PRODUCT NEWS

OMRON

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Product: LVS-95XX
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LVS-95XX Software 4.7.1 – Release Notes

Summary:
LVS-95XX Software, OMRON Microscan's proprietary 1D and 2D symbol verification software for use with all LVS-95XX products, provides an intuitive way to verify virtually any AIDC symbol in compliance with ISO/IEC and a wide variety of application standards.

Note: It is recommended to first uninstall previous versions of LVS-95XX Software before installing version 4.7.1. If installing on a new PC, the database file (.mdb) must be copied from the existing PC to the new PC. See the user manuals for further information.

NEW FEATURES

ISO/IEC 15415:2024 updates
Grading algorithms revised to support the revisions to the **ISO/IEC 15415:2011** Standard.

ISO/IEC 15416:2025 updates
Grading algorithms revised to support the revisions to the **ISO/IEC 15416:2016** Standard.

ISO/IEC 29158:2025 updates
Grading algorithms revised to support the revisions to the **ISO/IEC 29158:2020** Standard.

GS1 General Specifications
Updated to General Specifications v25.

ENHANCED FEATURES

Grading

- Added the Threshold parameter (formerly Global Threshold) to the 2D verification report since 15415:2024 no longer uses the simple mid-point between Rmax and Rmin calculation.
- Grading algorithms revised to support the revisions to ISO/IEC 16022:2024 Standard.
- Added Contrast Uniformity grading for QR Codes.
- Added ability to hide the mandatory AI association warning for GS1-128 barcodes.

Settings

- Auto-Save button is now Permission controlled.   Only users with the Allow Change Setup Options permission are allowed to configure the Auto-save options

DEFECTS RESOLVED

Resolved defects

- Corrected aperture selection when grading EAN/UPC symbology under ISO/IEC 15415/15416 (with 15434 DI) application standard.
- Audit Trail Report no longer duplicates entries.
- Software now requires calibration card in FOV before updating calibration goal values.
- PASS/FAIL Grading now works for DPM applications.
- Support for Type D and Type S Intelligent Mail 4-State barcodes returned.
- Mode 5 (FNC1) in GS1 Digital Link QR Code symbol is no longer allowed.
- Corrected calibration failure specific to 4.5" FOV 9510 model due to high modulation.
- Corrected 1.75" FOV 9510 calibration error causing inaccurate Defects grading.
- Corrected imported image grading using incorrection calibration.
- Corrected inability to calibrate 1.45" FOV in French locale.
- Resolved invalid UTF-8 encoding detected fatal error when upgrading from 4.5.0 software.
- Resolved incorrect UII syntax failure on Defense Application Standard where AI (7100) required NSN (Nato Stock Number).
- Restored Multi-sector "ALL" report when grading using optional multi-sector feature.
- Fixed multi-sector report printing.

KNOWN CAVEATS

Custom Reports missing information

The Average Grade value is not transferred to Custom Reports.

WORKAROUND: Before relying on the Custom Reports feature, verify that all the information needed is transferred to the report correctly.

Active Directory username character limitations

Usernames that include the dash (-) or the underscore (_) character cannot be authenticated using Active Directory.

WORKAROUND: If Active Directory is used to authenticate users, create accounts for the LVS-95XX users that do not include either the dash (-) or underscore (_) character.

Color Scale

The color scale at the bottom of the Grading screen is not being updated with the regional format.

WORKAROUND: None. The period (.) is being used as a decimal separator in the color scale regardless of the regional settings.

Unplugging device while on Calibration screen

Unplugging the LVS-95XX device from the host computer while on the Calibration screen will cause a run-time error.

WORKAROUND: Always close the LVS-95XX software before unplugging the hardware from the host computer.

The letter grade shown in the verification report does not match with the overall grade

This complaint is typically caused by the misperception that the colors shown on the Grading screen correspond to letter grades. This is incorrect. The colors are based on historical precedent. With the advent of decimal grading for 1D barcodes, the correspondence of colors to letter grades is broken. Letter grades are no longer part of the ISO/IEC grading scheme and are not represented on the Grading screen.

WORKAROUND: If letter grades are required, the letter grades provided in the reports represent the current ISO/IEC score to letter grade mapping recommendations provided in ISO/IEC 15416.

Missing column headings in Export Reference report

The column headings are missing in Export Reference report when "ExcludeAllOnExport=1".

WORKAROUND: Do not use the "ExcludeAllOnExport=1" setting. Sector IDs will be shown on the report.

Issue with MySQL Connect/ODBC drive v8.0.33

When connecting to a MySQL database, avoid using the ODBC driver v8.0.33. This driver will cause the connection to crash without saving data to the database.

WORKAROUND: Use MySQL Connect/ODBC driver v8.0.32.

NOTES

Audit Trail information

There have been some questions about information in the Audit Trail. These questions require some clarification of what is seen in the Audit Trail.

MISSING OPERATOR ID: Some system events are recorded in the audit trail. For these events, the Operator ID field is left blank.

ENTRIES CHANGING: Entries are stored in the Audit Trail and tagged with the time of entry. Time is recorded to the minute. In some cases, multiple entries are created in the same minute. When the audit trail is extracted to a report, these entries may appear in random order within the minute boundaries, giving the appearance that the Audit Trail entries are rearranged.

LVS-95XX Software Version History

A summary of important software changes prior to version 4.7.1 is shown below. This version history is limited to software builds that were distributed to customers and partners.

Version	Release Date	Changes

4.6.0.4006	03-Jul-2025	• Defects Resolved
		   o Fix remnant DAT files causing a UTF-8 fatal error
		   o Fix issue that breaks existing SQL server connection
		   o Fix GS1 application standard fails to grade 2D symbols
		   o Change TEI PNO and PNR MaxSize to 32 characters
		   o Fix specific Code 128 symbol producing GS1 warning flags.
		   o Fix Rmax/Rmin issue on 1D symbols.

4.6.0.3007	13-Dec-2024	• New Features
		   o **GS1 Library File** - Added the ability to update the GS1 syntax library file. This allows newly released GS1 application identifiers without the need to upgrade the software version.
		   o **Calibration** - Added the ability detect and correct defects in the white-balance calibration during initial factory calibration.
		• Enhanced Features
		   o **MIL-STD-130 Application Standard -** Improved quality acceptance criteria and X-dimension checking.
		   o **GS1 General Specifications**
		     ▪ Updated to General Specifications v24.
		     ▪ Removed Symbology Specification Table 1.8200. Incorporated the validation checks under Table 1.
		     ▪ Included X-dim or symbol height outside limits drop-down menu in user setup permissions controls. Users without "Setup" permission can no longer adjust the drop-down menu.
		     ▪ Symbology Specification Table 2 now automatically changes to 20 mil aperture for ITF symbology where X-dim greater than or equal to 0.635mm (0.025 inch).
		   o **Grading -** Added Contrast Uniformity grading for QR Codes.
		   o **Settings** Extended password expiration days from a maximum 120 days to 360 days.
		   o **Languages**
		     ▪ Updated the Polish language translation file (0415.dat).
		     ▪ Updated the Polish language FAQ document (FAQ0415.pdf).
		• Defects Resolved

		o GS1 Symbology Specification Table 1
		    ▪ Correctly selects aperture for 2D barcodes.
		    ▪ QR codes without GS1 AI (8200) no longer pass.
		o GS1 Symbology Specification Table 2 - EAN-8 symbology no longer allowed.
		o GS1 Library Syntax checking for invalid AI pairs is now functioning.
		o GS1 Library Syntax checking for multiple instances of the same AI having different values is now functioning.
		o Report RDA failure on L pattern unless DPM
		o PASS/FAIL mode grading responds correctly to "Generate warning but don't change the grade..." drop-down control.
		o "Days before calibration needed" control setting now operates correctly.
		o Warning message "AI (x) value is too long" no longer occurs when using non-alphanumeric characters.
		o MIL-STD-130N1 now allows EAN/UPC symbology.
		o MIL-STD-130N1 now allows GS1-128 symbology.
		o MIL-STD-130N1 + UII structure parsing of embedded data no longer lists DI 25S twice on some barcodes.
		o Calibration screen print button no longer launches the Snipping Tool (Windows 11).
		o Left-side Quiet Zone checking & painting for Databar Limited symbology corrected.
		o Extended area around symbol contains extremes of reflectance operation corrected.
		o Auto-logoff time-out no longer causes software to crash.
		o Inaccurate grading after calibrating while set to a GS1 DPM table was corrected.
		o Fixed bug where Pass/Fail remains on the printed report after switching back to Full ISO mode from Pass/Fail mode.
		o The "<" character is no longer counted twice when checking GS1 AI (91) string length.
		o Software now accepts 7-digit serial numbers when no camera is detected.
		o Removed Dome Lighting from printed reports for imported images.

4.5.0.4106	29-Apr-2024	• New Features

Version	Date	Notes

		o GS1 mandatory association of element strings
		• Enhanced Features
		    o Contrast Uniformity and Rmin conformance improvements for symbols without a 'dark widow' cell
		    o Data rules are checked for DI 17V
		• Defects Resolved
		    o Grading defects in start/stop patterns or row address patterns in PDF417 family symbols corrected.

4.5.0.3021	18-Dec-2023	• New Features
		    o Conformance to GS1 General Specification 2022 & 2023
		    o Report image resolution is user configurable.
		    o Application standard ISO/IEC 15434 added.
		    o Application standard DEF-STAN-05-132 added.
		    o GS1 AI dependency & Invalid pair checks
		    o GS1 Syntax Library Support
		• Enhanced Features
		    o Aperture override warning not shown for 50% or 80% aperture selection.
		    o Language selection is persistent.
		    o MailMark Application standard updated.
		    o Additional Data Identifiers recognized and analyzed.
		    o GS1 Decodability rules for ITF-14 have been added.
		    o Error when verifying a DMRE code using the GS1 standard.
		    o Composite Code grading improvements.
		    o Non-English language improvements.
		    o Usability improvements.
		    o Performance improvements.
		• Defects Resolved
		    o Schweiz (CH) language setting fixed.
		    o Apertures reported as whole numbers.
		    o Angle of light report on 9510 fixed.
		    o Various cosmetic issues fixed.
		    o DI analysis improvements.
		    o AI analysis improvements.
		    o UPC-E with CCA now graded correctly.
		    o Blemish error for Databar Expanded Stacked symbols fixed.
		    o On-screen calibration results match calibration history.
		    o Bar height calculations improved.
		    o HIBC intermittent structure effort eliminated.
		    o DMRE 8x144 symbols now decoded proprerly.
		    o GS1 improvements.
		    o MIL-STD-130N improvements
		    o Reported aperture consistent with x-dimension.
		    o Incorrect 'Extraneous Error' error eliminated.

4.4.3.4102	20-Jan-2022	• New features
		    o Conformance to GS1 General Specification 2021
		    o Support for ISO/IEC 29158:2020
		    o Auto-save reports in PDF format

		• Enhanced features
		    ○ Grading DMRE codes per ISO/IEC 21471:2020
		    ○ PDF and Micro-PDF grading improvements
		    ○ Clarification of AI 7003 reporting
		    ○ DataBar guard pattern reporting
		    ○ New FAQs available
		    ○ Decimal grading for 2D matrix symbols
		    ○ MIL-STD-130N improvements
		    ○ USPS Code 128 Intelligent Mail Barcodes for Containers
		    ○ Grades are reported for GS1 symbols when using ISO/IEC 15415/15416 application standard
		    ○ FPMAJ symbols default to GS1 Table 6
		    ○ Text sizing in UI
		• Defects resolved
		    ○ Aperture size for 2D symbols
		    ○ AutoSector with QR Codes and quiet zone > 1X
		    ○ Non-English text corrections
		    ○ Non-English regional settings improvements
		    ○ Text wrapping improvements
		    ○ Chinese text in reference field
		    ○ Improved descriptions
		    ○ Code 39 orientation
		    ○ HIBC data checks
		    ○ Superfluous FNC1 reporting
		    ○ Missing parenthesis on Ais
		    ○ Aperture size when grading GS1-128 symbols
		    ○ Databar Stacked Omnidirectional codes for GS1
		    ○ ITF-14 for GS1
		    ○ Composite Codes for GS1 applications
		    ○ Switching between the DPM GS1 and non-DPM GS1
		    ○ MIL-STD-130N structure errors
		    ○ Incorrect symbologies identified in MIL-STD-130N
		    ○ UII with Base256 encodation
		    ○ Code 128 quiet zone enforcement for AIAG application standard
		    ○ USPS code 128 grading refinements
		    ○ Run-time error 2
		    ○ Image exposure when using with an LVS-958X DPM HD unit
		    ○ Export reference data / Export all working correctly
		    ○ Structure reporting

4.4.2.3008	27-Aug-2020	• GS1 related changes
		    ○ Table 2 and Table 5 updated to allow Data Matrix symbols
		    ○ Data Matrix aperture error in GS1 Table 6 resolved
		    ○ Incorrect Extraneous FNC1 error when grading GS1 QR codes eliminated
		    ○ Added reporting for AI(10) Batch or Lot number for GS1-128 codes
		    ○ Updated aperture size per Gen Spec v20 for QR codes when using Table 1

| | | o Correct error message displayed when encountering an NTIN with an incorrect check digit o Support new AIs in Gen Spec V20: 235, 417, 7040 and 7240 o Corrected element errors in AI 253, 394 and 421 o Corrected isolated MinHeight errors in GS1 tables o Quiet zone checking when using GS1 Databar codes has been corrected o Residual warnings when switching from GS1 Table 1.8200 to ISO/IEC 15415/15416 applications standards has been eliminated o An extra FUNC1 or <GS> placed after a data string is ALLOWED per GS1 v20. The software was updated to generate a warning but not to fail in this situation. o Updated Table 12 to use minimum passing score of 3.5 per Gen Spec v20 o Residual grading banners when using GS1 tables are eliminated o Minimum x-dimension banner when using GS1 Table 4 has been eliminated
• DPM related issues
o Defects and Modulation View displays are corrected
o Re-drawing region of interest prevented in DPM mode
o Added Minimum Reflectance to grading report
o Eliminated inappropriate application of MIL-STD-130 criteria when grading non-MIL-STD-130 symbols
o Allow multiple format (06, 07) when using MIL-STD-130 + UII
o Grade changes after releasing the trigger eliminated
o StrictISO15415IntegerGrading option created to eliminate decimal grading for 2D and DPM symbols
o Corrected MIL-STD_130N grading errors for PDT and REM
o Added DPM application standard for HIBC
o Issue identifying QR codes as Data Matrix when using DPM TR29158 resolved
• MIL-STD-130N
o Allow multiple format (06, 07) when using DPM + MIL-STD-130 + UII
o Use only 5 mil aperture when MIL-STD-130N + UII application standard is selected
o Remove "Construct 1" / "Construct 2" labelling for DI25S
o Fixed duplicate data issue for unknown TEI
• Grading Consistency
o Variations observed when grading the same symbol multiple times have been reduced
o Tolerances are tightened for
▪ Contrast Uniformity
▪ Fixed Pattern Damage
• Audit Trail |

		○ Action of removing a report from Recent Reports now logged to Audit Trail ● UI Issues ○ Missing verification parameter descriptions provided ○ Display distortion in Zoom screen when grading a DPM symbol has been corrected ○ Transition Ratio display when in non-US regional settings has been fixed ○ Grade reporting when in non-US regional settings corrected ○ HIBC date display in 1D structure report properly formatted ○ When in Japanese language, the (非対応) notation after OCR on Grading tab was removed ○ Mixed Japanese and English language text when running in Japanese has been improved – only specific dialog boxes were addressed and this condition may still exist in other locations ○ Bar height reporting in inches corrected ● Symbologies ○ Mailmark Type D decoding issues fixed ○ Codabar identification fixed ○ Quiet zone errors now correctly reported for Databar Limited using FPMAJ application standard regardless of read direction ○ CC portion of Databar Limited with CC now recognized ○ 2x Quiet Zone check for PDF-417 corrected ○ Allow missing start or stop characters in PDF-417, but don't allow both to be missing ● Propeller firmware ○ Issue upgrading Propeller firmware when using Japanese regional settings is corrected ● Calibration ○ Issues encountered when re-calibrating an existing system using a new GS1-128 Conformance Calibration Standard Test Card have been resolved ○ Automatic aperture override to 80% applied when using Data Matrix CCSTC with 958X HD units
4.4.1.4002	03-May-2019	● Fixed issue with non-US decimal & thousands separators ● Improved analysis of GS1 QR codes
4.4.1.3013	Not released	● GS1 2019 General Specification updates, including new Application Identifiers. ● Micro QR code decoding errors corrected ● QR Code 2D Analysis reporting improved when using DPM TR-29158 as application standard ● Grid Nonuniformity round-off fixed ● Axial Nonuniformity round-off fixed ● MySQL memory handling improved when selecting all reports ● OCR tip presentation for non-English languages enhanced

		• "Type mismatch error" during calibration caused by regional settings fixed
		• Data archives when analyzing composite codes fixed – both 1D and 2D data is saved
		• Shortcut keys to change form tabs run-time error fixed
		• Reference Data Export using SQL
		• Grading Data Matrix with DPM TR-29158 fixed issue with embedded <GS> character
		• Text wrapping when printing multi-sector report
		• Verification reports include Pass/Fail indication based on minimum passing score
		• External trigger (CTRL+SHIFT)
		• Aperture setting for non-GS1 Data Matrix codes
		• Quiet zone reporting in 2D analysis screen
		• Transition Ratio measurement color coding (clarifies FPD grading, helping to understand grading of Data Matrix codes created using dots)
		• 1 decimal place display of data in calibration screen
		• Both 1D and 2D parameters included in export reference report when appropriate
		• "Machine not authorized" error message
		• GS1 Stacked Databar analysis no longer reports missing <FNC1> when <FNC1> is implied
		• Rounding when grading Symbol Contrast for Data Matrix improved
		• Stitching function automatically turns on camera as appropriate
		• 2D analysis of reflectance values on Analysis Screen exclude 20Z white space analysis
		• Full and compact Aztec codes grading and reading
		• Data Matrix structure analysis error that caused dropped characters from reported data fixed
		• MicroPDF codes read if only one of either the stop or start pattern is valid
		• Xdim and Symbol Height warning flag (on Setup tab) configurable for all application standards
		• Ability to delete an old report on the Archive screen restricted to users who have "Allow change archive file" permission
		• Software installation guide and Readme.txt added to root of LVS-95XX software download
		• Auto-logoff inhibited if user is grading symbols but not using mouse
		• Warnings about minimum X dimensions when near the specification limits
		• Accuracy of aperture size reporting for Data Matrix codes
		• Inverted PDF417 and MicroPDF417 reading
		• Data Matrix and DPM symbol reading
		• 9510 1.75" field of view
		• Erroneous non-printable characters included in barcode data

		• Updated contact reference when using Japanese language • Czech language • Hungarian language • "Suomi-Svenska" removed from the translation table • Default directory cleanup after installation
4.4.0.5101	27-Jun-2018	• Update data identifier database to avoid incorrect structure errors
4.4.0.4106	27-Jun-2018	• Update to Japanese translation file
4.4.0.4105	30-May-2018	• Increase camera watchdog timeout to avoid unnecessary camera reset • Fix type mismatch error during calibration when goals don't match regional settings • Fix communications issue with 9580s
4.4.0.4102	18-May-2018	• Improved ability to communicate with and upgrade older 9570 units
4.4.0.4101	17-May-2018	• Fixed regional setting conflict with SQL • Updated PCB software to support 7.5MHz crystals • Added missing FAQ files • Improved French translations • Fixed translation issue when displaying "GS1"
4.4.0.3009	30-Apr-2018	• Add dynamic baud rate adjustment for 9570 units • Show correct mils on calibrate screen for 1.3" FOV • Add word break option to avoid truncated display of decoded text • Fix problem displaying (9580HD) when applicable • Fix signing conflict with new Atmel 1.2.6 driver • Record minimum passing grade when pass/fail option used • Fix dome light correction for 1.3" FOV • Fix incorrect Invalid AI warning • Show (9580HD) on setup screen if applicable • Solve issue with synthetic aperture aligning with 6 mil aperture on 1.3" FOV • Fix issue with AI calibration card • Add new AI 22 • Change report label from GS1 Pass/Fail to be GS1 Data Structure Pass/Fail • Change Symbol ANSI X3.182 Letter Grade scaling • Fix 9585-HD calibration issue • Fix incorrect Extraneous FNC1 warning • Allow 9585 HD white balance calibration without factory override • Check HIBC dates for validity • Correct 9585 HD dome light correlation • Enable pulldown for FPMAJ so height warnings can be made optional • Fix bug in trapezoidal correction logic which would occasionally cause a crash • Improve logic for for non-breakable spaces in HTML reports • Recompute Data Matrix error correction codewords when correcting pseudo-random padding errors • Show (9585HD) if camera model is 9585HD • Update manuals • Attempt to mitigate issues with serial number zero • Fix issue with Ctrl + Shift trigger timeout

		• Remove problematic translation file 040B.dat • Update Atmel drivers to 1.2.6 • Update for modified LVS-9570 driver PCB • Record minimum passing grade when pass/fail option used • Fix incorrect Invalid AI warning shown after <GS>. • Change report label from GS1 Pass/Fail to be GS1 Data Structure Pass/Fail • Fix incorrect Extraneous FNC1 warning • Fix issue with Ctrl + Shift trigger timeout • Restore ability for LVS-9570 to use automatic sector • Allow either <GS> or <232> as separators in GS1 Data Matrix codes • Update max Xdim for Table 6 GS1 Data Matrix (per Gen Spec 18) • Add 2018 GS1 Gen Spec AIs; 714, 8013. New AI for NHRN Portugal and New GS1 identification key: Global Model Number (GMN) • Resolve Run Time error when connecting to an existing MS SQL database • Add new standards for non-DPM versions of Mil-130 • Allow 9510 factory calibration via phone support
4.3.0.3006	08-Nov-2017	• Updated to comply with ISO 15416:2016 • Updated for changes to GS1 General Specification v17, dated 1 July 2017 • Allow user to disable decimal grading without using password of the day. • Default setting that provides decimal grading as default for grading parameters. • Improvements to DPM grading • Streamlined software installation process, with fewer driver installation steps. • Removed support for Lumenera cameras used in LVS-9570 serial # 14139 and lower (Dec. 2013 and earlier), LVS-9500, LVS-9505, and LVS-9510 serial # 12906 and lower (June 2012 and earlier). • Added Traditional Chinese language (Taiwan) and character set.
4.3.0.3003	20-Oct-2017	• Extend maximum length of AIs 91 through 99 to be 90 characters. • Include decimal for Rmin, Rmax, and GT.
4.3.0.1001	18-Oct-2017	• Implement ISO/IEC 15416:2016(E)interpolation rule
4.2.0.3021	16-Sep-2017	• Automatically detect and draw blue sector box around symbol in DPM mod.
4.2.0.3019	08-Sep-2017	• Implement ability to read QR Codes when set for DPM.
4.2.0.3016	23-Aug-2017	• Fix HIBC error when code switch occurs inside $$+7 format. • Update Japanese Translation File.

4.2.0.3003	06-Jul-2017	• Fix error in PZN check digit calculation for 2D symbols. • Implement new clock track tracking algorithm for DPM. • Show additional lighting information. • Drop support of Lumenera cameras. • Implement more sophisticated event handler. • Improve build info displayed when double-clicking version. • Include changes from GS1 General Specifications V17. • Show HIBC structure if DPM and first character is a '+'. • Support Taiwan language and character set. • Upgrade to Visual Studio 2015 runtime. • Use dfu-programmer instead of Atmel Flip. • Use Inno Setup instead of InstallShield.
4.2.0.3002	03-Jul-2017	• Always show first decoded scan line as line 1 in dimensional analysis • Copy recovery MDB to correct folder • Don't include stale structure information in report of newer code • Don't misidentify 9585 as 9580 on setup screen and reports • Fix canceling calibration
4.1.0j	23-Jan-2017	• Fix overly bright images when upgrading which only affects certain LVS-9580s.
4.1.0i	13-Jan-2017	• Fix bug related to blank passwords and ActiveDirectory. • Remove logic to detect contrast label during calibration, as it is unreliable. • Update Polish translation file.
4.1.0h	10-Jan-2017	• Fix exposure decimal places.
4.1.0g	27-Dec-2016	• Accept GS1-128 calibration card. • Avoid overflow error while minimized. • Avoid overly bright images when upgrading from older versions. • Fix problem with calibration with bright images. • Fix symbology errors on tables 7.2, 7.3, and 7.4. • Improve system responsiveness during focus calibration.
4.1.0f	07-Nov-2016	• Fix calibration not being reloaded when shortcut key used to change application standard. • Update 0410 Italian translation.
4.1.0e	04-Nov-2016	• Don't report 'D' for dome lighting on non-LVS-9580 systems. • Eliminate image jumping once image is stable. • Fix problem with reference reports and SQL Server. • Fix update problem with MySQL. • Reload calibration when changing application standards. • Update manuals.
4.1.0d	20-Oct-2016	• Don't allow Data Matrix when set for MIL-STD-130N Linear (1D). • Fix stitching with LVS-9510/ LVS-9580/ LVS-9585. • Update CompactLvsDB to include Microscan in search.
4.1.0c	18-Oct-2016	• Fix comma vs. period for GS1SpecificationTables. • Fix MicroPDF vs. Interleaved 2 of 5 misread. • Record structure information in database so it can be recalled and reprinted. • Try to read QR Code when set for DPM.
4.1.0b	11-Oct-2016	• Grade tilted DPM but issue warning if applicable. • Implement non-integral exposure.
4.1.0a	05-Oct-2016	• Avoid error when review report earlier than the latest report.

		• Don't accept Defects symbol in calibration mode. • Fix calibration not working in Manual grading mode. • Plot Micro QRCode format cells properly. • Show LVS-9585 as a choice on optional features. • Show green crosshair on LVS-9580 while moving. • Show yellow border while trigger is held.
4.1.0	27-Sep-2016	• Fix problems when interrupting processing. • Fix problems when switching cameras. • Instead of beeping, delay operations where possible.
4.0.0n	23-Sep-2016	• Implement GS1 Table 7.
4.0.0m	19-Sep-2016	• Finish DPM2 implementation. • Fix HIBC link character. • Implement new background/multithread model for slower operations. • Remember AutoPrint setting and don't reset when changing tabs.
4.0.0L	02-Sep-2016	• Placeholder for unreleased version.
4.0.0k	26-Aug-2016	• Changes to Speedup creation of users from Active Directory. • Fix HIBC issue - Unrecognized data identifier.
4.0.0j	07-Jun-2016	• Fixed issue with SQL dB, file access error 75 for Windows users without admin rights.
4.0.0h	25-Apr-2016	• Add 2D symbologies to GS1 table 4. • Add 2D symbologies to GS1 table 7. • Added AI (394) Percentage discount of a coupon. • Added AI (8012) Software version. • Added AI (8111) Loyalty points of a coupon. • Change GS1-128 Table 11 aperture to 5. • Clean up and sort translation files. • Fix Active Directory bug when there are no users in the LVS All Users group. • Fix problem misidentifying older LVS-9580 units. • Fixed incorrect error about missing leader bars in Data Matrix codes. • Fixed missing AI (30) in AI report. • Remove obsolete manuals. • Try more persistently to read UPC/EAN codes with a wrong check digit. • Use data identifiers for MIL-STD-130N.
4.0.0g	10-Mar-2016	• Fix ConfirmEngineType to catch Microsoft SQL 2014. • Fix MySQL MaxValue is reserved keyword; add delimiters when engine type is MySQL. • Fix SQL Stmt. error in ActiveDirectoryIntegration. Use UPPER for MySQL and MSSQL. • Fix error in ExportReferenceCommand by using MSSQL Database. • Improve Microscan logo.
4.0.0g	10-Mar-2016	• Include rebranded manuals. • Restore internal designations of Atmel-based LVS-9570 units. • Revert translation files pending redesign.
4.0.0f	04-Feb-2016	• Bump revision letter.
4.0.0e	02-Feb-2016	• Include proper AIs in report for composite symbols. • Include separate structure reports for 1D and 2D if applicable. • Preserve ActiveDirectory settings when copying database.

4.0.0d	27-Jan-2016	• Change default exposure for LVS-9580 from 40 to 70 ms. • Support new red/white lighting for LVS-9580 camera.
4.0.0c	24-Jan-2016	• Add ActiveDirectory Log file and form setting to enable. • Add progress bar when creating operators from Active Directory. • Correct bug in Active Directory CreateUsersFromAD. • Fix HTML characters in "Manufactured By" field. • Rename old registry values.
4.0.0b	18-Jan-2016	• Add ActiveDirectory Log file and form setting to enable. • Add progress bar with creating operators from Active Directory. • Correct bug in Active Directory CreateUsersFromAD. • Correct bug in new Data Matrix locator algorithm.
4.0.0a	13-Jan-2016	• Improve Data Matrix locator algorithm.
4.0.0	06-Jan-2016	• Rebrand as Microscan. • Set modulation to 0 for scan lines which fail edge determination.