

User's Guide on LV121



■ BioVision Co., Ltd. ■

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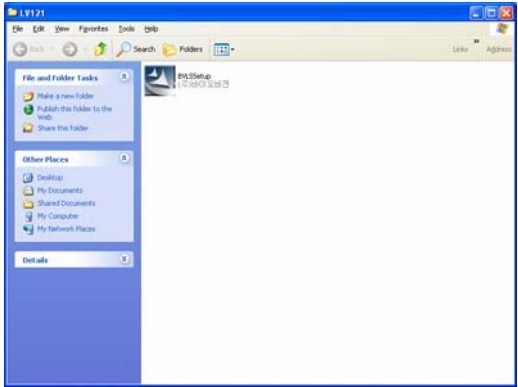

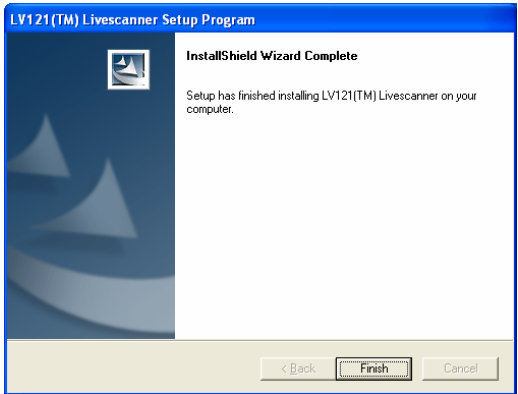
- (1) Device Management



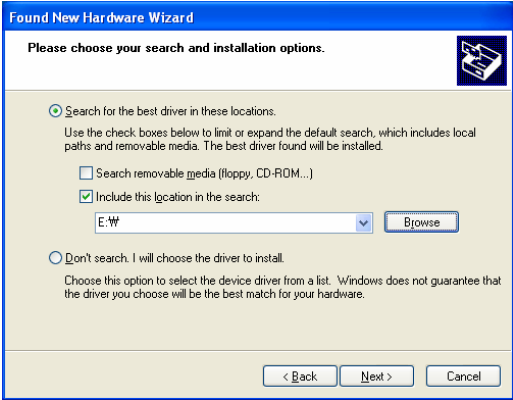
1. Pre-installation Steps

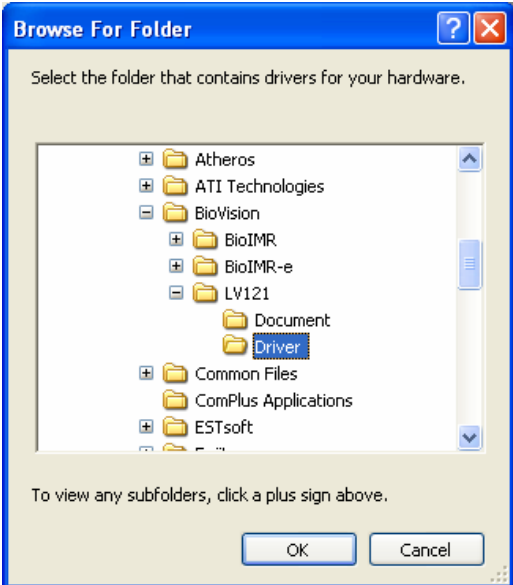
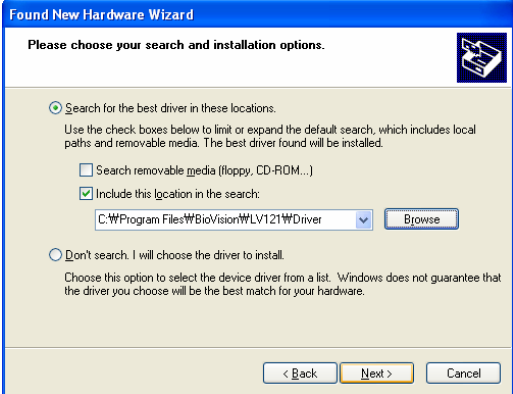
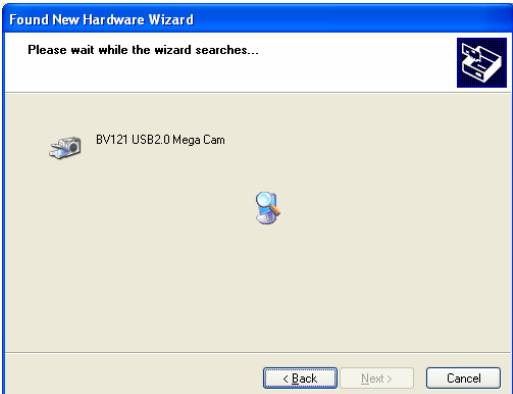
NO.	PICTURE	DESCRIPTION
1		<p>[Check on the device connection]</p> <ul style="list-style-type: none"> - Check on the USB 2.0 cable connection between a PC and a Live Scanner
2		<p>[Maintenance for the clean state of platen]</p> <ul style="list-style-type: none"> - For the capturing of a new fingerprint, the platen needs to be cleaned with soft cloth or tissue paper. <p>[Cautions]</p> <ul style="list-style-type: none"> - No use of detergent containing oil ingredient - No use of water for cleaning <p>[Note]</p> <ul style="list-style-type: none"> - LV121 does not scan fingerprint traces and small materials on the platen.
3		<p>[Check on the fingerprint state]</p> <p>How to cope with different fingerprint states</p> <ul style="list-style-type: none"> - Normal fingerprints are soft and warm with low humidity. - Dirty fingerprints: clean them with tissue paper wet in alcohol. - Dry fingerprints: clean them with wet tissue paper. - Wet fingerprints: clean them with dry tissue paper. - Cold fingerprints: keep hands warm. <p>* LV121 captures a high quality fingerprint image even though the input finger is wet.</p>

2. Device Driver and Program Installation

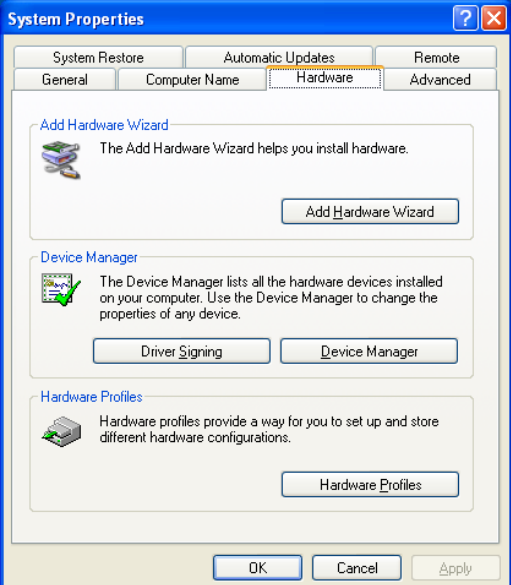
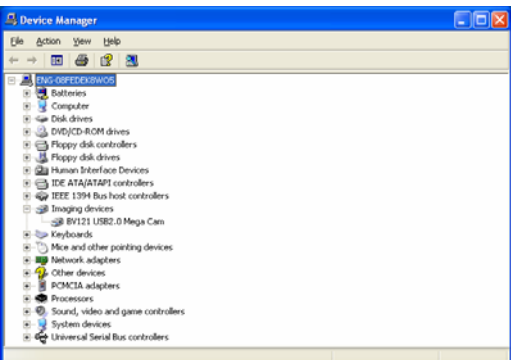
(1) Installation of Device Driver and Program of LV121

NO.	PICTURE	DESCRIPTION
1		<p>[Check and Install LV121 Program]</p> <ul style="list-style-type: none"> - Install "BVLSSetup.exe"
2		<p>[Program Installation]</p> <ul style="list-style-type: none"> - Execution of installation of LV121 program makes a splash screen appear for a while, and the installation proceeds. - During the installation, click "Next" buttons with check points.
3		<p>[Completion of Installation]</p> <ul style="list-style-type: none"> - Click "Finish" button with the completion of installation

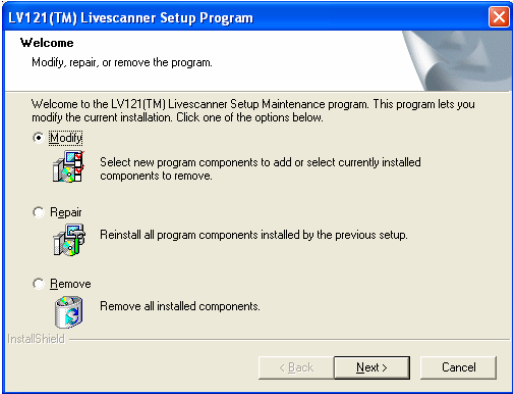
NO.	PICTURE	DESCRIPTION
4		<p>[Cable Connection]</p> <ul style="list-style-type: none"> - Connect the USB cable of a livescanner to the USB2.0 port of a PC.
5		<p>[Driver Installation]</p> <ul style="list-style-type: none"> - A "Found New Hardware Wizard" screen appears after the connection of USB cable - Select "Install from a list or specific location (Advanced)." - Click "Next" button.
6		<p>[Driver Selection]</p> <ul style="list-style-type: none"> - Select "Search for the best driver in these locations." - Select "Include this location in the search." - Click "Browse" button.

NO.	PICTURE	DESCRIPTION
7		<p>[Folder Selection]</p> <ul style="list-style-type: none"> - Connect the USB cable of a livescanner to the USB2.0 port of a PC. - “My Computer” → “Local Disk(C:)” → “Program Files” → “BioVision” → “LV121” → “Driver” - Click “OK” button.
8		<p>[Driver Installation]</p> <ul style="list-style-type: none"> - Click “Next” button.
9		<p>[Driver Installation Screen 1]</p> <ul style="list-style-type: none"> - “Found New Hardware Wizard” check whether the driver is suitable.

NO.	PICTURE	DESCRIPTION
10		<p>[Driver Installation Screen 2]</p> <p>- Click “Continue Anyway” button.</p>
11		<p>[Driver Installation Screen 3]</p> <p>- Click “Next” button.</p>
12		<p>[Completion of Driver Installation]</p> <p>- Click “Finish” button when “Completing the Found New Hardware Wizard” screen appears.</p>

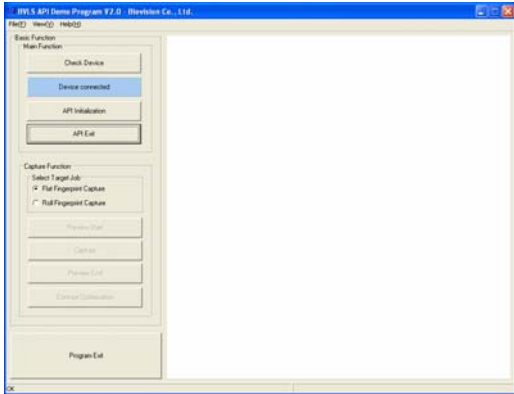
NO.	PICTURE	DESCRIPTION
13		<p>[Check on the Driver Installation 1]</p> <p>- “Start” → “Control Panel” → “System” → “Hardware” → “Device Manager”</p>
14		<p>[Check on the Driver Installation 2]</p> <p>- Check whether “BV121 USB2.0 Mega Cam #2” is contained in the “Imaging devices.”</p>

(2) Remove of Device Driver and Program of LV121




NO.	PICTURE	DESCRIPTION
1	[Remove of Device Driver and Program 1] - Disconnect LV121 from the PC.	
2	[Remove of Device Driver and Program 2] - Execute "BVLSSetup.exe" again.	
3		[Remove of Device Driver and Program 3] - Select "Remove" and click "Next" button.

3. Fingerprint Capture

(1) Execution of Demo Program

NO.	PICTURE	DESCRIPTION
1	[Execution of Demo Program] - “Start” → “All Programs” → “BioVision” → “LV121” → “BVLSDemo Program”	
2		[Initialization of Demo Program and Fingerprint Capture] - Click “API Initialization” button. - Select “Flat Fingerprint Capture” or “Roll Fingerprint Capture” - Click “Preview Start” button. - Click “Capture” button.

(2) Four Steps for Capturing Rolled Fingerprints

NO.	PICTURE	DESCRIPTION
1		<p>[Placing a finger on the center of the platen]</p> <ul style="list-style-type: none"> - Put a finger on the center of the platen. - Check and move the finger's position after watching the monitor.
2		<p>[Moving to the starting position]</p> <ul style="list-style-type: none"> - Move the fingerprint from the center to the starting position. - Click "Fingerprint Capture" button.
3		<p>[Rotating the finger]</p> <ul style="list-style-type: none"> - Turn the finger by grapping it. <p>[Note]</p> <ul style="list-style-type: none"> - Concentrate on the leading of the finger without watching the monitor. - Turn the finger with uniform pressure.



4


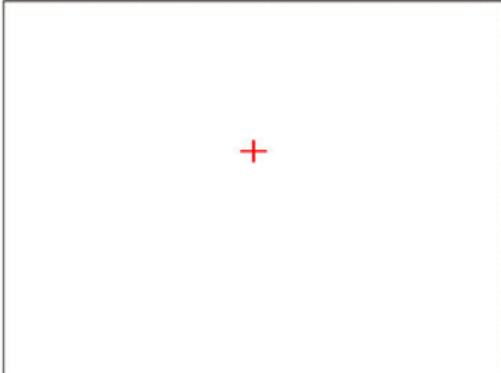

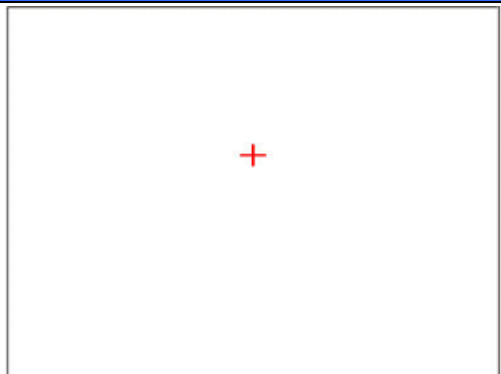
**[Completion of capturing the fingerprint]**

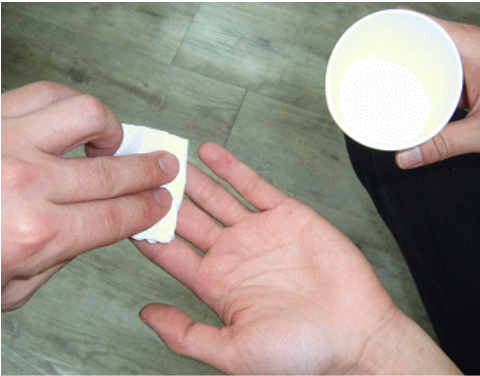



- Remove the finger off the input window.
- Try again to scan the finger when any error occurs.
- For the capturing of the rolled fingerprint, turn the finger smoothly from start to end.





4. Errors & Measurements





(1) Errors in the Process of Capturing Fingerprints





NO.	ERROR DESCRIPTION																
1	Slowly Turning Speed of a Fingerprint																
	Process of Capturing Fingerprints	Fingerprint Images															
																	
	Cause	Solution															
	The turning of a fingerprint takes more than five seconds out of time limit.	Retry to capture a fingerprint image within two to five seconds															
	A PC does not have enough capability.	Retry after closing other programs except the livescanner's program. PC Environment <table><tr><th>Sort</th><th>Recommendation</th></tr><tr><td>CPU</td><td>Over Pentium IV, 2.6GHz</td></tr><tr><td>Memory</td><td>Over 512Mb</td></tr><tr><td>Interface</td><td>USB 2.0</td></tr><tr><td>DirectX</td><td>Over 9.0c</td></tr><tr><td>HDD Space</td><td>Over 100Mb</td></tr><tr><td>OS</td><td>Windows 2000, XP, VISTA</td></tr><tr><td>Monitor Resolution</td><td>Over 1280 * 1024</td></tr></table>	Sort	Recommendation	CPU	Over Pentium IV, 2.6GHz	Memory	Over 512Mb	Interface	USB 2.0	DirectX	Over 9.0c	HDD Space	Over 100Mb	OS	Windows 2000, XP, VISTA	Monitor Resolution
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OS	Windows 2000, XP, VISTA																
Monitor Resolution	Over 1280 * 1024																





NO.	ERROR DESCRIPTION	
2	No Recognition of Fingerprint	
	Process of Capturing Fingerprints	Fingerprint Images
		
	Cause	Solution
	None of the finger is put for ten seconds after the selection of "Fingerprint Capture" button.	Put a finger on the platen before selecting the "Fingerprint Capture" button.
3	The finger's image contrast is too weak.	(1) Retry after cleaning the finger with wet tissue paper. (2) Retry after changing the contrast with the selection of "Image Optimization" button
	Turning in the Opposite Direction	
	Process of Capturing Fingerprints	Fingerprint Images
		
	Cause	Solution
	The finger is turned in the opposite way from the start position.	(1) Retry in the right way (2) Concentrate on the leading of the finger without watching the monitor.



NO.	ERROR DESCRIPTION	
4	Blurred Fingerprint Images	
	Process of Capturing Fingerprints	Fingerprint Images
		
	Cause	Solution
	The state of a fingerprint is too dry	(1) Clean the input window. (2) Rub the finger with wet tissue paper. (3) Retry after modifying the finger's image contrast with the selection of "Image Optimization" button.
5	Indistinct Fingerprint Images	
	Process of Capturing Fingerprints	Fingerprint Images
		
	Cause	Solution
	The state of a fingerprint is too wet.	(1) Clean the input window. (2) Rub the finger with dry tissue paper. (3) Retry after modifying the finger's image contrast with the selection of "Image Optimization" button.

NO.	ERROR DESCRIPTION	
6	Distorted Fingerprint Images	
	Process of Capturing Fingerprints	Fingerprint Images
		
	Cause	Solution
	<p>During the rotation, a finger can be abnormally moved or slipped, so that the fingerprint image is distorted.</p>	<p>(1) Retry in the right way. (2) Without watching the monitor, concentrate on the leading of the finger after the selection of "Fingerprint Capture" button.</p>
7	Partial Loss of Fingerprint Images	
	Process of Capturing Fingerprints	Fingerprint Images
		
	Cause	Solution
	<p>During the rotation, the ending part of a finger is detached from the input window.</p>	<p>(1) Retry in the right way. (2) Without watching the monitor, concentrate on the leading of the finger after the selection of "Fingerprint Capture" button. (3) Maintain uniform pressure while turning the finger.</p>

NO.	ERROR DESCRIPTION	
8	Insufficient Rotation of Finger	
	Process of Capturing Fingerprints	Fingerprint Images
		
	Cause	Solution
	<p>A finger is not turned sufficiently.</p>	<p>(1) Retry by turning the finger within two to five seconds</p> <p>[Note]</p> <p>If the turning speed is less than one second or more than five seconds, an error can occur.</p>
9	Capturing a Finger in the Wrong Direction	
	Process of Capturing Fingerprints	Fingerprint Images
		
	Cause	Solution
	<p>A finger proceeds in the wrong direction.</p>	<p>(1) Retry in the right way.</p> <p>(2) Without watching the monitor, concentrate on the leading of the finger after the selection of "Fingerprint Capture" button.</p>

NO.	ERROR DESCRIPTION	
10	Rotation of a Finger in the Reverse Direction	
	Process of Capturing Fingerprints	Fingerprint Images
		
	Cause	Solution
	During the rotation, a finger is scanned in the reverse direction.	(1) Retry in the right way. (2) Without watching the monitor, concentrate on the leading of the finger after the selection of "Fingerprint Capture" button.
11	Rotation of a Finger in the Tilting Way	
	Process of Capturing Fingerprints	Fingerprint Images
		
	Cause	Solution
	During the rotation, a finger is scanned in the tilted way.	(1) Retry in the right way. (2) Without watching the monitor, concentrate on the leading of the finger after the selection of "Fingerprint Capture" button.

NO.	ERROR DESCRIPTION	
12	More than Two Fingerprint Images	
	Process of Capturing Fingerprints	Fingerprint Images
		
	Cause	Solution
	The trace of a previous fingerprint is left on the platen.	(1) Clean input window.
	During the rotation, more than two fingers are turned at a time	(1) Retry in the right way. (2) Without watching the monitor, concentrate on the leading of the finger after the selection of "Fingerprint Capture" button.
13	Image Optimization	
	Process of Capturing Fingerprints	Fingerprint Images
		
	Cause	Solution
	A fingerprint requires image optimization.	(1) Retry after modifying fingerprint brightness in the setting values.

NO.	ERROR DESCRIPTION	
14	Fingerprint Traces on the Input Window	
	Process of Capturing Fingerprints	Fingerprint Images
		
	Cause	Solution
	The trace of a fingerprint is left on the platen.	(1) Clean input window.

(2) Device Errors

NO.	ERROR DESCRIPTION	
1	Errors in the Video Card	
	Cause	Solution
	Errors of a video card.	(1) Check the installation state of the video card (2) Reinstall the driver of the video card.
2	No Installation for a Video Card in the PC	
	Cause	Solution
	A video card's driver is not installed in the PC.	(1) Install the video card's driver.
3	No Video Card	
	Cause	Solution
	A video card is not equipped to the PC.	(1) Add a video card in the PC.
4	Insufficient Memory	
	Cause	Solution
	A PC has low capability.	(1) Upgrade the PC if errors continue to occur. - The minimum environment for the livescanner Pentium IV, 2.6GHz / Over RAM 512M OS: Windows 2000, XP
5	Low Speed of a PC	
	Cause	Solution
	Many programs run in the PC at the same time.	(1) Close the programs except for the livescanner.

(3) Extra Errors

NO.	ERROR DESCRIPTION	
1	Extra Error Codes	
	Cause	Solution
	Critical errors occur in the hardware or software.	(1) Turn off the livescanner. (2) Reboot the PC. (3) Turn on the livescanner. If errors continuously occur, dial the number of A/S.

5. About Device

End users should operate LV121™ in accordance with the following cautions to maintain the good state of the device.

- The device should be safely carried with both hands and put on the flat space.
- The device should be operated in the temperature of 10 ~ 35°C and within the humidity of 10 ~ 80%.
- USB cable should be exactly connected between the device and PC's USB 2.0 port (Please check the USB 2.0 support in a PC).
- Due to an optical device, the device is not allowed to disassemble, reconfigure, and modify without permission.
- The device is not allowed to operate in the space full of combustible gas or vapor. All operations should be made in the safe environment.
- The device should be permitted to qualified users for security.
- Physical hit or dirt, which could deteriorate the quality of the device, is not allowed to the input window of passports.
- If the input window of passports is dirty, soft clothes or tissues for the device should be used for maintenance.

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