LVS® 95XX Frequently Asked Questions

GS1 Solution Partner

Disclaimer

The information and specifications described in this manual are subject to change without notice.

Latest Manual Version or Technical Support

For the latest version of this manual, or for technical support, see your local Omron website. Your local Omron website can be located by visiting https://www.ia.omron.com/ and selecting your region from the Global Network panel on the right side of the screen.

Omron Microscan Systems, Inc.

Contact Omron Microscan

If any of the steps in this document do not resolve your issue, contact your local Omron Microscan Distributor or Omron for technical support.

GLOBAL DISTRIBUTORS:

Omron Microscan serves the entire world with vision inspection solutions. To locate an authorized Omron Microscan distributor, please visit https://www.ia.omron.com/, then locate your appropriate regional site from the Global Network panel.

Helpful Notes

1. DO NOT unplug or plug in your LVS-95XX system USB while the software is open.
2. If there is only one admin account (with permissions to add\remove operators), this account will never be locked out on software version 3.0.9HH and higher.
3. Default admin account: Operator ID: **admin**   Password: **admin**
4. Prior to calibration, clean your system according to the cleaning instructions in the Operations manual to avoid calibration issues.
5. The LVS-95XX.MDB file is the LVS-95XX database; this is where your factory calibration is stored. When installing on a new computer from a link, you will be notified that Factory Calibration is missing. Go to the original installation media (installation flash drive) and recover your LVS-95XX.MDB file. (See appendix J in the manuals folder)
6. On-site or on-line training is available for your LVS-95XX system. For more information, contact your local Omron Microscan representative.
7. Throughout this document, "Calibrated Conformance Standard Test Card" is referred to as "Calibration Card."

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Q1. How can I acquire an Operations Manual?

An electronic version of the "LVS-95XX Series Operations Manual" in .pdf format is located on the Installation media (installation flash drive) that came with the software. After the LVS-95XX software is installed, a shortcut to the "Manuals" folder is automatically saved on the computer desktop. If you do not have the Installation media or the "Manuals" folder, or if you want to check for a later version of the Operations Manual, please visit https://www.ia.omron.com/, then locate your appropriate regional site from the Global Network panel. Once at your local site, search for "LVS-95XX Series Barcode Quality Station Operations Manual."

Q2. How do I reset my password?

- If there is only one administrator account (with permissions to add\remove operators), this administrator account will never be locked out. (This applies to software versions 3.0.9HH and higher.)

- The administrator can unlock the account by following the instructions in the steps below.

- After three attempts to login with an incorrect password, the system locks out the operator.

1. Log in using an administrator account.

2. Click the "Setup" tab and then click the "Setup Operators" button.

3. Select the desired operator name from the "Operators" list.

4. Click the "Change this operator" button.

5. Uncheck, and then recheck any of the permissions (see below).

6. Click the "Save Changes" button, and then click the "Done" button.
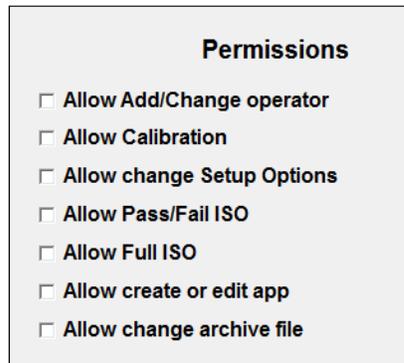
Q3. When logging onto my system, I am receiving the following error message: "The machine is not authorized to perform this function."

This error message is typically a result of the LVS-95XX device not being recognized. To resolve this issue, close the LVS-95XX software and unplug the USB from your computer that is attached to the system. Plug back in another USB port on your computer wait 10 seconds. Then, reopen the software. If this step does not resolve the issue, follow the remaining steps.

Make sure that you have administrator privileges to the computer prior to install.

1. Close the LVS-95XX software.

2. Unplug the USB cable of the LVS-95XX system from the computer.

3. Go to Installation Flash Drive ➔ "Other setup" folder ➔ click "Keysetup.exe."

4. Select "Keylok 2 (USB w/ Driver)" and "Standalone."

5. Click the "Begin Install" button. A message appears indicating that all files have been copied. Close the dialog box.
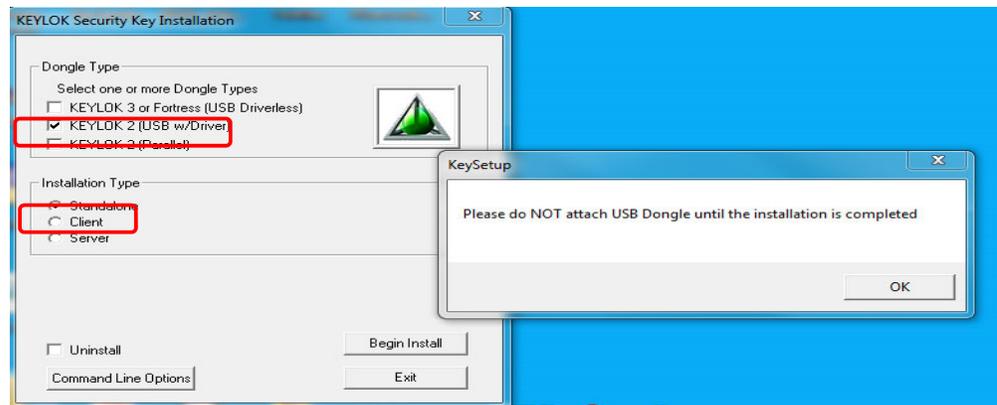
6. Plug in the USB cable.

7. Windows should report a "New hardware found" message. Select "No, not this time."

8. On the next screen, select "Install software automatically."

9. Click "Finish."

10. Run the LVS-95XX software. You should be able to correctly log on to your system and the "The machine is not authorized to perform this function" message should not appear. If the message appears, follow the next step.

11. If the "The machine is not authorized to perform this function" appears again, and this is a new installation, click on the Windows search bar and search for **%temp%**.

In the search field enter: **%temp%** →
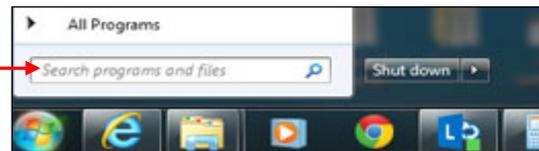
12. Open the temp folder and scroll down to locate the Keylok icon.

13. If the icon is present, go to the address bar and copy the file path.
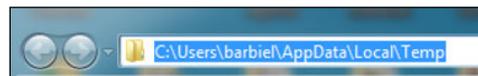
14. Open your Device Manager and click on the USB that has the warning icon.

15. Right-click and select "Update Driver Software."

16. Select "Browse my computer for driver software" and paste in the link copied from the address bar from the temp file into the browse bar.

17. Click "Next." The drivers will be automatically installed.

18. If the issue persists, please make sure that firewalls are allowing for installation

Q4.   When launching the software, I am receiving the following error message with an 8-digit number beginning with "214." What does that mean?

This error message indicates that the .mdb file has reached or surpassed the 2GB size limit (dictated by the MS Access size limit). The resolution for this is to first run C:\Program Files (x86)\Microscan\LVS-95XX\CompactLvsDb.exe to compact the .mdb file below the size limit, then create a backup database using LVS-95XX and then deleting a sufficient number of reports to get well under the size limit. See page 91 of the operator manual for further details on database backup.

Q5. How do I acquire the latest software updates?

1. Software is available on-line. Please visit https://www.ia.omron.com/, then locate your appropriate regional site from the Global Network panel. Once at your local site, search for "LVS-95XX Software."

2. Follow the instructions to download the software. Save the software and unzip the extract files prior to installing. You MUST install the software with administrative rights. Close any version of the 95XX software that is currently running and disconnect the LVS-95XX unit from the USB port.

3. Prior to installation, copy your LVS-95XX.MDB (the path can be found on the "Archive" tab ➔ "Change SQL Connection" button ➔ Data Source). Save the file to place back into the specified folder when complete. If you do not save off your LVS-95XX.MDB file, you will be prompted when opening the software to perform a factory calibration or that factory calibration is not found.

4. Double-click on "setup exe" to install the software and follow the prompts accordingly.

5. After installation is complete, connect the USB to your LVS-95XX system. Right-click on the LVS-95XX icon and run as an administrator.

Q6. Why are letter grades no longer shown in the grading results for software version 4.3 and later?

The letter grade is not used as part of the normative standards of ISO 15416, and the informative table D.1 that has a letter grade reference is not consistent with the 15416:2016 ranges of values for scan reflectance profile values shown in the standards. Some barcodes will receive higher scores due to the changes in ISO 15416:2016 when graded with version 4.3 and later software compared with earlier versions of LVS-95xx software. ISO 15415 also defines that symbol grade shall be reported as a numeric value with decimal. For consistency purposes version 4.3 will also no longer report a letter grade for 2D symbols.

Q7. My code is graded as "0" and the following message appears: "Required <FNC1> not found." Why is it that when I switch application standards to ISO/IEC 15415/15416, I do not receive the error message?

<FNC1> is a special character reserved for GS1-compliant symbols when using Code 128, QR code or Data Matrix. If "GS1 General Specifications" is selected as the Application Standard on the "Setup" tab, and FNC1 is not encoded in the first position of the code, the code will automatically be graded an "0" since it is not GS1 compliant. If the code is intended to be GS1 compliant, notify the originator that ISO/IEC 15415/15416 does not require that FNC1 be present. If you are not

grading a GS1 barcode, change your Application Standard on the "Setup" tab to "ISO/IEC 15415/15416."

Q8. Why am I receiving a "Calibration Failed" message when I attempt to calibrate?

Follow the suggestions below:

1. Make sure your system is clean and free of debris, dust, dirt, oils or other contaminates.

2. If using an LVS-9510, use the top cover provided with the system and turn off any overhead lighting. Then, turn on the system and check that all LEDs are illuminated on the light tray; if they are not, the light tray will need to be replaced.

3. Confirm that the serial number on the LVS-95XX system matches the serial number on the Installation Flash Drive.

4. Confirm the following on your calibration card:

   - The serial number on the calibration card matches the serial number on the LVS-95XX system

   - The values on the GS1 CC match the "Goal" values on the "Calibration" tab (Decodability, Contrast, Modulation, and Rmax)

   - The calibration card it is not expired

   - The calibration card is not damaged

5. If calibration does not pass after attempting the above suggestions, contact Omron Microscan technical support and provide the following information:

   - LVS-95XX system model number (example: LVS-9510)

   - LVS-95XX system serial number (located on system)

   - LVS-95XX software version running on your computer (located on "Welcome" tab)

Q9. What should I do if I receive a Runtime Error 214 message?

- "Runtime 214" will be shown if the USB is unplugged while the software is running. Close the software, plug in the USB and restart the software.

- "Runtime 214" can also be associated with older revisions of software, which is an indication that your database is full or corrupt. This issue can be resolved by updating the software and performing a Factory Calibration.

Prior to updating the software, if you wish to keep previous data, you must save off the LVS-95XX.MDB file and rename it or copy it from your installation media as described in "Appendix J: Factory Calibration Not Found."

Q10. How do I replace the light tray on my LVS-95XX system?

Contact your Omron Microscan sales representative to request a quote for a light tray. Provide them with the model number and serial number of your LVS-95XX system. When you receive the light tray, replacement instructions are included with the package.

Q11. How do I perform Factory Calibration?

Read the instructions in "Appendix J: Factory Calibration Not Found" located on the installation media (installation flash drive) that came with your system. If you do not have the installation media that came with your system, contact your local Omron Microscan support representative.

To perform Factory Calibration, you must contact Omron Microscan Technical Support for the password of the day.

Q12. I have placed a label in the field of view. Why does the picture remain black?

1. Make sure the system camera is turned on. Do this by clicking the "Setup" tab. Within the "Camera" section, make sure the "ON" option is selected. If this step does not work, follow the remaining steps.

2. Shut down the LVS-95XX software.

3. Right-click on "My Computer" ➔ select "Properties" ➔ "Hardware" tab ➔ "Device Manager" button.

4. Locate an entry called "Imaging Devices." If the entry exists, check that it contains a "Lumenera Imaging Device" or an "Omron Microscan camera." If the entry does not exist, contact Omron Microscan Technical Support.

Q13. How can I change the format of my reports?

1. Refer to "Appendix G: Special Features" for detailed instructions on changing report formats.

   Note: When you install the LVS-95XX software, a shortcut icon labeled "Manuals" (see right) is automatically installed on the computer's desktop. This shortcut contains "Appendix G: Special Features."

2. Some changes require you to have the password of the day. Contact Omron Microscan to obtain the password of the day.

Q14. How can I send a barcode to Omron Microscan for analysis when the barcode is receiving failing or poor grades?

Note: The below procedure does not apply to DPM (direct part mark) application standards, including ISO/IEC TR 29158, MIL STD 130N, and GS1 Table 7.

Place your barcode on the system window (grading is not required).

1. Click the "Archive" tab and select "Export image to file."
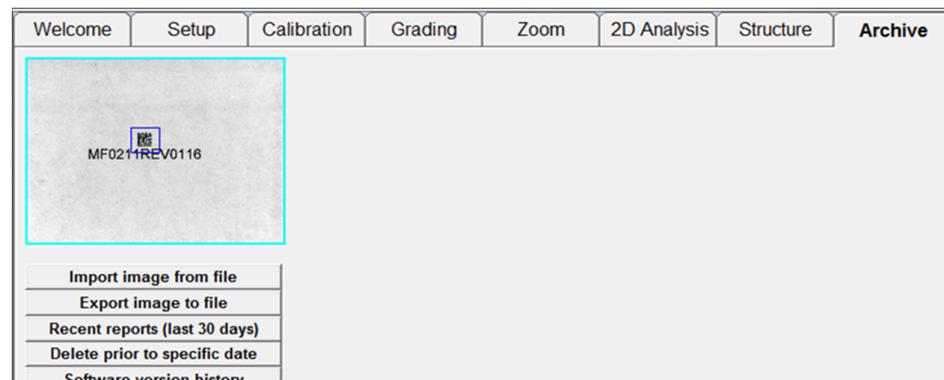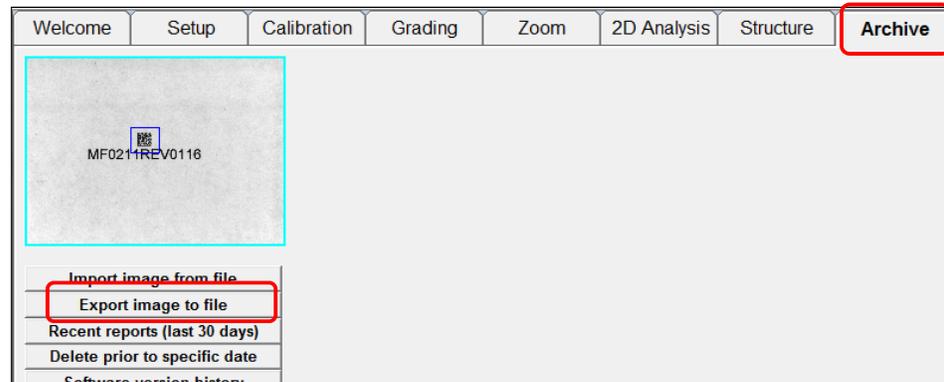
2. Save the image as a .bmp.

3. If you have purchased remote training from Omron Microscan then a report defining the issues of the barcode up to a maximum of five barcodes will be provided.

4. Contact your Omron Microscan Technical Support representative and provide the bmp file, the report from the image and below information:

   - LVS-95XX model number (such as LVS-9510)

   - LVS-95XX serial number (located on system)

   - LVS-95XX software version running on your computer (located on "Welcome" tab)

5. If you have more than five barcodes that you would like analyzed and verified by Omron Microscan, you must contact your Omron Microscan sales representative to request a quote for barcode analysis. Include the following information in your e-mail:

   - The number of barcodes you want analyzed and verified

   - LVS-95XX serial number and model number

   - LVS-95XX software version running on your computer

Q15. How do I activate an optional feature?

1. Optional features must be purchased from Omron Microscan.

2. After the optional feature is purchased, you will receive an 8-digit activation code.

3. Click the "Setup" tab and then click the "Optional Features Activation" button.
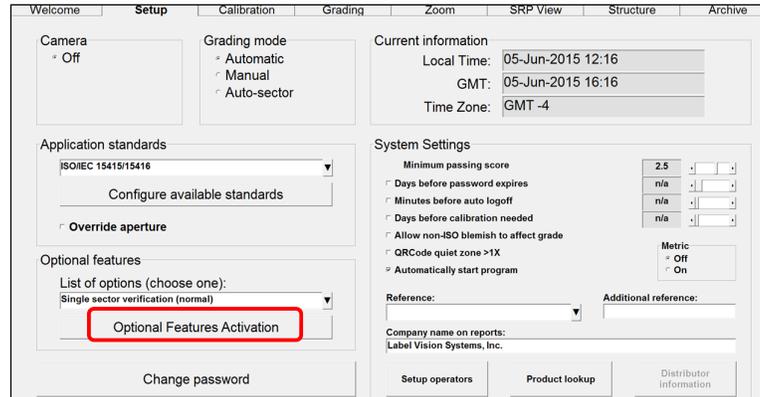
4. Under the "Status" column, click on the optional feature you wish to activate.

- Features highlighted in green are activated.

- Features highlighted in red are not activated. To activate the feature, double-click in the red area and enter the 8-digit authorization code when prompted.
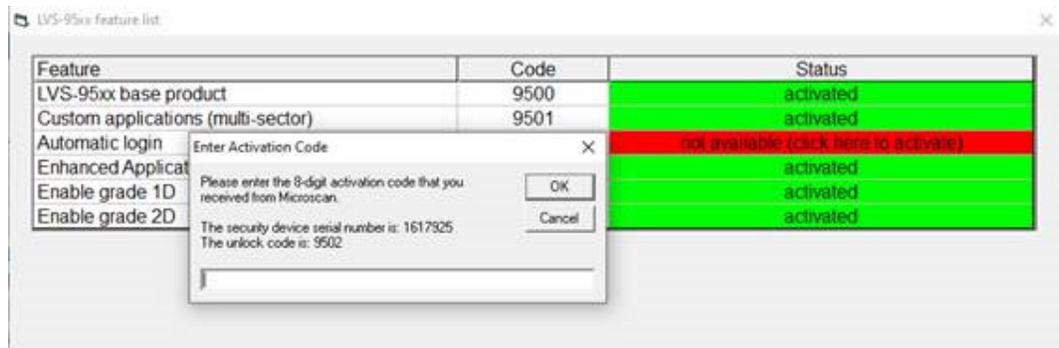
5. Close and then reopen the LVS-95XX software. The optional feature is now activated.

6. Detailed instructions on using each optional feature is documented in "Appendix G: Special Features" located in the "Manuals" folder.

Optional Features Trial Period

All unpurchased optional features can be enabled for a free 10-day trial period (the "Enhanced Application Identifier Verification" feature requires training prior to use). Click on the green area at the bottom of the screen (see below) to enable an optional feature for the trial period. An optional feature can be selected only <u>one</u> time for the trial period.
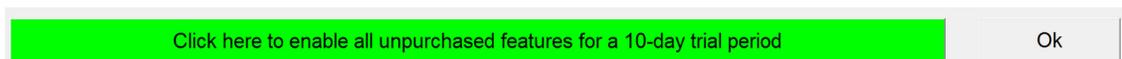
Q16. Why are the lighting option selections for LVS-9585 not available when using ISO 15415/15416?

Only the DPM standards allow for use of the 30 degree angle lighting, so for non-DPM standards the 30 degree angle lighting is disabled.

Q17. What symbol do I use for calibration on my Calibration Card?

Omron Microscan supplies three calibration cards: EAN/UPC, GS1-128, and Data Matrix (see examples below). You will receive the calibration card that is to be used to calibrate your LVS-95XX system; this card will be the **ONLY** calibration card that you will use for calibration purposes. Locate your calibration card and follow the remaining steps.

EAN/UPC Calibrated Conformance Standard Test Card

GS1-128 Calibrated Conformance Standard Test Card
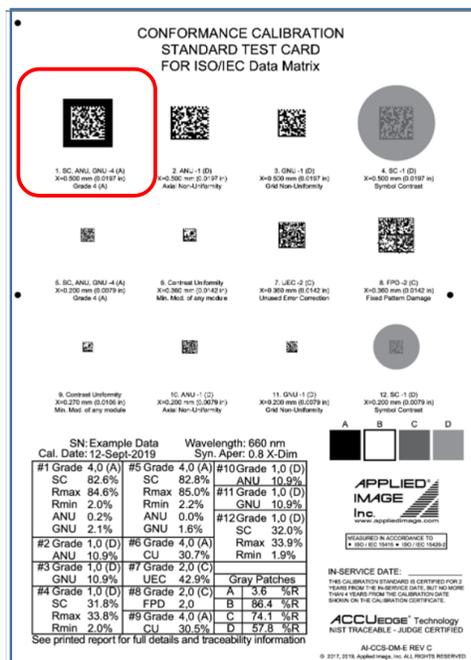
**DATA MATRIX Conformance
Calibration Standard Test Card**

EAN/UPC Calibration Cards:

1. Choose the appropriate "Master Grade" barcode. The "EAN-13 Master Grade" code is used to calibrate systems in Europe. The "UPC-A Master Grade" code is used to calibrate systems within the United States.

2. Place the calibration card in the system's field of view.

3. Choose one of the "Master Grade" barcodes and place it so the blue line goes through the middle of the "PASS" portion of the barcode.

4. Confirm that the "Goal" values in the software (on the "Calibration" tab) match the values on the calibration card. If the values do not match, confirm that you have the correct calibration card for the LVS-95XX system serial number (located on system) that you are calibrating.

GS1-128 Calibration Cards:
Larger fields of view require a "GS1-128" calibration card. Use the "PASS" portion of the GS1-128 barcode to calibrate your system.

Data Matrix Calibration Card for ISO/IEC Data Matrix:
This Calibration Test Card is used only for calibrating the LVS-9585-DPM-HD and the LVS-9580-DPM-HD systems.

1. Use Application Standard ISO/IEC 15415/15416 when calibrating with this card.

2. Place Symbol 1 on the Calibration Card in the blue box located on the Calibration Screen.

3. Confirm that the "Goal" values in the software (on the "Calibration" tab) match the values on the calibration card. If the values do not match, confirm that you have the correct calibration card for the LVS-95XX system serial number (located on system) that you are calibrating.

Q18. How much variation in the measured values is acceptable when calibrating an LVS-95XX verifier?

Due to slight variability in components, manufacturing processes and environmental conditions, it is rare that calibration values read by the LVS-95XX products will match exactly with the values recorded on the calibration card. Omron has surveyed calibration data from hundreds of units and has determined that variations of up to ±3 percentage points may occur for measurements of contrast, modulation and reflectance. Decodability measurements may vary by up to 4.5 percentage points. Calibration values within these limits should be considered normal.

Parameter	Symbology Type	Omron Calibration Tolerance
Decodability	1D	±4.5
Contrast	1D & 2D	±3
Modulation	1D	±3 (±4.2 for LVS-9570)
Rmax	1D & 2D	±3

Important: The Omron calibration tolerances should not be considered to apply to values obtained on the Grading screen. Grading tolerances are expected to fall within the ISO/IEC 15426 conformance tolerances.

Q19. When does my calibration card expire?

Calibration cards should be replaced after two years of usage. Storing calibration cards in their original packaging protects them from exposure to light, dust and other contaminants. Cards stored in the original packaging will not degrade significantly in these conditions over periods of several months. However, cards will degrade very slowly even in protected conditions and should not be used longer than four years after their date of manufacture. Please make sure that you keep your calibration card(s) current to avoid any audit findings. To replace your calibration card, contact your local Omron sales representative.

Q20. Can I use double byte characters in the Reference fields?

Yes, it should be possible to enter double byte characters in the Reference field and have the characters reflected properly both on the screen and in reports. However, this requires that the computer operating system correspond to the characters being entered and that the system locale also be set to a corresponding locale. For example, when using an English OS, even with the Locale set to China, Chinese characters are not rendered correctly in the Reference field. In this case, we attempted to enter 批次信息 into the reference field.

This system was unable to render the Chinese characters.

Running this same experiment on a system with a Chinese language OS and set for China Locale resulted in the Chinese text being rendered correctly in the dialog box and in reports.

Q21. When grading high-gloss labels, the label gets a better score with the lid off of the LVS-9510. Is it OK to grade a label with the lid off?

Generally speaking, it is preferable to grade using the lid.   The lid serves multiple purposes.

1. The lid blocks ambient light.   Bright overhead lights can impact the grading because the LVS-9510 camera looks up at the ceiling.   Bright overhead lights can artificially increase the Rmax (hot spots) or affect the background of clear (transparent) labels affecting grading results.

2. The lid flattens the symbol. The lid serves to ensure the label lies flat on the LVS-9510 window to achieve uniform results.

3. The lid creates a neutral background. The red felt cover on the bottom side of the lid serves as a neutral background (against the 660 red light) for clear (transparent) laminate.   Barcodes printed on clear (transparent) substrate would be impacted by the black lid material but are not impacted by the red felt.

It is best to use the lid because the black material of the lid block the ambient light from above and flattens the barcode against the window while the red felt ensures a neutral background for transparent (clear) labels.

That is not so say that you must use the lid.   If there are no bright overhead lights or if the LVS-9510 isn't sitting next to a window where the sunlight shines on it, and the labels are not clear (transparent) it should be possible to get the same results as when using the lid.   There are other factors like the flatness of the label and the color of the background of the label.   But all things being equal, it is possible to use the LVS-9510 without the lid although using the lid is recommended.

Also generally speaking, high-gloss will lower modulation and the overall grade. Very large X-dimensions generally mean the high-gloss is less of a factor.   The smaller the X-dimension the greater the effects of high-gloss in lowering the overall grade.

Q22. Why doesn't a 9510 give the same grade as a 9585 when grading a high-gloss symbol?

The 9510 has only 1 lighting option – 45° low angle red lights. The 9585 has multiple lighting options. When grading high gloss labels, the 9585 will most often choose to use dome lighting. Dome lighting creates a diffuse light pattern that reduces glare and abnormally high reflectance areas on the symbol. For this reason, the grades reported when grading a highly reflective symbol using a 9585 will often be higher than grades reported when using a 9510.

The ISO/IEC 15415 (2D) and ISO/IEC 15416 (1D) grading standards are written assuming the symbol is printed on a non-reflective material. This means that while both the 9585 and the 9510 comply with the ISO standards, and meet the criteria

for a barcode symbol verifier detailed in ISO/IEC 15426, they can achieve very different results when grading reflective symbols.

Grades for symbols printed on high-gloss paper can still be used but should not be compared across different verifiers. In some applications, it may be appropriate to grade high-gloss symbols using the DPM verification standard (ISO/IEC 29158) rather than ISO/IEC 15415/15416.

Q23. Why doesn't the aperture reported on the grading report match what is specified in GS1 Table 7.3 or GS1 Table 7.4?

GS1 General Specifications Release 22, Table 7 for GS1 DataMatrix direct part marking – A (aka Table 7.3) and Table 7 for GS1 DataMatrix direct part marking – B (aka Table 7.4) indicate aperture sizes that are inconsistent with the X-dimensions required of those symbols. Table 7 implies an aperture the same size as the X-dimension. It is not possible to obtain a realistic grade for a symbol using an aperture the same size as the modules in the cell. The specification in Table 7 is in error. Omron has elected to treat the X-dimensions specified in the table as the intended X-dimensions and to select an aperture that is 80% of the measured X-dimension. This procedure is consistent with the guidance provided in ISO/IEC 29158:2020 and provides a realistic grade for these symbols. An 80% aperture is also generally consistent with aperture criteria found elsewhere in the GS1 General Specification.

Omron anticipates this discrepancy will be corrected in a future release of the GS1 General Specification and will update the LVS-95XX software to reflect those changes in a timely manner after they occur.

Q24. Can I upgrade from version 4.1.0J to the latest version of the LVS 95XX software?

To upgrade from 4.1.0j to the latest version of software, it is recommend to uninstall v4.1.0j and delete the LVS-95XX.mdb file from C:\Users\Public\LVS-95XX. If a backup folder exists in C:\Users\Public\LVS-95XX, delete the LVS-95XX.mdb file from that folder as well. Then install the new version of the LVS-95XX software.

Deleting the LVS-95XX.mdb file will remove all the verification history. If it is desired to retain the history, the LVS-95XX.mdb file can be renamed rather than deleted. However, The old mdb file cannot be opened with the new software. Microsoft Access or other mdb file viewer can be used to access the records in the old mdb file.

Q25. Why aren't some dialog controls translated to the selected language?

Dialog controls are part of Windows. The language used for the dialog control buttons is determined by the regional settings in the Windows operating system. These buttons are not affected by the language selection made in the LVS-95XX software.

Examples of impacted control buttons are the 'Yes', 'No', 'OK' and 'Cancel' buttons seen on a number of dialog boxes that are displayed within the LVS-95XX software.

Q26. How can I get a list of all Reference values that have been used?

The LVS-95XX software Setup screen provides a field to enter a Reference value or string. The Reference is used to help group inspection runs by criteria of the operators choosing. The Reference field drop-down will allow the operator to choose one of the Reference values previously entered. However, this drop-down field is limited to displaying 30 values. If more than 30 Reference values have been used, it will be difficult to get a list of the oldest values.

While not as convenient as using the drop-down list, a list of all Reference that are present in the current database can be obtained on the Archive screen. To do this, it will be necessary to enter the following query into the Query field:

Select Distinct Reference from Reports

Click the Execute button to run the query and a list of all Reference values will be displayed. Select the "Generate HTML file (for printing)" radio button to generate the list in a format that can be copied or printed.