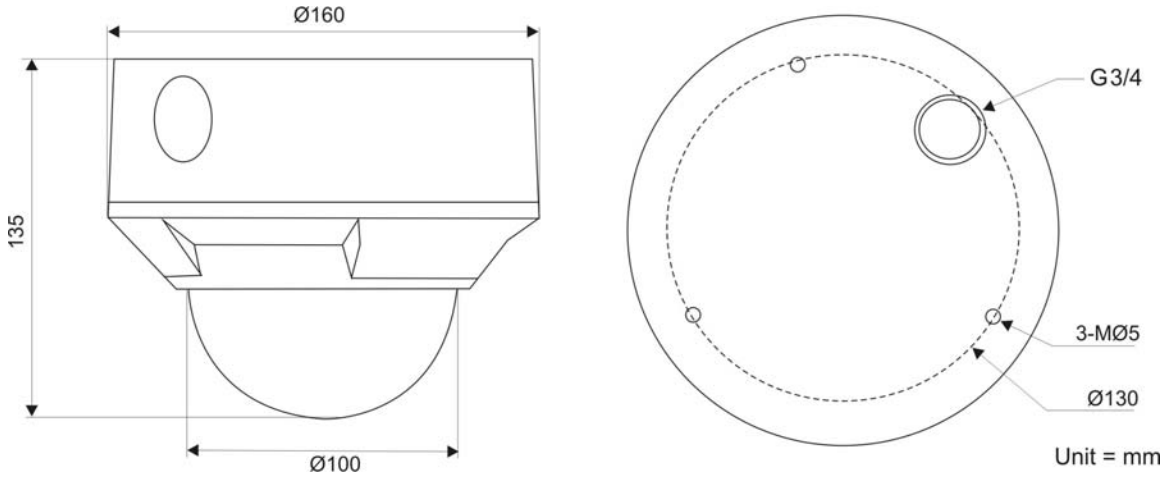
Camera dimensions

Figure 1: Megapixel IP dome camera



1. SDHC card slot

Figure 2: Vandal-proof megapixel IP dome camera



Setting up the dome cameras

Note: If the light source where the camera is installed experiences rapid, wide-variations in lighting, the camera may not operate as intended.

To quickly put the dome camera into operation:

1. Prepare the mounting surface.
2. Set the DIP switches to the desired positions and connect the power cable, alarm I/O cables, RS-485 cable, audio cables and network cable to the camera. See “Megapixel IP dome camera connections” below.
3. Mount the camera to the wall/ceiling using the appropriate fasteners. See “Mounting the dome camera on a ceiling or wall” on page 11.
4. Set up the camera’s network and streaming parameters so that the camera can be controlled over the network. See Chapter 3 “Network and streaming configuration” on page 15.
5. Program the camera to suit its location. See Chapter 4 “1.3 megapixel IP dome camera configuration” on page 51 and Chapter 5 “2.0 megapixel IP dome camera configuration” on page 59.

To quickly put the vandal-proof dome camera into operation:

1. Prepare the mounting surface.
2. Mount the camera to the wall/ceiling using the appropriate fasteners. See “Mounting the dome camera on a ceiling or wall” on page 11.
3. Connect the cabling to the devices. See “Vandal-proof megapixel IP dome camera connections” on page 9.
4. Set up the camera’s network and streaming parameters so that the camera can be controlled over the network. See Chapter 3 “Network and streaming configuration” on page 15.
5. Program the camera to suit its location. See Chapter 4 “1.3 megapixel IP dome camera configuration” on page 51 and Chapter 5 “2.0 megapixel IP dome camera configuration” on page 59.

Connections

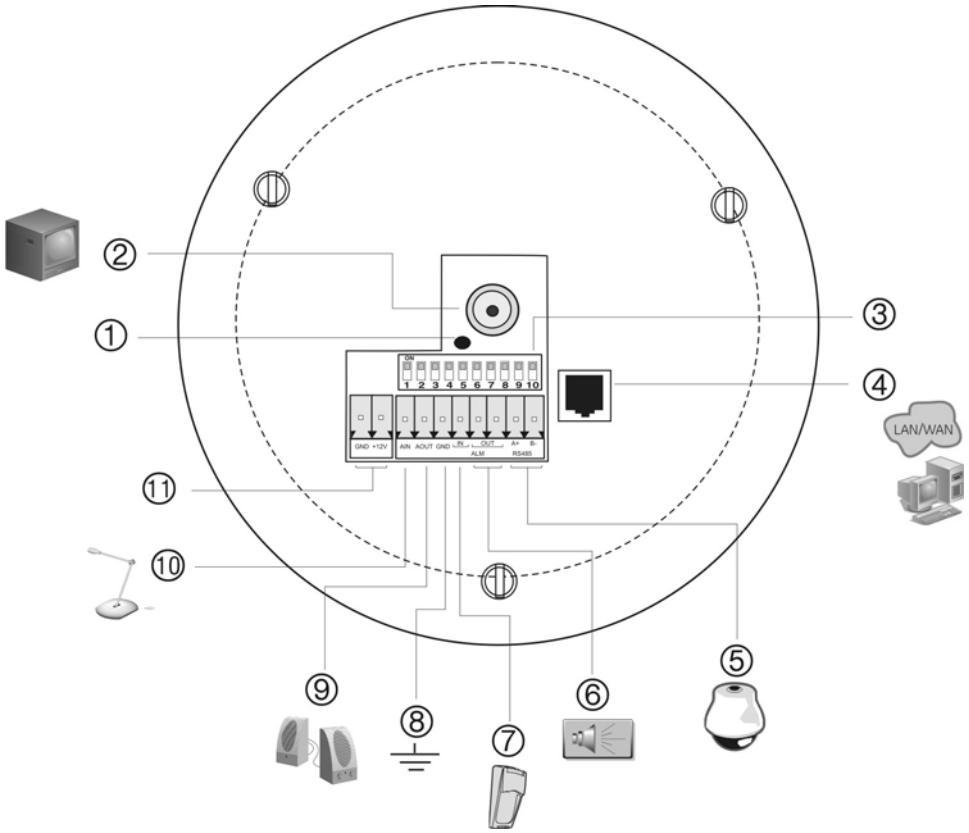
A qualified service person, complying with all applicable codes, should perform all required hardware installation.

Megapixel IP dome camera connections

Note: Do not attempt to extend the power/data cable connection using RJ45 couplers and Cat5 cable. Only use the data cable connection provided.

Note: Use 24 VAC / 12 VDC or PoE.

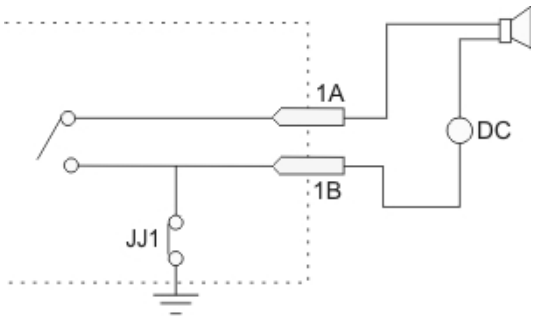
Figure 3: Megapixel IP dome camera connections



1. Power supply LED.
2. Video output.
   Connect to a CCTV monitor.
3. DIP switches
   Set the DIP switch addresses.
4. Ethernet RJ45 PoE port
   Connect to network devices.
5. RS-485 A+, B-
   Connect to an RS-485 device such as a PTZ dome camera.
6. Alarm output
   Connect to an alarm output device.
7. Alarm input
   Connect to an alarm input device.
8. Ground
   Connect to ground.
9. Audio output
   Connect to an audio output.
   Line level, 600 Ω
10. Audio input
    Connect to an audio input.
    2.0 to 2.4Vp-p, 1 kΩ
11. Power supply
    Connect +12 VDC or +24 VAC power supply.

Note: The alarm output can be used to turn on and off an external alarm device. Connect a 12 VDC/30 mA external power supply to the alarm output. See Figure 4 on page 8.

Figure 4: External alarm output



Setting DIP switch addresses

Switches 6 to 10 are not used at this time, so it does not matter whether they are set to on or off.

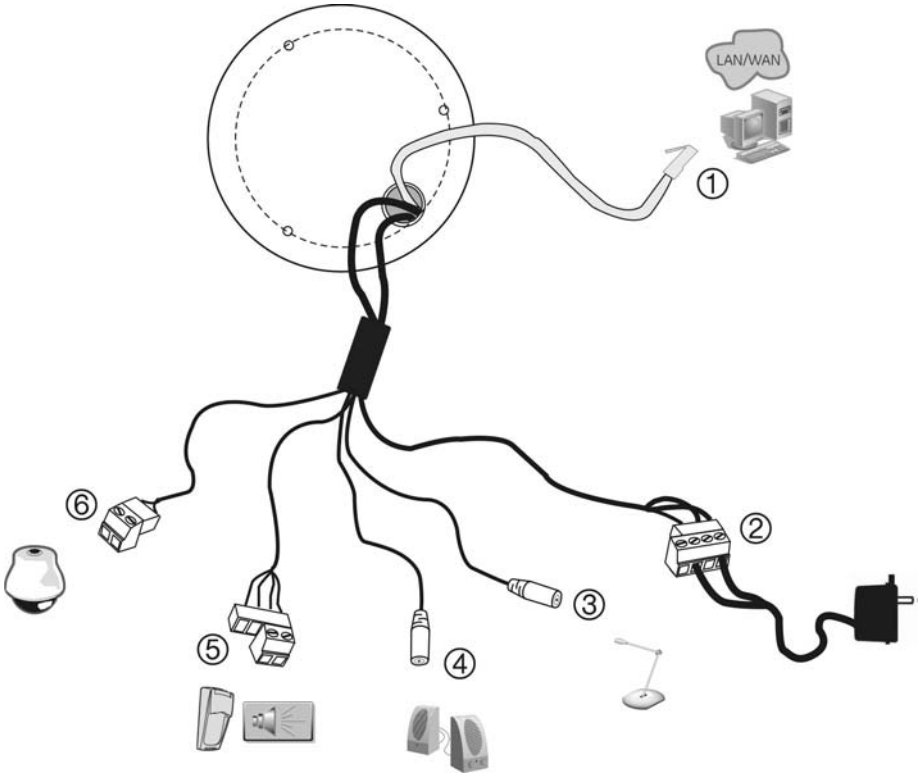
Figure 5: DIP switches (grayed area is not used)

Table 2: DIP switch addresses

DIP switch	Function		Description
	ON	OFF	
1	Sharp image	Soft image	Use this to obtain sharper or softer edges for images.
2	Automatic exposure (AES)	Auto iris (AI)	Use this setting to select the method the camera uses to adjust to different light levels.
3	BLC	Off	The backlight compensation (BLC) function improves image quality when the background illumination is high. It prevents the object in the center from appearing too dark.
4	Flickerless control	Off	Flickerless control eliminates the flicker caused by the differences between the frequencies (60 Hz) of the ionization of the gas in a fluorescent light bulb with that of the vertical frequency (59.95 Hz) in the camera. Flickless control helps reduce the file size and transfer bit rates of compressed video images.
5	Normal automatic gain control (NAGC)	Super automatic gain control (SAGC)	AGC automatically adjusts the camera's sensitivity in low light conditions. SAGC has higher sensitivity.

Vandal-proof megapixel IP dome camera connections

Figure 6: Vandal-proof megapixel IP dome camera connections



1. Ethernet RJ45 PoE connector.
   Connect to the network devices.
2. Power supply cord.
   Connect +12 VDC or +24 VAC power supply.
3. Audio input jack.
   Connect to an audio input.
   2.0 to 2.4Vp-p, 1 kΩ
4. Audio output jack
   Connect to an audio output.
   Line level, 600 Ω
5. Alarm I/O cable
   Connect alarm input (IN, G) and output (1A, 1B) devices.
6. RS-485 A+, B-
   Connect to an RS-485 device such as a PTZ dome camera.

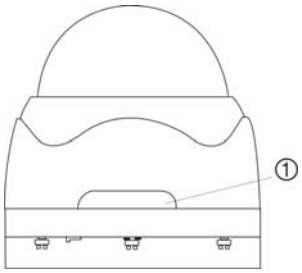
Accessing the SD card

Insert an 8GB or 16GB SDHC card for local storage as a backup in case the network fails, for example. The card is not supplied with the camera.

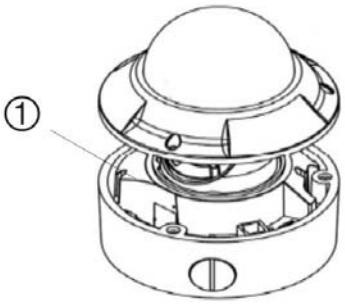
Video and log files stored on the SDHC card can only be accessed via the Web browser. You cannot access the card using GE Nav or TVR 60.

Figure 7: SDHC card location

Megapixel IP dome camera



Vandal-proof megapixel IP dome camera



1. SDHC card slot.

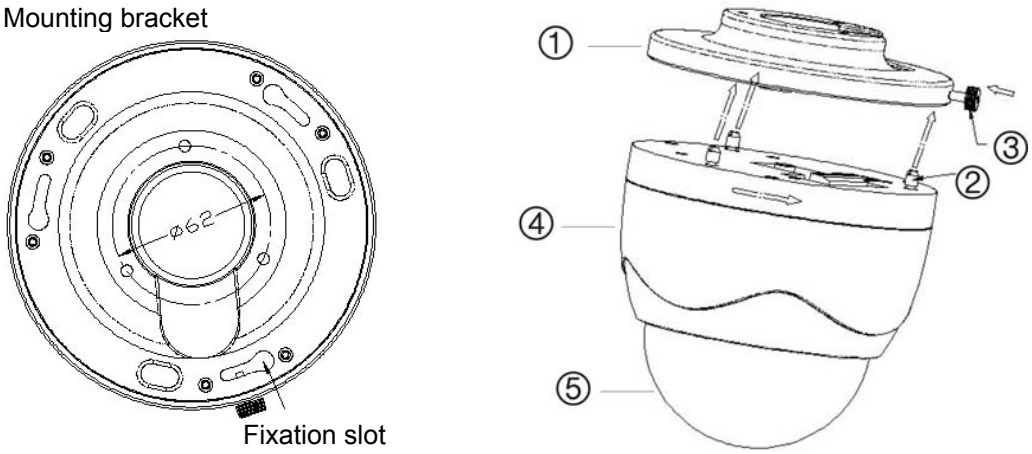
Mounting the dome camera on a ceiling or wall

You can mount the dome camera on a ceiling or wall. The instructions below are for fixing the dome camera directly to a ceiling.

If mounting the dome camera onto a wooden wall, use self-tapping screws to fix the mounting plate to the wall.

To mount the dome camera to a ceiling:

1. Place the supplied template sticker on the ceiling where the dome camera is to be installed.
2. Place the dome's mounting bracket on the sticker and align the holes of the bracket to those of the sticker.
3. Securely fasten the mount to the mounting surface with the three supplied screws.
4. In the middle of the mounting plate make a hole in the ceiling to access the cabling.
5. If needed, seal all mounting holes so that no moisture can leak into the mounting surface.
6. Insert the fixation pins of the dome camera enclosure into the fixation slots in the mounting bracket.



1. Mounting bracket
2. Fixation pins
3. Locking nut
4. Plastic enclosure
5. Bubble

7. Rotate the camera enclosure so that the pins are held in place in the fixation slots.
8. Tighten the locking screw to ensure that the camera is firmly attached to the bracket.
9. Connect a 75 ohm coaxial video cable to the video cable, and connect a 12 VDC power supply to the power cable.

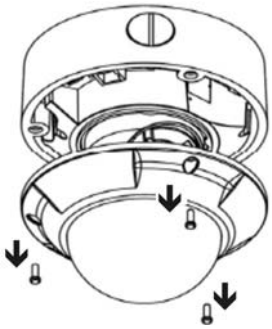
Mounting the vandal-proof dome camera on a ceiling or wall

You can mount the camera on a ceiling or wall. The instructions below are for fixing the camera directly to a ceiling.

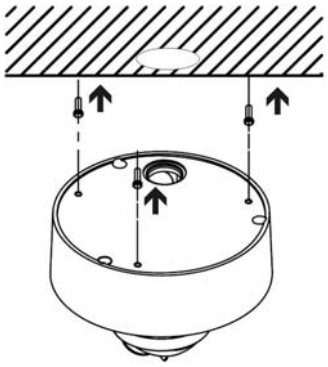
If mounting the dome camera onto a wooden wall, use self-tapping screws to fix the mounting plate to the wall.

To mount the dome camera to a ceiling:

1. Using the supplied hex key, remove the dome camera cover from the mounting bracket.

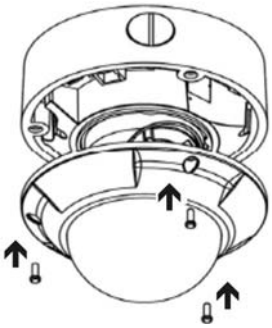


2. Make a hole in the ceiling for the cabling. Fix the mounting bracket to the ceiling using the supplied screws.



3. Pull the camera's cabling through the ceiling hole and connect to the devices.
4. If needed, seal all mounting holes so that no moisture can leak into the mounting surface.
5. Adjust the camera's angle of view while watching the image on a monitor.

   Loosen the fixed screws in the camera, and adjust horizontally and vertically the camera pan and tilt. Adjust the lens focus to get optimal video effect.
6. Tighten the fixed screws and reattach the camera cover. Ensure that the camera is firmly attached to the bracket.



Using the camera with TVR 60

Please refer to the TVR 60 user manual for instructions on connecting and operating the camera with the TVR 60.

Using the camera with GE Nav

A camera must be connected to a TVR 60 in order to be operated by GE Nav. Please refer to the GE Nav user manual for instructions on operating the camera with the GE Nav.

Chapter 3
Network and streaming configuration

This chapter explains how to configure the camera through a Web browser.

The camera can be configured and controlled using an internet browser such as Microsoft Internet Explorer (IE). The procedures described use Microsoft Internet Explorer (IE) web browser. The steps are similar with other browsers.

You must have administrator rights on your PC in order to configure the cameras over the internet.

Checking your Web browser security level

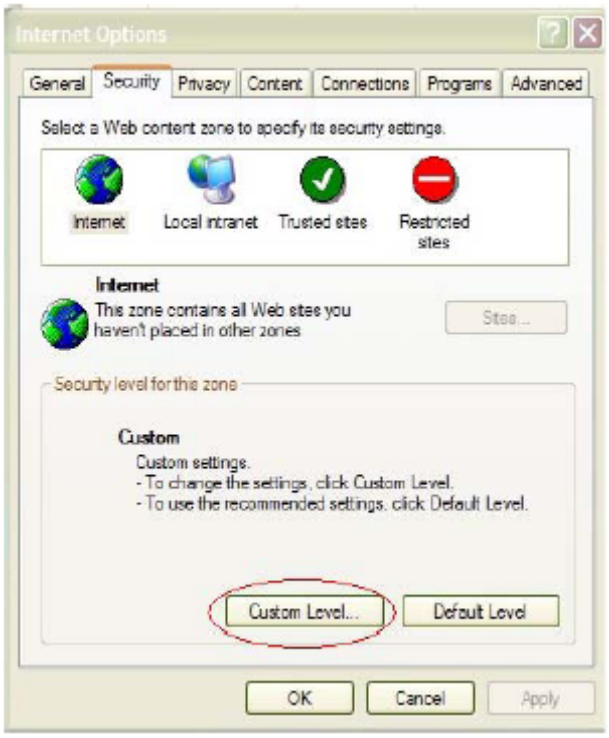
When using the Web browser interface, you can install ActiveX controls to connect and view video using Internet Explorer. However, you cannot download data, such as video and images due to the increased security measure. Consequently you should check the security level of your PC so that you are able to interact with the cameras over the Web and, if necessary, modify the Active X settings.

Configuring IE Active X controls

You should confirm the ActiveX settings of your Web browser.

To change the Web browser's security level:

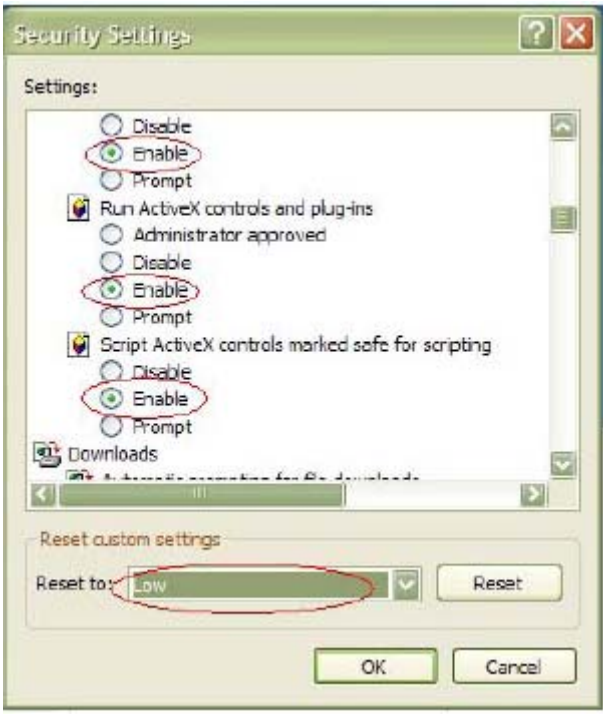
1. In Internet Explorer click **Internet Options** on the **Tools** menu.
2. On the Security tab, click the zone to which you want to assign a Web site under "Select a Web content zone to specify its security settings".
3. Click **Custom Level**.



4. Change the **ActiveX controls and plug-ins** options to **Enable** and click **OK**.

   - or -

   Under **Reset Custom Settings**, click the security level for the whole zone in the Reset To box, and select **Low**. Click **Reset**. Then click **OK** to the Internet Options Security tab screen.



5. Click **Apply** in the **Internet Options** Security tab screen.

Windows Vista and 7 users

Internet Explorer for Windows Vista and Windows 7 operating systems have increased security measures to protect your PC from any malicious software being installed.

To have complete functionality of the Web browser interface with Windows Vista and Windows 7, do the following:

- Run the Browser interface and the DVR player application as an administrator in your workstation
- Add the camera's IP address to your browser's list of trusted sites

To add the camera's IP address to Internet Explorer's list of trusted sites:

1. Open Internet Explorer.
2. Click **Tools**, and then **Internet Options**.
3. Click the **Security** tab, and then select the Trusted sites icon.
4. Click the **Sites** button.
5. Clear the "Require server verification (https:) for all sites in this zone" box.
6. Enter the IP address in the "Add this website to the zone" field.
7. Click **Add**, and then click **Close**.
8. Click **OK** in the Internet Options dialog screen.
9. Connect to the camera for full browser functionality.

Accessing the camera over the internet

Use the Web browser to access the camera over the internet.

Only one camera is accessible from a single Web browser window. If there is more than one camera connected over the network, open a separate Web browser window for each individual camera.

Note: Any changes made to the camera's configuration only apply to this camera. The configuration of other devices, such as cameras or DVRs that may also be connected to the system is not changed.

It is recommended that you change the administrator password once the set up is complete. Only authorized users should be able to modify camera settings. See "User management" on page 45 for information on changing passwords.

To access the camera online:

1. In the Web browser enter the camera's IP address (default is 192.0.0.64). Use the tool, *IP Finder*, enclosed on the CD to find the IP address of the camera.

   The Login dialog box appears.

2. Enter your user name and password.

   User name: admin

   Password: 1234

   Click **OK**. The Web browser screen appears in live mode.

   Note: The live screen is initially blank. You must click the Start Live View button on the bottom of the screen for the live mode images to appear on-screen.

Overview of the camera Web browser

The camera Web browser lets you view, record, and play back recorded videos as well as manage the camera from any PC with Internet access. The browser's easy-to-use controls give you quick access to all camera functions. See Figure 8 on page 19.

Only one camera is accessible from a single Web browser window. If there is more than one camera connected over the network, open a separate Web browser window for each individual camera.

Note: Any changes made to the camera's configuration only apply to this camera. The configuration of other devices that may be connected to the camera, such as cameras or DVRs, is not changed.

Figure 8: Web browser interface

Item	Name	Description
1.	Menu toolbar	Lets you do the following: Log on and log off the system. This can only be done in live mode. View live video Play back video Search for event logs. There are four main information types: All, Alarm, Notification and Operation Configure settings **Note:** The Playback and Log functions can only be used when an SDHC card is inserted in the camera.
2.	Viewer	View live or playback video.
3.	PTZ controls	Lets you control a PTZ camera when connected using RS-485 port. Also used to access main menu via "Preset 95".
4.	Video image settings	Adjust video image settings such as brightness, contrast, saturation, and hue.
5.	Audio setting	Turn bi-directional audio on or off.

Item	Name	Description
6.	Video function	Lets you do the following: Record live video Take a snapshot of the video Start live view
7.	Camera	View video and record video from this camera.

Configuring the camera over the network

Once the camera hardware has been installed, the camera can then be configured over the network.

The camera Web browser lets you configure the camera remotely using your PC. In the camera browser screen click the **Config** button in the menu toolbar to get the configuration screens. There are 10 folders running down the left side of the screen and each folder has a list of subfolders which display the different configuration screens. See Figure 9 below and Table 3 on page 21 for descriptions of the different folders.

Figure 9: Accessing the configuration screen

These tabs let you configure the server, network, cameras, alarms, users, transactions and other parameters such as upgrading the firmware. See Table 3 on page 21.

Table 3: Overview of the configuration parameter folders

Configuration folders	Description
Device information	Defines the device name and number as well as enables file overwrite and video scaler options. See “Device parameters” below.
Channel parameters	Defines the OSD properties of camera information, recording schedule, recording settings for alarm events, alarm response, and overlay text. See “Camera parameters” on page 22.
Network parameters	Defines the network parameters required to access the camera over the internet. See “Network parameters” on page 38.
Serial port settings	Defines the RS485 communication settings. See “RS-485 serial port settings” on page 40.
Alarm parameters	Defines how the camera handles alarms such as input type, notification of alarms, and response schedules and duration. See “Alarm parameters” on page 41.
Notification parameters	Defines the methods to be used to alert for internal errors in the system. See “Notification parameters” on page 45.
Account management	Defines who can use the camera, their passwords and access privileges. See “User management” on page 45.
HDD configuration	Defines how to format the SDD card used in the camera. See “Formatting the HDD” on page 49”.
Upgrade remotely	Defines how to upgrade the camera’s firmware. See “Upgrading the firmware” on page 51”.

Restoring options to factory defaults

Use the Default button at the bottom of the screen to restore the camera to the factory default settings apart from IP values.

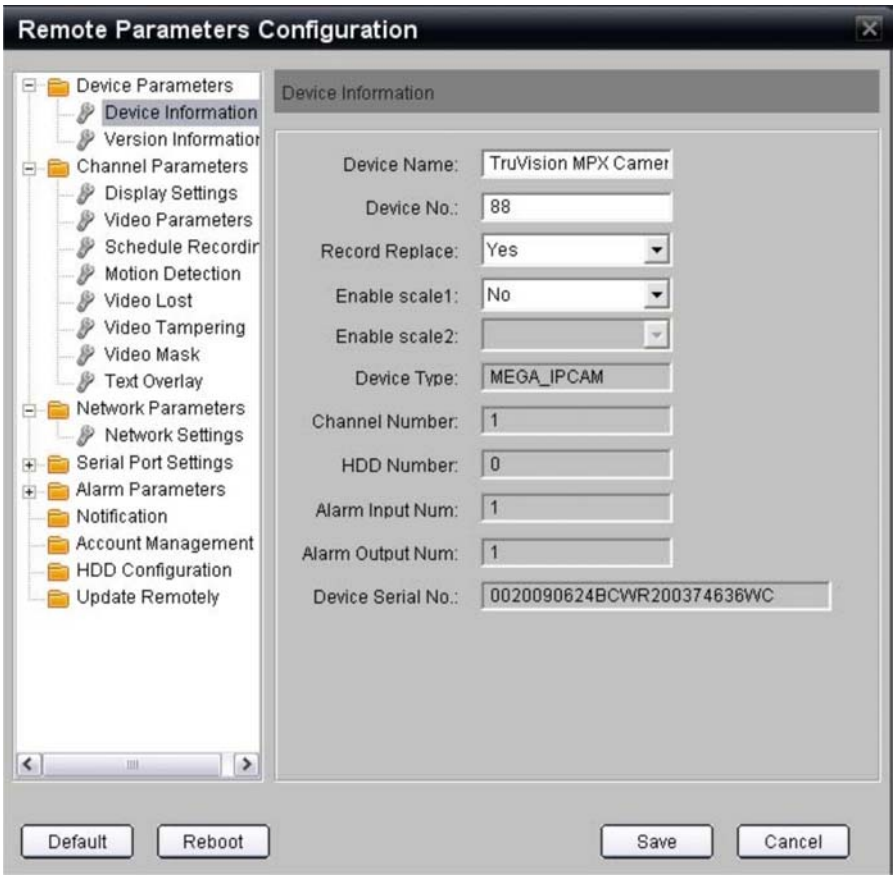
Device parameters

Use this folder to display information about the camera. There are two subfolders:

- **Device information**: Displays the camera name and RS-485 bus ID, which can both be changed. Several parameters are also prepopulated and cannot be changed manually such as the channel number, HDD number, alarm input and output. These will always be “1”. The device type and serial number are also shown.
- **Version information**: Displays the camera, encoder, panel and hardware versions. None of these values can be changed manually.

See Figure 10 on page 22 for more information.

Figure 10: Device information screen



Option	Description
Device name	This is the camera name. The default name is “TruVision MPX Camera”, which you can change.
Device No.	Specifies the RS-485 bus ID. Default is 88.
Record replace	Specifies how the camera responds when the SDHC card becomes full. If enabled, the camera will overwrite the earliest written recorded files and continue recording. If disabled, when the SDHC card becomes full the camera will handle the event as a “Hard Disk Full” condition and respond according to how this condition has been programmed under the Notification menu. See “Notification” on page 45.
Enable scaler	This option allows the video signal to be converted from one size or resolution to another.

Camera parameters

This section describes how to configure the camera settings from the Channel Parameter screen. There are eight subfolders which are described below:

- **Display settings**: Defines the camera name and how the name and date/time are displayed on screen. By default the name appears in the lower

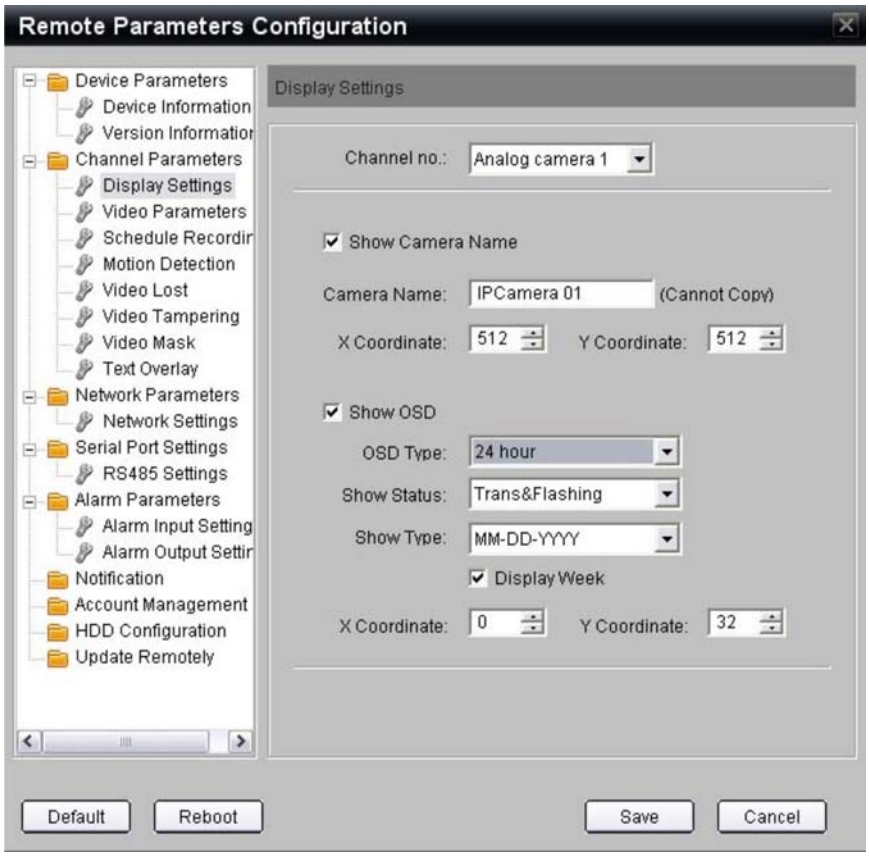
right corner of the screen and the date/time on the top. See “Defining how information is displayed on screen” on page 24 for more information.

- **Video parameters**: Defines how the camera records an event. The stream mode, stream type, resolution, image quality, bit rate, frame rate, and video compression can all be modified. See “Defining video recording parameters” on page 25 for more information.
- **Schedule recordings**: Defines the schedule when the camera records. See “Defining a recording schedule” on page 27.
- **Motion detection**: Defines the on-screen area to trigger a response, the detection schedule and method of response. See “Motion detection alarm” on page 29.
- **Video lost**: Defines the detection schedule and method of response. See “Video loss” on page 33.
- **Video tampering**: Defines the on-screen area to trigger a response, the detection schedule and method of response. See “Camera tamper alarm” on page 34.
- **Video mask**: Defines the on-screen area to trigger a response, the detection schedule and method of response. See “Privacy masking” on page 37.
- **Text overlay**: Defines up to four lines of extra text on-screen. They can be positioned anywhere. See “Adding extra on-screen text” on page 38.

All changes made apply only to the camera being configured. Parameters cannot be copied to another camera.

Note: When schedule parameters are modified, the camera will prompt you to reboot after the changes are saved.

Figure 11: Display settings screen of the Channel parameters folder



Defining how information is displayed on screen

In addition to the camera name, the camera also displays the system date and time on screen. You can modify the on-screen display position (also referred to as OSD) of the camera name and define how the text appears on screen.

Note: The system date and time are defined from the DVR or GE Nav.

To position the camera name and date/time on screen:

1. In the Channel Parameters folder click the **Display Settings** subfolder to open its screen.
2. Name the camera.

   Enter the camera name into the **Camera name** edit box. The camera can have up to 12 alphanumeric characters in its name.
3. Position the on-screen camera name.

   Check the **Show Camera Name** box to display the camera name on screen. Adjust the X and Y position co-ordinates of the name until satisfied. The on-screen position changes when you click Save.

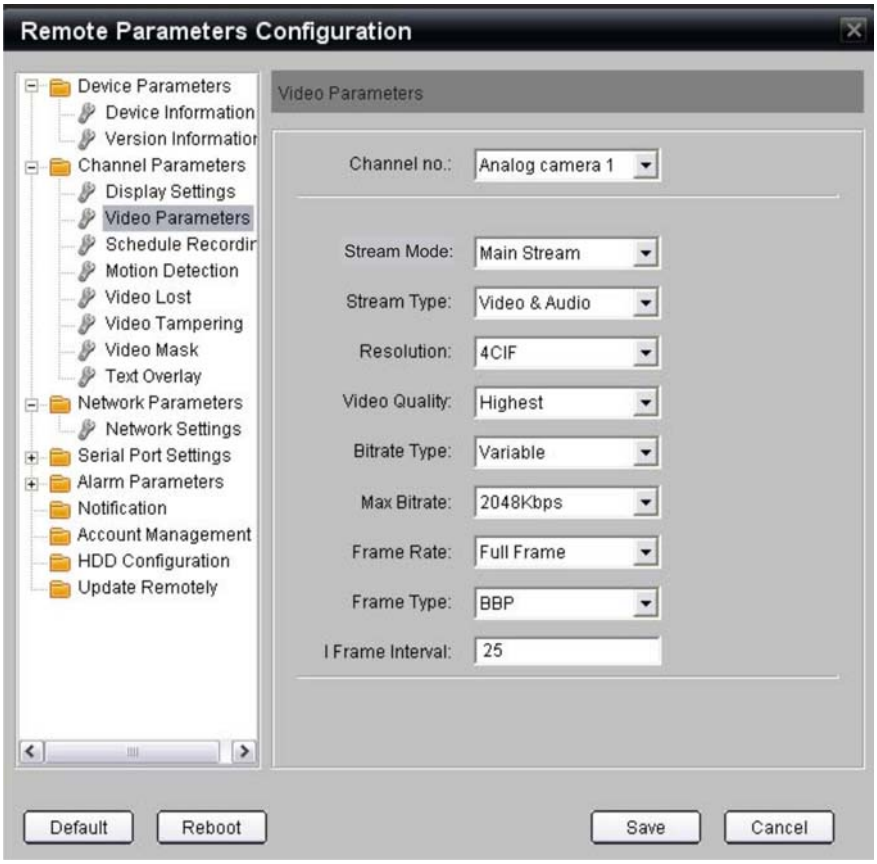
4. Check the **Show OSD** box to display the date/time on screen.
5. Select the time format from the **OSD Type** list box. There are two formats to choose: 24-hour format or 12-hour format (24-hour is default). The date and time appear in the bottom right corner of the screen.
6. Select a display mode for the camera from the **Show Status** list box. Display modes include:
   - **Transparent & Non-Flashing**. The screen image appears through the text. This is default.
   - **Transparent & Flashing**. The screen image appears through the text. The text flashes on and off.
   - **Non-Transparent & Non-Flashing**. The screen image is behind the text.
   - **Non-Transparent & Flashing**. The screen image is behind the text. The text flashes on and off.
7. Check the **Display Week** box to include the day of the week in the on-screen display.
8. Select the date format from the **Show Type** list box. Formats include:
   - YYYY-MM-DD
   - MM-DD-YYYY (Default)
   - DD-MM-YYYY

   Time is automatically included in all date displays. It has the 24-hour format.
9. Click **Save** to save the positions and return to live mode.

Defining video recording parameters

You can adjust the video recording parameters to obtain the image quality and file size best suited to your needs. Figure 12 on page 26 lists the recording options you can configure for the camera.

Figure 12: Video parameters screen



Option	Description
Stream mode	Specifies the dual streaming method used. Options include: Main stream and sub stream. Default is Main.
Stream type	Specifies the stream type you wish to record. Select Video to record video stream only. Select Video&Audio to record both video and audio streams. Default value is Video&Audio.
Resolution	Specifies the recording resolution. A higher image resolution provides a higher image quality but also requires a higher bit rate. The resolution options listed depend on the type of camera and on whether main or sub stream is being used. If you make changes to this option, you must reboot the camera to implement the changes. The options are: **2.0 megapixel IP dome camera**: Main stream: DCIF, CIF, QCIF, 4CIF, 2CIF, VGA, UXGA, SVGA, HD720p and HD900p. Default is 4CIF Sub stream: CIF, QCIF **1.3 megapixel IP dome camera**: Main stream: VGA, HD720p and XVGA. Sub stream: CIF, QCIF
Video quality	Specifies the quality level of the image. Options include: Highest, Higher, High, Average, Low, Lowest. Default is High.

Option	Description
Bit rate	Specifies whether variable or fixed bit rate is used. Variable produces higher quality results suitable for video downloads and streaming. Default is Variable.
Max bit rate	Specifies the maximum allowed bit rate. A high image resolution requires that a high bit rate must also be selected. Options include: 32 bps, 48, 64, 80, 96, 128, 160, 192, 224, 256, 320, 384, 448, 512, 640, 768, 896, 1024, 1536, 1792, 2048, Custom (enter a value manually) Default is 2048.
Frame rate	Specifies the frame rate for the selected resolution. Options include: Full frame, 1/16, 1/8, 1/4, 1/2, 1, 2, 4, 6. Default is Full frame.
Frame type	A video compression method. It is strongly recommended not to change the default value displayed: Only P.
I frame interval	A video compression method. It is strongly recommended not to change the default value displayed: 25.

Defining a recording schedule

You can define a recording schedule for the camera in the Schedule Recordings screen. The recording is saved on to the SDHC card in the camera. Although all recordings are saved on the DVR, the camera's SDHC card provides a backup in case of network failure, for example.

The selected recording schedule applies to all alarm types.

You will be prompted to reboot the camera after making any schedule modifications.

Pre and post-event recording times

The pre-event record time (PreRec) is used if you have the motion detection and/or external alarms enabled. Pre-event time refers to the time recorded before a motion or external alarm is triggered and includes the alarm data. If a motion or external alarm occurs and you have set the pre-event time to 5 seconds, the camera will record and save up to 5 seconds prior to the alarm event. Pre-event time options include: No Prerecord, 5 (default), 10, 15, 20, 25, 30 seconds, and Max Prerecord. Max Prerecord lets you save all data in the Prerecord buffer.

The post-event record time (PosRec) is used if you have the motion detection and/or external alarms enabled. When an external or motion alarm is cleared, the camera will continue recording based on the value specified in this option. Options include: 5 (default), 10, 30 seconds, 1, 2, 5, and 10 minutes.

To define a recording schedule:

1. In the Channel Parameters folder click the Schedule Recordings subfolder to open its screen.

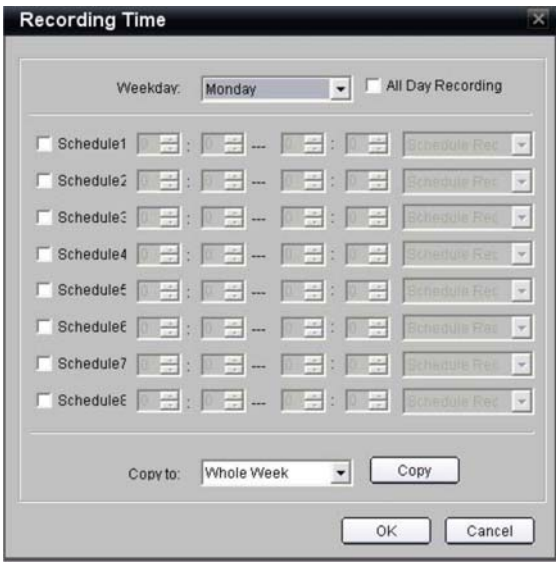
   Note: There is only one channel number listed.

2. Click the **Enable Recording** box to enable recording.

   Note: Deselect the option to disable recording.

3. Select the pre and post event record times from the drop-down lists.
4. Enter the auto delete mode (ADM) period in days.
5. Set the recording times.

   In the Recording Time section, click the **Settings** button to display the Recording Time screen.



6. Select the day of the week and type of recording period for which you want to set the recording schedule. If you want to record all day, check the **All Day Recording** box.
7. Set the start and end time for recording.

   Check the **Schedule 1** box and enter the times you want the camera to begin and end recording. From the drop-down list box select one of the alarm types to record:

   - Schedule recording. This is continuous recording.
   - Motion detection
   - Alarm record
   - Motion or alarm
   - Motion and alarm
   - Command. This option is unavailable.

8. Repeat step 5 for additional periods. Up to eight time schedules can be selected.

   Note: The eight time schedules cannot overlap.

9. Set the schedule periods for the other days of the week as required.

   Use the **Copy** option to copy the scheduled periods to another day of the week.

10. Save your changes.

    Click **OK** to return to the Recording Time screen. Click **Save** to save your changes and return to live mode.

Notes

- The camera will prompt you to reboot in order for the schedule to take effect.
- If you set your record type to “Motion detection” or other related alarm types, you must define the motion detection alarm in order to trigger motion recording. See “Motion detection alarm” below for more information.

Motion detection alarm

You can define motion detection alarms. A motion detection alarm refers to an alarm triggered when the camera detects a motion. However, the motion alarm is only triggered if it occurs during a programmed time schedule.

Select the level of sensitivity to motion as well as the target size so that only objects that could be of interest can trigger a motion recording. For example, the motion recording is triggered by the movement of a person but not that of a cat.

You can define the area on screen where the motion is detected, the level of sensitivity to motion, the schedule when the camera is sensitive to detecting motion as well as which methods are used to alert you to a motion detection alarm.

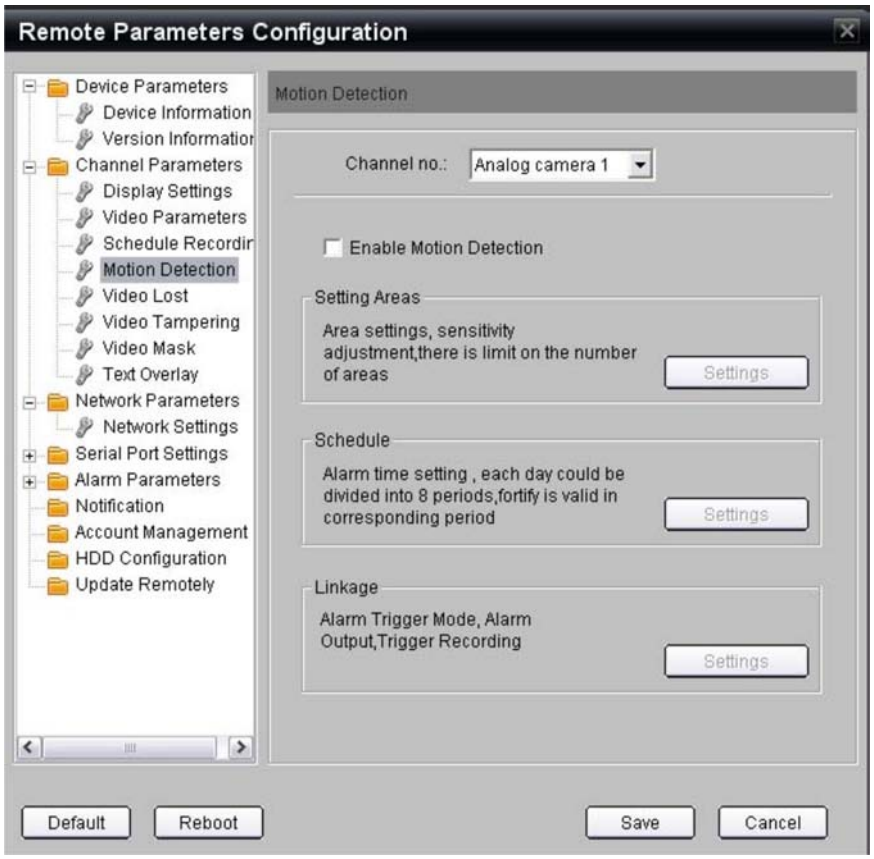
Use the Motion Detection screen in the Channel Parameters folder to change the motion detection settings.

Defining a motion detection alarm requires the following tasks:

1. **Settings areas**: Define the on-screen area that can trigger a motion detection alarm and the detection sensitivity level.
2. **Schedule**: Define the motion detection schedule.
3. **Linkage**: Specify the method of response to the alarm.

Note: Deselect the “Enable Motion Detection” option to disable the motion detection alarm.

Figure 13: Motion detection screen



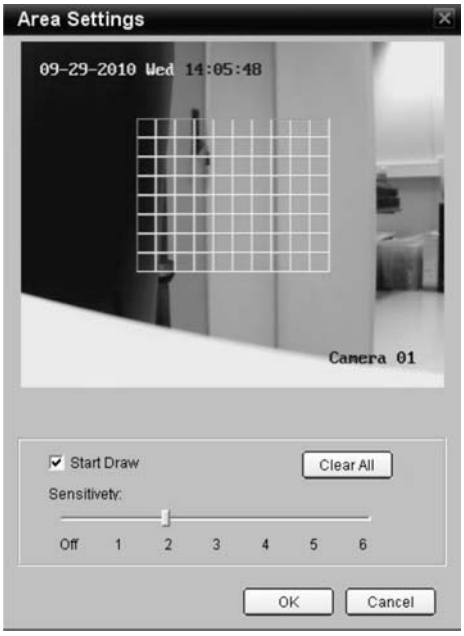
To define motion detection areas:

1. In the Channel Parameters folder click the Motion Detection subfolder to open its screen.
2. Check the **Enable Motion Detection** box. The three Settings buttons are activated.
3. Define the motion detection area or areas.

   In the “Setting Areas” section, click the **Settings** button. The “Areas Settings” screen appears.

   Check the **Start Draw** box. Place your mouse pointer at a point on the screen from where you want to start marking the motion detection area. While pressing the Ctrl button on your keyboard, move the mouse pointer to mark the area sensitive to motion.

   Several areas can be defined. If you want to mark more than one area, keep pressing the Ctrl button on your keyboard and move the mouse over another area.



Note: You cannot adjust an area already drawn. Click **Clear All** to delete all areas marked and restart drawing.

4. Set the motion detection sensitivity level.

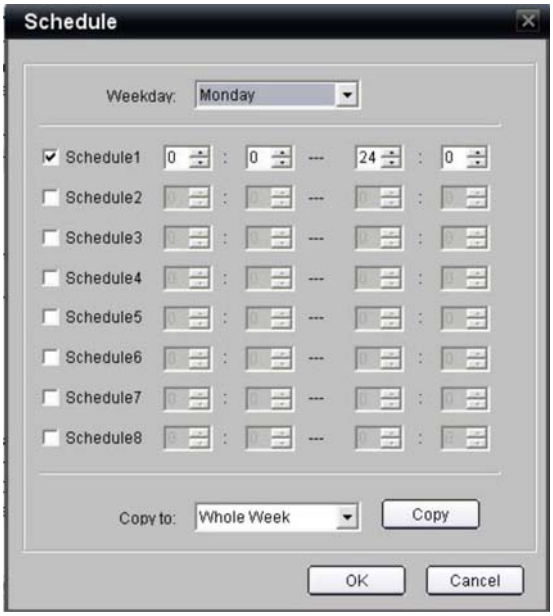
   Move the Sensitivity scroll bar to the desired sensitivity level. All areas will have the same sensitivity level.

5. Click **OK** to save all changes and return to the Motion Detection screen.
6. Define the motion detection schedule and response method if not already done.
7. Click **Save** to save all changes and return to live mode.

To define the motion detection schedule:

1. In the Channel Parameters folder click the Motion Detection subfolder to open its screen.
2. Check the **Enable Motion Detection** box. The three Settings buttons are activated.
3. Set the motion detection alarm schedule.

   In the Schedule section, click the **Settings** button. The Schedule screen appears.



The system's handling of a motion detection alarm depends on the alarm schedule. Select a day of the week using the **Week day** list box to define specific periods for recording during that day.

4. Set the start and end time for motion detection.

   Check the **Schedule 1** box and enter the times you want the camera to begin and end motion detection.

5. Repeat step eight for additional periods. Up to eight time schedules can be selected.

   Note: The eight time schedules cannot overlap.

6. Set the schedule periods for the other days of the week as required.

   Use the **Copy** option to copy the scheduled periods to another day of the week.

7. Click **OK** to return to the Motion Detection screen.
8. Define the motion detection areas and response method if not already done.
9. Click **Save** to save all changes and return to live mode.

   Note: When saving the changes, the camera will prompt you to reboot in order for the schedule to take effect.

To define the response methods to a motion detection alarm:

1. In the Channel Parameters folder click the Motion Detection subfolder to open its screen.
2. Check the **Enable Motion Detection** box. The three Settings buttons are activated.
3. In the Linkage section, click the **Settings** button. The Linkage screen appears.

4. Select the **Alarm Trigger Mode** tab and check a response method for the system when a motion detection alarm is triggered. You can check one or both response methods:

Upload to center	Sends the alarm response to the DVR.
Trigger alarm output	Triggers the camera's alarm output.

   Also check **Output Channel** to

5. Select the **Trigger Recording** tab and check the input option "A1" to select from which video channel to start recording. Click **OK** to return to the Motion Detection screen.
6. Define the motion detection schedule and areas if not already done.
7. Click **Save** to save all changes and return to live mode.

Video loss

You can define video loss alarms. A video loss alarm refers to an alarm triggered when a video signal is lost or corrupt due to power failure, video cable failure, bad connection, and more. The video loss alarm triggers only if the video loss occurs during a programmed time schedule.

Use the Video Loss screen in the Channel Parameters folder to change the video loss settings.

Defining a video loss alarm requires the following tasks:

1. **Schedule**: Define the motion detection schedule.
2. **Linkage**: Specify the method of response to the alarm.

To define a video loss alarm:

1. In the Channel Parameters folder click the Video Loss subfolder to open its screen.
2. Check the **Enable Video Loss** box. The Schedule and Linkage Settings buttons are activated.

   Note: Deselect the "Enable Video Loss" option to disable the video loss alarm.
3. Set the video loss alarm schedule.

   In the Schedule section, click the **Settings** button. The Schedule screen appears.

   The system's handling of a video loss alarm depends on the alarm schedule. Select a day of the week using the Weekday list box to define specific periods for recording during that day.
4. Set the start and end time for video loss.

Check the **Segment 1** box and enter the times you want the camera to begin and end motion detection.

5. Repeat step 4 for additional periods. Up to eight time segments can be selected.

   Note: The eight time periods cannot overlap.

6. Set the schedule periods for the other days of the week as required.

   Use the **Copy To** option to copy the scheduled periods to another day of the week.

7. Click **OK** to save the changes and return to the Video Loss screen.
8. Select a response method.

   In the Linkage section, click the **Schedule** button. The Linkage screen appears.

   Check a response method for the system when a video loss alarm is triggered. You can check one or both response methods:

Upload to center	Sends the alarm response to the DVR.
Trigger alarm output	Triggers the camera's alarm output.

9. Click **OK** to return to the Channel Configuration screen.

   Note: When saving the changes, the camera will prompt you to reboot in order for the schedule to take effect.

10. Click **Save** to save all changes and return to live mode.

Camera tamper alarm

You can define camera tamper alarms. A camera tamper alarm refers to an alarm triggered when a camera view is blocked (either deliberately or accidentally). For example, the system can trigger an alarm if someone spray paints the camera lens.

You can also define the tampering sensitivity level. This can be useful to accommodate for accidental blocking of the camera view. An example is in a delivery dock when a truck delays in front of a camera during deliveries.

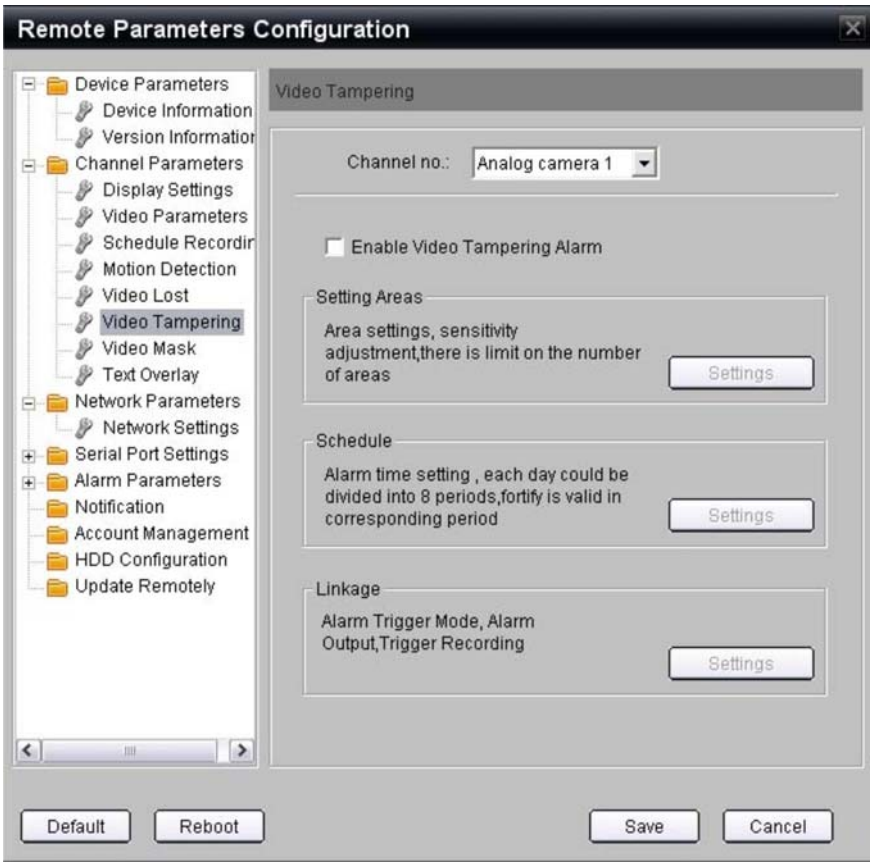
Use the Video Tampering screen in the Channel Parameters folder to change the video tampering settings.

Defining a camera tamper alarm requires the following tasks:

1. **Settings areas**: Define the on-screen area that can trigger a camera tamper alarm and the tampering sensitivity level.
2. **Schedule**: Define the camera tamper schedule.
3. **Linkage**: Specify the method of response to the alarm.

Note: Deselect the “Enable Video Tampering” option to disable the video tampering alarm.

Figure 14: Video tampering screen



To define the on screen area that can trigger a tamper alarm:

1. In the Channel Parameters folder click the Video Tampering subfolder to open its screen.
2. Check the **Enable Video Tampering Alarm** box. The three Settings buttons are activated.
3. Define the area for camera tampering.

   In the “Setting Areas” section, click the **Settings** button. The “Areas Settings” screen appears.

   Check the **Start Draw** box. Place your mouse pointer at a point on the screen from where you want to start marking the motion detection area. While pressing the Ctrl button on your keyboard, move the mouse pointer to mark the area sensitive to motion. Only one area can be drawn.

   Click **Clear All** to delete the area and redraw it.
4. Set the tampering sensitivity level.

   Move the Sensitivity scroll bar to the desired sensitivity level.
5. Click **OK** to return to the Video Tampering screen.

6. Define the video tampering schedule and response methods if not already done.
7. Click **Save** to save all changes and return to live mode.

To define the tamper alarm schedule:

1. In the Channel Parameters folder click the Video Tampering subfolder to open its screen.
2. Check the **Enable Video Tampering Alarm** box. The three Settings buttons are activated.
3. Set the camera tamper alarm schedule.

   In the Schedule section, click the **Settings** button. The Schedule screen appears.

   The system's handling of a tamper alarm depends on the alarm schedule. Select a day of the week using the Week day list box to define specific periods for recording during that day.
4. Set the start and end time for tamper detection.

   Check the **Segment 1** box and enter the times you want the camera to begin and end tamper detection.
5. Repeat step eight for additional periods. Up to eight time segments can be selected.

   Note: The eight time periods cannot overlap.
6. Set the schedule periods for the other days of the week as required.

   Use the **Copy To** option to copy the scheduled periods to another day of the week.
7. Define the tamper detection area and response method if not already done.
8. Click **OK** to return to the Video Tampering screen.
9. Click **Save** to save all changes and return to live mode.

   Note: When saving the changes, the camera will prompt you to reboot in order for the schedule to take effect.

To define the tamper alarm response:

1. In the Channel Parameters folder click the Video Tampering subfolder to open its screen.
2. Check the alarm type box and select the **Video tamper** option from the list. The three buttons alongside it become activated. Click the **Linkage** button. The "Video tamper link" screen appears.
3. Check a response method for the system when a video tamper alarm is triggered. You can check one or both response methods:

Upload to center	Sends the alarm response to the DVR.
Trigger alarm output	Triggers the camera's alarm output.

4. Click **OK** to return to the Channel Configuration screen.
5. Define the video tampering schedule and areas if not already done.
6. Click **Save** to save all changes and return to live mode.

Privacy masking

You can define an area on screen that can remain hidden from view. For example, you can choose to block the view of a camera when overlooking residential premises. This hidden area is referred to as privacy masking. Privacy masking cannot be viewed live or recorded, and appears as a blank screen on display.

To define privacy masking:

1. In the Channel Parameters folder click the Video Mask subfolder to open its screen.
2. Check the **Enable Video Mask** box. Only the "Settings Area" settings button is activated.
3. Click the **Settings** button. The "Area settings" screen appears.

   Check the **Start Draw** option. Place your mouse pointer at a point on the screen from where you want to start marking the privacy mask area. While pressing the Ctrl button on your keyboard, move the mouse pointer to mark the area to be hidden.

   Several areas can be defined. To mark more than one area, keep pressing the Ctrl button on your keyboard and move the mouse around another area.

Note: You cannot adjust an area already drawn. Click **Clear All** to delete all drawn areas and redraw.

4. Click **OK** to return to the Video Mask screen.

   Note: To cancel privacy masking, deselect the **Enable Video Mask** option on the Video Mask screen.

5. Click **Save** to save all changes and return to live mode.

Adding extra on-screen text

You can add up to eight lines of text on screen. This option can be used, for example, to display emergency contact details. By default these lines of text are positioned along the top of the screen. The strings follow each other consecutively.

To add on-screen text:

1. In the Channel Parameters folder open the Text Overlay screen.
2. Check the **Strings 1** box for the first line of text.
3. Enter the text for string 1 in the column alongside. Up to 22 alphanumeric characters can be used.
4. Repeat steps 2 and 3 for each extra line of text, selecting the next string number.
5. Click **Save** to save the position and return to live mode.

Network parameters

Accessing the camera through a network requires that you define certain network settings.

Use the Network Parameters folder to define the network settings.

Note: When a network parameter is modified, the camera will prompt you to save and reboot.

Network settings

Use this screen to define network settings. The current network settings are displayed. You can change all except the MAC value. Click the Advanced button to display network settings for DNS settings as well as the alarm host and IP ports. See Figure 15 on page 39.

Figure 15: Network subfolder screen

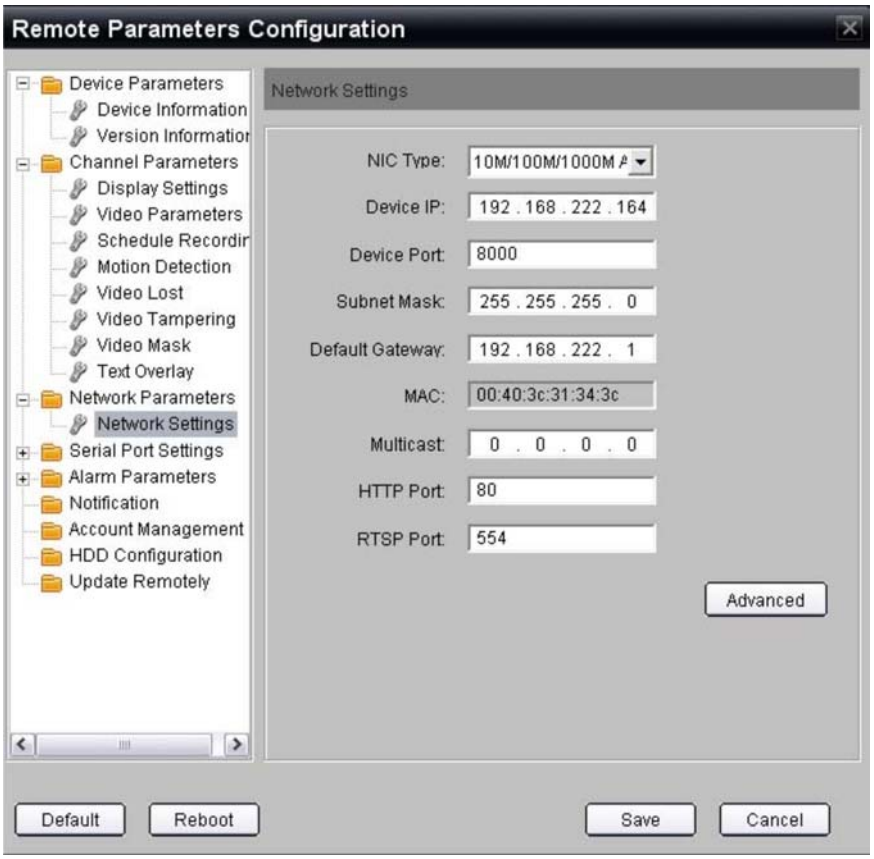


Table 4: Network parameters

Option	Description
NIC type	Specifies the NIC type. Default is 10M/100M Auto. Other options include: 10M half-dup, 10M full-dup, 100M half-dup and 100M full-dup and 10M/100M auto. Default is 10M/100M.
Device IP	Use this option if the camera uses the PPPoE function, and retrieves one dynamic IP address. If you define the DNS IP with one fixed Internet IP address, the camera sends information such as camera name, serial number, and current IP address to that fixed IP address. The fixed IP address is referred to as the DNS IP. The DNS server with that fixed Internet IP address can receive the camera information and be used to resolve the camera dynamic IP address. This IP server is a unique software and does not fall into the normal domain name server.
Device port	Specifies the port used for the Internet Explorer (IE) browser. The default value is 80. This value can be modified.
Subnet mask	Specifies the subnet mask. Default value is 255.255.255.0.
Default Gateway	Specifies the gateway IP address. The gateway IP is used to communicate in different network segments. The default value is 192.168.222.1
MAC	Specifies the physical address of the device. This value can not be overwritten.

Option	Description
Multicast IP	Specifies a D-class IP address between 224.0.0.0 to 239.255.255.255. You do not need to specify this option if you are not using the multicast function. Some routers prohibit the use of multicast function in case of a network storm.
HTTP port	Specifies the port used for the Internet Explorer (IE) browser. The default value is 80. This value can be modified.
RTSP port	Specifies the RSTP port. The default value is 554.

Table 5: Advanced network parameters

Option	Description
DNS server 1	Specified the DNS server for your network.
DNS server 2	Specified the DNS backup server for your network.
Alarm host IP	Specifies the alarm address to which alarms are sent over the internet.
Alarm host port	If an alarm and notification occur, the camera sends information to the host IP you specify in this option. The site that has this IP can remotely receive the alarm and exception information from the camera. Default value is 0.

RS-485 serial port settings

Use this menu to define the RS-485 communication settings.

Note: When a parameter is modified, the camera will prompt you to save and reboot.

If a PTZ camera is connected to the megapixel camera these settings must be the same as the PTZ protocol used.

Table 6: RS-485 settings

Item	Description
Bits per secods	Default value is 9600.
Data bits	Default value is 8.
Stop bits	Default value is 1.
Parity	Default value is None.
Flow count	Default value is None.
Decoder type	The decoder converts the RS-485 signal to control a PTZ camera. The value must match that used by the PTZ camera.
Decoder address	Default value is 0.

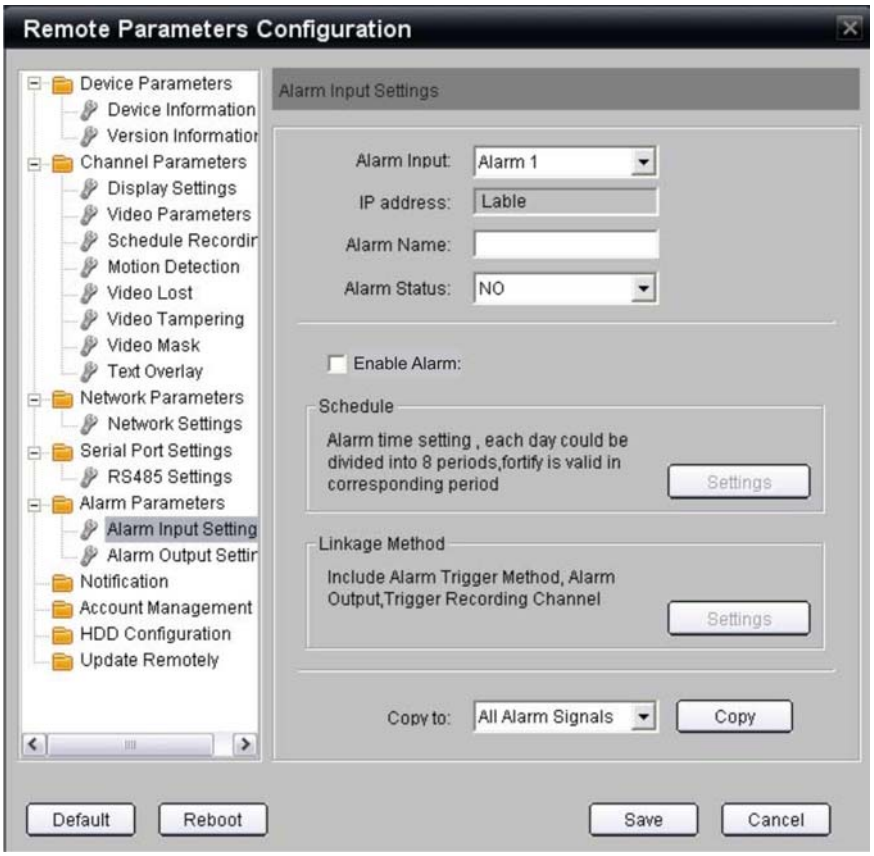
Note: The “Copy to” option is unavailable.

Alarm parameters

This section describes how to change alarm settings from the Alarm Parameters screen. You can select how the alarm settings should be handled for:

- An external alarm input
- An alarm output

Figure 16: Alarm screen



To set up an external alarm input:

1. In the Alarm Parameters folder open the Alarm Input Settings screen.

   Note: The camera has only one alarm input.

2. Enter the alarm name. This is optional.
3. Select an input type in the **Alarm status** box.

   Alarm input type refers to the sensor type. You can select Normal Open or Normal Close according to the sensor type.

   Note: In order for a camera to record an alarm, the recording option and type must be enabled on the Schedule screen. See “Defining a recording schedule” on page 27 for more information.

4. Define the schedule for handling an external alarm input.

Check the **Enable Alarm** box to activate the Settings buttons. In the Schedule section, click the **Settings** button. The Schedule screen appears.

Define a schedule for when the camera will respond to an external alarm. Select the day of the week and under **Schedule 1** enter the start and end time periods for the selected day. Each day can have up to eight time periods.

Repeat for each day of the week.

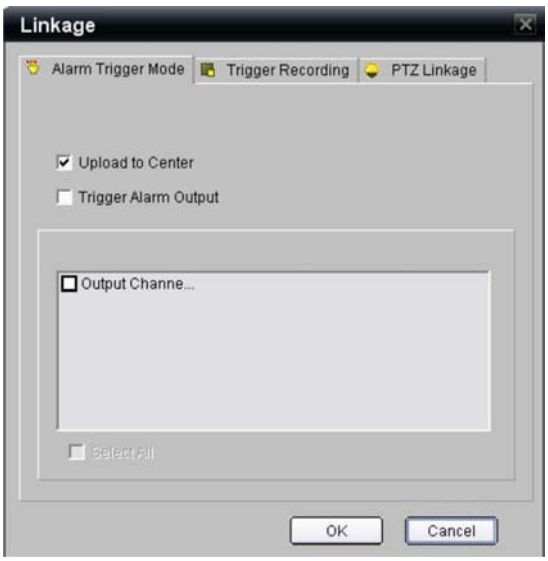
5. Set the schedule periods for the other days of the week as required.

   If required, select another day of the week to which to copy the scheduled periods. Select “Whole week” if the same schedule is used all week. Click **Copy** to copy the settings to the selected day.

6. Click **OK** to save all changes and return to the Alarm Input Setting screen.

7. Specify your response method.

   Check the **Enable Alarm** box to activate the Settings buttons, if not already activated. In the Linkage Method section, click the **Settings** button. The Alarm Trigger Mode screen appears.



   Select how you want to be notified of an external alarm. Check one or both of the response methods:

Upload to center	Upload data to GE Nav
Trigger an alarm output	Triggers an alarm output

8. Select the **Trigger Recording** tab and check the input option “A1” to select from which video channel to start recording.

9. If a PTZ dome is connected to the camera, click the **PTZ Linkage** tab to set a PTZ link to the alarm.

In the Alarm Trigger Mode screen, click the tab for PTZ Linkage. For preset, preset tour and shadow tour check **Enable** and enter the number for each of them for the dome camera to be used.

See “Controlling a PTZ camera” on page 73 for more information on using PTZ dome cameras with this camera.

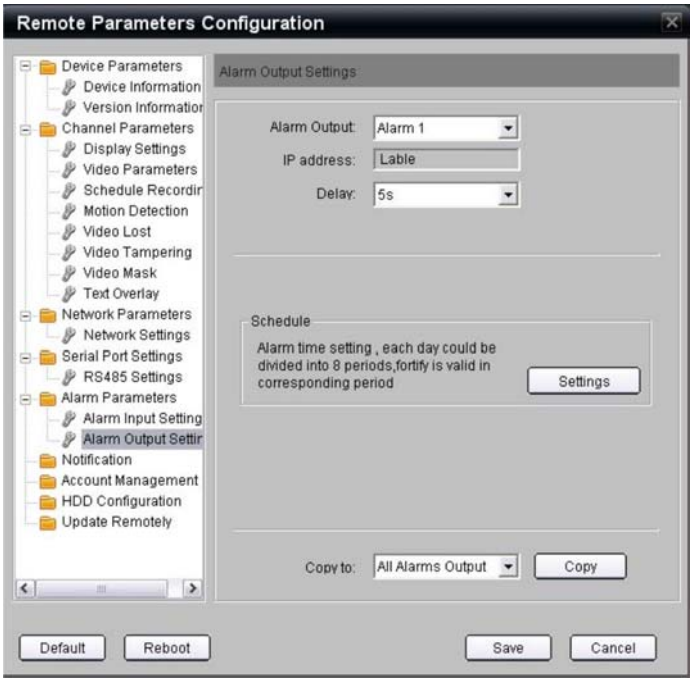
10. Click **OK** to save your settings and return to the Alarm Input Setting screen.
11. Click **Save** on the Alarm Input Setting screen to save your changes and return to live mode.

Note: The camera will prompt you to reboot in order for the schedule changes to take effect.

To set up an alarm relay output:

1. In the Alarm Parameters folder click the Alarm Output Settings subfolder to open its screen.

   Note: The camera has only one alarm output.



2. Select the alarm output delay time.

   The alarm output delay is the length of time that an alarm output displays before stopping. Select a **Delay** option: 5, 10, and 30 seconds, 1, 2, 5, and 10 minutes, and Manual stop. If “Manual stop” is selected the alarm output will stop only when the alarm input stops.

   Note: The IP address setting cannot be changed.

3. Define an alarm output schedule.

   Click the Schedule **Settings** button. The Schedule screen appears. Select the day of the week and under **Schedule 1** and enter the start and end time periods for the selected day. Each day can have up to eight time periods.

   Repeat for each day of the week. If the desired times for this alarm output are identical to those for other days, in the “Copy To” section specify the day of the week to which you want to copy this schedule. Select “Whole week” if the same schedule is used all week. Click **Copy**.

4. Click **OK** to save your settings and return to the Alarm Output Settings screen.

5. Click **Save** on the Alarm Output Setting screen to save your alarm output settings and return to live mode.

   Note: The camera will prompt you to reboot in order for the schedule changes to take effect.

Notification parameters

Notifications refer to internal errors that occur within the system. See Table 7 below for a list of the notification conditions. In the Notification Parameters screen define how you want to be notified of these internal errors.

Table 7: List of notification types

Condition	When alarm occurs
HDD full	The camera SDHC card is full. Notification only occurs if you disable overwrite. See “Device ” on page 21.
HDD error	An error occurred in the camera SDHC card.
Network error	Network connection was lost.
IP address conflict	Two devices on the network have the same IP address.
Illegal access	Log on failed on the unit.
NTSC/PAL mismatch	The input and output have a different video format.
Video signal exception	The video signal is weak or there is external interference

From the **Enable Alarm Method** list box to select one or both of the following notification methods:

Upload to center	Upload data to GE Nav
Trigger an alarm output	Triggers an alarm output

When finished, click **Save** to save your settings and return to the main screen.

User management

This section describes how to manage users from the Account Management screen. You can:

- Add or delete users
- Modify passwords
- Assign access privileges to users

Only the administrator can manage users. The administrator can create up to 15 additional individual users and allocate privileges to each of them. When new users are added to the list, the administrator can define individual passwords or each user can use a default password. See Figure 17 on page 46.

Passwords limit access to the camera and the same password can be used by several users. When creating a new user, you must give the user a password. There is no default password provided for all users. Users can modify their password. However, only an administrator can create a password for a user.

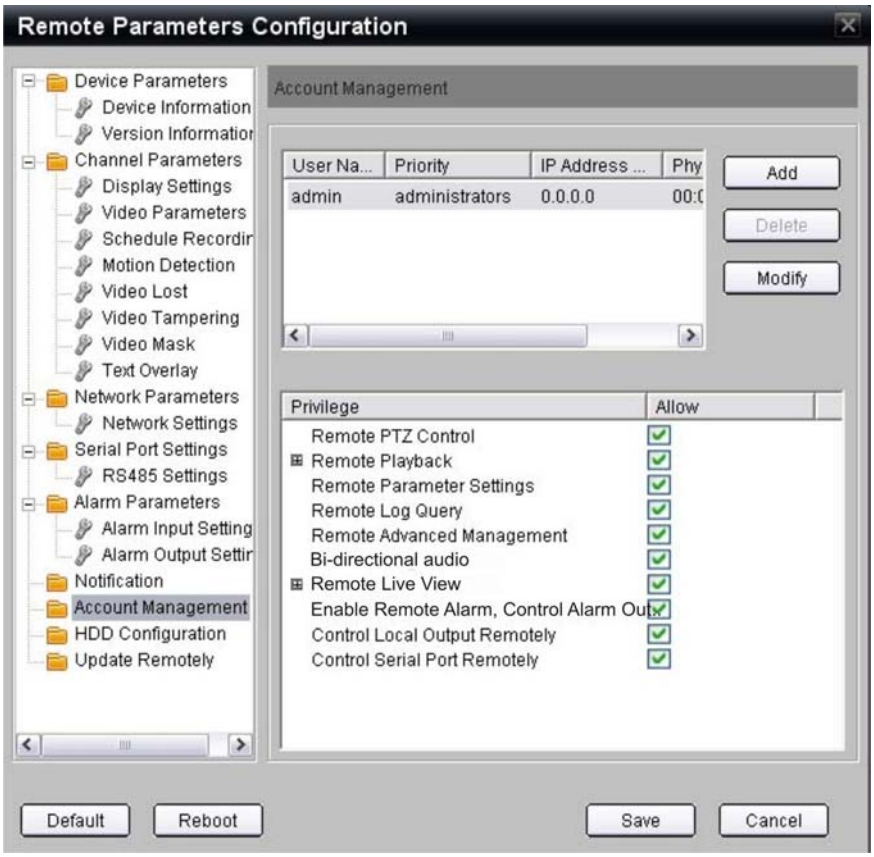
Admin passwords can have up to four digits, ranging from 1 to 4, to allow you access to the camera.

Note: Keep the admin password in a safe place. If you should forget it, contact technical support.

You can control who can connect to a camera by the user IP and physical (MAC) addresses entered for a user. Setting up a user with a MAC address from the user's computer prohibits access to the camera from other computers. All users can connect to a camera when IP and MAC addresses are set to zero.

The user access rights must be set up for each camera individually.

Figure 17: Account management screen

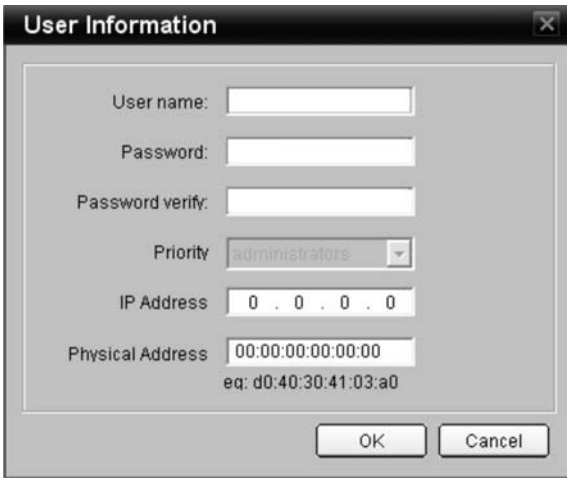


Adding and deleting users

You can create up to 15 users. Only the system administrator can create or delete users.

To add a user:

1. Click the Account Management folder to open its screen.
2. Select the **Add** button. The User Information screen appears.



3. In the User name edit box enter a new user name using alphanumeric characters.
4. Assign the user a password. Use numeric buttons to enter the new password. Passwords can be up to 16 alphanumeric characters.

   Note: The “Priority” option is unavailable.
5. Enter the IP address and physical address (MAC address) of the user’s computer.
6. Click **OK** to accept the change and return to the Account Management screen.
7. Click **Save** to accept the change and return to live mode.

To delete a user:

1. Click the Account Management folder to open the Account Management screen.
2. Click the desired user in the list and right-click the mouse. Select **Delete**.

   Confirm that you want to delete the user.
3. Click **Save** to accept the change and return to live mode.

Modifying user information

You can easily change the information about a user such as their name, password or computer ID.

To modify user information:

1. Click the Account Management folder to open its screen.
2. Select a user whose information you want to change.
3. Click the **Modify** button The User Information screen appears.
4. Change the information required.
5. Click **OK** to accept the change and return to the Account Management screen.
6. Click **Save** to accept the changes and return to live mode.

Assigning access privileges

All new users must be granted access privileges as privileges are not automatically defined by the system. Access privileges define what areas in the camera system a user can access. See Table 8 below.

Table 8: User access privileges

Option	Description
Remote PTZ control	Remotely control PTZ
Remote playback	Remotely control playback
Remote parameter settings	Remotely setup the camera's parameters
Remote log query	Remotely view the camera's log
Remote advanced management	Remotely upgrade firmware and format the HDD (SDHC card).
Bi-directional audio	Using remote software, remotely talk via the camera with the computer
Remote live view	Remotely view live video
Enable remote alarm, control alarm output	Remotely control the camera's alarm output
Control local output remotely	Remotely control the camera's relay output
Control serial port remotely	Remotely modify the camera's RS-485 settings

To assign access privileges:

1. Click the Account Management folder to open the Account Management screen.
2. Select a user from the user list.
3. For each privilege to be selected check the **Allow** box.

   To deselect a privilege, uncheck the Allow box for a privilege.
4. Click **Save** to save the changes and return to live mode.

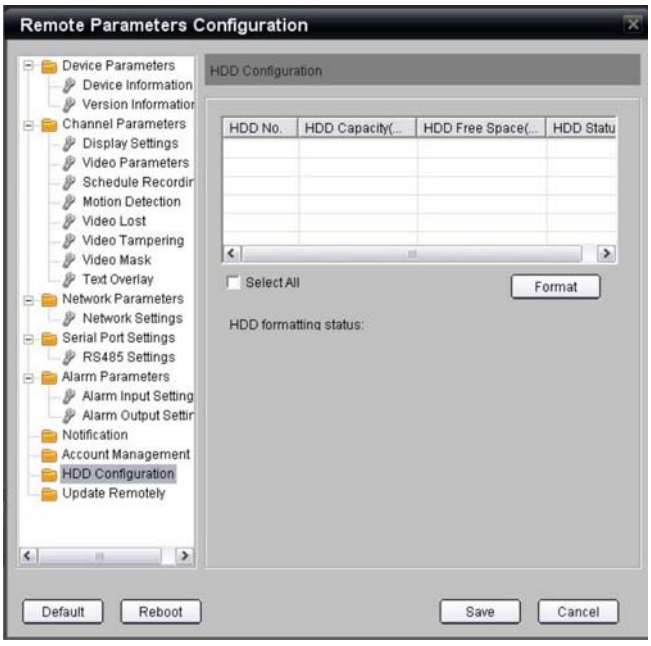
Formatting the HDD

Use the HDD Configuration screen to display the capacity and free space available on the SDHC card in the camera as well as to format the card.

Before formatting the HDD (the SDHC card), stop all recording. Once formatting is completed, reboot the camera. Otherwise, the device will not function properly.

To format the HDD:

1. Click the **HDD Configuration** folder to open its screen.



2. Select **HDD 01** in the HDD Number column. Only one HDD option is listed.
3. Click **Format**. A screen appears showing the formatting status.
4. When formatting is completed, click **Save** to save and return to live mode.

Upgrading the firmware

The camera firmware is stored in the flash memory. Use the upgrade function to write the firmware file (*digicap.DAV*) into the flash memory.

You need to upgrade firmware when it has become outdated. When you upgrade the firmware, all existing settings are unchanged. Only the new features are added with their default settings.

To upgrade the firmware through the Web browser:

1. Download on to your computer the latest firmware from our web site at:

   www.gesecurityproducts.eu/videoupgrades

2. Click the **Update Remotely** folder to open its screen.

3. Click the **Browse** button to locate the latest *digicap.DAV* file on your computer.
4. Click **Upgrade**. You will receive a prompt asking you to reboot the camera.
5. Click **Reboot** to reboot the camera.

   Note: The camera's on-screen display will not provide any status indication prior to rebooting.
6. Click **Save** to return to live mode.

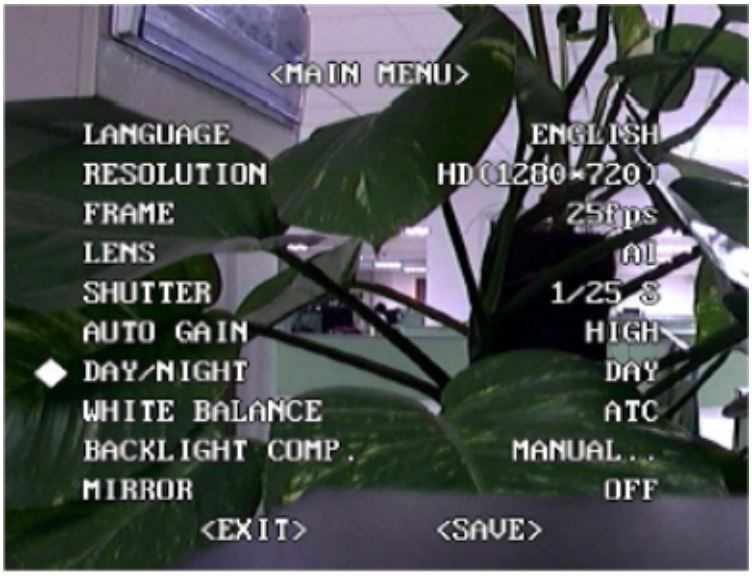
Chapter 4
1.3 megapixel IP dome camera configuration

This chapter describes how to modify the image quality settings of the TruVision 1.3 megapixel IP dome cameras.

Main menu overview

The camera is programmed through an on-screen (OSD) menu. This main menu lets you set up the image quality to suit your installation. See Figure 18 below.

Figure 18: Main menu



Nearly all setup options can be modified from this main screen. Once you have made your setup changes, select **Save** to save them, or select **Exit** to quit without saving.

To access the main menu:

1. Open the browser and enter the camera IP address to connect to the camera (default is 192.0.0.64). Use the tool, *IP Finder*, enclosed on the CD to find the IP address of the camera.
2. Enter your user name and password in the Login box and click **OK**. The Web browser screen appears in live mode.
3. From the preset drop-down list in the PTZ control section of the Web browser screen select preset number **95**.

The main menu appears.

To select menu options and settings:

1. Using the mouse select a camera menu option and setting:

Click ▲ or ▼ arrows to move the cursor up or down the menu option list.

When the cursor is beside the desired menu option, click ◀ or ▶ arrows to select it and scroll through its menu settings.

When the desired menu setting is displayed, click the **Iris+** button to select it.

2. Move the cursor to **Save** and press **Iris+** to save it and return to the live mode screen.

   To return all menu options to default move the cursor to the **Save** button and press the ◀ or ▶ arrows to scroll through the options. Select **Default** and press **Iris+**.

Language

The camera is shipped with on-screen display (OSD) menus in English only.

Resolution

High resolution produces higher quality images but also increases the file size of the video images.

The current resolution of the camera is displayed in the main menu. However, it cannot be changed from the main menu screen.

Click the **Config** tab in the menu toolbar and then click the **Channel** configuration tab. Under Resolution, select one of the three resolution options in the drop-down list: VGA, HD720p and XVGA. Click **Save.**

See “Defining video recording ” on page 25 for more information.

Frame rate

The frame rate is the number of video frames that are shown or sent per second. In live mode the frame rate is 25 fps for PAL and 30 fps for NTSC.

The current frame rate of the camera is displayed in the main menu. However, it cannot be changed from the main menu screen.

Click the **Config** tab in the menu toolbar and then click the **Channel** configuration tab. Under Frame Rate, select the desired rate in the drop-down list. Click **Save**.

See “Defining video recording ” on page 25 for more information.

Lens type

Use this option to select the type of lens used with the camera. The camera does not autodetect the type of lens used. There are two settings available, AI (auto-iris) and AES (auto electronic shutter). Default is AI.

Shutter speed

The shutter speed controls the length of time that the aperture is open to let light into the camera through the lens.

The 10 settings available are (in seconds):

AI camera:
PAL - 1/25, 1/50, 1/100, 1/250, 1/500, 1/1000, 1/2000, 1/4000, 1/10000, 1/100000 sec.

NTSC - 1/30, 1/60, 1/100, 1/250, 1/500, 1/1000K, 1/2000, 1/4000, 1/10000, 1/100000 sec.

AES camera: Auto setting only.

Auto gain

This option is unavailable.

Day/Night

This function controls when the camera switches to day or night mode. The camera produces high-quality color video during the day or when light levels are high. It then switches monochrome and removes the infrared filter to improve IR sensitivity at night or when light levels are low.

By manually selecting day or night mode, you can force the camera to stay in the selected mode and not to change mode when the light level changes.

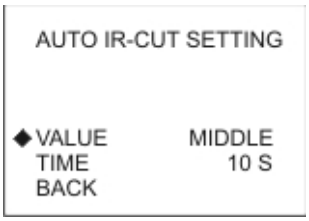
Figure 19: Examples of day and night mode

Day mode Night mode

See Table 9 below for a description of the three settings available.

Table 9: Day/night menu description

Setting	Description
Auto	Select this option for day/night mode to be automatically activated. The internal circuit will automatically decide the threshold to remove the IR cut filter according to the value of light condition calculated by internal light algorithms. Auto is the default setting. When this setting is selected, the Auto IR-Cut Setting pop-up screen appears. You can set the parameters of the auto setting.

Setting	Description
	 There are two settings that you can change: Value: Low, Middle and High. Middle is default. Time: 5, 10, 15 and 20 seconds. 10 is default. Back: Return to the main menu.
Day	Select to manually activate day mode.
Night	Select to manually activate night mode.

White balance

White balance (WB) tells the camera what the color white looks like. Based on this information, the camera will then continue to display all colors correctly even when the color temperature of the scene changes such as from daylight to fluorescent lighting, for example.

The unit for measuring this ratio is in degree Kelvin (K). The following table shows the color temperature of some light sources.

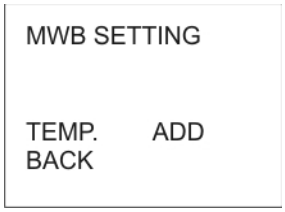
Table 10: Examples of the color temperatures of different light sources

Light sources	Color temperature in °K
Cloudy sky	6,000 to 8,000
Noon sun and clear sky	6,500
Household lighting	2,500 to 3,000
75-watt bulb	2,820
Candle flame	1,200 to 1,500

See Table 11 below for a description of the functions available.

Table 11: White balance settings

Setting	Description
ATW1	Auto Tracking White Balance. Select to enable or disable auto tracking white balance.
ATW2	Auto Tracking White Balance. Select to enable or disable auto tracking white balance.

Setting	Description
ATC	Automatic Temperature Calibration. Select for a static outdoor setting. Optimizes the WB for typical outdoor conditions. It is set at 5800°K base mode. The Automatic Temperature Calibration (ATC) Circuit samples the sensor color temperature at different temperature points and adjusts the camera's images to eliminate Fixed Pattern Noise (FPN).
Manual	Select to make manual adjustments to the white balance (MWB). When this option is selected, the MWB menu pop-up screen appears.  There is one setting that you can change. It increases (Add) or decreases (Sub) the WB temperature: Temp.: Add and Sub. Default is Add. Back: Return to the main menu.

Note: The WB function is disabled when the Day/Night function is set to Night or it is set to Auto and the image is black and white.

Backlight compensation

The backlight compensation function improves image quality when the background illumination is high. It prevents the object in the center from appearing too dark.

You can manually define the location and size of the backlight compensation area on-screen. See Table 12 on page 57 for a description of the settings available.

Table 12: Backlight compensation settings

Setting	Description
Off	Backlight compensation is disabled. Default is Off.
Manual	Select this setting to define the location and size of the backlight compensation area on-screen. The Backlight Compensation sub-menu appears on-screen (see below). Use the BLA settings (Back Light Area) to position the white box on-screen. There are six settings to select: Manual, Up, Down, Left, Right and Center.  If the Manual setting is selected, another sub-menu screen appears with the options Position and Size to change the position and size of the backlight compensation area. The Back menu option returns you to the previous menu.

Mirror mode

Use this function to flip the original image into a mirror image. This could be used, for example, when the camera needs to be installed upside down. The image can be flipped up/down, right/left or centered. Default is off.

Figure 20: Examples of mirror mode settings

Off

Left/Right

Up/Down

Center

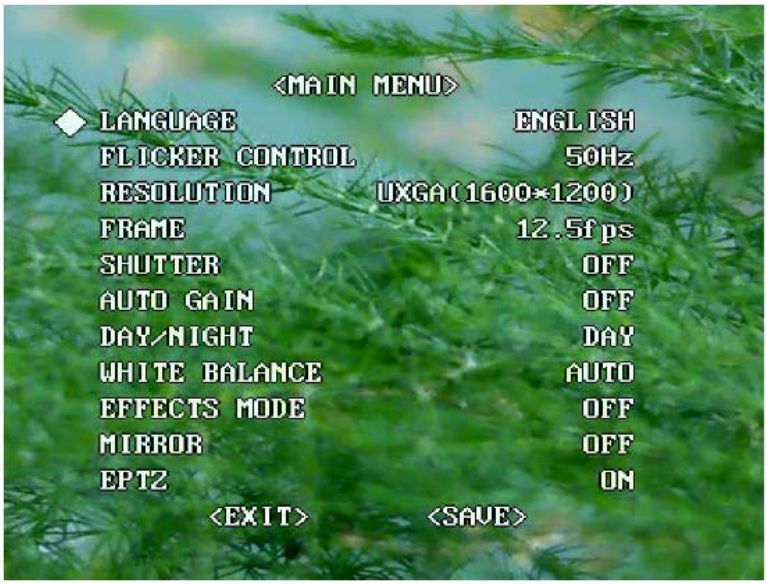
Chapter 5
2.0 megapixel IP dome camera configuration

This chapter describes how to modify the image quality settings of the TruVision 2.0 megapixel IP dome cameras.

Main menu overview

The camera is programmed through an on-screen (OSD) menu. This main menu lets you set up the camera image to suit your installation. See below.

Figure 21: Main menu



Nearly all setup options can be modified from this main screen. Once you have made your setup changes, select **Save** to save them, or select **Exit** to quit without saving.

To access the main menu:

1. Open the browser and enter the camera IP address to connect to the camera (default is 192.0.0.64). Use the tool, *IP Finder*, enclosed on the CD to find the IP address of the camera.
2. Enter your user name and password in the Login box and click OK. The Web browser screen appears in live mode.
3. From the preset drop-down list in the PTZ control section of the Web browser screen select preset number 95.

The main menu appears.

To select menu options and settings:

1. Using the mouse select a camera menu option and setting:

Click ▲ or ▼ arrows to move the cursor up or down the menu option list.

When the cursor is beside the desired menu option, click ◀ or ▶ arrows to select it and scroll through its menu settings.

When the desired menu setting is displayed, click the **Iris+** button to select it.

2. Move the cursor to **Save** and press **Iris+** to save it and return to the live mode screen.

   To return all menu options to default move the cursor to the **Save** button and press the ◀ or ▶ arrows to scroll through the options. Select **Default** and press **Iris+**.

Language

The camera is shipped with on-screen display (OSD) menus in English only.

Flicker control

When the camera is installed in an indoor location lit by fluorescent lighting, the camera images may appear to flicker. This occurs when the frequency of the video frames is significantly different from that of the AC power supply frequency.

The mains frequency of commercial electrical power at which fluorescent lights operate, is standardized at either 50 Hz or 60 Hz (frequency at which alternating current is transmitted from power plant to end user) depending on geographical region. For example, the commercial mains frequency in Europe is 50Hz, so fluorescent lights in Europe flicker at 100 times per second. The mains frequency in the USA is 60Hz, so fluorescent lights in the USA flicker at 120 times per second.

The flickering problem is solved by setting the flicker control of the camera to be either 50 Hz or 60 Hz.

The two settings available are 50 and 60. Default setting is 50 Hz.

Resolution

High resolution produces higher quality images but also increases the file size of the video images. The current resolution of the camera is displayed in the main menu. However, it cannot be changed from the main menu screen. It is changed from the Channel configuration screen.

The current resolution of the camera is displayed in the main menu. However, it cannot be changed from the main menu screen.

In live mode click the **Config** button in the menu toolbar and then click the **Channel** configuration tab. Under Resolution, select one desired resolution in the drop-down list. Click **Save**.

See “Defining video recording ” on page 25 for more information.

Frame rate

The frame rate is the number of video frames that are shown or sent per second. In live mode the frame rate is 25 fps for PAL and 30 fps for NTSC.

The current frame rate of the camera is displayed in the main menu. However, it cannot be changed from the main menu screen.

In live mode click the **Config** button in the menu toolbar and then click the **Channel** configuration tab. Under **Frame Rate**, select the desired rate in the drop-down list.

See “Defining video recording ” on page 25 for more information.

Shutter speed

Shutter speed refers to how long the camera's sensor is exposed to light. Faster shutter speeds produce sharper images. Adjusting the shutter speed helps control motion blur in the camera images.

The settings available are: Off, AutoX2 and AutoX5.

Default is Off.

Auto gain

Automatic gain control adjusts the electronic amplification of the video signal to compensate for varying levels of scene illumination.

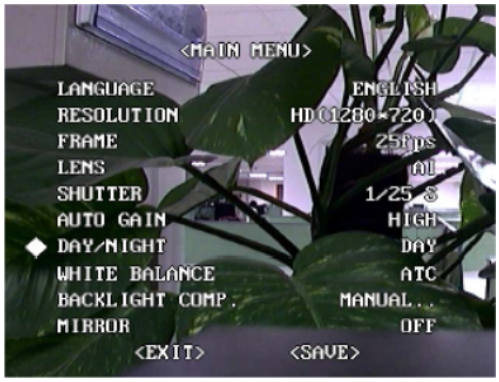
The settings available are: Off, Low, Middle and High. Default is Low.

Day/Night

This function controls when the camera switches to day or night mode. The camera produces high-quality color video during the day or when light levels are high. It then switches monochrome and removes the infrared filter to improve IR sensitivity at night or when light levels are low.

By manually selecting day or night mode, you can force the camera to stay in the selected mode and not to change mode when the light level changes.

Figure 22: Examples of day and night mode

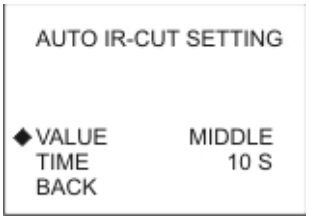


Day mode

Night mode

See Table 9 on page 54 for a description of the three options available.

Table 13: Day/night settings description

Setting	Description
Auto	Select this option for day/night mode to be automatically activated. The internal circuit will automatically decide the threshold to remove the IR cutting filter according to the value of light condition calculated by internal light algorithms. When this setting is selected, the Auto IR-Cut Setting pop-up screen appears. You can set the parameters of the auto setting.  There are two settings that you can change: Value: Low, Middle and High. Default is Middle. Time: 5, 10, 15 and 20 seconds. Default is 10 seconds.
Day	Select to manually activate day mode.
Night	Select to manually activate night mode.

White balance

White balance (WB) tells the camera what the color white looks like. Based on this information, the camera will then continue to display all colors correctly even when the color temperature of the scene changes such as from daylight to fluorescent lighting, for example.

The unit for measuring this ratio is in degree Kelvin (K). The following table shows the color temperature of some light sources.

Table 14: Examples of the color temperatures of different light sources

Light sources	Color temperature in °K
Cloudy sky	6,000 to 8,000
Noon sun and clear sky	6,500
Household lighting	2,500 to 3,000
75-watt bulb	2,820
Candle flame	1,200 to 1,500

There are two settings: Auto and Off.

When the WB is set to Auto, the white balance is automatically adjusted. Default is Auto.

Note: The WB function is disabled when the Day/Night option is set to Night or it is set to Auto and the image is black and white.

Special effects mode

It is recommended not to use this option.

Mirror mode

Use this function to flip the original image into a mirror image. This could be used, for example, when the camera needs to be installed upside down.

There are four settings: Off, Left/Right (horizontal), Up/Down (vertical),Center. Default is Off.

Figure 23: Examples of mirror mode settings

Off

Left/Right

Up/Down

Center

ePTZ mode

Use electronic PTZ (ePTZ) to quickly zoom into a target area.

There are two settings: On and Off. Default is On.

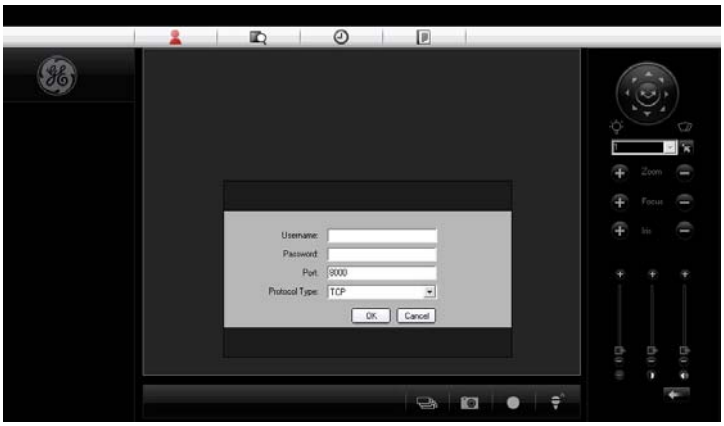
Chapter 6
Camera operation

This chapter describes how to use the camera once it is installed and configured. The camera is accessed through a Web browser.

Logging on and off

You can easily login and out of the camera browser screen by clicking the Login button ( ) on the menu toolbar. You will be asked each time to enter your user name and password when logging in.

Figure 24: Login dialog box



Only one camera is accessible from a Web browser screen. If there is more than one camera connected to the network, open a separate Web browser screen for each individual camera.

Live mode

Open the camera's Web browser screen and click the View Live Video button to view live mode. However, the live screen is initially blank. You must then click the

Start Live View button on the bottom of the screen for the live view to appear on-screen.

Manual recording

You can manually record live video and store the images on your computer's desk top. In the Web browser screen, click the Record button at the bottom of the screen. To stop recording, click the button again.

A folder with the recording automatically opens on your computer desktop when recording stops.

Note: You must have manual recording rights to manually recorded images. See ""Modifying user information" on page 47" for more information.

Taking a snapshot

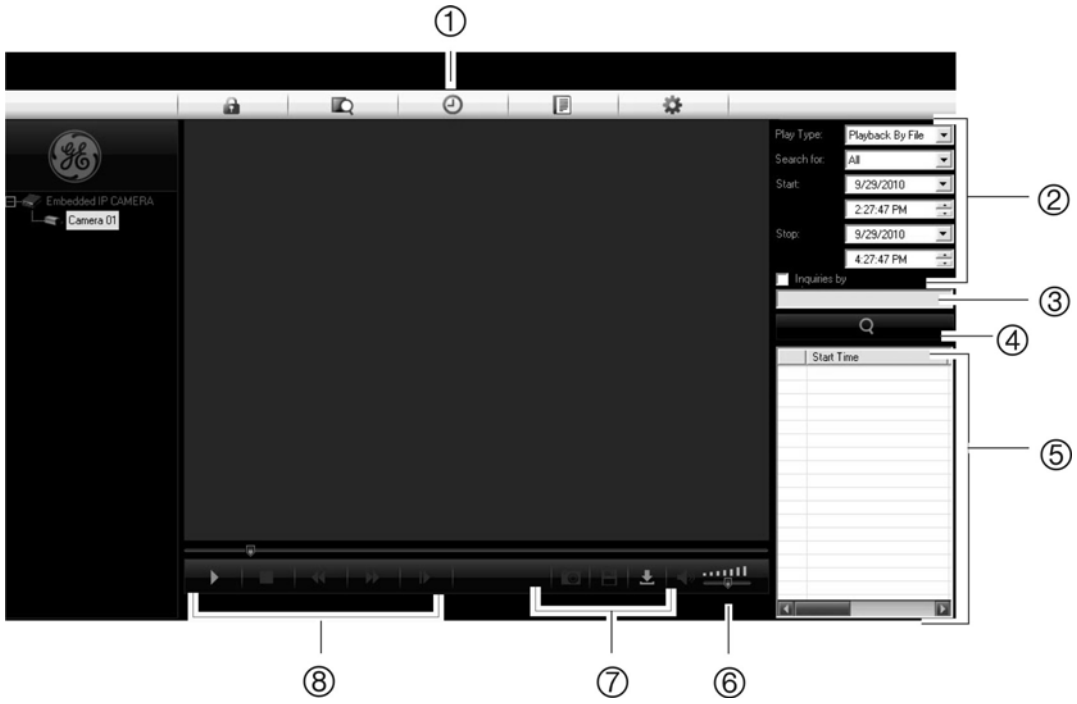
When in live mode you can take a snapshot of a scene. Simply click the snapshot button to save an image, which is in jpeg format. Snapshots are saved on the hard drive.

Searching recorded video for playback

To search recorded video stored on the camera's SDHC card for playback, click the Playback button on the menu toolbar in live view. The Search screen displays. Select a play type and a file type in the appropriate boxes and specify a time range. Click the Search button to start the search.

Note: There must be an SDHC card inserted in the camera to be able to use the playback functions.

Figure 25: Playback interface



Item	Name	Description
1.	Playback button	Opens the Playback screen.
2.	Search For options	Specify the criteria to conduct a search of the recorded files: • Play type. Playback by file or time • Search for. Options include: All, All time, Motion, Detect, Alarm, and Manual • Start and end date/time
3.	Card number	Not supported.
4.	Search button	Start the search.
5.	Search results	Results of the search are listed in the File List box. They are arranged by start of time.
6.	Audio control	 Adjusts the audio volume.
7.	Archive functions	Click these buttons for the following archive actions:  Capture a screen image of the playback video.  Archive the selected file onto your desktop.  Download the selected video onto your desktop.
8.	Playback control bar	Click to control how the selected file is played back: Play/pause, stop, reverse, fast forward, and play the next file in the search result.

Playing back recorded files

Once you have found the video files using the Play Back screen, double-click a video file in the File List box to start playback. Only the selected file is played.

Note: You must have playback rights to playback recorded images. See “Modifying user information” on page 47 for more information.

While playing back a video, an information bar displays the following information:

- Volume
- Play progress
- Play speed
- Played time
- File total time

See item 8 in Figure 25 on page 69.

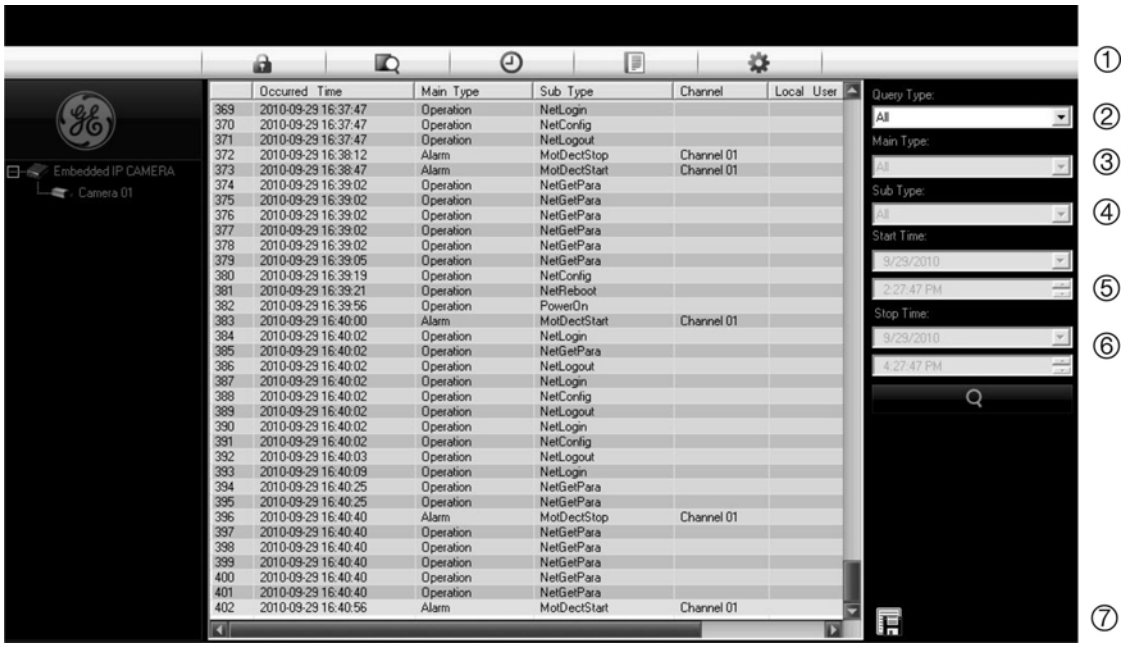
When completed, click the Live View button on the menu toolbar to return to live mode.

Viewing logs

The number of logs that can be stored on a SDHC card depends on the capacity of the card. When this capacity is reached, the system starts deleting older logs. To view logs stored on the camera’s SDHC card, click the Log button  on the menu toolbar in live mode. The Log screen appears. See Figure 26 on page 71.

Note: You must have view log access rights to search and view logs. See “Assigning access privileges” on page 48 for more information.

Figure 26: Log screen



1. Query type
2. Major type
3. Minor type
4. Start time
5. Stop time
6. Start search
7. Archive button. Save selected logs to your computer desktop.

Searching for logs

You can also search for recorded logs by the following:

Query type. There are four log options: All, Category and Time, Time, and Category.

Main information types. There are four main information types: All, Alarm, Notification, and Operation.

Sub information types. There are several different types of sub information depending on the main type selected. See Table 15 on page 72 for more information.

Date and time. Logs can be search by date as well as start and end recording times.

Table 15: Sub information type by main type

Main information type	Sub information type by main information type
All	All
Alarm	External Alarm In, External Alarm Out, Motion Detect Start, Motion Detect Stop, View Tamper Start, and View Tamper Stop
Notification	Video Signal Loss, Illegal Access, Hard Disk Error, Hard Disk Full, IP Conflict, and DCD Lost
Operation	Power On, Shut Down, Abnormal Shut, Panel Login, Panel Logout, Panel Config, Panel File Play, Panel Time Play, Local Start Record, Local Stop Record, Panel PTZ, Panel Preview, Panel Set Time, Local Upgrade, Net Login, Net Logout, Net Start Record, Net Stop Record, Net Start Transparent Channel, Net Stop Transparent Channel, Net Get Parameter, Net Config, Net get Status, Net Alert On, Net Alert Off, Net Reboot, BiComStart (Start Voice Talk), BiComStop (Stop Voice Talk), Net Upgrade, Net File Play, Net Time Play, Net PTZ

To search logs by type:

1. In live mode click the Log button in the menu toolbar to display the Log screen.
2. Select one of the four search criteria in the Query Type box: All, Category and Time, Time, and Category.

   If the All or Time criteria is selected, the main and sub type options are not available.
3. Select one of the types listed in the Main Type list box.
4. Select one of the types listed in the Sub Type list box.
5. Click Search button to start your search.
6. Click Live View button in the menu toolbar to the return to the main menu.

To search logs by date and time:

1. Display the View Log screen.
2. Enter a start time using the Start Time edit box.
3. Enter an end time using the End Time edit box.
4. Click Search Log to start your search.
5. If you want further information on the logs, click More Info.
6. Click Return to the return to the live mode screen.

Archiving recorded files

Archive recorded files onto your computer desktop. You can also archive specific incidents in a file.

Note: You must have playback privileges to play back recorded files. Avoid moving the external recording device when backing up information onto it.

To download video to your desktop:

1. Search for recorded files.

   For more information on searching for recorded files, see “Searching recorded video for playback” on page 68.
2. Select the file that you want to back up.
3. Click the Archive button to start archiving the file to your computer desktop. Click again to stop archiving.

To archive a video segment:

1. While playing back a recorded file click the Capture button to start recording and click it again to stop recording. A video segment is created.
2. You can repeat step 1 to create additional segments. You can generate up to 30 additional segments. The video segments are saved onto your computer desktop.

Playing back the archived files

Use the standard file player software to play back the videos on your PC.

Controlling a PTZ camera

You can control a PTZ dome camera from this camera by connecting the PTZ dome camera through the RS-485 port. This situation could be required in order to avoid doing extensive cabling for the PTZ dome camera.

Supported PTZ protocols

GE RS-485 ASCII	Philips 3	DennardDome
GE RS-485 (default)	Philips 2	DeltaDome
VideoTec	Philips	BBV
VCL SpeedDome	Panasonic	Tyco AD
Techwin	LG	AD
EVI-D30	Infinova	Pelco D

Samsung	HIKVISION	Pelco P
Siemens	DM DynaColor	

Appendix A
Specifications

1.3 megapixel IP dome camera

Camera	
Image sensor	1/3 inch progressive scan CCD
Effective pixels	1280 (H) × 960 (V), 1.3 MPX
Sensitivity	0.13 Lux @ F1.4
Auto exposure	1/4s to 1/100,000 s
Day & night	ICR
Lens	3.3 to 12 mm @ F1.4/Auto iris lens
S/N ratio	Greater than 50 dB
Lens mount	C / CS mount
Composite output	1 Vp-p Composite Output @ 75 Ω
Video	
Video compression	TruVision H.264
Video bit rate	32 Kbits/s to 8 Mbits/s, adjustable
Frame Rate	12.5 fps(1280 × 960), 25 fps (1280 × 720), 25 fps (640 × 480)
Audio	
Audio Compression	OggVorbis, 16 Kbits
Audio input	1 channel 3.5 mm audio interface (2.0 to 2.4Vp-p, 1 kΩ)
Audio output	1 channel 3.5 mm audio interface (Line level, 600 Ω)
Intellegence	
Motion detection	Supported
Dual stream	Supported
SDHC card local recording	Supported
Health check	Supported
Password protection	Supported

Network	
Type	1 RJ45 10M / 100M self-adaptive Ethernet port
Protocols	TCP / IP, HTTP, DHCP, DNS, RTP / RTCP, PPPoE (FTP, SMTP, NTP, SNMP, addible)
Alarm handling	
Alarm input	1 channel signal input
Alarm output	1 channel signal relay output
Miscellaneous	
Operating temperature	-10 to +60℃ (14 to 140 °F)
Power supply	24 VAC ±10% / 12VDC ±10%, PoE (Power over Ethernet)
Power consumption	4 W max. (10 W max. with ICR working)
Dimensions (mm)	68 × 63 × 158 (2.71 x 2.48 x 6.25 inches)
Weight	600 g (1.32 lbs)
RS-485 PTZ port	Screw-less terminal strip
Remote software requirements	
Intel-based PC	1 GHz or faster
Operating system	Windows XP, Vista or Windows 7
Browser	Microsoft Internet Explorer 6.0 or later

2 megapixel IP dome camera

Camera	
Image sensor	1/3 inch CMOS
Effective pixels	1600 (H) × 1200 (V), 2 MPX
Sensitivity	0.68 Lux @ F1.4 0.13 Lux @ F1.4, w/sense up × 5
Auto exposure	1/4s to 1/100,000 s
Day and night	Digital
Lens	Manual
S/N ratio	Greater than 50 dB
Composite output	1 Vp-p Composite Output @ 75 Ω
Audio	
Audio input	1 channel 3.5 mm audio interface (2.0 to 2.4Vp-p, 1 kΩ)
Audio output	1 channel 3.5 mm audio interface (Line level, 600 Ω)
Audio compression	OggVorbis, 16 Kbits

Video	
Video compression	TruVision H.264
Video bit rate	32 Kbits/s to 8 Mbits/s, adjustable
Frame rate	12.5 fps (1600 × 1200), 25 fps (1280 × 720), 25 fps (704 × 576), 30 fps (704 × 480)
Intellegence	
e-PTZ	Supported
Motion detection	Supported
Health check	Supported
Dual stream	Supported
Password protection	Supported
Network	
Communication	1 RJ45 10M / 100M self-adaptive Ethernet port
Protocols	TCP / IP, HTTP, DHCP, DNS, RTP / RTCP, PPPoE (FTP, SMTP, NTP, SNMP, addible)
Alarm handling	
Alarm input	1 channel signal input
Alarm output	1 form C alarm relay
Miscellaneous	
Operating temperature	-10 to +60 °C (14 to 140 °F)
Power supply	24 VAC ±10% / 12VDC ±10%, PoE (Power over Ethernet)
Power consumption	4 W max.
Dimensions (D × H)	160 × 134 mm (6.30 × 5.27 inches)
Weight	1400 g (3.08 lbs)
Remote software requirements	
Intel-based PC	1 GHz or faster
Operating system	Windows XP, Vista or Windows 7
Browser	Microsoft Internet Explorer 6.0 or later

Appendix B
Pin definitions

There are eight wires on a standard UTP/STP cable and each wire is color-coded. The following shows the pin allocation and color of straight and crossover cable connection:

Figure 27: Straight-through cable

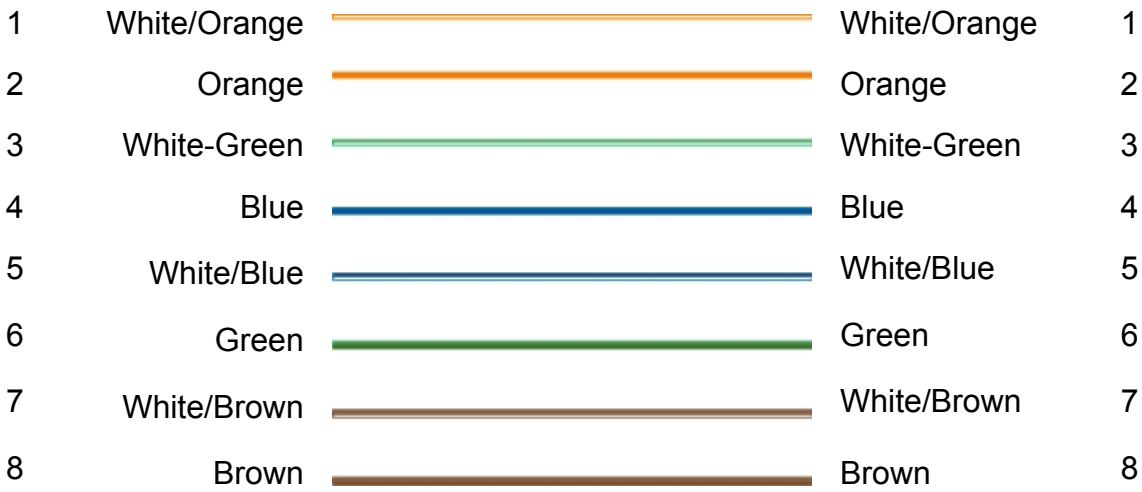
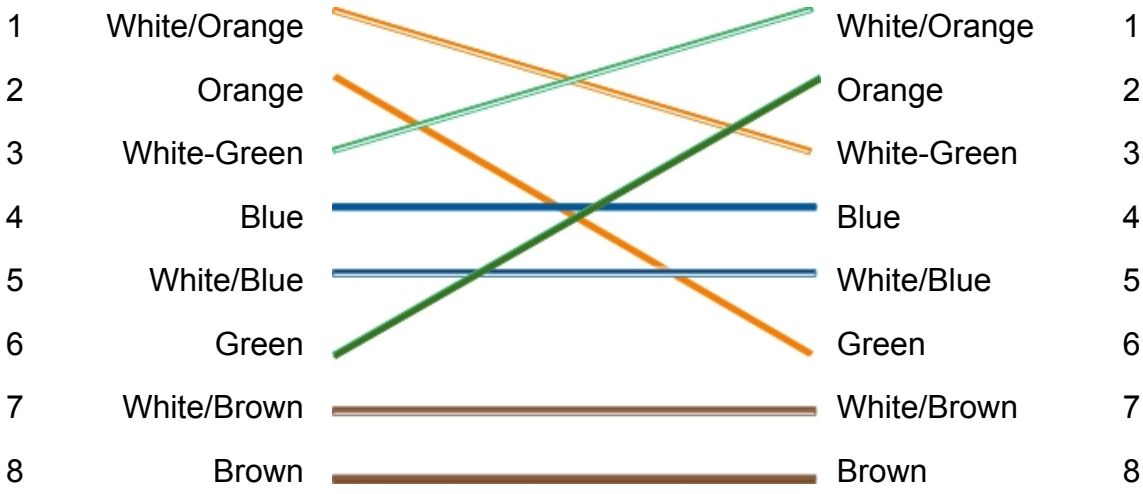


Figure 28: Cross-over cable



Please make sure your connected cables have the same pin assignment and color as above before deploying the cables in your network.

Appendix C
Warranty and contact information

Warranty information

The warranty period for the TruVision Megapixel IP Dome Camera is three years from the date of delivery.

Contacting support

For help installing, operating, maintaining, and troubleshooting this product, refer to this document and any other documentation provided. If you still have questions, contact us during business hours (Monday through Friday, excluding holidays).

Table 16: Technical support

North America	
T	888 GE Security (888.437.3287) Toll-free in the US, Puerto Rico, and Canada.
	503.885.5700 outside of the toll-free area.
F	888.329.0332 (Tualatin tech support)
	561.998.6232 (Boca Raton tech support)
E	nstechsrv@ge.com
	gesecurity.customerservice@ge.com
Europe, Middle East, and Africa	
W	Select Customer Support at www.gesecurity.eu
Australia	
E	security.tech.support@fs.utc.com
W	Go to www.utcfs.com.au and select SUPPORT > Technical Support

Latin America	
F	1 305.593.4300
E	InfraSec.TechnicalServicesLatinAmerica@ge.com
	InfraSecCustomerService.LatinAmerica@ge.com
China, India, Singapore, Taiwan, Southeast Asia	
E	ges.asiatechservice@ge.com

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