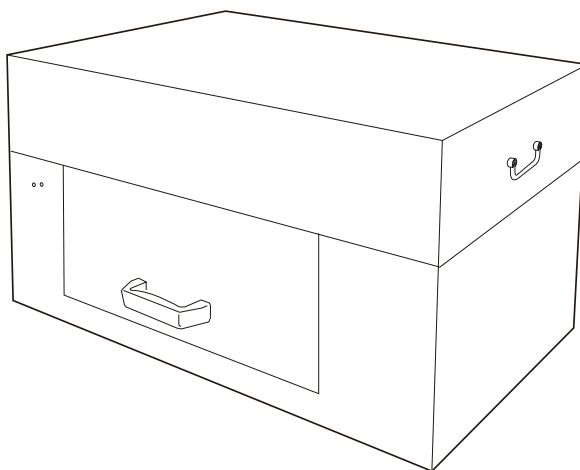




Object Scanner

ObjectScan 1600

User's Manual



Preface

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Disclaimer

The contents of this manual have been checked carefully for accuracy, and every effort has been made to ensure that there are no errors. However, Microtek makes no guarantee as to the accuracy of the contents of this document and reserves the right to make changes to the contents without prior warning.

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FCC Compliance Statement

This equipment (Model: MRS-1600A3OS) has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

NOTE: A shielded Hi-Speed USB interface cable with ferrite core installed on the scanner connector end must be used with this equipment.

Caution: Changes or modifications not expressly approved by the manufacturer responsible for compliance could void the user's authority to operate the equipment.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

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:

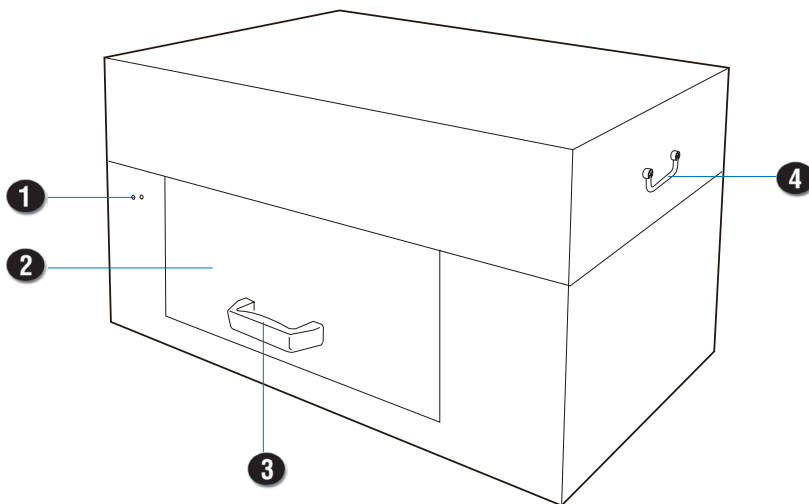
- **Non-contact scan (on-top scan) Design** — The ObjectScan 1600 takes on a design of a non-contact scan (on-top scan) structure. Under this structure, users have no needs to spin sample face down on the scan bed, and enjoy the scan work without worrying about the problems that traditional flatbed scanners 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 Graph software** — ScanWizard Graph is software exclusively designed for scanning large-format graphs and objects. It is provided with series of advanced functions and tools, providing instant and complete helps to users who can therefore control the scanner easily and get the best image results.

System Requirements

- DVD-ROM drive (for installing software)
- Color display with 24-bit color output capability
- 8 GB RAM or more recommended
- Intel Core i5 at 3.0 GHz PC or higher with USB 2.0 port
- Microsoft Windows 7 (64-bit), 8 (64-bit) or 10 (64-bit)

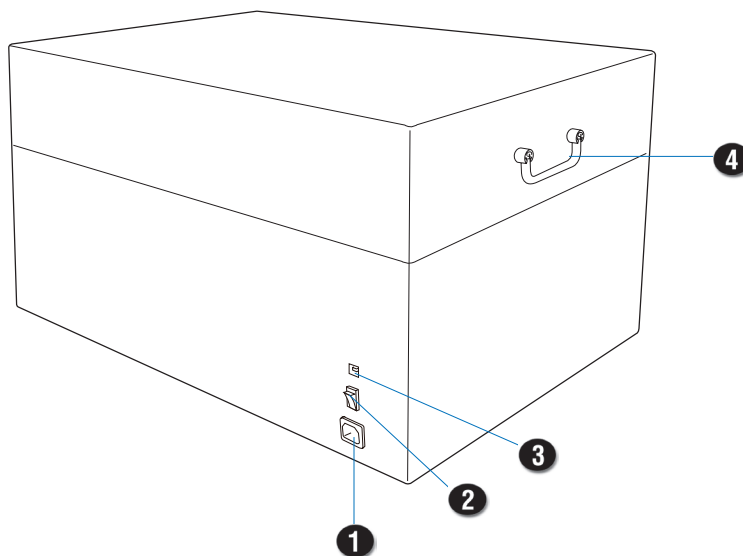
Taking a Closer Look

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

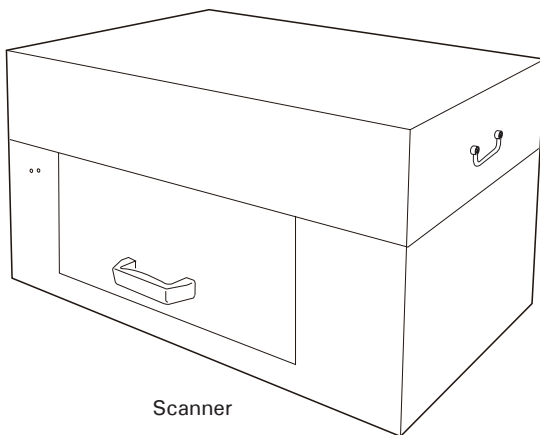


No.	Names of Parts	Functions of Parts
1	Power Connector	Connects the scanner to the power cord.
2	Power Button	Turns the scanner on or off.
3	Hi-Speed USB Port	Connects the Hi-Speed USB (USB 2.0) cable to the computer.
4	Left Handle	Holds to move the scanner.

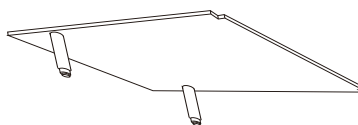
Initiate Setup

Step 1: Unpacking Package Contents

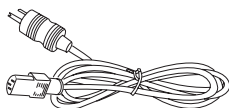
After unpacking your scanner package, please check for the major components listed below.



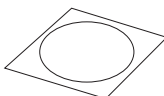
Scanner



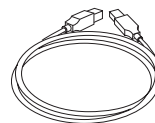
Upper scan bed



Power cord



Software DVD



Hi-Speed USB cable

Step 2: Installing the Software

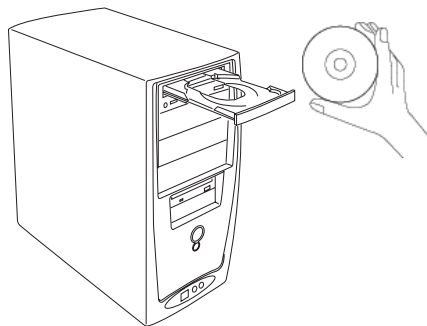
Important: You must install all software before connecting your scanner. Always close any open programs and turn off Anti-virus utilities before installing software.

1. Turn on your computer.
2. Place the Microtek Software 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 DVD-ROM icon; then Setup.exe to start the installer program.

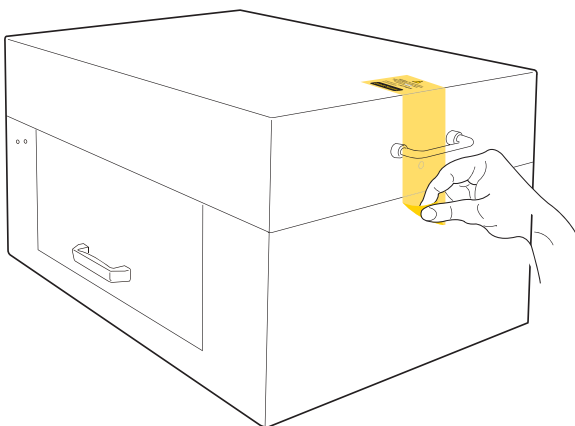
4. Click EXIT on the Microtek Software Installer screen when all the software has been installed.
5. Restart your computer.

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



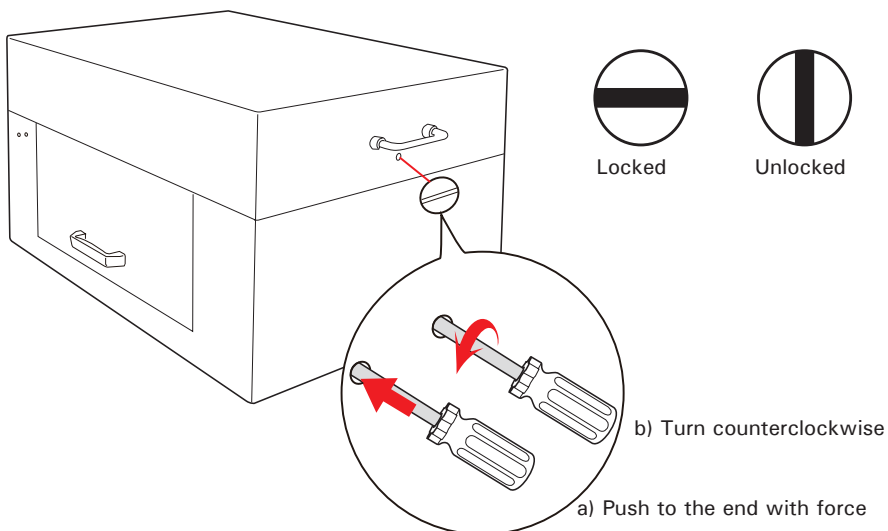
Step 3: Unlocking the Scanner

1. Remove the yellow sticker at the middle of the right panel of the scanner and locate the locking screw under.



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 side of the scanner. Also, the pattern of the hollow side of the locking screw will be turned horizontally.



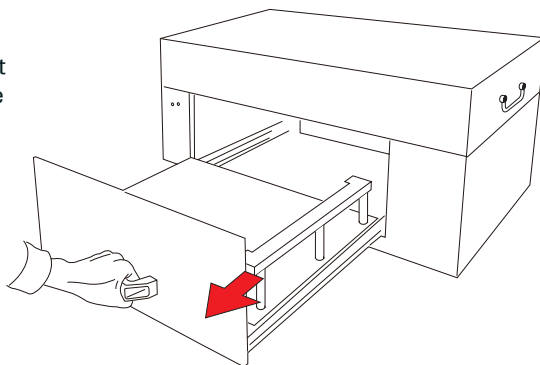
NOTE: If you have to transport the scanner, you will need to lock the scanner back. Follow the steps below:

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 Graph 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 Graph software program and turn off your scanner. Hereby, the scanner is ready for transport.

Step 4: Installing the Upper Scan Bed

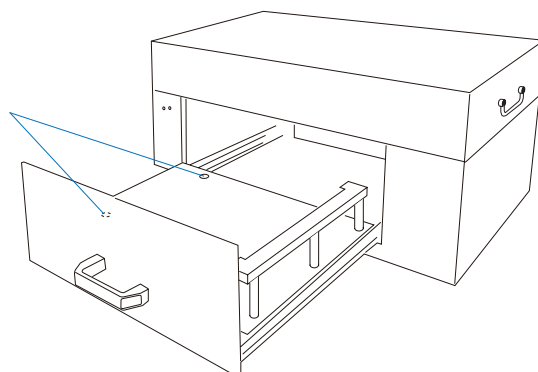
For the safety of the package delivering, the upper scan bed is packed separately from the scanner unit. Before using it with the scanner, follow the steps below to assemble it in the scanner:

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.

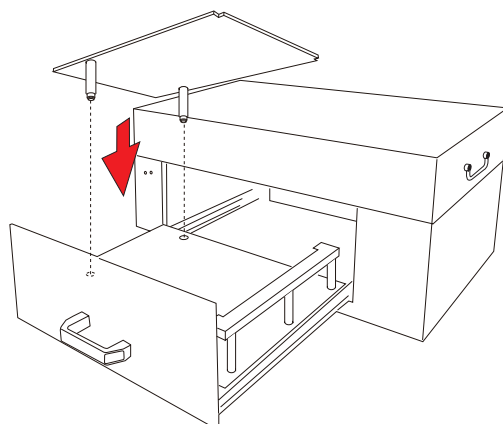


2. Locate two hollows at the left side of the lower scan bed.

Hollows



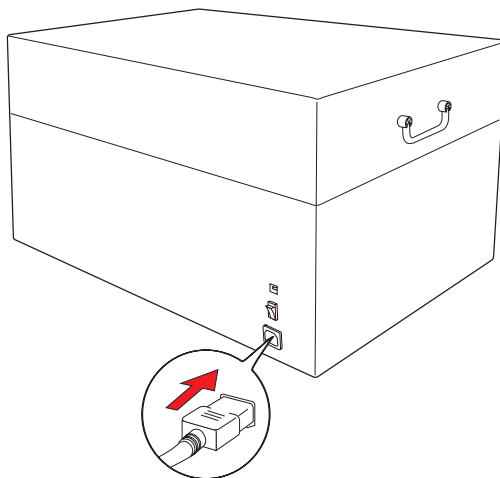
3. Insert the stools at bottom of the upper scan bed into the hollows on the lower scan bed. Make sure the upper scan bed has been assembled in the scanner firmly.



Step 5: Connecting the Scanner

To the Power Source

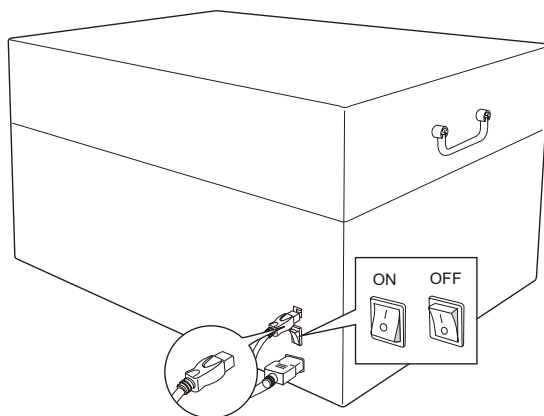
1. Connect one end of the power cord to the back side of the scanner.
2. Plug the other end of the power cord into a power source.



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.

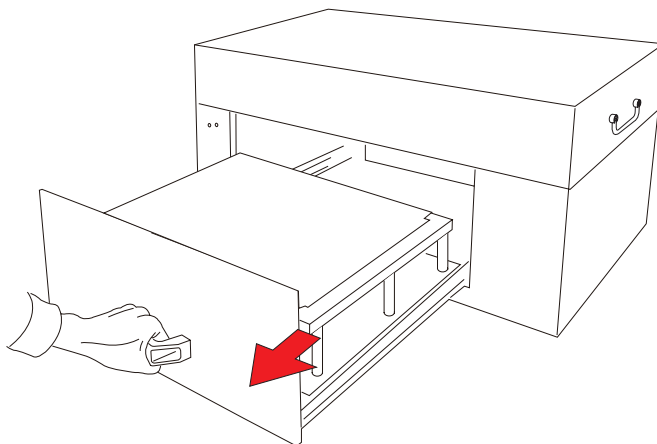
The system will detect your scanner automatically.



Scanning the Materials

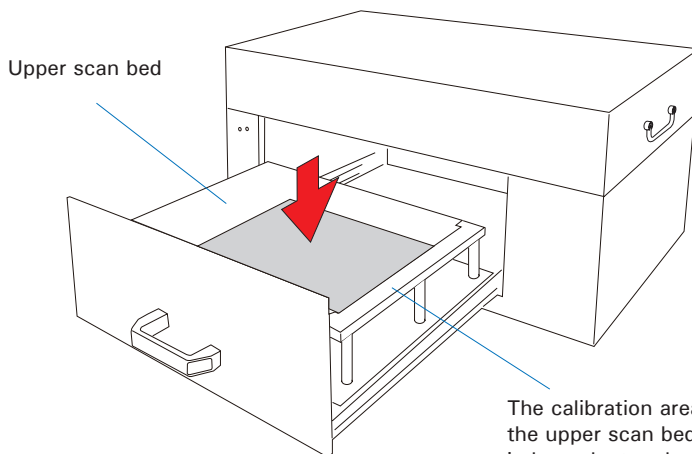
Positioning the Materials

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.

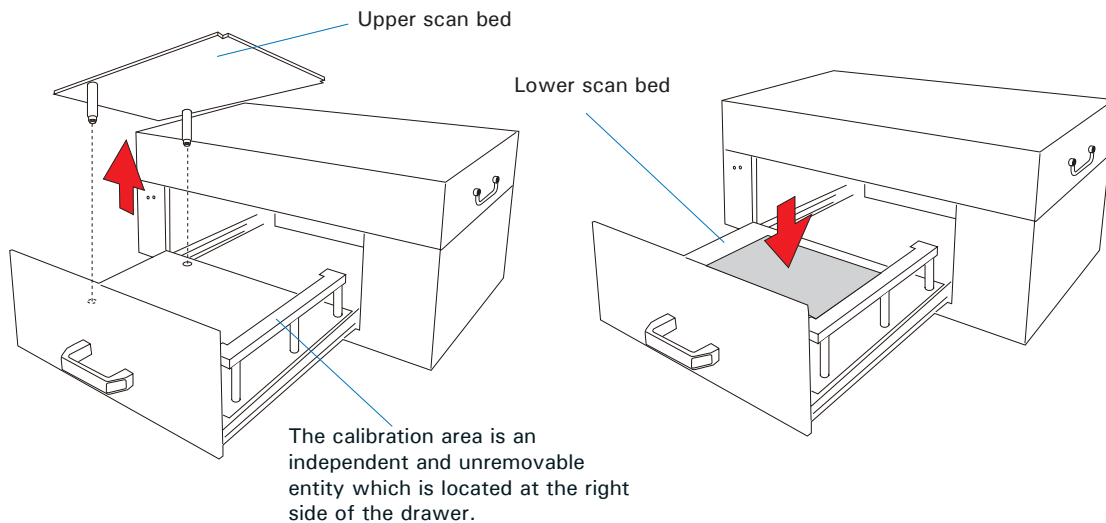
When placing the scanned object, do not block the calibration area.



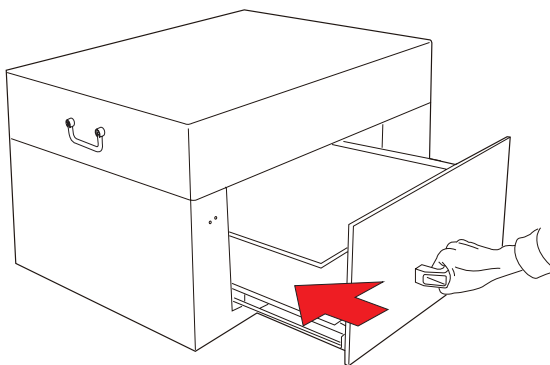
The calibration area is next to the upper scan bed which is an independent and unremovable entity located at the right side of the drawer.

3. 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.



4. 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.



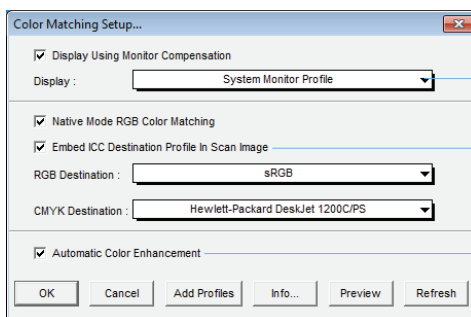
NOTE: The maximum loading weight for scan beds is 5.5 lbs (2.5 kg). Do not load any material heavier than the loading limit.

Using ScanWizard Graph Software



1. Refer to the descriptions in "Positioning the Materials" to place the object to be scanned on the scan bed.
2. Launch **ScanWizard Graph** either as a standalone by clicking on the program icon on the desktop, or by using the File-Import or File-Acquire command from your image-editing program (such as Adobe Photoshop).
 - The first time you launch ScanWizard Graph, you will be prompted to set up color matching for your scanner. If you are not sure about what to do, simply click the OK button to accept the settings. You can always change the settings at a later time.

For more information, see the *Color Matching Setup* section in the *ScanWizard Graph Reference Manual* in the Microtek Software DVD.



Pertains to how your monitor displays color, relative to the RGB Destination color space

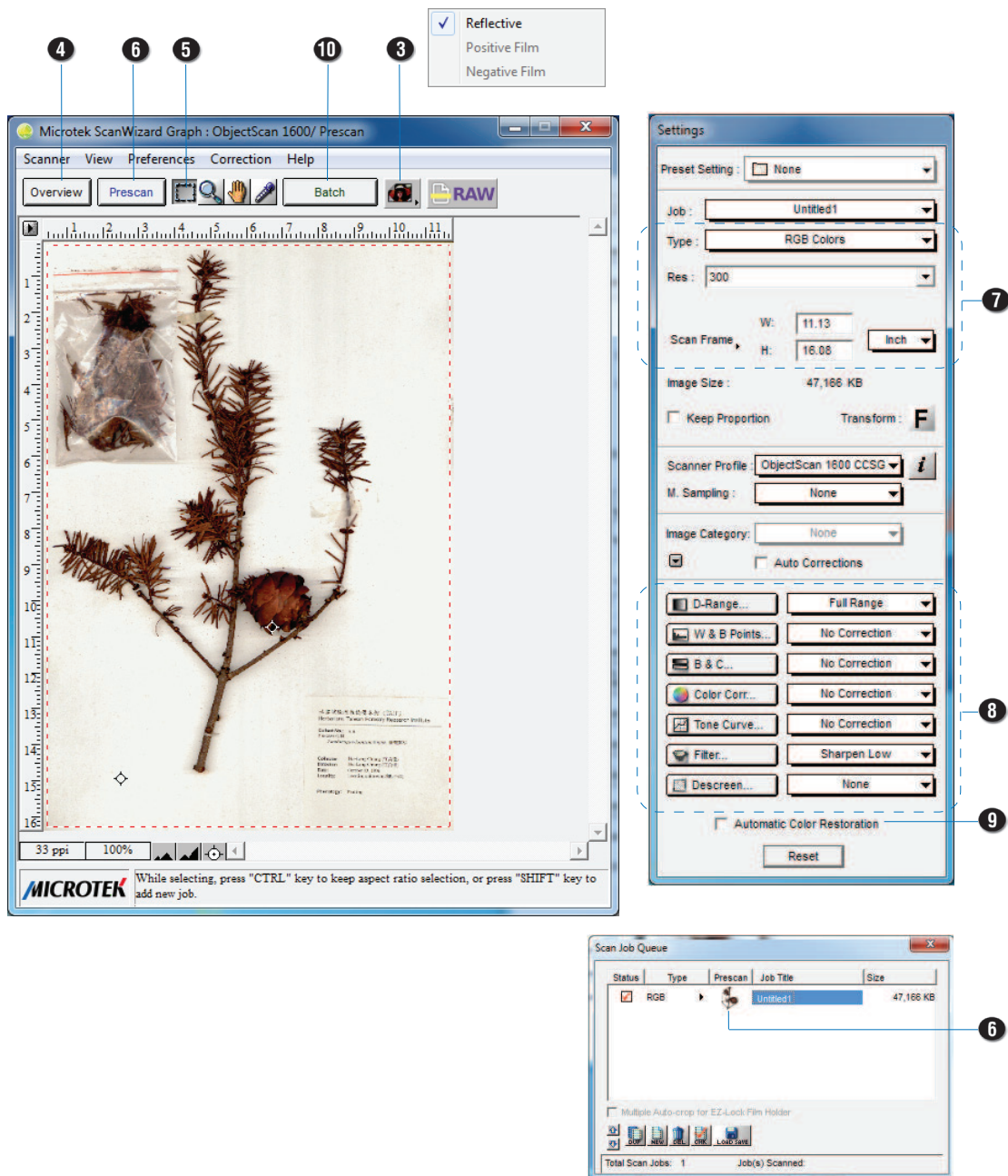
Color Matching features

Improves the contrast and saturation of an image

3. Go to the Preview window of ScanWizard Graph, and choose **Reflective** from the Scan Material menu.
4. Click the **Overview** button to perform a preliminary scan of the image, which will appear in the Preview window.
5. Select the **Scan Frame** tool from the Toolbar in the Preview window, and choose the area to be scanned by dragging a rectangle around it. You will see a flashing frame (marquee) around the selected area.
6. Click the **Prescan** button to display a detailed image area selected via the Scan Frame tool. A thumbnail of the image appears as well in the Scan Job Queue window.
7. Specify your scanning requirements in the Settings window.
 - a) Select a desired image type.
 - b) Select a desired resolution.
 - c) Adjust the scan frame settings if necessary.

8. Adjust image quality if necessary, using the Advanced Image Correction (AIC) tools.
9. If the colors in your materials are faded and needed restoring, check the "Automatic Color Restoration" box in the Settings window.
10. Click the **Scan** (or "**Batch**") button in the Preview window to start scanning.
 - If ScanWizard Graph was launched from an application program, the image is then delivered to your application, where the image can be saved, printed, or edited.
 - If ScanWizard Graph was launched in stand-alone mode, you will be prompted to specify the file attributes for the scanned image after the Scan (or Batch) button is pressed, such as entering the file name, specifying a folder name of your own, etc. When you have completed the settings, press the **Save** button, and the scanner will automatically scan and save your image based on your settings.

NOTE: For more information about ScanWizard Graph scanning software, see the manual of ScanWizard Graph in the Microtek Software DVD.



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.

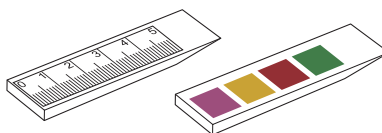
NOTE: Your scanner need a professional to perform the required service or maintenance. Do not attend to fix or perform the maintenance by yourself, or it may cause dangers to you or the scanner.

Appendix

Optional Magnet Helpers

This section is only available for the user who purchase the scanner with an iron upper scan bed.

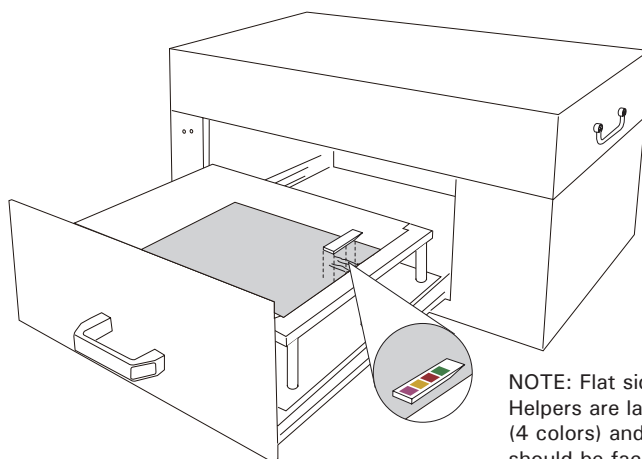
For your convenience, Microtek offers you a set of magnets to purchase additionally. When your scanned originals are pressed, creased or wrinkled, the two Magnet Helpers are helpful to make the scanned target flat on the scan bed and thus you can get better after-scan results.



Please take note that Magnet Helpers are designed for only being used on the upper scan bed. Do not use them when the scanned target is put on the lower scan bed.

How to Use Magnet Helpers Together with the Scanned Target

1. Follow the steps mentioned in "Positioning the Materials" to place the scanned target on the upper scan bed.
2. If you have found any folds, creases or wrinkles appearing on the scanned target, put Magnet Helpers, with bevel sides facing down, on where they appeared.

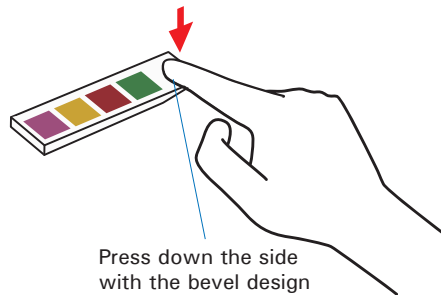


NOTE: Flat sides of two Magnet Helpers are labeled with Color Prints (4 colors) and 5-cm ruler. They should be faced up when positioned on the upper scan bed.

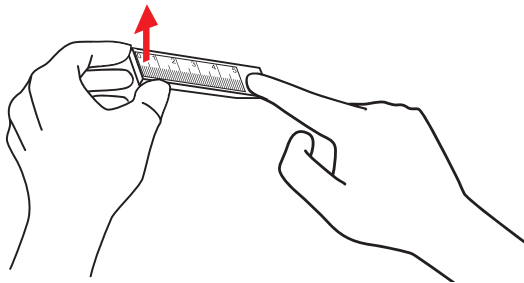
3. Make sure all defects have been smoothened and then follow the steps mentioned in "Using ScanWizard Graph Software" to start the scan process.

How to Remove Magnet Helpers from the Upper Scan Bed

1. Press down the end with the bevel design. Make sure the other end of the Magnet Helper has been raised up like a seesaw.









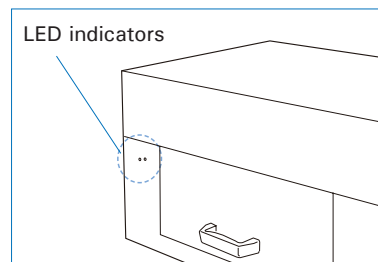
2. Use two fingers to grab and hold the lifted-up side and then remove the Magnet Helper from the upper scan bed.



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 Graph 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 Graph software.

4. After clicking “Scan,” a blank screen appears.

Uninstall and reinstall the ScanWizard Graph 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 48-bit color/16-bit grayscale/1-bit B&W
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.