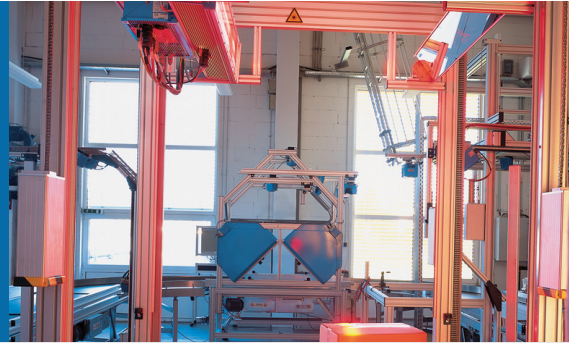


OPERATING INSTRUCTIONS

ImageFTP Visualization Software Version 3.51



FTP server for viewing and automatical saving images generated by ICR880/890 Camera Systems

The screenshot shows the ImageFTP software interface. The main window displays a list of images with their file names and metadata. The interface includes a search bar, a list of search results, and a table of parcel information.

Search Results:

Date	Time	Tray Index	Code Content
2010/01/20	00:22:35	61	1100276307360109010204000000
2010/01/20	01:15:49	61	1100762020209601120002096662
2010/01/20	23:51:03	61	11003287469010751024028800
2010/01/21	00:12:33	61	1100801646106109010202000000
2010/01/21	00:39:00	61	1100173864796010190302000000
2010/02/02	12:36:10	61	4100176315436010074420000000
2010/02/02	12:59:58	61	410021087676010119420021431
2010/02/02	13:35:39	61	1100920271741010074420000000

Parcel Information:

Index	Length	Width	Height	Volume
61	356 mm	249 mm	331 mm	25941 cm ³

Code Information:

Code Type	Code Content	Coding	Code Length	Rotation Angle	Status
CT28	4100176315436010074420000000		28		

Described Software Versions

Software/ Tool	Function	Version
ImageFTP / ImageFTP Pro	User Interface	V 3.51
Application Watchdog	Monitoring	V 1.20

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1. Overview

ImageFTP is a combination of an image viewer and an FTP server. It is used to store, visualize and analyze images from ICR8xx cameras.

Main features:

- FTP server with user accounts management
- Monitoring server and user activity with log file and trace view
- Three image views for different purposes
- Supported image types: Bitmap, JPEG, TIFF
- Search/Browse in archived images
- Visual and textual representation of XML diagnostic files
- Export/Import of configuration and user accounts
- Application Watchdog can monitor ImageFTP and restart it on failure

There are seven views which can be accessed with the icons on the left hand side:

- Image View: Shows one image and diagnostic information.
- Preview: Shows thumbnails of a list of images.
- Tunnel View: Shows thumbnails of images from up to six cameras.
- Configuration: FTP server / application settings
- User Accounts: FTP accounts management
- Server Trace: Trace of FTP commands / file transfers / errors
- Statistics: FTP server and user statistics

System Requirements

Operating System

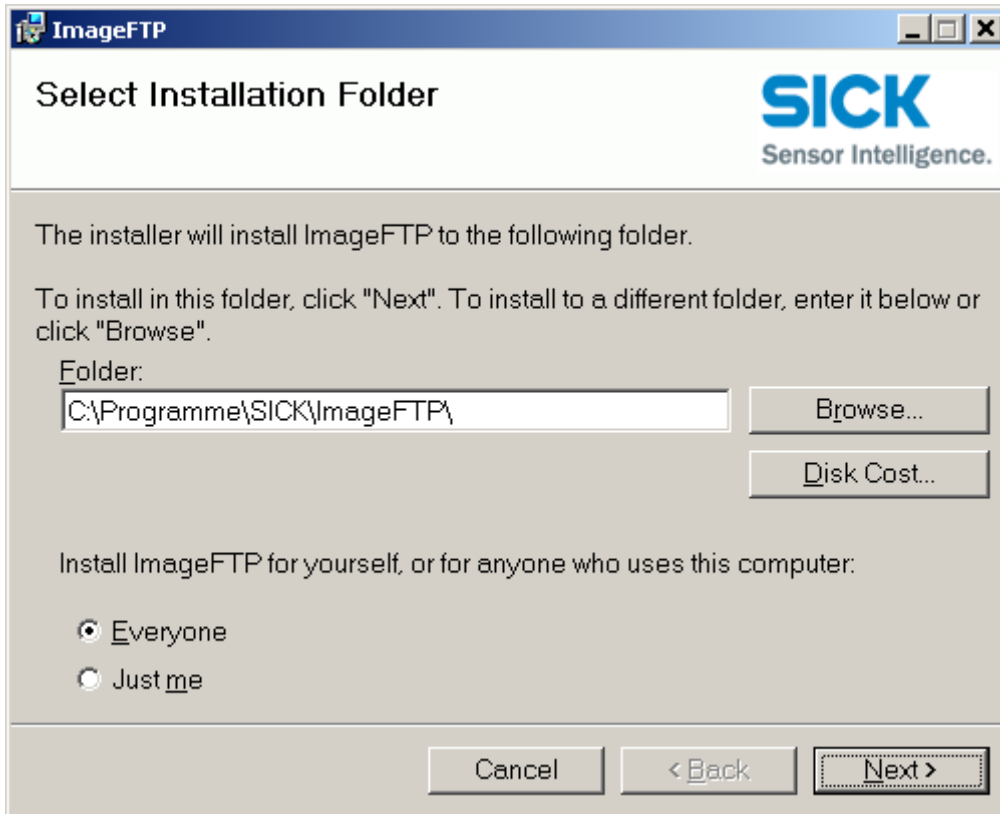
- Windows XP
- Windows Server 2003
- Windows Vista
- Windows 7
- Windows Server 2008

Minimum/Recommended Hardware

- 1.5 GHz processor (Recommended: Multi-core processor)
- 512 MB RAM (Recommended: 2 GB RAM)
- 10 MB hard drive space; additional free space required during installation
- 100 MB for received files (Recommended for image archiving: 2 TB or more)
- Fast Ethernet network interface (Recommended: Gigabit Ethernet)

2. Installation

The Windows installation package will copy all the necessary files to your computer. Please choose a destination folder and whether the shortcuts should be created for all user accounts or only the active one. You need administrator privileges to install ImageFTP.



On the next page you can choose whether you want to install the Application Watchdog tool. For further information, please refer to the according chapter in this document.

After the installation finished, start ImageFTP with the shortcut on your desktop or from the start menu folder "SICK/ImageFTP".

3. Configuration

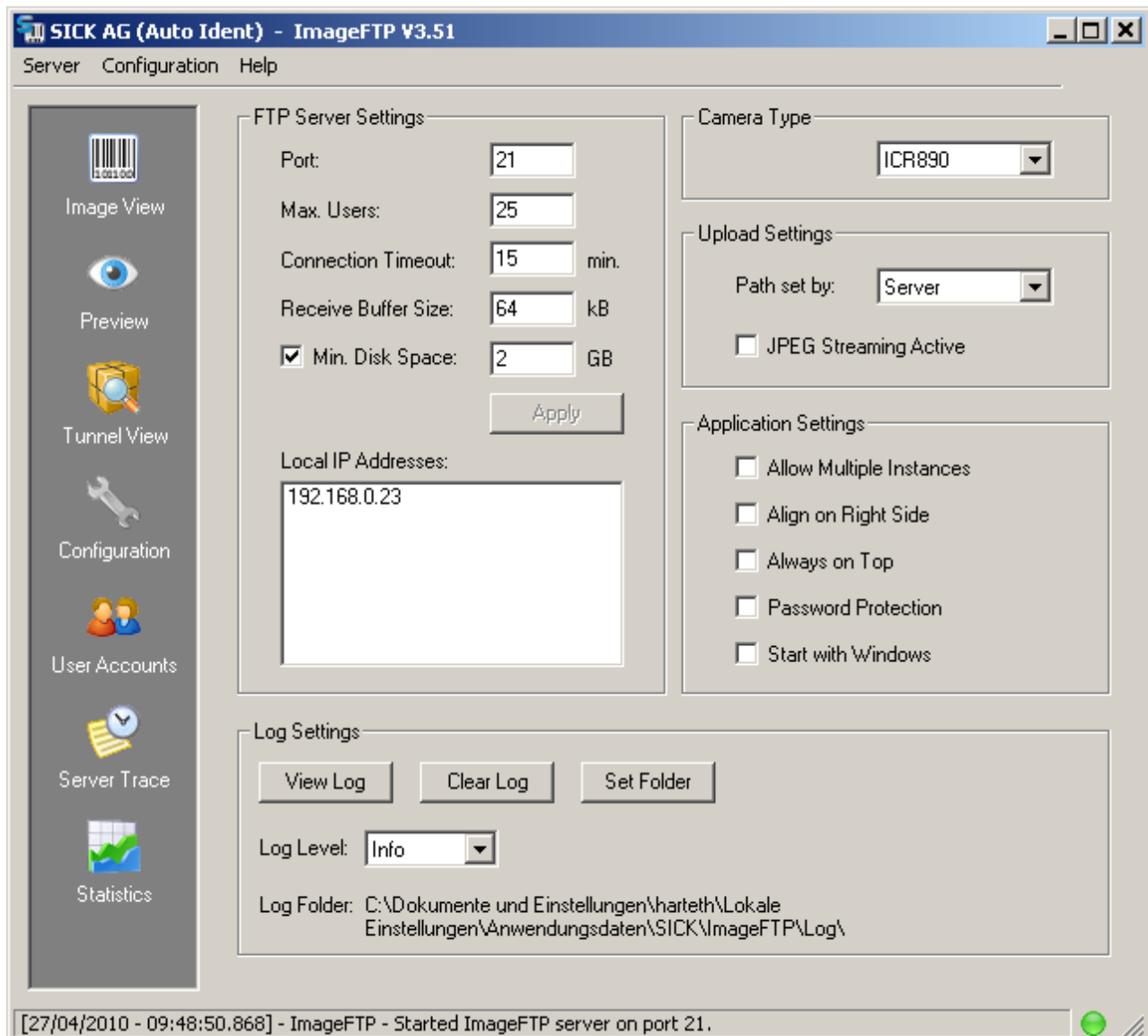
Camera Selection

If you start ImageFTP for the first time, you are asked to select a camera type: ICR84x/85x or ICR890. This is important because the camera types have different default settings and only the ICR890 supports some advanced techniques, like JPEG streaming or image archiving.

FTP Server

To act as an FTP server is the main task of ImageFTP. If the server is running, the LED icon in the right bottom corner will be green. You can start the server from the main menu or by right clicking the ImageFTP tray icon. If the server cannot be started, try to use another port.

Use the server's IP address and port for the configuration of your camera's FTP client and make sure they use the same subnet.



Export/Import

If you want to make a backup of your current configuration or transfer it to another system, you can use the menu entry “Configuration / Export” to store the settings on this page to an INI file and “Configuration / Import” to load them.

Description of all Settings

FTP Server Settings

Port:	The server listens on this port for incoming connections.
Max Users:	Maximum number of users logged on at the same time.
Connection Timeout:	The server closes a connection if it is inactive.
Receive Buffer Size:	How many Kbytes of upload are buffered before writing to disk.
Min. Free Disk Space:	If disk space is low, ImageFTP will delete the oldest received files.
Local IP Addresses:	Shows IP addresses of the host computer.

Camera Type

ICR84x/85x or ICR890 – This changes default settings and activates or deactivates some camera specific features.

Upload Settings

Path set by:

- Server: ImageFTP creates a date/time based directory tree structure within the user’s home directory. This is a prerequisite for all image archiving features.
Example: C:\FtpRoot\TopCam\2010\02\04\08\
Default setting for ICR890
- Client: The camera decides where the files are stored.
Default setting for ICR84x/85x

JPEG Streaming Active:

The camera starts to transfer the JPEG data during image acquisition. The image length and the file name are set after object release. The image will be visualized after the rename command.

This feature is only available for ICR890.

Application Settings

Allow Multiple Instances:

If this is checked, multiple instances of ImageFTP can run at the same time, otherwise only one instance is allowed. Please note that you have to specify different ports, to have multiple FTP servers online.

Align on Right Side:

This will move the window to the right side of the screen, occupying one third of its area.

ImageFTP

Always on Top:

If checked, the ImageFTP window will stay on top of all other applications.

Password Protection:

This prevents accidental/unauthorized closing of ImageFTP. The password is "sick service".

Start with Windows:

This will start ImageFTP on Windows startup. The dialog will be minimized to the system tray.

Log Settings

View Log:

This opens a file dialog in which the most recent log file is preselected. The chosen file will be opened with Notepad.

Clear Log:

Click here to delete all log files.

Set Folder:

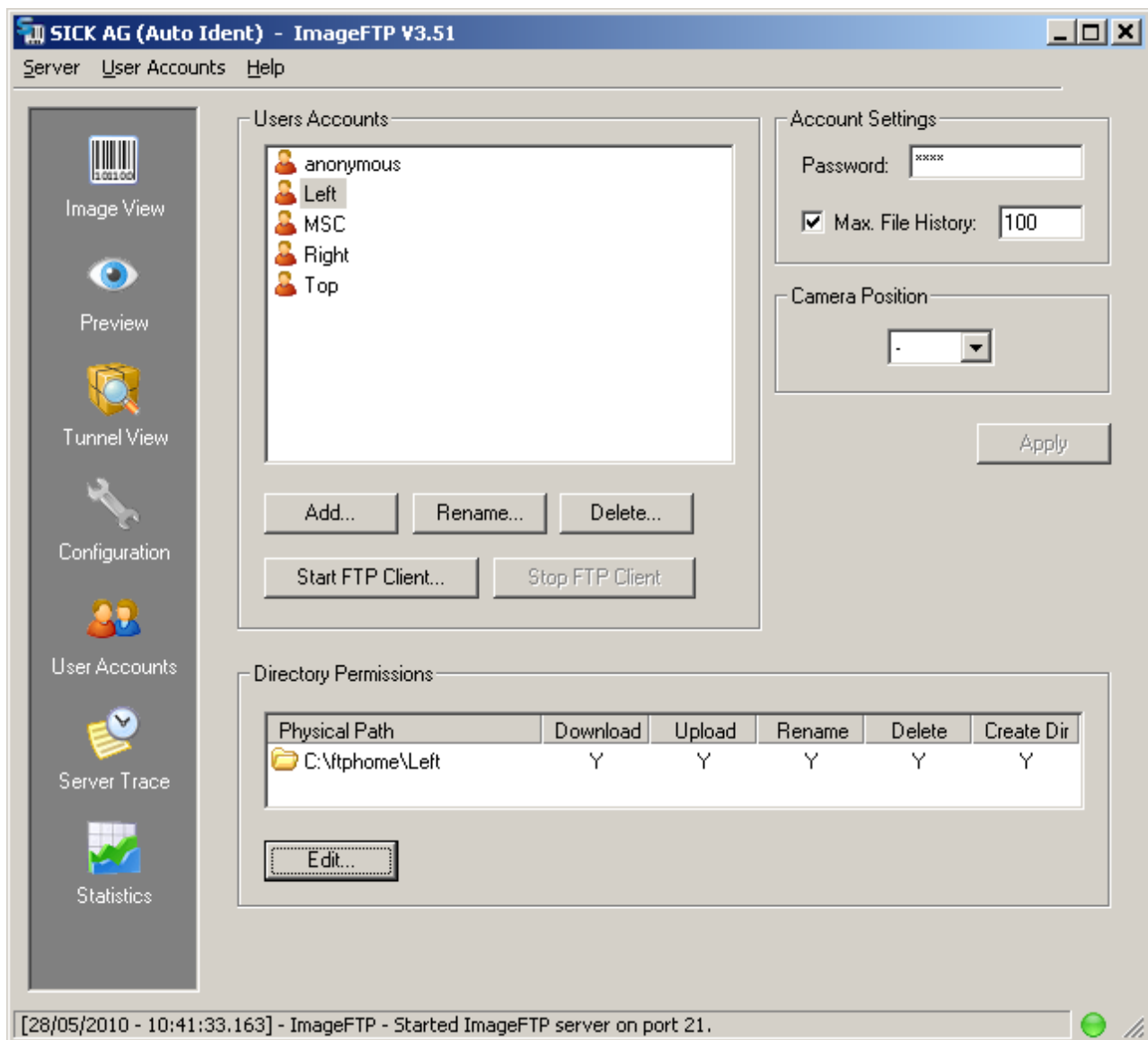
Select the folder where ImageFTP stores its log files.

Log Level:

Warning/Info/Transfer/FTP – The amount of logged information increases with each level.

4. User Accounts

Add an FTP user account for each device that sends data to the ImageFTP server. A wizard will ask you for all the necessary information.



Standard User

The user anonymous (password: anonymous) cannot be edited or deleted.

Export/Import

If you want to make a backup of your user accounts or transfer them to another system, you can use the menu entry "User Accounts / Export" to store the settings on this page to an INI file and "User Accounts / Import" to load them.

ImageFTP

User Account Settings

Password:

This is the password the user must send for logging in to the FTP account. If this field is left empty, any password will be accepted.

Max File History:

Each user has a queue for uploaded files. If the number of files in the queue exceeds the maximum, the oldest one will be removed from the file system.

If the checkbox is deactivated, no file will be removed from the file system. Take care that your hard drive space is sufficient for this setting. ImageFTP will report an error and go offline if the drive is full.

Another way to activate automatic deletion is the “Min. Free Disk Space” settings on the configuration page.

Camera Position:

You can choose a standard position for each user (BL, BR, FL, FR, SL, SR, T, TB, TF, U).

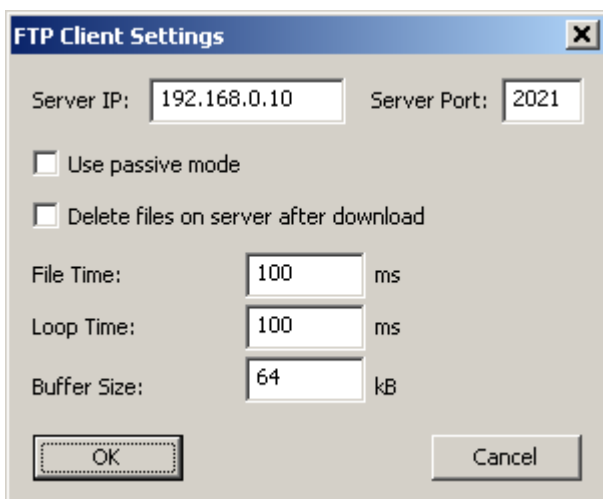
B = Bottom, F = Front, S = Side, T = Top, U = Underneath, L = Left, R = Right

Storing the camera position has no further effects.

FTP Clients

ImageFTP can not only act as FTP server but also start one FTP client per user account and download files from the ICR890 FTP server.

Select a user account and click on “Start FTP Client”. This will open the following dialog:



Enter the server’s IP address and port and specify if you want to use passive FTP mode and if files should be deleted on the server after a successful download.

The settings beneath can be used to optimize the connection performance. “File Time” is the time between the download of two successive files. “Loop Time” is the time the client waits after finishing his download list to get a new file listing. The “Buffer Size” specifies the amount of data that is buffered before writing to the hard disk.

ImageFTP

After clicking “OK” the FTP client will log in to the server and the downloaded images can be visualized as usual in all three image view. The download progress can be monitored on the server trace.

Use the “Stop FTP Client” button to stop downloading and log off from the server.

5. Visualization

There are three different ways to visualize images: Image View, Preview and Tunnel View.

What all of them have in common is that they can either be in live mode, thus showing the images the selected user is sending right away, or they are paused, so that you can browse the images and analyze them while the FTP server is still receiving new files in the background.

Press the pause button in the toolbar to switch between the two modes.

Image View

Go to this view if you want to see the incoming images of one camera or if you want have a closer look at a single image.

The screenshot shows the ImageFTP V3.51 application window. The title bar reads "SICK AG (Auto Ident) - ImageFTP V3.51". The menu bar includes "Server", "Image View", and "Help". The toolbar contains icons for home, folder, navigation (back, forward, stop), search, hand, pen, and a barcode icon. Below the toolbar, there are fields for "User:" and "ALL IMAGES" dropdown, and a "USERLOADED" button. The file path is "C:\TEMP\20080613_144106_TOP_000000900_0900.jpg". The status bar shows "History: 1 / 2", "Received: 13 Jun 2008 - 14:41:07", "Dimensions: 6960 x 4136", and "Size: 1.3 MB". The main image area shows a barcode with several green bounding boxes. The sidebar on the left has icons for "Image View", "Preview", "Tunnel View", "Configuration", "User Accounts", "Server Trace", and "Statistics". At the bottom, the "Code Information" table is visible.

Code Type	Code Content	Coding	Code Length	Rotation Angle
C128	1043021	Ascii	7	335
C128	51525	Ascii	5	335
C128	21980921	Ascii	8	335
C128	1,000	Ascii	5	335
ITL25	1014	Ascii	4	339

[27/04/2010 - 10:19:43.729] - ImageFTP - Started ImageFTP server on port 21.

Live Mode

In live mode, make sure that the proper user account is selected in the combo box on the left and select which type of images should be shown.

Channel	File Extension
ALL IMAGES	*.jpg, *.bmp, *.tif
JPEG	*.jpg
JPEG 2	*_2.jpg
JPEG 3	*_3.jpg
BMP	*.bmp
TIFF/FAX4	*.tif



Navigating in an Image

If the visualization is paused, the hand tool and the scrollbars can be used to drag the image.

If the magnifier is selected, left click will zoom in, right click will zoom out and holding down the left mouse button will change to box zoom mode. The mouse wheel can also be used to zoom in and out.

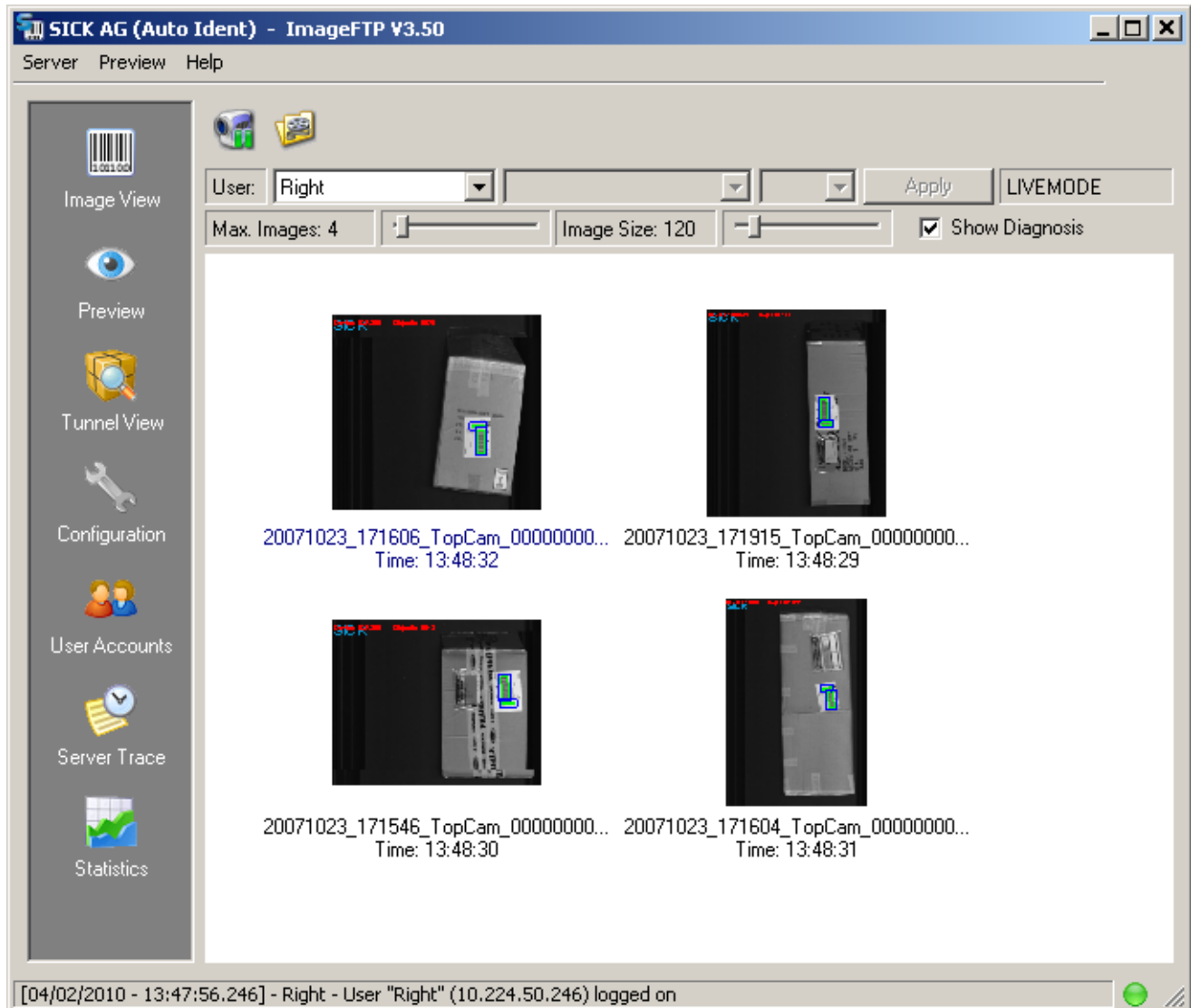
The pipette tool shows the gray level of a selected image pixel in the status bar.

Image View Menu

Load Image(s):	Load one or more image files.
Load Folder:	Load all images in a folder, browse with arrow buttons.
Save Image:	Save an image and the corresponding XML file.
Categorize:	Define categories and folders to simplify sorting of images.
Delete Image:	Delete the current image.
Send to:	Choose a category to which the image is moved.
Go to Image:	Jump to a history index.
View XML File:	Open XML file with Notepad.
Screenshot:	Save a screenshot of the current view as PNG file.
XML Overlay:	Switch visualization of diagnostics on/off.
Full Screen:	Hide tool bar and info bars so that there is more space for the image.
Settings:	Select the XML elements that are visualized, change text scaling, activate cropping and parcel information box.

Preview

On the Preview page you can visualize a sequence of images from one camera as thumbnails. This might be helpful for adjusting the illumination for example. Double clicking an image will open it in Image View.



Settings

- Max. Images:** This determines how long the list can get in live mode. If the maximum is reached, the oldest thumbnail will be replaced.
- Image Size:** Maximum width/height of a thumbnail.
- Show Diagnosis:** Activates/deactivates drawing of diagnosis data.

Preview Menu

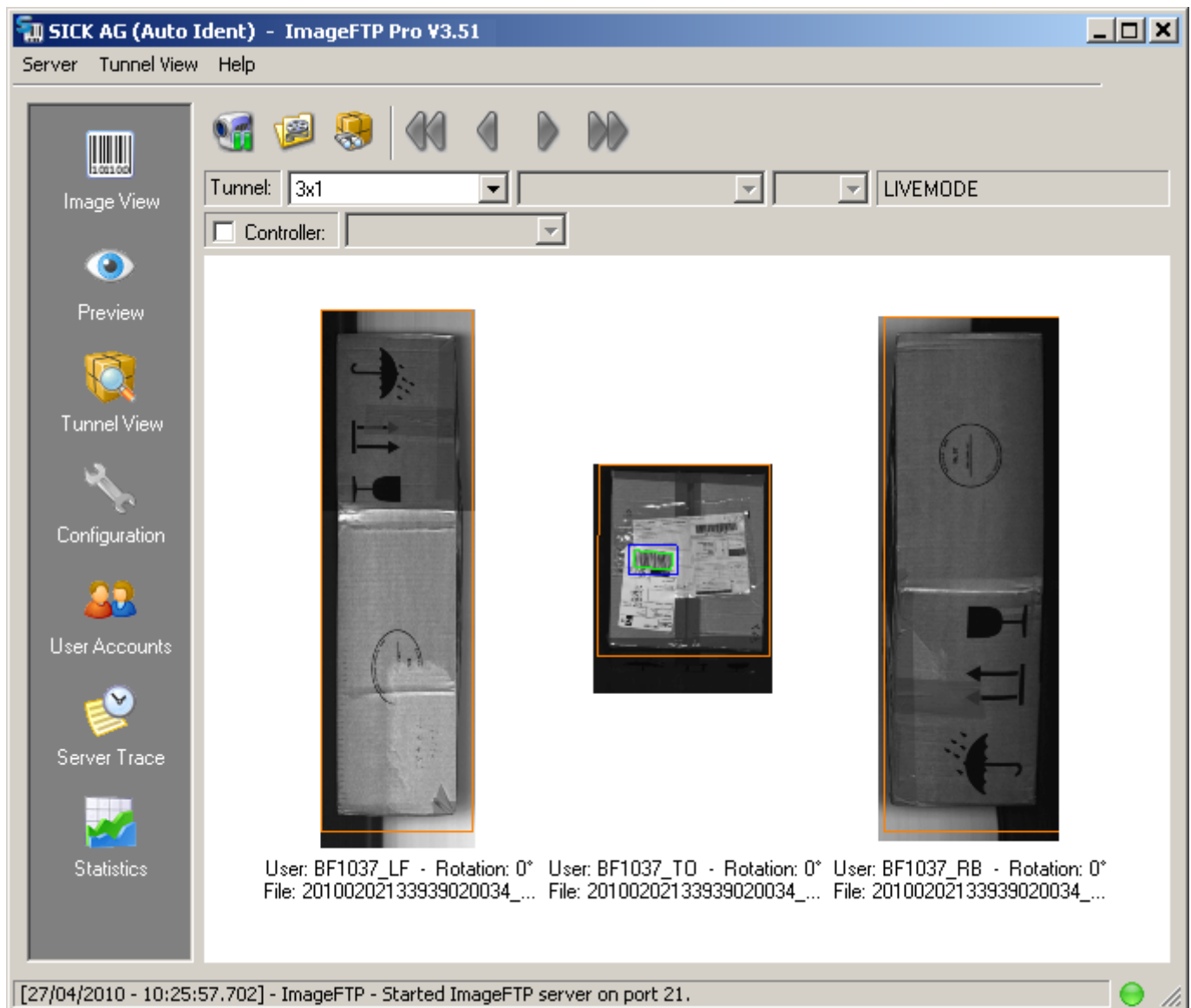
- Load Image(s):** Load one or more image files.
- Load Folder:** Load all images in a folder.
- Clear View:** Remove all thumbnails from view.
- Settings:** Select the XML elements that are visualized; change text scaling.

Tunnel View

The Tunnel View page visualizes the images from up to six cameras simultaneously.

The layout and the user arrangement are saved automatically to the project file, which can be selected from the dropdown box "Tunnel".

Activate the "Controller" checkbox and select the right FTP account, to visualize the diagnostic information sent by an MSC.



Tunnel View Menu

- New Tunnel: Enter a name, choose from five layouts, then add users.
- Import Tunnel: Select a project file and restore layout and user arrangement.
- Export Tunnel: Save current layout to a specified project file.
- Delete Tunnel: Choose a file name to save layout and user arrangement.
- Go to Image: Jump to an index of the history.
- Copy Images: Copy all active images and XML files to a folder.

ImageFTP

- Synchronize: Synchronize images with object ID of the user at first position when browsing history.
- Set Layout: Change the arrangement of the images in this view.
- Settings: Select the XML elements that are visualized; change text scaling.

Tunnel View Context Menu

Right click on an empty position:

- Add User to View: Select one of the existing user accounts.
- Create New User: Switch to User Accounts page and start the account wizard.

Right click on an occupied position:

- Remove User: Clear this position. This will not delete the user account.
- Show in Image View: Load the current image on the Image View page.
- Image Properties: Open a dialog with information
- Load Image: Load an image from disk.
- Rotation: Images can be rotated in 90° steps.

Double clicking an empty position will execute "Add User to View".

Double clicking an occupied position will execute "Show in Image View".

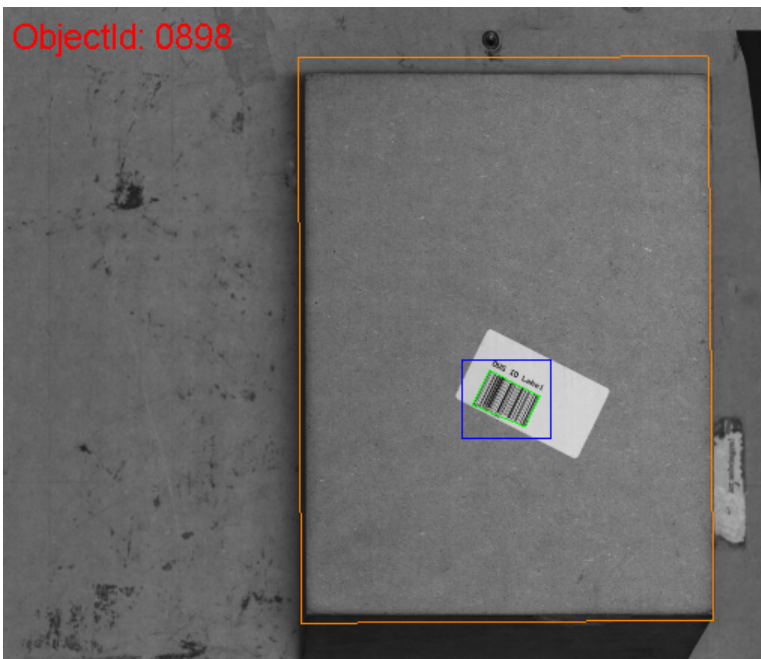
6. Diagnostics

The ICR8xx cameras can send the reading results and additional diagnostic data for each image in form of an XML file. ImageFTP generates a visual and a textual representation of this data.

Visual Diagnostic Information

The amount of visual information depends on the installed sensors, but this would be a typical example:

- The text element shows the object ID.
- The orange box marks the dimensions of the package.
- The blue box marks the axis aligned symbol ROI.
- The green box marks the decoded symbol.



Parcel Information

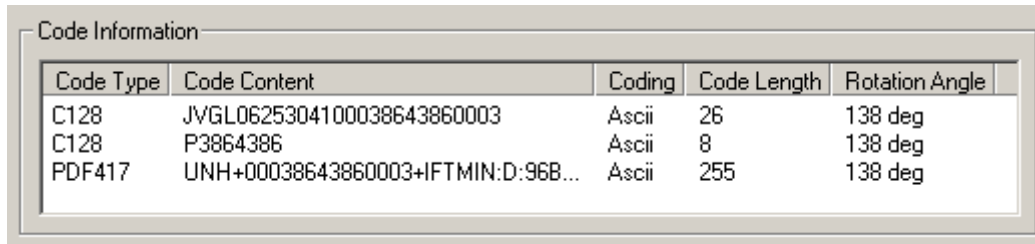
This dialog appears in the bottom frame of the Image View if the “Code Information” button in the toolbar is pressed and “Show Parcel Information” is selected in the visualization settings dialog. It is also shown in the Tunnel View if a controller is selected.

It displays the tray index and volume data stored in received XML diagnostic files.

Parcel Information				
Index	Length	Width	Height	Volume
23	484 mm	185 mm	101 mm	9044 cm ³

Code Information

Click the “Code Information” button in the toolbar to display this frame beneath the Image View.



Code Type	Code Content	Coding	Code Length	Rotation Angle
C128	JVGL0625304100038643860003	Ascii	26	138 deg
C128	P3864386	Ascii	8	138 deg
PDF417	UNH+00038643860003+IFTMIN:D:96B...	Ascii	255	138 deg

Left clicking into one of the green symbol boxes in the image will highlight the corresponding list entry.

The data shown in this frame can be modified individually depending on the interest of the user.

Right click the headlines of the columns to open a menu with all available data. Now you can choose the data which should be displayed.

The order of the columns can be adapted easily with drag and drop.

Detailed Description

Please note that the available code information depends on the camera type.

Code Type

The barcode symbology

Code Content

The content which is stored in this code

Nonprintable characters are displayed as hexadecimal ASCII code in brackets, e.g. [0D].

Coding

The content string in the XML file can be encoded in “Ascii” or “HexAscii”.

Code Length

Number of encoded characters

Rotation Angle

Angle between the symbol’s main axis and the x-axis in degrees

Status

This flag is used for validating codes

ImageFTP

Symbol Size

Symbol size of 2D barcodes in rows and columns, e.g. 24x24

Symbol Aspect Ratio

Width / height ratio of the code

Best value for QR codes: 1.00

Module Width / Height

Averaged width and height of a cell / a module within the code

Module Aspect Ratio

Average width / height ratio of the cells / modules within the code

Best value for Data Matrix / QR codes: 1.00

Errors in Symbol

Number of defective code words which had to be corrected

Best value: 0

Max. Allowed Errors

Maximum available error correction capacity / redundant code words

ECL – Error Correction Level

For certain code types such as PDF417 or QR, the redundancy level can be defined when creating the code.

PDF417

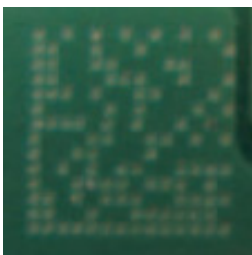
Value range: 0...8 (0 = no redundancy ... 8 = max. redundancy)

Best value: 5 or higher

QR

Value range: L (Low), M (Medium), Q (Quality), H (High)

Best value: High

**Symbol Contrast – According to ISO/IEC 16022**

Symbol contrast (percent) measured in the decoded symbol, plus corresponding quality grade according to ISO/IEC 16022.

Displayed value: Percent / Grading

Value range: 0 ... 100% / A, B, C, D, F

Best value: Grade A



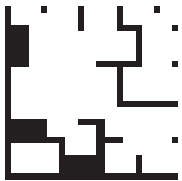
UEC – Unused Error Correction – According to ISO/IEC 16022

Remaining error correction capacity after applying error correction to read the code

Displayed value: Percent / Grading

Value range: 0 ... 100% / A, B, C, D, F

Best value: Grade A



Print Growth – According to ISO/IEC 16022

Averaged print growth of the cells relating to the theoretical optimum dimensions of a cell

Displayed value: Measured value / Grading

Value range: -1.0 ... 1.0 / A, B, C, D, F

Best value: Grade A



ANU – Axial Nonuniformity – According to ISO/IEC 16022

Axial Nonuniformity within the code

Displayed value: Measured value / Grading

Value range: 0.0 – 0.2 / A, B, C, D, F

Best value: Grade A



Modulation – According to ISO/IEC 15415

Modulation checks uniformity of the reflectance of dark and light cells respectively

Displayed value: Measured value / Grading

Value range: 0.0 (worst) - 1.0 (best) / A, B, C, D, F

Best value: Grade A



Grid Nonuniformity – According to ISO/IEC

A grid is placed over the code using the alternating pattern to locate the scan points for decoding. Grid nonuniformity checks the extent to which the grid deviates from the ideal grid.

Displayed value: Measured value / Grading

Value range: 0.0 (best) - >0.75 (bad) / A, B, C, D, F

Best value: Grade A



Fixed Pattern Damage – According to ISO/IEC 15415

Checks the fundamental characteristics of the code (Quiet zone, finder and alternating patterns and reference dots) for defects and calculates an average value.

Displayed value: Measured value / Grading

Value range: 0.0 (worst) – 4.0 (best) / A, B, C, D, F

Best value: Grade A

OSG – Overall Symbol Grade – According to ISO/IEC 16022 / 15415

This grading sums up all ISO/IEC 16022 or 15415 code grades. The worst out of all grades defines the overall symbol grade. In case that one of the ISO/IEC 15415 gradings is activated in the data string of the host interface or as criteria for setting the output of the ICR84x/85x device, then the overall symbol grade is based on all ISO/IEC 15415 gradings. If no grading of the ISO/IEC15415 is activated the grading is based on ISO/IEC16022.

Displayed value: Grading

Value range: A, B, C, D, F

Best value: Grade A

CSG – Customized Symbol Grade

The customized symbol grade is a second summary of the ISO/IEC 16022 grades. It only considers the values Symbol Contrast and Unused Error Correction and the worst out of those two grades define the CSG.

Displayed value: Grading

Value range: A, B, C, D, F

Best value: Grade A

To display the gradings for the ISO/IEC 15415 the calculation of these values need to be activated by adding them to the data string of the ICR84x/85x or by setting outputs depending on the ISO/IEC15415 grading.

7. Offline History

This feature is handy to browse a large number of images. It can be activated with the toolbar button “Offline History” in each of the three visualization pages. ImageFTP will scan the directory of the selected user or the first user in the Tunnel View and update the combo boxes to the right of the user selection.


This works only if the folder structure follows one of these rules:

- UserDir/Year/Month/Day/Hour (ICR890, Path set by: Server)



User:	Left	2010\01\26	13	ALL IMAGES	OFFLINE HISTORY
-------	------	------------	----	------------	-----------------

- UserDir/Name/Device/Serial/IMG/[BIN|GRAY|LIVE] (ICR84x/85x, Path set by: Client)



User:	anonymous	ICR840\S7430022\IMG	GRAY	ALL IMAGES	OFFLINE HISTORY
-------	-----------	---------------------	------	------------	-----------------

Now you can either select date and time or device and image type and browse through the created image history.

8. Image Search

Please note: This feature is only available in ImageFTP Pro.

If you are looking for the images of a package with a certain tray index or code content, open the dialog shown below with the toolbar button “Find Images” on the “Tunnel View”.

The following prerequisites must be met for using the image search:

- The cameras and the system controller must use the 20-digit System Object ID (SOID) for their file names, so that all images and XML files can be assigned to the right object.
- The tray index and the code content must be contained in the file name.
- “Path set by: Server” on the “Configuration” page, this is the default setting for ICR890

The folder of the selected controller or, if none is selected, the folder of the user at the first position will be searched for files that contain the search pattern.

Find Images

Search Pattern:

Restrict to... Tray Index Code Content

Max. Hits:

Search in ...

- Selected Tunnel
- All Tunnels

From:

to:

Results

Tunnel	Date	Time	Tray Index	Code Content
2x1	2010/02/02	12:24:36	28	4100176322285010017420001230
2x1	2010/02/02	12:27:23	78	4100176312312010853423043632
2x1	2010/02/02	12:30:28	131	4100236367239010907420123557
2x1	2010/02/02	12:33:01	183	4100908741232011030423027100
2x1	2010/02/02	12:37:11	253	4100358315580010853423033123
2x1	2010/02/02	12:46:13	359	1100605954601010902023001233
2x1	2010/02/02	13:01:48	80	1100481241597010891023001239
2x1	2010/02/02	13:02:12	85	1100111177911010881023001230
2x1	2010/02/02	13:09:04	134	1100737771390011234024013700
2x1	2010/02/02	13:11:01	158	4100413375952010853053044123

Search returned 10 result(s).

Image Search Options

Search Pattern: Enter the pattern you are looking for.

Restrict to...: Tray Index – Pattern must match the tray index stored in the XML file.
Code Content – Pattern must be found within the code content stored in the XML file.
Both selected – One of the conditions above will suffice.
None selected – Find all images with the pattern in the filename

Max. Hits: The search will stop if this number of results is found.

Search in ...: Restrict the search to the selected tunnel or search in all tunnels which can be selected in the dropdown box on the “Tunnel View”.

From ... to ...: Activate the checkbox and choose a start and a stop time. The setting in the picture above would find all images that arrived on February 2nd, between 12:00 and 16:00 o'clock.

If you left click an entry in the result list, the corresponding images will be loaded in the Image/Tunnel View.

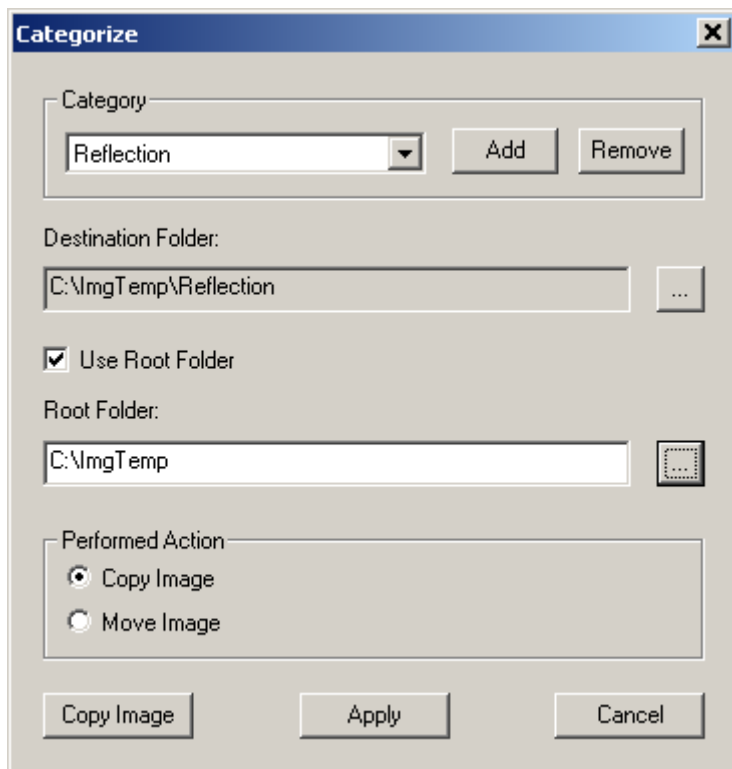
“Copy Files” will copy all images and XML files in the result list to the selected folder.

9. Categorize Images

The Categorize dialog can be accessed from the “Image View” menu and helps to sort images and corresponding XML files in different categories.

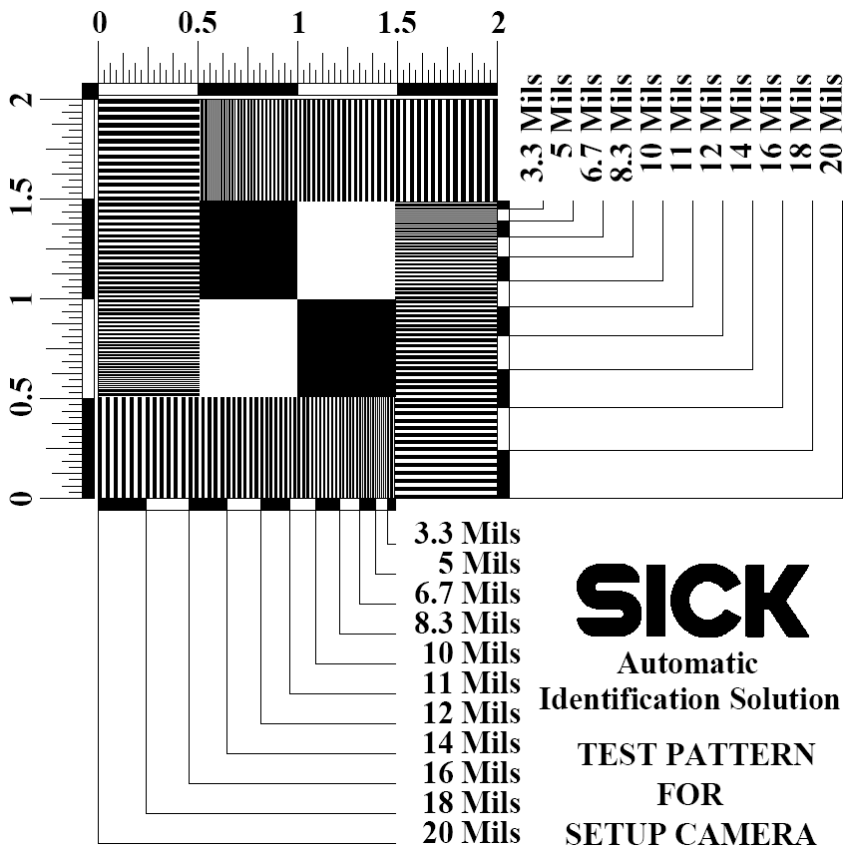
First you have to add categories. You can specify individual folders or one root folder and check “Use Root Folder”. ImageFTP will automatically create a subfolder with the category name. Choose if the files should be copied or moved and click “Apply” to store the settings.

With the menu entry “Send to...” or the hotkey “Alt + No. Category” the current image and its XML file will be copied / moved.



10. Test Pattern Analysis

The SICK test pattern can be used to measure image properties like illumination, contrast, noise and the resolution in horizontal and vertical direction.

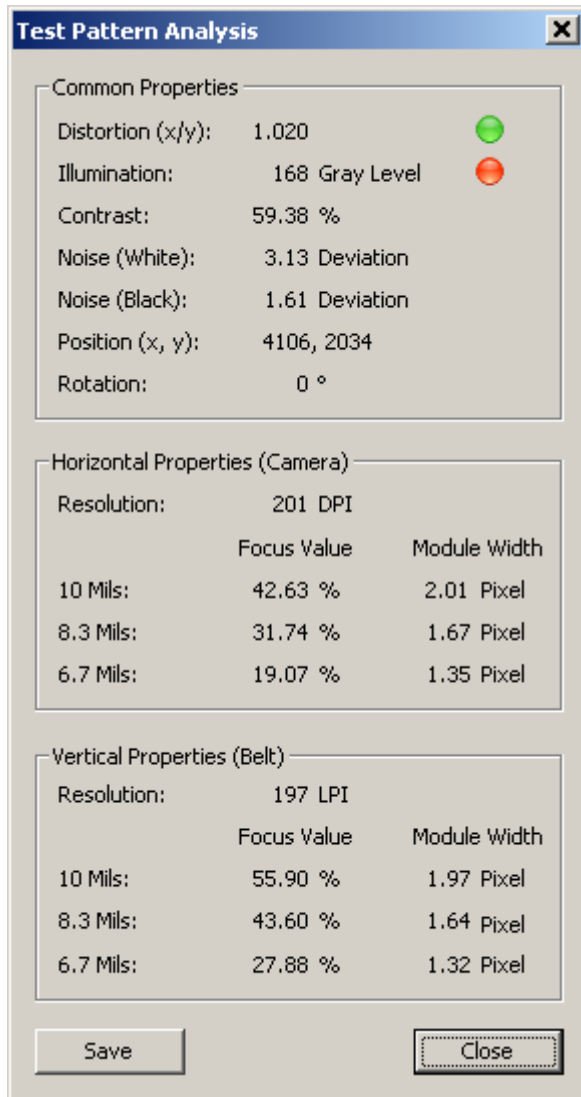


Load the image with the test pattern in the Image View; then click the button “Analyze Test Pattern” in the toolbar. ImageFTP will search the image for a test pattern and show the summary of the analysis in a non-modal dialog. The report can be saved to a text file by clicking the “Save” button.

Two colored LEDs show if the following tolerances are violated:

- Distortion
 - Green: 1.0 +/- less than 2 %
 - Yellow: 1.0 +/- less than 5 %
 - Red: 1.0 +/- more than 5 %

- Illumination
 - Green: 210 +/- less than 5
 - Yellow: 210 +/- less than 15
 - Red: 210 +/- more than 15



Test Pattern Properties

Used abbreviations:

DPI: Dots per inch

LPI: Lines per inch

Mil: "Milli-inch", this equals 0.0254 mm or 25.4 µm.

Common Properties

Distortion (x/y): Pattern width / pattern height, same as DPI / LPI
Optimum: 1.0

Illumination: Mean gray level of the white center area
Optimum: 210 Gray Level

Contrast: Symbol Contrast = Reflectance Max - Reflectance Min
Example:
Mean gray level in the white squares is 246 = 96.5%

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Mean gray level in the black squares is 22 = 8.6%
Symbol Contrast is 96.5% - 8.5% = 87.9%
Optimum: 100%

Noise (White/Black): Average deviation from the mean value in the white/black center area
Optimum: 0.0 Deviation

Position (x, y): Image coordinates of the pattern's center point

Rotation: Rotation of the pattern against the x-axis. If the rotation angle is higher than 15°, the horizontal and vertical resolution cannot be calculated.
Optimum: 0 °

Horizontal/Vertical Properties (Camera/Belt)

Resolution: Horizontal/vertical image resolution in DPI/LPI

Focus Value: Normalized average edge contrast for lines with 10, 8.3 and 6.7 Mils
A value smaller than 15% results in the grading F (ANSI/CEN EN 1635)
Optimum: 100%

Module Width: Module width in pixels for 10, 8.3 and 6.7 Mils
Example:
With a resolution of 200 DPI/LPI the module width for 10 Mils would be 2 pixels.

11. Monitoring/Statistics

Log File

ImageFTP logs certain events to a text file. Each day a new file is created, so that the files don't get too big. If there are more than 90 files in the log folder, the oldest one will be deleted.

The following log levels can be selected on the "Configuration" page:

- Warning: Server stop, connection problems and errors
- Info: User connect / disconnect, status report, etc.
- Transfer: One entry for each transferred file
- FTP: Log each sent and received FTP command

Server Trace

This view can be used to monitor the FTP server's current activity.

With the "User" combo box, you can select the entries which you are interested in:

- Show All: Show all events.
- ImageFTP: Show only FTP server events (start/stop, configuration changes etc.).
- User Name: Show only events that concern a certain user.

The selectable trace levels correspond to the log levels which are described above.

Server Statistics

This gives an overview of the FTP server's operating data. The information is updated every 5 seconds.

Total Connections: Total connections since ImageFTP has been started

Active Connections: Currently logged in clients

Files Uploaded: Number of uploaded files

Files Uploaded/s: Current rate of uploaded files per second

Total Upload: Total amount of received data (including FTP communication)

Upload/s: Current data upload rate

Failed Uploads: Number of failed uploads

Files Downloaded: Numbers of downloaded files

Total Download: Total amount of sent data (including FTP communication)

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Failed Downloads: Number of failed downloads

Please consider that the upload rate of the FTP server includes FTP communication, while the upload rate of each user takes only the transferred files into account.

User Statistics

This gives an overview of all logged on users. The information is updated every 5 seconds.

User:	Name of the FTP user
ImageFTP is:	Does ImageFTP act as FTP server or client?
Position:	The camera position which can be chosen on the "User Accounts" page
IP Address:	IP address of the client
Login Time:	Time of the last login
Upload:	Size of all uploaded files
Upload/s:	Current upload rate
Files:	Number of uploaded files
Files/s:	Current rate of uploaded files per second
Last File:	Path of the last file which was transferred

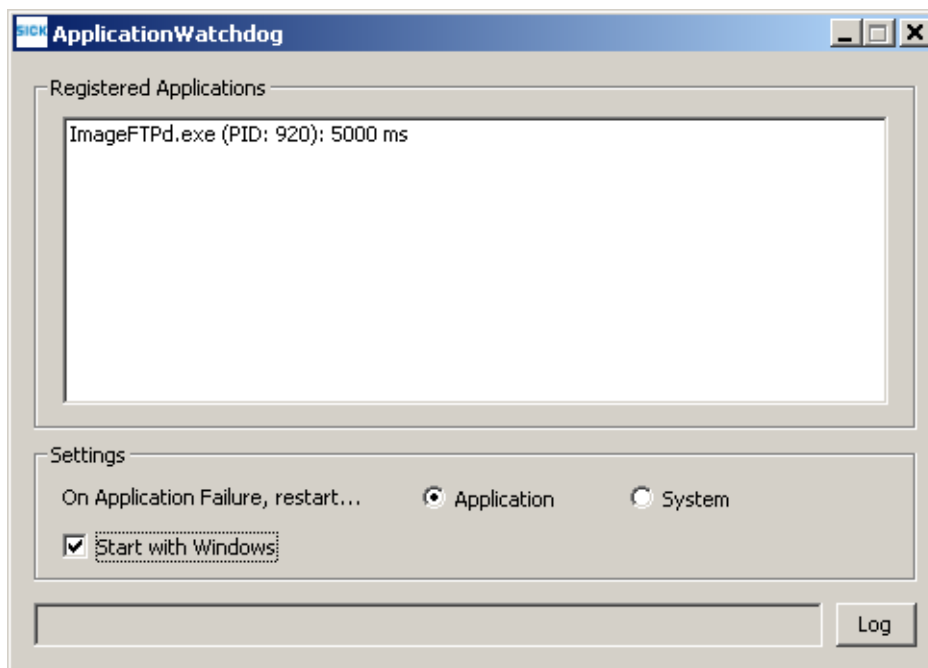
You can mark one or several users, right click to open the popup menu, and "kick" them, which will break the connection, but not prevent a reconnect.

12. Application Watchdog

Please note: This feature is only available in ImageFTP Pro.

The SICK Application Watchdog is an additional tool shipped with the ImageFTP Pro Installer, the installation is optional.

The Watchdog can monitor another application and restart it on failure. ImageFTP sends every five seconds a trigger signal to the Watchdog. If it doesn't, because it was closed or it crashed, the Watchdog will restart either ImageFTP or the system, depending on your settings.



Options

On Application Failure, restart...

- Application: If the application is still running, the Watchdog will try close it by sending a message, if that fails it will terminate the process. Then it will restart the registered application.
- System: The Watchdog tool will execute a forced system reboot. Be careful, this may result in data loss if there are other applications running on this computer!

Start with Windows: Application Watchdog will appear in the system tray on startup.

Logfile

The log file can be accessed with the button in the lower right corner. It shows the date and time of the following events:

- Watchdog started / stopped
- ImageFTP registered
- ImageFTP had to be restarted

ImageFTP

The message after the restart notification can give you a hint what happened:

=== Application already closed or cannot be opened with terminate rights! ===

The ImageFTP dialog was probably closed by the user.

=== Application has been closed per Windows message. ===

ImageFTP didn't send the trigger signal in time but responded to the closing message. This could be a performance issue.

=== Application has been terminated. ===

ImageFTP was not responding and had to be terminated. This can happen after a memory exception for example.

13. Troubleshooting

Overview of Errors

- ImageFTP server failed to listen on port XY.
 - There could be another application using that port.
Choose another port on the “Configuration” page and try to start the server again.
- The camera cannot connect to the FTP server.
 - Is the FTP server online?
Check if the LED in the right bottom corner is green and look at messages on the “Server Trace” page.
 - Does the camera use the server’s IP address and port?
Those can be found on the “Configuration” page.
 - Are the camera and the host PC in the same subnet?
 - Is there a general problem with network connectivity?
- The camera connects but cannot login to the FTP server.
 - Does the camera use one of the FTP accounts you added on the “User Accounts” page?
Set the trace level to FTP: If the server responds with “530 Login or password incorrect!”, the combination of user name and password is not recognized by the server.
- Images are being transferred but not visualized.
 - Is the correct user selected?
Switch users with the combo box in the upper left or add the right user to the Tunnel View.
 - Is the view in live mode?
Press the “Start/Pause” toolbar button to switch modes.
 - Is “JPEG Streaming” activated on the “Configuration” page?
Activate this only if your camera is actually in streaming mode.
 - Only “Image View”: Is the correct image filter selected?
Select “ALL IMAGES” and try again.
- When browsing a list of images, one image is suddenly missing.
 - The image could have been deleted because this user exceeded his “Max. File History” which can be set on the “User Accounts” page.
Set this to a higher value or to 0 if you want to disable this feature.
 - The image could have been deleted because the system’s disk space has dropped below the “Min. Free Disk Space” specified on the “Configuration” page.
Set this to 0 if you want to disable this feature.
- Some of the menu entries / icons are disabled.
 - Several functions of ImageFTP like “Copy / Save / Delete Image” or the navigation tools are only available if the visualization is paused.

ImageFTP

SICK Support

If you cannot correct the error using the above measures, please contact your local SICK office or subsidiary.

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