



ECTcamera v109.5

User Guide

About ECTcamera



ECTcamera ([EyeComTec-Camera](#)) is a handy utility for working with a webcam or video capture external device connected to a PC or a laptop. ECTcamera has a simple user interface that allows you to scale the displayed image, save partial screen or full screen screenshots, supports a wide range of different devices and identifies them automatically. The camera resolution and other settings are fully customizable.

The program is portable and does not require installation, does not introduce any changes to the registry and is of a small size able to run on any computer connected to the portable storage devices. Can operate with hot keys; ECTcamera is a fully customizable application: zoom, shift, main window size and position as well as screenshot compression can all be modified by user. Fine-tuning ECTcamera allows working with any third-party streaming processing applications.

ECTcamera can work with command line and support additional parameters, enabling the use of task schedulers and program managers to run the application on a schedule. This reduces the pressure on ram allowing ECTcamera to be supported even by low-end laptops. In addition, the application allows the creation of an unlimited number of configuration files allowing quickly switching between different ECTcamera settings; the latter is especially useful when working with multiple connected video devices or running the program on different computers.

The program is easy to use, quick to configure and intuitive to operate. The first ECTcamera setup takes less than a minute; the use of a saved configuration file will modify in few seconds the parameters of video output settings, the location of windows and the image shift value.

Benefits of using ECTcamera

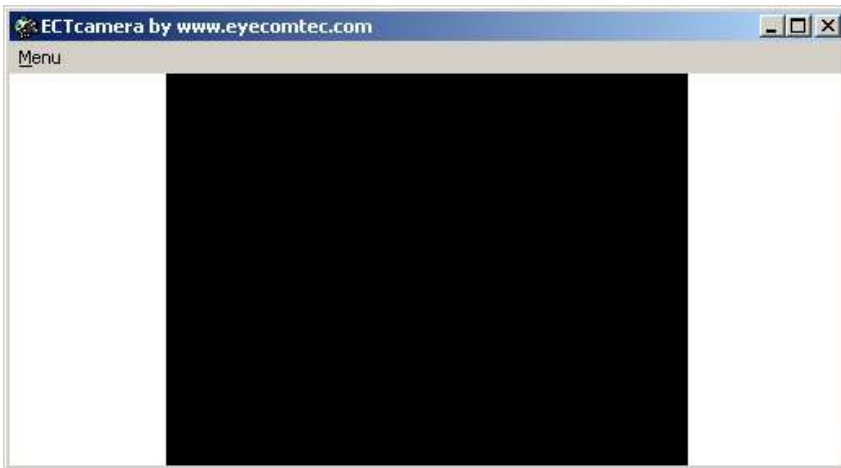
Compared with other similar programs ECTcamera is characterized by a number of positive features:

- Easy to use and full-featured. The program doesn't contain redundant configurations and provides the user with all the necessary features: the ability to work with the video, convenient saving snapshots, export and import settings.
- Quick work. The program supports and quickly identifies different types of video capturing devices and allows full control of all necessary functions with "hot keys". At launch it takes just a few seconds to configure the program and start working.
- Portability. The program has small size, does not require installation on your computer or making changes to the registry and file system. It works with any portable device connected to a computer.
- Image scaling. An indispensable feature when working with cameras not supporting high definition and in case where you need to enlarge an area of the displayed image.
- Launch from the command line. ECTcamera will not constantly occupy the memory of the computer; the program can be used with all types of schedulers and third-party softwares; it is possible to associate the program launch to specific keys or events.
- Supports an unlimited number of configuration files. Switching between the configuration files is simple and fast. Each of these files stores all the necessary settings of the program – from the camera type and resolution, to the position and size of the program window. Furthermore, using separate configuration files allows switching quickly between different devices and using multiple cameras.

The combination of simplicity and functionality makes ECTcamera an extremely useful program that can find application in many fields.

Getting Started

On first program launch the main window of ECTcamera will be displayed to the user, where the images from a connected camera will be transferred (see Fig. 1). Since initially the recording device is not selected, black screen will be displayed instead of the video. To start working with the program you should select and authorize the desired device and its resolution using the menu items. The camera is selected by clicking with the left mouse button on the “Menu” item, in the upper left corner of the window and then by positioning the cursor on “Video” to make appear the submenu in which you will select the desired model of the camera and the recording resolution.



(Fig. 1 Program interface on the first launch)

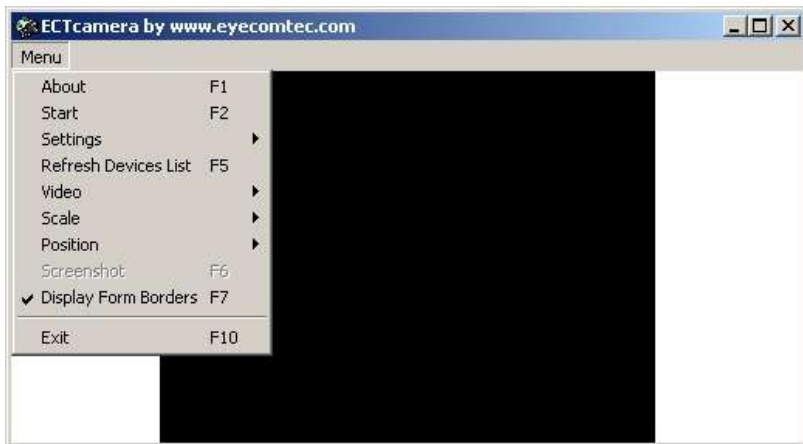
Once the camera is selected, you are ready to start working; click on “Start” in the main menu with the left mouse button or use the F2 "hotkey". If you want to get the image from a connected camera at every next launch of the program, select the program Settings, Show Settings Form submenu (show settings form), and then change the value to 0 in the 11th ordinal paragraph (Auto start video - starts video automatically) to 1. After that at each new launch ECTcamera will automatically display the image of the camera selected by the user.

For further information about ECTcamera and its settings read: “Program Interface and menu” and “Advanced Settings”.

Interface and menu

At ECTcamera launch the user sees the main window of the program: the image captured from camera occupies most of the window (if the camera is not selected or the recording has stopped, black screen will be displayed instead of the video). In the upper left corner of the window you can find the menu item which gives you access to all the commands and settings necessary to manage the program.

With ECTcamera main menu the user can select the required video capturing device, the appropriate resolution and scale, the parts of the displayed image to zoom in, make screenshots, access the advanced settings and the help window of the program. All control menu items are grouped into categories, the activation of the majority of them is also possible through "hot keys". Calling the menu is standard - press the Alt key and then "down". "Up" or Enter. You can also display the menu by left-clicking on the Menu item.



(Fig. 2 Main menu)

Items of the main menu of the program: **About**, **Start**, **Stop**, **Settings**, **Refresh Devices List**, **Video**, **Scale**, **Position**, **Screenshot**, **Display Form Borders** (displays the bounds of the form), **Exit** (exits).

About (hotkey **F1**). This item displays the “help” of the program containing the information about the version, the release date and the author of the program (see Fig. 3).



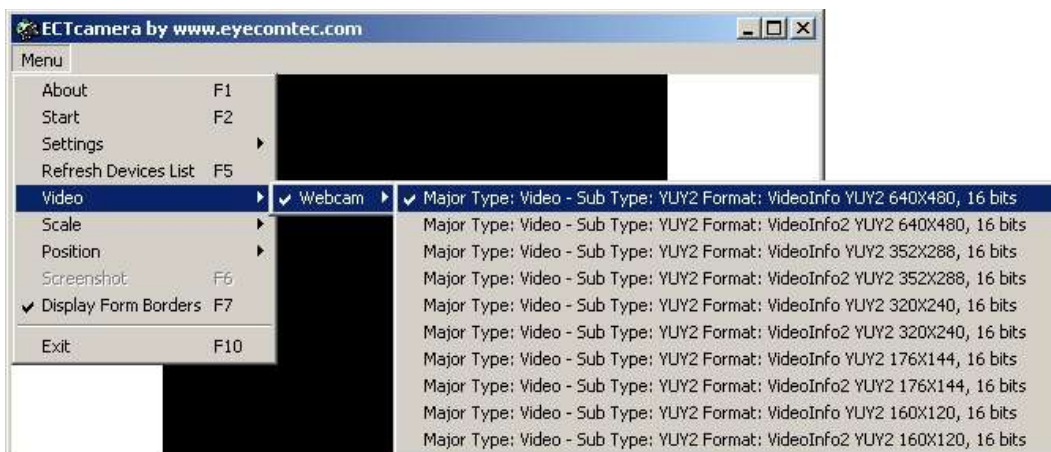
(Fig. 3 Supplemental form of the program)

Start or Stop (key F2). This menu item allows starting or stopping video recording through a device connected to the computer. If at program startup the broadcasting doesn't start or requires additional configuration (select another device, change the video mode or the current resolution), the "Start" menu item is displayed. In the case where the output of the video in the program window is already underway, for example, when the camera is automatically turned on at ECTcamera startup, the "Stop" menu item is displayed.

Settings. This item displays a submenu of additional program settings, profile loading and saving. The settings panel allows changing the size and the position of the window, the scale and the position of the video, shifting the image, choosing to save a full screen or a visible part of the image screenshot, setting the format of the saved screenshots and the compression ratio of the Jpeg image, enabling or disabling the automatic video output at the start of the program (see Fig. 8). The full information on the current settings, can be found in "Advanced Settings program".

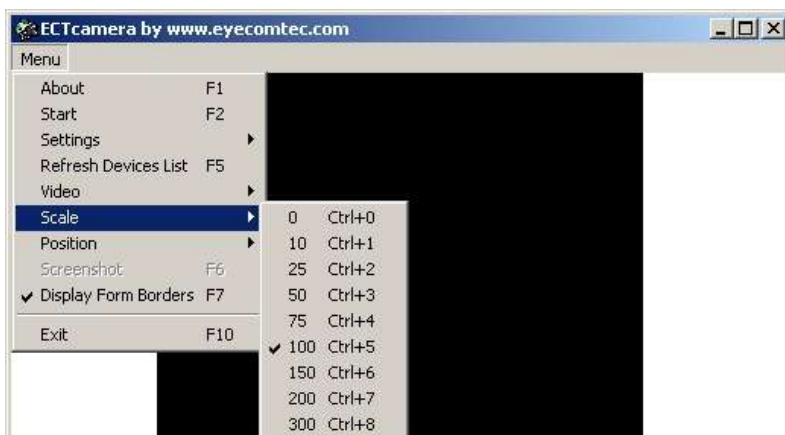
Refresh Devices List (hotkey F5). Allows you to update the list of video capturing devices connected to the computer. This menu item is disabled when one of the cameras is already in use.

Video. This item contains a list of all currently connected to the computer video cameras and sub –menus, available capturing formats and resolutions for each of them. (See Fig. 4). The camera used on the last session, and its configuration will be highlighted with a check mark. The "Video" menu item will only be available if the image from one of the connected devices is already displayed in the program window.



(Fig. 4 Camera, operating mode and resolution selection)

Scale. Allows you to scale the output from the camera image (see Fig. 5).



(Fig. 5 Image scale Submenu)

30 value (keyboard shortcut Ctrl +0) allows to scale the image up to fill the entire available space of the program window. The original proportions of the Video are not kept, but can be changed with the size of the window.

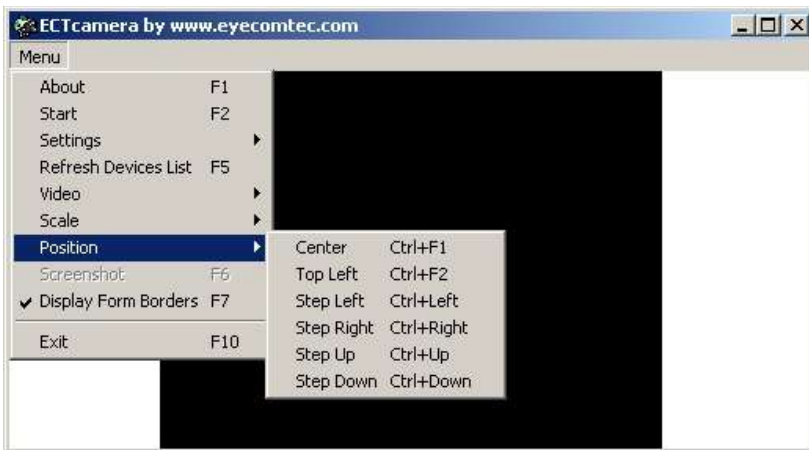
Other available scale:

- 10% - keyboard shortcut **Ctrl+1**;
- 25% - keyboard shortcut **Ctrl+2**;
- 50% – keyboard shortcut **Ctrl+3**;
- 75% – keyboard shortcut **Ctrl+4**;
- 100% – keyboard shortcut **Ctrl+5**;
- 150% – keyboard shortcut **Ctrl+6**;
- 200% – keyboard shortcut **Ctrl+7**;
- 300% – keyboard shortcut **Ctrl+8**.

Position. With this menu item, you can control the work area of the program, in case if the size of the video (original or scaled) exceeds it (see Fig. 7).

Available choices and shortcuts:

- Center (center) - keyboard shortcut **Ctrl+Home**;
- StepLeft (left shift) - keyboard shortcut **Ctrl+Left**;
- StepRight (shift to the right) - keyboard shortcut **Ctrl+Right**;
- StepUp (shift up) keyboard shortcut **Ctrl+Up**;
- StepDown (shift down) keyboard shortcut **Ctrl+Down**.



(Fig. 6. Work area positioning sub-menu)

The shift in any direction corresponds to the value of the variable Step, which can be set manually in the Settings panel (see Fig. 10, paragraph 4). Large scaling and active area selection are used to enlarge individual areas of the displayed in the window image and work with them using various video processing and capturing programs.

It is worth mentioning that selecting the desired fragment of the image using hot keys is much easier than through menu items. With hot keys, you can set up scaling, and choose the work area in just few seconds; this makes working with ECTcamera fast and convenient.

Screenshot (hotkey **F6**). This menu item or its corresponding hotkey allows you to take a screenshot in Bmp or Jpeg formats depending on selected settings. Also using the Custom settings it is possible to set to save the full output image from the camera or only the visible in the window part of it (for example, at high magnification). The screenshot will be placed in the folder from which the program is launched and will be named ECTcamera + current date (in the following format YYMMDD) + the current time (in HHMMSS format), which is convenient for viewing, sorting and storing the screenshots. During stopped recording the present menu item is inactive.

Additional program settings

Using paragraph Settings (settings) the user can open additional ECTcamera settings submenu (see Fig. 8). This menu allows saving and loading profiles of program settings, applying all user made changes, downloading the application's default settings, and displaying the settings panel.



(Fig. 8 Additional program settings panel)

Load Profile. This menu item allows the user to load a previously saved configuration file, applying all the settings at once to the main window of ECTcamera.

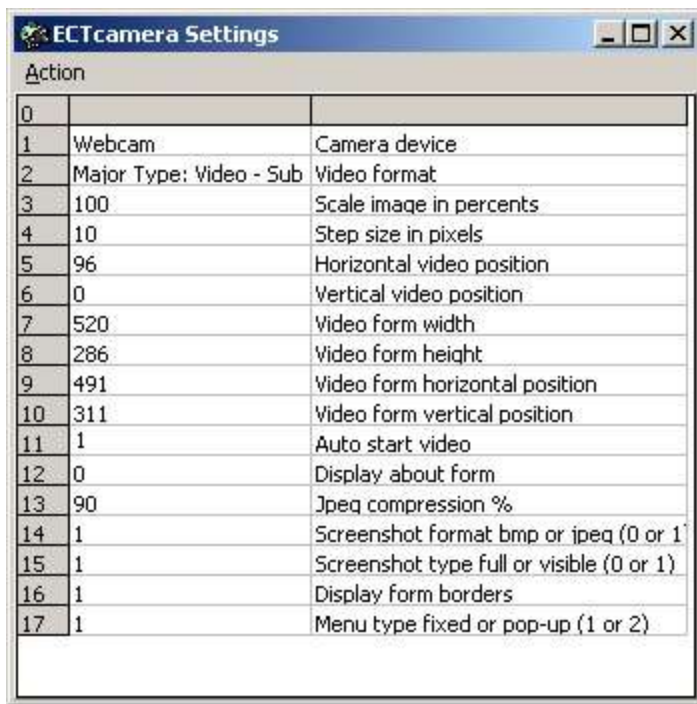
Set Current. Using this menu item the user can apply to the main window of the program all the changes made in the settings panel.

Load from file. Using this menu item, the user can load a file of previously saved settings, without applying the changes to the main window of the program. This is useful in cases where before starting recording a video there is a need to make changes and adjustments to the settings stored in the profile or view the saved profiles without making changes to the program.

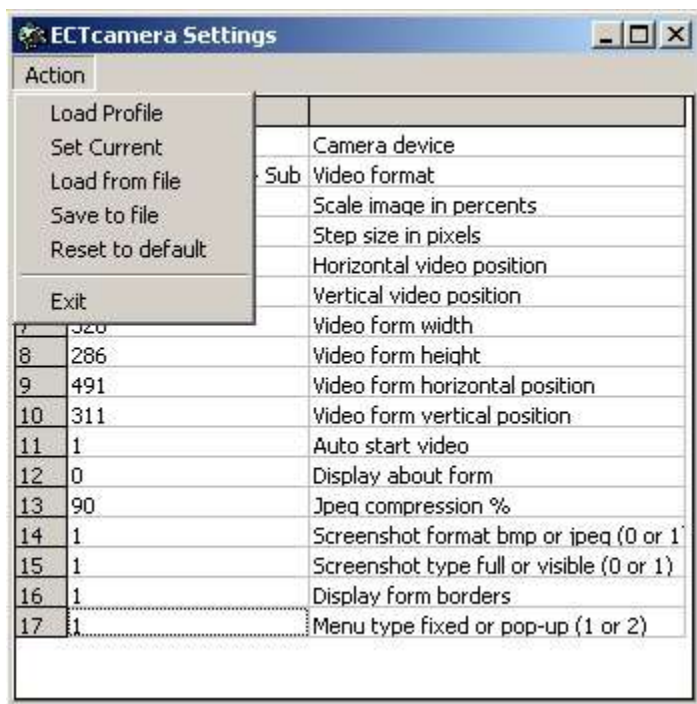
Save to file.. Using this option it is possible to save the current ECTcamera settings in the configuration file and use them later. The ability to save an unlimited number of different settings is extremely useful when using more than one type of equipment to shoot videos (built-in webcam, external camera, and so on), loading ECTcamera from a portable device on a different computer, and for quick application earlier saved configuration.

Reset to default. This menu item allows to undo all the changes made by the user to program settings and choose the original settings.

Show Settings Form. Selecting this item opens a separate window of the control panel containing all the necessary settings to work with the program - the type and the additional options of the connected equipment to capture, zoom and position the output video of the camera, the location of the program window, screenshot saving settings, video shooting autostart, and so on (see Fig. 9). The control panel contains its own menu - Action, the options of which are fully identical to those of the Settings submenu of the main window (see Fig. 10).



(Fig. 9 Panel of program settings)



(Fig. 10 Sub Menu of Actions panel)

Let us examine in detail the following settings

The Control Panel window displays (left to right): the ordinal number of the item, its value and description. In total there are 17 items available:

- 0 - Header field;
- 1 – Camera description;
- 2 - Video format;
- 3 - Current scaling;
- 4 – Shift step of the image;
- 5 - Current image shift along the horizontal axis (X);
- 6 - Current image shift along the ordinate axis (Y);
- 7 - Width of the form;
- 8 - Height of the form;
- 9 - Form shift on the abscissa axis (X);
- 10 - Form shift on the ordinate axis (Y);
- 11 - Camera autostart parameter;
- 12 – Display of the "About" form;
- 13 – Compression ratio when saving screenshots in Jpeg format;
- 14 - Screenshots saving format (Bmp and Jpeg);
- 15 - Saving a full screen or visible parts of the image screenshot;
- 16 - Displaying the boundaries of the form;
- 17 - Fixed or pop-up menu.

The second column of the information block contains the values selected through the menu or entered manually. At shutdown the program saves to the ini configuration file all the changes made by the user in the column and loads them automatically on the next session. The configuration file is created at the first start and shutdown of the program. A bit more about each of the items.

- **Camera device.** When multiple video capturing devices are connected to the computer the user has the possibility to choose one of them using the menu items. A specific appliance designation program will be displayed in the second column.
- **Video format.** Additional submenus with a selection of resolution and video codec options pop up when defining the webcam program or the external connected device. When the user selects the desired option, it is automatically entered in the second column.
- **Scale image in percents.** Once the camera and the resolution are selected, it is possible to change using the menu items the scale of the program output image. Valid options:
 - 0 - Stretching the image on the available space without keeping the original aspect ratio;
 - 10 - Reduction of the image by 10 times;
 - 25 - Reduction of the image by 4 times;
 - 50 - Reduction of the image by 2 times;
 - 75 - Reduction of the image by one quarter;
 - 100- No scaling;
 - 150 - Image magnification by 1.5;
 - 200 - Image magnification by 2;
 - 300 - Image magnification by 3.

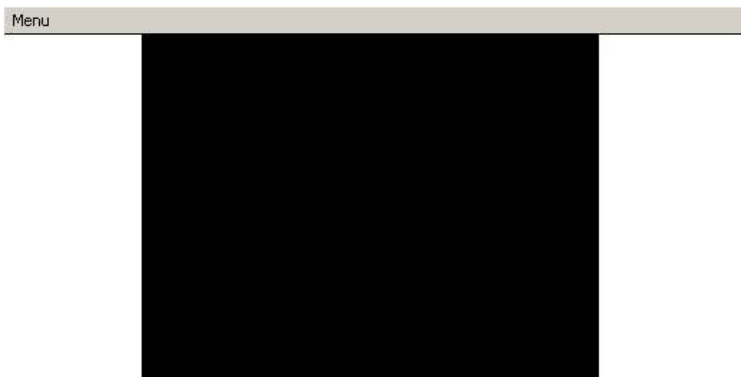
The magnification is a very useful function when working with cameras that only support recording in low resolution; it allows getting a quite clear picture in the program workspace and working with some of its fragments. For example, it allows removing the eye movements. With high-resolution cameras the zoom out function can be used to improve the clarity. Stretching images on all the available area allows

increasing the size of the image; its proportion in this case can be adjusted by changing the size of the program window. Using the settings panel, it is possible to manually set any necessary scale to the nearest percent, in which case the image size will be changed after the use of the “Set Current” menu item. The default scale of the image obtained from a video device is 100%.

- **Step size in pixels.** With high resolution cameras or magnification the resulting image can exceed the size of the program window. In this case to select the desired area the user has to use the image shift option. This field specifies a single step shift in pixels, and subsequently is used every time a new image area is selected. It is entered manually. By default, the shift step value is 10 pixels.
- **Horizontal video position.** This field displays in pixels the total shift on the x-axis of the image received from the camera. Moving the image to the right makes the variable increase by a given step, moving it to the left decreases it; at the same time the value of VideoPosX in the appropriate field changes in real time. By moving to the left the variable takes negative values. By default, at the first start of ECTcamera, where the image is located in the upper left corner of the window, the value of the variable equals to 0.
- **Vertical video position.** Completely analogous to the previous item, with the exception that the shift occurs on the ordinate axis. When moving the current image area up the variable decreases, down - increases.
- **Video form width.** At program closing the data on the size of ECTcamera form is registered in the configuration file. When restarting the program the “Video form width” value indicates the width of the window. This value can be changed manually, in this case on the next start of the program or selection of the “Set Current width” menu item the window will change according to the new setpoint. Alternatively it is possible to pull the window frame with the left mouse button to increase or decrease its size - in this case, the data is saved automatically in real time.
- **Video form height.** Analogously to the preceding item, the program deals with increasing and decreasing the height of the window.
- **Video form horizontal position.** At each closing of the program the information on window positions is saved in the configuration file. When restarting the program ECTcamera reads the data and opens a window in the same position and size. This eliminates the necessity to anew configure the program each time, and enables ECTcamera working with third party video data processing programs. When opened the field “Video form horizontal position” displays the program window shift along the horizontal axis. When the window is moved, this value changes in real time.
- **Video form vertical position.** Entirely similar to the previous item, with the exception that the shift occurs on the ordinate axis. The variable decreases when moving the window up and increases - down. If the program is deployed in full screen FormPosX FormPosY values are equal to 4. 4 pixels –which is the value of the window border.
- **AutoStartVideo.** The variable can take the value 0 or 1. If the value is 0, then at startup the program does not get the image from the camera - this allows making additional settings, selecting another camera or changing the resolution. If the value is 1, the image from the camera selected in the previous session appears in the program window after its initialization. The video format and resolution of the previous session will also be saved or downloaded from the additional configuration file if the program is launched from the command line with ini- file option selected. The variable value is set manually in the corresponding line.
- **Display about form.** Variable takes the value 0 or 1. If set to 1 at each start ECTcamera will display a window containing information about the program - release version and date, and other information. When “Display about form” is set to 0 the form is not automatically displayed at startup, but is available by pressing the F1 “hotkey” or selecting the appropriate menu item.
- **Jpeg compression %.** The value of variable is modified manually by the user from 1 to 100 and is responsible for the size and the quality of the resulting screenshot file saved in Jpeg format. The higher is the Jpeg compression% value the higher the quality of the output file will be, as well as its volume on a storage media. The lower is the value of the variable, the higher the compression and the lower its

volume will be, while the quality of the picture will also deteriorate. The recommended values are ranged from 70 to 90; by default at first start this value equals 90.

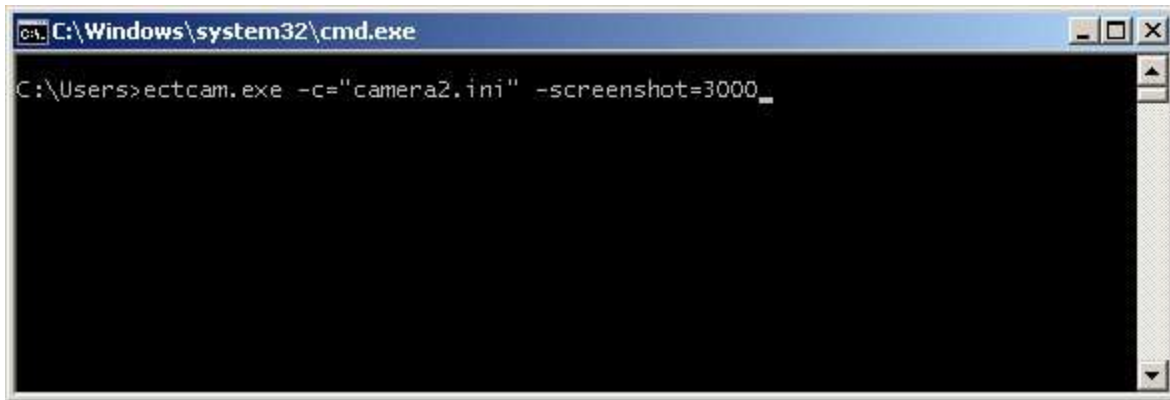
- **Screenshot format bmp or jpeg (0 or 1).** As shown in the description, this variable can take the values 0 or 1. If set to 1 screenshot file will be saved in user-specified Jpeg compression rates. At 0 it will be saved in Bmp format. Unlike Jpeg, format which uses compression and decimation algorithms, Bmp files retain more accurate color reproduction, but occupy more memory on the storage media. For example, a laptop webcam screenshot of a resolution of 640x480 pixels in Jpeg format with compression value 80 has a size of about 40 kilobytes and about 500 kilobytes in Bmp format.
- **Screenshot type full or visible (0 or 1).** If this variable is set to 0 when saving the screenshot the entire image obtained from the camera will be stored to a file, even if a part of it is outside the working window because of current display settings. If set to 1 only the visible part of the image shown in the main window of ECTcamera is saved. The value 1 should be set when trying to save space on the media from which you are running a program, or if you want to capture only the area of the video that is displayed in the program window.
- **Display form borders.** The variable can take the values of 0 or 1. A value of 0 displays a standard window while under 1 the window will have no header or external borders. This allows to slightly increase the workspace and can be useful when running on computers with low-resolution monitor or running simultaneously multiple ECTcamera sessions to work with multiple video devices at the same time (as far as I understand it, it is possible to simultaneously run multiple copies of the program using different cameras?); herein the appearance of the program window will change (see Fig. 11).
- **Menu type fixed or pop-up (1 or 2)** The variable is set to 1 or 2. A value of 1 displays a standard window menu.



(Fig. 11 ECTcamera interface without window title or external borders)

Additional features

ECTcamera supports the following features - launching from the command line using the advanced settings, selecting the configuration file and setting the camera initialization time. To select one of the existing configuration files you must use the `c` key and indicate in quotation marks the name of the desired file. The “screenshot key-” will allow you to specify the camera initialization delay in milliseconds. Different models have different launch delays - from tenths of a second to several seconds. Precise-configuration will produce the desired delay and allow not missing the live video, which is important when creating screenshots. The complete syntax of the program launching command is shown in Fig. 14.



(Fig. 14 Program launching syntax, in the command line)

In this way, it is possible to use the program for automatic launch (for ex. to create screenshots with a certain frequency) and subsequent shutdown. Thanks to this ECTcamera will not constantly occupy the memory of the computer, which may be critical for some low budget notebooks.

In addition, you can use ECTcamera to work with any task scheduler, associate the program launch to a specific event (clicking on a button, receiving e-mail, and so on), and also use an app to work with different types of cameras and different settings - selecting the configuration files at startup from the command line allows you to switch all valid program settings "on the fly".

All this the makes the exploitation of ECTcamera easy and convenient.

Updates

The latest version of ECTcamera can be downloaded directly from our site:
<http://www.eyecomtec.com/ECTcamera.zip>