Mounting and Operating Manual

Dear Customer!
By selecting this VC product you have chosen a professional device, which guarantees highest possible quality and reliability.

Please read the following instructions carefully before comissioning the product in order to be able to take full advantage of all quality features regarding this product line.

GSM-camera

Art. no. 15600

VC-videocomponents.... aligned for professional videosystems

ATTENTION

Do not disassemble the EDGE Camera (equipment). Do not touch the equipment if it is broken or its connecting wires are without isolation.

All wireless devices for data transferring may be susceptible to interference, which could affect performance.

The device is not water-resistant. Keep it dry.

The device requires high 230V AC voltage.

Only qualified personnel may install or repair this equipment.

IMPORTANT NOTES!
It is mandatory to read the notes and manual carefully before starting to use the device.

ACRONYMS

AC/DC	Alternating Current/Direct Current
APN	Access Point Name
CCT	Camera connection tool
CD	Compact disc
CHAP	Challenge Handshake Authentication Protocol
DDNS	Dynamic Domain Name System
DNS	Domain Name System
EDGE	Enhanced Data rates for GSM Evolution
FTP	File Transfer Protocol
GND	Ground
GPIO	General Purpose Input Output
GPRS	General Packet Radio Service
GSM	Global System for Mobile communications
IMEI	International Mobile Equipment Identity
IRLED	Infrared LED
ISP	Internet Service Provider
JPEG	Joint Photographic Experts Group
L	Line
LED	Light Emitting Diode
MPEG	Motion Picture Experts Group
N	Neutral
NiMH	Nickel-metal hydride
OS	Operating System
PAP	Password Authentication Protocol
PC	Personal computer
PDP	Packet Data Protocol
PE	Protective earth
PIN	Personal Identification Number
PPP	Point-to-Point Protocol
QQVGA	Quarter-QVGA
QVGA	Quarter VGA
Rx	Receive
SIM	Subscriber Identity Module
SMS	Short Message Service
SW	Software
TCP/IP	Transmission Control Protocol/Internet Protocol
Tx	Transmit
UART	Universal Asynchronous Receiver/Transmitter
USB	Universal Serial Bus
VGA	Video Graphics Array
WEB	World Wide Web

Table of Contents

SAFETY INFORMATION

In this document you will be instructed how to use camera safely to avoid any damage to person or property.

You have to be familiar with the safety requirements before starting to use the device! Camera is used for transmission of video and single images via GSM network using GPRS and EDGE technologies. To avoid burning and voltage caused injuries, of the personnel working with device, please follow these safety requirements.

Installation and technical support of the equipment can be performed only by a qualified personnel or a person who has enough knowledge about this device and safety requirements.

Equipment requires 12V⎓750 mA power supply source that complies with all safety requirements listed in LST EN 60950-1 standard.

The PC and AC/DC power adapter, to which the equipment is connected, shall comply with the requirements of the standard LST EN 60950-1. The equipment can be used with first (Personal Computer) or second (Notebook) computer safety class which must be properly grounded.

The light or attachable sensors shall comply with all safety requirements listed in LST EN 60950-1 standard.

Internal camera battery may be changed only by qualified personnel or a person who has enough knowledge about this device and safety requirements.
Replacement battery type must be NiMH 9V, 250mAh.
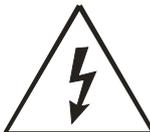
Disconnect equipment from power supply before mounting to avoid voltage effect!
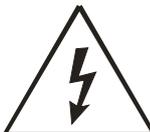
Do not mount or serve device during a thunderbolt.

To avoid mechanical damage of the device it is recommended to transport the device packed in damage-proof pack. While using the device, it should be placed so, that its indication LED would be visible as they inform in which working mode the device is and if it has any working problems.

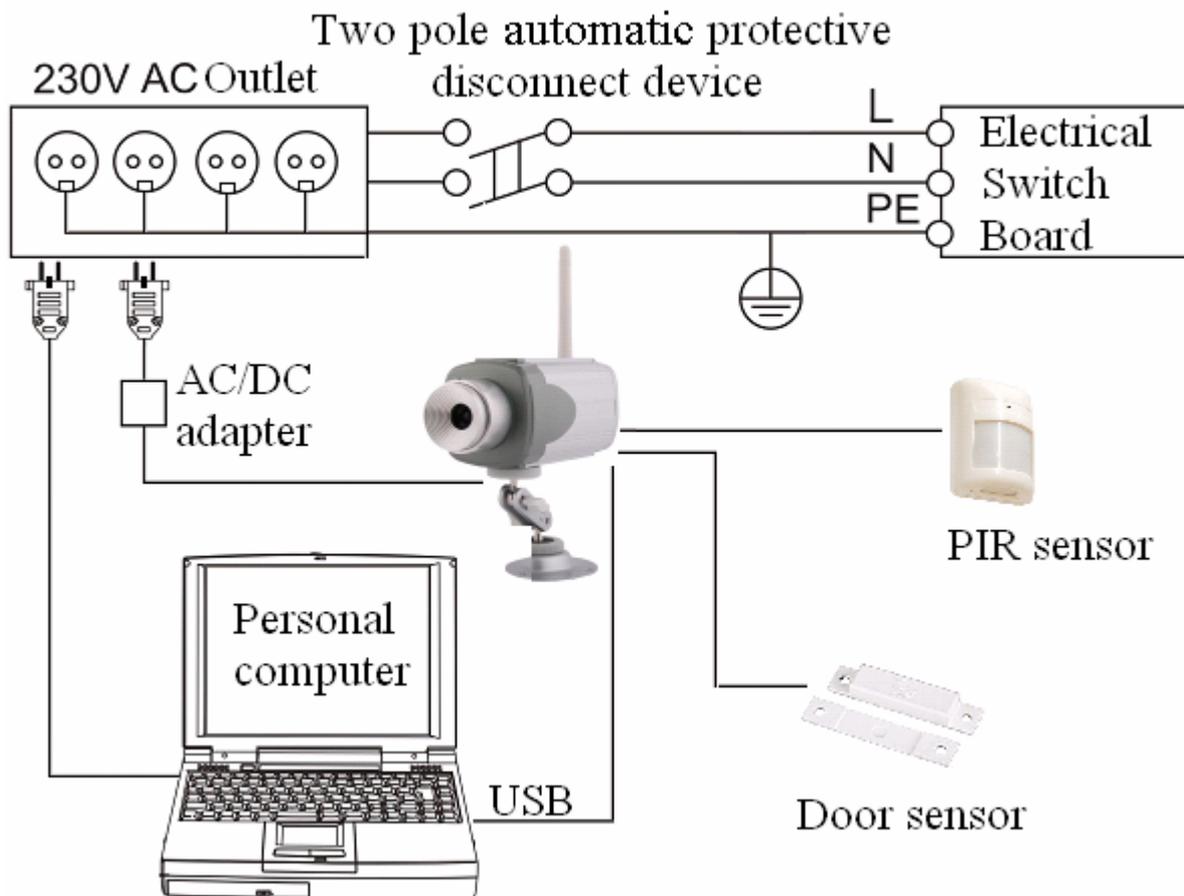Protection against over currents, short circuits and earth faults an additional two-pole disconnect device shall be provided as a part of building installation. This protection device shall have adequate breaking capacity to interrupt the maximum fault current which can flow and shall have a contact separation of at least 3 mm.

Turn off two-pole automatic disconnect device in order to simultaneously disconnect the equipment and all with it associated equipment. If the equipment has turned on battery, turn it off with the switch pushing it to the position OFF.

1   GETTING STARTED

1.1   Introduction

The Camera is a compact mobile surveillance and monitoring system for transmission of high resolution video and single images via GPRS/EDGE network. In places with no land line Internet available 15600 is ideal for remote surveillance and monitoring of temporary or distant sites or mobile assets. The images can be acquired automatically with programmable period and/or upon external triggers such as motion sensors or door contacts. The video and single images can be viewed on a PC or a handheld device, and can also be transmitted to FTP-server and/or by e-mail.

1.2   Package contents

- Camera
- External GSM antenna
- AC/DC Power adapter (Euro or UK plug)
- USB cable
- Angled wall mount bracket
- Leaflet "Quick Start Guide"
- CD with software, drivers and manual

Note: The manufacturer does not supply the SIM card, which is mandatory for setting up a connection to the GSM network! The SIM card may be purchased from your GSM (mobile) service provider!

Note: If any of the components is missing or damaged, please contact the retailer or reseller from which this product was purchased.

1.3   Installing the hardware

Before installing the hardware, check package contents to make sure that all items listed above are available.

1.3.1   Inserting SIM card

Open and remove the back panel of the camera. To do that, use the screw-driver to unscrew four screws holding panel. After the back panel is removed gently insert the SIM card as showed in figures below.

Before inserting SIM card do not forget to remove SIM card PIN code request. Otherwise you will not be able to connect to GSM network.

Insert the SIM card into the holder with the metal contacts facing the SIM connector side. Ensure that the 'cut-off' corner is at the bottom right as in figure above. After the SIM card is inserted attach the panel to its previous position.

1.3.2 Attaching antenna

Screw the antenna in a clockwise direction.

Position the antenna upwards at its connecting joint. This will ensure optimal reception.

1.3.3 Back panel overview

1. Power supply adapter socket.
2. Battery ON/OFF switch
3. 5-pin terminal block
4. 2-pin terminal block
5. MicroSD card socket
6. Power LED
7. GPRS/EDGE connection status LED
8. Ready LED
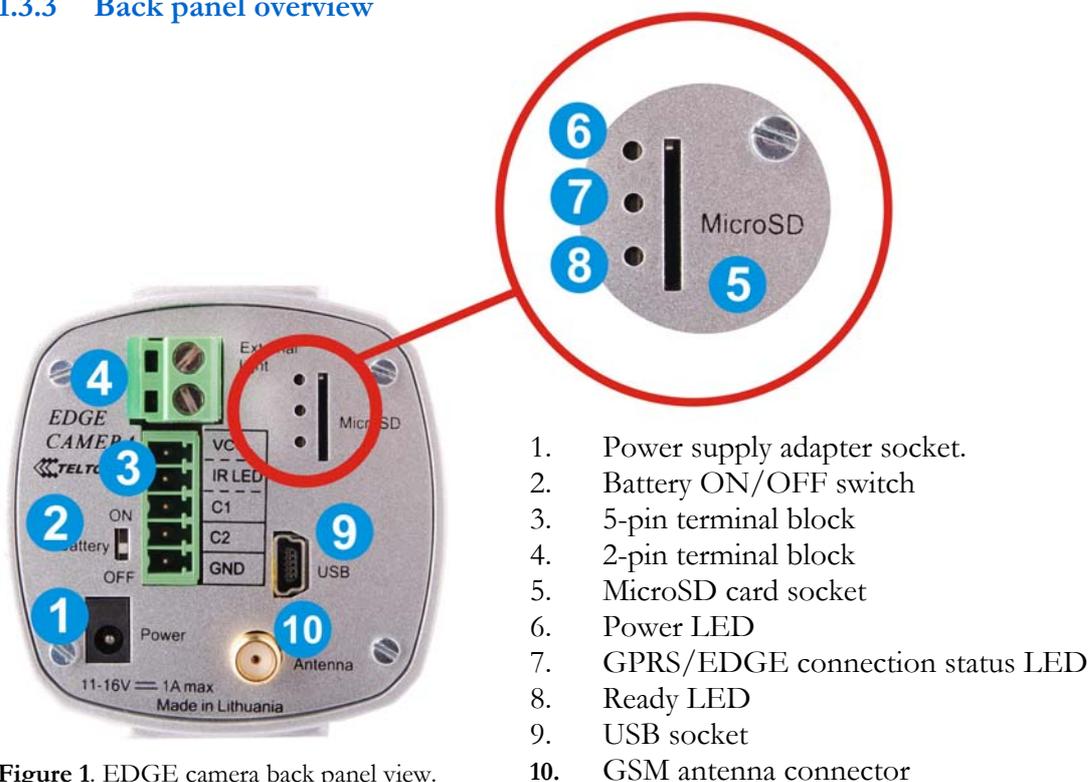9. USB socket
10. GSM antenna connector

Figure 1. EDGE camera back panel view.

Turn on battery switch to enable backup battery. The switched on battery will work as a backup power source even when the mains power fails. If camera is not used set the battery switch to OFF position.

Table 1. EDGE camera back panel view.

LED	Colour	Solid	Off
🟢 Power	Green	Power ON	Power OFF
🟢 GPRS/EDGE conn. status	Green	Connected	No connection
🟢 Ready	Green	Ready to work	Booting

1.3.4   2-pin terminal block

Internally 2-pin terminal block is connected to relay inside the camera (refer to Fig. 2.). The connector may be used for connecting external light, which may be turned on, on event. Normally relay contact stays open. On event for the predefined period of time contact may be closed causing to turn on the light. For the detailed instructions on how to enable this feature refer to section "2.3 Event configuration". The maximum allowed current - 5A, maximum allowed voltage - 24V.
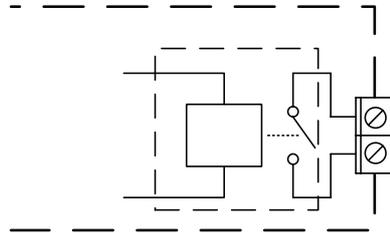

Figure 2. Internal camera relay connected to 2-pin terminal block.

1.3.5   5-pin terminal block

The 5-pin terminal block may be used for connecting external alarm sensor or for enabling infrared light source. Most common used sensor examples are given in section "Typical PIR and door sensor connection". The Table 2 provides 5-pin terminal block description.

Table 2. 5-pin terminal block pin out description.

Contact	Type	Description
OUT 9V/12V	Power output	Power supply output. Output voltage depends on power supply source: battery NiMH 9V, 250 mAh mains supply 12V $=$ 750 mA
IR	Output	Digital output. **ON - 3.3V, OFF - 0V** Internal output resistance 1k Ω. Turns ON/OFF simultaneously with the relay output (2-pin terminal block)
C1	Input	Sensor signal input, 0 - 3.3V, internal pull up 4.7k Ω
C2	Input	Sensor signal input, 0 - 3.3V, internal pull up 4.7k Ω
GND	Ground	Ground.

1.3.6   Wall mounting

The camera is packed with attachable wall mounting bracket. Wall mounting bracket may be attached to the wall through the holes on the bracket pad.

**Figure 3**. Attaching wall mount bracket to the camera.

1.4 Camera access software and drivers

1.4.1 Installing the software and drivers (Windows XP only)

- Connect power supply to the camera, then connect camera to the USB port.
- Insert the CD supplied with the camera into CD-ROM drive of your PC.
- The CD will start up automatically opening installation window. If the window does not appear, run setup.exe file located in the CD.
- Follow the instructions to install drivers and software for the 15600.

Step 1
Click **Install**

Step 2
Click **Next**

Step 3
Click **I Agree**

Step 4
Click **Next**

Step 5
Click **Install**

Step 6
Click **Ok**

Step 7
Click **Finish**

Note: The installation software installs FTDI company USB drivers. If FTDI drivers to the PC has never been installed to your PC before, Windows **New Hardware Wizard** window may appear. To finish the installation choose **Yes this time only**, click **Next**, then choose **Install the software automatically (Recommended)** and to keep clicking **Next** till the installation is finished.
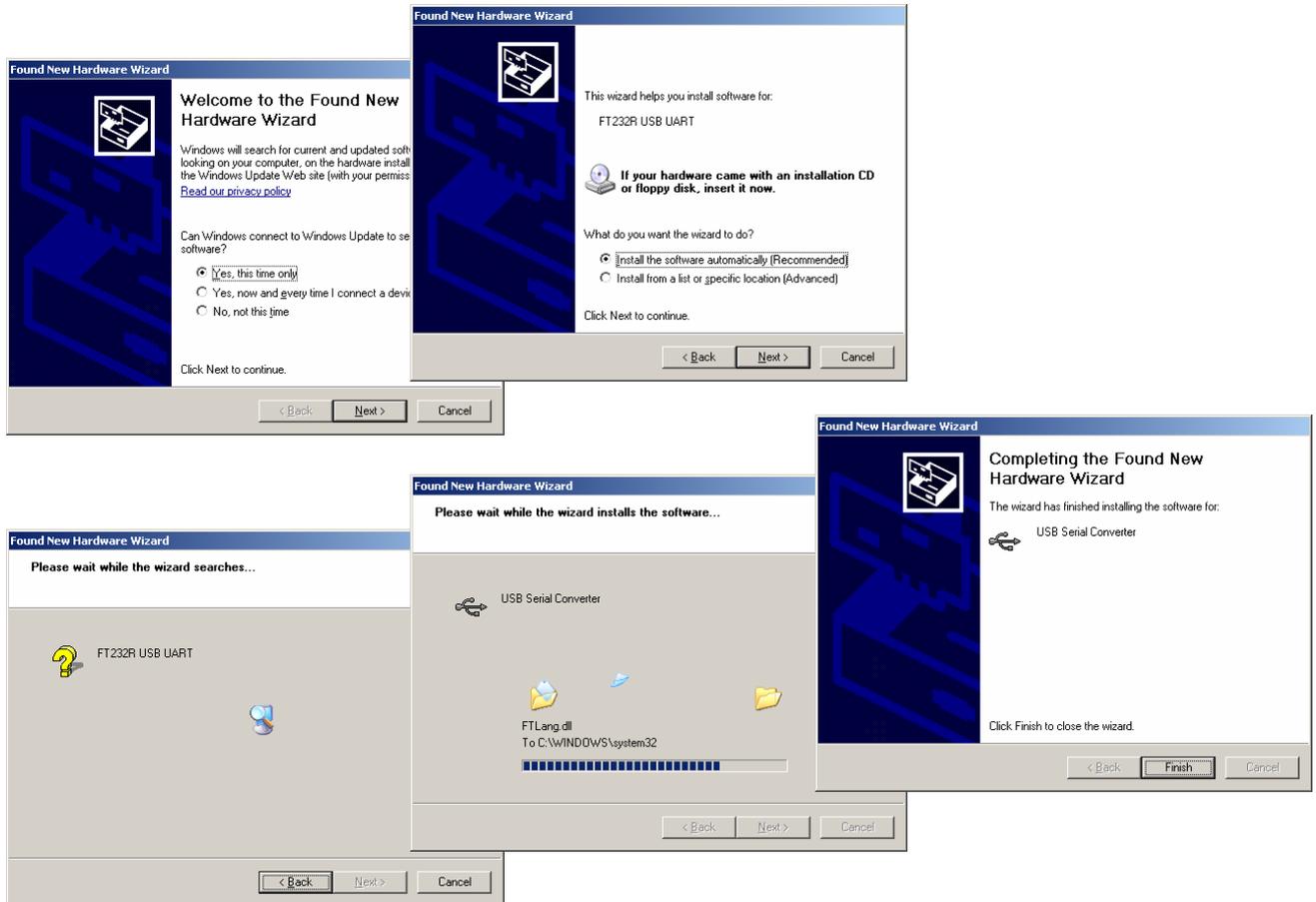
1.4.2   Connecting to the EDGE Camera with Camera Connection Tool (CCT)

1. Unplug camera power supply and USB.
2. Connect power supply to the camera, then connect camera to the USB.
3. Wait for power and ready LEDs to lights up.
   Start CCT (Camera Connection Tool).
4. Click **Connect** button.

5. Click the **Show default camera page** button to Start your Internet browser (e.g. IE or Mozilla) with default IP address http://10.0.0.1

Enter the login information. The default administrator login settings are:

       User name: **admin**

       Password: **admin**

Note: if a **Hardware Installation** warning appears informing that the Camera has not passed Windows Logo testing to verify its compatibility with Windows XP, press **Continue Anyway**.

1.4.3   Notes for using Camera Connection Tool (CCT)

If you are going to unplug disconnect the USB cable or power supply from the camera, click "Disconnect" in the CCT window, wait until the message "Disconnected" appears. Click "Connect" when have plugged in USB cable.

If you are going to connect another EDGE camera to the PC close the CCT tool, unplug the camera from the PC, connect the other camera to the PC and make connection using CCT again.

If any problem with the connection occurs close the CCT, unplug the camera from the PC USB port, then connect the camera to the PC and make connection using CCT again. If the problem persists, close CCT, open Start ->Control Panel ->System->Hardware->Device Manager, expand "Modems", right-click on "Camera" and uninstall it. Unplug the power supply and the USB cable from the camera. Then connect the camera to the PC and make connection using CCT again.

1.4.4   Uninstalling the Driver and Software

To uninstall the driver and software follow these instructions:

1. Disconnect the Camera from the PC USB port.
2. Select the program, click on **Uninstall** and then follow the instructions.

1.5   Accessing the Camera

1.5.1   Accessing WEB interface

To access camera's WEB interface connect to the camera using CCT tool. After successful connection open the Web browser and type the camera IP address (http://10.0.0.1). If the camera port was changed from default port 80 to another value the IP address must be written in from http://10.0.0.1:1010 (Value 1010 is new port).

If the IP address and port are correct the login page asking for username and password appears:

The default administrator login settings are:

Username: **admin**
Password: **admin**

1.5.2   WEB configuration page interface structure

The welcome page of the Web management interface is displayed after successful login to the camera (Fig. 4). From this menu all essential configuration pages can be accessed.
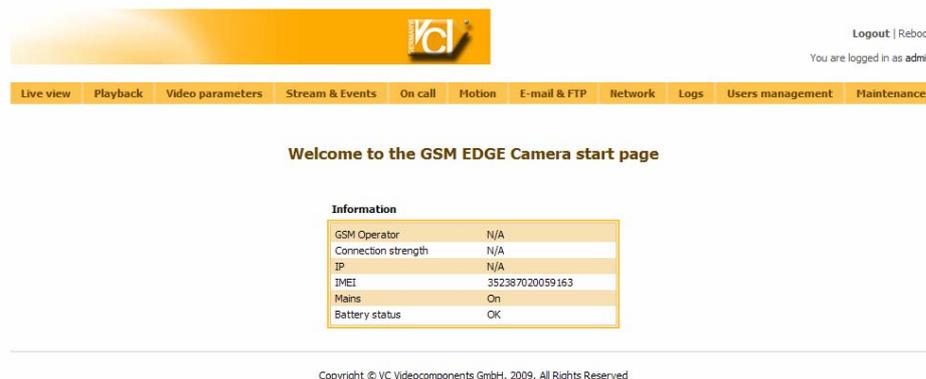

Figure 4. Welcome page of the camera WEB interface

Status & Review

    Live view – real time camera view

    Playback – review stored videos or snapshot pictures

Video and image settings

    Video parameters – adjust contrast and brightness

Event configuration

    Stream & Events – configure constant video and video on event

    On call – configure on call events and area listening feature

Settings

    E-mail & FTP – configure E-mail and FTP settings

    Network – configure mobile network and DDNS settings

Admin

    Logs – displays system logs

    Users management – add/ remove new users, change user's login details

    Maintenance – set the time or update camera firmware

1.6   Setting camera's GSM connection

To set up the GSM connection SIM card is required. SIM card is not supplied with the camera. It may be purchased from GSM service provider. To set up the connection the following information from your GSM provider is required:

1. **Phone number**. Most often used for all GSM service providers is *99#.
2. **PPP authentication.** The authentication protocol, which is used by your Internet Service Provider [None, CHAP or PAP].
3. **APN.** Access Point Name (APN).
4. **User Name.** If GSM operator does not require username, leave it blank.
5. **Password.** If GSM operator does not require password, leave it blank.
6. **DNS server 1.** If GSM operator does not require DNS server 1, leave it blank.
7. **DNS server 2**. If GSM operator does not require DNS server 2, leave it blank.

Note: from DNS servers section drop down menu choose option Custom, in order to set DNS servers.

!!!Do not forget to remove SIM card PIN code request. Otherwise you will not be able to connect to GSM network.

After all the connection data from your GSM provider is collected, connect to the camera WEB interface. Then select Network tab (refer to Fig. 5).

Figure 5. Mobile network configuration.

Set up **Network settings** with data from internet service provider. The WEB server (camera) port is advised to leave 80. After setting all GSM connection information press **Save** button. Camera will reboot and startup with new settings.

1.7 Accessing Camera from the WEB

There are two ways to connect the EDGE camera from internet:
1. Use SIM card with public static IP address
2. Use SIM card with public dynamic IP address witch will be linked to static hostname using DDNS service.

Note: If the SIM card is with private IP address then reaching camera from the internet is not possible as connection is routed through a NAT firewall in your provider's GSM network.

1.7.1 SIM card with public static IP address

Open your WEB browser and type SIM card's IP address, when the camera GSM connection has been set up. After successful connection camera's login page must appear.

Note: If the Web server (camera) port has been changed in the Network settings then IP address should be written in the following form:

http://A.A.A.A:B,

where A.A.A.A is the camera IP address and B the Camera Web server port.

1.7.2 SIM card with public dynamic IP address

For the SIM card with dynamic public IP address the IP address is given for a limited period of time, which is usually no more than a few hours, then the IP address is changed. As the IP address is continuously changed it becomes a problem to connect to the camera. To solve this problem Dynamic Domain Name Service (DDNS) may be used. DDNS is a domain name service allowing to link dynamic IP addresses to static hostname.

To start using this feature firstly a hostname must be registered on the DDNS server. The camera is preconfigured to connect to the www.dyndns.com server for updating camera IP address. After creating account at www.dyndns.com you will get: Hostname Username and Password.

To link camera's IP address to the static hostname, Dynamic DNS settings must be configured. To configure DDNS connect to the camera WEB configuration page, go the **Network** tab (Fig. 6).

Figure 6. DDNS settings

Check the **Enable** check box. Enter username, password and hostname that are given by DDNS server provider. Enter the IP address update interval in the Update interval field. After setting DDNS settings press **Save** button. Camera will reboot and startup with new settings.

2 EDGE CAMERA CONFIGURATION

2.1 Status & Review

2.1.1 Live view

The live view section allows watching video in real time within the camera WEB interface. Also it contains important status information. The status information view is shown in Fig. 7.

Information

GSM Operator	N/A
Connection strength	N/A
IP	N/A
IMEI	352387020059163
Mains	On
Battery status	OK

Figure 7. Status information

GSM operator – Displays the GSM operator to which camera is connected.
Connection strength – Displays received signal connection strength.
IP – Camera IP number.
IMEI – Camera IMEI number.
Mains – Shows mains power supply status.
Battery status – Shows battery energy status.

Live View settings allows setting the desired resolution, quality and format (refer to Fig. 8).

Live view settings

Resolution	VGA (640x480)
Quality	Normal
Video format	MJPG
	Apply

Figure 8. Live view settings

Resolution – Select the desired resolution of live view [VGA/QVGA/QQVGA].
Quality – Select display video quality. [Basic/Medium/Normal/High/Best].
Video format – Displays allowable video format [JPEG].

Live view session time is set in the section "Live view time out". When the time expires camera stops displaying live view. Live view can be started again by pressing Reset button.

Live view timeout

Time remaining	04:48
	Reset
Timeout	5 mins 00 secs
	Apply

Figure 9. Live view timeout settings

Time remaining – Displays remaining time before camera stops displaying live view.
Timeout – Define the time out in minutes and seconds.

2.1.2 Playback

Many security applications require recording the video or snapshots that may be reviewed later. The 15600 allows not only sending media content over internet to distant FTP servers or to emails but also to record it locally in the internal Cameras memory or to the SD card.

If there is no SD card installed only up to 10 snapshots that are generated on events are recorded. The video streams are not recorded to the internal camera memory.

Recorded video or snapshots may be reviewed in the Playback section (Refer to Figure 10).

Figure 10. Choose Playback to review media stored in the camera's internal memory.

The stored media is grouped according to the date (See Figure 10). For easer review year, month, day or time maybe selected to regroup the media.

Media type denotes the type of the record:

- Video: MPEG4 video clip

- Images: series of JPG images

- Image: single JPG image

The recorded media may be reviewed browsing to the desired record using „Next page", „Previous page" or dropdown page list. In the case of MPEG4 video clip („Video") click „Play" or „Download" to download the video (Figure 11).
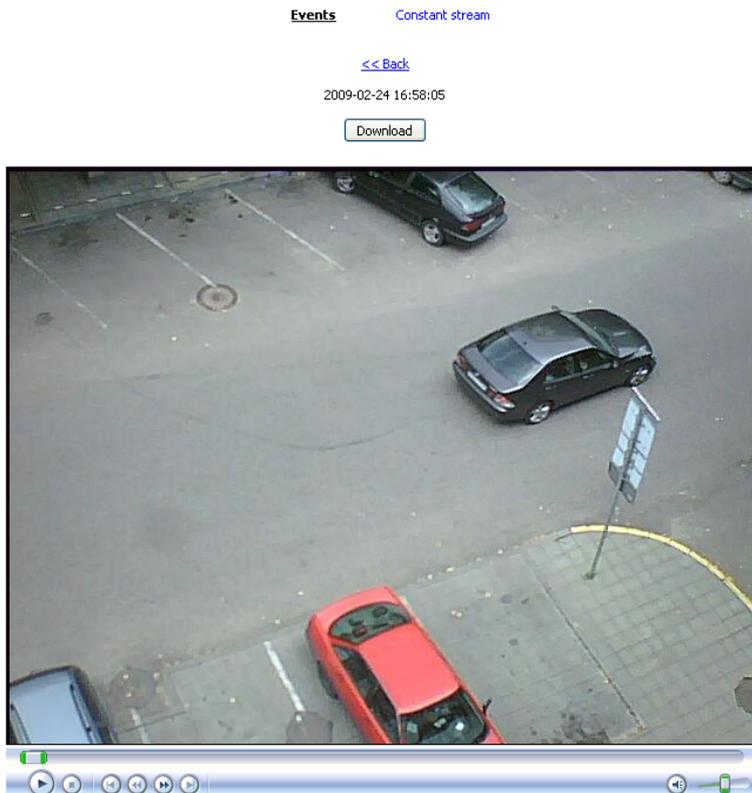
Figure 11. MPEG4 playback window

      If the MPEG4 video file doesn't play, MPEG4 codec must be installed from the supplied CD. How to install the codec please refer to Appendix A Installing MPEG4 codec for the PC.

2.2 Video and image settings

2.2.1 Video parameters

      Video parameters may be used to get clear video display. Fig. 12 shows video configuration settings.

Figure 12. Video settings configuration.

      Brightness – Adjust the brightness value from range -127 to 127.
      Contrast – Adjust the contrast value from range 0 to 127.

      Pressing Save button updates camera with new settings immediately. However these settings are stored in temporary memory which is cleared after plugging off the power or rebooting causing camera to restore default parameters values.

2.3 Event configuration

2.3.1 Stream & Events

Camera may be configured to record a constant video stream or make a record triggered by event. A common event type is an alarm on connected external sensor to camera that causes the camera to upload images.

The configuration menu allows choosing the quality and the resolution. The lower quality and resolution the smaller is the frame size.

Approximate frame size values for the VGA resolution are:

Best => 50 kBytes
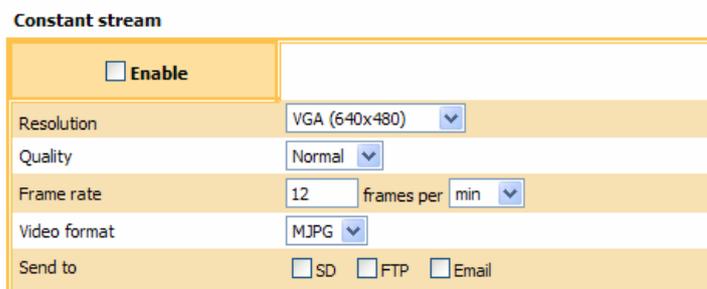
High => 40 kBytes

Normal => 30 kBytes

Medium => 20 kBytes

Basic => 10 kBytes

QVGA frame size is about 4 times smaller than VGA. QQVGA frame size is about 16 times smaller than VGA. Choosing the quality and resolution value is very important as EDGE transmission rate is limited. The camera allows sending data up to 236 kbits/s. The actual transmitted data speed depends on GSM provider's network and GSM signal strength.

2.3.1.1 Constant stream

Constant stream allows configuring constant video sending to FTP, SD card or by E-mail. Before enabling this feature do not forget to set parameters for FTP and E-mail in the E-mail & FTP tab in camera web configuration page. In order to receive video files by FTP and E-mail do not forget to set reasonable values for frame speed, resolution and quality as data transmission is limited by the EDGE connection speed.

Figure 13. Constant video stream settings.

Enable – Check the box to enable constant stream.

Resolution – Select the desired resolution of constant stream view [VGA/QVGA/QQVGA].

Quality – Select recorded video quality. [Basic/Medium/Normal/High/Best].

Frame rate – Set frame rate for video stream.

Video format – Displays allowable video format [MJPG].

Send to – Select video stream sending destination.

Pressing Save button updates camera with new settings immediately. These settings are stored in permanent memory.

2.3.1.2 On event stream

Figure 14. Event video stream settings.

Enable – Check the box to enable stream on event feature.

Events – Select desired events which will trigger the camera. Event trigger can be: Contact1, Contact2 which are located on the back panel of the camera. Connect external sensors (e.g. door, PIR) to these contacts.

Resolution – Select the desired resolution of on event stream [VGA/QVGA/QQVGA].

Quality – Select display video quality [Basic/Medium/Normal/High/Best].

Frame rate – Set frame rate for video stream. Checking Single shot check box allows to record single shot.

Video format – Displays allowable video format [MJPG or MPEG4].

Send to – Select video stream send destination. To send video to E-mail or FTP their settings first must configured. If the Output option is selected camera will close relay contact on 2-pin terminal block. This terminal maybe connected to the light source. Triggering the camera will cause relay to work as light switch for turning the external light on.

Pre-alarm – The camera has ability to send stream which was before the event. It is made by continuously storing required amount of information in camera's internal memory. Set the time in seconds to define how much data must be stored. This function is very useful when checking to see what happened immediately before a trigger.

Send-alert – select this option to enable sending alert message. Message will be sent if an event on contacts Contact1 or Contact2 will be generated. The SMS messages will be sent to all the mobile phones that are in the user's lists. Users list if configured in Users management section.

Post-alarm – Set the time in seconds how long after the event camera sends the stream.

Output duration – Camera has integrated relay switch, which may be turned on event. Set the time to define relay closed contact time.

Pressing Save button updates camera with new settings immediately. These settings are stored in permanent memory. In order to test if camera transmits defined stream on event to E-mail, FTP or Output the Generate button may be pressed. It is a useful feature allowing to easily system testing.

Note: camera can capture up to 40 frames. Please choose correct frame rate and Pre-alarm and Post-alarm values in order to do not exceed the 40 frames limit.

2.3.2 On Call function

2.3.2.1 On Call function

On Call settings allow configuring camera's response when phone call or SMS command is received. These settings can be set only by Administrator's user class. Phone call or SMS commands are accepted only from the authorized users' phone number. Authorized users are configured in the Users management section. Area listening feature may be accessed by all types of user classes: Administrator, User and Guest.

Figure 15. On call event settings.

Enable – Check the box to enable "On call" function.

Send email – Check the box to send snapshot or video clip to authorized user email. Email address is configured in the Users management section.

Turn voice on – Check the box to activate area listening feature. This feature allows to listen surrounding are by making a phone call to the camera.

Turn voice on after – threshold of beep (ring) count (1 beep = 5s). To request image or clip from camera, make a call shorter then defined number of beeps. Make a call longer then defined number of beeps, to activate "area listening" feature.

Resolution – Select desired resolution of the image or video clip [VGA/QVGA/QQVGA].

Quality – Select video quality. [Basic/Medium/Normal/High/Best].

Single shot – Check the box if only single frame is needed.

Frame rate – Set frame rate for the video stream.

Video format – Select video format [MJPG, MPEG4].

Video duration – video clip duration.

2.3.2.2 SMS commands

Camera allows reaching some of it features using SMS. The messages are accepted only by Administrator and User class users. If the SMS sender's phone is not in the users list it will be ignored by the camera.

Command	Users class	Example	Action
apn, pn	Administrator	apn operator_apn pn *99#	Sets provider APN and phone number. After the camera receives SMS it changes its settings, sends confirmation SMS to the senders and reboots.
img	Administrator, user	img	In order to test camera remotely the SMS may be sent to generate event.
img email	Administrator, user	img email	Camera sends snapshot taken when SMS is received to the user's email from which SMS is received.
alarm on	Administrator, user	alarm on	Camera enables "On event stream" and sends confirmation SMS to the sender.

Command	Users class	Example	Action
alarm off	Administrator, user	alarm off	Camera disables "On event stream" and sends confirmation SMS to the sender.
alarm?	Administrator, user	alarm?	Camera sends "On event stream" status: enabled or disabled.
cb	Administrator	cb	The camera allows remote listening in on surrounding area by making the phone call. Sending SMS with "cb" command breaks current call
cu	Administrator	cu	The camera sends SMS message with information about current or last "area listener" user.
up?	Administrator, user	up?	The camera sends SMS message with sender's user class
ipaddr?	Administrator, user	ipaddr?	The camera sends SMS message with its IP address to the sender.
power?	Administrator, user	power?	The camera sends SMS message with power status (battery or mains power used).

2.4 Settings

2.4.1 E-mail & FTP

This section describes how to configure FTP and E-mail settings. Settings can be found at the E-mail and FTP tab in camera WEB configuration page.

Pressing Save button updates camera with new settings immediately. These settings are stored in permanent memory.

To enable email function following settings must be configured:

Figure 16. E-Mail settings.

SMTP server – the domain name or the IP address of the email SMTP server.

Secure connection – check the box to enable SSL for sending an email. Contact email service provider in order to find out if the SSL is required for sending an email.

User name –Enter your user name of the email account.

Password – Enter your password of the email account.

Sender's email address – Enter emails address which is assigned to the user name and password.

CC email – Enter secondary recipients email address or multiple addresses separated by space, comma or semicolon which will be added to the sent e-mail as Carbon Copy (CC).

Subject – Enter the desired subject of the email.

Note: Receivers email addresses are set in the **Users Management** section.

Note: to test the E-mail function press Generate button in the Stream & Events section. Do not forget to enable and setup **On event stream** section.

Figure 17. FTP settings.

> **Host address** – the domain or the IP address of the FTP server.
>
> **User name** – Enter your user name of the FTP account.
>
> **Password** – Enter your password of the FTP account.
>
> **Port** – Set the port of the FTP server. The default FTP port is 21.
>
> **Path** – Set the folder path where the data will be transferred.
>
> **Directories structure** – Select how the pictures are saved in the FTP server.
>
> > **Full** – camera will create directories structure (year => month => day) in the defined FTP path. This function is useful if there is a need for sorting pictures according to the date.
> >
> > **No tree** - all files are stored to defined FTP directory.
> >
> > **One file** – the camera will rewrite the older picture with the newer, so that only the last picture will be available for review in the FTP server.

Note: to test the FTP function press Generate button in the Stream & Events section. Do not forget to enable and setup **On event stream** section.

2.4.2   Network

2.4.2.1 GSM network settings

The Network settings section is used to configure connection to GSM network. All the configuration data except the Web server (camera port) must be provided by your mobile service provider.

!!!Do not forget to remove SIM card PIN code request. Otherwise you will not be able to connect to GSM network.

Figure 18. Mobile network configuration.

Phone Number – Phone number acquired from your ISP (default *99#).

PPP authentication – select authentication protocol, which is used by your Internet Service Provider [None/CHAP/PAP].

APN – Access Point Name (APN).

User Name – Enter your User Name for your mobile connection.

Password – Enter your Password for your mobile connection.

PIN – SIM card PIN number.

DNS server 1 and **DNS server 2** are ISP domain servers.

Web server (camera) port – Define port for connecting to camera web interface.

Note: from DNS servers section drop down menu choose option Custom, in order to set DNS servers.

Set up **Network settings** with data from internet service provider. The Web server (camera) port is advised to leave 80. After setting all GSM connection information press **Save** button. Camera will reboot and startup with new settings.

2.4.2.2 Dynamic DNS Settings

Dynamic DNS (DDNS) is a domain name service allowing to link dynamic IP addresses to static hostname. In order to have functional DDNS feature the SIM card with public static or dynamic address must be purchased from the GSM Internet service provider.

To start using this feature firstly a hostname must be registered on the DDNS server. The camera is preconfigured to connect to the www.dyndns.com server for updating camera's IP address. After creating account at www.dyndns.com you will get: Hostname User name and Password.

To link camera's IP address to the static hostname, Dynamic DNS settings must be configured. To configure DDNS connect to the camera WEB configuration page and go to **Network** tab (Fig. 19).

Figure 19. Dynamic DNS Settings.

Enable – check the box to enable DDNS.

User name - enter your user name. The camera will use it to automatically login to update your IP address in the DDNS server.

Password – enter you login password.

Hostname - enter your hostname which was registered in DDSN server.

Update interval – enter IP address update time in selected time periods.

After filling DDNS settings fields press **Save** button. Camera will reboot and startup with new settings.

2.5 Admin

2.5.1 Logs

In the logs sections all events may be reviewed. The logs stores information about the system status and I/O logs events.

Figure 20. Log window view.

Events are sorted by the date (as seen in Fig. 20). The time and event columns show the capture event time and short description. Triggered event video may be reviewed by pressing picture pictogram in Media column (Fig. 20). If no SD card is used captured video duration and quantity is limited as all videos are stored in camera's internal volatile memory.

2.5.2 Users management

Set up users list in the Users management section. There are three users classes: Administrator, User and Guest.

Users class	Access rights
Administrator	Full access to all settings and functions. Only one administrator user may be on camera.
User	No access to camera settings. May enter email address to receive media content generated by events. Can uses On Call function, send and get SMS messages; May review the playback.
Guest	No access to camera settings. May review the playback; Can use On call function – area listening.

Only administrator can add new camera users. Figure 21 shows users administration window.

Figure 21. Users administration settings

To create new account for the user class administrator must enter:
1. User name
2. Password
3. Select User class
4. Enter user's phone number (Guest type user do not have this option).
5. Enter user's E-mail address ().

Note: Phone number format must be one of the following:

International (+xxx)xxxxxx or (xxx)xxxxxx, e.g. (+370)60012345 or (370)60012345

Local xxxxxxxxx, e.g. 60012345

Note: the username must be one word without any spaces may contain alphanumeric and @#*+-=?+{} characters.

Figure 22. Entering e-mail for the user class user.

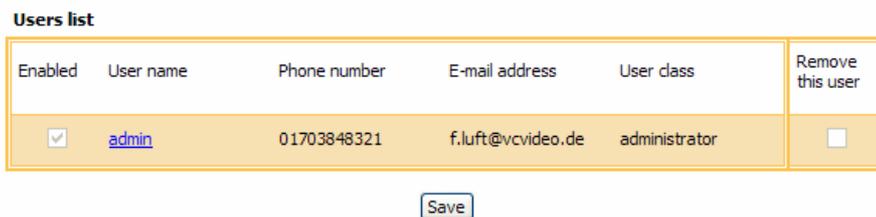To change the administrator login name and password click on the user admin as shown in Figure 23.

Figure 23. Selecting account to make changes.

After the selecting admin user the new window will appear for editing user's data (Figure 19).
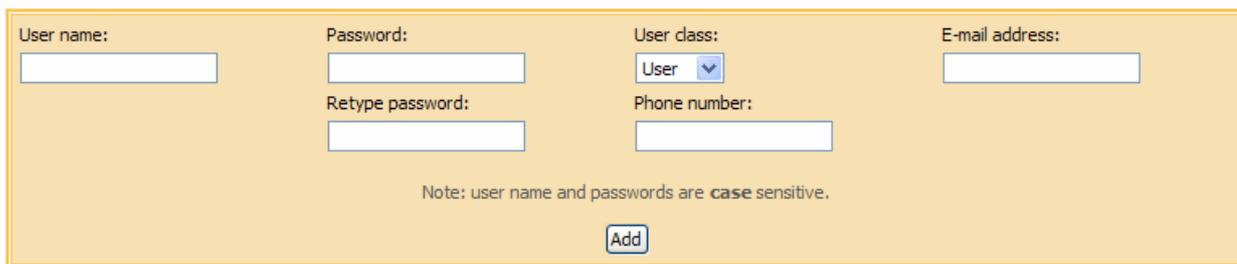

Figure 24. Editing user's data.

The Guest and User accounts may be edited in the same manner as the administrator. By selecting wanted user the new window will appear allowing to change user's data. The administrator can edit, add or remove users, change their login, e-mail or phone number.

2.5.3 Maintenance

2.5.3.1 Set the time

Camera has internal engine to count the time. The time may be synchronized with PC to witch camera is connected or with the external time server (Fig. 19).
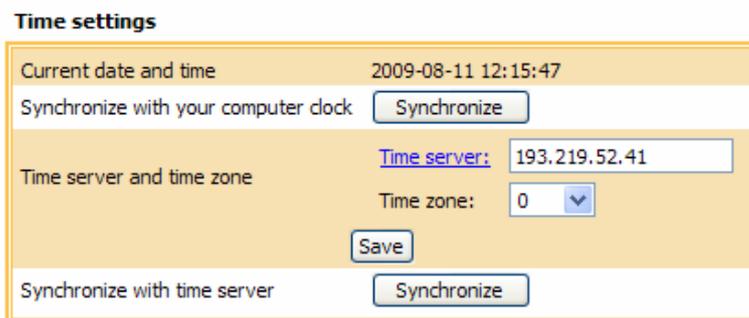

Figure 25. Time settings change window.

To synchronize time with the time server the time server domain or IP address and time zone must be entered. Synchronization is done automatically. The first synchronization is done after successful login to the GSM network, then every next 24 hour the time is renewed. Manual synchronization with time server may be done by pressing Synchronize button.

Pressing Save button updates camera with new settings immediately. These settings are stored in permanent memory.

2.5.3.2 Firmware upgrade

To update your device firmware click on the **Update firmware** button.

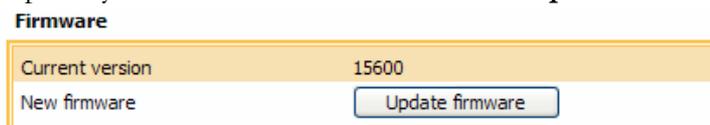| Firmware	
Current version	15600
New firmware	Update firmware

Figure 26. Firmware update

The newest firmware may be downloaded from our WEB page. Before downloading new firmware check its version with current camera's firmware version.

2.5.3.3 Clean up SD card

To clean up the SD card use Clean Up in the Maintenance section (Fig. 27)
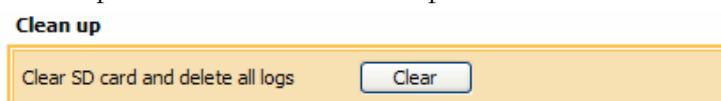

Clean up	
Clear SD card and delete all logs	Clear

Figure 27. Clean up SD card

After clicking Clear button all the date in the SD card will be deleted.

2.6 Restoring default user name and password or resetting to factory defaults

To restore factory default settings click the Restore button (Figure 28).

Configuration management	
Restore factory default settings	☐ Clear users list Restore
Download current configuration	Download

Figure 28. Restoring factory defaults settings

If the administrator password is lost the following guide describes how to restore default username/password or how to restore factory default settings:

1. Connect the AC/DC power adapter to the camera, then connect camera to the USB port.
2. Connect to camera using CCT tool.
3. In the WEB browser, type the IP address http://10.0.0.1:6541
4. Follow the instructions to restore default user name and password or how to restore camera to factory defaults settings.

3 Typical PIR and door sensor connection

The camera allows connecting various surveillance sensors: door magnet sensor, gas sensor, PIR sensor, smoke sensor, etc. The typical PIR and magnetic door sensor connection examples are given in Fig. 29 and Fig 30.
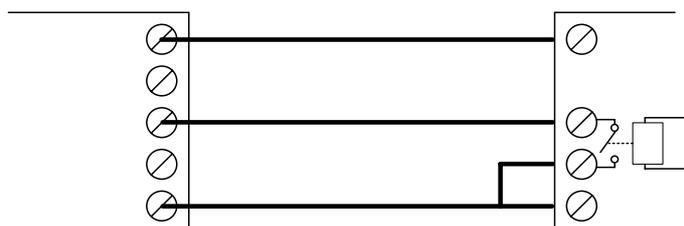

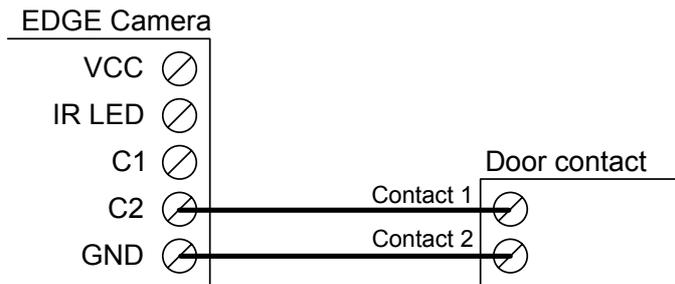**Figure 29**. Typical PIR sensor connection

**Figure 30**. Typical magnetic door sensor connection

4 TROUBLESHOOTING

4.1 Can not connect to the camera WEB configuration page

1. Check if power and USB cables are connected correctly.
2. Check if the Ready and Power LEDs are light up. If the power LED are turned off the problem is with power supply.
3. If there are any other modems in the Device Manager, disable them.

   Open System in Control Panel: Start => Settings => Control Panel => System. In the Hardware tab select Device Manager and select "View > Devices by Type", then expand Modem group.

   Right click on the modem which name is NOT "Teltonika Camera" and click Disable.
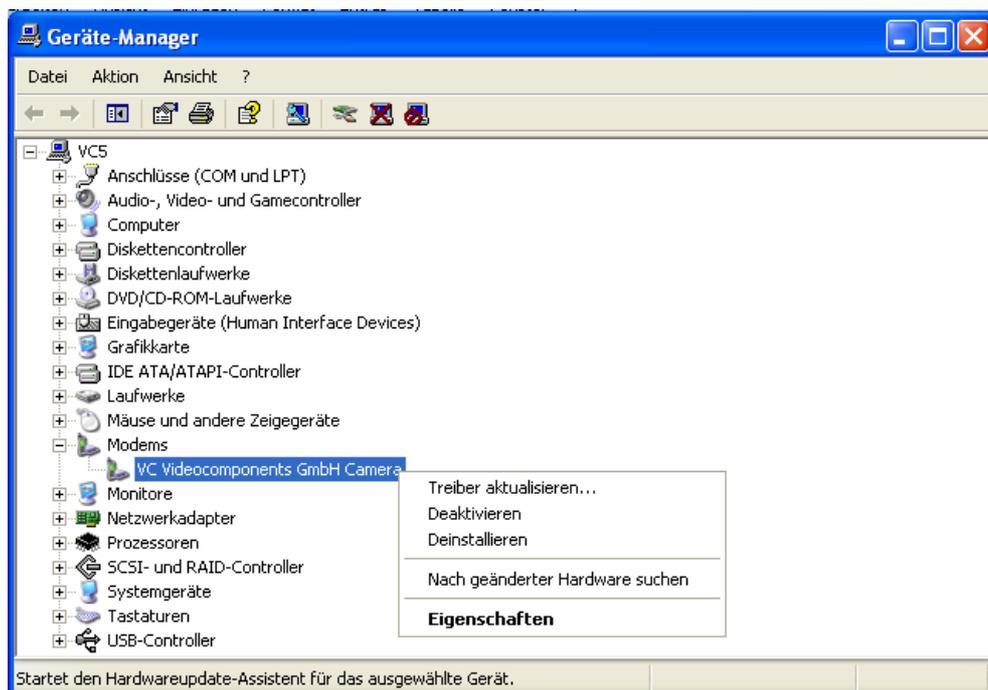
4.2 Camera does not connect to GSM network

1. Check if the network parameters supplied by your operator were entered correctly.
2. Check if the SIM card is inserted correctly.
3. Check if the SIM card PIN number is removed.

5 TECHNICAL SPECIFICATION

Management

User-friendly Web GUI

IMAGE

Image sensor: VGA (640x480 pixels).
Image resolution: VGA/QVGA/QQVGA
Image compression: JPEG
Video clip (programmable time duration) and/or single snapshot

SECURITY

Security for administration/configuration: only authorized users are allowed (user name and password)

CONFIGURATION & CONTROL

Built-in web server for easy configuration and firmware update
Built-in web server may be accessed:
      Remotely over GSM network
      Locally via USB connection

IMAGE TRANSMISSION

Image transmission over GPRS/EDGE network to:
      FTP-server
      E-mail

TRANSMISSION CONTROL

Transmitting and/or saving images on sensor activity (for example: PIR sensor, door contact...)
Pre-alarm function (ability to record video before sensor activity)
Possibility to stop transfer/record activity on external contact

EDGE 850/900/1800/1900 MHz

GSM Power Class 4 (2W) for 850/900 bands.

GSM Power Class 1 (1W) for 1800/1900 bands.

EDGE class E2 (+27 dBm in 850/900 bands, +26 dBm in 1800/1900 bands).

GPRS/EGPRS Multi slot Class 12 (4 slots Rx, 4 slots Tx).

GPRS/EGPRS Class B Type 1 MT.

GPRS CS1-CS4; EGPRS MCS1-MCS9.

TEMPERATURES & HUMIDITY

Operating temperature 0ºC to 50ºC.
Relative humidity: maximal 80%
Store and transport conditions:
      Temperature: -20° to 60° C.
      Relative humidity 5% to 95%

Note: Before using the equipment do not unpack it until package temperature reaches operating temperature. It is required if the device was stored in the temperature that exceeds operating temperature range.

OTHER

Lighting control: relay contacts
Backup battery
Power source detection:
      Mains indication
      Low battery power detection
GSM operator's identification
GSM signal level measurement and display

POWER SUPPLY

Mains adapter: 12V DC 1A
Internal backup battery NiMH 9V, 250 mAh. Battery charging time 9h.

ELECTRICAL CHARACTERISTICS

| Nominal power supply voltage	12V
Current consumption when idle	⎓ 100 mA
Current consumption when operating	⎓ 250 mA

6 Appendix A Installing MPEG4 codec for the PC

Camera stores video streams as MPEG4 video files. In order to view them a proper codec is required.
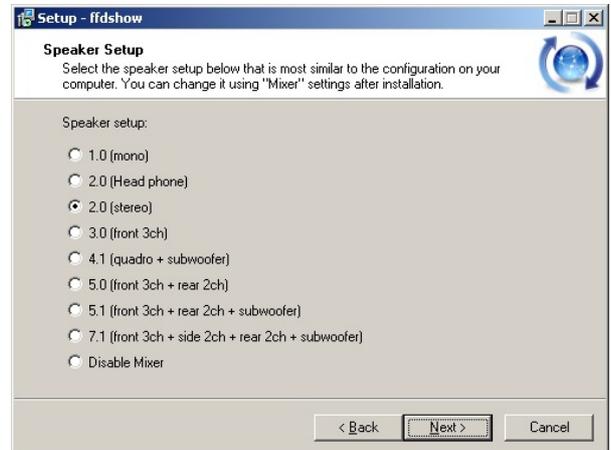
1. Run FFDShow setup by double clicking *ffdshow_beta6_rev2527_20081219* file which is located in */MPEG4 Codec/FFDShow/Install/* folder on 15600 EDGE Camera support CD
2. Click Next. Select destination location and click Next
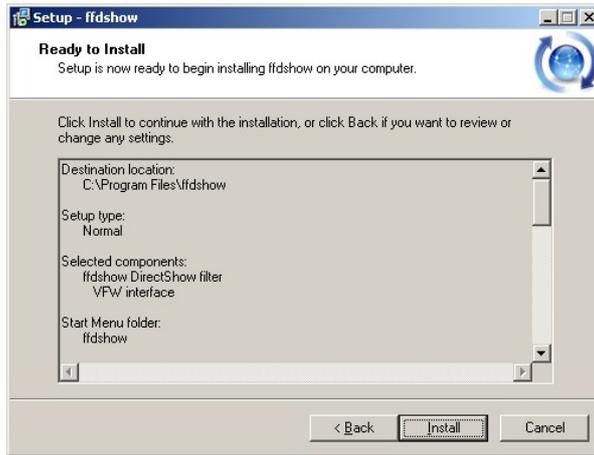

3. Click Next. Select Start menu folder and click Next.
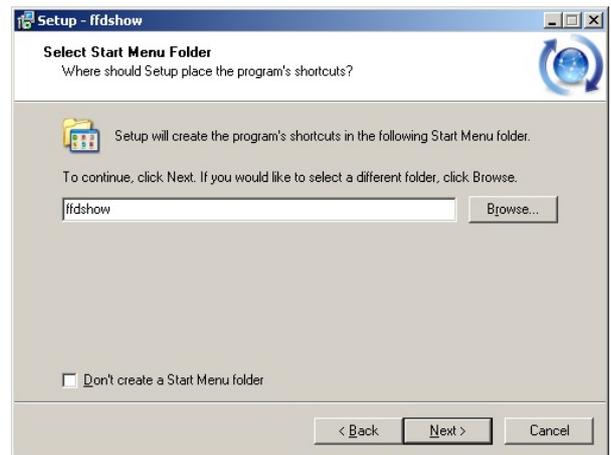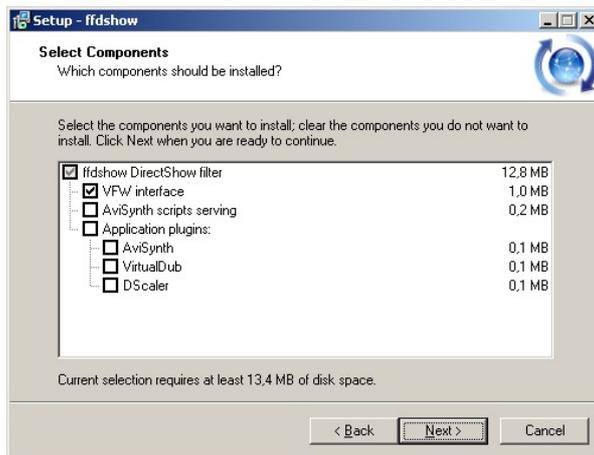
4. Click Next. Select you speaker setup and click Next.

5. Review Your selections and click Install and click Finish.

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