



Bookeye 4

Operation Manual

Preliminary Version

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Introduction

Dear Customer,

We congratulate you on the acquisition of this innovative product from Image Access.

At Image Access, we are proud of the work we do; our products are the result of our extremely high production standards and stringent quality control.

With the Bookeye 4, Image Access offers an efficient V-cradle book scanner which covers a wide range of applications due to its versatility. The integrated web based user interface enables access to all functions via a structured set of menus.

This operation manual is designed to lead you through the most typical situations experienced when operating the Bookeye 4 scanner.

For this reason, we ask you to read the operation manual attentively before starting to work with the device. By doing so, you will avoid operation errors and you can control all functions effectively from the beginning.

In addition, please consider the following points:

- Damages to your unit may have occurred during shipping. Please check for damages immediately after delivery of the unit. Inform your supplier if damage has occurred.
- Read and ensure that you understand the safety notes. They were developed for your protection and safety as well as to protect the unit.
- Regular maintenance conserves the high quality and safety of the Bookeye 4 scanner during the entire service life.

If you have any further questions, please feel free to contact your local dealer or Image Access, Inc. directly. Our staff will be happy to help you.

For your daily work with the Bookeye 4, we wish you success and complete satisfaction.

Regards

Your Image Access Team

About this Manual

Operation Manual

The **Operation Manual** provides all necessary information pertaining to the normal operation and behavior of the device. It is written for people who only operate the device and do not perform setup and adjustment procedures. All device elements and software functions are described in detail, although some of them might never be used. This manual does not cover any application software. Refer to the appropriate manual to learn about the application software.

Setup and Assembly Manual

The **Setup and Assembly Manual** is written for technical staff with some basic mechanical skills and software knowledge. Many resellers will offer on-site installation; therefore, large parts or all of the setup and assembly manual may not be of interest to the reader. The access level at which the setup and adjustment procedures are performed is called "Power user". This "Power user" level is password protected from access by the normal operator.

All manuals can be downloaded from our customer service portal at <http://service.imageaccess.de>. Be sure to always check for the latest versions of these manuals.

This manual is divided into four sections, A to D.

- Section A** describes the hardware of the device and gives an overview of all components and connectors of the scanner. Remember that this device is a precise optical instrument and should be handled accordingly.
- Section B** describes the functions of the touch panel and how to setup specific parameters.
- Section C** describes the functions of the integrated Scan2Net user interface.
- Section D** shows all technical information of the scanner .

Version History

Version	Published in	Content/Changes/Supplements
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A Hardware

A.1 Safety Notes

Read and ensure that you understand the safety notes.

The safety notes have been written to ensure your protection and for your safety.

A.1.1 Marking of Safety Notes

All safety notes are marked with a warning sign.

A description of the potential hazard is found at the right side beside the warning sign.



Safety Note!

Text with description of potential hazard.

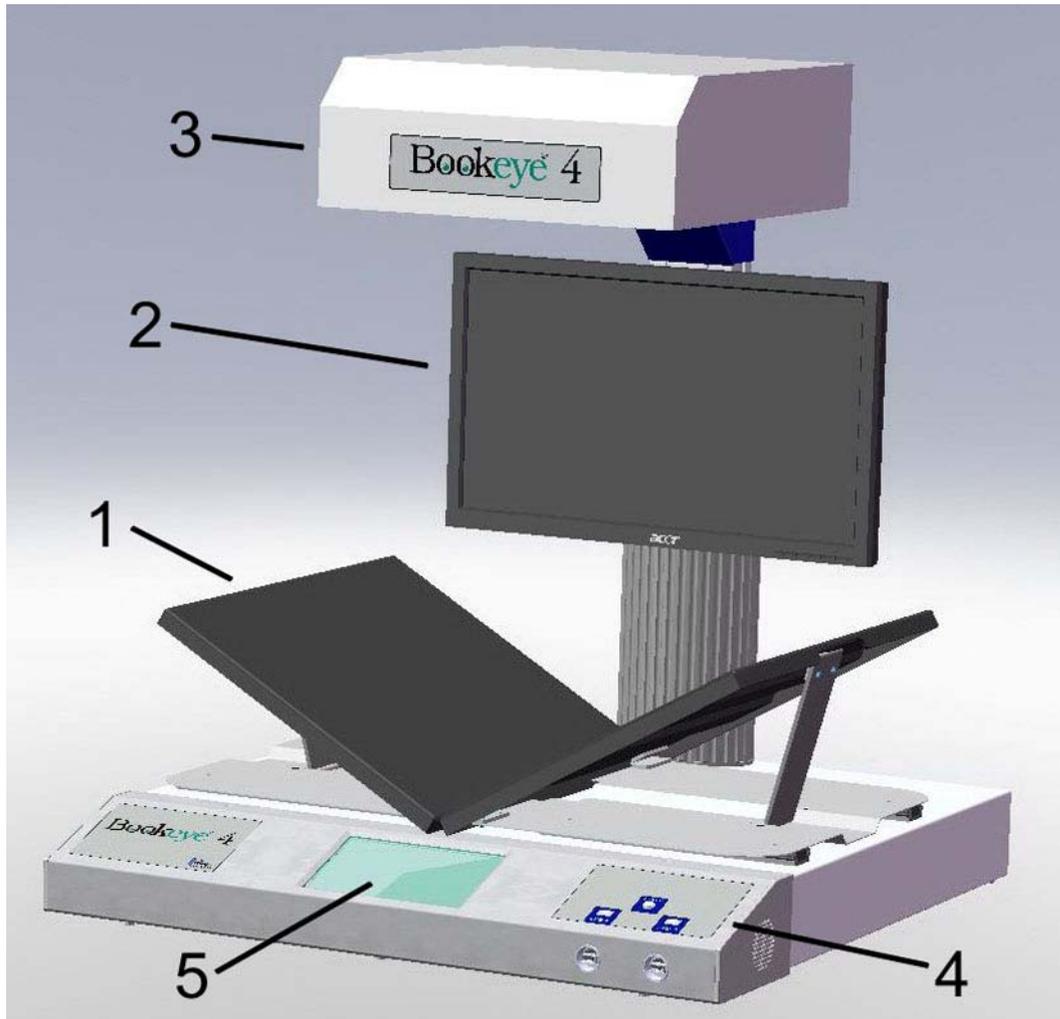
A.1.2 Laser Safety Note



Safety Note!

Text with description of potential hazard.

A.2 Device Overview



Picture 1: Elements of the Bookeye 4

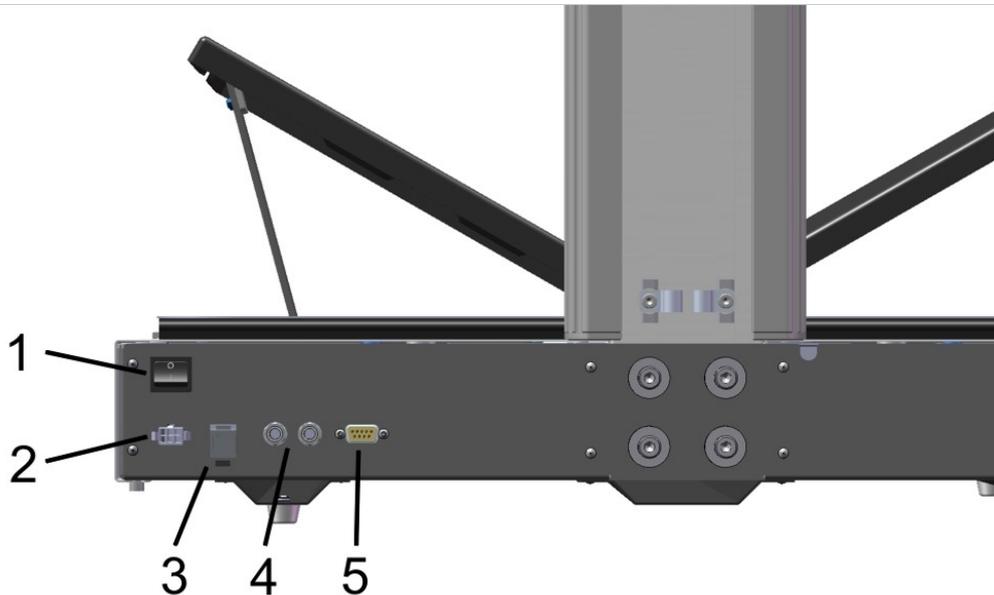
Some of the major components of the Bookeye® 4 scanner have been identified in the above picture. These components are referenced in this operation manual.

The Bookeye® 4 scanner main hardware elements are:

1. V-shaped book cradle. Can be fixed in “V” position or lie in a flat position. The book cradle plates can be opened to a maximum distance of approx. 325 mm (12.8 inches).
2. TFT flat screen. Shows the scanned image. All modifications of an image, e.g. color mode or scan size, will be displayed immediately on the TFT flat screen.
3. Camera head. The camera head contains the camera, the red light cross-hair laser, and the lamps.
4. Front panel. On the front panel, two USB ports, the on/off switch and the touch panel can be found.
5. Touch panel: The touch panel shows all menus used to set up and control the Bookeye® 4 scanner.

A.2.1 Connectors on the Rear Side

For easy orientation, the connectors found on the rear side of the scanner are depicted in the following picture and described below.



Picture 2: Connectors on the rear side

1. Main power switch. Set the main power switch to position I to set the Bookeye 4 scanner to stand-by mode.
2. Connector for external power supply.
3. Network connector. Insert a network cable for access to the scanner via the integrated Scan2Net user interface.
4. Two foot pedal connectors.
5. Serial port.

A.2.2 Content on Delivery

The scanner is delivered in a wooden transport box. The transport box also contains

- A folder with four CSTT-1 reference targets
- Two White Reference targets 500 x 120 mm
- A foot pedal switch
- Patch cable, length 3 meters.
- Recovery Key with instructions
- External power supply with power cable

Please note: Keep the wooden transport box for future use! If the scanner needs to be returned to depot, it must be sent back in the original transport box to avoid transport damages.

A.2.3 Connecting the Power Source

The connector for the external power supply and the main power switch connector are both located at the right side of the back of the document bed.

Important: Before connecting to the power source, check the following:

The wall outlet for the external power supply is in perfect condition and properly grounded.

The power cable of the external power supply is not damaged in any way.

The wall outlet fuse has the correct electrical dimensions. Refer to the technical specification chart for detailed information.

After the power source is connected and the main power switch is turned on, the symbol in the on/off button lights up.

Red illumination of the button signals that the Bookeye 4 is in stand-by mode.

A.2.4 Starting the Bookeye 4

Push the red illuminated on/off button to start the scanner.

The button illumination changes to blue.

The scanner starts with self-test routines and verifies all system components. A status message will be displayed on the TFT flat screen and on the touch panel.

At the end of the start-up sequence, the touch panel displays the start screen.

A.2.5 Switching the Bookeye 4 to stand-by mode

Press and hold the on/off button for at least three seconds. While pressing the button, a “click” sound is audible.

The content of the TFT flat screen and the touch panel changes and displays the message: **Going to shut down now ...**

A.3 Device Location

A.3.1 Environment

Choose a location that complies with the temperature and humidity specifications.

For detailed information on these specifications, see the chapter D.2.

A.3.2 Ambient Light

The Bookeye 4's location should have a controlled ambient light situation. The light scenarios should avoid direct sunlight or spot light from light beams.

Also light sources that cause sharp shadows on the document on the book cradles or high levels of ambient light could influence the scan result negative.

The Bookeye 4 scanner is an open system with a built-in high quality light source. Open system means that the ambient light is added to the light seen by the camera.

Summary of a recommended location for a Bookeye 4 scanner:

- The location is not exposed to daylight.
- It is evenly illuminated from the ceiling with fluorescent lamps with electronic ballasts. The light intensity measured on the book cradles should be approximately 300 lux.
- The light should not cause any shadows; therefore the variation of the intensity across the scan area should be kept below 20%.

If the fluorescent lamps are powered by non-electronic ballasts, they will produce a flicker twice the frequency of the main power supply (100Hz or 120Hz). If the intensity of this light becomes too high, vertical stripes of even distances of approx. 8-12 pixels will be visible on the scan.

Direct sunlight will vary over the day and will result in overexposed images. Sunlight can also produce distinct shadows.

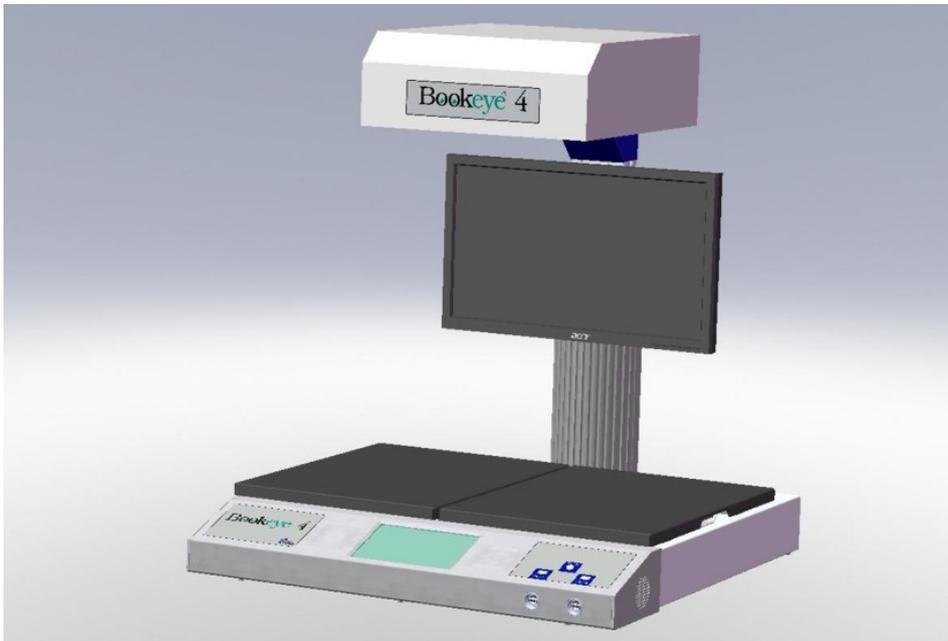
Light beams from spotlights will also produce distinct shadows. In most cases, they emit a high level of infrared light. Infrared light is not visible to the human eye but to the camera. The light source of the Bookeye® 4 scanner itself has no infrared content at all, which means that the scanner does not have an image quality degrading infrared filter. Too much infrared content will result in overexposure.

The Bookeye® 4 scanner has an integrated "White Balance" function. This function will compensate ambient light influences. A "White Balance" calibration is recommended when the light scenario has changed.

For details about the "White Balance" calibration, see chapter B.6.1 White Balance.

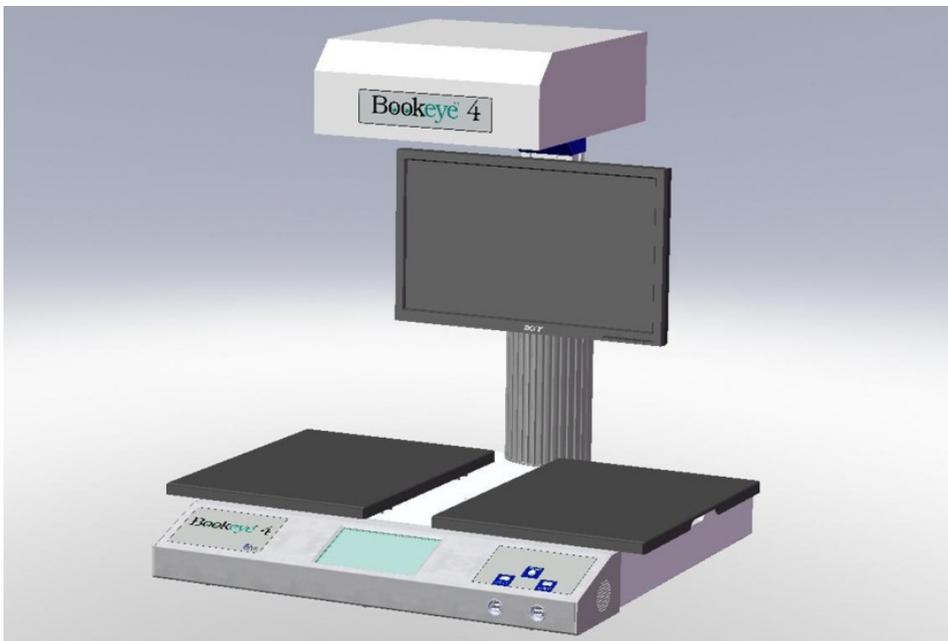
A.4 Book Cradles

The book cradles on the Bookeye 4 can be set in different positions.



Picture 3: Book cradles flat and closed

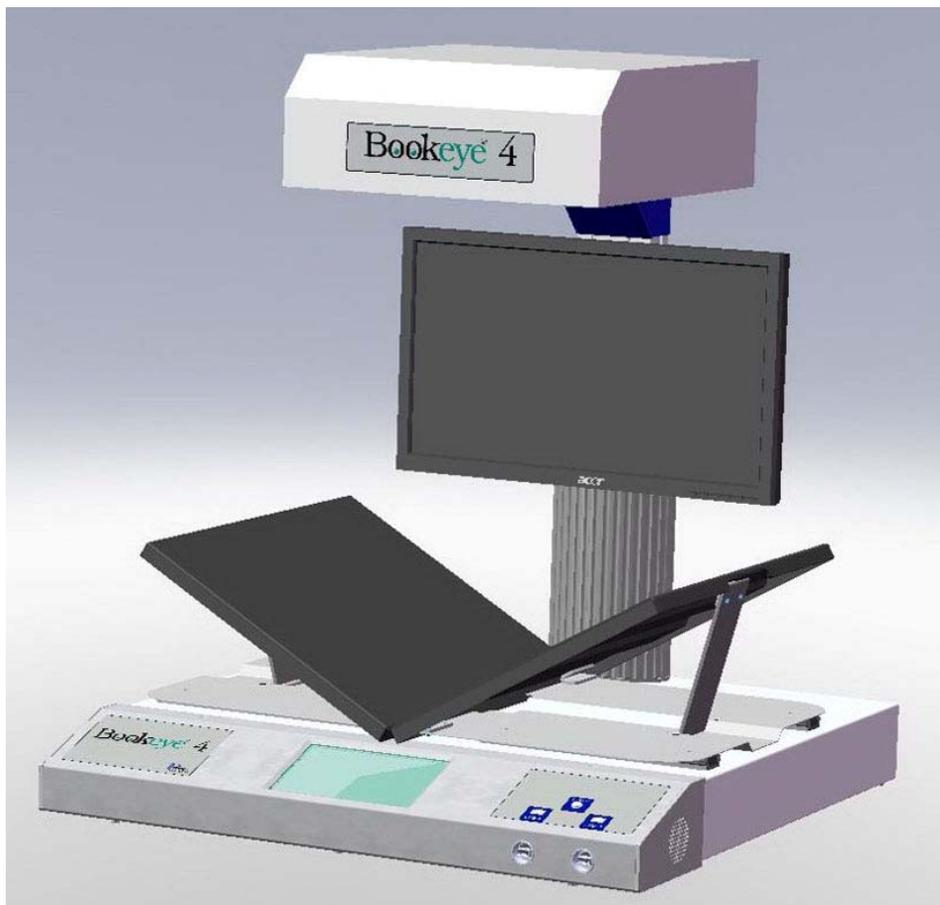
The plates of the book cradle can be slid apart from each other. The maximum distance between the book cradles is approximately 325 mm (12.8 inch).



Picture 4: Book cradles flat and opened

This allows placing books or other documents with a large spine in a position more beneficial for the book spine.

The plates can also be set in the “V” position, with an opening angle of 120 degrees. This is recommended for very delicate, old documents.



Picture 5: Book cradles in the "V" position

When the book cradles are lifted to the “V” position, they are held by a supporting leg on each side.

B Software

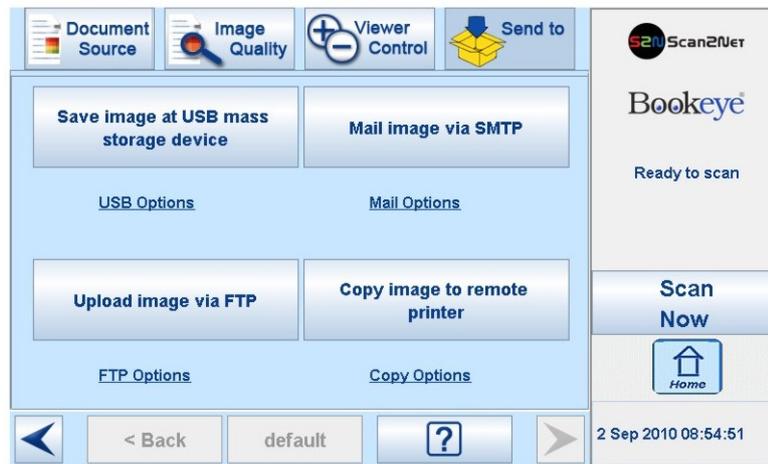
The Bookeye 4 scanner can be controlled in two ways.

- via the integrated touch panel.
- via a standard browser and the Scan2Net software interface.

Please note: All screenshots are taken from a fully equipped device with all options and functions activated. Depending on the selected mode, the menus displayed on the screen can vary.

B.1 Touch Panel – Start Screen (Send to)

When the Bookeye 4 scanner starts from stand-by mode and finishes the startup procedure, the touch panel displays the start screen.



Picture 6: Start screen after start-up

Pressing the **Scan Now** button starts the scan sequence.

When pressing one of the four buttons in the main part of the touch panel, the scanned image will be directed to the target as defined on the respective button.

By touching the text below each button, the options of the selection will be displayed.

Chapter B.5 provides detailed information on the available parameters.

B.2 Touch Panel – Document Source

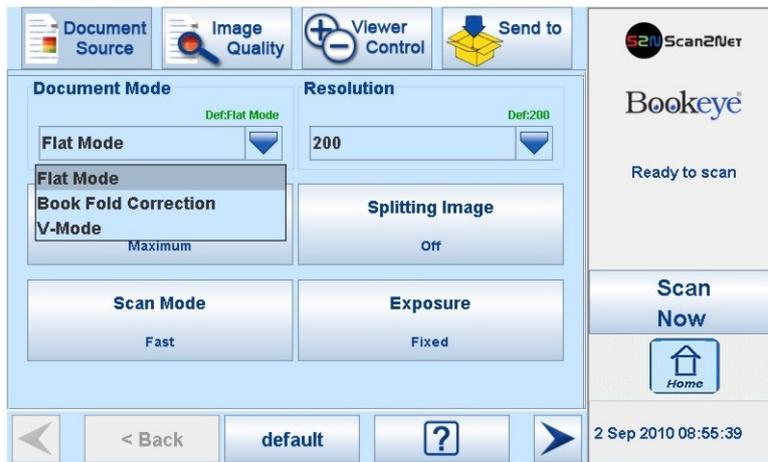
The **Document Source** screen allows selecting from a wide range of scan parameters.



Picture 7: Document Source screen

B.2.1 Document Mode

The **Document Mode** setting defines the focusing method when scanning documents.

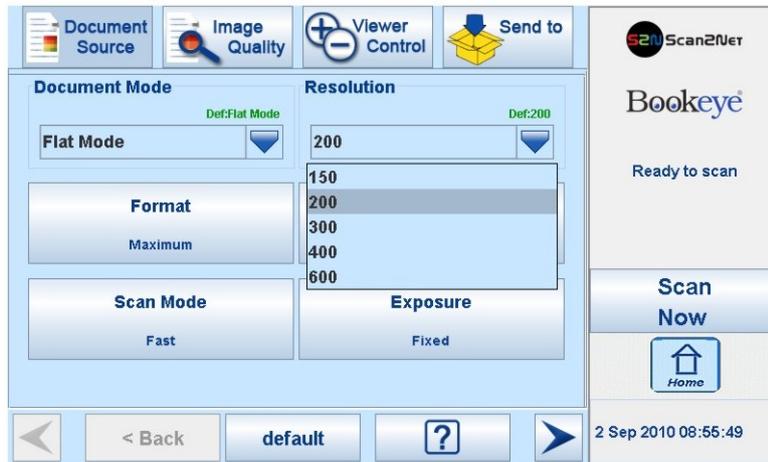


Picture 8: List of Document Modes

- Flat Mode:** The focus value will be set in dependence of the document height. This focus value will be used for the complete scan area.
- Book Fold Correction:** Recommended method for scanning books. The book binding curvature will be compensated and flattened out. The focus will be set depending on the form of the book and its curvature.
- V-Mode:** To be used when the book cradle is opened in the “V” position. The focus will be dynamically set dependent on the “V” position of the book cradle.

B.2.2 Resolution

The **Resolution** setting allows selecting a resolution from a list of resolution values supported by the Bookeye 4 scanner.



Picture 9: List of Resolutions

The list can be opened by pressing the blue arrow symbol beside the currently selected value. Select a new resolution by touching the preferred value.

B.2.3 Format

The **Format** button allows you to select the scan area size.

Depending on the **Document Mode** selected, the available formats will vary.

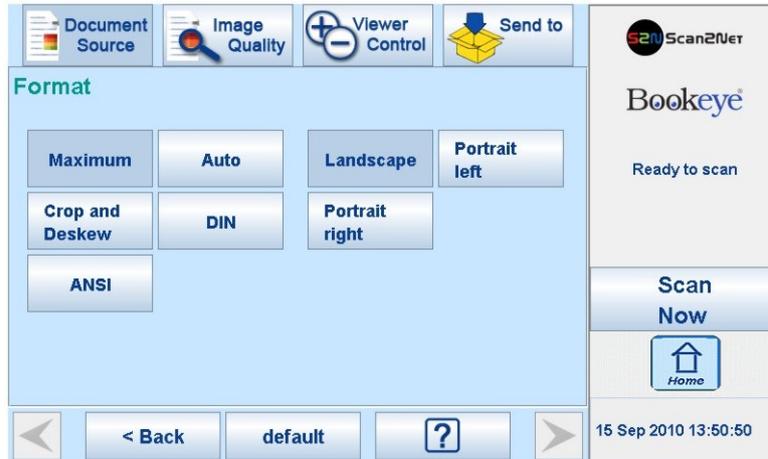
The bottom line of the button **Format** shows the current format setting.



Picture 10: Selectors for Format settings

The following subchapters describe the available combinations of document mode and format.

B.2.3.1 Flat Mode Formats



Picture 11: Flat Mode Formats

- Maximum:** Selects the maximum scan area for the scan and displays it in the image.
- Auto:** The complete scan area will be scanned but in the image, the black border will be removed. The resulting image shows only the document with the smallest possible margin.
- Crop and Deskew:** If a document is not placed perfectly aligned horizontally and vertically, this function will correct the alignment.

DIN: When selecting DIN, an additional small window opens. It shows the available DIN paper sizes.

Landscape, Portrait left or Portrait right defines the orientation of the scan area.



Picture 12: DIN formats

ANSI: When selecting ANSI, an additional small window opens. It shows the available ANSI paper sizes.

Landscape, Portrait left or Portrait right defines the orientation of the scan area.



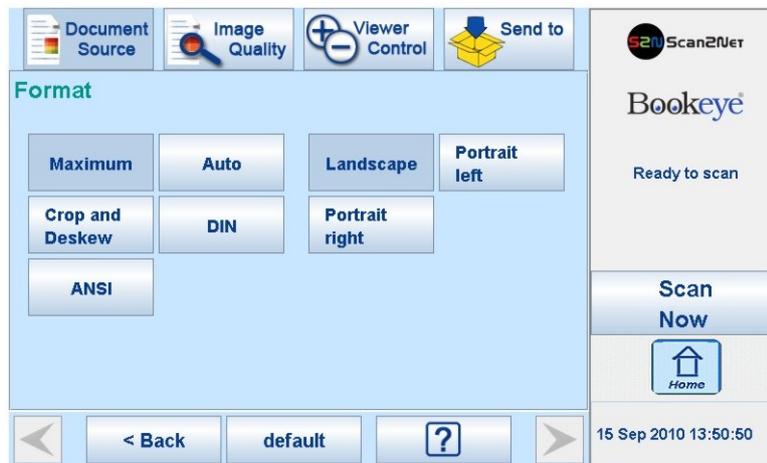
Picture 13: ANSI formats



Press this button to return from a submenu to the main menu.

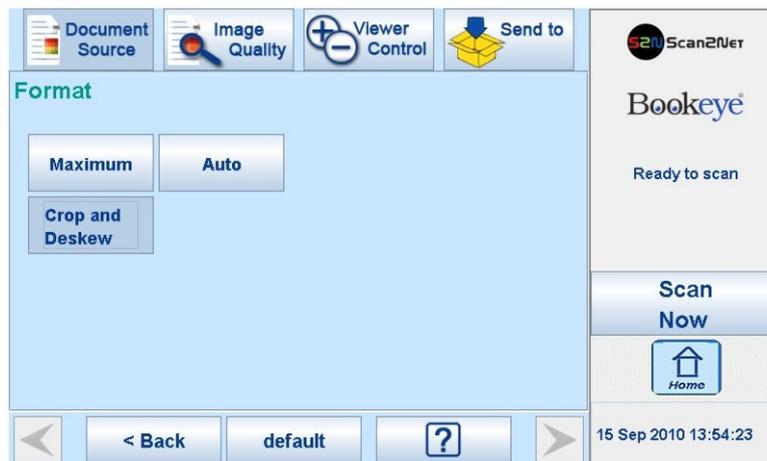
B.2.3.2 Book Fold Correction Formats

The formats available are similar to the formats available in **Flat Mode**.



Picture 14: Book Fold Correction Formats

B.2.3.3 V-Mode Formats



Picture 15: V-Mode Formats

Three formats are available in V-Mode.

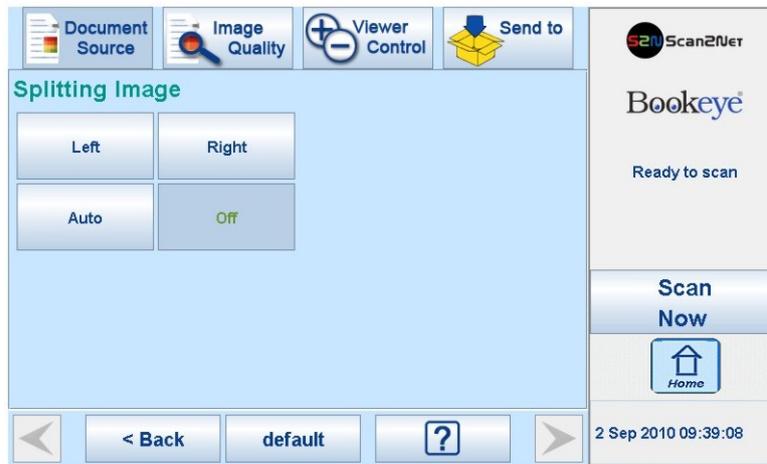
Maximum: Selects the maximum scan area for the scan and displays it in the image.

Auto: The complete scan area will be scanned but in the image, the black border will be removed. The resulting image shows only the document with the smallest possible margin.

Crop and Deskew: If a document is not placed perfectly aligned horizontally and vertically, this function will correct the alignment.

B.2.4 Splitting Image

The button **Splitting Image** is used to select splitting the document scanned for the output images.



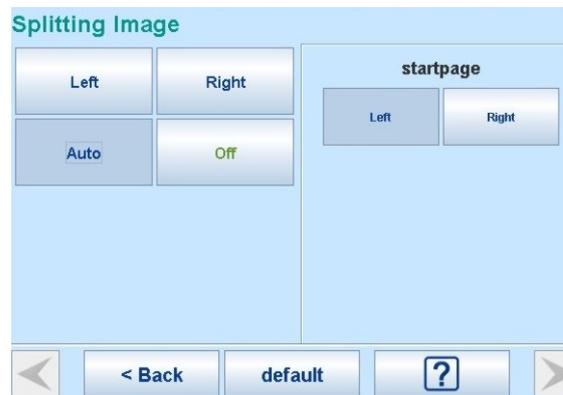
Picture 16: Splitting Image

Left: The complete document will be scanned. Only the left half of the document will be displayed.

Right: The complete document will be scanned. Only the right half of the document will be displayed.

Auto: The complete document will be scanned. The image will be divided into two symmetrical parts. Both parts will be displayed successively as separate images.

If selecting **Auto**, an additional selector opens. Here the page that will be displayed first can be selected as a start page.



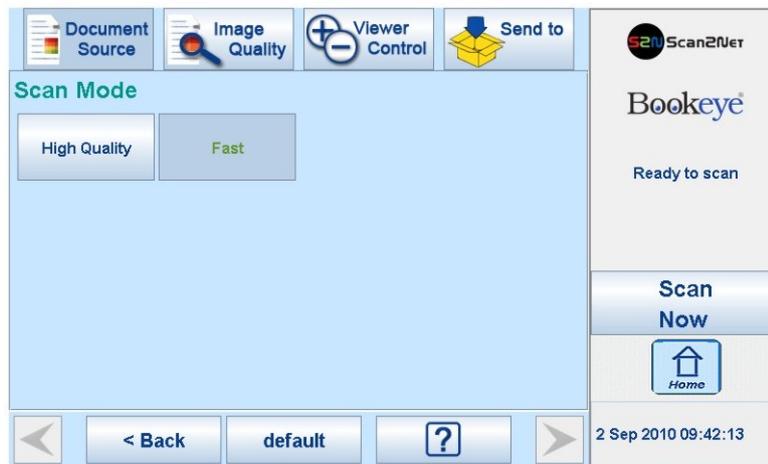
Picture 17: Start page selector



Press this button to return from a submenu to the main menu.

B.2.5 Scan Mode

The **Scan Mode** screen allows the user to select from two possible scan modes.



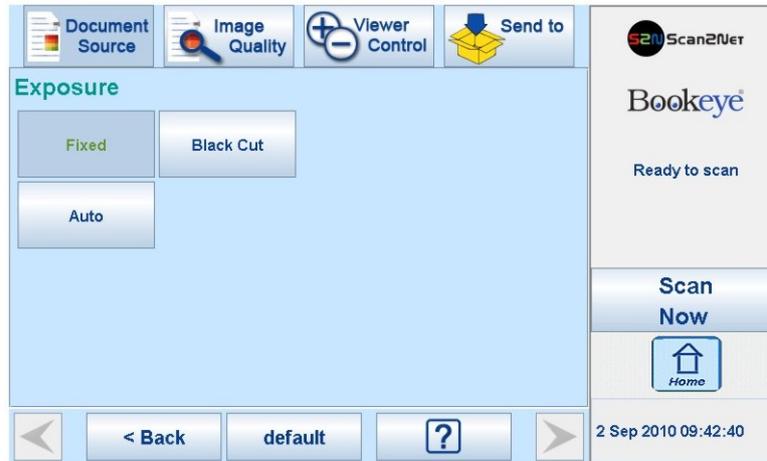
Picture 18: Available Scan Modes

High Quality scans with reduced scanning speed but improved scanning quality.

Fast scans with normal speed, depending on the selected scan resolution.

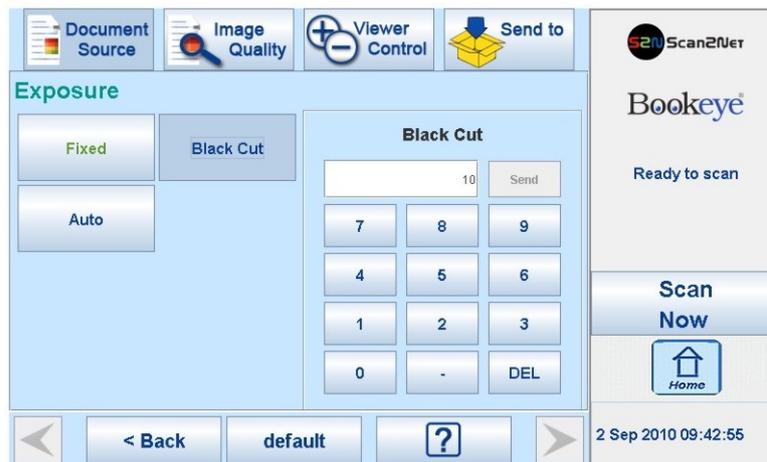
B.2.6 Exposure

The **Exposure** screen allows selecting the functions **Black Cut** and **Auto**.



Picture 19: Exposure Modes

When **Black Cut** or **Auto** is selected a numeric key pad opens.



Picture 20: Numeric key pad to set threshold value

Black Cut Sets the threshold for **black**. All pixel values found in the image below the selected value are set to solid black.

0 (zero) to 100

Result: The image contrast is improved.

Auto

0 (zero) to 100

Sets the threshold for **black** and activates the **automatic exposure control**.

This function analyzes the image and detects the brightest and the darkest area. The detected brightness range is expanded to the maximum range of the scanner. Otherwise all values below the threshold are defined as "black".

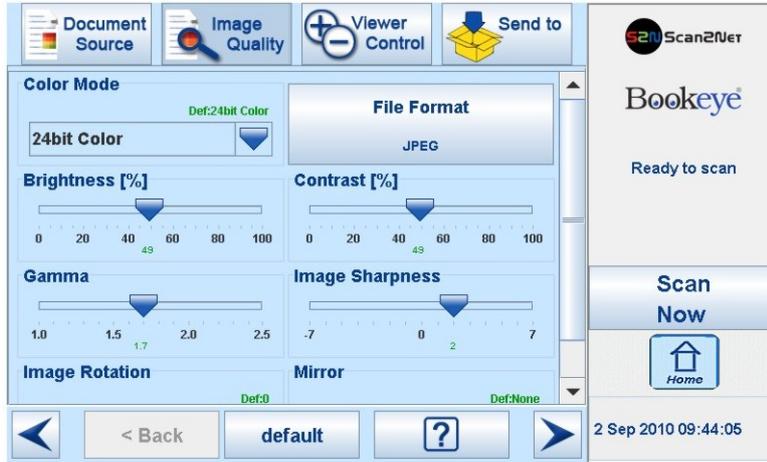
Result: Automatic contrast control and the image contrast is improved.

To set a new value, touch in the line of the displayed value and erase the value with the **DEL** button.

Enter the new value with the key pad and touch **Send** to send the new value.

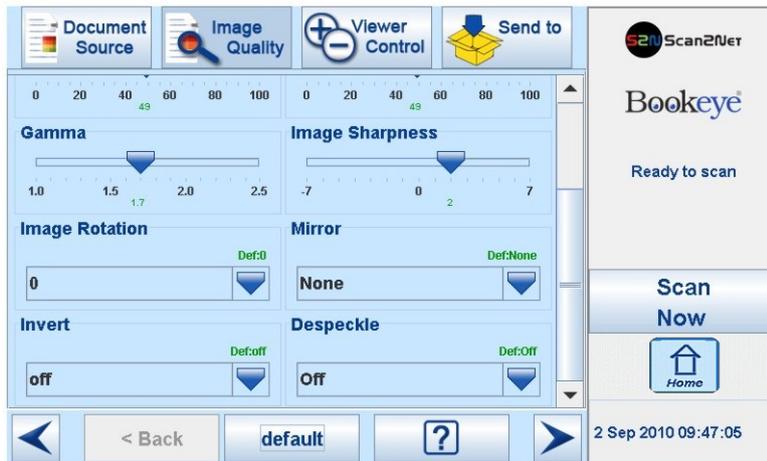
B.3 Touch Panel – Image Quality

The **Image Quality** screen allows setting a wide range of image quality parameters.



Picture 21: Image Quality 1

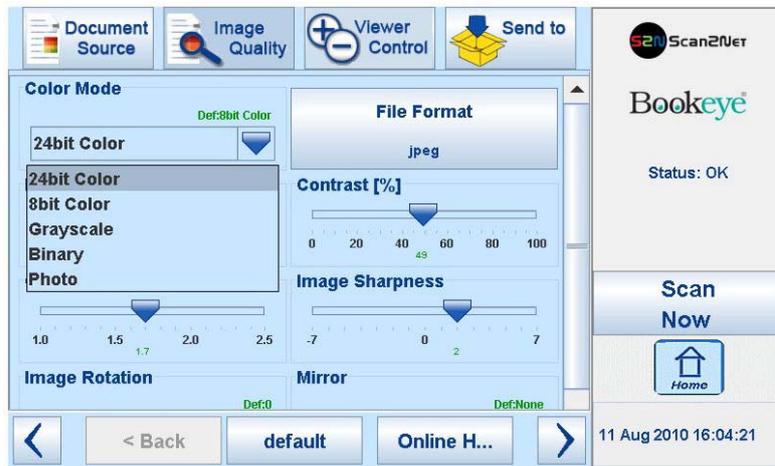
In color mode **Binary**, the menu items will be extended with **Invert** and **Despeckle**.



Picture 22: Image Quality 2

B.3.1 Color Mode

Pressing the selection arrow of the **Color Mode** section opens the list of available color modes.



Picture 23: List of Color Modes

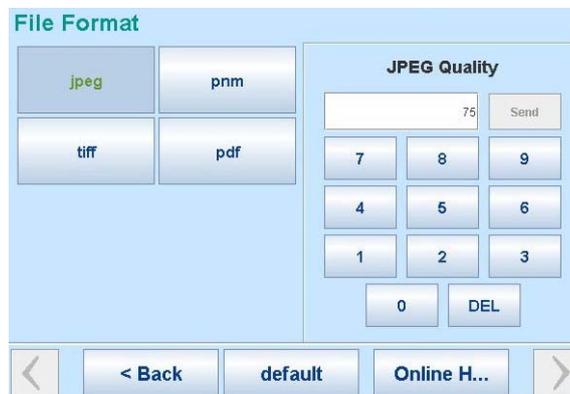
Pressing the title of the desired color mode selects the mode and closes the list.

Picture 23 shows the available color modes.

B.3.2 File Format

Press the **File Format** button to select a file format for the images.

B.3.2.1 JPEG



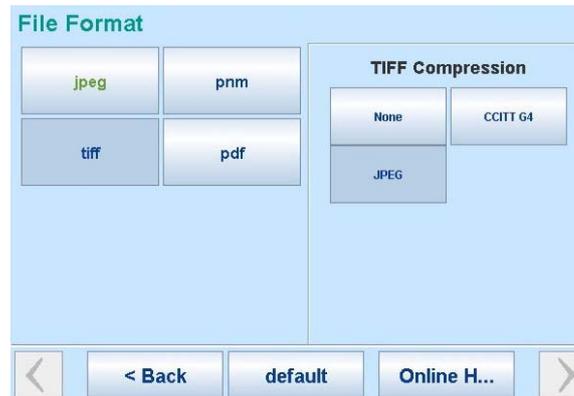
Picture 24: Submenu File Format “jpeg”

Depending on the file format selected, some additional parameters will be displayed.

With the **jpeg** file format, a value for the image quality can be entered by the numeric key pad.

This value determines the compromise between quality and compression rate. A higher quality factor produces larger files. The default setting of 75 is a good compromise for most documents.

B.3.2.2 TIFF



Picture 25: Submenu File Format TIFF

With the **TIFF** file format, the compression method of the file can be selected with the **TIFF Compression** buttons.

B.3.2.3 PNM

With the **PNM** file format, no additional parameters are available.

B.3.2.4 PDF

With the **PDF** file format, the same compression methods are available as with the **TIFF** format (see picture above).



Press this button to return from a submenu to the main menu.

B.3.3 Brightness



Picture 26: Brightness slider

The **Brightness slider** defines the resulting brightness in the image. Lower brightness values result in darker images, higher values result in brighter images.

Values close to 0% or to 100% may result in unwanted artifacts.

Move the slider indicator to the desired position to set the value.

B.3.4 Contrast



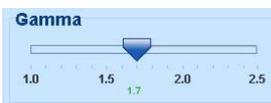
Picture 27: Contrast slider

The **Contrast** slider defines the contrast in the image. Lower contrast values result in “smoother” images, higher values show more details and the images become “crisper”.

Values close to 0% or to 100% may result in unwanted artifacts.

Move the slider indicator to the desired position to set the value.

B.3.5 Gamma



Picture 28: Gamma slider

The **Gamma** slider defines the gamma correction directly inside the camera electronics. A value of 1.7 is a good approximation for most documents.

Higher gamma values show more details in dark areas and compress bright areas of the image.

Move the slider indicator to the desired position to set the value.

B.3.6 Image Sharpness



Picture 29: Image Sharpness

The **Image Sharpness** slider invokes an advanced automatic sharpening algorithm which sharpens the image before any other operation is performed.

The value “zero” disables the function. Very high values may produce artifacts depending on the type of document.

Move the slider indicator to the desired position to set the value.

B.3.7 Image Rotation



Picture 30: Image Rotation

The value selected from the list defines the rotation of the image in a clockwise direction. The image will be rotated directly after scanning and before display

B.3.8 Mirror

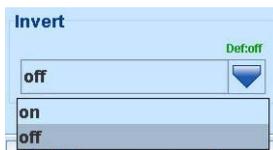


Picture 31: Mirror

This control mirrors the image along the selected mirror axis.

Using this setting can be helpful if scanning transparencies from the back.

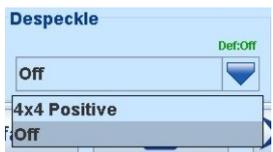
B.3.9 Invert



Picture 32: Invert

This control is only available with the color modes **Binary** and **Photo**.

B.3.10 Despeckle



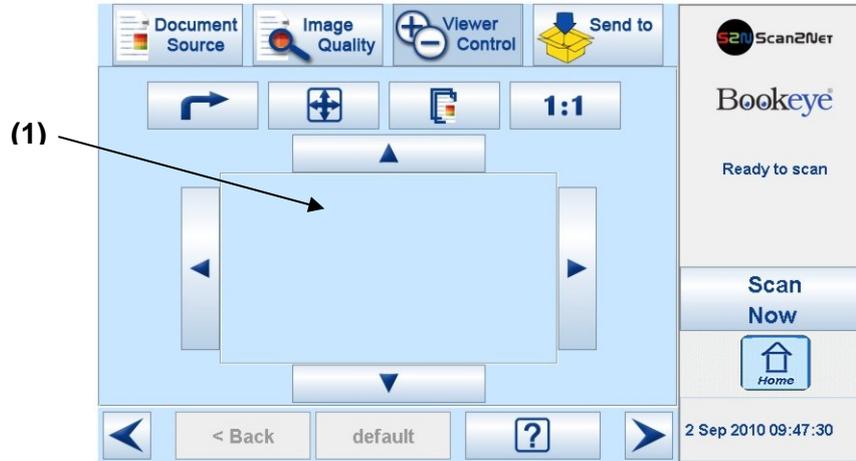
Picture 33: Despeckle

(Only available in **Binary** color mode)

Available modes are **4x4p** and **Off**.

B.4 Touch Panel – Viewer Control

The **Viewer Control** screen allows the operator to control and modify the image on the TFT flat screen.



Picture 34: Viewer Control screen

The rectangle (1) represents for the TFT flat screen.

If the displayed image overlaps the dimension of the TFT flat screen, it can be moved by touching the arrow buttons on the upper and lower, left and right margin of the rectangle.



Rotates the image on the TFT flat screen in clockwise direction. Every touch on the button rotates the image by an angle of 90 degrees.



Adapts the complete image, matching the size of the TFT flat screen.



Scales the image on the screen to the real size of the source document. The result depends on the scaling factor of the graphic interface.



Displays the image on the screen with its genuine dimensions (100%), depending on the resolution selected for scanning.

B.5 Touch Panel – Send to

After the scanner has started, this screen is displayed on the touch panel by default. It allows the operator to select the output option for the scanned images.



Picture 35: "Send to" screen

B.5.1 USB Options

Two USB sticks can be connected to the Bookeye 4 scanner at the connectors on the front.

After touching **USB Options**, the content of the USB stick will be displayed. While the directory of the stick is displayed, the LED indicator of the respective connector is continuously illuminated.

Touch **Ok** or **Cancel** to stop displaying the directory of the USB stick.

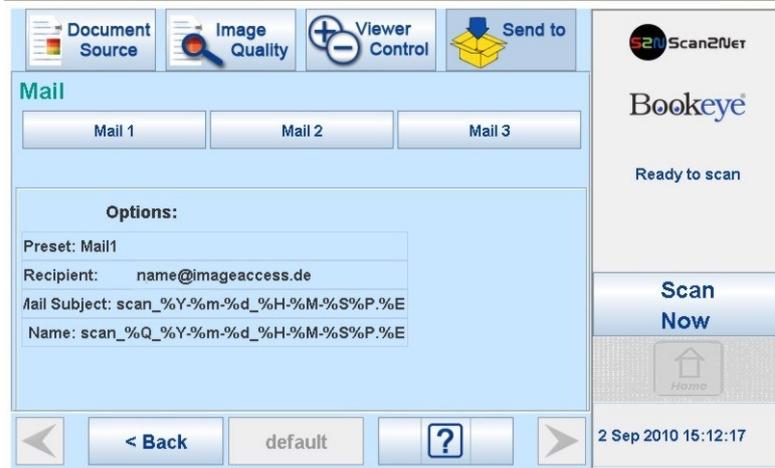
When data is transferred between the USB stick and the scanner the LED indicator blinks.

Note: When the blue indicator LED stops blinking, data transfer may still be in progress. Before unplugging the USB stick, wait a few seconds to avoid loss of data.

B.5.2 Mail Options

Touch **Mail Options** to switch to the screen showing the preset email configurations.

Three preset configurations can be stored and activated with the buttons **Mail 1** to **Mail 3**.



Picture 36: Parameters of Mail Options

To change an entry, touch the respective line.

The screen changes to an alphanumeric keyboard.



Picture 37: Alphanumeric keyboard

- 1: Use the arrow keys to position the cursor in the line.
- 2: Use this key to delete characters.
- 3: Use this button to switch from alphanumeric keyboard to numeric keyboard.

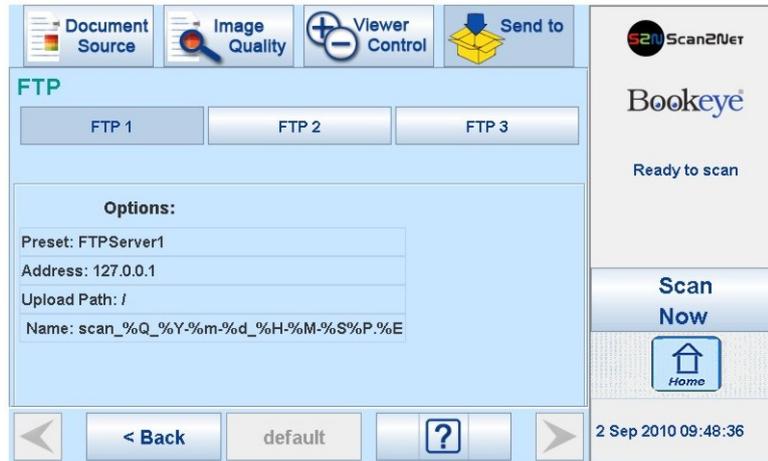
Touch the **Ok** button to confirm the new entry.

Touch the **Cancel** button to discard the new or changed value.

B.5.3 FTP Options

Touch **FTP Options** to switch to the screen with the preset FTP server configurations.

Three preset FTP servers can be stored and activated with the buttons **FTP 1** to **FTP 3**.



Picture 38: Parameters of FTP Options

From the touch panel, only the entry for **Name** can be changed.

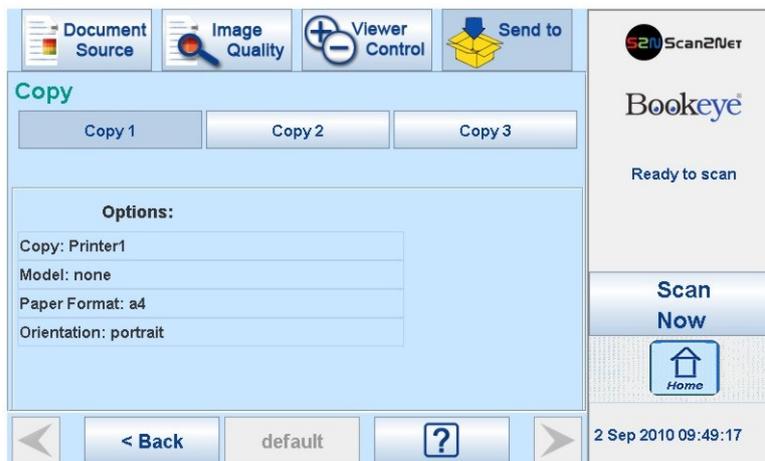
All other parameters must be changed from the Scan2Net user interface.

For detailed information about changing the parameters see chapter C.3.5.

B.5.4 Copy Options

Touch **Copy Options** to switch to the screen with the preset copy option configurations.

Three preset options can be stored and activated with the buttons **Copy1** to **Copy3**.



Picture 39: Parameters of Copy Options

Currently, the parameters can only be changed from the Scan2Net user interface.

For detailed information about changing the parameters see chapter C.3.5.

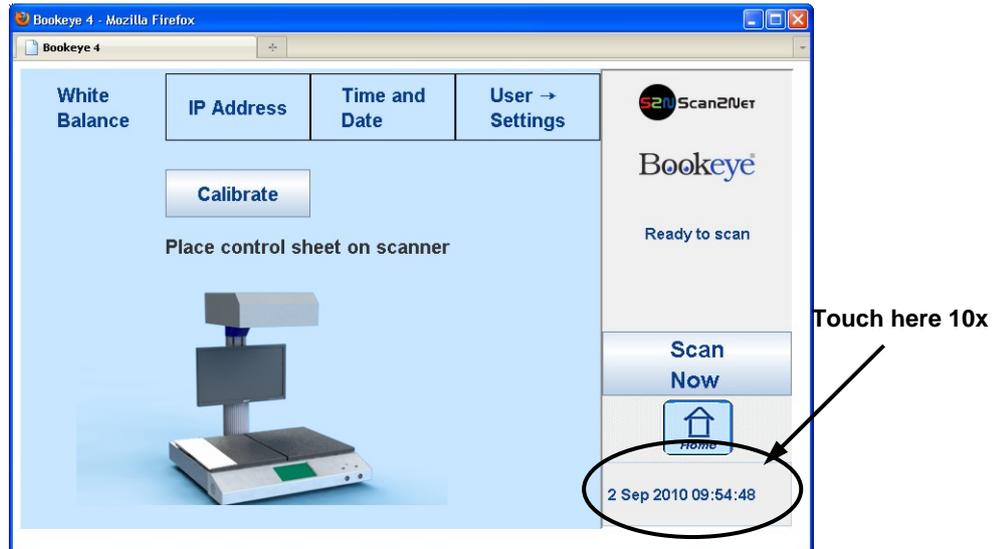
B.6 Setup and Adjustments

The Bookeye 4 allows some adjustments to be made directly via the touch screen, e.g. auto focus setting and White Balance calibration.

Furthermore, the IP address can be configured and other user settings can be defined.

To enter the setup menu, touch the touch panel at the date and time section ten times successively.

The screen will change and show the first screen of the setup menus.



Picture 40: Setup menu start screen

B.6.1 White Balance

The first menu item of the setup menus is the White Balance screen.

Whenever it is necessary to perform a White Balance calibration, the touch panel shows how to position the reference target and the book cradles for optimal calibration.

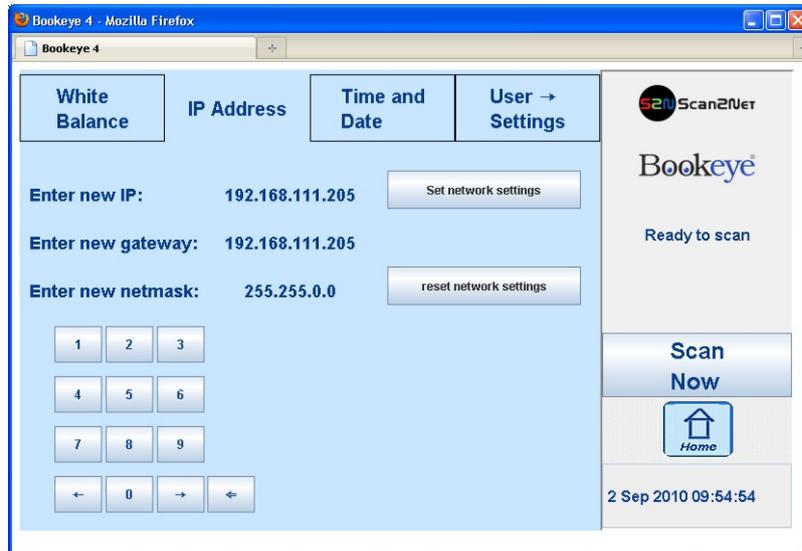
For the White Balance calibration, close the book cradles and place the reference target as shown.

Touch the **Calibrate** button.

The calibration sequence will be executed. It takes approximately 40 seconds.

At the end of the calibration sequence, the results will be displayed on the touch panel.

B.6.2 IP Address



Picture 41: IP Address mask

To change or define the numeric values, touch the number in the respective line of IP address, gateway or netmask.

Touch the line at the desired position to move the “cursor”.

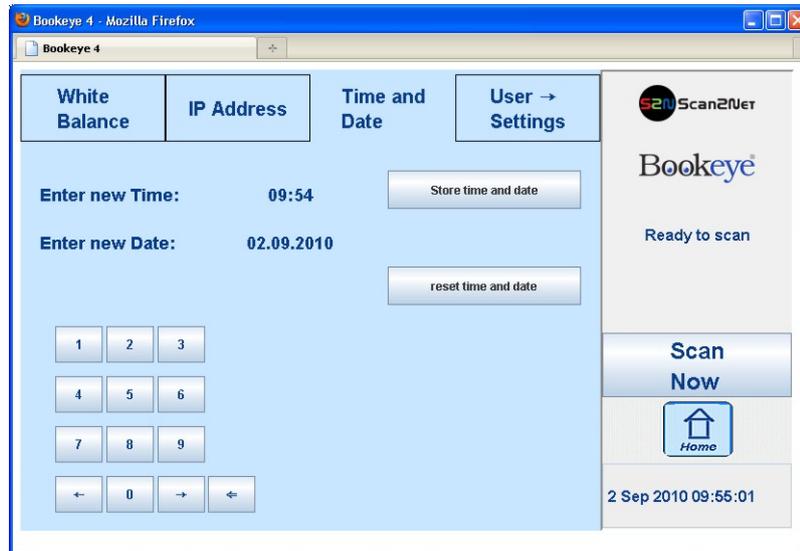
To delete a digit, place the cursor at the right side of the digit and press the “<=” button. It will always be deleted from right to left.

Use the numeric keypad in order to enter digits.

Set network settings saves the new or modified values when pressed.

Reset network settings sets all network parameters to default value when pressed.

B.6.3 Time and Date



Picture 42: Time and date

To change time or date value, touch the value in the respective line.

Touch the line at the desired position to move the “cursor”.

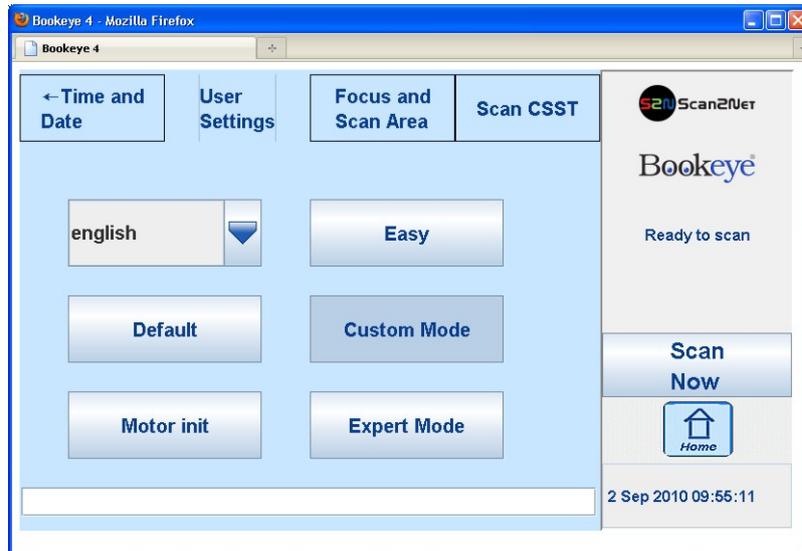
To delete a digit, place the cursor at the right side of the digit and press the “<=” button. It will always be deleted from right to left.

Use the numeric keypad in order to enter digits.

Store time and date saves the modified values when pressed.

Reset time and date sets the values to default values when pressed.

B.6.4 User Settings



Picture 43: User Settings menu

The User Settings menu allows defining the touch panel menu parameters.

Language selector: The touch panel menu language can be selected by touching the selection arrow. A list opens, showing the available languages. Touching the name of the desired language completes the selection.

Please note: The language of the setup menu always remains in English.

Default: Sets all settings of the scanner to default values.

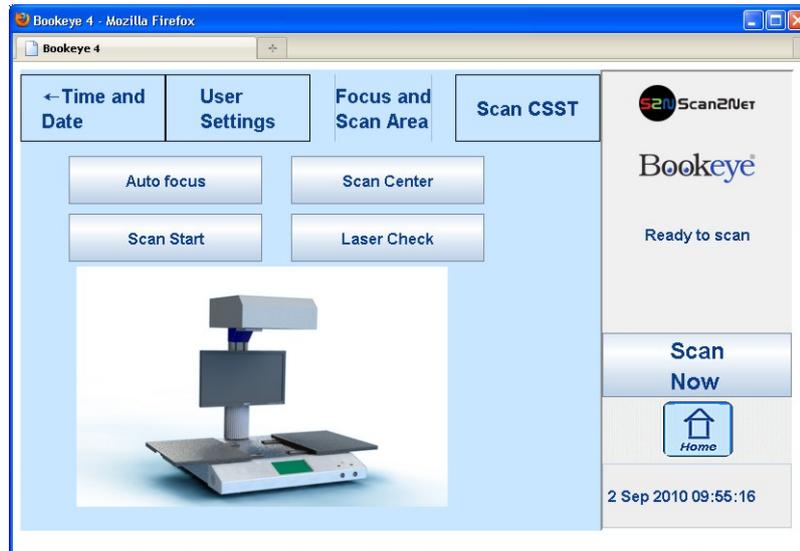
Motor init: Only to be used by trained technicians for service purposes.

Easy: Reduces the available menu items in the touch panel to the minimum required functions.

Custom Mode: Allows definition of the available menu items through a special technician's application.

Expert Mode: Shows all available menu items in the touch panel menus.

B.6.5 Focus and Scan Area



Picture 44: Focus and Scan Area menu

The Focus and Scan Area menu contains four buttons for measurement purposes.

When touching one of the four buttons, the picture on the touch panel changes. It shows – depending on the function selected – how the book cradles and the reference target must be positioned.

Auto focus: The book cradles must be opened to make the center foil on the device body visible.

Touching the **Next** button starts the measurement. The lamps light up and measurement will take approximately 20 seconds. Finally, the touch panel displays the results.

Scan Start: The book cradles must be opened to make the center foil on the device body visible.

Touching the **Next** button starts the measurement. The lamps light up and measurement will take approximately 20 seconds. Finally, the touch panel displays the results.

Scan Center: The book cradles must be closed and free of any documents.

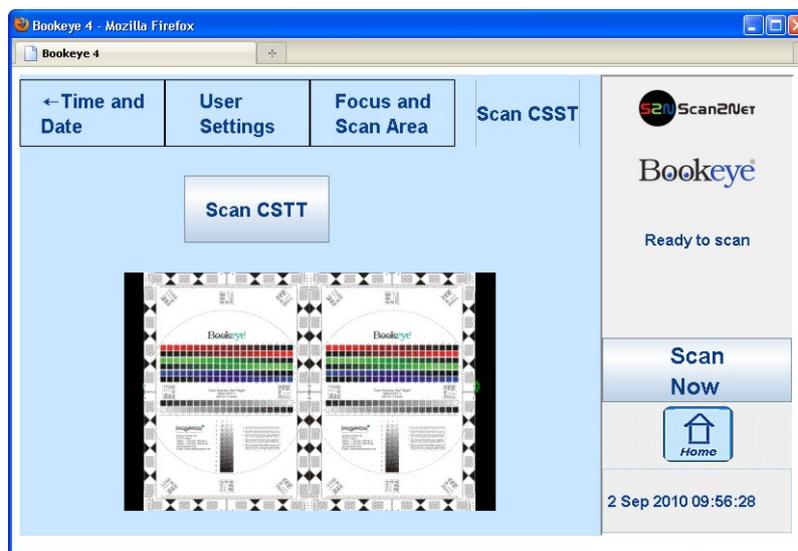
Touching the **Next** button starts the measurement. The lamps light up and measurement will take approximately 20 seconds. Finally, the touch panel displays the results.

Laser Check: The book cradles must be closed. The White Reference target must be placed on the book cradles as shown in the picture.

Touching the **Next** button starts the measurement. The laser will be switched off and on during the measurement. Finally, the touch panel displays the results.

Touching **Back** returns to the Focus and Scan Area menu.

B.6.6 Scan CSST



Picture 45: Scan CSST screen

The picture on the touch panel changes and shows how the CSST test targets must be placed on the book cradles.

Touching the **Scan CSST** button starts the measurement. The test targets will be scanned.

Please note: This function has not been finalized yet. Additional information will follow.

C Software Operation

Essentially, the scanner is a web server and comes with its own HTML based user interface. To access a Scan2Net scanner, any standard web browser can be used.

A basic requirement before working with the integrated user interface is to configure the browser as follows:

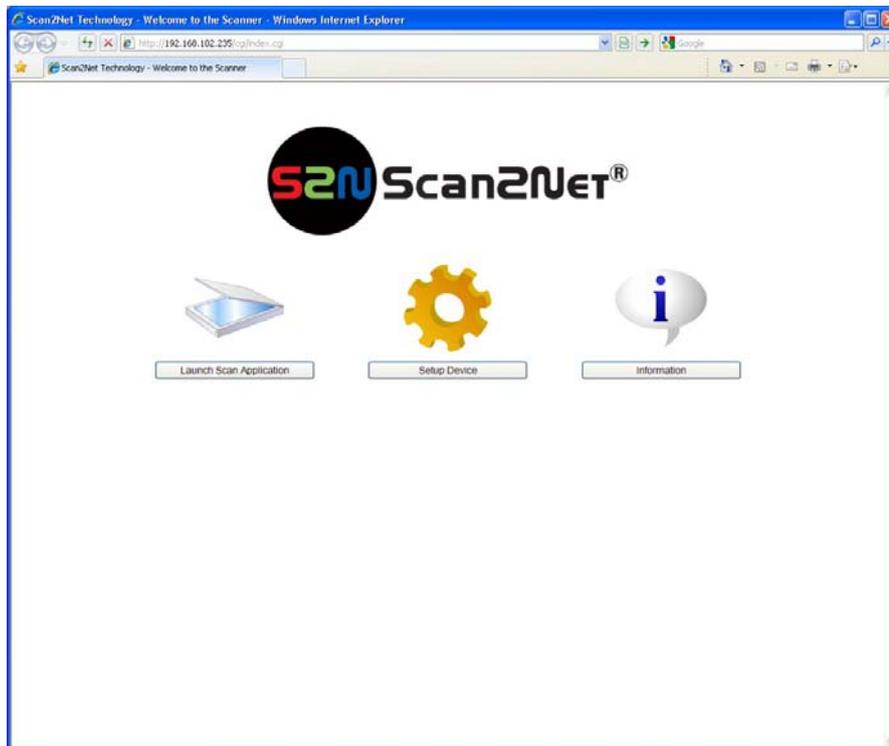
- Force the browser to reload the page content every time directly from the scanner and not to load from the cache memory.
- Enter the scanner's IP address in the exception list.

C.1 The Integrated User Interface

Start your browser.

Enter the IP address of the scanner. The default IP address of the scanner: **192.168.1.50**

The following start screen of the integrated user interface will be displayed.



Picture 46: User interface start screen

Launch Scan Application switches to the main screen. Detailed information will be found starting in chapter C.2.

Information gives a short summary of the device parameters. Information will be found in chapter C.4.

C.2 The Main Screen

After launching the scan application, the main screen of the integrated user interface will open. The main screen is structured in three parts. Switching between the sections is done with a mouse click.



Picture 47: Main screen

1: The menu bar of the large frame on the upper right part has five menu items:

- Options
- Properties
- Camera
- Settings
- Format

Click at a menu item to select and set parameters of the scanner.

2: The control buttons in the lower part of the screen control the output modes.

When selecting **Save** the scanned image will not be displayed. Instead of the displayed image, a box opens in which the desired directory can be set.

By default, the output mode **Show** is selected. After clicking the button **Preview** or the button **Scan Now**, a window opens and shows the image.

Selecting **Multipage** allows the operator to create a multipage image. The scan result will not be displayed. Clicking on **Finalize** opens an additional window and shows the images.

Selecting **Print** will display the scanned image in a second window and direct the scanned image to locally available printers.

Selecting **Copy** prints directly to a previously installed network printer.

Selecting **FTP** scans directly to a FTP server.

Selecting **Mail** sends the scanned image directly to a previously defined e-mail address.

Selecting **Network** uploads the scanned image directly to a previously defined workstation in the network.

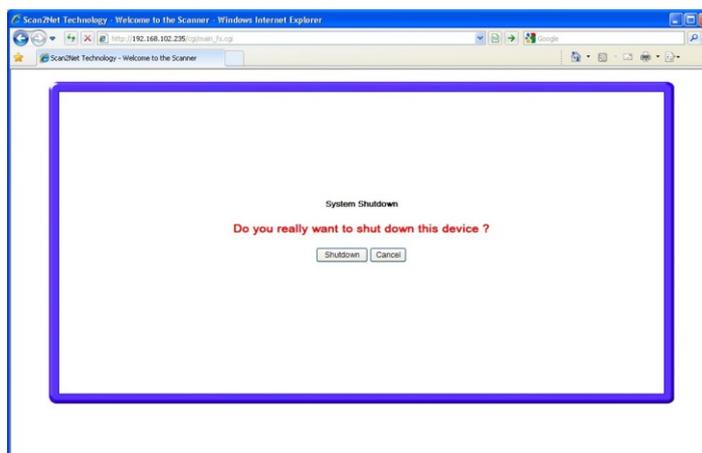
Selecting **USB** stores the scanned image on a USB stick. USB sticks can be connected to the scanner at the two connectors at the front side.

3: The frame on the left side shows the buttons for preview scan (**Preview**) and main scan (**Scan Now**).



Pressing this button switches the scanner off.

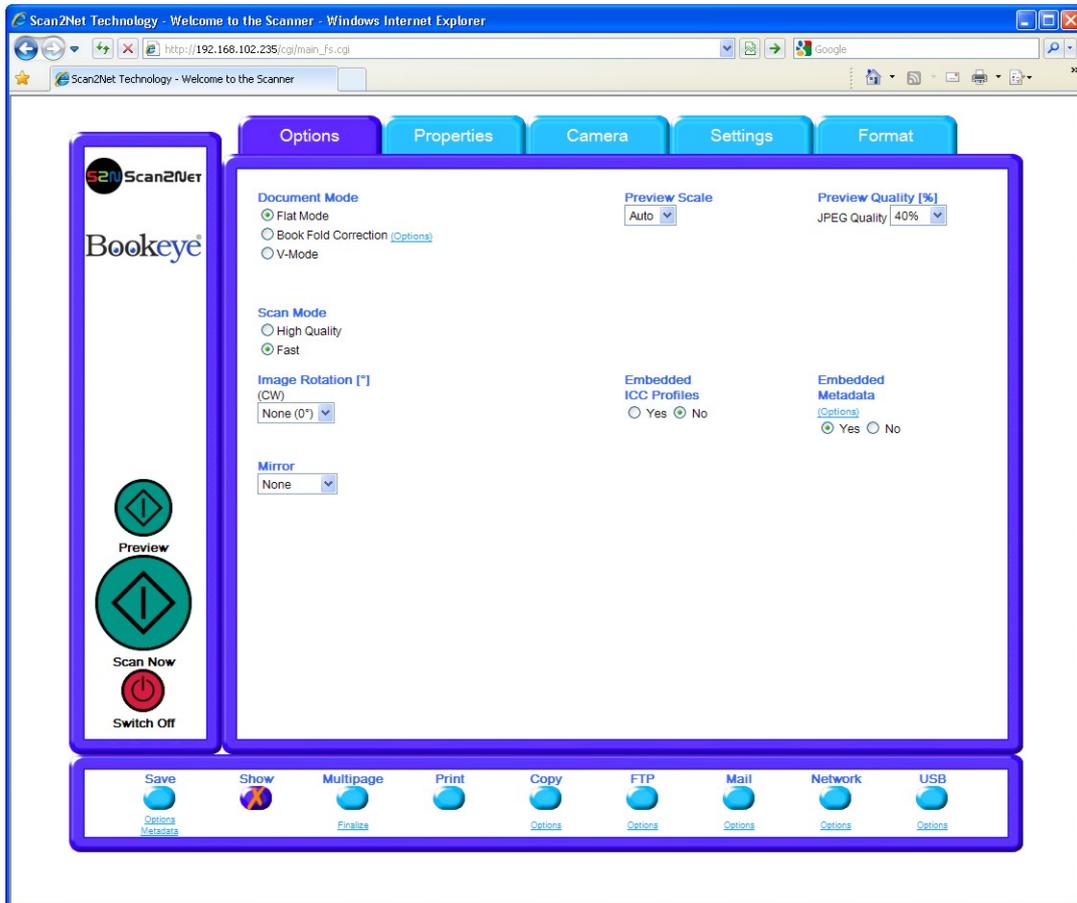
If the red button is pressed, the following window will appear.



Picture 48: Shutdown confirmation

Click on the button **Shutdown** and the scanner switches off.

C.2.1 The Options Screen



Picture 49: **Options** screen

Document Mode

The **Document Mode** allows the user to select between different types of documents:

In **Flat Mode**, the document is treated as flat, i.e. with a fixed focus setting, regardless of the actual shape of the document. This mode avoids out of focus problems when scanning three dimensional objects that cannot be described as folders or books.

In the **Book Fold Correction** mode, the focus follows the surface of a book while the document is scanned. All geometric distortions are compensated. It is essential that the book be aligned straight to the laser line for optimal results. More details on the book fold correction can be specified in the **(Options)** dialog (see chapter C.2.1.1).

The **V-Mode** should be used when the book cradle is opened in the “V”-position. The focus will dynamically be set based on the “V” position of the book cradle.

Scan Mode

The **Scan Mode** allows the user to select between **High Quality** with a reduced scanning speed, or **Fast** with normal scanning speed.

Image Rotation

Image Rotation can be a degree of rotation of either 90°, 180°, 270° or none. The angle is defined in the clockwise direction.

Mirror

The **Mirror** setting allows the user to select between mirroring the scanned image along the **Horizontal** axis or along the **Vertical** axis. Selecting **None** disables this function.

Preview Scale

The **Preview Scale** value sets the size of the preview image. If set to **Auto** the function will perform a best fit before the image is displayed on the screen.

Preview Quality [%]

The **Preview Quality [%]** sets the JPEG quality of the preview image.

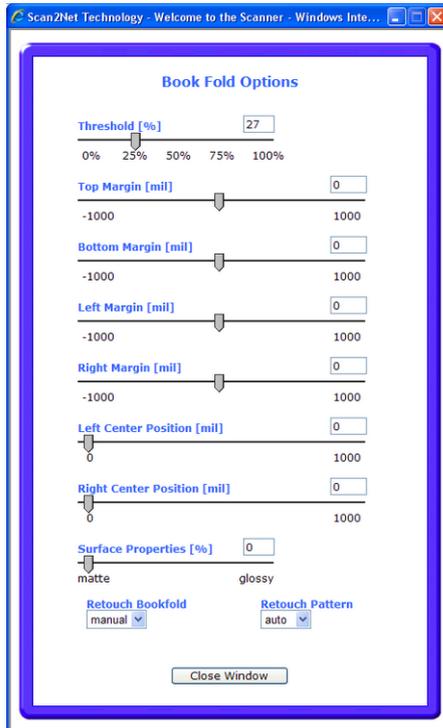
Embedded ICC

The **Embedded ICC** switch is either **Yes** or **No**.

Embedded Metadata

The **Embedded Metadata** switch is either **Yes** or **No**. More details can be specified in the **(Options)** dialog (see chapter C.2.1.2).

C.2.1.1 Book Fold Options



Picture 50: Book Fold Option screen

Clicking on **(Options)** opens an additional window for setting the book fold parameters.

It allows setting the value for the margins, the left and the right center position as well as the threshold value.

The unit of measurement is “mil”. This unit of measurement is defined as 1000 mil = 1 inch.

The **Surface Properties** slider allows the user to specify corrections for different surfaces, from matte to glossy.

The **Retouch Bookfold** switch is either **auto**, **manual** or **off**. If **auto** is selected, the width of the book fold area will be detected automatically and filled. If **manual** is selected the sliders for **Left Center Position** and **Right Center Position** define the width of the filled area.

The **Retouch Pattern** switch is either **auto**, **black** or **white**. If **auto** is selected the pattern matches with the pattern in the book fold area, otherwise it is black or white.

C.2.1.2 Embedded Meta Data

This function is used in conjunction with the file formats JPEG, TIFF or PDF.

It enables the operator to include a set of XMP/RDF compliant document metadata in the file header.

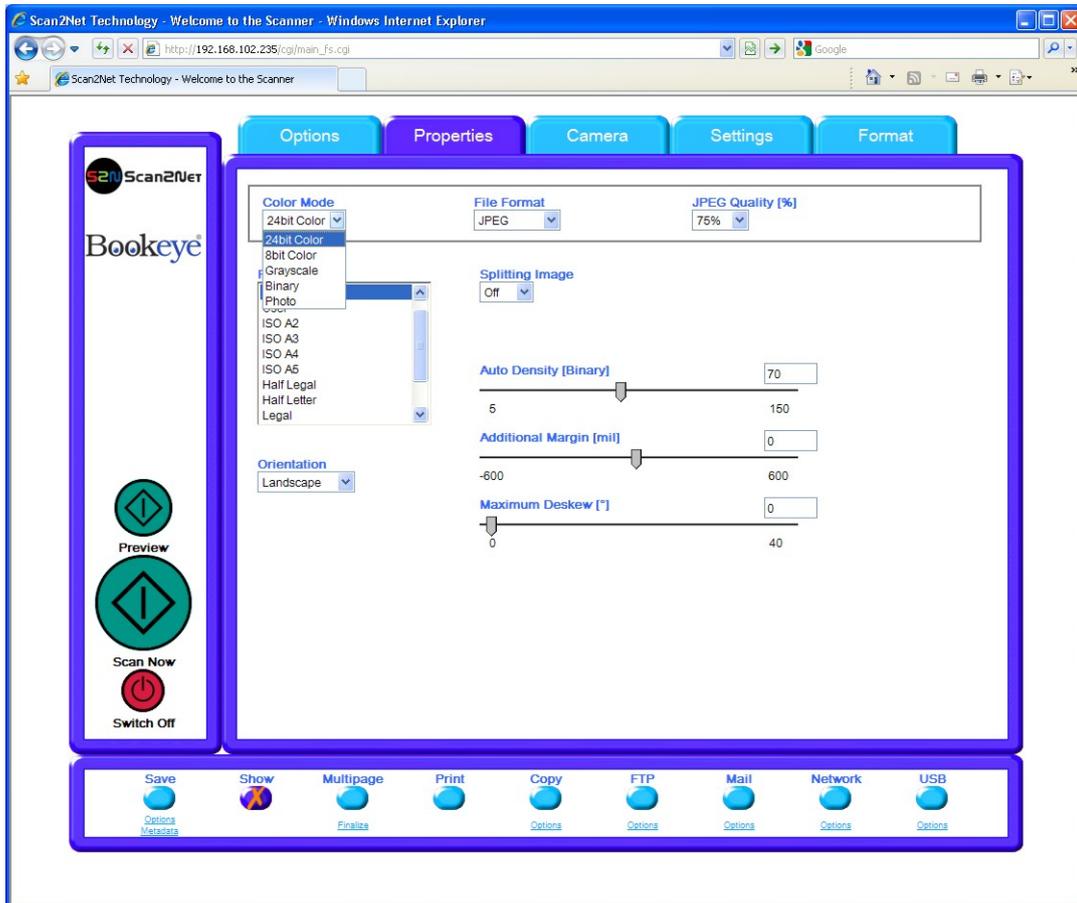
Select **Yes** or **No**. Go to **(Options)** to define a set of XMP/RDF compliant metadata. The configuration window will pop up.

Picture 51: Metadata screen

Metadata	Description
Author	The name or organization creating the document or the copyright owner of the document.
Title	A short title for the scanned document.
Subject	Abstract of the document.
Copyright Marker	Select if the scanned document is copyright protected.
Copyright Information	The copyright message can be entered here. This message will be only embedded in the scanned document if the copyright marker is set to "yes".
URL of extended Copyright Information	An external URL which shows a detailed copyright message.
Keywords (comma separated list)	A list of comma separated keywords which describe the content of the document.

Note: Each change to an entry field is transferred to the scanner immediately.

C.2.2 The Properties Screen

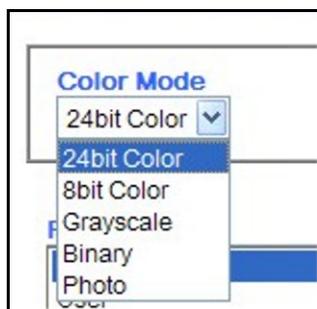


Picture 52: **Properties** screen

Color Mode

The **Color Mode** allows the user to select one of the available color modes. The color modes are:

24bit Color, 8bit Color, Grayscale, Binary or Photo.



To select a color mode first click on the selection arrow, then select a mode from the list.

File Format

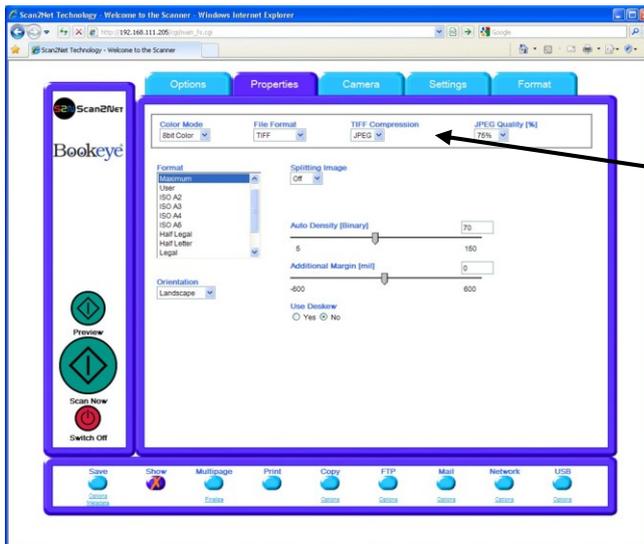
File Format defines the file format used to store a scanned document.

Note: There are some interdependencies between **Color Mode** and **File Format**. It is not possible to combine all color modes with all file formats. For example, an image scanned in “24bit Color” cannot be stored in TIFF file format with TIGG G4 compression.

Depending upon the selected file format, the control beside it can vary:

Example:

Color Mode 8bit Color, **File Format** TIFF



TIFF Compression is displayed additionally.

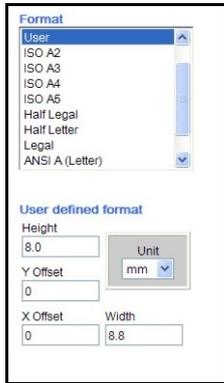
Picture 53: 8bit Color

JPEG Quality [%]

The **JPEG Quality [%]** control determines the compromise between quality and compression rate. A higher quality factor produces larger files. The default setting of 75 is a good compromise for most documents.

Format

The **Format** list offers various standard paper formats.



Picture 54: Format list

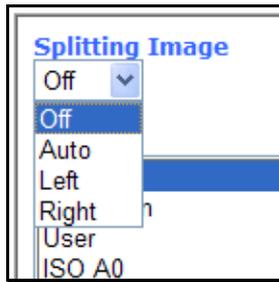
With **Auto** the scanner scans the complete document area, removes the black border around the document and crops it to its real size and displays the image.

If **Maximum** is selected, the size of the scanned area depends on the scanner specification.

If **User** is selected the **User defined format** control opens. It allows setting the values for **Height** and **Width** of the area to be scanned. It also allows defining the position of the area to be scanned. **X Offset** and **Y Offset** set the position of the scan area.

Splitting Image

The **Splitting Image** function allows the operator to split the image of the scanned document.



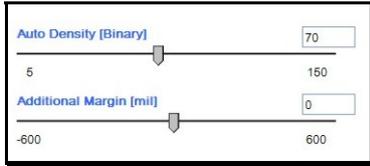
Picture 55: Splitting

Off: No page splitting.

Auto: The first image is taken from the side which is defined in the setup menu as start page. Click on **Preview** or **Scan now** again to get the other half.

Left: The image is taken from the left half of the specified area.

Right: The image is taken from the right half of the specified area.



Picture 56: Auto Density/Additional Margin

Auto Density

The **Auto Density (Binary)** parameter defines the scanner's sensitivity for the automatic format detection. Default value: 70

When scanning dark documents, the value should be reduced in small steps until the desired result is achieved.

Note: The higher the numeric value, the more contrast there must be between background and scanned document.

The default value is marked with a green triangle.

Additional Margin [mil]

An **Additional Margin [mil]** can be added to or taken away from the image.

The margin is defined in **mil** (1/1000 inch). The desired value can be entered as a numeric value or by clicking on the slider and moving it to the desired value.

When a numeric value is entered, confirm the input with the ENTER key or the TAB key on the PC keyboard.

The default value is marked with a green triangle.

Use Deskew / Maximum Deskew [°]

The **Use Deskew** control activates the automatic deskew function.



Picture 57: Set deskew angle

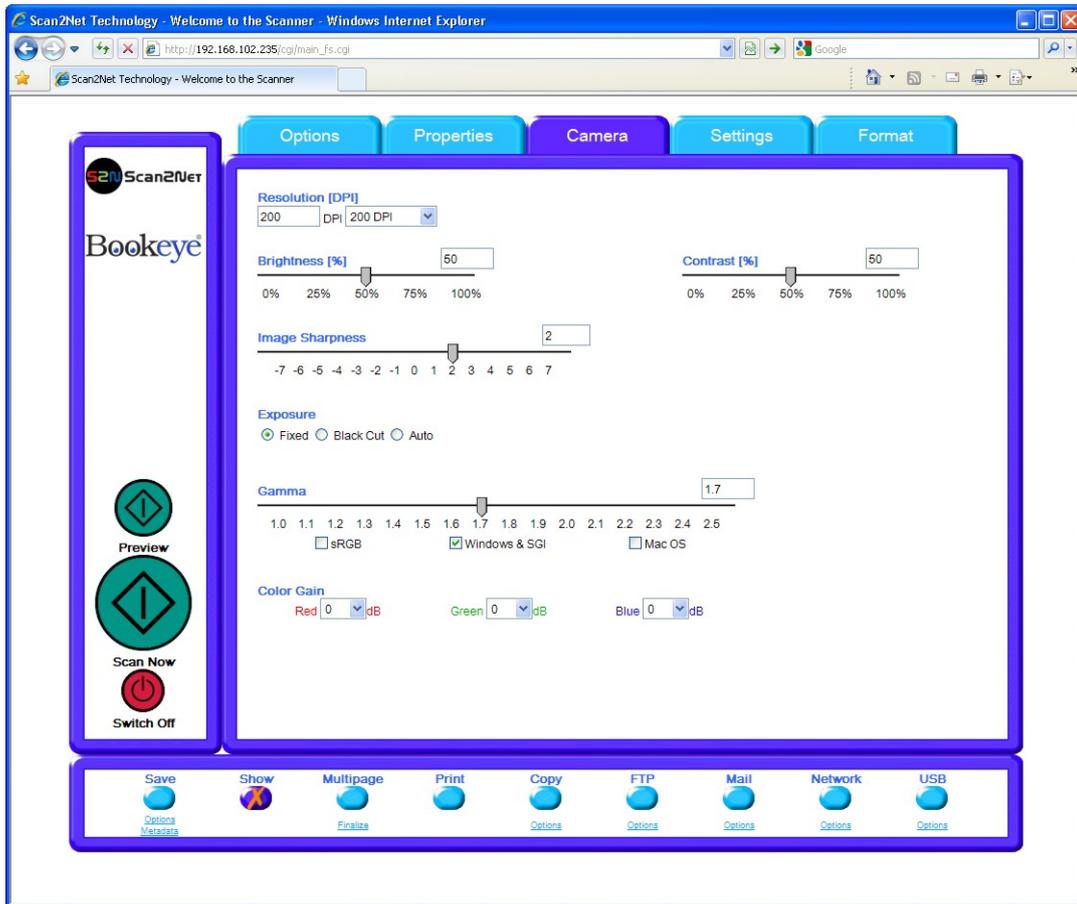
Selecting **Yes** displays a slider which allows setting the maximum corrected angle.

The desired value can be entered as a numeric value or by clicking on the slider and moving it to the desired value.

If a numeric value is entered, confirm the input with the ENTER key or the TAB key on the PC keyboard.

The default value is marked with a green triangle.

C.2.3 The Camera Screen



Picture 58: **Camera** screen

Resolution [DPI]

The resolution can be selected from a drop down list. Click the selection arrow to find the desired resolution.

The values from the drop down list can be manually overridden. Enter the desired resolution in the field left from the drop down list field. The value can be varied in steps of 1 dpi. To send the new value to the scanner, click on another menu item or press the “Tab” key or the “Enter” key on your PC keyboard.

The drop down field then shows **user defined**.

Brightness

The **Brightness** slider defines the brightness of the resulting image. Lower brightness values make the image darker.

Contrast

The **Contrast** slider defines the contrast of the resulting image. Higher contrast values show more details.

Note: Use the contrast slider carefully in the automatic threshold mode because if it is set to an extreme value, unexpected image artifacts occur.

Image Sharpness

The **Image Sharpness** slider invokes an advanced algorithm which sharpens the image according to the local content of a given area.

Exposure

The **Exposure** control sets the threshold value for the **Black Cut** function or for the **Auto** exposure function.

When **Black Cut** or **Auto** is selected an additional slider is displayed.

Fixed Function disabled.

Black Cut Sets the threshold for **black**. All pixel values found in the image below the selected value are set to black.

Value range from 0 (zero) to 100.

Result: The image contrast is improved.

Auto Sets the threshold for **black** and activates the **automatic exposure** control.

Value range from 0 (zero) to 100.

This function searches the image for the highest and the lowest pixel values. The highest pixel value is defined as “white”. If the lowest pixel value is higher than the threshold, it is defined as “black”. Otherwise all values below the threshold are defined as “black”.

Result: Automatic contrast control and the image contrast are improved.

Gamma

The **Gamma** slider performs gamma correction directly inside the camera electronics.

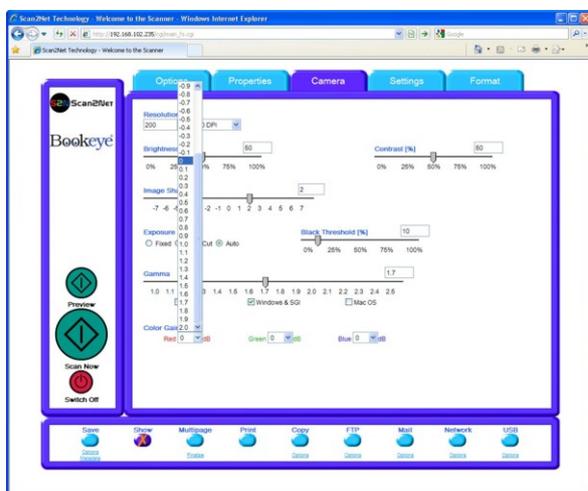


Picture 59: Gamma slider

Three typical settings (sRGB, Windows & SGI and Mac OS) are available via the check boxes directly below the slider.

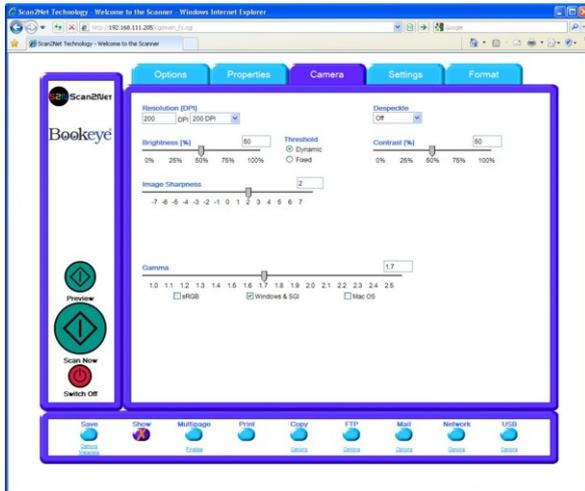
Color Gain

The **Color Gain** drop down list changes the gain on a specific channel. This function is used to eliminate any color shift or tints from the background.



Picture 60: Color gain drop down list

C.2.3.1 Threshold Dynamic / Threshold Fixed



Picture 61: Threshold method selector

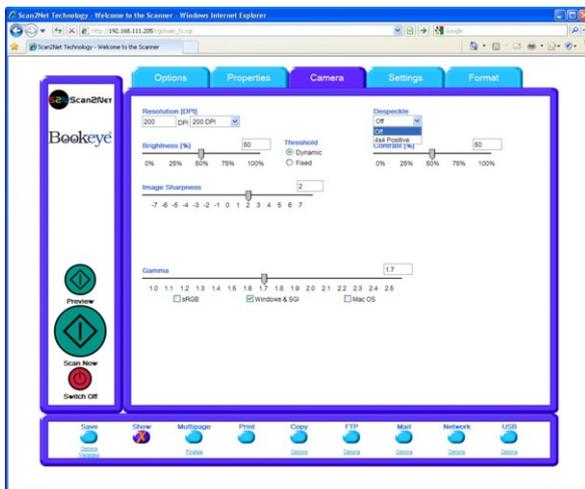
If the color mode **Binary** is selected, an additional button allows to select between **Dynamic** and **Fixed** threshold.

Dynamic The contrast level in the image varies depending on the content of the document. This can help to improve fine details in the image.

Note: In this mode, set the value of the contrast slider carefully because unexpected image artifacts can occur if it is set to the extreme values.

Fixed The contrast level is fixed to a specific value.

C.2.3.2 Despeckle

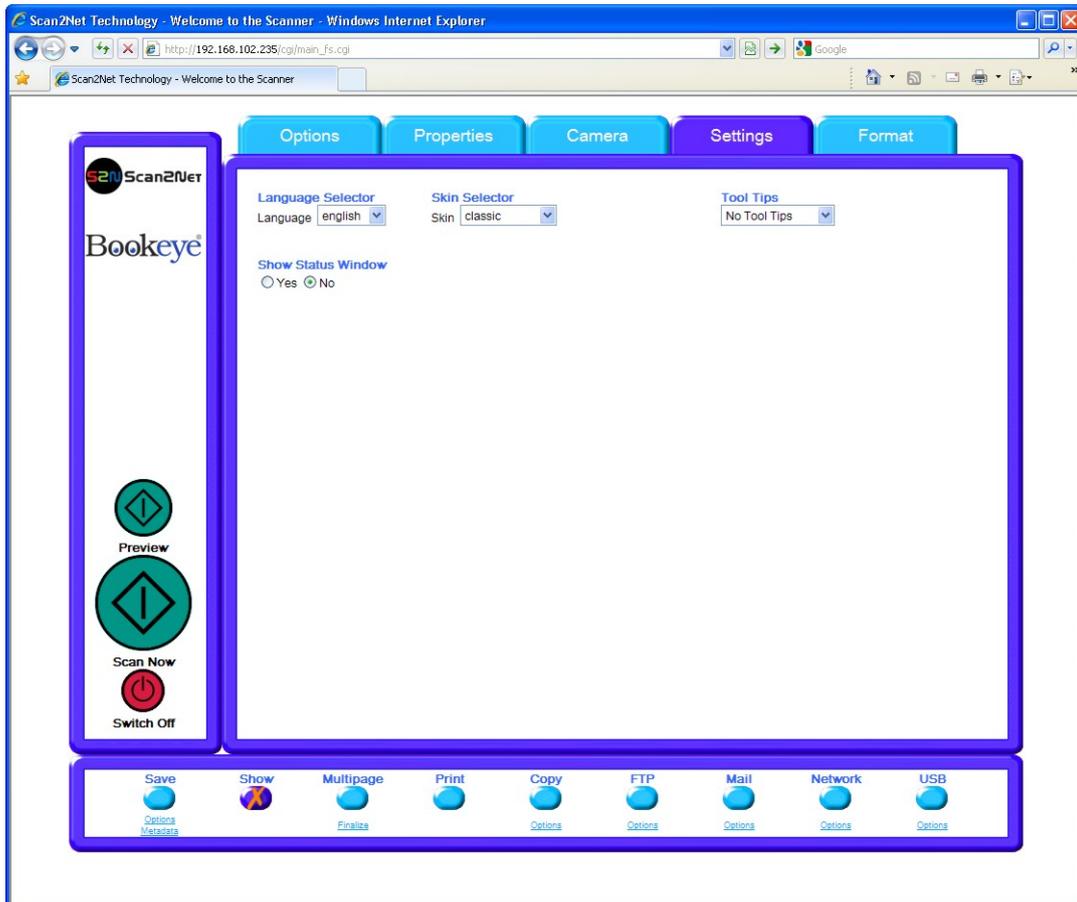


Picture 62: Despeckle function

The **Despeckle** function is only available in the color mode **Binary**.

This function removes isolated speckles in the image. Its use is recommended if old documents on crumpled paper or vellum are scanned.

C.2.4 The Settings Screen



Picture 63: **Settings** screen

Language Selector Sets the language of the user interface. Available languages are:

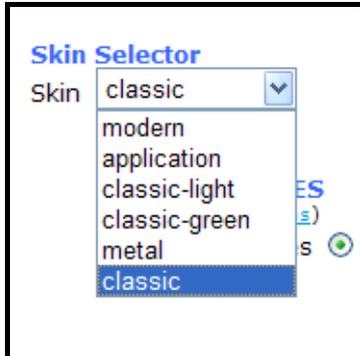
- English (**english**)
- German (**deutsch**)
- French (**français**)
- Polish (**polski**)
- Russian (Cyrillic script).
- Chinese (Chinese symbols)

Note: After selecting the language the user interface changes immediately to the selected language.

Note: If **Russian** or **Chinese** is selected, all text is displayed in the corresponding script or symbols.

Skin Selector

This selector allows the operator to choose between different graphic presentations (skins) for the user interface. The skins differ in colors, in the graphic elements used for the buttons and in the controls.



The cutout on the left shows the currently available skins. Additional skins can be designed and integrated by the user.

Picture 64: Available skins

Tool Tips

If activated, the user will be informed with a brief text message about the available functions in each screen. With the drop down list, the delay time can be defined.

No Tool Tips switches this function off.

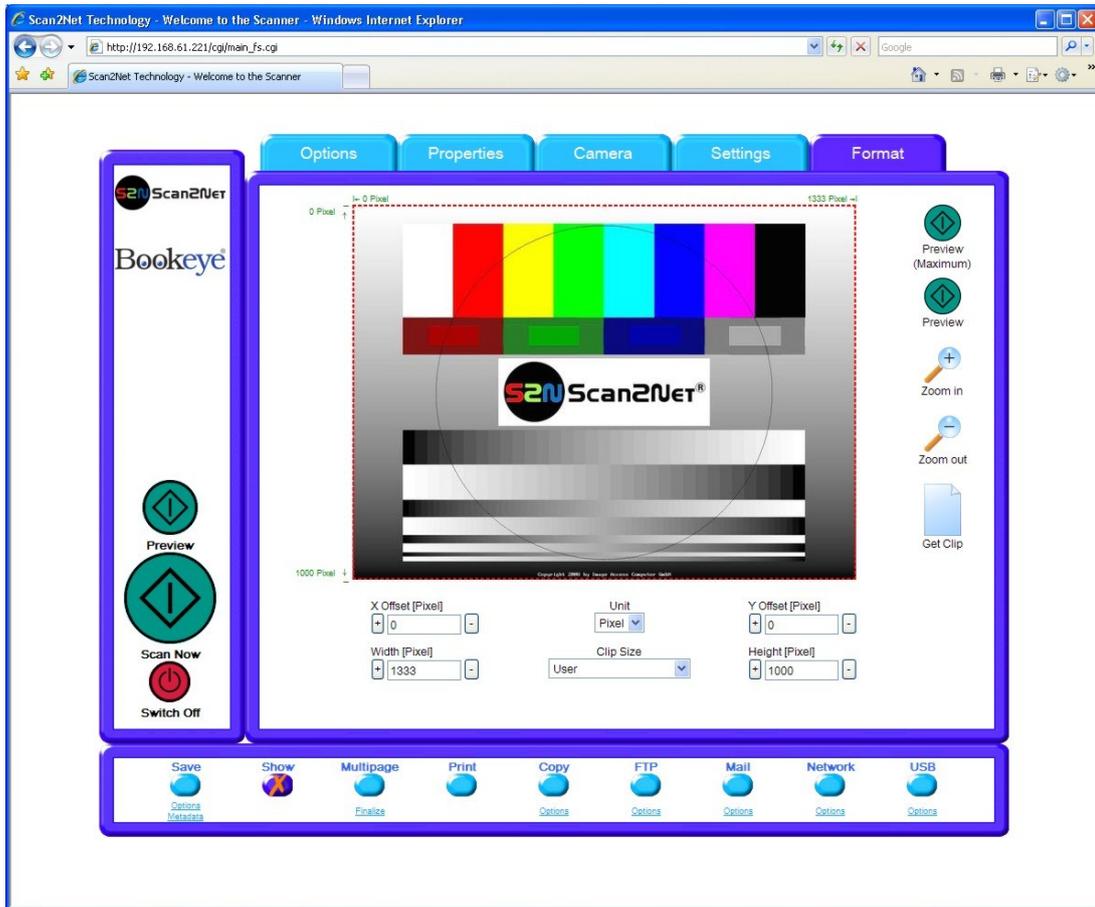
Show Status Window

If set to **Yes**, a small window opens where scan status information is displayed.



Picture 65: Scan status window

C.2.5 The Format Screen



Picture 66: **Format** screen

When the **Format** screen is selected, the test image shown in the above picture is displayed.

The dimension of the image and the color mode depends on the settings made in the **Properties** screen.



The **Preview (Maximum)** button allows to rescans the complete document area. The image will be displayed in the preview area of the **Format** screen.



The **Preview** button rescans the document area which is set in the **Properties** screen.

For a new preview scan, first change to the **Properties** screen, set the new format, and finally return to the **Format** screen. Click on the **Preview** button to display the new image.

To select a specific area of the image, click with the mouse in the preview area and drag a rectangle. Dragging with the mouse button clicked and pressed, the rectangle starts in the upper left corner and ends in the lower right corner.



Click the **Zoom in** button to display the selected area of the image in detail.



Picture 67: Rectangle dragged with mouse



Picture 68: "Zoom in" result

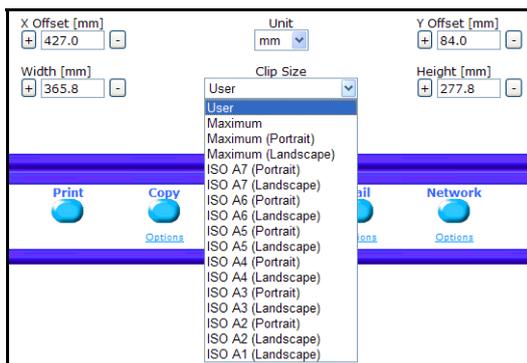


Click the **Zoom out** button to return to the previous dimension of the image.



Click the **Get Clip** button to get the selected area of the image in full resolution in a separate window.

X Offset / Y Offset defines the position of the rectangle.



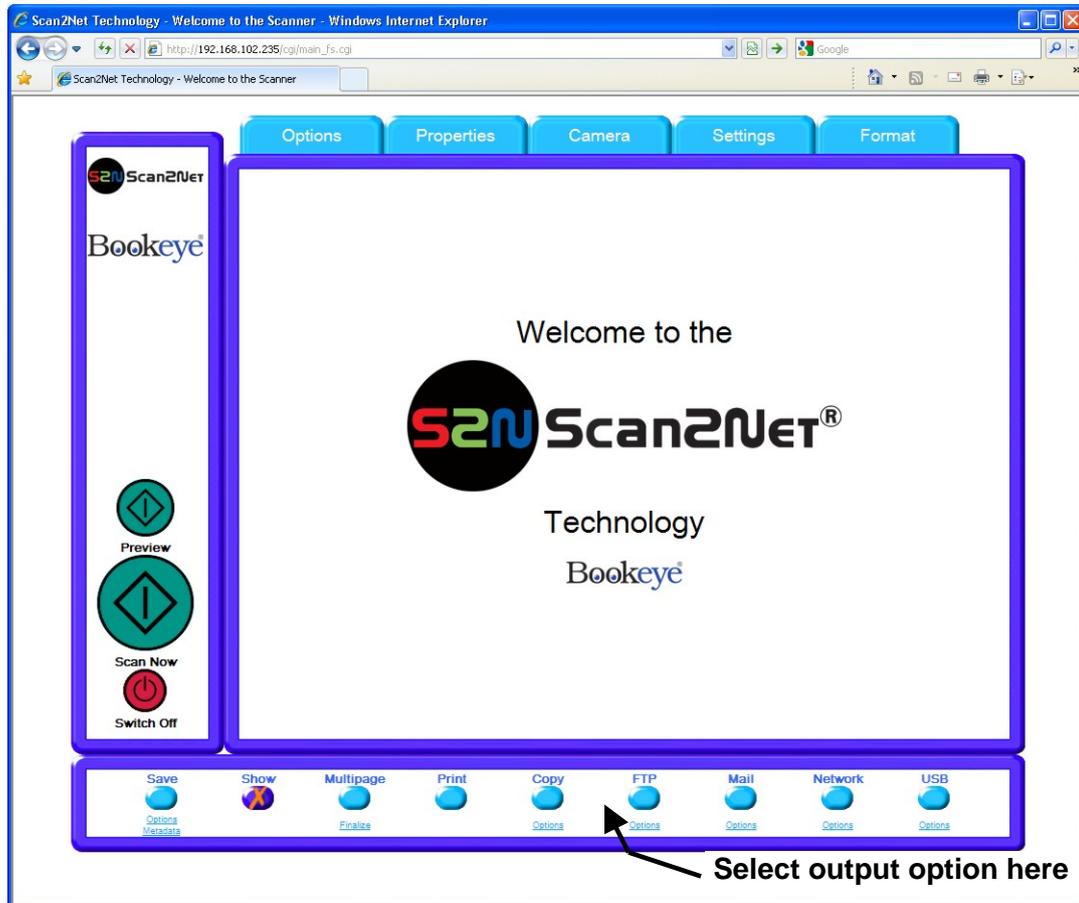
Picture 69: List of available clip size formats

Unit allows the user to select from a list the unit of measurement for the specification of the rectangle.

Width / Height allow the user to set the dimension of the rectangle for the specific area.

Clip Size offers a list of formats for the specific area. The content of the list depends on the size of the preview scan area. That means, the smaller the preview scan area, the shorter the list of available formats.

C.3 Output Options



Picture 70: Output options

Nine output options are available on a Bookeye 4 scanner. Each option is selectable at the bottom part of the main window.

C.3.1 Output Option Save

Select the output mode by clicking with the mouse on the button **Save**.

When the output option **Save** is selected a preview window will not open.

This output option scans to a local or to a network disk drive. After the scan is performed, a window opens and the default file name is shown. This window allows to select the directory where the image should be stored and to change the file name.

[Options](#)

Click on this link to define the file name. An additional window will open. Enter the desired file name. When defining the file name, variables can be used. To learn more about the variables click on [Wildcard characters](#) in the window **Image Output: File Name**.

[Metadata](#)

Click on this link to change the metadata stored with the image. An additional window will open. Enter the metadata here.

C.3.2 Output Option Show

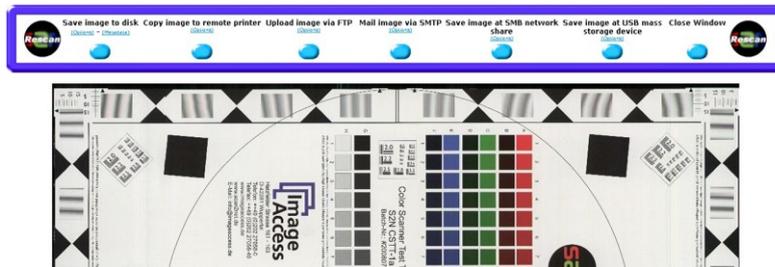
In most cases, the button **Show** is activated.



Picture 71: Output Option Show

A scan will open a new browser window and the image is displayed the screen.

The output options described in this chapter are accessible via the above menu but are also present in the upper part of each scanned image.



Picture 72: Output Options in Scan Window

Their functionality is identical, therefore only the output option screen is described here.

C.3.3 Output Option Multipage



Picture 73: Output Option Multipage

Selecting the output option **Multipage** allows saving scanned images in one multipage image.

Note: When the output option **Multipage** is selected, a preview window **will not open**.

Available output formats for the multipage image are TIFF or PDF. The format depends on the selected file format which is defined in **Properties** → **File Format** (see chapter C.2.2)

Selected file format	Multipage format
JPEG	TIFF
PNM	TIFF
TIFF, JPEG compression	TIFF
TIFF, no compression	TIFF
PDF, JPEG compression	PDF
PDF, no compression	PDF

While the scan sequence is running, a status window shows the current status. At the end of the scan sequence **Buffering Image** is displayed.

To view the scanned images and to select the images for the multipage image, click on the link [Finalize](#).



Picture 74: Pop-up window to select images for multipage image

A pop-up window opens and shows the scanned images since **Multipage** has been selected.

If the pop-up window is already open, it can be refreshed by clicking the **Reload Window** button or by clicking at [Finalize](#) in the main window.

The content of the pop-up window is not refreshed automatically.

By clicking the checkbox below each image, the user can select or unselect the images for the multipage image.

The buttons **Finalize (xxx)** transfer the multipage image to the corresponding target.

Empty Buffers deletes all images in the buffer.

Reload Window refreshes the content of the pop-up window.

Close Window closes the pop-up window.

C.3.4 Output Option Print

This output option prints the image at a locally configured printer.



Picture 75: Output Option Print

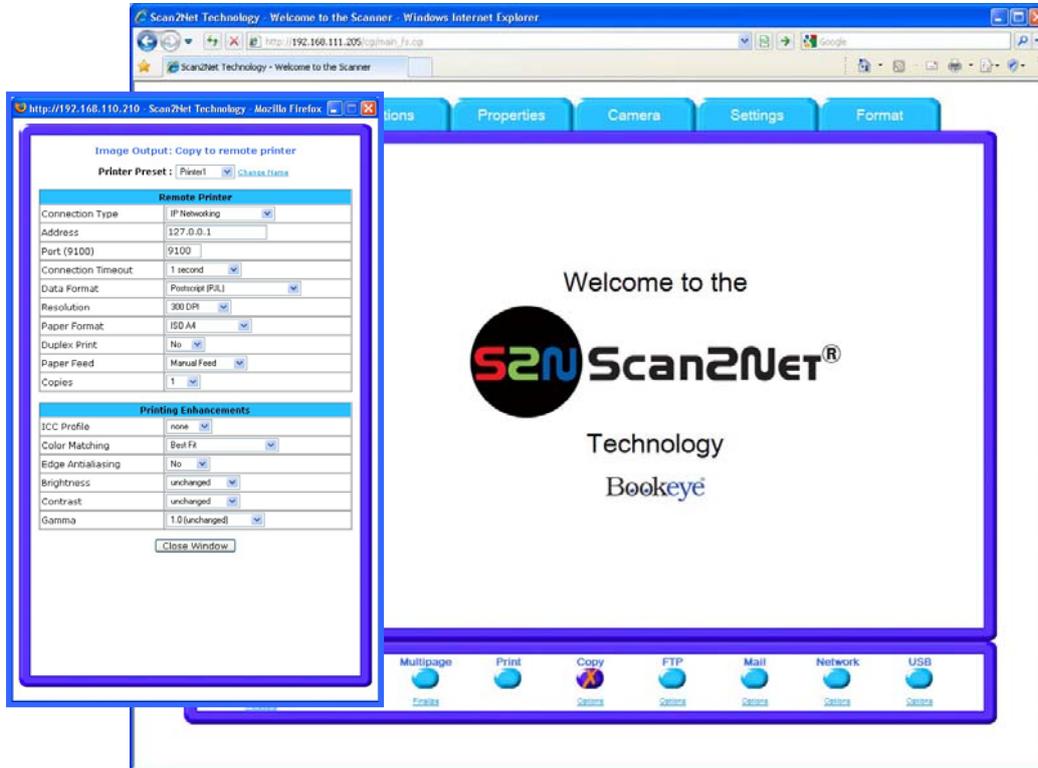
After the scan is executed, the standard printer interface opens. The user can select any of the available printers.



Picture 76: Available List of Printers for Option Print

C.3.5 Output Option Copy

This output option prints directly to a previously installed network printer. The **Option** key is used to configure the remotely connected printer.



Picture 77: Output Option Copy

C.3.5.1 Remote Printer

Parameter	Description
Printer Preset	Choose a printer configuration out of five possible set of parameters. If you click on Change Name you can change the name of this set.
Connection Type	Choose between IP Networking and SMB Printer Queue .
Address (with IP Networking only)	Enter the IP address of the printer.
Port (9100) (with IP Networking only)	Enter the IP port of the remote printer. Default is port 9100.
Connection Timeout (with IP Networking only)	Choose the timeout for connecting to the remote printer before the connection is aborted.
Port (139) (with SMB Printer Queue only)	Enter the IP port of the remote printer. Default is port 139.
Server Authentication (with SMB Printer Queue only)	Select Yes or No

Note: Each change of an entry field is transferred to the scanner immediately.

Remote Printer, continued

Parameter	Description
Login (with SMB Printer Queue only)	Enter the login for the printer if Server Authentication is set to Yes .
Password	Enter the password for the printer if Server Authentication is set to Yes .
SMB Path (with SMB Printer Queue only)	Enter the path of the directory where the printer is established.
Data Format	Choose the data format of the remote printer. Selectable data formats are Postscript, Postscript with framing HP/PJL communication and HP DesignJet (HP/RTL) compliant printers. Changing the data format will change some of the options in this configuration window.
Data Compression (with HP printers only)	Select the data compression of the data to be sent to the printer.
Resolution	Select the printing resolution. If an exact 1:1 copy of the scanned document is required, the scanning resolution and printing resolution must match.
Paper Format (not with HP Design Jet)	Choose the paper format for the output.
Duplex Print	Switch on/off printing on both sides of a sheet (duplex).
Paper Feed	Select the paper feed method for the remote printer. The menu may contain manual paper feed, various paper trays and paper rolls.
Copies	Number of copies of each print

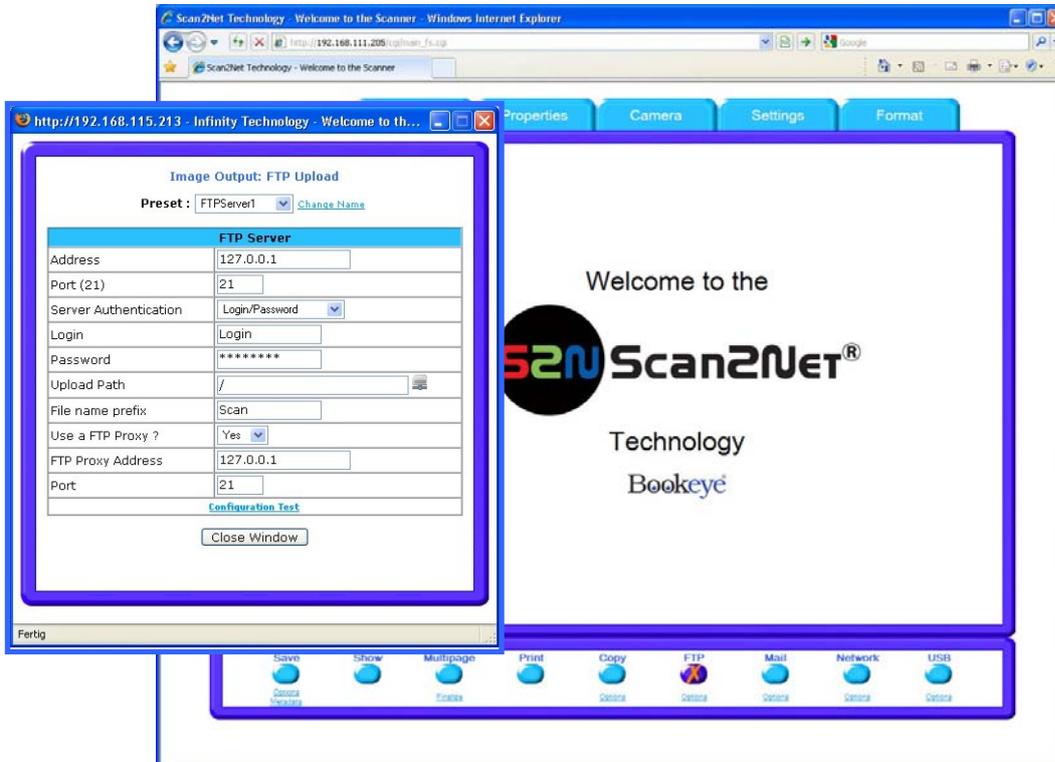
C.3.5.2 Printing Enhancement

Parameter	Description
Quality Level (with DesignJet only)	Toggle the printing quality from draft to high quality. Only available with HP/RTL compliant remote printers.
ICC Profile (not with all printer types)	Select the profile used for printing. Administrators can upload a set of printer ICC profiles in the Poweruser setup. Only available with HP/RTL compliant remote printers.
Color Matching (not with all printer types)	Select the color rendering method for the remote printer. Best Fit: The printer uses the nearest matching colors of its own color space. Printer Color Range: The printer uses the full range of its color space despite of the color definition of the scanned document. Only available in conjunction with HP/PJL communication framework.
Edge Antialiasing (not with all printer types)	Switch on/off printer featured edge anti-aliasing. Only available in conjunction with HP/PJL communication framework.
Brightness	Modify the brightness level of the print. Only available with HP/RTL compliant remote printers.
Contrast	Modify the contrast level of the print. Only available with HP/RTL compliant remote printers.
Gamma	Modify the printer gamma. Only available with HP/RTL compliant remote printers.

Note: Each change to an entry field is transferred to the scanner immediately.

C.3.6 Output Option FTP Upload

The scanner scans directly to an FTP server.



Picture 78: Output Option FTP Upload

Go to **Options** to configure the FTP interface. A configuration window will pop up.

C.3.6.1 FTP Server

Parameter	Description
Preset	Choose a preconfigured set of parameters out of five possible sets of parameters. If you click on Change Name you can change the name of this set.
Address	Enter the IP address of the remote FTP server.
Port (21)	Enter the IP port of the remote FTP server. Default is port 21.
Server Authentication	Select the authentication method.
Login	Enter the login name.
Password	Enter the password for the login at the remote FTP server. The password is stored using encryption.
Upload Path	Enter the upload path on the remote FTP server, starting with / (root). Click on the icon, to browse the directory structure of the remote FTP server. Note: You must have a valid login for browsing the directory structure.

FTP Server, continued

Parameter	Description
File name	Enter the file name prefix. A time stamp will be added to this prefix to form the complete file name.
Use a FTP Proxy?	Switch on/off the use of an FTP proxy for connecting to a remote FTP server outside the local network.
FTP Proxy Address	Specify the IP address of the FTP proxy.
Port	Specify the IP port of the FTP proxy.

[Configuration Test:](#) Click on this link to test the settings. A separate window will open and shows the test results.

Note: Each change to an entry field is transferred to the scanner immediately.

C.3.7 Output Option Mail

The scanner can send each scan directly via e-mail.



Picture 79: Output Option Mail

Go to **Options** to configure the mail interface. The above configuration window will pop up.

C.3.7.1 Mail Server

Parameter	Description
Preset	Choose a preconfigured set of parameters out of five possible sets of parameters. If you click on Change Name you can change the name of this set.
Transaction mode	Decide if all scanned documents will be sent to the same recipient (automatic batch mode) or if the scanner should ask after every scan (interactive). Select the appropriate transaction mode.
Address	Enter the IP address of the outgoing mail (SMTP/LMTP) server.
Port (25)	Enter the IP Port of the outgoing mail server. Default: Port 25.
Server Authentication	Set to YES if the mail server requires an authentication.

Mail Server, continued

Parameter	Description
Login	Enter the user name for authentication at the outgoing mail server.
Password	Enter the password for authentication at the outgoing mail server. The password is stored using encryption.
Protocol	Choose the connection protocol. SMTP is the most common protocol.
Connection Time Out	Choose the timeout for connecting to the outgoing mail server before the connection is aborted.
Use LDAP Directory Service?	LDAP directory service can be used to send the mails. To configure the parameters click on the link Options .
File Name	Enter the file name. Variables can be used to complete the file name. To learn more about the variables, click on the link Wildcard characters .
Recipient	Type in the recipient of the e-mail. Format: fully qualified e-mail address.
Sender	Type in the sender of the e-mail. Format: fully qualified e-mail address.
Mail Subject	Type in the e-mail subject. (Optional) Variables can be added to the mail subject. To learn more about the variables, click on the link Wildcard characters .
Reply To	Type in a reply address for answers. (Optional) Format: fully qualified e-mail address.
Force disposition notification?	Request a notification when the recipient has opened the mail. Note: This feature is not supported by all mail servers or clients.

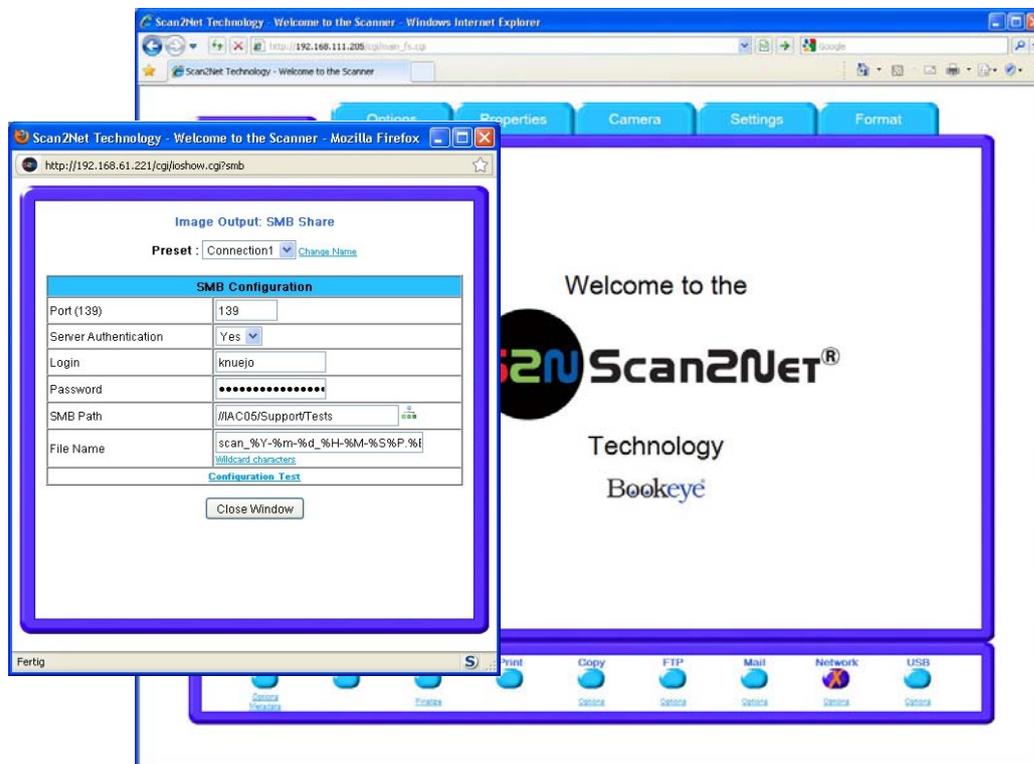
[Configuration Test](#): Click on this link to test the settings. A separate window will open and shows the test results.

Note: Each change to an entry field is transferred to the scanner immediately.

C.3.8 Output Option Network

SMB is a network protocol which is used by Microsoft Windows-based networks.

If the output option **Network** is selected, the scans will be stored directly in a network directory.



Picture 80: Output Option Network

Go to **Option** to configure the SMB Upload interface. A configuration window will pop up.

C.3.8.1 SMB Configuration

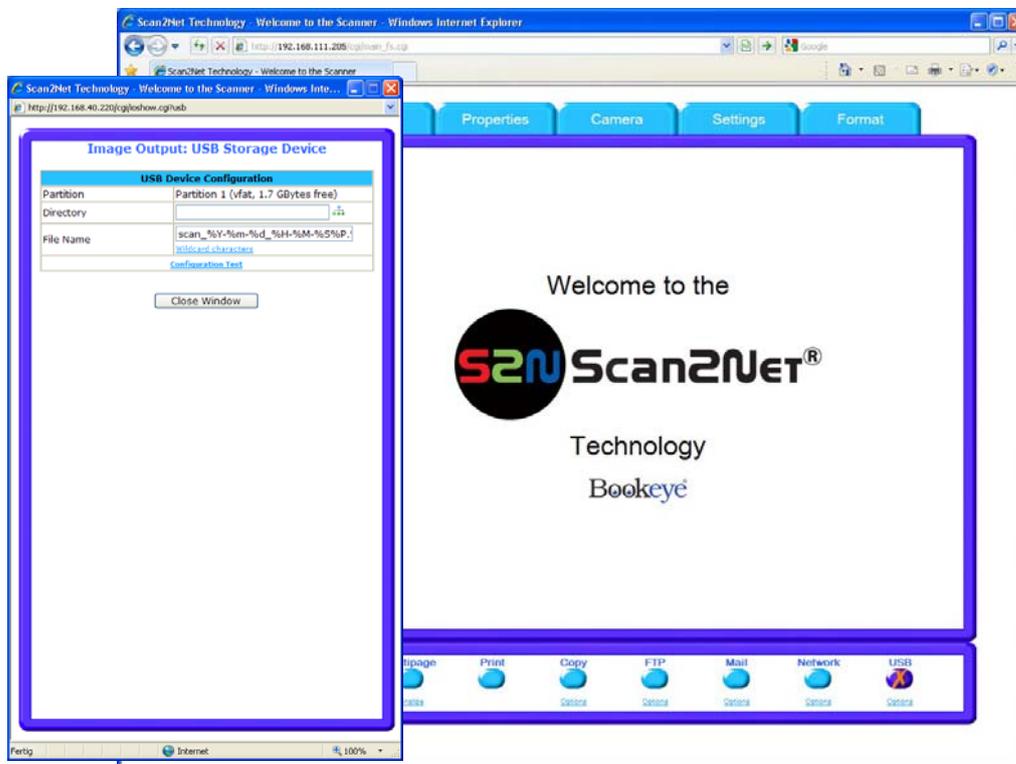
Parameter	Description
Preset	Choose a pre configured set of parameters out of five possible sets of parameters. If you click on Change Name you can change the name of this set.
Port (139)	Enter the IP port for the SMB network communication. Default is port 139.
Server Authentication	Select the authentication method.
Login	Enter the user name on the Windows workstation/file server which you want to connect to.
Password	Enter the password associated with the user name for the login at the Windows workstation/file server which you want to connect to. The password is stored using encryption.
SMB Path	Enter the upload path on the Windows workstation. Start with a backslash (/) for the root directory. Click the icon to browse the workstation/server list and the directory structure of the Windows workstation/file server. Note: You must have a valid login for browsing the directory structure.
File Name	Enter the file name. A time stamp will be added to this prefix to form the complete file name.

[Configuration Test:](#) Click on this link to test the settings. A separate window will open and shows the test results.

Note: Each change to an entry field is transferred to the scanner immediately.

C.3.9 Output Option USB

Universal Serial Bus (USB) is a serial bus standard for interface devices, e.g. storage devices. The output option USB enables direct scanning to a USB Standard-A flash memory data storage device.



Picture 81: Output Option USB

On the front of the Bookeye 4 scanner, two USB connectors can be found, where suitable storage media can be inserted.



Picture 82: USB sticks inserted at front of Bookeye 4

C.3.9.1 USB Storage Device

Go to [Options](#) to configure the USB interface. A configuration window will pop up.

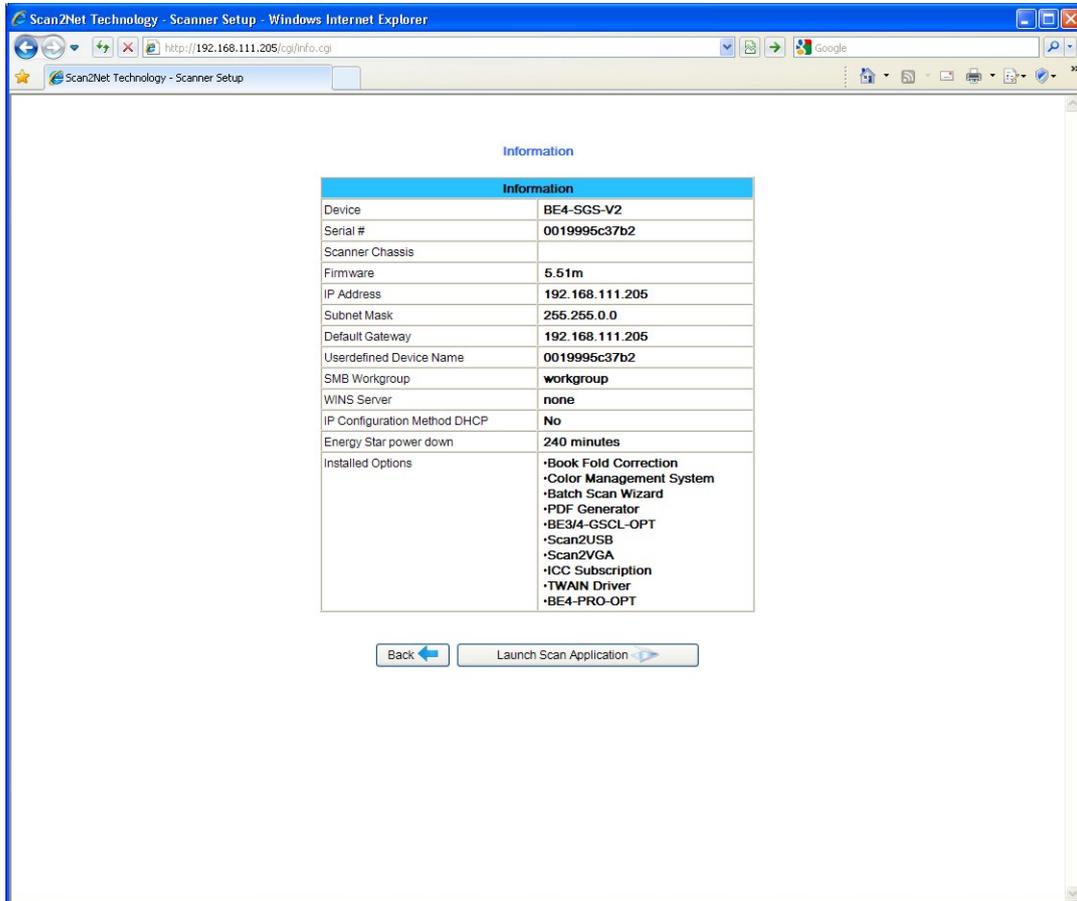
Parameter	Description
Partition	Shows the status and available memory of the actual mounted partition on the connected USB flash device.
Directory	Allows the user to choose a subdirectory on the connected USB drive for storing the scans.
File name	Shows the current setting of wildcard characters for the automated naming scheme of each produced image file.
Wildcard characters	Offer the complete list of the available wild cards.

[Configuration Test](#): Click on this link to test the settings. A separate window will open and shows the test results.

Note: Each change to an entry field is transferred to the scanner immediately.

C.4 Information

The start screen (Picture 46) shows three buttons. The button **Information** gives a short summary of the device parameters.



Picture 83: Information

The screen is helpful if technical support is necessary. It shows e.g. the exact device type, the installed firmware version as well as currently installed options.

Click the button **Back** to return to the start screen.

Click the button **Launch Scan Application** to switch to the main screen (Picture 47).

D Technical Data

D.1 Scanner Specifications

Scan Area

Maximum Scan Area [mm]	620 x 460 mm
Resolution	150 – 600 dpi

Luminosity

Scanning	Max. 1800 LUX
Stand-by, idle	0 LUX (lamps off)

Lamps:

High Power White LED	IR and UV radiation free
Lifetime	50000 hours operating time

D.2 Ambient Conditions

Operating Temperature	+5 to +40° Celsius
Storage Temperature	0 to +60° Celsius
Relative Humidity	20 to 80% (non-condensing)
Ambient luminance	≥ 300 Lux
Noise Level	< 50 dB(A) (Operating) < 30 dB(A) (Stand-by)

D.3 Electrical Specifications

External Power Supply

Voltage	90 – 264 V AC
Frequency	47 – 63 Hz
Inrush current	120 A max / 264 V AC
Efficiency	85 %
Idle consumption	≤ 0.5 W
Operating temperature	0 ... +65 °C
Operating humidity	10 ...93 % RH, non-condensing
ECO standard	CEC level IV

Scanner

Voltage	24 V DC
Current	Max. 5 A

Power Consumption

Standby	4,5 W
Ready to scan, monitor on	75,0 W
Scan @ 400 dpi, format "Max", monitor on	135,0 W
White Balance calibration, monitor on	180,0 W
Power off, monitor on	0,5 W

D.4 Dimensions and Weight

Scanner outer dimensions , book cradle closed	825 x 670 x 640 mm (H x W x D)
	32.5 x 26.4 x 25.2 inch
Scanner outer dimensions , book cradle opened	825 x 740 x 640 mm (H x W x D)
	32.5 x 29.2 x 25.2 inch
Total weight of scanner, ready to use	Approx. 34 kg / 75 lbs
Dimensions Transport Box	1005 x 805 x 815 mm (H x W x D) 39.6 x 31.7 x 32.1 inch
Weight Transport Box:	40 kg / 88 lbs
Total shipping weight	74 kg / 162.8 lbs