

SUPREMA

RealScan-F User Manual



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1. Basic Specifications

1-1. General Information

- Supports various fingerprint images (1, 2, or 4 flats, palm and 1 roll)
- Waterproof cover.
- 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 Interface
 - ① Buttons can be used to make scanning easier.
 - ② Provides functionalities to present visual information through the dedicated color LCD.
 - ③ Emits beeps and voice instruction messages through the built-in speaker.
- Detachable cover protects the fingerprint scanning area.
- USB 2.0 transmits data.
- For use only with UL Listed I.T.E computer
- Input Power
 - ① Minimum Power: 12VDC / 700mA
 - ② Maximum power: 12VDC / 750mA

1. Basic Specifications

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, disconnect the power and 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.
- When moving the device from a low-temperature to high-temperature environment, condensation may occur which may result in performance compromised. In such a case, wait for a while before using the device.

1. Basic Specifications

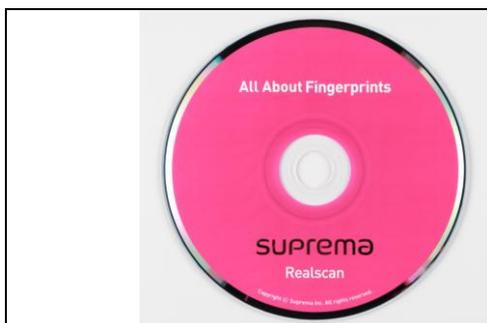
1-4. Device Parts



Device



USB Cable



Software CD (Optional)



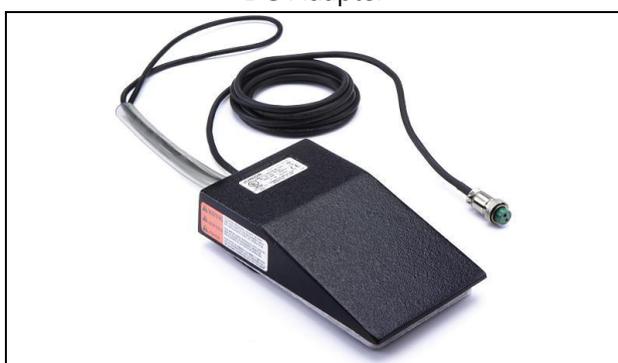
Cover



DC Adapter



Cleaning Cloth



Foot Switch (Optional)

2. Exterior and Cable

2-1. Top View



(1) Scanning Window

- Area for scanning user's fingerprints and palms

(2) Speaker

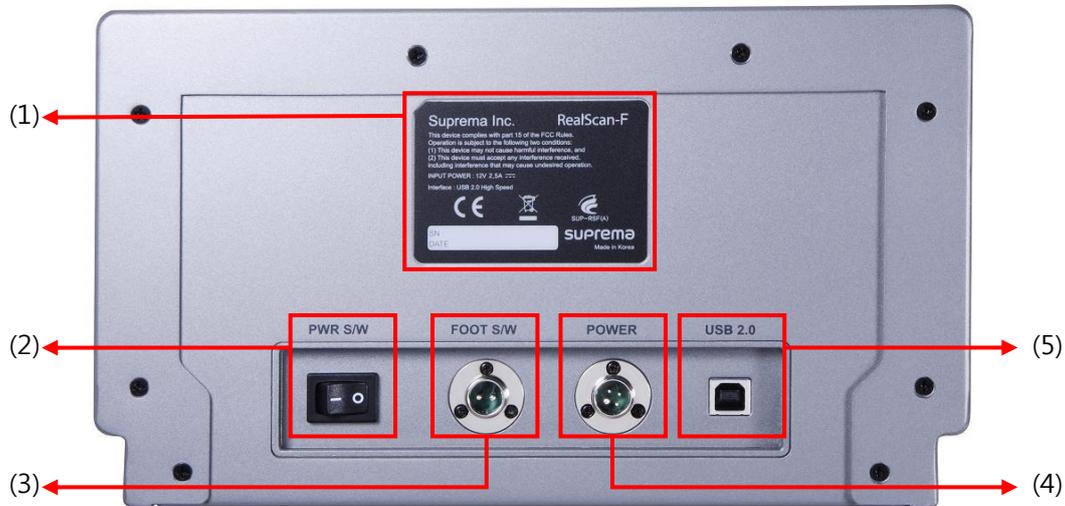
- Various voice instructions and sound effects can be emitted.

(3) Color LCD and Buttons

- Scanning-related information can be displayed on the LCD.
- Four-directional keys and one selection key

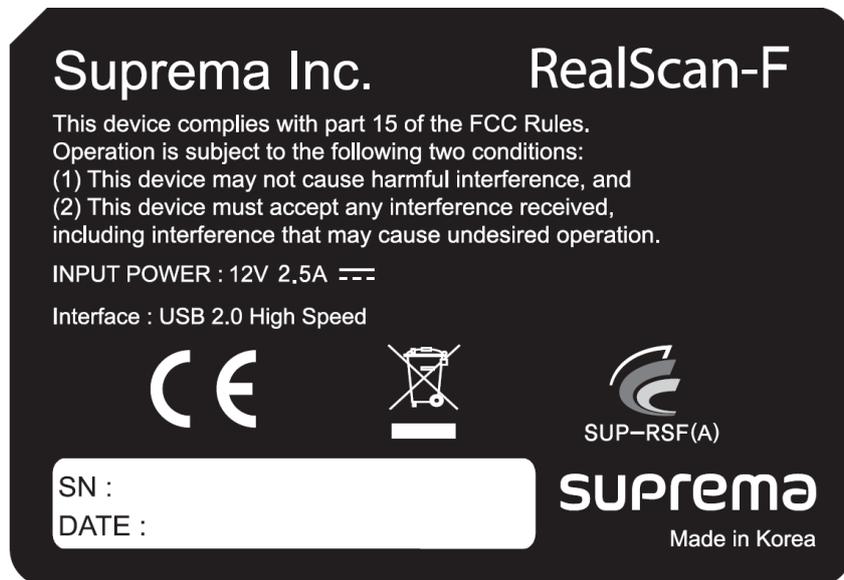
2. Exterior and Cable

2-2. Rear View



- (1) Device label showing basic information including serial number of the device
- (2) Power on/off switch
- (3) Foot switch connection port
- (4) DC Adapter port (if external power additionally needed)
- (5) USB 2.0 cable port

2-3. Device Label

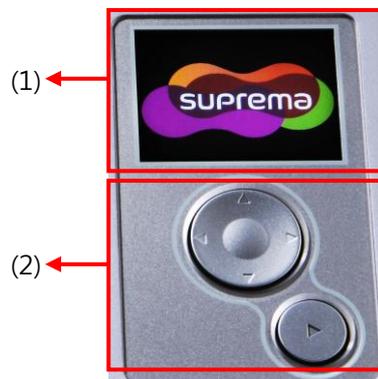


Device Label

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

2. Exterior and Cable

2-4. Display Panel



(1) Color LCD can be displayed scanning-related information.

(2) User buttons can be programmable to start and cancel scanning, select the finger to scan, and check the scanning result.

2-5. Device Exterior

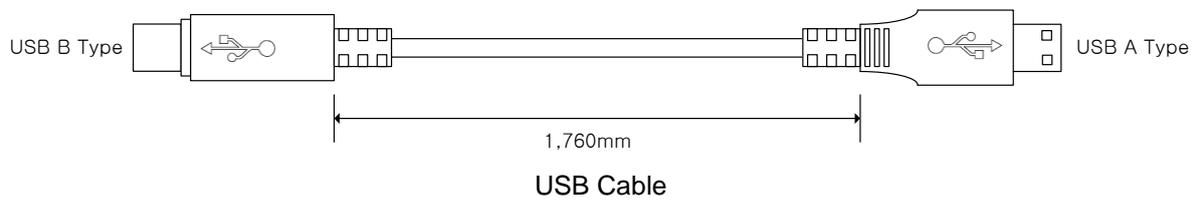


- Device Dimensions: 253mm(W) * 313mm(L) * 148mm(H)

- Device Weight: 6.0Kg

2. Exterior and Cable

2-6. USB Cable



- The USB 2.0 cable has an "A type" head and a "B type" head.

3. Installation

3-1. Recommended PC Specifications

	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. USB Cable, Adapter and Foot Switch



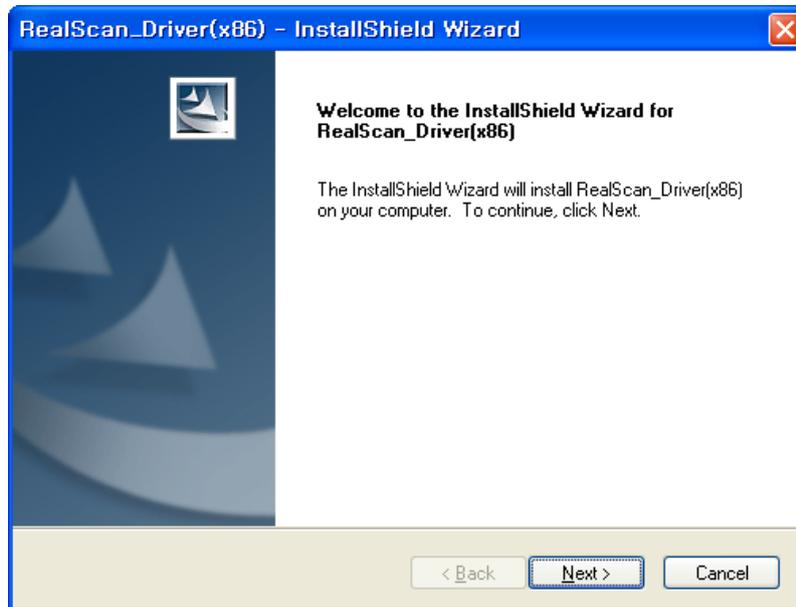
Three Connection Ports

- The foot S/W, power, and USB 2.0 ports are provided at the rear side of RealScan-F.
- Insert the foot S/W and the power cable, and fasten the bolt as shown above.
- Connect the USB cable as shown above.

4. Using Software

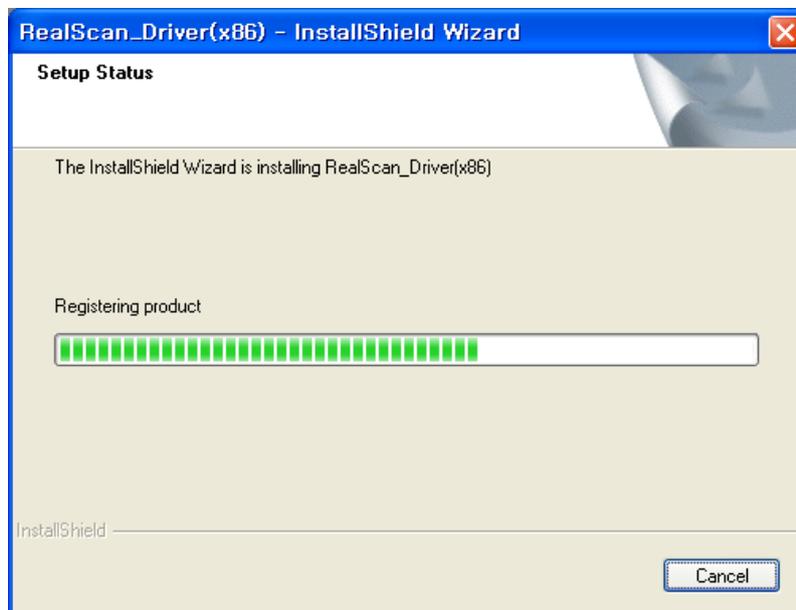
3-3. Device Driver Installation

- Windows XP / VISTA / 7 32 Bit OS



1st Step of Installation

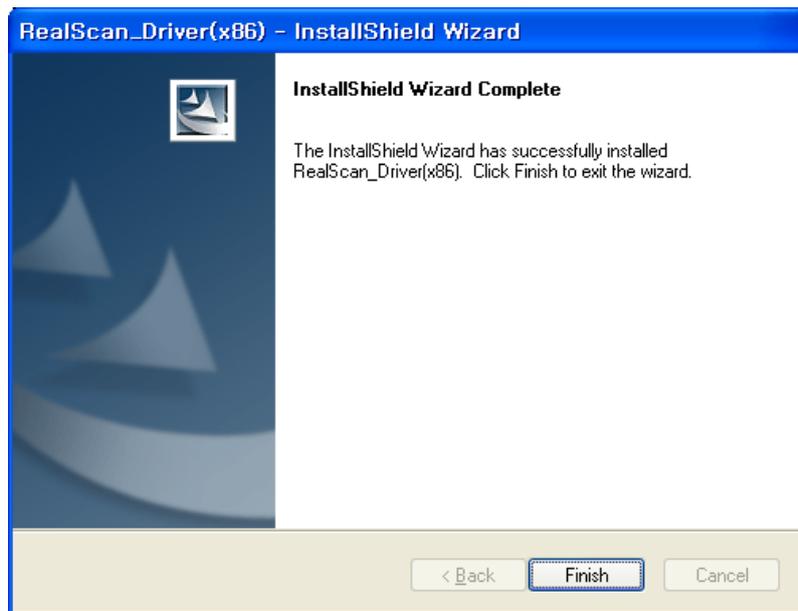
- ① Disconnect the USB cable of device from the PC before proceeding to install the program.
- ② Click "Next" if the above screen appears after running "RealScan_Driver(x86)-V1.2.0.0.exe".



2nd Step of Installation

- ③ Device driver is being installed.

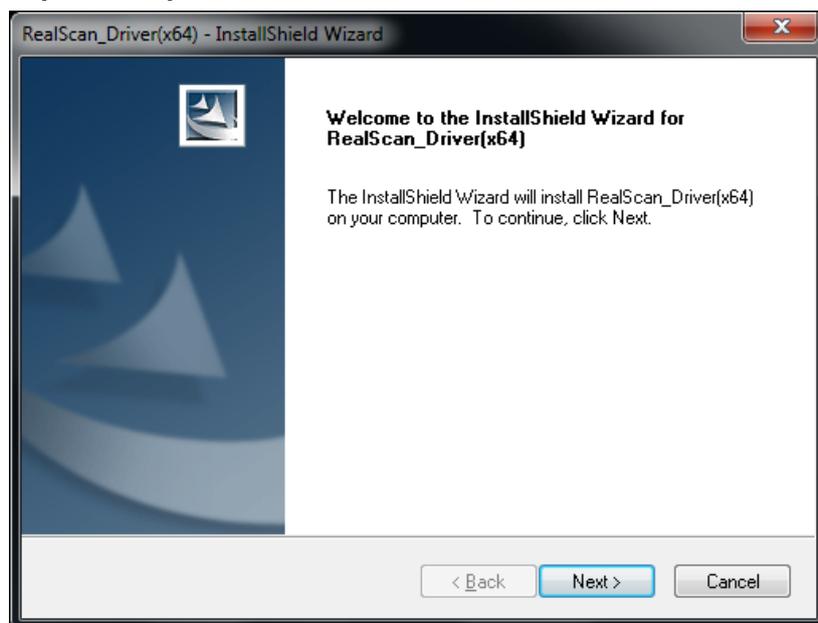
4. Using Software



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

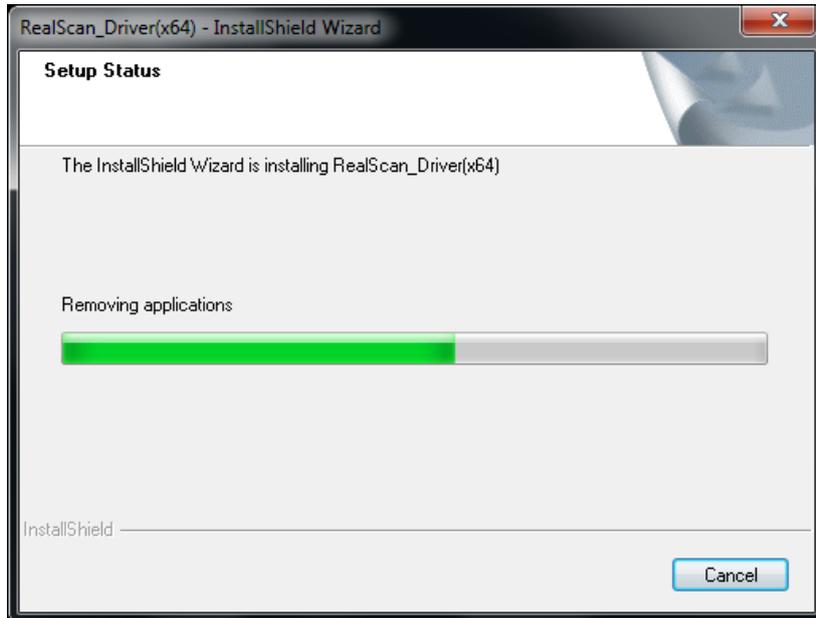


1st Step of Installation

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

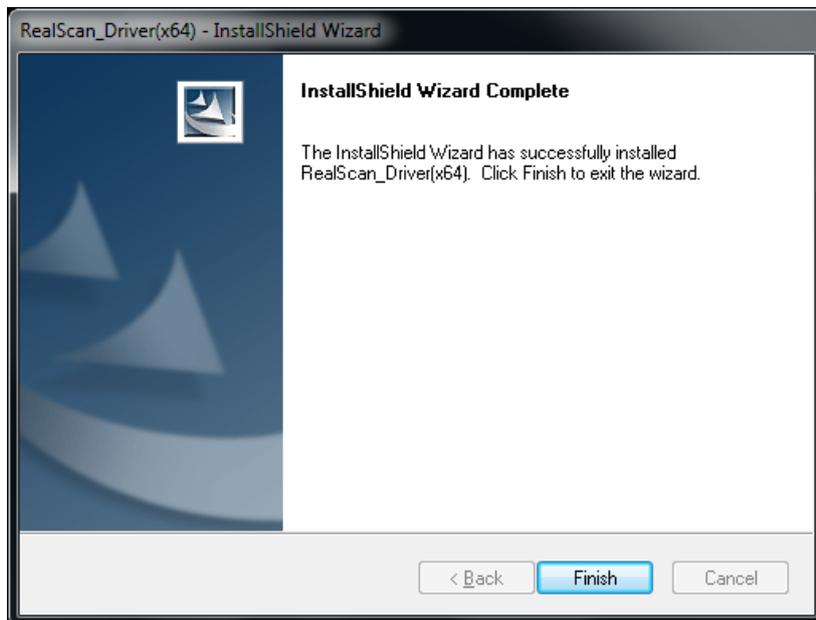
4. Using Software

- 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.

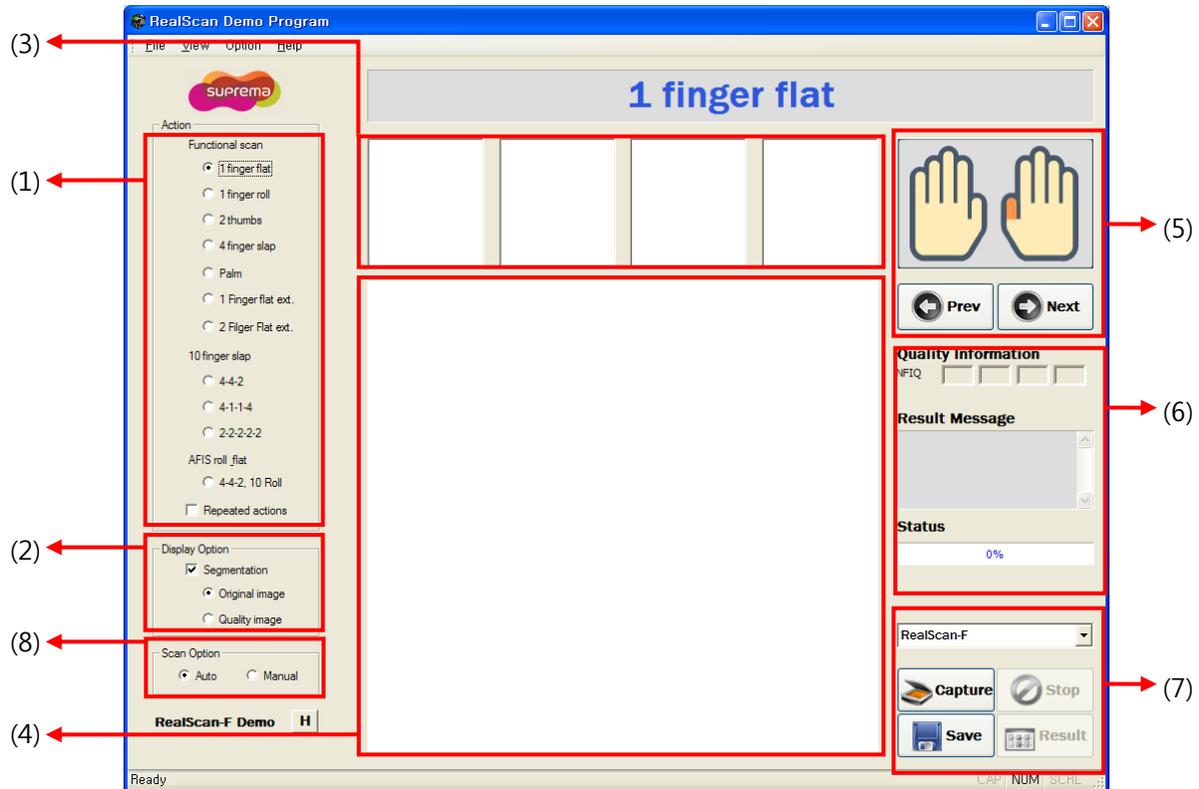


3rd Step of Installation

- 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 Scanning Modes – Total of 9 methods are supported.

- 1 finger Flat : Scans single flats.
- 1 finger Roll : Scans single rolls.
- 2 thumbs : Scans both thumbs at the same time.
- 4 finger Slap : Scans four finger slaps.
- Palm: Scans the palm.
- 4-4-2 : Scans four finger slaps and two thumbs as the following sequence.
 - * left four fingers → right four fingers → two thumbs
- 4-1-1-4 : Scans four finger slaps and two thumbs as the following sequence.
 - * left four fingers → left thumb → right thumb → right four fingers
- 2-2-2-2-2 : Scans two finger flats. Total of 10 fingers will be scanned.
- 4-4-2, 10 Roll : Scans four finger slaps, two thumbs, and rolls for all ten fingers.
- 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. Using Software

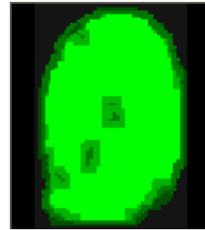
- (4) Area where fingerprint was scanned.
- (5) Indicates fingers to be scanned. It can be changed by pressing "Prev" or "Next" button.
- (6) Scanned fingerprints are scored, and results of the scanned fingerprints are displayed in the message window.
- (7) "Capture" and "Stop" buttons for scanning fingerprints, "Save" button to save scanned image and "Result" button to check result fingerprint images.
- (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



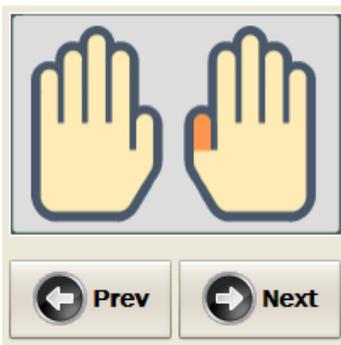
Normal Fingerprint



Check Fingerprint Quality

- ① Normal (Original Image): Displays the original fingerprint.
- ② Quality Checking (Quality Image): Allows the user to check the scanning quality.

- Indicate

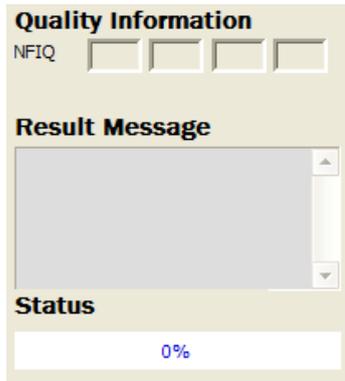


Fingerprint Scanning Order

- 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.

4. Using Software

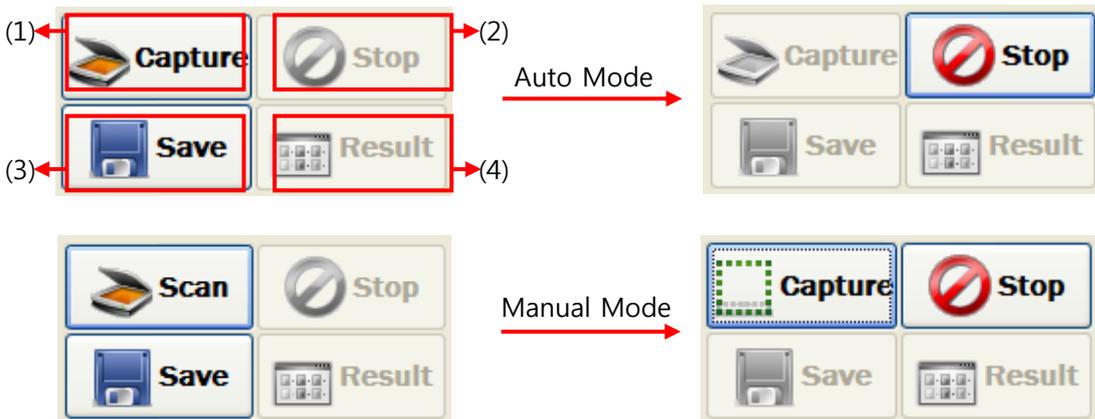
- Quality Information



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.

- 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. Using Software

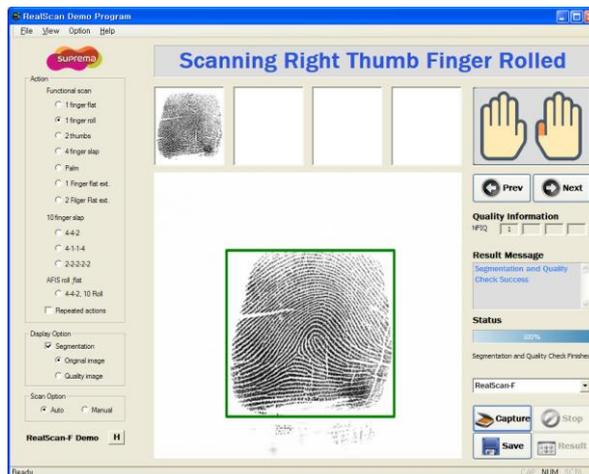
4-3. Scanning Fingerprint Individually



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.
- 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. Using Software

- 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 Thumb Scanning Screen

- Two-Thumbs Scan

- ① Select "2 thumbs" in 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.
- 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.



Four Finger Slap Scanning Screen

- Four Finger Slap Scan

- ① Select "4 finger slap" from the "Action" menu.

4. Using Software

- ② Select four fingers of each hand 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, the capture will be started automatically and the preview image is shown at the main view window.
- ④ Place two thumbs inside the scanning area and then the scanned images will be shown as above.



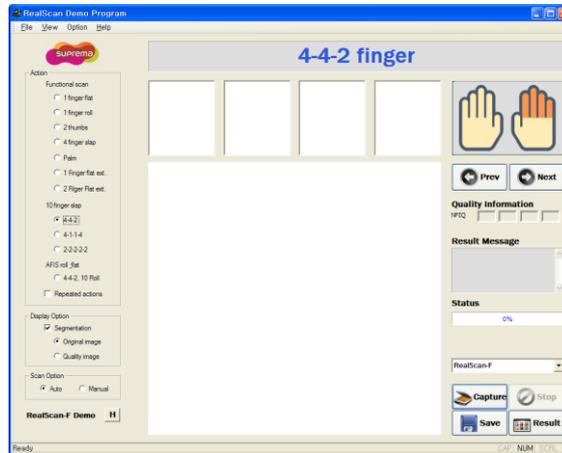
Palm Scanning

- Palm Scan

- ① Select Palm on the Action menu.
- ② Select left or right palm using "Prev" or "Next" button on the upper-right side of the screen.
- ③ 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 Place the palm and then the scanned image will be displayed as shown above.

4. Using Software

4-4. Scanning Fingerprints Sequentially



Initial Screen



4-4-2(4-1-1-4) Card Table



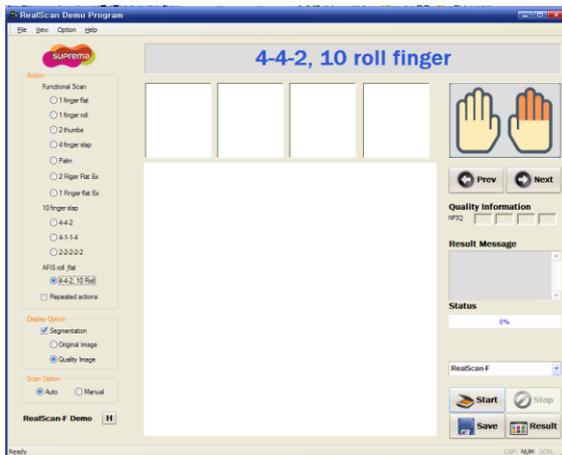
2-2-2-2-2 Card Table

- Identification Flat Scan (4-4-2 / 4-1-1-4 / 2-2-2-2-2 Scanning Mode)

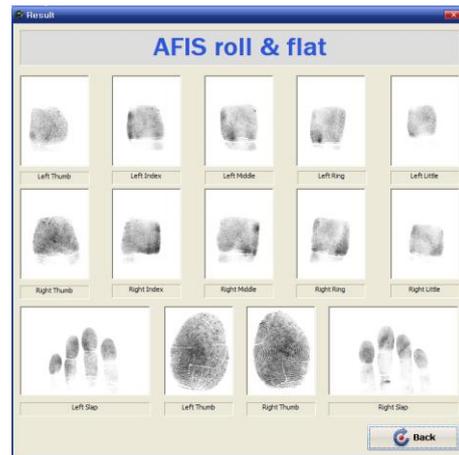
: In the above scanning modes, all fingers and thumbs of both hands and the prints will be automatically captured, segmented and displayed in a table.

- ① Select a mode in "10 Finger Slap" ("4-4-2", "4-1-1-4" or "2-2-2-2-2") at the upper-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 scanning is finished, the next scanning will be started automatically.
- ⑤ After finishing of scanning all fingers according to the selected mode, the all scanned fingerprint images and their segmented results can be checked by pressing "Result" button.

4. Using Software



Initial Screen



Ten-print Card Table

- AFIS Roll & Flat ("4-4-2, 10 Roll" Scanning Mode)

: Four finger slaps, both thumbs and rolls for all ten fingers will be captured in this mode.

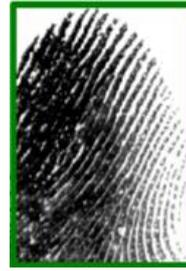
- ① Select " 4-4-2, 10 Roll" from the "Action" menu at the upper-left of the screen.
- ② If the "Scan" button is pressed at the lower-right of the screen, the button changes into "Capture" and the preview image is shown.
- ③ Place the finger to scan on the scanning area and press "Capture".
- ④ After the first scanning is finished, the next scanning will be started automatically.
- ⑤ After finishing of scanning all flat and roll fingers according to the selected mode, the all scanned fingerprint images and their segmented results can be checked by pressing "Result" button.

4. Using Software

4-5. Notes on Scanning Fingerprints



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. Storage



Product with cover

- The cover will protect the device from dust and damage.
- Always cover the device when not in use to protect the prism.
- Place the cover on the black borderline in order to fix it magnetically.
- Clean the surface of the device except the prism using soft cloth.

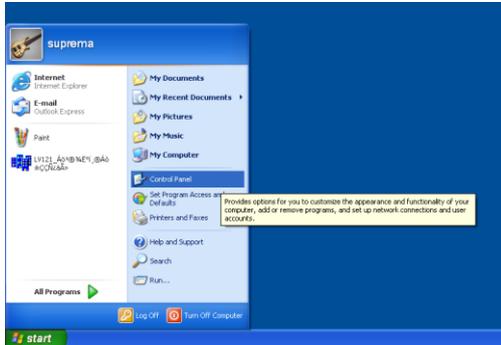
5-2. Prism Maintenance

- 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.

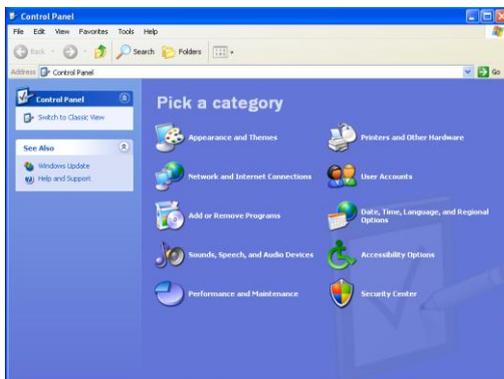
6. Troubleshooting

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

① Windows XP



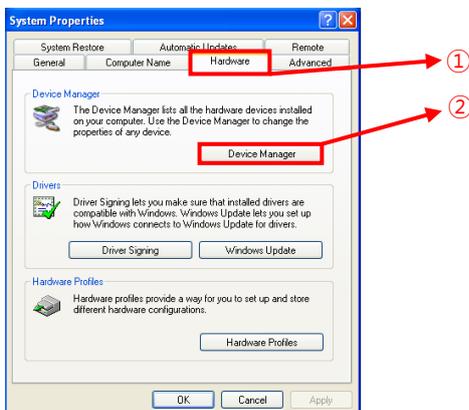
a. Click "Start" and select "Control Panel" menu.



b. Double-click "Performance and Maintenance".



c. Double-click "System".

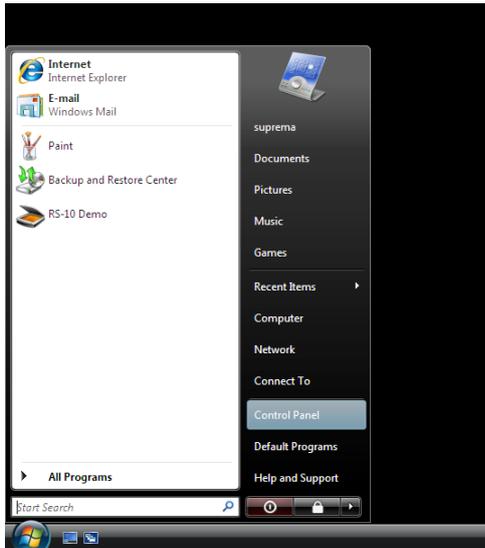


d. Follow the menu selection as shown on the left.

e. Select Device Manager and check whether "Suprema RealScan-F" is connected in Universal Serial Bus Controller.

6. Troubleshooting

② Windows Vista

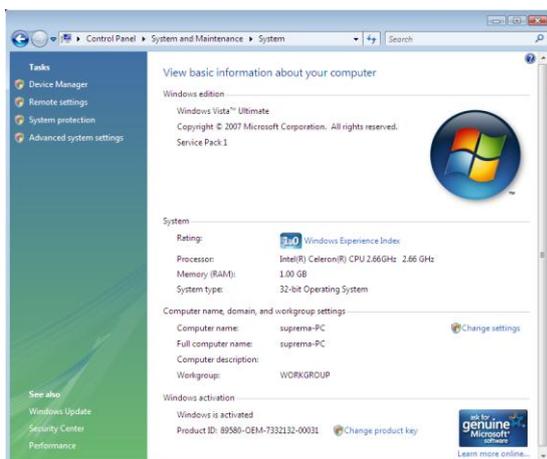


a. Click "Start" and select "Control Panel" menu.

b. Select "System and Maintenance".



c. Double-click "View Computer Details."



d. Select "Device Manager" and check whether "Suprema RealScan-F" is connected.

6. Troubleshooting

A. In case the "RealScan-F" 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-F" 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

Telephone : 82-31-710-4502

Fax : 82-31-783-4503

Online Customer Support : sales@supremainc.com

Website : www.supremainc.com