

gsmCAMERA©

Duval Eye Limited

Quick Start-up & Configuration Guide

GSM Remote RD3

A rapid deployment low power remote GSM camera

Quick start-up guide



INFORMATION FOR USERS ON THE CORRECT HANDLING OF WASTE ELECTRICAL AND ELECTRONIC EQUIPMENT (WEEE)

In reference to European Community directive 2002/96/EC issued on 27 January 2003 and the related national legislation, please note that:

1. WEEE cannot be disposed of as municipal waste and such waste must be collected and disposed of separately;
2. The public or private waste collection systems defined by local legislation must be used. In addition, the equipment can be returned to the distributor at the end of its working life when buying new equipment.
3. The equipment may contain hazardous substances: the improper use or incorrect disposal of such may have negative effects on human health and on the environment;
4. The symbol (crossed-out wheeled bin) shown on the product or on the packaging and on the instruction sheet indicates that the equipment has been introduced onto the market after 13 August 2005 and that it must be disposed of separately;
5. In the event of illegal disposal of electrical and electronic waste, the penalties are specified by local waste disposal legislation.

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1. Introduction

- 1.1. Welcome to the Rapid Deployment Low Power Remote GSM Camera, a GSM/GPRS colour camera that can be located anywhere in the World with GSM coverage to deliver full colour VGA JPEG images on request or on activation of external events.

This document will enable you to install your GSM Remote Camera and start using it immediately.

1.2. Product Contents

Check your GSM Camera Product Package for the following items.

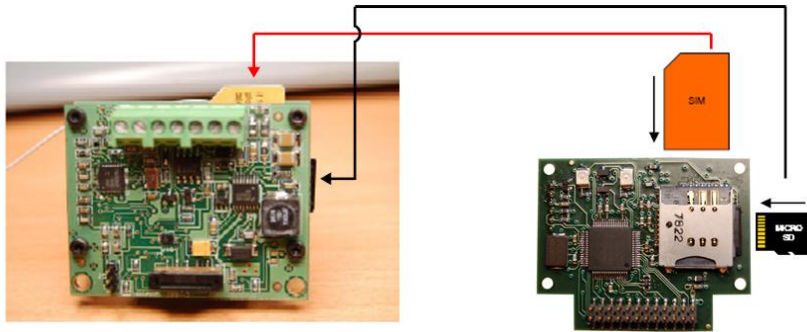
RD3 GSM Camera	1 x RD3 GSM Remote Camera
Antenna	1 x Antenna (Black)
SanDisk Adapter	1 x SanDisk microSD Card Adapter
Mounting Plate	1 x Mounting Plate (Aluminium)
Mounting Screws	4 x Mounting Screws
Anchors	4 x Anchors (Red)
Rubber Washers	4 x Rubber Washers (Black)
M4x8 Pan-Head Screws	4 x M4x8 Screws
8-32x0.75 Flat-Head Screws	2 x 8-32x0.75 Screws
½ Inch Conduit Gland	1 x ½ Inch Threaded Conduit Gland
¾ Blind Cover	1 x ¾ Inch Gland Blind Cover
½ Blind Cover	1 x ½ Inch Gland Blind Cover
Teflon Tape	1 x Teflon Tape
Documentation	1 x Quick Start-up Guide
WDDG-2 Instruction Manual	1 x Instruction Manual
Low Voltage Heater	1 x Low Voltage Heater Mounting Instructions
Application CD	1 x RD3 GSM PC Configuration Software

1.3. Additional Requirements (Not Supplied With Product)

You will need to obtain the following items for operation.

Power Supply	1 x 12V - 1A DC Power Supply
SIM Card	1 x GPRS enabled SIM card (not WAP it must be fully internet ready)
PC, Laptop or Notebook	PC, Laptop or Notebook capable of running the PC configuration software
Bluetooth Radio Link	PC, Laptop or Notebook must be Bluetooth Enabled

2. Mechanical Installation



TITLE GSM CAMERA MECHANICAL INSTALLATION			
AUTHOR GAVIN MCLAUGHLIN			
DATE	16/02/2009	SHEET	1 OF 1
REVISION	1.2		

GSM CAMERA ELECTRICAL INSTALLATION

V-	0V
----	----

V- | + | D+ | D- | V- | V+



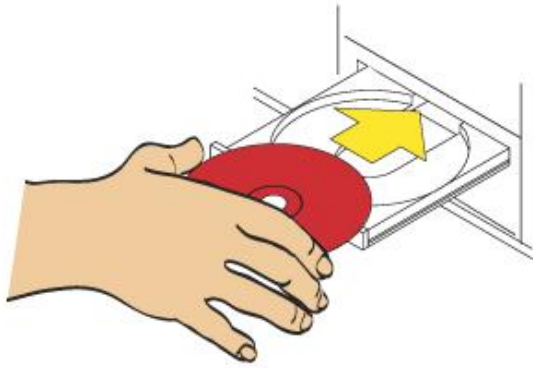
D+	RS485+
D-	RS485-
V-	0V
V+	7 - 15V DC Power



3. Electrical Installation

TITLE GSM CAMERA ELECTRICAL INSTALLATION			
AUTHOR GAVIN MCLAUGHLIN			
DATE	16/02/2009	SHEET	1 OF 1
REVISION	1.2		

4. GSM PC Software Installation



NOTE: If the CD-ROM has a spindle, make sure the CD is pushed all the way down.

The GSM PC Configuration should open automatically when you insert the CD. If it does not open automatically, double click the CD icon.

You will find the CD icon in My Computer or Windows Explorer.

Welcome to the GSM Remote Camera Setup Program. This program will install GSM Remote Camera Software on your computer.

Click on the **Next** button to continue with the Setup. This will display the **User Information** settings dialogue window.

Now enter your personal settings.

Type your name.

You must also type the name of the company you work for.

Then click on the **Next** button. This will display the **Choose Destination Location** settings dialogue window.

To install to a different directory, click **Browse** and select your destination directory,

Choose where you would like to install the GSM Remote Camera Software and click **Next**,

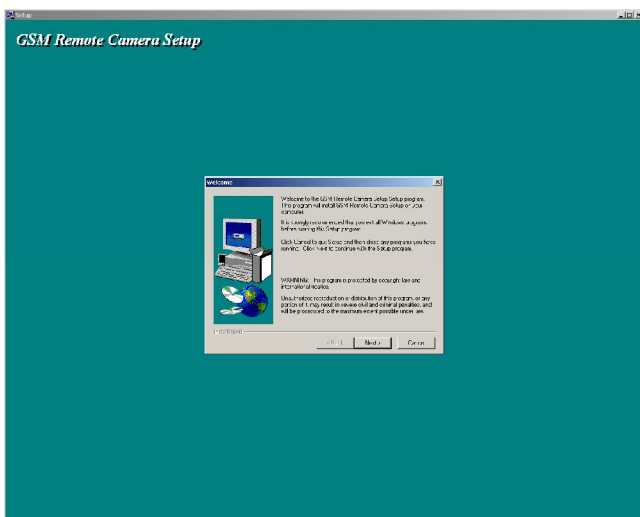


Figure 1

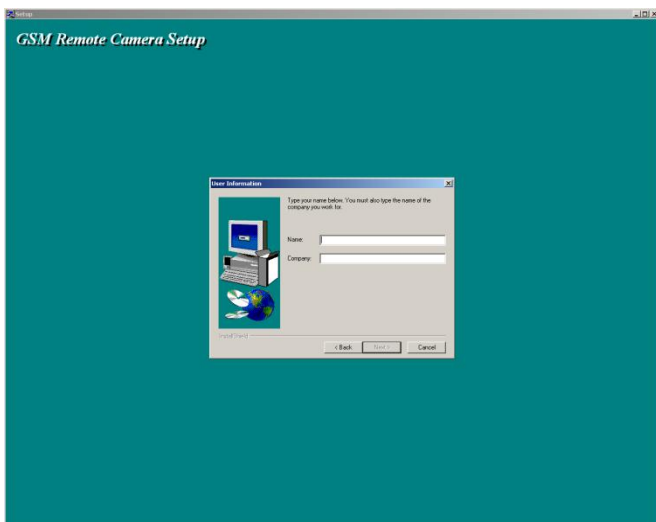


Figure 2

Insert the GSM PC Configuration Software CD, label-side up, into the CD-ROM drive on your computer.

Or,

Click **Next** to install GSM Remote Camera Setup in the default directory.

Setup will now add program icons to the Program Folder listed.

You can type a new folder name,

Or,

Click **Next** to use the default folder name.

If you are satisfied with the current settings click **Next** to begin copying files.

Setup will now begin copying files and creating icons in the destination directory.

Click the **Next** button and the **Setup Complete** dialogue window will be displayed

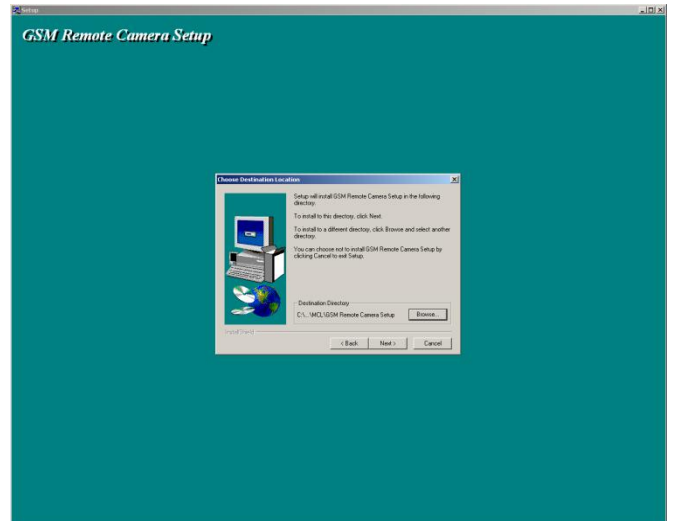


Figure 3

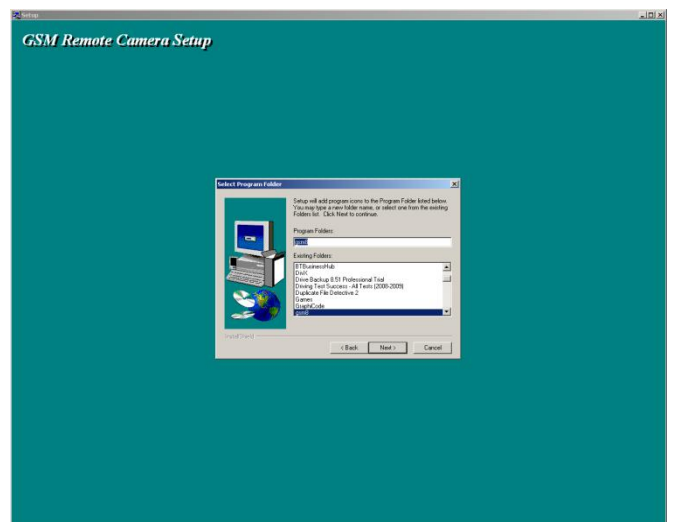


Figure 4

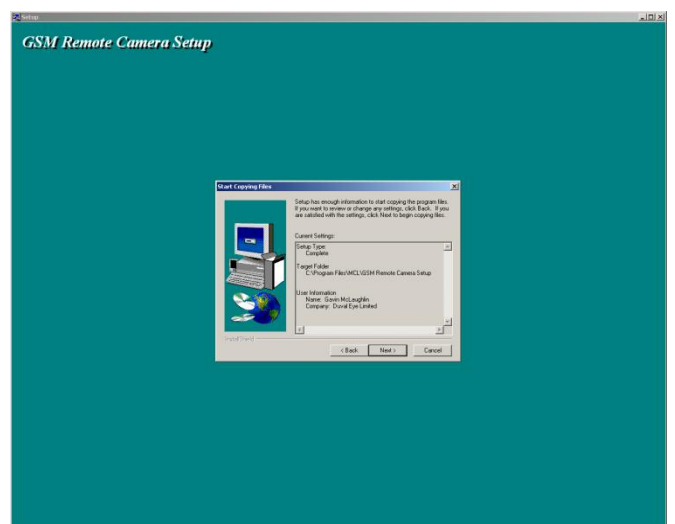


Figure 5

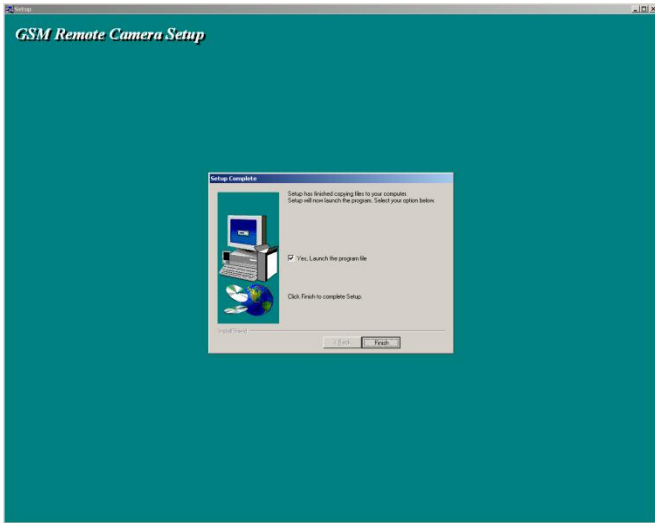


Figure 6

Setup has finished copying files to your computer.

Select the **Yes, Launch the program file** tab if you would like setup to launch the program.

Click **Finish** to complete setup.

5. Bluetooth Set Up

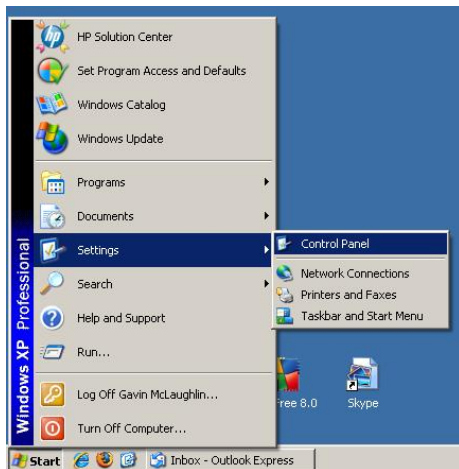


Figure 7

Communicating with the RD3 GSM Remote Camera is achieved via Bluetooth.

In order to do this, a connection must be established.

To setup the Bluetooth connection, follow the instructions below.

Go to **Start** → **Settings** → **Control Panel**

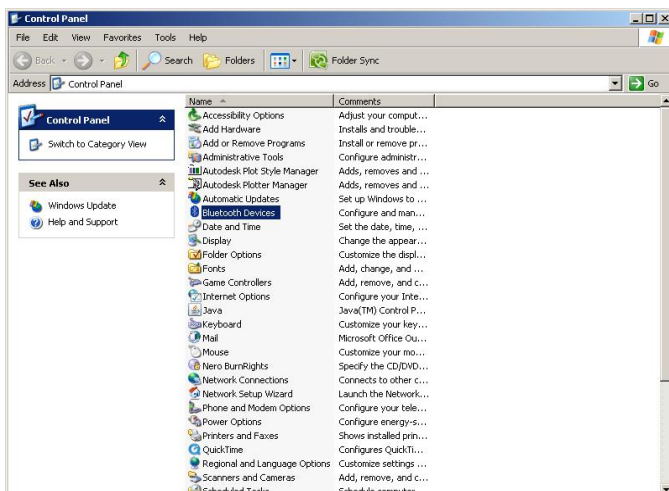


Figure 8

Select **Bluetooth Devices** from the list and press **Enter**.

This will display the **Bluetooth Devices** settings dialogue window.

You will now be required to power ON the RD3 GSM Remote Camera if you haven't already done so.

Connect the power cable to the terminal blocks observing polarity. (See - Electrical Installation - page 8)

Depending on the model of camera the positive wire of the power supply should be connected to either +12V or V+ and the negative wire should be connected to either GND or V-.

Once the power supply has been switched ON click **Add...**

This will start the **Add Bluetooth Device Wizard** dialogue window.

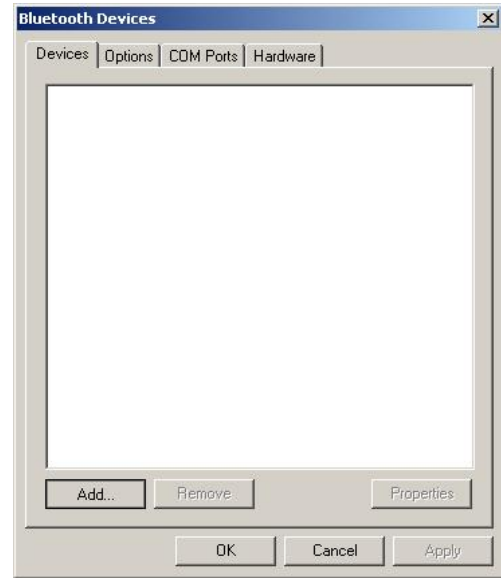


Figure 9

You are now ready to add a Bluetooth Device.

Select the tick box **My device is set up and ready to be found** and click **Next**,

This will display the **Select the Bluetooth device that you want to add** settings dialogue window.

Each camera has an identity which is associated with its Bluetooth device (Default: **rd2cam**), this will be the identity shown when searching for the new Bluetooth device (illustrated to the left as **WT11**).



Figure10

Now select **New Device** and click **Next**.

This will display the **Passkey** settings dialogue window.

NOTE: If you cannot see the new device make Sure you have the power switched ON.

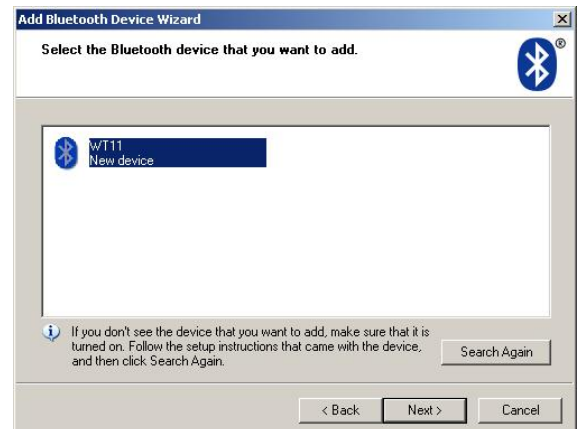


Figure 11

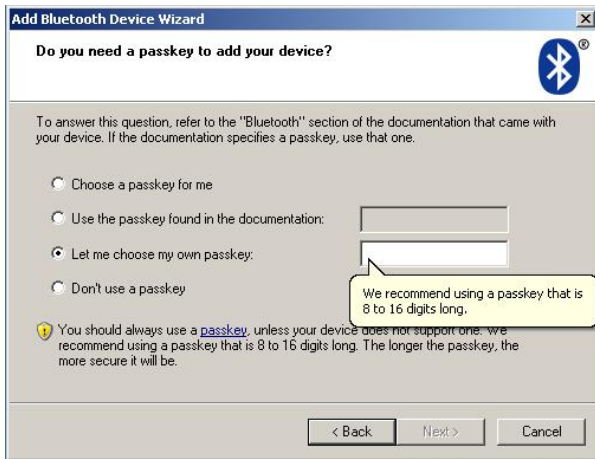


Figure 12

Select the **Let me choose my own passkey** option and type in (**By Default: 0000**).

The passkey will also be the Camera's PIN.

Now click **Next**.

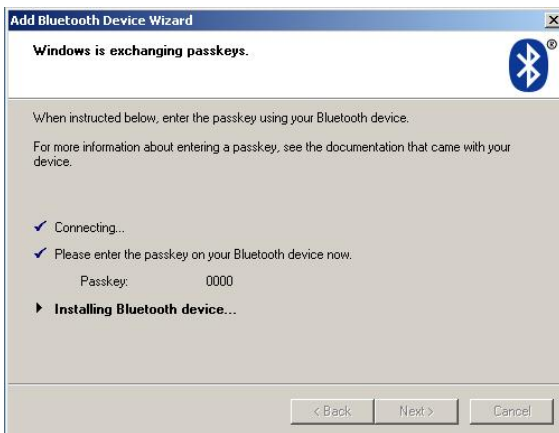


Figure 13

A connection will now be established followed by A message indicating that new hardware has been found and the Bluetooth device is now ready for use.

The setup wizard will now be directed to the **Completing the Add Bluetooth Device Wizard** settings dialogue window.



Figure 14

The Bluetooth device has now successfully connected allowing communications between the computer and the RD3 GSM Remote Camera whilst in range.

Serial ports will be assigned to the Bluetooth device.

You will be required to make note of the Outgoing COM (Serial) Port.

This will be used later to configure the GSM Remote Camera Software.

Now click **Finish** to close the setup wizard.

6. GSM Camera Set Up

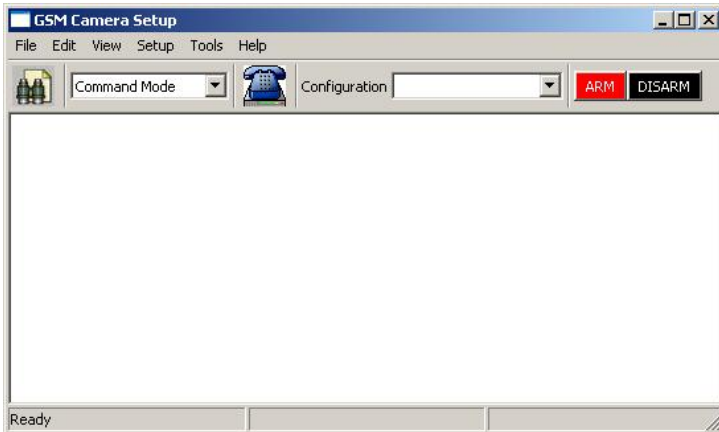


Figure 15

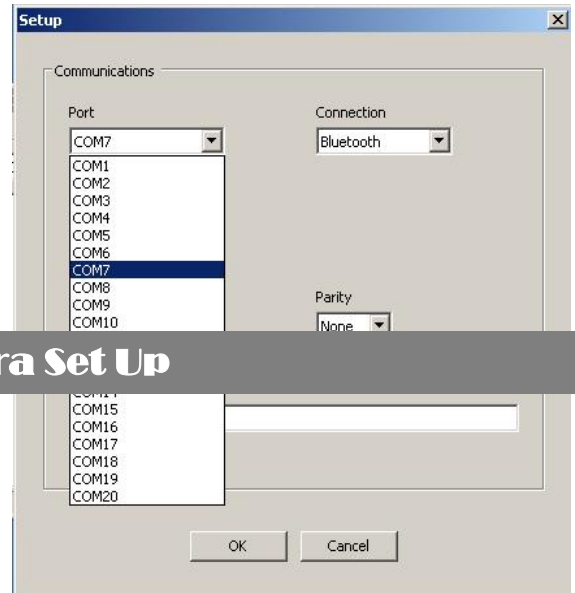


Figure17

The GSM Camera Setup Software enables users to communicate directly via Bluetooth with their RD3 GSM Remote Camera thus avoiding cables whilst increasing

6.1 Communications Set Up

The following set of instructions below will enable the user to set up and start using the RD3 GSM Remote Camera.

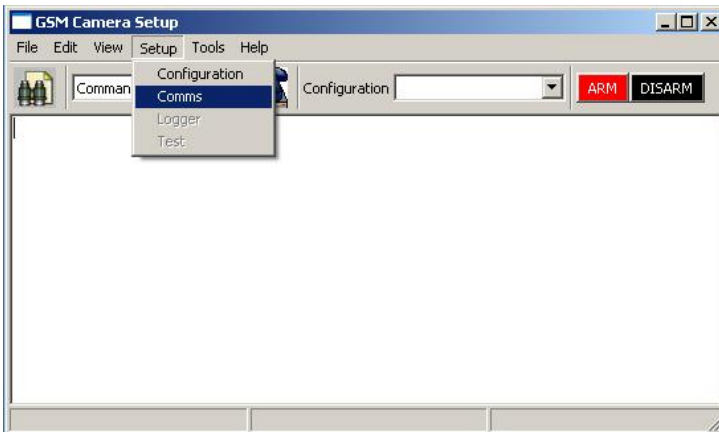


Figure 16

Open GSM Camera Setup Software and go to

Setup → Comms

This will display the **Setup** settings dialogue window.

You now need to recall the Outgoing COM (Serial) Port and set the **Communications** Port settings dialogue window to reflect this.

In this example the **Outgoing COM (Serial) Port** is **COM7**.

Once a connection has been established it will be indicated (shown right).

You are now ready to start taking initial pictures, sending pictures and retrieving pictures from the microSD Card.

The other COM properties are as follows:

Baud Rate : 115200
Data Bits : 8
Connection : Bluetooth
Parity : None

Click **Ok** to exit the communications setup and return to the GSM Camera Setup dialogue window.

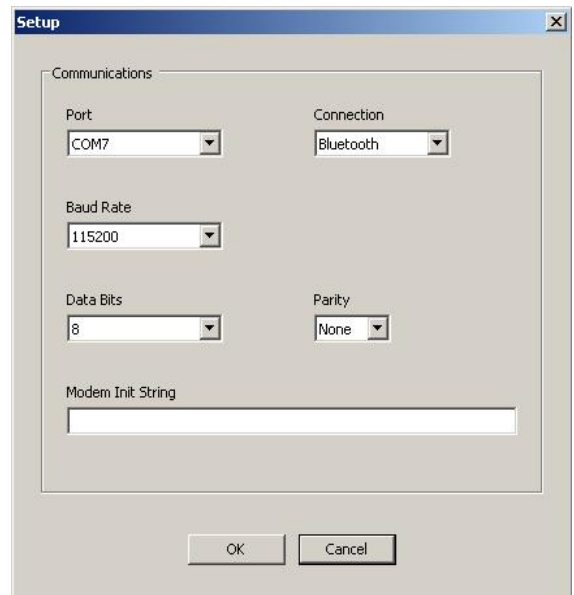


Figure 18

6.2 Connecting to the Camera via Bluetooth

To connect to the RD3 GSM Remote Camera



Click the icon,

The GSM Camera setup software will now connect to the RD3 Camera via the Bluetooth COM (Serial) port.

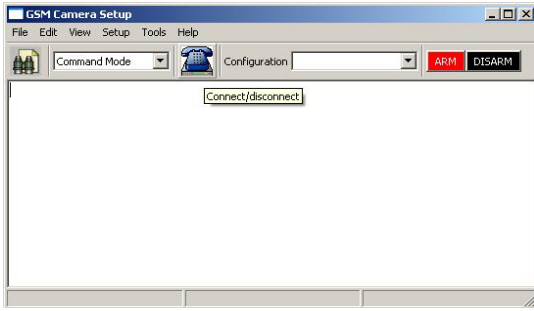


Figure 19

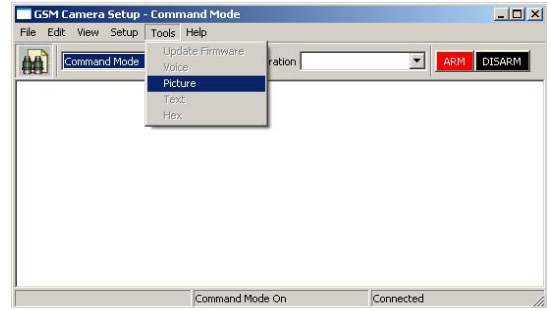


Figure 22

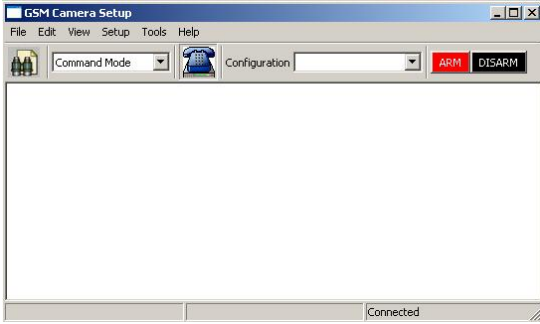


Figure 20

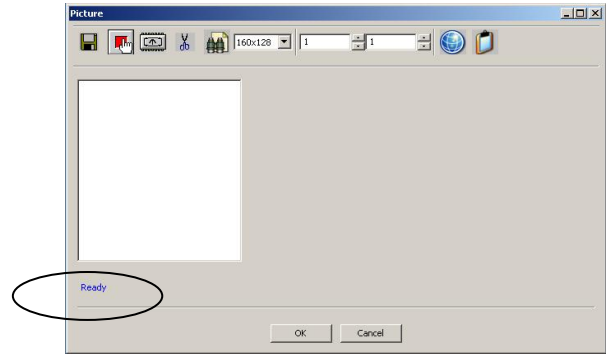


Figure 23



Figure 24

6.3 Taking Pictures via Bluetooth

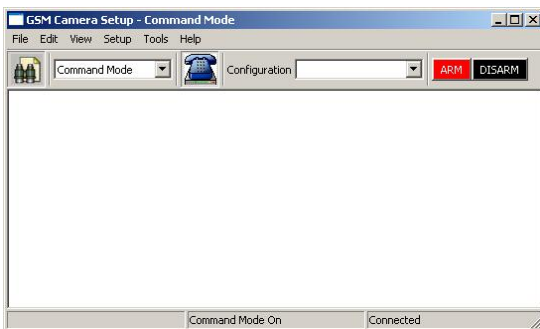



Figure 21

Once a connection has been established via Bluetooth we can go ahead and start taking pictures.

Click the  icon to initialise **Command Mode**.

Now go to

Tools → **Picture**

This will display the **Picture** dialogue window.

The Picture dialogue window shown here to the left controls how the camera takes, sends, receives and views pictures.

A **Ready** indication will be shown when the software is set to start taking pictures.

Using the picture dialogue window alterations to the picture resolution is made by clicking on the drop down **Camera Resolution** setting.

Once a suitable resolution has been selected,

Click the  icon.


This will now start taking a picture as shown to the right.

As soon as the picture has been taken it will be displayed as shown and a **Completed** indication will be shown.

6.4 Resizing

Resizing a picture to enhanced resolution is achieved by following the steps outlined in **6.3 Taking Pictures via Bluetooth**, and changing the Camera Resolution setting shown here to the right.

Once a suitable resolution has been selected,

Click the  icon to display the new high resolution Picture.

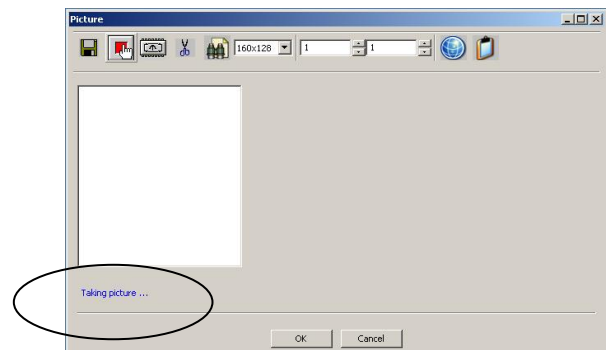


Figure 25

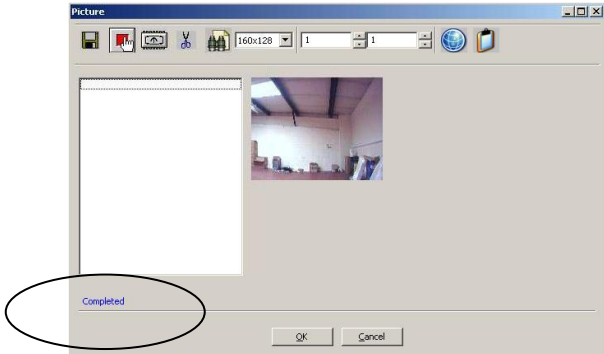


Figure 26

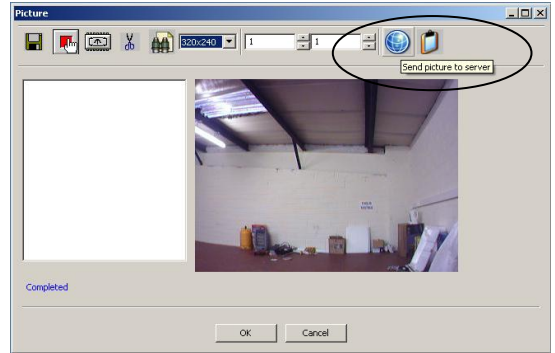


Figure 29

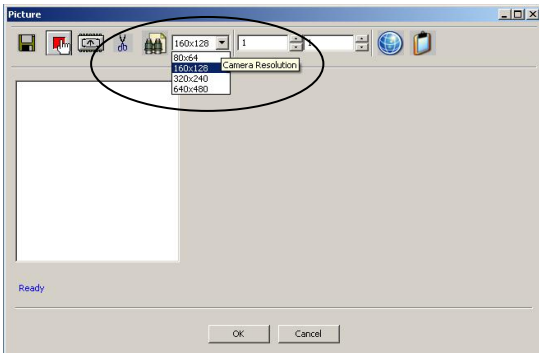


Figure 27

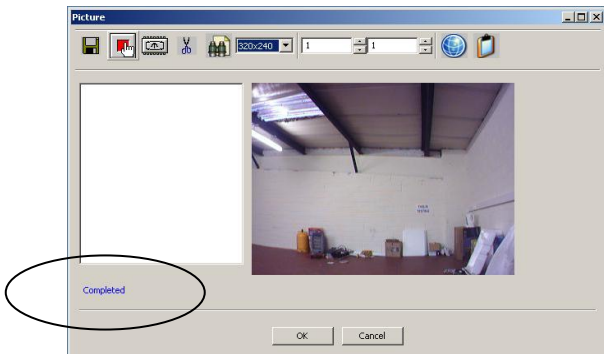


Figure 28

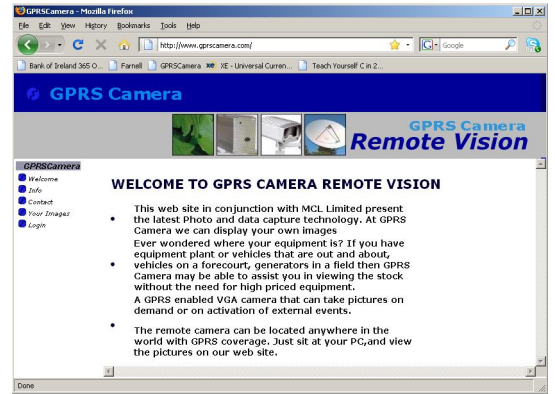


Figure 30

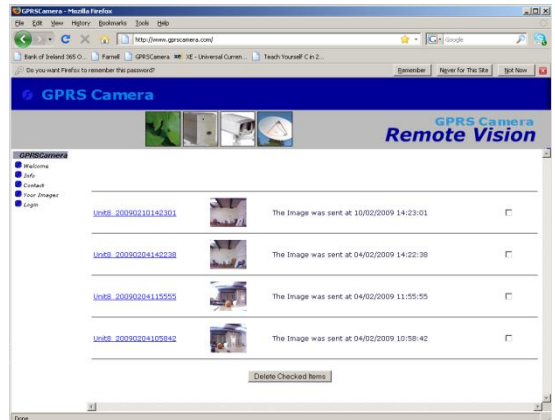


Figure 31

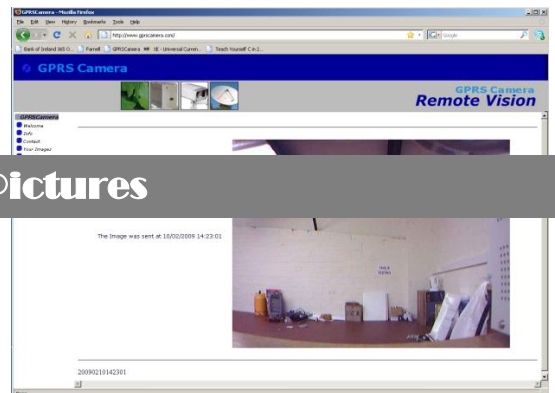


Figure 32

6.5 Sending Pictures


6.6 Retrieving Pictures

Sending pictures with the RD3 GSM PC Software is achieved through a similar method in which a real alert would.

Once an alarm has been triggered, the RD3 GSM Camera takes a predefined number of pictures and sends them to the client's server.

The default procedure within the GSM PC Software for testing the server facility is as follows;



Click the  icon on the **Picture** dialogue window within the GSM Camera PC Software which will take and send a picture to the gprscamera.com server.

To view the images sent by the RD3 GSM Camera go to

<http://www.gprscamera.com>

Login using the following details;

User : **rd2cam**
Password : **rd2cam**

Once logged in the user will be able to view, save and delete images that have been sent to the site from the RD3 GSM Camera.

Click on a thumbnail to view its full size picture (Figure 32).


To delete images click the check box shown adjacent to the thumbnail picture that is to be deleted (see Figure 31) and then click the **Delete Checked Items** button.

NOTE

THE PROCEDURE SHOWN HERE IS FOR DEMONSTRATION AND TESTING PURPOSES ONLY. CLIENTS ARE ADVISED TO IMPLEMENT A DEDICATED SERVER FOR ACCESSING PICTURES SENT FROM THE RD3 GSM CAMERA. IMAGES ON GPRSCAMERA.COM MAY BE DELETED WITHOUT PRIOR NOTICE.

All pictures taken by the Camera will be store locally on the microSD Card




To retrieve a picture, click the  icon.

Now scroll down the list that appears on the left hand side of the **Picture** dialogue window and highlight the picture you wish to view.

Pictures taken will have the following information;

Date (YYYY/M/dd), Time (HH:MM:ss), Picture Number.



Click the  icon to view the selected image.

The chosen image will now displayed as shown to the right.

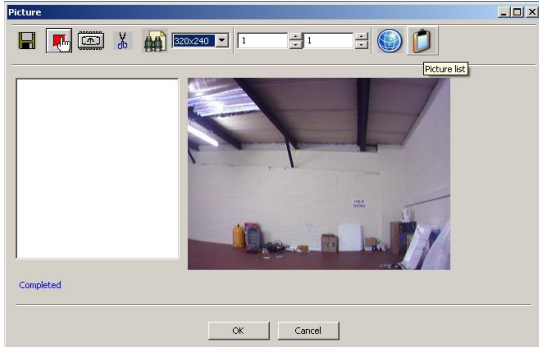


Figure 33

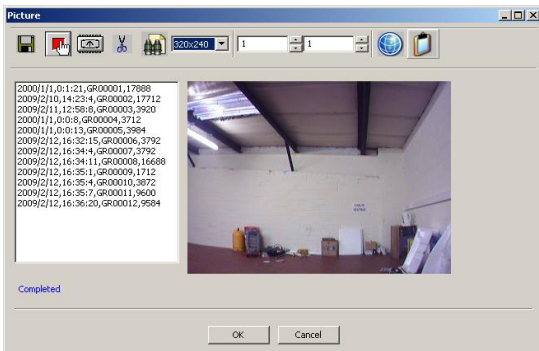


Figure 34

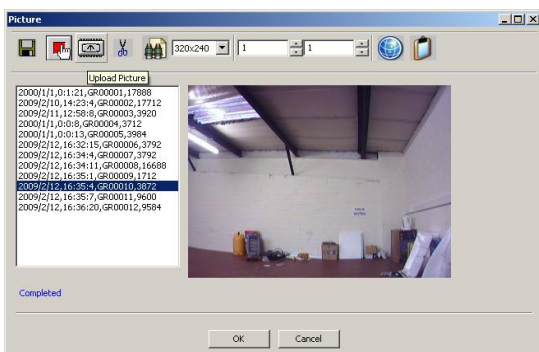


Figure 35

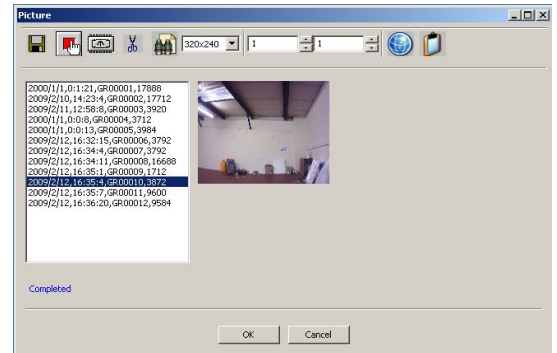


Figure 36

6.7 Arming & Disarming

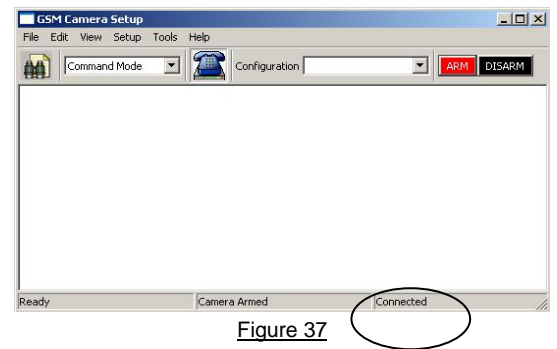


Figure 37

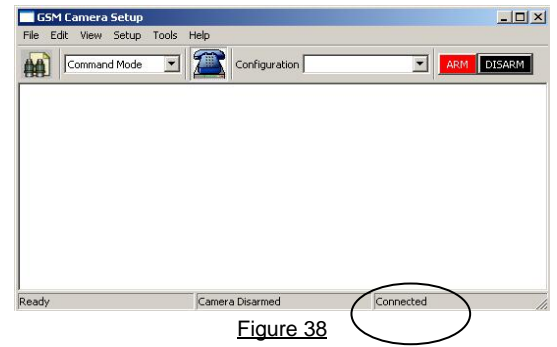




Figure 38

To **Arm** the camera, make sure it is connected as shown and then click the  icon.

The camera will beep once indicating that the system is armed.

To **Disarm** the camera, making sure it is also connected as shown and then click the  icon.

The camera will now beep twice which indicates that the system is disarmed.

7 GSM Camera Set Up Configuration

Configuring the GSM Camera

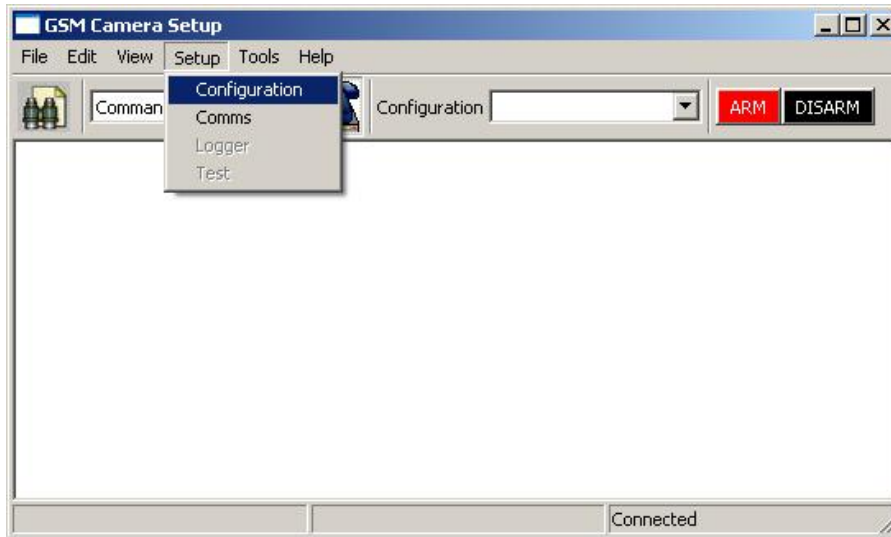


Figure 39

Configuring the GSM Camera is done as follows;

Go To **Setup** → **Configuration**

This will display the **Configuration Dialogue Settings Window** shown on **Page 23 (Figure 40)**.

Configuration Dialogue Settings Window – Configuring a GSM network

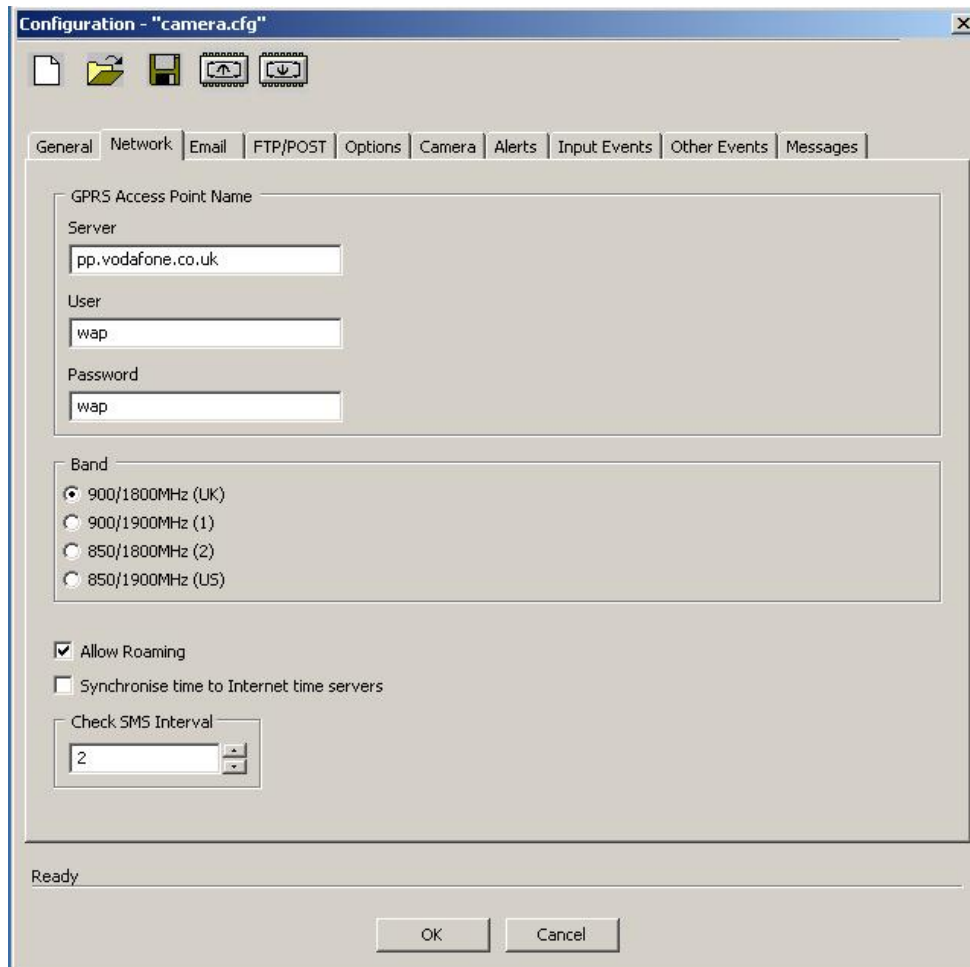


Figure 40

GPRS Access Point Name

These details are essential if the Camera is need to send a picture over GPRS i.e. email, POST or FTP. This information is available from the network provider or a search on the internet will usually yield the correct settings.

If the network provider has both WAP and internet/GPRS settings then use the internet/GPRS setting as WAP is not used by the camera. The settings in this example apply to Vodafone UK. Although the user and password are WAP the settings are correct and are the internet settings. Network Configuration files stored on the microSD Card contain most of the major Countries and should automatically update the Camera with the relevant information.

Band

As the Camera is a Quad band unit and works in every country, the network frequency band for the country it is to be used in needs to specified. You can obtain this from your network provider or a search on the internet will usually produce the correct settings.

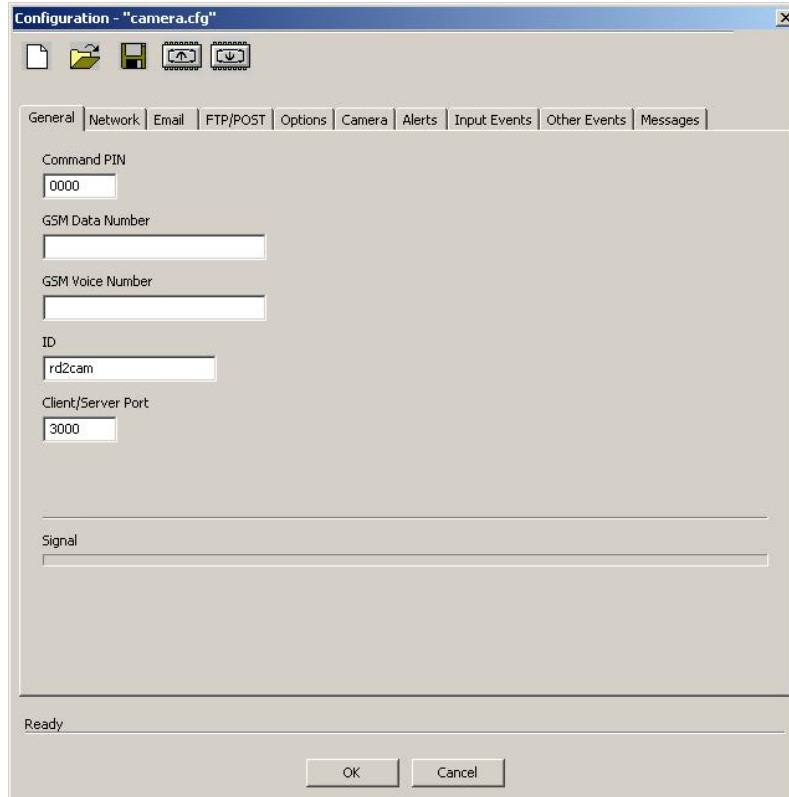
Roaming

Normally this roaming option should be checked as it allows the camera to connect quicker to the network. This should only be unchecked if the camera moves through different countries and the user wants to prevent roaming charges.

SMS Interval

The camera checks for SMS messages according to the settings provided here. This should kept, to a default of 2 minutes unless the user has reasons not to.

General Configuration



The image shows a software configuration window titled "Configuration - 'camera.cfg'". It has a menu bar with options: General, Network, Email, FTP/POST, Options, Camera, Alerts, Input Events, Other Events, and Messages. The "General" tab is selected. The window contains several input fields: "Command PIN" with the value "0000", "GSM Data Number" (empty), "GSM Voice Number" (empty), "ID" with the value "rd2cam", and "Client/Server Port" with the value "3000". There are also two empty text boxes labeled "Signal". At the bottom, there are "OK" and "Cancel" buttons. The status bar at the very bottom says "Ready".

Figure 41

PIN

To configure the camera remotely, a PIN is needed before the camera will respond to any commands. By default this PIN is set at 0000 (that's four zeroes). The PIN can be any combination of letters and/or numbers up to 4 characters long. This PIN will also act as the Bluetooth PIN used when configuring a Camera as a new Bluetooth device.

GSM Data Number

GSM Voice Number

These are used for your reference only.

ID

This identifies the camera and can be a combination of letters and/or numbers up to 20 characters long without the use of spaces. By default the Camera ID will be **rd2cam**.

Activation methods

Pictures taking can be activated by the following methods.

- A. Call the camera voice number.
- B. Scheduled picture taking at specified intervals.
- C. On activation of one of the external inputs.

Delivery methods

Pictures can be sent by the following methods

- 1. Email as an attachment using GPRS
- 2. HTTP POST to a server using GPRS
- 3. FTP to a server using GPRS
- 4. Dialup from a modem enabled PC

Activation method – Call the camera

This method simply means the user calls the telephone number of the camera. If the SIM used in the Camera has more than one number e.g. a voice and data and/or fax then **the call must be made to the voice number**. If the caller is authorised to call the camera then it will take a picture and reject the call i.e. hang-up, thereby preventing any call charges for the caller's telephone. The picture will then be sent by one the delivery methods specified.

Authorisation

The camera 'sees' the caller's number by using Calling Line Identification. If the caller's telephone number has not been authorised then the camera will not respond to the call.

The Camera will allow authorisation for up to 3 specified telephone numbers or it can allow authorisation for any telephone number.

To specify individual numbers enter the numbers into the Authorised Numbers boxes. If you want any telephone to activate the camera then use the star symbol in the first box (As shown on Figure 42).

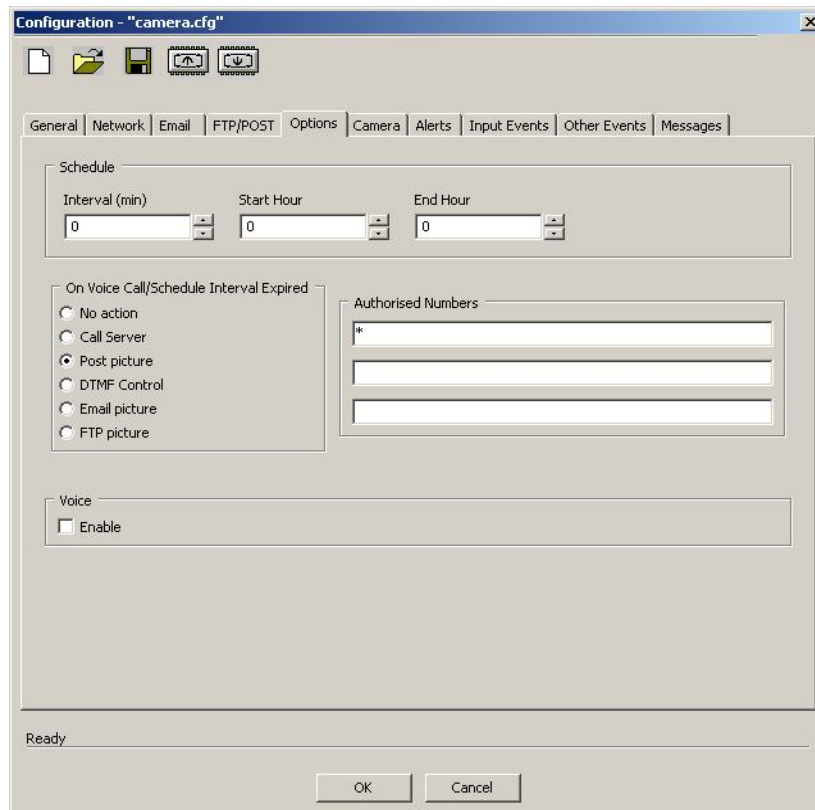


Figure 42

The camera configuration shown on figure 42 will FTP a picture when any caller makes a call to the camera.

Activation method – External Input

The camera has three user inputs that can be used for hardwiring an external door switch, PIR, pressure mat etc. When the camera is configured for activation on these inputs, any change of state will send a picture.

To enable input events tick the **Enable Input Events** checkbox.

Other fields on this page can be ignored if the user just requires a picture on any input change of state. The rest of these fields are used if the user requires individual actions on each input state, i.e. **Input 1** if activated will **FTP a picture** and then send a **SMS** to a predefined telephone number with the text **“door is open”**.

The screenshot shows a configuration window with a checked checkbox labeled "Enable Input Events". Below this, there are three sections for "Input 1", "Input 2", and "Input 3". Each section contains two rows: "ON" and "OFF". Each row has a dropdown menu for the action, a text input field for the command ("Cmd"), and a text input field for the message ("Msg").

Input	State	Action	Cmd	Msg
Input 1	ON	POST picture		door is open
	OFF	Don't Send		door is closed
Input 2	ON	Don't Send		Input 2 is ON
	OFF	Don't Send		Input 2 is OFF
Input 3	ON	Don't Send		Input 3 is ON
	OFF	Don't Send		Input 3 is OFF

Figure 43

