

KCC Kalypso

Operating manual



Table of contents

1 Introduction	4
2 Installation	5
2.1 Installation under Windows XP.....	5
2.1.1 Install driver manually under Windows XP	7
2.2 Installation under Windows Vista	9
3 Open KCC Kalypso as a stand-alone program	12
3.1 General Functions	13
3.1.1 Save image	13
3.1.2 Options	14
3.1.3 Reset	15
3.1.4 Live image.....	15
3.1.5 Info.....	16
3.2 Specific control functions	16
3.2.1 Standard	16
3.2.2 Format	17
3.2.3 Diagnostics	18
3.2.4 Color	18
4 Open KCC Kalypso in Kappa ImageBase (KIB).....	19
4.1 KCC Kalypso in cooperation with Kappa ImageBase	19
4.1.1 Load Image	19
4.1.2 Options	20
4.1.3 Storage	20
4.1.4 Configuration	21
5 Kappa ImageViewer	22
5.1 Tool bar	22
5.2 Open file	23
5.3 File export	23
5.4 Print.....	23



1 Introduction

The camera Kappa Kalypso is a USB camera with monochrome or color sensor and a resolution of 748 x 480 pixels. With the KCC Kalypso software you can, amongst others, visualize live images, adjust camera parameters, display reticles, and save or export images in various formats.

Scope of supply

Camera Kalypso

Bracket with 1/4" threaded tripod socket

USB cable, length 1.8 m

CD with KCC Kalypso software



2 Installation

Operating system:

For the installation of KCC Kalypso Windows XP or Windows Vista (32 Bit) is required. The installation of KCC Kalypso includes the installation of DotNetFramework 2.0.

Note: You can use KCC Kalypso as a stand-alone software or in combination with Kappa ImageBase 2.8 or a more recent version.

If the Setup is not automatically started after inserting the CD, use „Setup.exe“ to install KCC Kalypso.

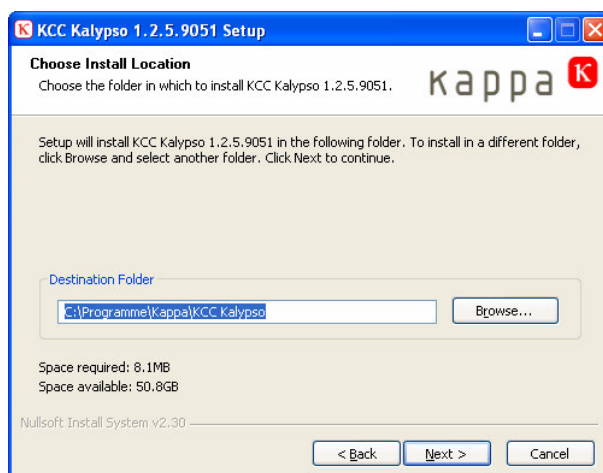
2.1 Installation under Windows XP



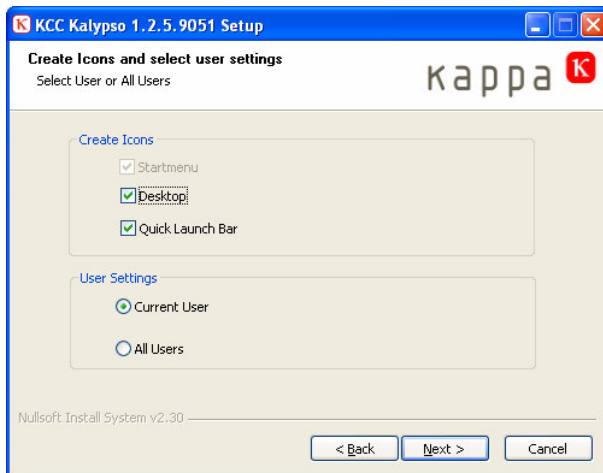
Choose the language and click on „OK“.



Click on “Next” to start the installation of KCC Kalypso.

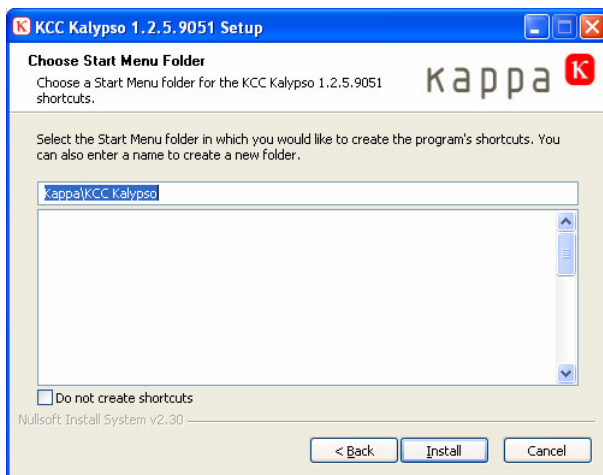


Choose the destination folder in which you want to install KCC Kalypso. Click on “Next”.



Choose if the user settings apply only for the current user or for all users.

Click on "Next".



Click on „Install“. If you want a new folder, enter a name.



USB-Driver:

During the installation of the Kalypso camera the USB driver is automatically installed.

Under Windows XP this window appears during the driver installation. Click on "Continue anyway".



Click on "Finish" to complete the installation.



When the installation of software and driver is completed the camera is listed as "Kalypso camera" in the device manager under USB controller. If this is not the case, it can be installed manually. The driver is on the CD under „driver“.

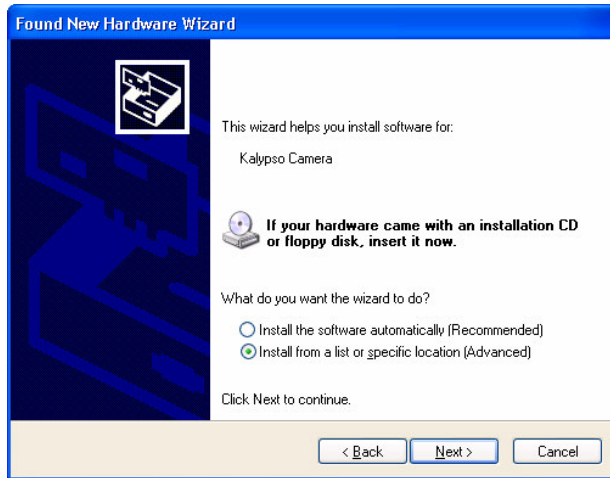
2.1.1 Install driver manually under Windows XP



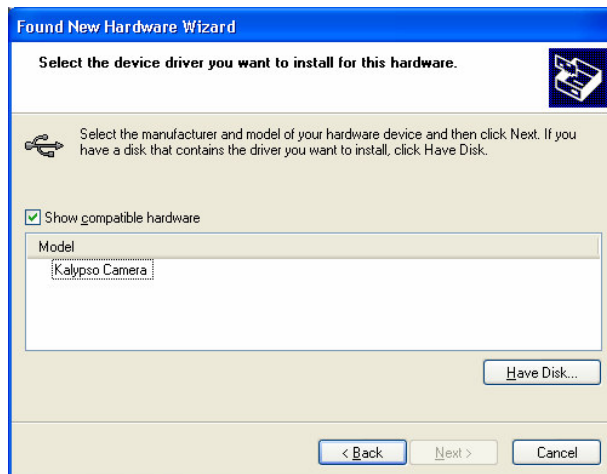
Click "No, not this time" and then "Next".



Click on „Install from a list or specific location“ and then „Next“.



The driver is on the CD under „Driver“ .



Choose „Kalypso Camera“ and then „Next“



Click on „Finish“ to complete the installation.



2.2 Installation under Windows Vista

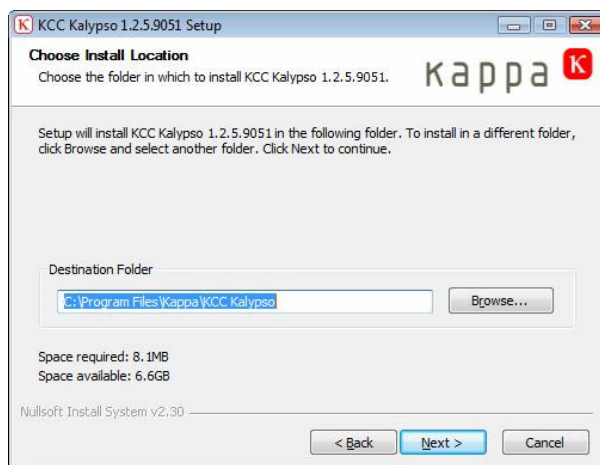
The message „An unidentified program („Setup.exe“) wants to access your computer“ appears. Please click on „Allow“.



Select a language and confirm with „OK“.



Click "Next" to start the installation of KCC Kalypso.



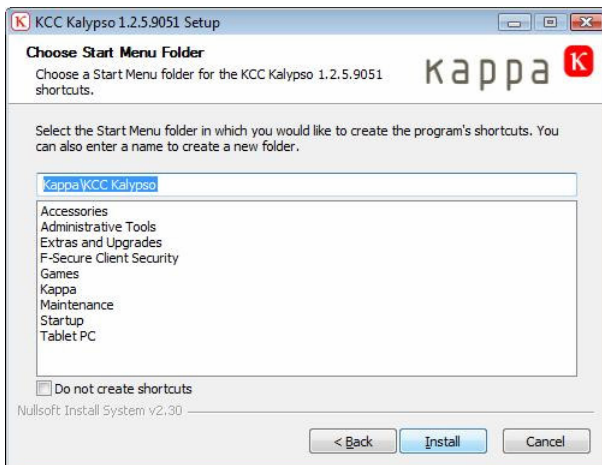
Choose the destination folder in which you want to install KCC Kalypso.

Click "Next".

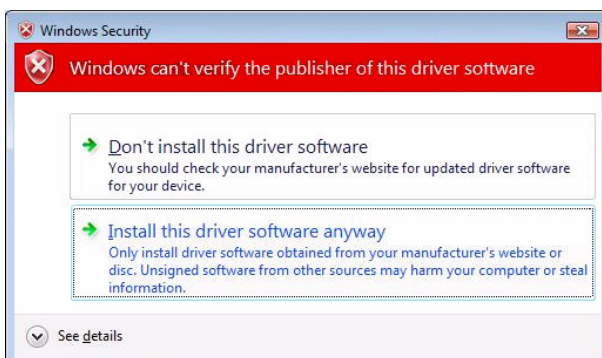


Define if the user settings apply only to the current user or to all users.

Click on "Next" to continue the installation.

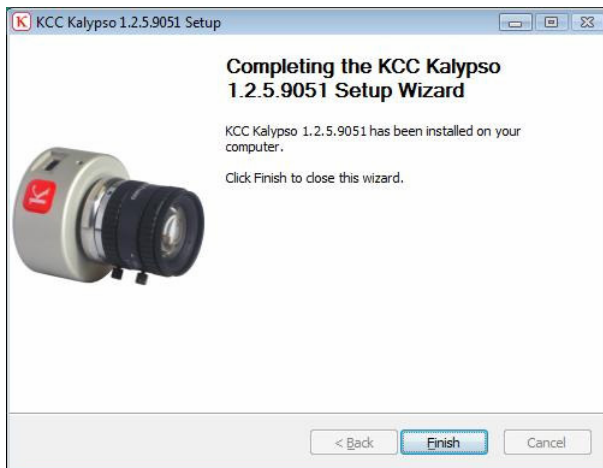


Select "Install". If you want a new folder, enter a name.

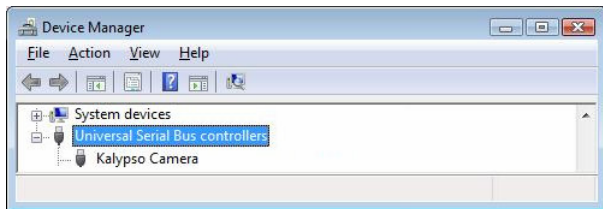


USB-Driver:
The USB driver is automatically installed during the installation of the Kalypso camera.

Select „Install this driver software anyway“. The USB driver is installed.




Click "Finish" to complete the installation.

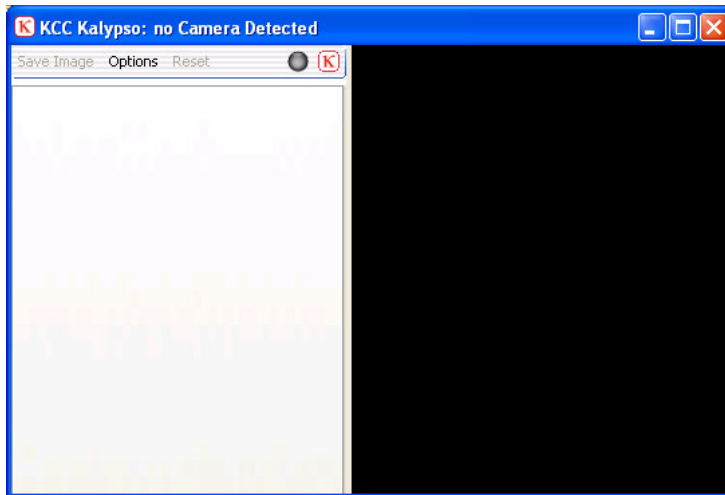


When the installation of software and driver is completed the camera is listed as "Kalypso camera" in the device manager under USB controllers. If this is not the case, it can be installed manually. The driver is on the CD under „driver“.



3 Open KCC Kalypso as a stand-alone program

 Double-click on this icon to open KCC Kalypso.



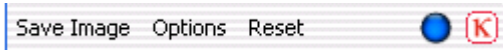
This window appears if you don't have connected a camera.

Connect the camera to the PC.



When the camera is connected, the following menu is displayed.

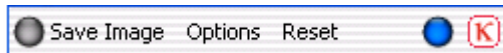
3.1 General Functions



3.1.1 Save image

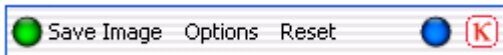
Automatic Saving

Under Options > Storage you can check the box „Automatic file name generation“. A status LED is displayed in the menu bar.



A click on „Save image“ saves the current camera image together with the settings selected under „Parameters“ automatically and without notice.

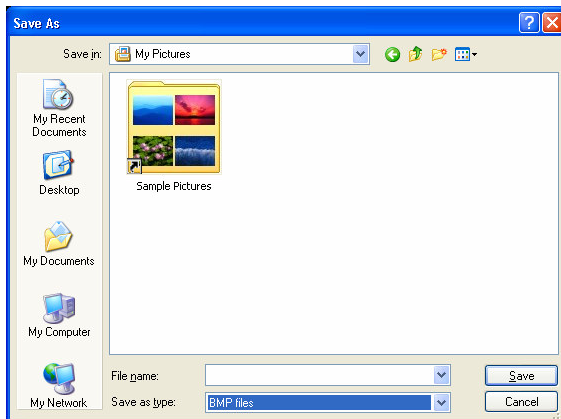
The status LED glows green for a second to confirm the saving:



Manual saving

If under Options > Storage the checkbox „Automatic file name generation“ is not activated by a checkmark, the following window is opened when you click on „Save Image“:

Enter a file name and click on “Save”.



Select the file format:
BMP, JPG, PNG, TIF.

For cameras with monochrome sensor the file types RAW, TXT and TIFF16 are additionally available.



3.1.2 Options

3.1.2.1 Save Image

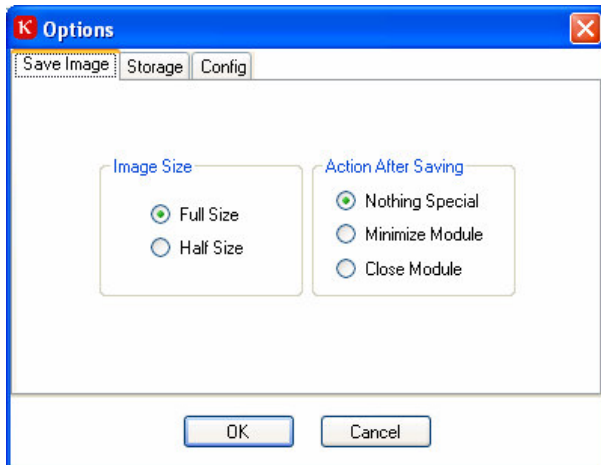


Image size

Full size: Camera images are saved in full resolution.

Half size: Images are reduced to half size (not valid for RAW format).

Action after saving

Nothing special: The image is saved in the background; KCC Kalypso stays in the foreground.

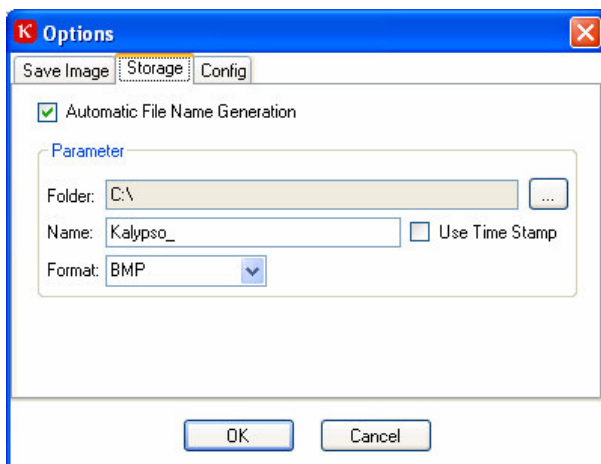
Minimize module: The image is saved, KCC Kalypso is minimized.

Close module: the image is saved, KCC Kalypso is closed.

3.1.2.2 Storage

On the "Storage" page you can choose where and how the images shall be saved.

If „Automatic file name generation“ is activated, the images are saved with the settings selected under „Parameters“ automatically and without notice.



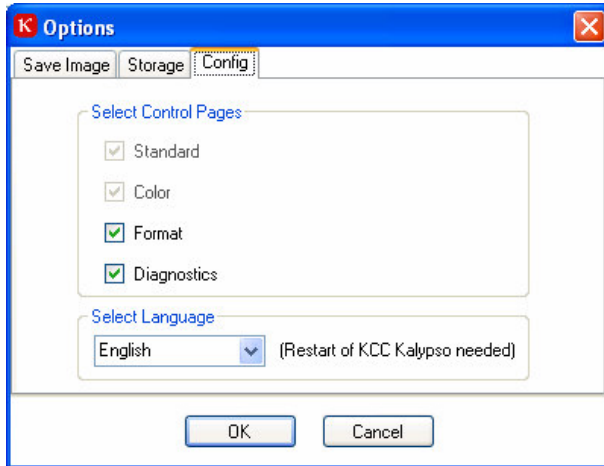
When an image is saved, a subfolder containing date and time is created on the hard disk in the directory specified under „Folder“.

The file name of the saved image begins with the text entered under „Name“ followed by a consecutive five-digit number.

Alternatively it is possible to use the precise acquisition time instead of the number. For this activate the option "Use time stamp". Choose the image file format under "Format".

3.1.2.3 Configuration

Under „Select Control Pages“ you can select the display of page tabs from the camera control.



The “Standard” and “Color” tabs are always displayed and cannot be deselected. All other pages are deselected by default.

When KCC Kalypso is new installed the program starts in the language selected during the setup. You can change the language under „Select language“ and restart the program.

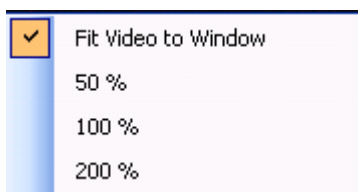
3.1.3 Reset

Click on the “Reset” button to reset the connected camera to the initial state (default settings).

3.1.4 Live image

A blue spot in the menu bar indicates a continuous image data stream from the camera. If this is not the case, the spot color changes to red. If the spot is red, close the program and pull the USB plug. Then reconnect the cable and start the program. If the error is not fixed, restart the PC, check the driver installation and cable connections.

You can change the size of the KCC Kalypso window by dragging the edges. Click on the camera image with the right mouse button to choose the window size in the menu:



Fit video to window (default setting): The preview image is adapted to the current window size.

50%: The preview image is displayed with half of the number of pixels of the connected camera (width and height).

100%: The preview image is displayed with the same number of pixels as the connected camera.

200%: The preview image is displayed with the double number of pixels (width and height) of the connected camera.

With the adjustments 50%, 100% and 200% the live image is centered. If the image size is bigger than the frame, the edges of the image are cut symmetrically.

Double-click on the preview window to display the image in full screen size. Double-click again to return to the KCC Kalypso window.



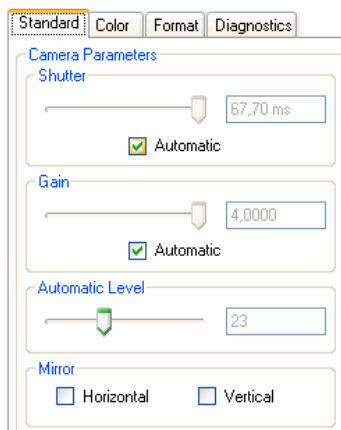
3.1.5 Info



Click on the icon to open the information box. It contains information about the installed version of KCC Kalypso.

3.2 Specific control functions

3.2.1 Standard



Notice: Many adjustments are done with sliders. Besides moving by dragging with the left mouse button the keyboard can be used. Use the arrow keys for fine adjustment and the *Image up* and *Image down* keys for bigger steps. Additionally the keys *Pos1* and *End* are available to get quickly to the beginning or the end.

Shutter

With the slider you can adjust the shutter time of the camera (from 60 μ s to 33.864). The adjusted time is displayed to the right of the slider.

Check box Automatic

If you activate the automatic AET (automatic exposure time) the exposure time is automatically controlled according to the image content. The shutter slider is deactivated.

Gain

With the gain slider you can adjust the gain from 1.0 to 4.0.

A low gain leads to a darker image, a high gain to a brighter image. The higher the gain, the more increases the noise in the image. Hence, the image brightness is usually controlled by the exposure time. Only if this is not possible, gain should be used.

Check box Automatic

If you activate the automatic gain **AGC** (Automatic Gain Control) the gain is automatically controlled according to the image content. The slider is deactivated.

Automatic Level

The automatic level slider allows to adjust a target value for the automatic functions. Low values lead to a darker image, high values to a brighter image.

Mirror

Select the checkboxes "Horizontal" or "Vertical" to mirror the live image horizontally or vertically.

3.2.2 Format

Standard
Color
Format
Diagnostics

Reticles

Reticle 1

Show

X

Y

Reticle 2

Show

X

Y

Distance

X Y XY

Read Out Area

Show Read Out Area

Parameters

X Width

Y Height

Reticles

Two reticles can be displayed in the image. Select or deselect the checkboxes to display or hide each reticle. You can move the reticles interactively with the mouse in the preview window. If both reticles are shown, the distance between the reticles is indicated in pixel units under "Distance".

Read Out Area

Under "Read Out Area" you can define a freely selectable part of the image which is displayed instead of the whole image. This enhances the frame rate. Select the checkbox "Show Read Out Area" to display or hide the read out area. You can modify the read out area interactively with the mouse in the preview window. The adjusted position is indicated under "Parameters". Click on "Set" to set the read out area. Click on "Reset" to return to the full sensor size.

Notice: If the preview window is used, it should be scaled to 100% (see chapter 3.1.4).



3.2.3 Diagnostics

This page lists the current camera settings.

Diagnostics	
Serial Number	KLY 1009
Firmware Version	kalypso_023_00019
Firmware Release	v1.1.1
Frames per Second	7,3
Shutter Time	
AET	On
Gain	
AGC	On
Automatic Level	58
Read Out Area Pos.	1 / 4
Read Out Area Size	748 / 480
Reticle 1 Pos.	171 / 336
Reticle 2 Pos.	556 / 58
RGB	1,91 / 1,00 / 1,48

Frame Rate Reduction

0

Use the slider to reduce the frame rate (the higher the indicated value, the smaller the frame rate). This is only recommended, if it is not possible to achieve a fluent live image at maximum frame rate. The reason is a too high CPU load, which is automatically reduced by the reduction of the frame rate.

3.2.4 Color

Color Correction

Manual Color Correction

RGB

Red

Green

Blue

Whiteset

For correct color reproduction at different color temperatures the camera has to be adapted to the light source. Switch on the light source and direct the camera towards a gray or white surface. Make sure that the surface area is not displayed too brightly. Click on „White set“. Use the sliders for manual fine adjustment if necessary.



4 Open KCC Kalypso in Kappa ImageBase (KIB)



Kappa ImageBase -
Launcher

Double-click on this icon to open Kappa ImageBase or select Start/Programs/Kappa ImageBase/Launcher.

Choose the desired KIB module (Control, Noah, Metreo).

Choose „Camera >Configure“.



Select „KCC Kalypso“ and click on „OK“.

KCC Kalypso starts. Please see chapter 3 for further information.

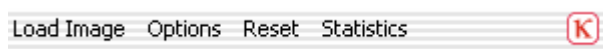
4.1 KCC Kalypso in cooperation with Kappa ImageBase

You can use KCC Kalypso as a stand-alone program or as a plug-in in combination with KIB 2.8 or higher. The program setup is done automatically during installation. Please note that Kappa ImageBase must have been installed on your computer prior to KCC Kalypso so that the setup routine is able to perform the required configurations.

The camera control is the same; no matter whether you use KCC as a stand-alone program or as a KIB plug-in. The only difference is in the way the images are saved. In plug-in operation the images are not saved directly but loaded in Kappa ImageBase where the images can be processed and saved.

Proceed as follows to load the images in KIB.

4.1.1 Load Image



Load image

Click on “Load image” to load the camera image into the Kappa ImageBase software.



4.1.2 Options

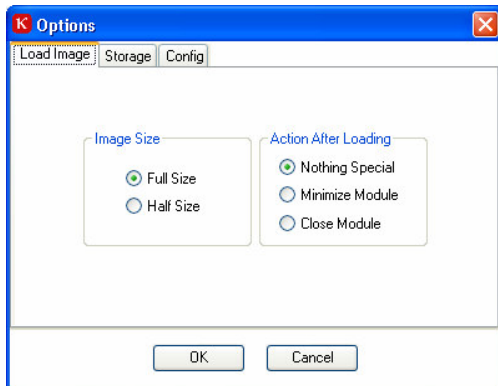


Image Size

Full Size: Camera images are loaded in full size in Kappa ImageBase.

Half Size: Camera images are loaded in half resolution (that is reduced to a quarter of the original size).

Action after Loading

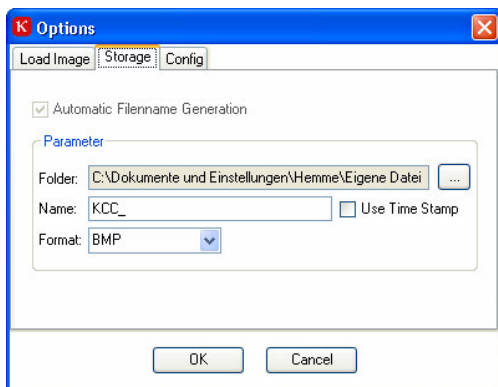
Nothing special: The image is saved in the background in Kappa ImageBase, KCC Kalypso remains in the foreground.

Minimize Module: The image is saved in Kappa ImageBase. KCC Kalypso is minimized to the task bar.

Close Module: The image is saved in Kappa ImageBase. KCC Kalypso is closed.

Notice: Please see chapter 3.1.2. for further information about other software functions.

4.1.3 Storage



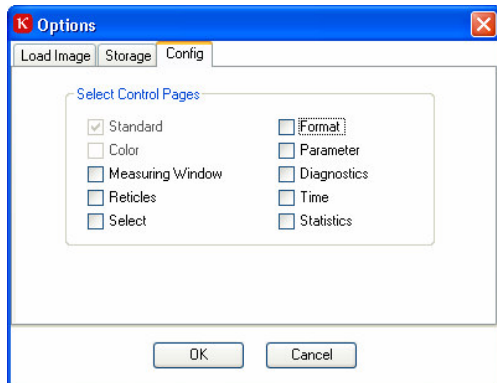
On the "storage" page you can set how and where images are saved. The „Automatic Filename Generation" function is not available in combination with Kappa ImageBase.

When a raw-image is saved a subfolder containing date and time is created in the directory which is defined in the "Folder" field. The name of the saved image contains the text which is defined in the "Name" field and a consecutive five-digit number. Instead of the number, the acquisition time can be used alternatively. Mark the "Use Time Stamp" checkbox in this case. Choose the image file format under "Format".

With monochrome cameras you can choose the format „RAW" to activate the saving of raw data (16-bit format). Please contact Kappa for further information concerning the structure of RAW files.

4.1.4 Configuration

Under "Configuration" you can select or deselect the display of page tabs.

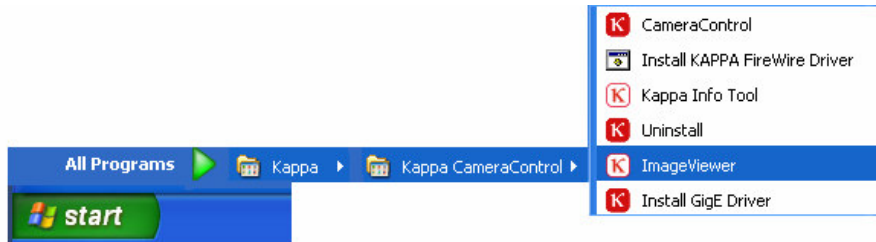




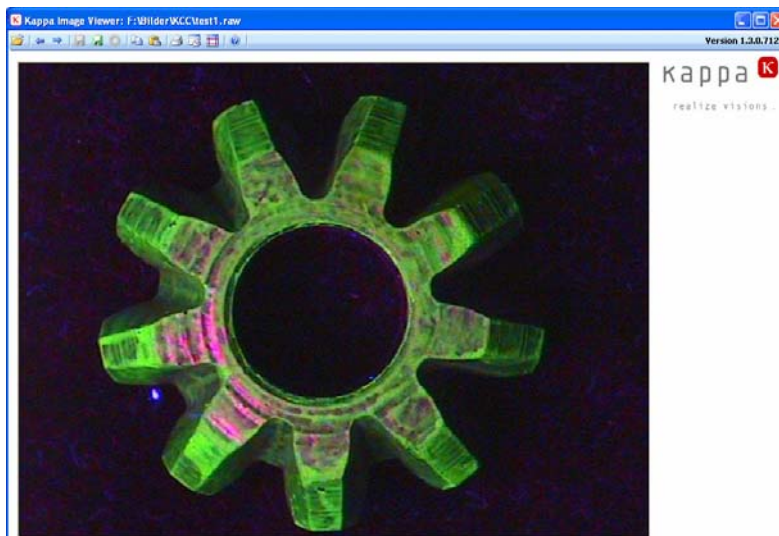
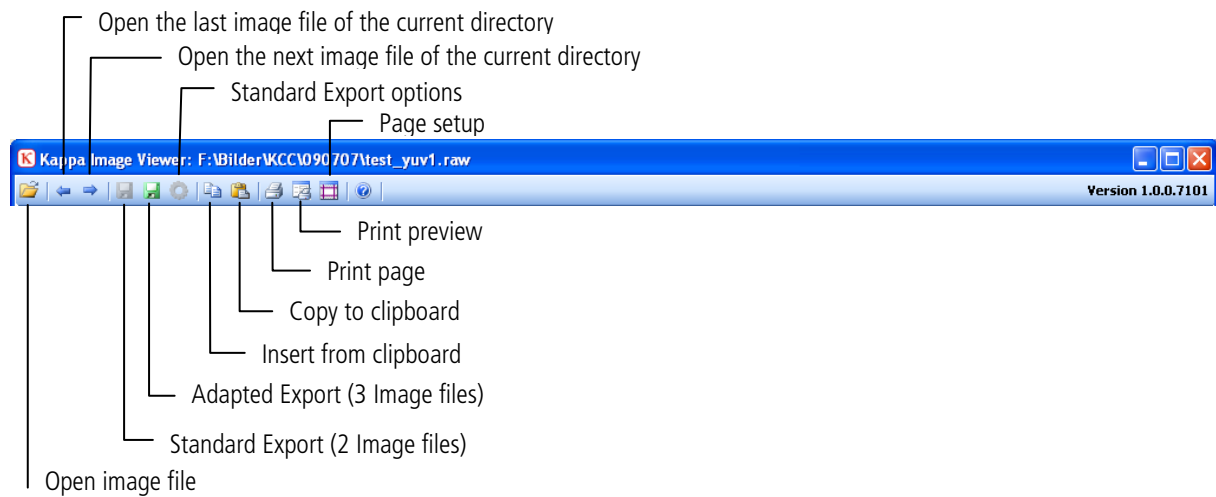
5 Kappa ImageViewer

The Kappa ImageViewer can display all image formats created by KCC Kalypso.
The Kappa ImageViewer is automatically installed at the installation of KCC Kalypso.
Proceed as follows to open the Kappa ImageViewer:

Start / Programs / Kappa / KCC Kalypso / Image Viewer



5.1 Tool bar



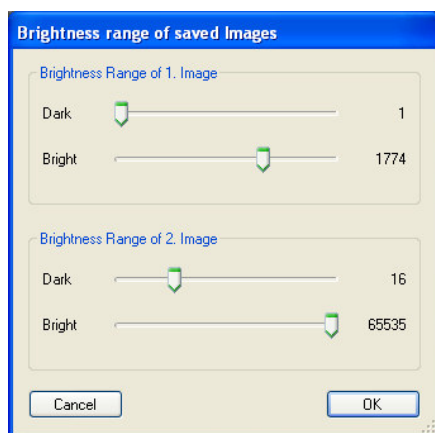
5.2 Open file

Click on „Open Image File“ to open all image formats which were created by KCC Kalypso (BMP, JPG, TIFF, PNG, RAW). Image files can also be opened by „drag-and-drop“ and with the “insert from clipboard” function. Use the left arrow of the menu or the image up key of your keyboard to open the previous image file in the current directory. Use the right arrow of the menu or the image down key of your keyboard to open the next image file in the current directory.

Two additional sliders are available for raw data images (RAW) to adjust the brightness of the image.

5.3 File export

Images can be saved as „Standard Export“ or as „Adapted Export“ (see tool bar, chapter 5.1).



The **Standard Export** is only available for B/W raw data images (D12-format). Two B/W bitmaps (BMP, JPG, TIFF, or PNG) are saved with encoding of the brightness range which has been determined by the Standard Export Options. Additionally, a text file with identical name is saved which documents the brightness values of each exported image.

Via the **Standard Export Options** the brightness range of the pixels can be determined for both images which are saved by the Standard Export. The default settings are 1 - 255 (lower 8-bit range) for the first image and 256 - 65535 (upper 8-bit range) for the second image (see illustration at the left).

The **Adapted Export** is available for all images. The displayed image is exported. For the B/W raw data format a text file is saved to document the brightness values of the exported image.

Click on the „**Copy to clipboard**“ button to copy the complete image to the clipboard.

5.4 Print

The complete image can be printed out on a standard page.