

***MICROTEK***

# **ObjectScan 1600**

**Object Scanner**

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**User's Manual**

## **Preface**

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## Safety Precautions

Before using your scanner, read the following safety guides carefully, which detail the proper operation of the scanner and its accessories to prevent injuries or damage to users or equipment.

### Meanings of Symbol Signs



CAUTION







This indicates hazardous situation which, if not paid attention, could result injury or damage to users or equipment.






WARNING








This indicates hazardous situation which, if not paid attention, could result serious injury or death to users.

### Power Supply:


- 
  - Use a power source only with a power rating specified on the marking label.
- 
  - Ensure to turn off the power of each device before connecting or disconnecting the cables.
- 
  - Insert the plug completely into the outlet, as a loose connection may cause arcing and result in fire.
- 
  - Ensure to hold the plug or connector to disconnect the cable; otherwise, if you pull the cable only, it may damage the core wire and result in fire or electric shock.
- 
  - Place and route the power supply cord such that it is not likely to be walked on or pinched by items placed upon or against them, paying particular attention to the cord near the power plugs, convenience receptacles, and at the point where it exits from the outlet.
- 
  - When the scanner is left unattended and unused for long periods of time, unplug it from the wall outlet.

### Moving and Storing the Scanner:




- 
  - Always ensure that the scanner is stored properly before shipping or moving it. Quick stops, excessive force, and uneven surfaces may cause the product to overturn when moving.
- 
  - Do not hit or drop the scanner. The scanner may be damaged if it receives a strong jolt, which may result in fire or electric shock if the scanner is used without being repaired.
- 
  - Do not place the scanner on any slippery, slanted, or unstable surface. The product may slide or fall, causing serious injury to people as well as serious damage to the product.

-   • Do not use the scanner near water. Never spill liquid of any kinds on the product, or it may result in electric shock or other hazards.
-   • This scanner should be situated away from heat sources such as radiators, heat registers, stoves, or other products (including amplifiers) that produce heat.
-  • Do not store the scanner in which it may be exposed to direct sunlight.
-   • Do not place the scanner near the edge of a table. When the drawer of the scanner is opened, the weight of the product may cause the scanner falling, causing serious injury to people as well as serious damage to the product.

#### Using the Scanner:

-  • The maximum loading weight for upper and lower scan beds is 5.5 lbs (2.5 kg). Do not put any material on scan beds heavier than the loading limit.

#### Maintenance and Service:

-  • When the scanner is going to be cleaned, ensure to turn off the power of each device and unplug the power cable from the AC outlet.
-  • When you need a repair service, unplug the scanner from the power outlet and consult qualified service personnel.
-  • When replacement parts are required, use replacement parts that are specified by the manufacturer or have the same characteristics as the original parts.

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# Knowing about Your Scanner

The ObjectScan 1600 is a professional scanner exclusively designed for transferring originals of samples into digital formats. It is ideal for capturing images for small and stereoscopic objects and these images can be used in many categories, such as collections, teaching, researching, manufacturing and web business. At the same time, the ObjectScan 1600 is also able to scan paper materials, for example, prints and researching papers.

## Features of the ObjectScan 1600

The ObjectScan 1600 comes with several important features, including the following:

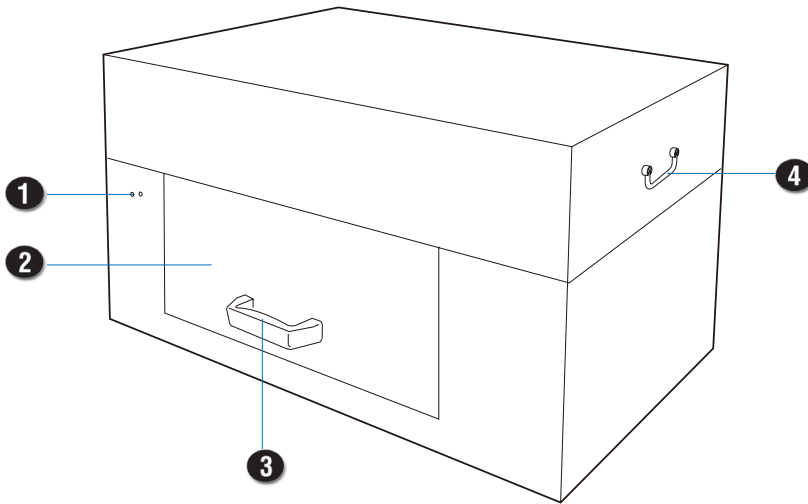
- **Non-contact scan (on-top scan) Design** — The ObjectScan 1600 takes on a design of a non-contact scan (on-top scan) structure. Under this structure, users have no needs to spin sample face down on the scan bed, and enjoy the scan work without worrying about the problems that traditional flatbed scanners deal with, such as damage problem caused by directly contact each other. The ObjectScan 1600 is perfect for digitalizing the originals of samples.
- **Energy-saving tri-wave LED light source** — Adopting tri-wave LEDs as the light source, when the scanner is detected by the system, there are no requirements for any warm-up time before carrying out the scan, which boots your productivity and reduces energy costs amazingly. With its stable performance, the image quality will remain consistent even after used for a certain period of time.
- **Color CCD with 1600-dpi high resolution** — The ObjectScan 1600 has a color linear CCD with resolution that reaches up to 1,600 pixels per inch. Thus, it can clearly capture images for shapes and textures of objects, presenting original appearances of objects precisely and decreasing the happenings of damages on objects when doing researches.
- **Microtek ScanWizard LS (USB) software** — ScanWizard LS (USB) is software exclusively designed for scanning and saving objects' graphs. The friendly user interface of ScanWizard LS (USB) provides users an easy and quick access to initiate.

## System Requirements

- DVD-ROM/CD-ROM drive (for installing software)
- Color display with 24-bit color output capability
- 4 GB memory or above
- Intel Core i5 Processor at 3.0 GHz or above
- Microsoft Windows 7 or Windows 8

## Taking a Closer Look

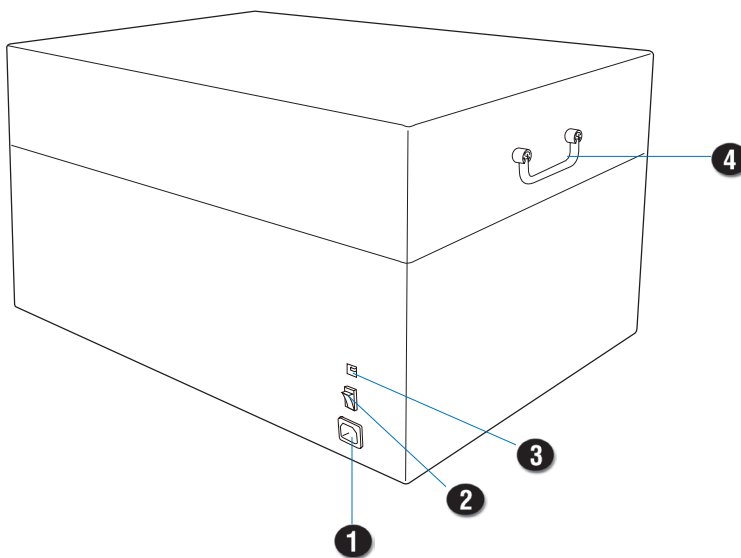
### Front View



No.	Names of Parts	Functions of Parts
1	Indicators (Green and Orange)	Displays the status of the scanner.
2	Drawer of the Scanner	Carries the upper scan bed and the lower scan bed of the scanner.
3	Handle of the Drawer	Holds to open or close the drawer of the scanner.
4	Right Handle	Holds to move the scanner.



## Back View

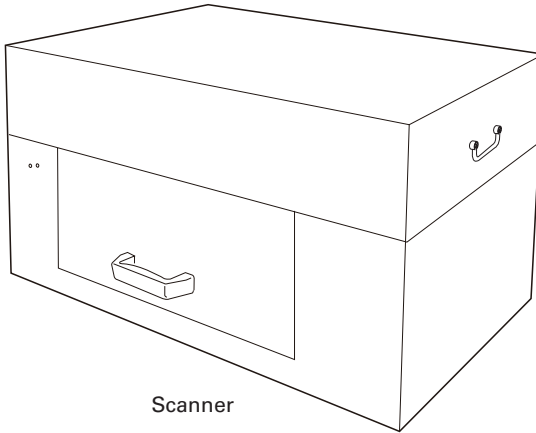


No.	Names of Parts	Functions of Parts
1	Power Connector	Connects the scanner to the power cord.
2	Hi-Speed USB Port	Connects the Hi-Speed USB (USB 2.0) cable to the computer.
3	Power Button	Turns the scanner on or off.
4	Left Handle	Holds to move the scanner.

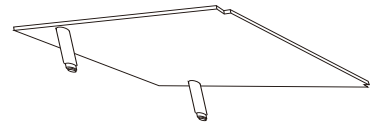
# Initiate Setup

## Step 1: Unpacking Package Contents

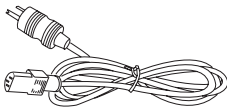
After unpacking your scanner package, please check for the major components listed below.



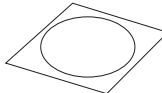
Scanner



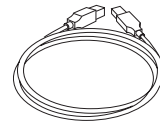
Upper scan bed



Power cord



Software CD/DVD



Hi-Speed USB cable

## Step 2: Installing the Software

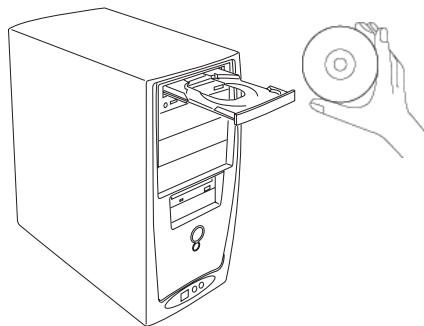
**Important:** You must install all software before connecting your scanner. Always close any open programs and turn off Anti-virus utilities before installing software.

1. Turn on your computer.
2. Place the Microtek Software CD/DVD into a drive.
3. Follow the on-screen instructions to install the driver and software.

**Note:** If the Microtek Software Installer screen does not come up automatically, double-click the following in succession: "My Computer"; the CD/DVD-ROM icon; then Setup.exe to start the installer program.

4. Click EXIT on the Microtek Software Installer screen when all the software has been installed.
5. Restart your computer.

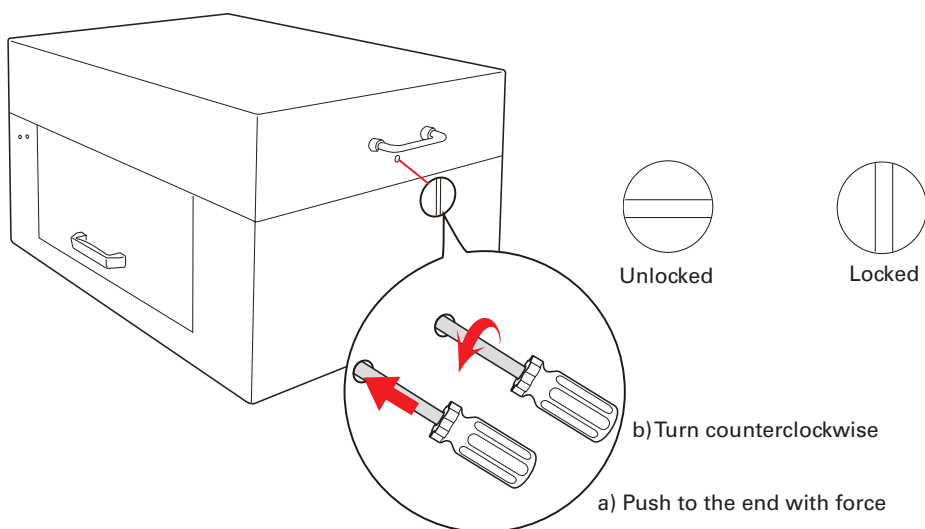
**Note:** If the system displays a message "Found a new hardware" after the computer is restarted, please select the installer program automatically.



## Step 3: Unlocking the Scanner

1. Locate the locking screw at the middle of the right panel of the scanner.
2. Using a flat-head screwdriver, pass through a round circle at the outer shell of the scanner and insert a hollow side of the locking screw: a) push to the end with force, and b) turn the locking screw counterclockwise 90 degrees to the unlock position.

When successfully unlocked, the screw will push out a little, protruding slightly from the front of the scanner. Also, the pattern of the hollow side of the locking screw will be turned horizontally.



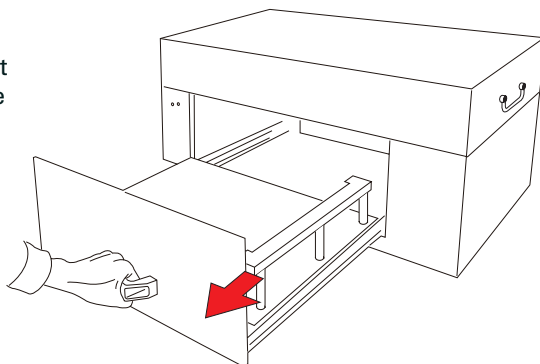
**Note:** If you have to transport the scanner, you will need to lock the scanner back. Follow the steps below:

1. Turn off the scanner if your scanner is on. Make sure that the power button light (green power light) is off.
2. Turn the scanner back on. Make sure that the Hi-Speed USB cable has connected computer with your scanner properly. Then, activate ScanWizard LS (USB) software program. Make sure that the control panel of the software has been displayed on the screen successfully.
3. Using a flat-head screwdriver, pass through a round circle at the outer shell of the scanner and insert a hollow side of the locking screw. Push down with force and turn the locking screw clockwise 90 degrees to the lock position.
4. Shut down ScanWizard LS (USB) software program and turn off your scanner. Hereby, the scanner is ready for transport.

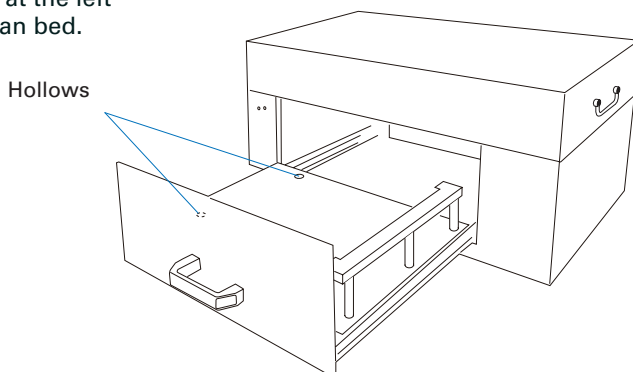
## Step 4: Installing the Upper Scan Bed

For the safety of the package delivering, the upper scan bed is packed separately from the scanner unit. Before using it with the scanner, follow the steps below to assemble it in the scanner:

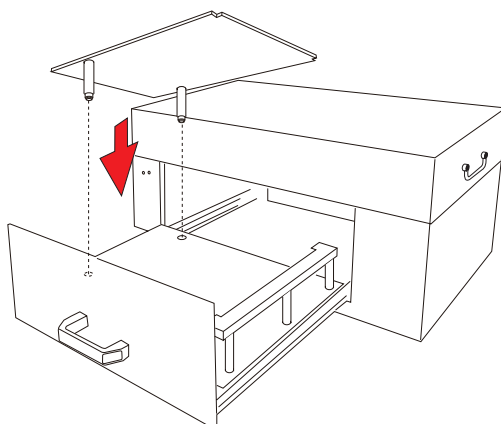
1. Locate a handle at the front panel of the scanner. Grab it to pull out the drawer of the scanner until reaching the edge of end.



2. Locate two hollows at the left side of the lower scan bed.



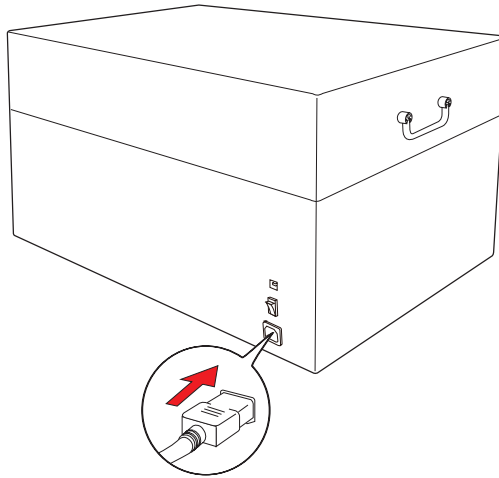
3. Insert the stools at bottom of the upper scan bed into the hollows on the lower scan bed. Make sure the upper scan bed has been assembled in the scanner firmly.



## Step 5: Connecting the Scanner

### To the Power Source

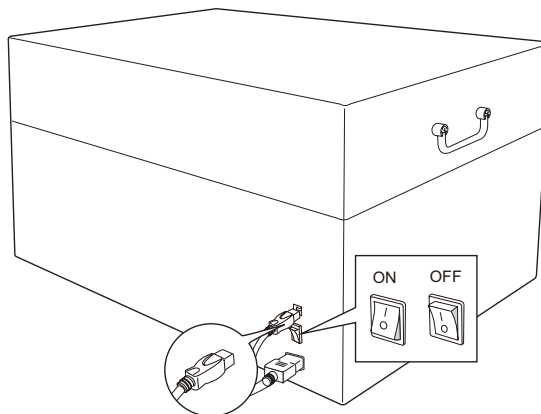
1. Connect one end of the power cord to the back side of the scanner.
2. Plug the other end of the power cord into a power source.



### To the Hi-Speed USB Cable

1. Connect one end of the Hi-Speed USB cable to your computer.
2. Connect the other end of the Hi-Speed USB cable to the scanner.
3. Switch the Power button at the back side of the scanner to ON, and wait for the indicators light on the front panel to stop blinking and stay on steady.

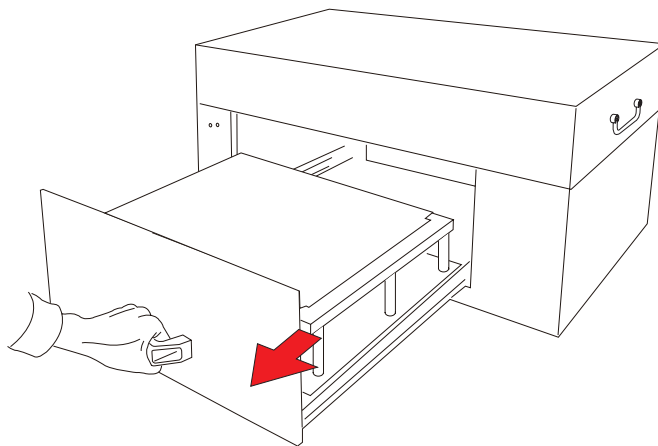
The system will detect your scanner automatically.



# Scanning the Materials

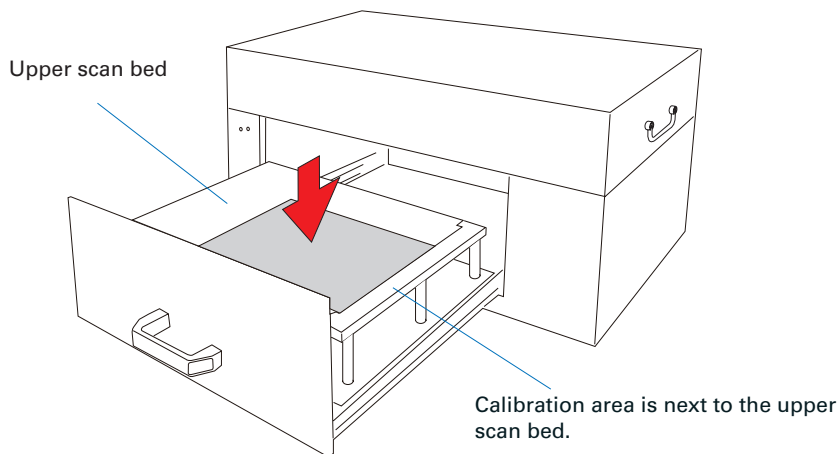
## Positioning the Materials

1. Locate a handle at the front panel of the scanner. Grab it to pull out the drawer of the scanner until reaching the edge of end.



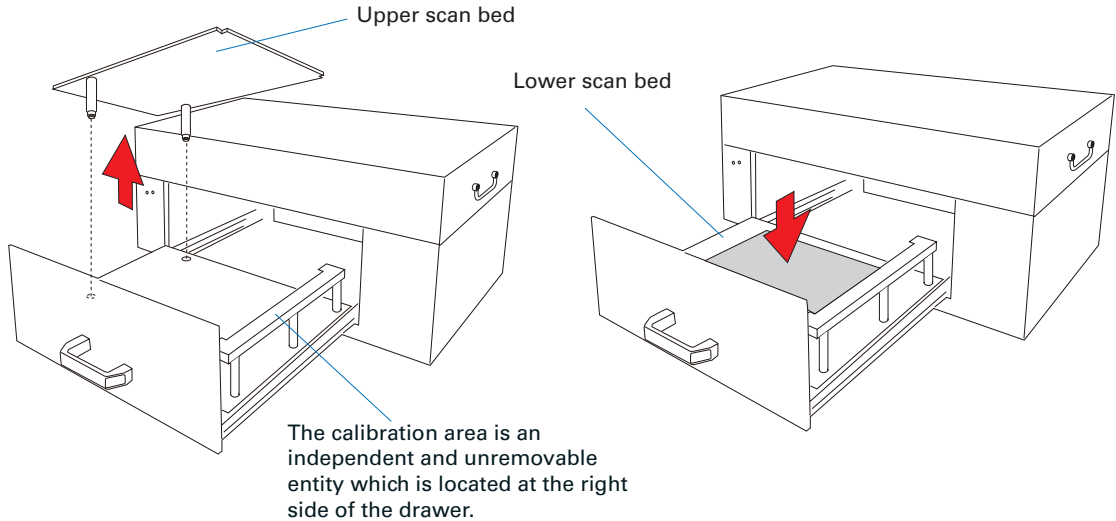
2. If the height of a scanned object is less than 2.76" (7 cm), center the object to be scanned facing up directly on the upper scan bed.

When placing the scanned object, do not block the calibration area.

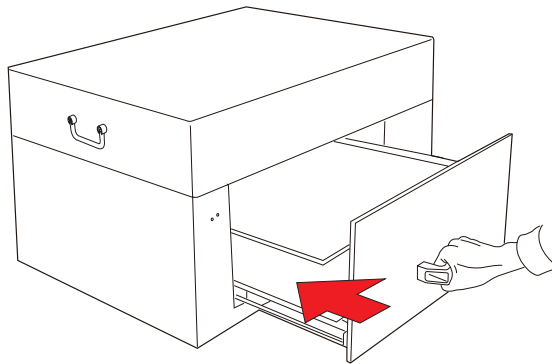


- If the height of a scanned object is larger than 2.76" (7 cm) (the maximum height is 5.9" (15 cm)), take out the upper scan bed from the drawer; then, Center the object to be scanned facing up on the lower scan bed of the drawer.

When placing the scanned object, do not block the calibration area.



- When done, grab the handle of the drawer and push it back into the scanner. When "click" sound is heard, the drawer has been closed properly.



**Note:** The maximum loading weight for scan beds is 5.5 lbs (2.5 kg). Do not load any material heavier than the loading limit.



## Using ScanWizard LS (USB) Software

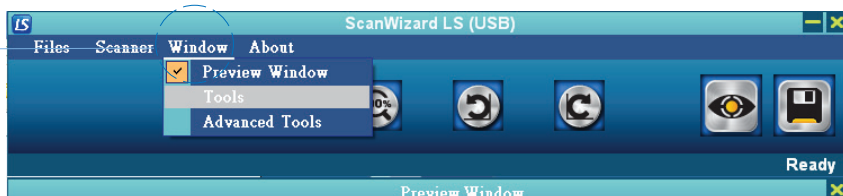
ScanWizard LS (USB) is scanning software exclusively designed by Microtek for scanning large-size materials. Its user-friendly interface enables the beginners or the professionals to start the scanning process easily and quickly. Refer to the section “Knowing about ScanWizard LS (USB) Further” in back for more details.

1. Refer to the descriptions in “Positioning the Materials” to place the material to be scanned on the scan bed.
2. Launch ScanWizard LS (USB) and the main control panel will appear on the screen.
3. Click the Preview button in the control panel to perform a preliminary view of the entire image. When done, a preview image appears in the preview window.

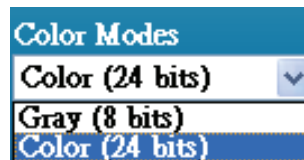
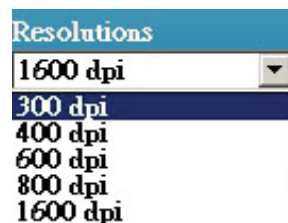
**Note:** If you want to cancel the action of the Preview command, press the Esc button on the keyboard.

4. If necessary, click the Scan Frame tool button to adjust the size of the scan frame, enclosed within the red dotted lines. Drag on the edge or corner of the scan frame to resize the scan frame.
5. Click the Window menu and then select the Tools option. The Tools window will appear on the screen immediately. Specify your scanning requirements in the Tools window.

Open the Tools Window and Advanced Tools Window from the Window menu



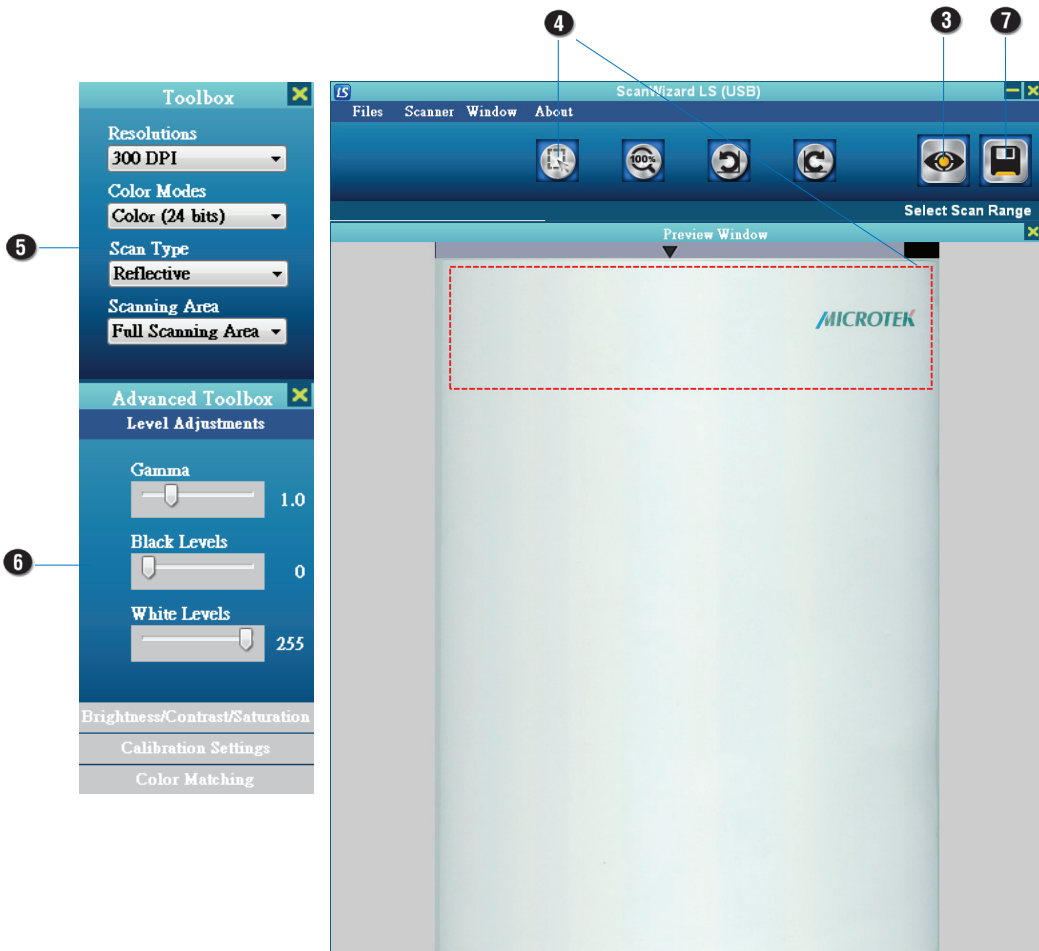
- a) Select your desired image output resolution in the Resolutions drop-down menu.
  - b) Select your image output type in the Color Modes drop-down menu.
6. If necessary, adjust image quality by using the image correction tools. To activate the image correction tools, click the Window menu and then select the Advanced Tools option. Specify your scanning requirements in the Advanced Tools window.



- Click the Scan button to start scanning.

The material will be scanned and delivered to the directory where you specify.

**Note:** If you want to cancel the action of the Scan command, press the Esc button on the keyboard.



# Understanding ScanWizard LS (USB) Further

From the previous section, you have gotten a general picture about how to use your ObjectScan 1600 together with ScanWizard LS (USB) software. At this chapter, you should be able to get to know commands and functions of ScanWizard LS (USB) software further and better; then, you would be able to manipulate it more conveniently.

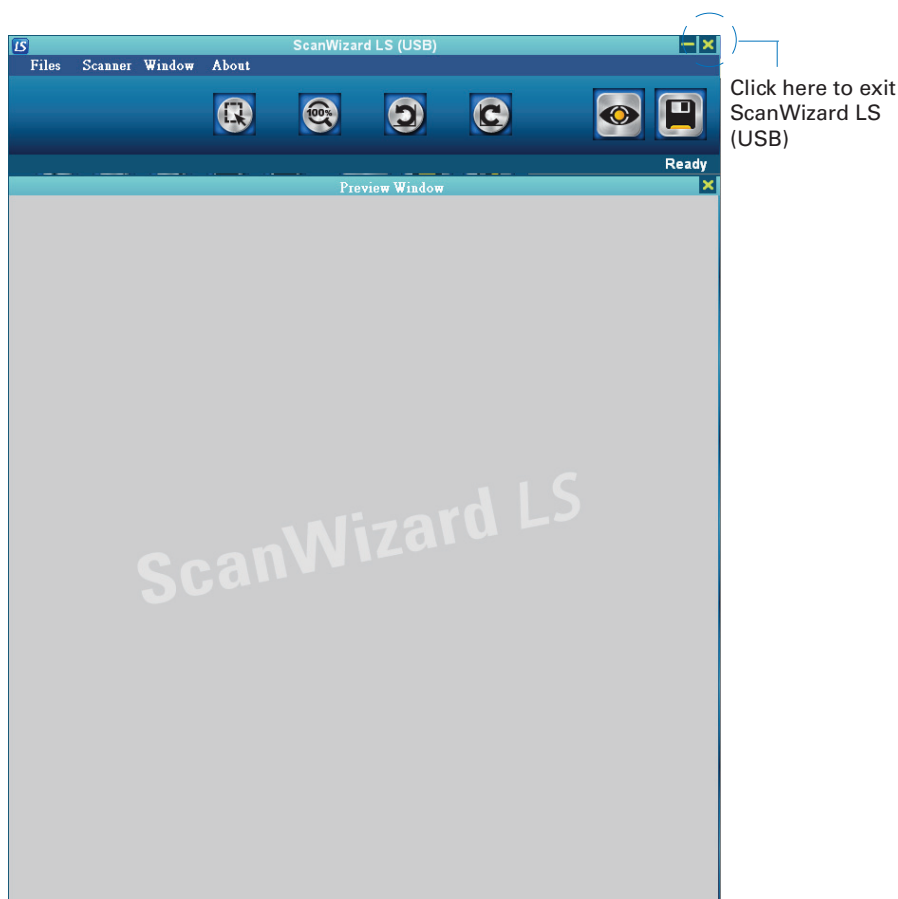


## Launching ScanWizard LS (USB)

To launch ScanWizard LS (USB), double click the ScanWizard LS (USB) icon on the desktop. After being launched, the main control panel will appear on the screen.

## Exiting ScanWizard LS (USB)

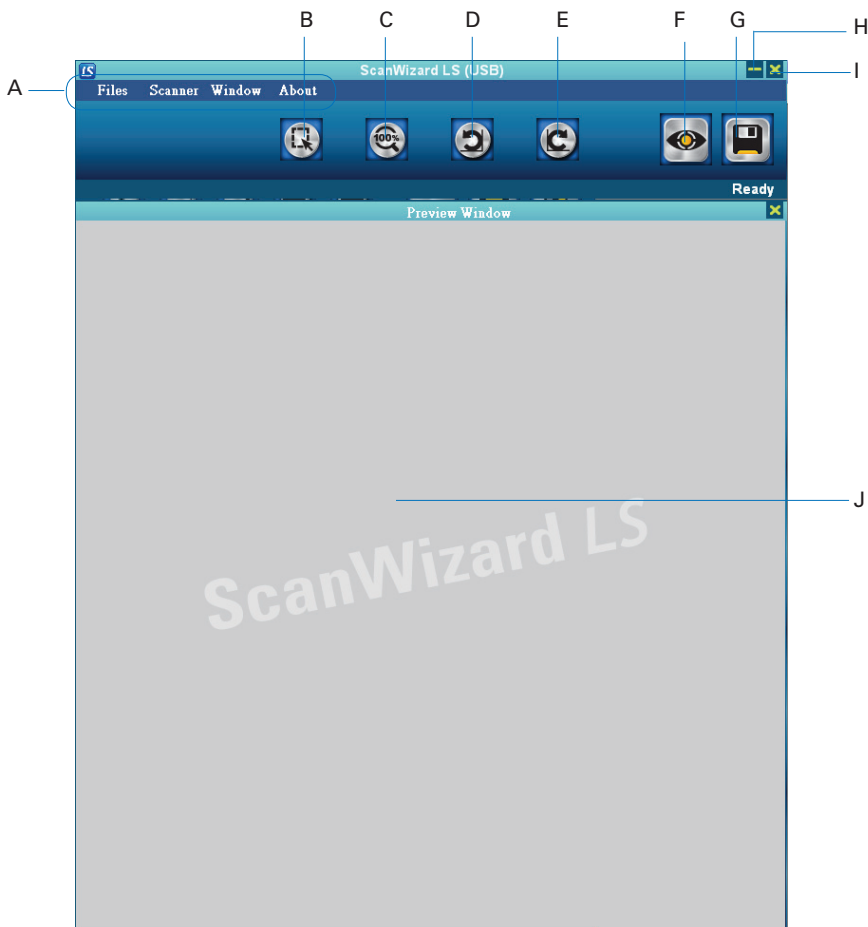
To exit ScanWizard LS (USB), click on the close box on the top-right corner of the control panel.



## Familiarizing with the Main Control Panel of ScanWizard LS (USB)

There are major commands, tools and function buttons in the main control panel of ScanWizard LS (USB) which control and dominate your scanner.

### Elements on the Main Control Panel



- A. Menu bar: Includes Files, Scanner, Window and About menus.
- B. Select Frame button: Used to select and adjust the area to be scanned.
- C. Magnify button: Clicks to zoom in (magnify) partial area of a scanned image.
- D. Rotate Counterclockwise button: Clicks to rotate an image in the Preview window counterclockwise.

- E. Rotate Clockwise button: Clicks to rotate an image in the Preview window clockwise.
- F. Preview button: Clicks to generate a preliminary scanned image.
- G. Scan to Save button: Clicks to perform the final scan of the original and save the scanned image to your chosen folder.
- H. Minimize button: Clicks to minimize ScanWizard LS (USB).
- I. Close button: Clicks to exit ScanWizard LS (USB) software.
- J. Preview area: This area in the Preview window shows the preview image.



## Select Frame Button

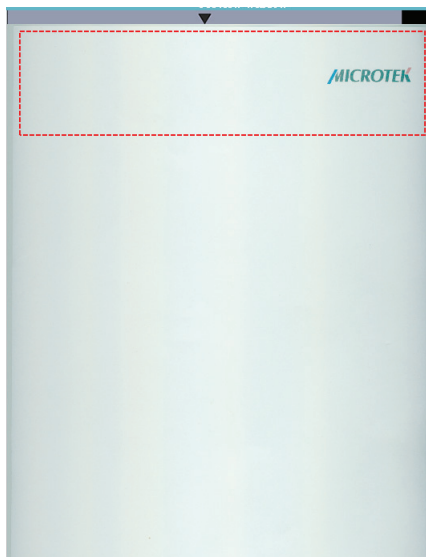
The Select Frame button lets you select and adjust the area to be scanned in final.

To draw a frame, click the Select Frame button; then, move the pointer directly to the scanned image and draw a frame enclosing the area to be selected.

To cancel a drawn frame, click the right button of the mouse and then the frame will be removed immediately from the screen.



Scanning without a frame



Scanning with a frame



## Magnify Button

The Magnify button lets you magnify (zoom in) the partial area of a scanned image to inspect the quality for after-scan image.

To magnify, click the Magnify button, move the pointer to the area of a scanned image where you want to examine, and then click. The pointed area will be enlarged immediately on the screen. To magnify other area, just move your mouse there and click the left button of the mouse.

To cancel using of a magnify, just click the Magnify button again.





## Rotate Counterclockwise/Clockwise Buttons



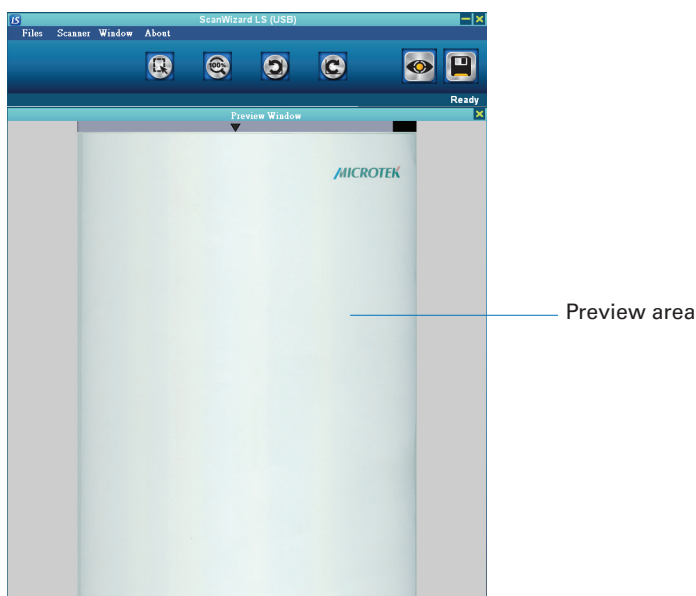
The Rotate Counterclockwise/Clockwise buttons let you rotate a preview image counterclockwise or clockwise in 90 degrees. When the image in the Preview area (Preview window) is rotated, the ruler at top will be turned in the same direction at the same time, which is helpful for you to check the real position of the scanned image on the scan bed.



## Preview Button

The Preview button scans an image based on the settings on the ScanWizard LS (USB) control panel, and displays the preview image on the Preview window.

To cancel a preview action, please click the Esc button on the keyboard.



## Scan to Save Button

The Scan to Save button scans the images from your scanner and delivers the images to your selected folder.

When the button is clicked, the "Save As..." dialog box appears. Take turns to key in a file name, a saved folder direction and an export file format.

If you want to cancel a scanning job, please click the Esc button on the keyboard.

1. Saved folder direction: To select a folder for your scanned and saved images, either use a folder selected by default or click the Arrow button next to the column to explore, search and select folders you want to use for saving scanned images.

2. File name: This column lets you to key in a desired file name.

If Auto File Name is enabled, the name entered in the File Name column will become the file prefix, and a serial number added up automatically by the system will be attached afterward.

3. File format: This menu box lets you select a file format when saving a file. The supported format includes JPEG, BMP, TIFF, and PDF.

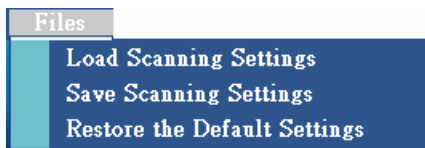
If "JPEG" is selected as your file format, you are allowed to adjust qualities by dragging a left-right bar appearing below.

When all settings are done, click the Save button. The Save As... dialog box will be closed and ScanWizard LS (USB) will start to perform the final file scanning and saving.





## The Files Menu



The Files Menu lets you:

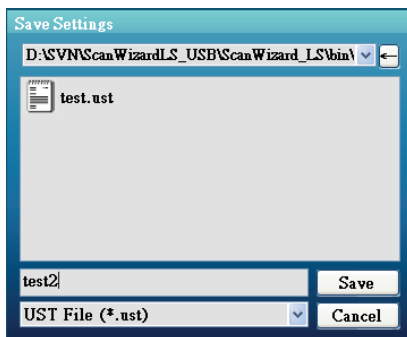
- Save the current scanning settings as a template and load it at a later time when you work on the same kind of the images
- Load the settings saved earlier and apply them to the current scan job
- Restore scanning settings back to the default settings

### Save Scanning Settings

This command lets you save current scanning settings, such as resolutions, color modes, saturation and brightness, as a template when performing a scan job. The saved template can be loaded at a later time when scanning the same kind of the images.

To use the Save Scanning Settings command:

1. Click the Files menu and then select "Save Scanning Settings" option.
2. When "Save Settings" dialog box appears on the screen, enter the desired folder direction and file name and then click the Save button to save.



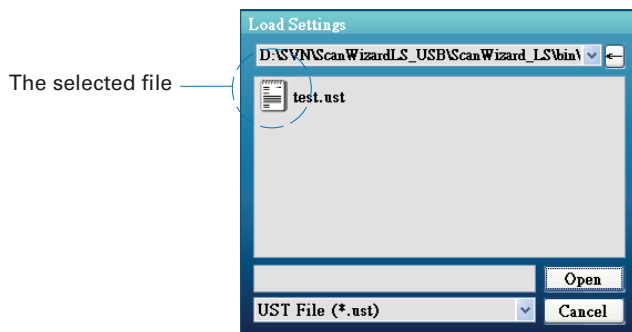
3. When done, the Save Scanning Settings dialog box will be closed and you will be directed back to the window of the main control panel.

## Load Scanning Settings

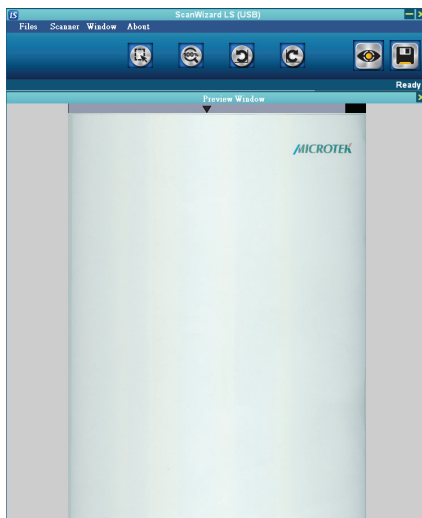
This command lets you load and use image settings that you have saved earlier, such as resolutions, color modes, saturation and brightness, helping you to save time on doing tedious and repetitious settings and improving work efficiency.

To use the Load Scanning Settings command:

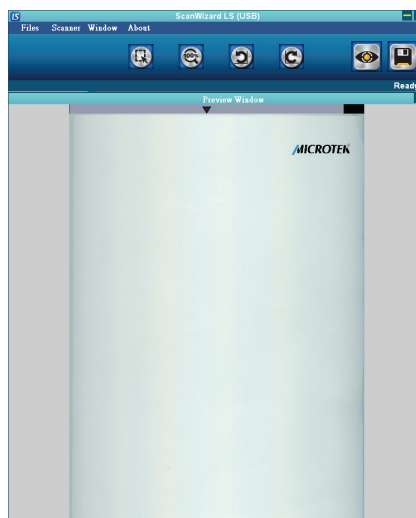
1. Click the Files menu and then select “Load Scanning Settings” option.
2. When “Load Settings” dialog box appears on the screen, explore folders to find out the file you want to use; then, click the Open button to load the selected file.



3. The settings of the selected file will apply to the preview image in the preview area immediately.



The original image

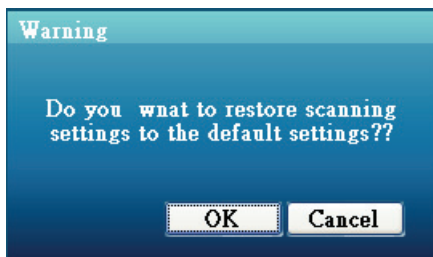


The image after being applied with selected file settings

## Restore the Default Settings

This command cancels the current settings used for the scanned image and retrieve the default values of factory settings.

When this command is selected, a window appears on the screen to remind you that values of current settings will be restored back to default setting values. Click the OK button to carry out the action.

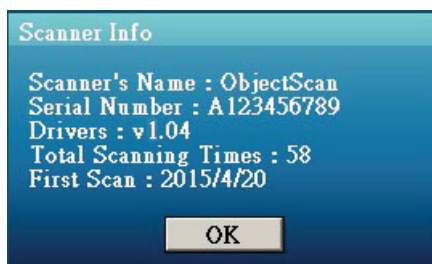


## The Scanner Menu



### Scanner Info

This command provides information about your current scanner. When you choose this command, a dialog box appears showing the scanner name, the scanner serial number, the driver version and the total scanning times.



## The Window Menu

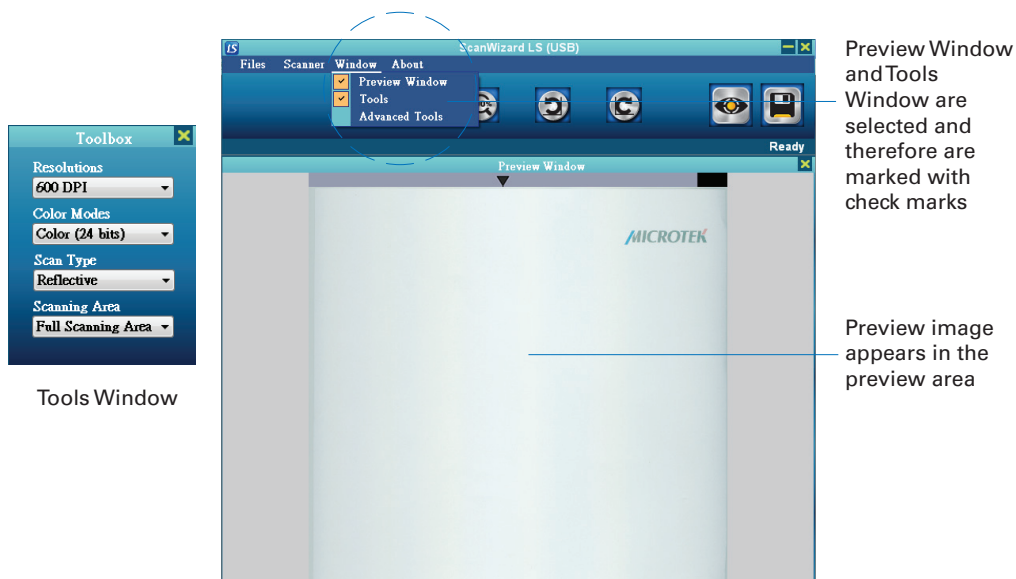


The Window menu lets you open or close Preview Window, Tools Window and Advanced Tools Window in ScanWizard LS (USB) software.

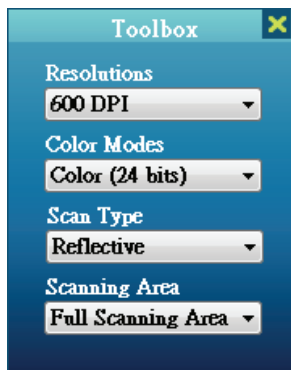
- **Preview Window:** The Preview Window contains a preliminary image scanned by your scanner.
- **Tools Window:** In the Tools Window, you can set up basic settings about your scan job, such as resolutions and color modes.
- **Advanced Tools Window:** In the Advanced Tools Window, ScanWizard LS (USB) offers you advanced imaging settings to practice, such as color level, contrast, saturation and calibration, which are designed for the professional users in order to satisfy with their specific demands. If you like to restore the values of settings back to default values, please use "Restore the Default Settings" in the Files menu.

### Open a Window

1. Use the mouse to click the Window menu and select one of three windows you like to open (for example, Preview Window).
2. A check mark (v) will appear in front of the window which is selected. Also, the selected window will appear on the screen.

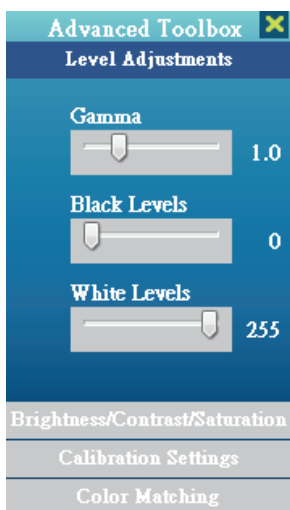


## Tools Window



- Resolutions: Select a desired resolution for outputting the image from a drop-down menu. The options are 300, 400, 600, 800 and 1600 dpi.
- Color Modes: Select a desired image output type from a drop-down menu:
  - Select Color (24 bits) to scan the image in color
  - Select Gray (8 bits) to scan the image in gray
- Scan Type: Select a desired image input type from a drop-down menu. The option is Reflective or Transparent. This option can be selected only when the connected scanner supports.
- Close button (X): Click to close the Tools Window.

## Advanced Tools Window



Under the Advanced Tools Window, there are four sub-menus which you can use for coloring settings for scanned images. To open and extend each sub-menu, just use the mouse to click it; then, you can start to change settings on each sub-menu. All changes you made will be applied to and shown on the preview image immediately.

### Level Adjustments

- Gamma: Drag the slider left or right to adjust Gamma values of images.
- Black/White Levels: Drag the slider left or right to adjust the dark or light levels of images.

### Brightness/Contrast/Saturation

- Brightness: Drag the slider left or right to adjust brightness values of images; therefore, you can change the lightness of images.
- Contrast: Drag the slider left or right to enhance the contrast of images; thus, you can approve the stereoscopy of images.
- Saturation: Drag the slider left or right to increase or decrease the color intensity of images.



## Calibration Settings

This sub-menu lets you choose which type of calibrations you like to perform before each scanning.

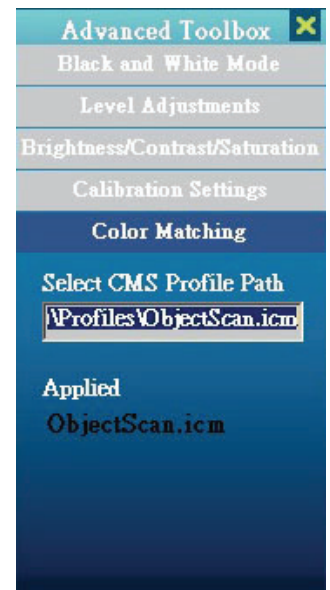
- **Smart mode:** When this mode is checked, the ScanWizard LS (USB) will memorize the calibration values generated by different scanning settings. These memorized settings can be used later when a scan job with a same value of scanning settings is performed again. This mode eliminates calibration time and therefore enhances the scanning speed when you often scan materials sharing same scanning settings.
- **Typical mode:** If this option is selected, the ScanWizard LS (USB) calibrates your scanner before performing a scan job if the scanning settings are changed. It is the default setting of the system.



## Image Settings

This sub-menu lets you choose the path for the CMS Profile.

The default setting is ObjectScan1600.icm.



## The About Menu



The About menu lets you access the user's manual for ScanWizard LS (USB), and gives you related information about the ScanWizard LS (USB) scanning software and its supported website.

### User's Manual

When this option is selected, a folder will appear on the screen. In the folder, you can find user's manuals related to supported scanner models and relevant language versions. Please select one which is fit to your demand.



# Maintenance







After usage for a period of time, the parts inside your scanner, such as the light source, may become worn out, and a problem such as insufficient light supply may occur. In this cases, contact your local dealers or wholesales for the maintenance services.

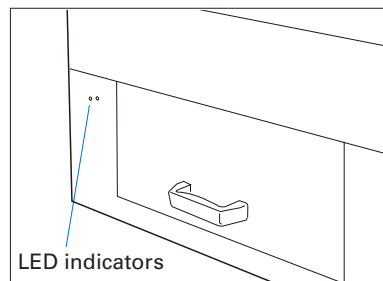
**Note:** Your scanner need a professional to perform the required service or maintenance. Do not attend to fix or perform the maintenance by yourself, or it may cause dangers to you or the scanner.

# Appendix

## Troubleshooting

The LEDs on the front-left panel of the scanner indicate the status of the scanner.

- 
 All On - The scanner is found and ready to scan
- 
 Green Flashing - Scanning
- 
 All Off - Scanner is off



First, make sure that you have followed steps as described in the “Initial Setup” section of this document. Then if your problem is listed here, try the suggested solution.

1. No light comes on when the scanner is turned on.  
Make sure your scanner is connected to your computer and plugged into a power source.
2. The Add/Remove Hardware Wizard appears on your screen.  
Click the “Cancel” button and close the ScanWizard LS (USB) scanning software. Disconnect the Hi-Speed USB cable from your computer, and refer to the installation instructions in this document.
3. When trying to scan, an error message appears on your screen that reads, “Can’t Find Scanners”.  
Make sure your scanner is unlocked (see “Unlocking the Scanner” in the “Initial Setup” section).  
  
Make sure your scanner is connected to your computer and plugged in to a power source (see “Connecting the Scanner” in the “Initial Setup” section).  
  
Uninstall and reinstall the ScanWizard LS (USB) software.
4. After clicking “Scan,” a blank screen appears.  
Uninstall and reinstall the ScanWizard LS (USB) software.

## Specifications

Model Name	ObjectScan 1600
Model Number	MRS-1600A3OS
Image Sensor	CCD
Light Source	LED (Light Emitting Diode)
Scanning Modes	Color, grayscale, and black-and-white in a single scanning pass 24-bit color, 8-bit grayscale
Color Depth	48-bit (Input); 24-bit (Output)
Resolution	1600 dpi
Scanning Area	12" x 16.7" (305 mm x 424 mm)
Scanning Speed	12 sec @ 400 dpi, A3 color
Interface	Hi-Speed USB (USB 2.0)
Dimensions (L x W x H)	29.5" x 18.5" x 14.8" (750 mm x 470 mm x 376 mm) (Foot stands are not included)
Weight	103 lbs. (47 kg)
Voltage	AC 100V to 240V, 47-63 Hz 1.5A Max (Input)
Environment	Operating temperature: 41° to 104°F (5° to 40°C) Relative humidity: 20% to 85%
Warranty	Machine: 100,000 scans @ 400 dpi, A3 size or 1 year for normal use

### Important

Please never attempt to open or service the machine by yourself; or, this will void your warranty.

Specifications, software bundles, and accessories are subject to change without notice. Not responsible for typographic errors.

