

SUPREMA

RealScan-D User Manual



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1. Basic Specifications

1-1. General Information

- Scans various fingerprint images (1, or 2, flats or 1 roll).
- High-quality image scanning regardless of states of finger.
- Automatically segments when scanning flats, and detects slippage when scanning rolls.
- Prevents external light, halo effect, and ghost images.
- Full compliance with IDENT, US-VISIT, and DHS standards.
- User-friendly Interfaces
 - ① Buttons can be used to make scanning easier.
 - ② LED indicator for displaying scanning progress
 - ③ Built-in buzzer for sound alerts
- USB 2.0 transmits data and supplies power.
- For use only with UL Listed I.T.E computer
- Input Power : 5VDC / 500mA

1-2. Certificate

- FCC Statement

This device has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operated the equipment under FCC rules.

1-3. Safety Notes

- Do not dismantle or alter this device. Electric shock or damage may occur. If the device was intentionally dismantled or altered by the user, repair services will not be provided.
- Do not use this device in places where flammable or explosive gas may be in the air. A fire or explosion may occur.
- If there is water or foreign matter inside the device, USB cables and contact the customer support center.
- Do not leave the device in an airtight place (such as inside a vehicle), and keep the device away from heat or direct sunlight. The device's exterior or components may be affected.
- Sharp changes in temperature can generate moisture within the device and can result in poor performance. Idle period is recommended after substantial changes in temperature.

1. Basic Specifications

1-4. Device Parts



Device



Software CD (Optional)



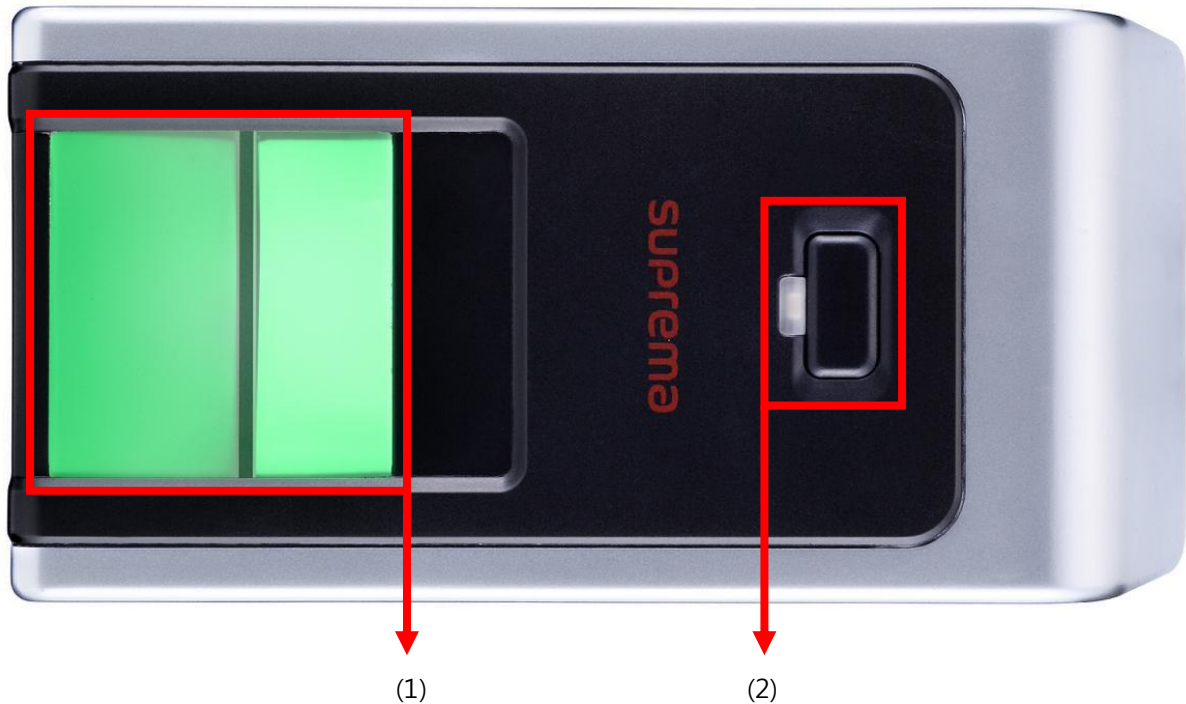
Mounting Bracket(Optional)



Cleaning Cloth

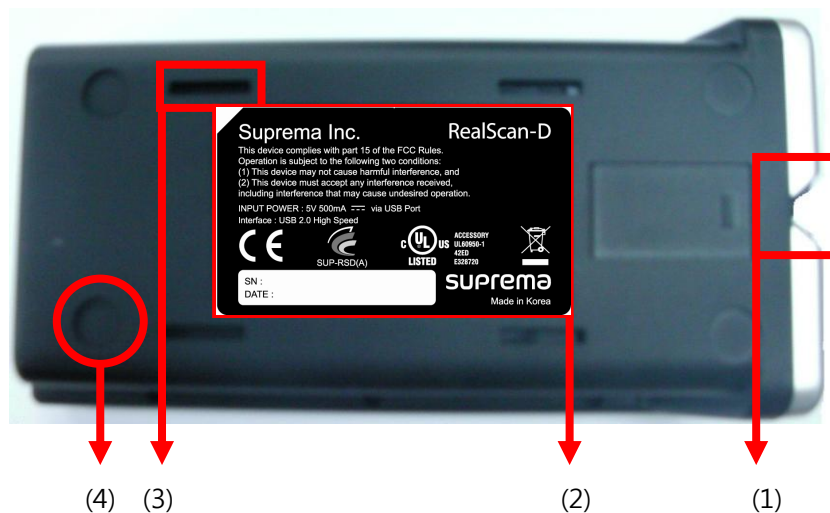
2. Exterior and Cable

2-1. Top View



- (1) Scanning Window
 - Area for scanning user's fingerprints
- (2) LED Light and Scan Button
 - LED light to indicate scan progress

2-2. Rear View



- (1) Holds USB cable
- (2) Device label showing basic information including serial number of the device
- (3) 4 slots for mounting bracket
- (4) Rubber pads for anti-slippage

2. Exterior and Cable

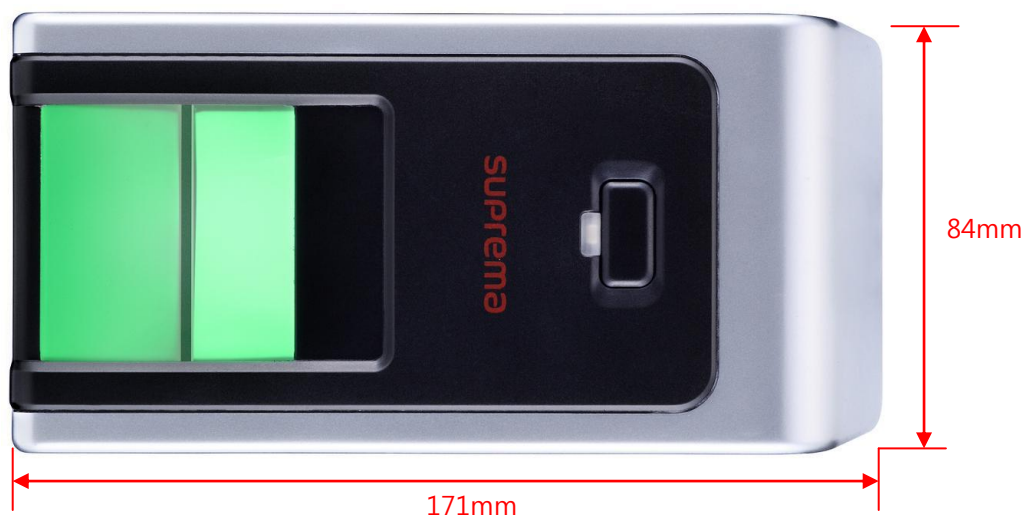
2-3. Device Label



Device Label

- Includes interface, power specifications, certification markings, and device number.

2-4. Device Exterior

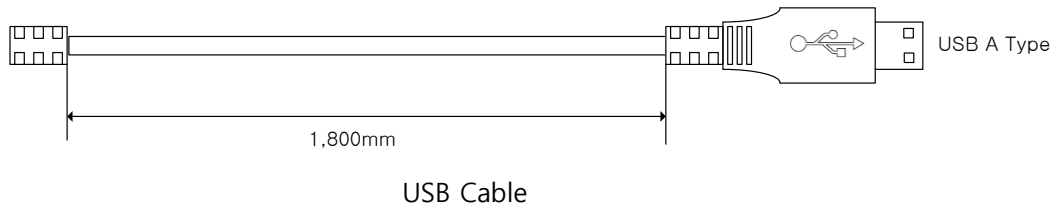


2. Exterior and Cable



- Device Dimensions : 171mm(L) * 84mm(W) * 63mm(H)
- Device Weight : 0.54Kg

2-5 USB Cable



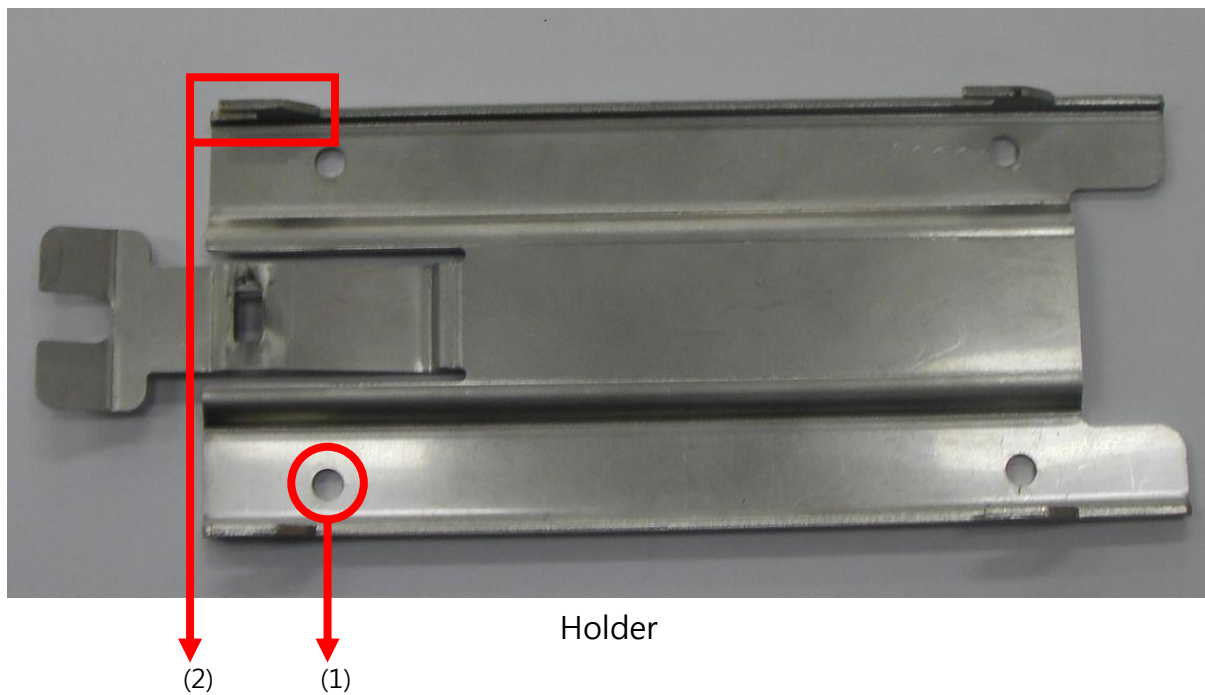
- "A type" USB cable connected to the device through stopper with 1,800mm cable.

3. Installation

3-1. Minimum PC Requirements

	Desktop(Laptop)
CPU	Pentium 4, 2.4 GHz
OS	Windows XP or higher
VGA	Memory of 64 MB or higher (1024 x 768)
Interface	Support USB2.0 High Speed
HDD	20 GB
RAM	1 GB

3-2. Mounting Bracket Installation



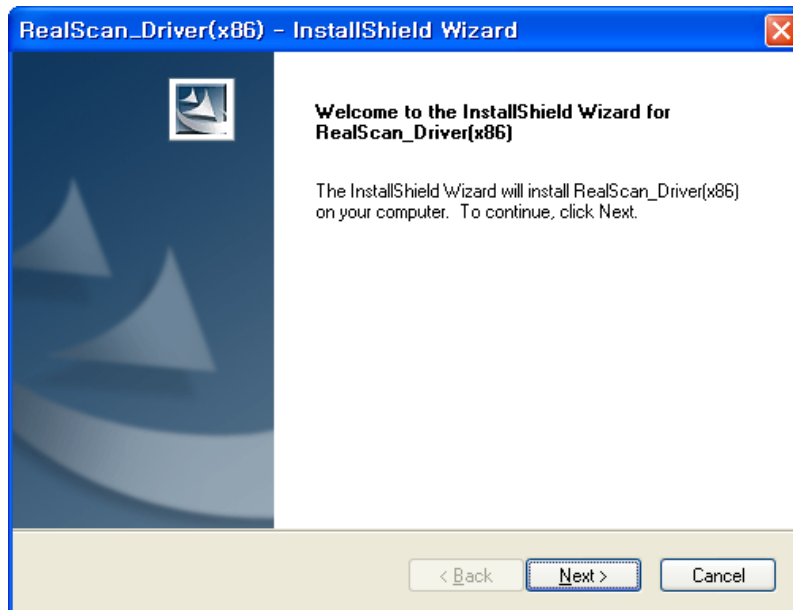
(1) Attachment holes: Drill holes to the surface on which you wish to install the device, and bolts on the mounting bracket. The mounting surface can be varied depends on user environment (Concrete, metal, wood and so on). Mounting bolts can be M4 machine screws or tapping screws and the length varies depends on user environment.

(2) Fixing Slots: Slots to attach the device to keep it in place.

3. Installation

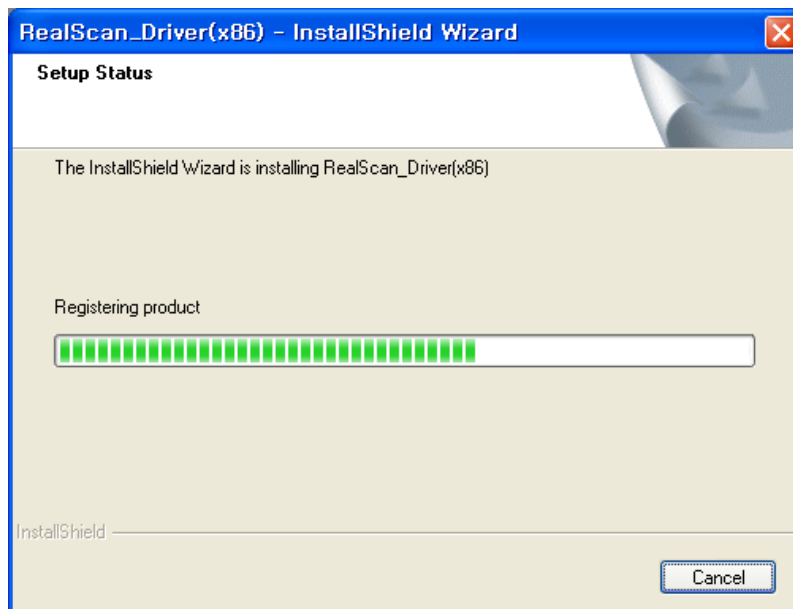
3-3. Device Driver Installation

- Windows XP / VISTA / 7 32 Bit OS



1st Step of Installation

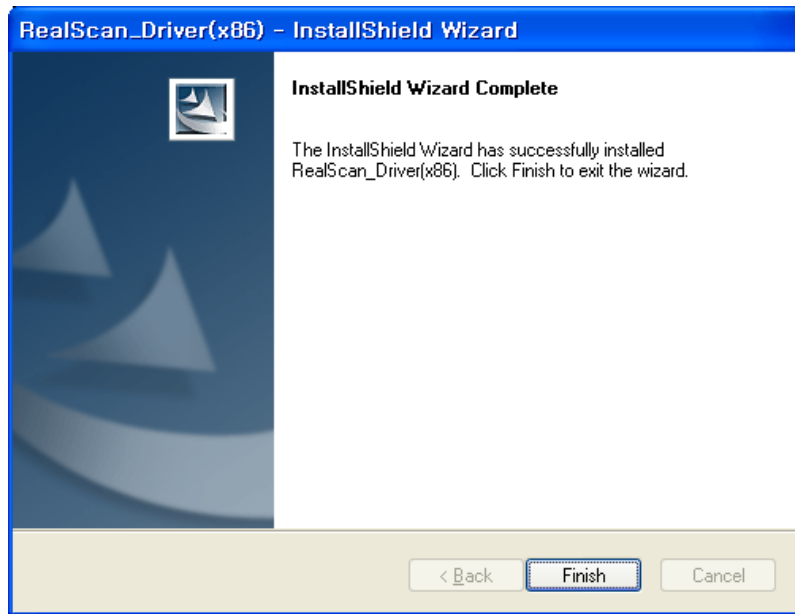
- ① Disconnect the USB cable of device from the PC before proceeding to install the program.
- ② Click "Next" if the above screen appears after running "RealScan_Driver(x86)-V1.2.0.0.exe".



2nd Step of Installation

- ③ Device driver is being installed.

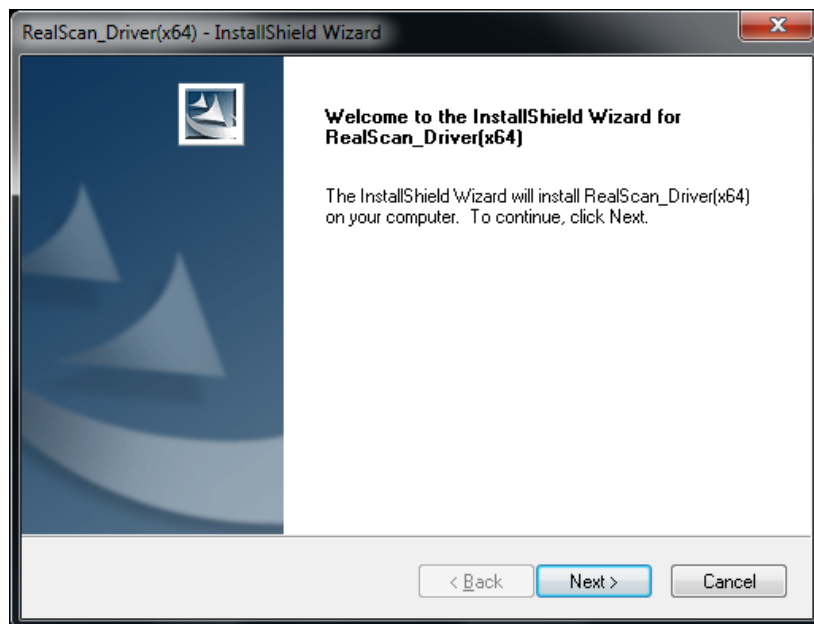
3. Installation



3rd Step of Installation

- ④ Click "Finish" to exit the driver installation.
- ⑤ Connect the USB cable of device to the PC, then check the installation status in Device Manager. (Refer to page 23)
 - ※ Please be advised to follow the troubleshooting guide to check and see if the installation is made successfully or not.

- Windows XP / VISTA / 7 64 Bit OS

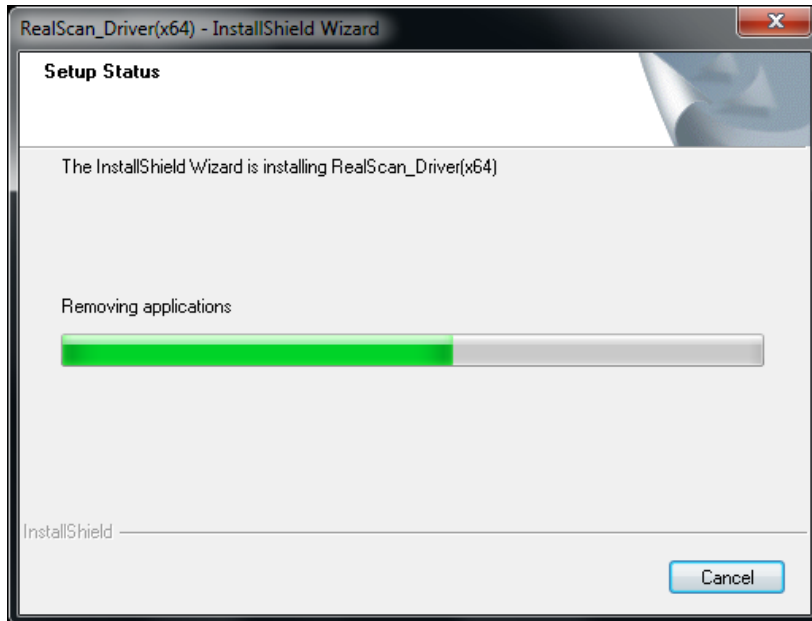


1st Step of Installation

- ① Disconnect the device's USB cable to a PC before program installation.

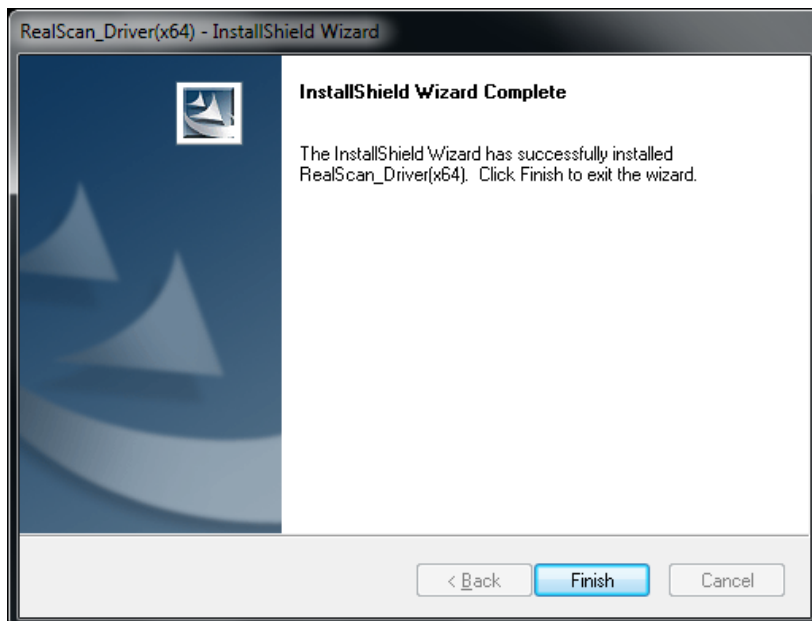
3. Installation

- ② Double-Click the "RealScan_Driver(x64)-V1.2.0.0.exe" for installing device driver with selecting "**Run as administrator**" mode onto the pop-up menu.(click right-mouse button)



2nd Step of Installation

- ③ Device driver is being installed.

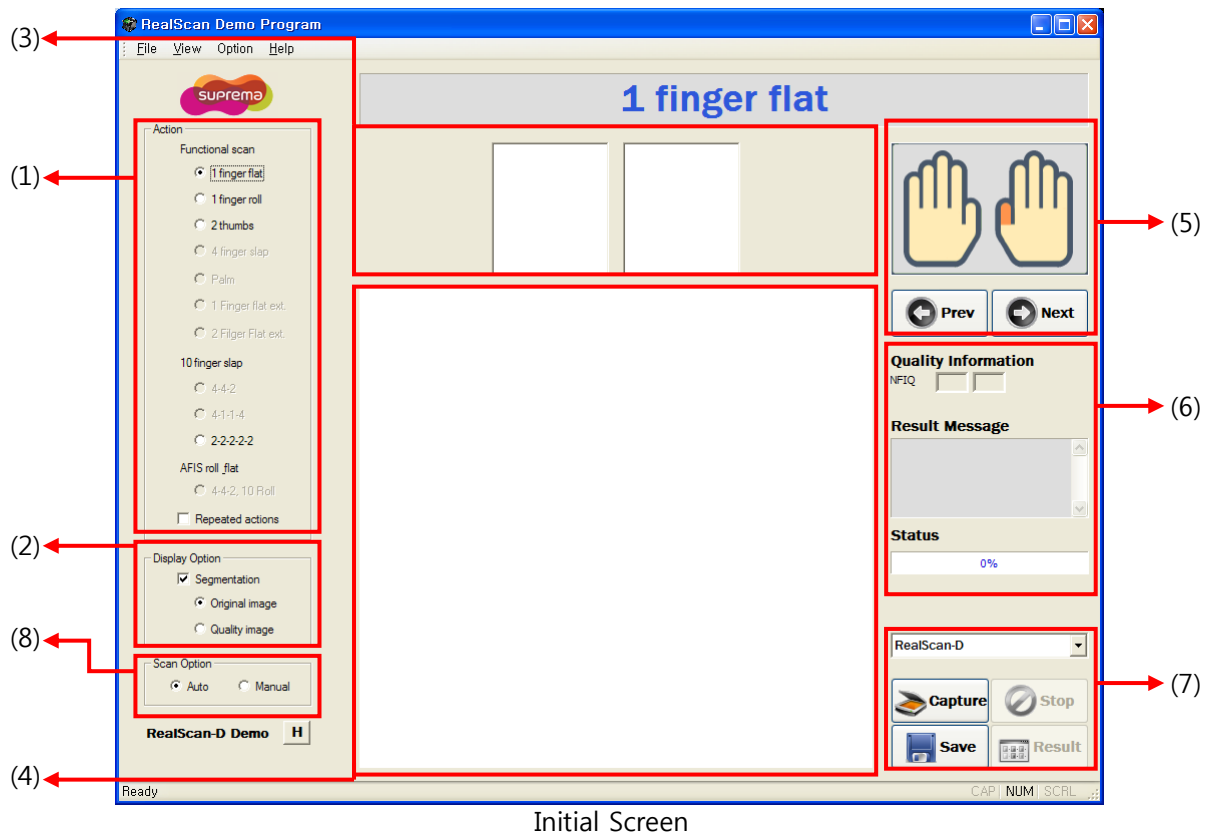


3rd Step of Installation

- ④ Click "Finish" to exit the driver installation.
- ⑤ Connect the USB cable of device to the PC, then check the installation status in Device Manager. (Refer to page 23)
 - ※ Please be advised to follow the troubleshooting guide to check and see if the installation is made successfully or not.

4. Using Software

4-1. Initial Screen



Initial Screen

- (1) Fingerprint Scan Mode – Total of 4 scanning methods are available.
 - 1 finger Flat : Scans single flats.
 - 1 finger Roll : Scans single rolls.
 - 2 fingers Flat : Scans two finger flats at the same time.
 - 2-2-2-2-2 : Scans two finger flats. Total of 10 fingers should be scanned.
 - Repeated actions : When checked, the same action selected would be repeated until pressing "Stop" button.
- (2) Display Option
 - Displays the scanned fingerprints. (Original image or quality image)
- (3) Displays each fingerprint from the original image scanned in area (4) above.
- (4) Area where fingerprint was scanned.
- (5) Indicates fingers to be scanned. It can be changed by pressing "Prev" or "Next" button.
- (6) Scanned fingerprints are scored, and results of the scanned fingerprints are displayed in the message window.
- (7) "Capture" and "Stop" buttons for scanning fingerprints, "Save" button to save scanned image and "Result" button to check result fingerprint images.

4. Using Software

(8) Scan Option

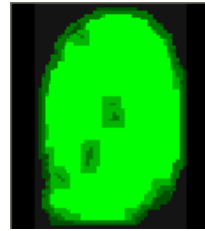
- Auto Mode : Device automatically detects and saves fingerprint
- Manual Mode : Capture proceeds in a manual manner.

4-2. Basic Functions

- Display Option



Normal Fingerprint



Check Fingerprint Quality

- ① Normal(Original Image) : Displays the original fingerprint.
- ② Quality check (Quality Image) : Displays the quality of the scanned fingerprint. Lighter Areas indicate higher quality.

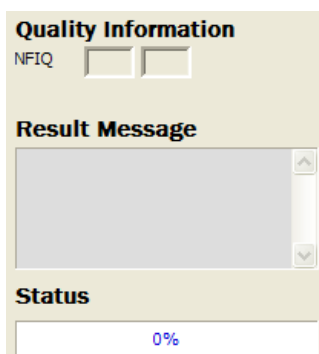
- Indicate



Fingerprint Scanning Order

- ① Indicates the finger to be scanned.
- ② "Prev" or "Next" button can be used to change scanning order.
 - ※ "Prev" and "Next" buttons do not work during the preview.

- Quality Information

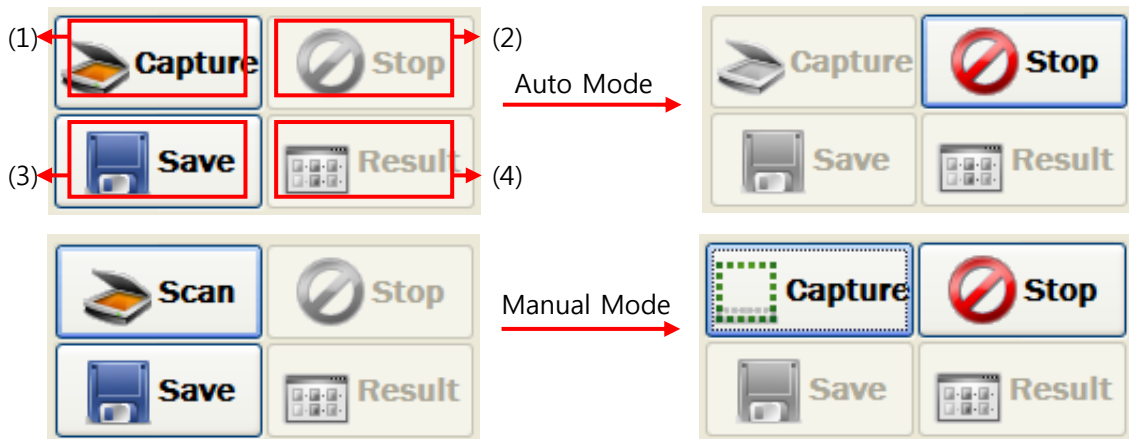


Fingerprint Information and Message window

- ① NFIQ : Displays the NFIQ results to show the quality of image.
- ② Result Message : Displays the information when scanning process is completed.
- ③ Status : Displays the scanning progress.

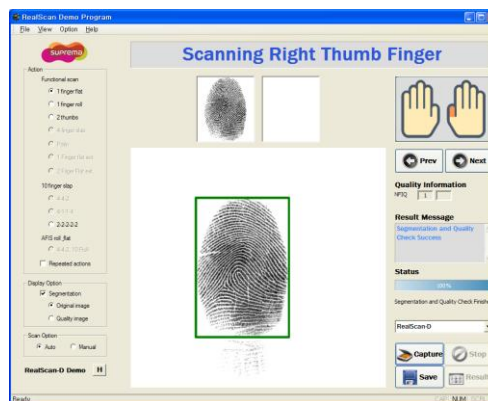
4. Using Software

- Button



- (1) "Capture" button: Used to preview or start scanning.
 - (a) Manual – "Capture" button changes into "Scan", and preview is provided. As shown on the right side, the "Scan" button is changed into "Capture" after "Scan" button is pressed. By pressing "Capture" button, scanning will be started.
 - (b) Auto – "Capture" button is activated as shown above. Scanning will be started by pressing "Capture" button.
- (2) "Stop" button: Stops scanning the fingerprint during the preview.
- (3) "Save" button: Saves the scanned image as a file.
- (4) "Result" button: Shows the scanned image with the related data.

4-3. Scanning Fingerprints Individually

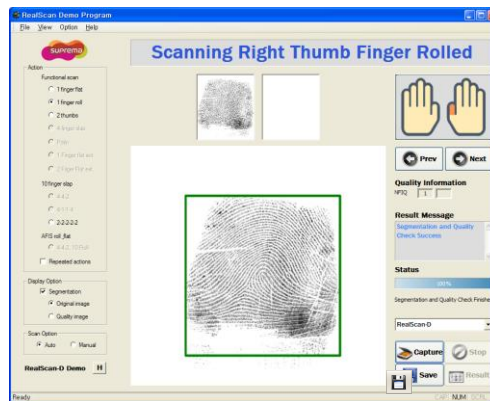


Single Flat Scanning Screen

- Single Flat Scan
- ① Select "1 Finger Flat" in the Action menu.
 - ② Select a finger to scan using the "Prev" and "Next" buttons at the upper-right of the screen.

4. Using Software

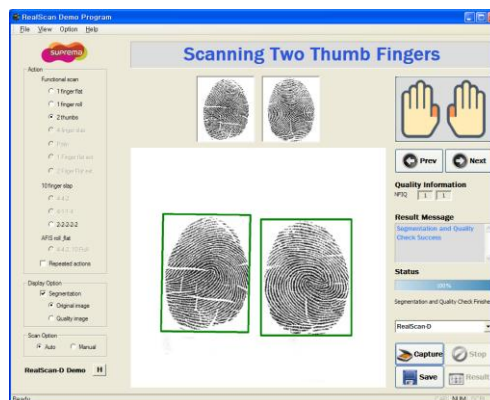
- ③ If the "Capture" button is pressed at the lower-right of the screen, and then the preview image is shown at the main view window, the center part of the demo program.
- ④ Place the finger on the scanning area then an image will be captured automatically. The image of the scanned fingerprint will be shown as above.



Single Roll Scanning Screen

- Single Roll Scan

- ① Select "1 Finger Roll" in the Action menu.
- ② Select a finger using the "Prev" and "Next" buttons at the upper-right of the screen.
- ③ If the "Capture" button is pressed at the lower-right of the screen, and then the preview image is shown at the main view window.
- ④ When scanning rolls, the device automatically detects the finger. Roll direction can be set at the "Capture Option" in the "Option" menu.
- ⑤ Place the finger at the center of the screen, and tilt the finger to the side the scan will begin from. After the first beep, roll capture will start automatically, and roll the finger to the other side. The roll will be scanned and the image will be shown as above.



Two Fingers Flat Scanning Screen

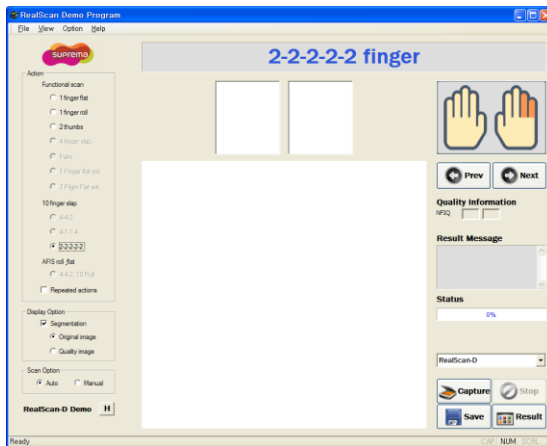
- Two-Thumbs Scan

- ① Select "2 thumbs" from the "Action" menu.
- ② If the "Capture" button is pressed at the lower-right of the screen, the capture will be started automatically and the preview image is shown at the main view window.

4. Using Software

- ③ Place two thumbs inside the scanning area and then the scanned images will be shown as above.
- ④ Each captured 2-thumb image will be automatically analyzed and segmented as results.

4-4. Scanning Fingerprints Sequentially



Initial Screen



2-2-2-2-2 Card Table

- Identification Flat Scan (2-2-2-2-2 Scanning Mode)

: In this scanning mode, all fingers including thumbs of both hands and the result fingerprint images will be automatically captured, segmented and displayed as results.

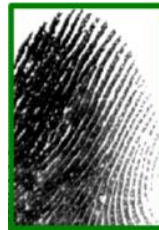
- ① Select "2-2-2-2-2" mode in the "10 Finger Slap" menu group at the middle-left of the initial screen.
- ② If the "Capture" button is pressed at the lower-right of the screen, the preview image is shown at the main view window.
- ③ Place the finger to scan on the scanning area.
- ④ After the first 2-finger scanning is finished, the next 2-finger scanning will be started automatically. Repeat this process for the other 2-fingers.
- ⑤ After scanning all 10 fingers, the all scanned fingerprint images and their segmented results can be checked by pressing "Result" button.

4. Using Software

4-5. Notes on Fingerprint Scanning



Top Scanning



Side Scanning

- Top Scanning: If only the top of the finger is placed on the scanning area, only the top of the finger part will be scanned as shown above.
- Side Scanning: If only the side of the finger is placed on the scanning area, and the center of the finger does not touch the scanner, only the side of the finger part will be scanned as shown above.



Blurred Image



Slippage Image

- Blurred Image: When applying too much pressure with one's finger to the scanning area, the image may become blurred as shown above.
- Slippage Image: If finger slips are detected while scanning a roll, the image may become extended as shown above.



Good Fingerprint Image



Good Roll Fingerprint

- To scan a fingerprint successfully, place the finger at the center of the scanning area with reasonable pressure.
- If the image is blurry, remove pressure from your finger and scan the fingerprint when images similar to those above are shown above.
- If the image is slipped, roll the finger at normal speed and you can scan the fingerprint without slipping or blurring.

5. Storage and Management

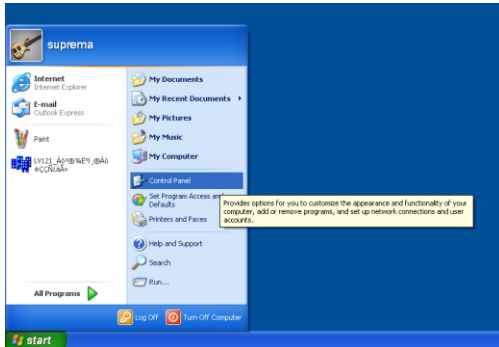
5-1. Prism Maintenance

- Clean the prism using the soft cloth provided with the device.
- If the prism is covered with foreign matter or is dirty due to repeated scanning, clean the prism with the soft cloth.
- Do not use any chemical agents such as wax, benzene, alcohol, thinner, perfume, lubricant, or cleansers.
- If the soft cloth provided with the device is not available, use cloth normally used for cleaning glasses.

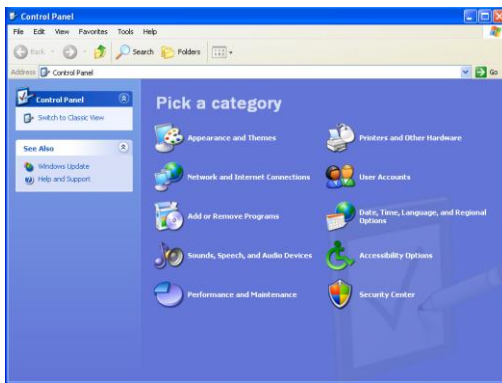
6. Troubleshooting

- Check whether the device is connected. (See below)

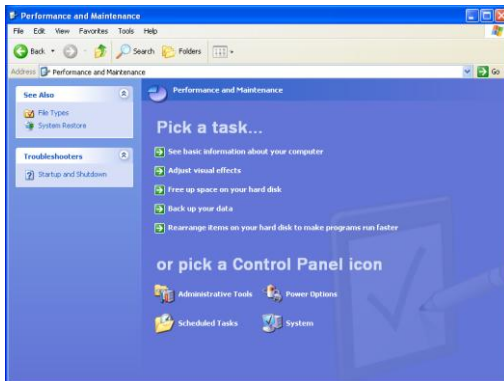
① Windows XP



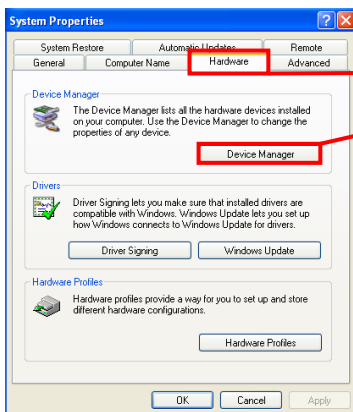
a. Click "Start" and select "Control Panel" menu.



b. Double-click "Performance and Maintenance".

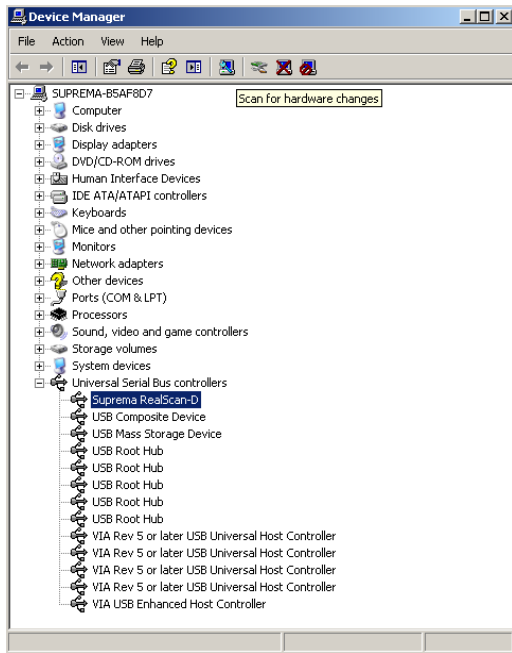


c. Double-click "System".



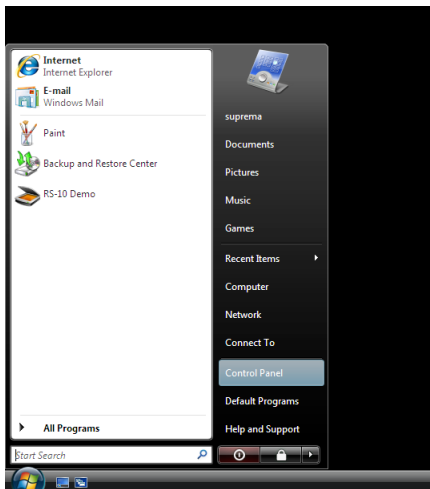
d. Follow the menu selection as shown on the left.

6. Troubleshooting

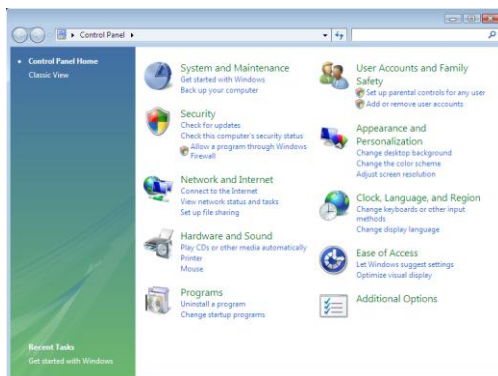


e. Select Device Manager – Universal Serial Bus Controller, and check whether “Suprema RealScan-D” is connected.

② Windows Vista

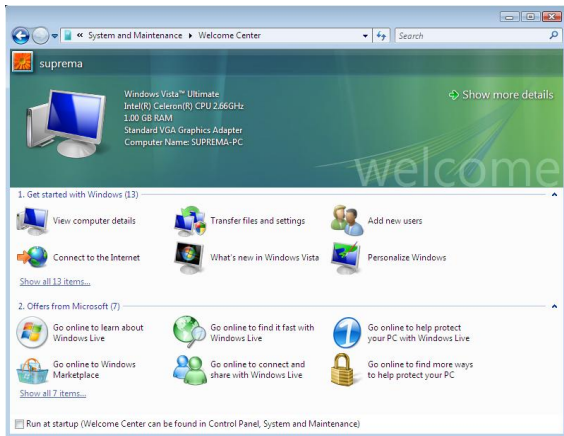


a. Click “Start” and select “Control Panel” menu.

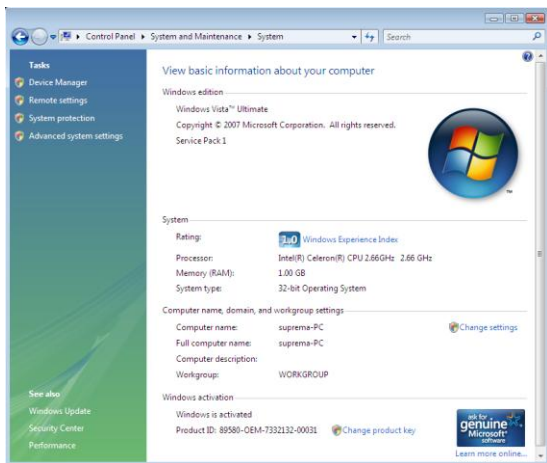


b. Select “System and Maintenance”.

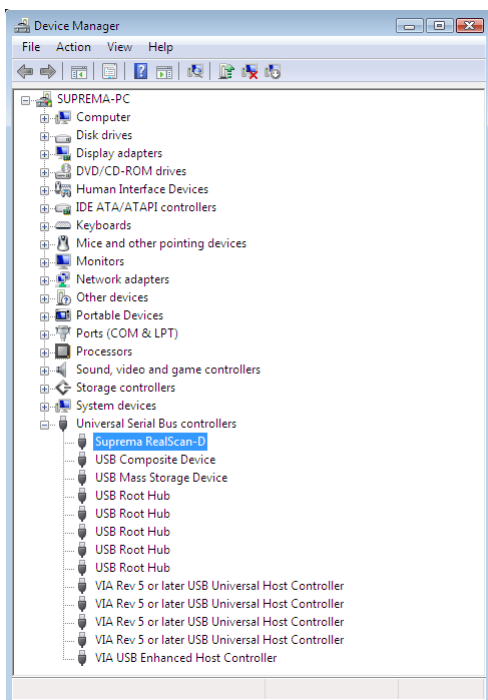
6. Troubleshooting



c. Double-click "View Computer Details."



d. Select "Device Manager".



e. Select Device Manager – Universal Serial Bus Controller, and check whether "Suprema RealScan-D" is connected.

6. Troubleshooting

A. In case the "RealScan-D" is not detected under the list of Device Manager, then proceed on the following steps:

- ① Check whether the USB cable is connected properly.
 - a. Recommend to use the USB cable included with the device.
 - b. Check that the USB cable connection is tightened.
- ② Check whether the device is connected properly.
 - a. Unplug the USB cable from the PC, then replug it after 5 seconds.
 - b. Reboot your PC and check out the list of Device Manager to see if the USB driver is installed and working properly on your PC, in case the device is still not detected which may have occurred by a failure in USB recognition.

B. In case the "RealScan-D" is detected, but still does not function properly, then proceed on the following steps:

- a. End the program and unplug the USB cable.
- b. Wait about 5 seconds and replug the cable
- c. Restart the program.

※ To obtain Technical Assistance or if the device is not properly operating even after the above troubleshooting steps, please be advised to contact our Customer Support Center at any of the following "Contact Information" provided below.

7. Customer Support

Suprema Inc.

Address : Park View Office Tower 16F, Jeongja-dong, Bundang-gu, Gyeonggi-do, South Korea

TEL : 82-31-710-4502

Fax : 82-31-783-4503

Online Customer Support : sales@supremainc.com

Website : www.supremainc.com