OMRON
MICROSCAN

LVS® 9510 Operating Instructions

English

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GS1 Solution Partner

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

Latest Manual Version
For the latest version of this manual, see the Download Center on our web site at:
www.microscan.com.

Technical Support
For technical support, e-mail:
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EMEA_support@microscan.com
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Warranty
For current warranty information, see: **www.microscan.com/warranty**.

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Table of Contents

Important Information

- The LVS-9510 arrives site packaged in a specially designed shipping carton. DO NOT discard this shipping carton in case the system needs to be shipped or stored for any reason. Failure to use this carton when returning the product to Omron Microscan will void the warranty.
- This guide is intended to help the user understand the features and functionality of the LVS-9510. Be sure to reference the following additional resources:
- Refer to the "LVS-95XX Series Software Installation Guide" for steps on installing the LVS-95XX software. A hard copy version of the "LVS-95XX Series Software Installation Guide" is packaged with the system and an electronic version is located on the installation media.
- Refer to the "LVS-95XX Series Barcode Quality Station Operations Manual" for comprehensive steps on operating the LVS-95XX software. This manual is located on the installation media packaged with the system.
- For questions or concerns about the performance of the LVS-9510, please contact a local Omron Microscan Distributor or Omron Microscan Technical Support:
  Americas_support@microscan.com
  EMEA_support@microscan.com
  APAC_support@microscan.com
  China_support@microscan.com
  Phone: 1.425.203.4841
  Toll Free: 1.800.762.1149

Safety Instructions

The LVS-9510 has been carefully designed to provide years of safe, reliable performance. However, as with all electrical equipment, there are some basic precautions to avoid personal injury or damage to the system:

- Before using the system, carefully read all the installation and operating instructions.
- Observe all warning instruction labels on the system.
- Never insert anything into the openings of the system.
- Do not use the system near water or spill liquid into it.
- All components used to create the system are CE approved. All circuits were designed to incorporate maximum safety. However, any equipment using electrical voltages may cause personal injury if improperly handled.
- Do not attempt to work on the system with the USB cable connected.
- To avoid damaging the system, unplug the USB cable before cleaning.
- If the system ever needs repair, consult Omron Microscan or an Omron Microscan Distributor.

Statement of Compliance

ЕАⳚ

Manufacturer: Omron Microscan Systems, Inc., 700 SW 39th St., Renton, WA 98057, USA
Производитель: «Омрон Майкроскан Системс Инк., США, Рентон, штат Вашингтон 98057, 700 SW 39th Street
Representative: Omron Electronics Limited Liability Company, 125040, Russian, Moscow, Ulitsa Pravdy, 26. OGRN 10677746976582
Представитель: Общество с ограниченной ответственностью "Омрон Электроникс", 125040, Российская Федерация, город Москва, улица Правды, дом 26, ОГРН 10677746976582
Date of Manufacture: The first two digits of the serial number are the two-digit year of manufacture, or the year of manufacture +20 for serial numbers starting with 3.
Дата изготовления: первые две цифры серийного номера являются двумя последними цифрами года изготовления + 20 для серийных номеров, начинающихся с 3.

About the LVS-9510

The LVS-9510 is a barcode verifier designed for off-line verification of barcodes to ISO/IEC standards. The LVS-9510 is a 5.0 megapixel camera-based system that grades linear (1D) and two-dimensional (2D) codes up to 3 inches (76 mm) wide and up to 2 inches (51 mm) tall (including the quiet zone). See the "Quiet Zone" section below for more information on quiet zones.

The LVS-9510 verifies barcode labels located on a variety of surfaces including corrugated cardboard boxes, shipping containers, and on a static (non-moving) web. The LVS-9510 grades barcodes in either picket fence or ladder orientation.

Picket Fence Orientation

Ladder Orientation



The LVS-9510 is 21 CFR Part 11 Compliant-Ready.

Quiet Zone

The **quiet zone** is a clear space preceding the start character of a barcode symbol and follows the stop character. When reading/grading a barcode symbol, adequate space for the quiet zone must be allowed. The required quiet zone space for each barcode varies by symbology. An error message appears on the computer screen if not enough space has been allowed for the quiet zone.

1D Barcode Quiet Zone

Quiet Zone

Start Character

Quiet Zone

Stop Character

2D Barcode Quiet Zone

Quiet Zone
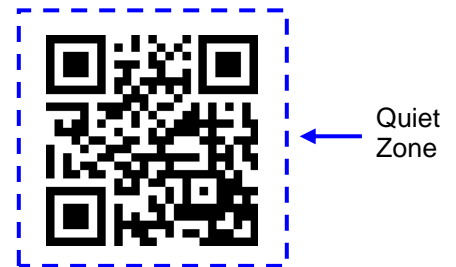
Hardware Overview

The LVS-9510 includes the following hardware components:

Viewing window

Four rubber feet to prevent slippage

LVS-9510 with lid and LVS-95XX
Software installer USB key.

LVS-9510 shown with
a label to be verified.

LVS-95XX Software Steps

Refer to the sections below for steps on:

- Logging in to LVS-95XX software
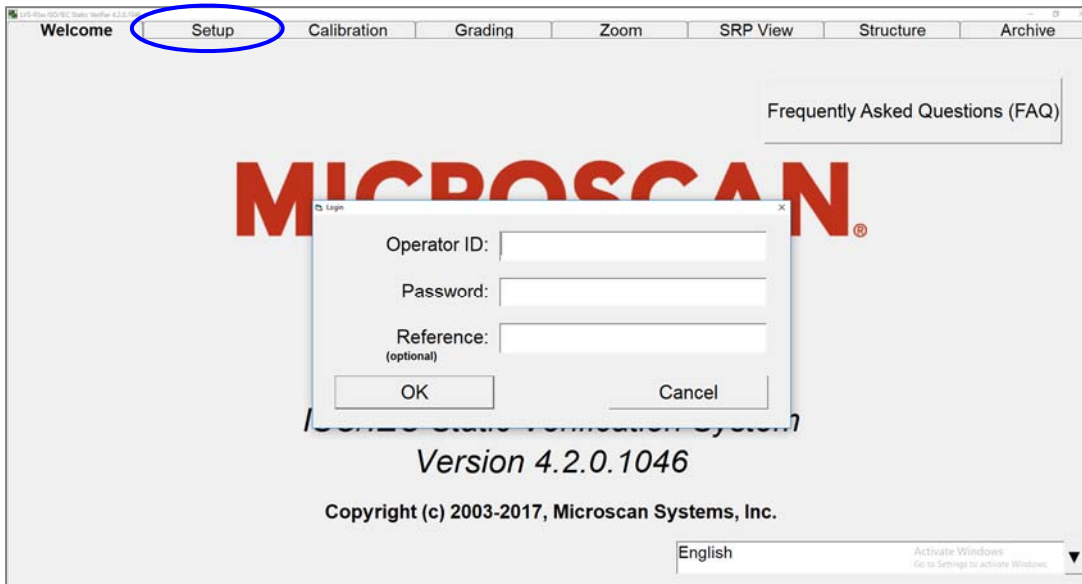- Turning on the LVS-9510 camera
- Calibrating the LVS-9510

> **Note:** Refer to the "LVS-95XX Series Software Installation Guide" for step-by-step instructions on installing the LVS-95XX software; a hard copy version of this guide is packaged with the system and an electronic version is located on the installation media.

Log In to LVS-95XX Software

1. Start the LVS-95XX software. The "Welcome" screen appears (see below).

2. Click the "Setup" tab. The "Login" box appears.

3. Enter **admin** (not case sensitive) in the **Operator ID** field and in the **Password** field.
4. Click "OK." LVS-95XX Software will open.
5. Turn on the LVS-9510 camera by following the steps in the next section entitled "Turn on the LVS-9510 Camera."

Turn On the LVS-9510 Camera

1. Click the "Setup" tab and select "9510" in the "Camera" section (see below).

Note: When using only the LVS-9510 (with no other LVS-95XX barcode verifier, such as the LVS-9580), "9510" will be the only camera listed in the "Camera" section. When using the LVS-9580 with the LVS-9510 (5 MP), both cameras appear in the "Camera" section. Select "9510."

2. Select "Auto-Sector" in the "Grading Mode" section (see screenshot above). This allows the LVS-95XX software to locate a barcode within the field of view and automatically draw a sector around the barcode.

3. Next, calibrate the LVS-9510 (if using for the first time). See the next section for calibration steps.

Calibrate the LVS-9510

> **IMPORTANT:**
>
> The LVS-9510 should be calibrated regularly. The entire calibration process takes less than 30 seconds to complete and ensures the LVS-9510 is certified according to industry standards.
>
> The Calibrated Conformance Standard Test Card should be replaced every two years.
>
> It is recommended to clean the LVS-9510 window prior to calibration. See the "Cleaning Instructions" section for more information.

1. To calibrate the LVS-9510, click the "Calibration" tab.
2. Locate the Calibrated Conformance Standard Test Card ("test card") that was packaged with the system and place the test card on a flat surface.

   Below is an example of an "EAN/UPC" test card.

3. Place the test card face down. There is no need to pull the trigger at this time (pulling the trigger causes the LVS-9510 to capture a live image; however, the image is automatically live while the system is in Calibration mode).

4. Place the test card face down on the LVS-9510 window. If necessary, hold the test card in place to prevent movement of the card. See example of Master Grade barcodes above. It is important to note that not all of the card will fit onto the verifier window.

Not all of the test card will fit in the verifier window

5. On the "Calibration" tab, make sure the blue line travels through the middle of the PASS portion of the barcode as shown below.

The blue line must pass through the "PASS" portion of the barcode.

6. Click the "Calibrate" button.
    *   Successful calibration is indicated by a green "Calibration OK" message.
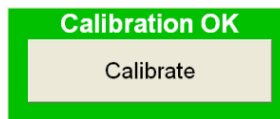
    *   Failed calibration is indicated by a red "Calibration Needed" message.

7. If calibration fails:
    o   Re-scan the Master Grade barcode and follow the above steps to calibrate. It may take two or three attempts before calibration is complete.
    o   If calibration continues to fail, contact Omron Microscan or a Microscan representative for further instructions.

    IMPORTANT: The calibration score will hardly ever match exactly; this is normal and acceptable as long as the scores are within +/- 3 percentage points.

8. When calibration is complete, click the "Grading" tab to grade barcodes. See the next section for steps on grading barcodes.

Grading Barcodes

1. Click the "Grading" tab.
2. Place the test card over the LVS-9510 window <u>ensuring the card rests on the window.</u>
3. The barcode image appears on the customer-supplied computer screen with a green plus symbol (+) located on the barcode image.

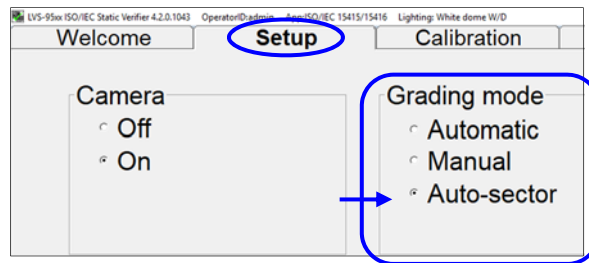> **Note:** If the green plus symbol (+) is not appearing on the barcode image, click the "Setup" tab and make sure "Auto-sector" is selected in the "Grading mode" section (see below).

4. Slowly move the test card as needed to place the green plus symbol over the center of the barcode image.

> **Tip:** Positioning the green plus symbol over the center of the barcode image may take a few moments when first learning to use the LVS-9510. Position the center of the barcode image as close as possible to the center of the LVS-9510 window. Please note that when moving the barcode image, the camera reads in a mirrored view. For example, when the barcode image is moved to the right, the image moves left. If the barcode image is moved up, the image moves down.

5. The LVS-95XX software analyzes the barcode and reports a grade score between 4.0 (A grade) and 0.0 (F grade) on the "Grading" tab.

Refer to the "Grading Tab" section in the "LVS-95XX Series Barcode Quality Station Operations Manual" for more information on grading barcodes; this manual is located on the installation media packaged with the system.

Cleaning Instructions

The LVS-9510 window may need to be cleaned daily, depending on use. Debris on the window may cause the LVS-9510 to not grade accurately.

Locate the following supplies:

- Commercially available household glass cleaner, such as Windex®, Glassex®, or Mr. Muscle®. **Do not use an industrial-strength glass cleaner**.
- Soft, lint-free, non-abrasive towel or cloth

Dampen the cloth with the household glass cleaner and gently wipe the window. Inspect the window closely, looking for any label debris that may be stuck on the window. Do not scrape the window with a sharp object as this may damage the window. Any damage to the window will be detected during the calibration process.

IMPORTANT:

DO NOT directly spray the window with glass cleaner; always spray a towel or cloth with household glass cleaner and then gently wipe the window.

DO NOT use an industrial-strength glass cleaner.

For cleanroom environments, IPA (Isopropyl alcohol) up to 70% may be used to clean the outside of the window.

Do not clean the inside of the window due to special coating requirements.

Please contact an Omron Microscan Distributor or Omron Microscan Technical Support with questions or concerns about the performance of the LVS-9510:

Americas_support@microscan.com
EMEA_support@microscan.com
APAC_support@microscan.com
China_support@microscan.com
Phone: 1.425.203.4841
Toll Free: 1.800.762.1149

LVS-9510 Hardware Specifications

NOTICE: LVS-9500 was discontinued in 2013 and is no longer available. We recommend LVS-9510 as a replacement solution.

Physical Properties

Height	10.5"	266.7 mm
Width	11.125"	282 mm
Depth	9.062"	230 mm
Viewing Window	5" x 7"	127 mm x 177.79 mm
Weight		• Unpackaged weight (standalone LVS-9510 unit) = 6 pounds (2.72 kg) • Shipping weight (includes all items packaged in shipping box, such as power supply, cables, manuals, etc.) = 13 pounds (5.89 kg)

Video Camera

- Monochrome. 5.0 megapixel

Minimum PC Requirements (PC Supplied by User)

- Windows® 7, Windows® 8.1 or Windows® 10 (Windows® XP and Windows® Vista is not supported)
- Intel® Core™ 2 Duo Processor (or equivalent)
- 2 GB RAM
- 800 x 600 Resolution
- One available USB 2.0 port (additional ports required for each Auxiliary Readhead in use)
- The user-supplied computer connecting to the 5.0 MP Auxiliary Readhead must be running LVS-95XX software version 3.0.8 or higher.

Top Cover

- 5.5" x 7.5" (139.7 mm x 190.5 mm)
- Weight = 5.5 oz (162.65 grams)

Light Source

- White Light
- Red (660 nm) filter. Optional clear window available for purchase.

Inputs / Outputs

- USB 2.0 port
- Power Supply 12 vdc @ 2.5 amps (minimum)

Operating Temperature

- 10º C (50º F) to 30º C (86º F)

Storage Temperature

- 0º C (32º F) to 40º C (104º F)

Relative Humidity

- Operating: 20% to 80% (non-condensing)
- Storage: 20% to 95% (non-condensing)

Calibration

One of the following:

- EAN/UPC Calibrated Conformance Test Card
- GS1-128 Calibrated Conformance Test Card

Specifications and photos subject to change.

Supported Symbologies and Standards

Below are just a few of the Symbologies and Standards supported by the LVS-9510. Contact Omron Microscan for a full list of supported Symbologies and Standards.

Supported Symbologies

1D (Linear) Codes:

- Codabar
- Code 128
- Code 39
- Code 93
- DataBar Expanded
- DataBar Limited
- DataBar Omnidirectional
- DataBar Stacked
- DataBar Truncated
- DataBar
- EAN/JAN-13
- EAN/JAN-8
- Enterprise Intelligent Barcode (EIB) 4-State (4SB)
- GS1-128
- HIBC
- Interleaved 2 of 5 (ITF)
- ITF-14
- Japan Post
- MSI Plessey
- Pharmacode – Laetus
- PZN 7 and PZN 8
- UPC-A
- UPC-E
- USPS-128
- USPS Intelligent Mail Barcode (also referred to as 4-State Barcode)

2D (Two-Dimensional) Codes:

Below are 2D codes (including 2D Composite Components abbreviated as CC) available for use with the "1D and 2D Barcode Verification" option:

- Aztec Code
- DataBar with CC-A, CC-B, or CC-C
- EAN/JAN-13 with CC-A, CC-B, or CC-C
- EAN/JAN-8 with CC-A, CC-B, or CC-C
- ECC-200 (Data Matrix)
  - o Enterprise Intelligent Barcode (EIB) Complex Mail Data Marks (CMDM)
  - o French CIP
  - o GS1 Data Matrix
  - o NTIN
  - o PPN
- GS1-128 with CC-A, CC-B, or CC-C
- MaxiCode
- Micro QR Code
- MicroPDF417
- PDF417
- QR Code
- UPC-A with CC-A, CC-B, or CC-C
- UPC-E with CC-A, CC-B, or CC-C

Supported Standards

ISO Conformance Standards:

- ISO/IEC 15415
- ISO/IEC 15416
- ISO/IEC 15426-1
- ISO/IEC 15426-2
- ISO/IEC TR29158 (DPM models only) / AIM DPM-1-2006
- All supported ISO/IEC Symbology Specifications

GS1 US Certification:

- Data Matrix for Healthcare
- Data Matrix (ECC 200)
- EAN/UPC and Extended Codes
- EAN/UPC with CC
- GS1 DataBar Omnidirectional
- ITF-14
- GS1 Databar-14 with CC (formerly RSS-14 with CC)
- UCC/EAN with Supplementals
- UCC/EAN-128
- UCC/EAN-128 with CC

Application Standards:

- AIAG/DAMA/JAPIA/Odette
- ISO/IEC TR29158 (DPM Cat 0)
- DHL
- FPMAJ
- French CIP
- GS1 General Specifications
- HDMA Guidelines
- Health Industry Barcode (HIBC)
- IFAH
- ISO/IEC 15415/15416
- Japan Codabar
- Laetus Miniature Pharmacode
- Laetus Pharmacode
- Laetus Standard
- MIL-STD-130N Change 1
- Pharmacy Product Number (PPN)
- Automatic GS1 or ISO
- GS1 General Specifications
- GS1 (NTIN)
- HDMA Guidelines
- Miniature Pharmacode
- Postal (EIB, USPS IMB/Code 128, PostNet, Japan Post)
- PPN Code
- PZN-big, normal, small (German Pharmacode)
- PZN 7 and PZN 8