

axicon

THE BARCODE EXPERTS



Axicon inline barcode verifier user guide



Industry
Partner

Church Road, Weston on the Green, Oxfordshire, OX25 3QP, UK
Tel: +44 (0)1869 351155 | Email: sales@axicon.com
Web: www.axicon.com





Axicon 6525-S, 7025-S



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Important information

The Axicon verifier is a high precision opto-electronic device and should be handled carefully. Please keep and use the case to protect the verifier when it is not in use.

Only use power and data cables supplied by Axicon as the use of non-approved accessories will invalidate the warranty. If the verifier is dropped (or subjected to similar misuse) the accuracy of the results may be affected and it should be returned to Axicon immediately for servicing.

We recommend that the verifier is factory serviced annually to ensure that it remains compliant to ISO/IEC 15426-1. The unit should be returned to Axicon or to your approved Axicon reseller for this servicing.

Software updates are always available free of charge, and can be downloaded from our website, www.axicon.com



Introduction

What is in the case

One of the following verifiers:

- Axicon 6525-S barcode verifier with USB cable.
- Axicon 7025-S barcode verifier with USB cable.
- Software CD.
- Wallet containing this user guide and calibration card.

The Axicon verifier is designed to work with any PC running a version of Microsoft Windows currently supported by Microsoft.



Installation

You will use two different programs from Axicon for inline barcode verification. The Axicon Linear Verifier software is used to calibrate the verifier, and the Axicon Inline Verifier software is used for the verification process.

Software installation.

Insert the CD into the CD drive. The Install Program should run automatically (if not, open the CD using Windows Explorer and double-click the Autorun Program). Click **Install Axicon Verifier** and follow the installation instructions after agreeing to the licence terms and conditions.

At the **Custom setup** window, the boxes relating to **Drivers** and **Main Program** are automatically selected. It also provides for optional extra plugins (see page 7). After installation is completed you will find the **Axicon Verifier** directory in **Start Menu/Programs** and a shortcut to the program on your desktop.

If you have downloaded the software from our website then simply click on the setup file and follow the instructions.

Hardware installation

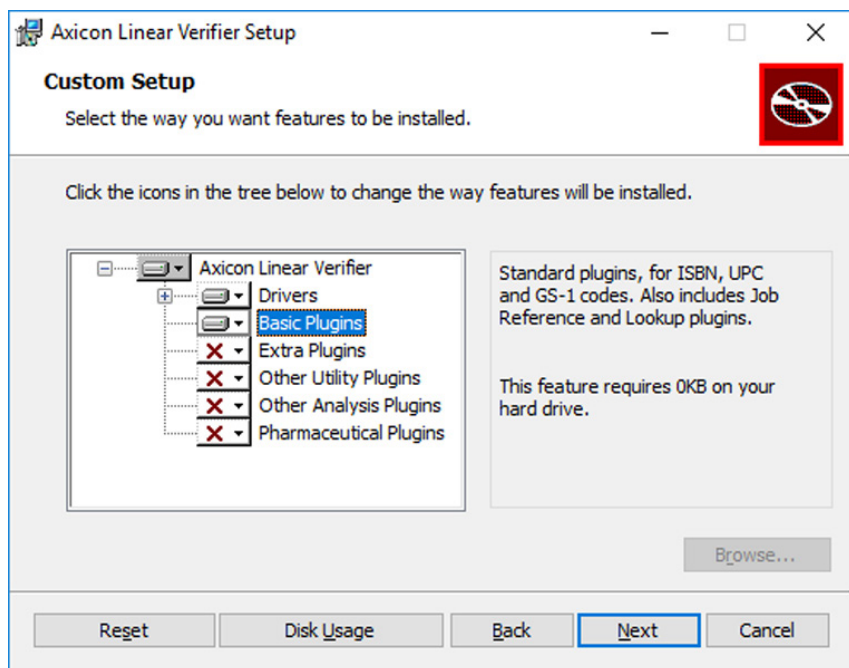
Plug the verifier into any available USB port on the computer. For Windows 7, Windows 8 and Windows 10 installations the drivers should be installed automatically.

Note: Please follow these installation instructions in the correct order, namely installing the software before the verifier is plugged into any USB port. If the verifier is plugged in before the software has been installed, Windows will attempt to find the correct drivers for the verifier via the internet, and choose an incorrect option. This then causes problems as the software is unable to install the correct driver.

The Axicon Inline Verifier software has been installed automatically and you will find it in the Windows start menu.



When you reach the **Custom setup** window you will see a selection of optional plugins. The **Drivers** and **Basic Plugins** are selected by default. If you require other plugins then simply select one or more of the **Extra**, **Utility**, **Analysis** or **Pharmaceutical** plugins.



Scan File Data Extractor and the **Inline verifier** software are installed as part of the software package. Scan File Data Extractor enables you to summarise and record all the verifications made in a standalone database. It uses the data from the Axicon scan files (those with a .scn extension) to create a complete record of all the files that have been saved, either automatically or manually. More information about this is available via the website www.axicon.com.

The **Inline Verifier** software can be used with the Axicon S-range verifiers to check every barcode being printed on a production line.



Calibration

Calibration should be carried out after installation and at regular intervals. When the software detects an uncalibrated reader the following dialogue box will appear
Reader XXXX (serial number) has not been calibrated. You must click OK to continue. You will also need your calibration card which should be located in your documentation wallet.

Use either of the large calibration codes at the bottom of the card.

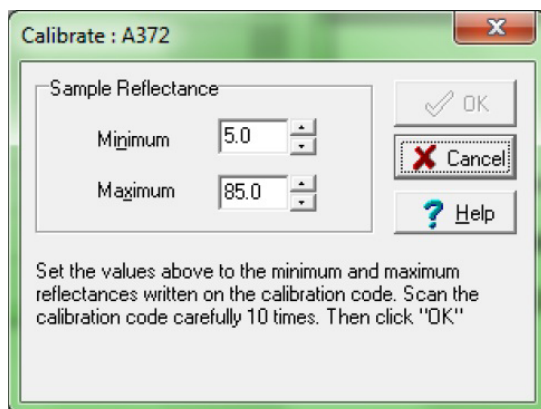
Calibration is a quick and simple process. First open the Axicon linear verifier software (main program), select **Calibrate** from the **Options** menu of the command window (or press F2). You will see a window with two edit boxes for minimum and maximum reflectance values. Ensure that the values shown in the window match the values printed at the bottom of the calibration card. Modify the figures on the window if necessary to ensure that they are the same as the card.

With the **Calibration** window open scan the calibration barcode 10 times. Then click the OK button. The verifier is now calibrated and ready to use. After calibration, store the calibration card in the documentation wallet, away from light and physical damage. If your calibration card should ever become damaged or discoloured, please contact Axicon or your supplier for a replacement.





When using the inline verifier software it is essential that the calibration log file is located in the same directory as the inline verifier program. If it is located elsewhere then the inline verifier software will not find it and will request the user to calibrate the verifier.





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Setup

The Axicon inline barcode verifier has been designed to provide verification of barcodes presented in picket-fence format as these symbols are being printed using thermal transfer printers. It is designed to only read and verify one barcode across the label.

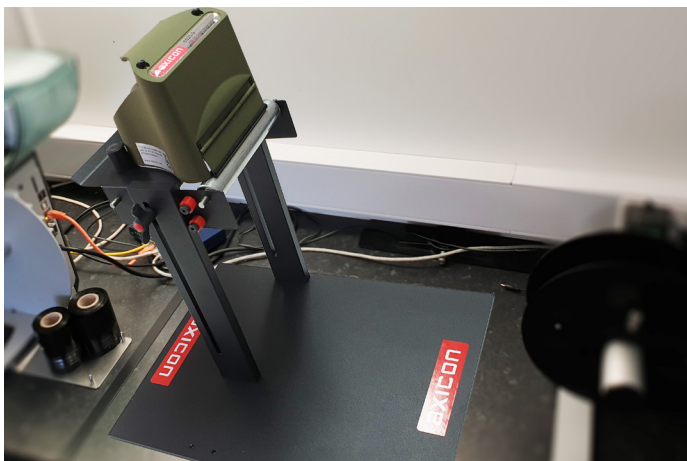
The speed with which verifications can be made is dependent on the speed of the computer to which the verifier is connected. Its performance may also be reduced if the computer is running other applications or is connected to other USB devices. Axicon recommends a computer with a processor speed of at least 1.2GHz and it should be running with at least 512 MB of RAM.

Cradle setup

The use of the Axicon cradle is recommended because it has an adjustable height (See page 18 on how to setup the cradle).

The user should ensure that the verifier is just slightly lower than where the labels leave the printer, so that as the labels emerge they drop slightly before passing under the Teflon strip at the front of the verifier.

The verifier stand should be positioned under the printer, using the weight of the printer to hold it in place. It should be positioned so that the front of the verifier is as close as possible to the print head whilst allowing appropriate access to the printer.





The verifier should be positioned flat within the cradle and held firmly by the metal spring mechanism.

Pause Interface

The inline verifier application can be used to stop some printers if an error is observed or if barcode print quality drops below an acceptable standard.

The following printers are examples of those which can be paused in this way:

- TEC
- CAB Squix
- Sato
- Datamax “H Class” (Optional GPIO port needs to be fitted)
- Zebra 105 and XIII, XiIII, and Xi4 series - These requires an applicator port option to be fitted to the printer.

Rewinder

For the verifier to work correctly the barcodes should pass under the verifier under tension and at a relatively constant speed.

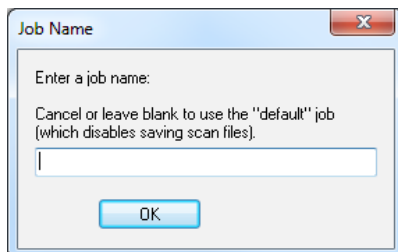
If an internal rewinder is being used, then the labels should pass from the printer, over both of the rollers in the verifier cradle, round the rear roller and back to the printer. The rewinder will maintain the correct speed.

If an external rewinder is being used, it should be clutch-driven as this can maintain tension with a constant speed.



Using the inline verifier software

To start a print verification run, you first need to open the inline verifier software, select Run and Go (F2). The Job name window will appear, enter a job name or leave blank (a job name will need to be entered to save the scan file). The verifier will now start verifying barcodes and display the results on the screen.



All pass reads are displayed in green and all fail reads are displayed in red.

A new line is started on this screen every time the application sees a decodable barcode. The verifier will automatically check the print quality of each barcode and report the overall ISO/IEC grade.

Once the print run has finished, simply select Stop (Run, Stop). A window will appear where you can add any notes about the verification run.

The command icons:



To start the verification, or use F2



To pause the verification



To stop the verification, or use F4



To view the summary of a verification print run, or use F6



To detect a reader, or use F3



To view the setup windows, or use F5



To view the advanced setup windows, or use F7



To toggle scan display tracking



Axicon Online Verifier										
File Run Options Help										
Stopped (reader 608C, job: test)					Total scans: 24		Failed scans: 3			
No.	Label No.	Message	Symbology	No. of Scans	Overall Grade	Gain (%)	Tolerance (%)	Info	Filename	
1	1	05060343610026	ITF-14	23	3.8 (A)	-5	41.2	Pass	n/a	
2	1	05060343610026	ITF-14	21	3.9 (A)	-5	41.2	Pass	n/a	
3	1	05060343610026	ITF-14	14	3.9 (A)	-5	41.2	Pass	n/a	
4	1	05060343610026	ITF-14	16	3.7 (A)	-5	41.2	Pass	n/a	
5	1	05060343610026	ITF-14	14	3.8 (A)	-5	41.2	Pass	n/a	
6	1	05060343610026	ITF-14	14	3.9 (A)	-4	41.2	Pass	n/a	
7	1	05060343610026	ITF-14	14	3.8 (A)	-4	41.2	Pass	n/a	
8	1	05060343610026	ITF-14	13	3.8 (A)	-4	41.2	Pass	n/a	
9	2	05060343610026	ITF-14	10	1.0 (D)	-3	41.2	Fail - Magnification; Grade	000009.scn	
10	2	5124789654218	EAN-13	2	1.0 (D)	5	22.2	Fail - Grade	000010.scn	
11	2	5060321960099	EAN-13	3	1.0 (D)	-6	7.7	Fail - Grade	000011.scn	
12	2	05060343610026	ITF-14	13	4.0 (A)	-5	41.2	Pass	n/a	
13	2	05060343610026	ITF-14	25	4.0 (A)	-5	41.2	Pass	n/a	
14	2	05060343610026	ITF-14	14	4.0 (A)	-4	41.2	Pass	n/a	
15	2	05060343610026	ITF-14	16	3.9 (A)	-5	41.2	Pass	n/a	

If the verifier has a failed read, the row will be highlighted in red and display a message in the info column.

If there is any part of the barcode that cannot be decoded (for example because of ribbon wrinkle) the scans in this area cannot be taken into account.

The software's method of identifying such damaged codes is to provide the user with the number of decoded scans for each barcode, and to provide a facility whereby if the number of decoded scans falls below a pre-set limit then the barcode can be regarded as unacceptable.

Saving

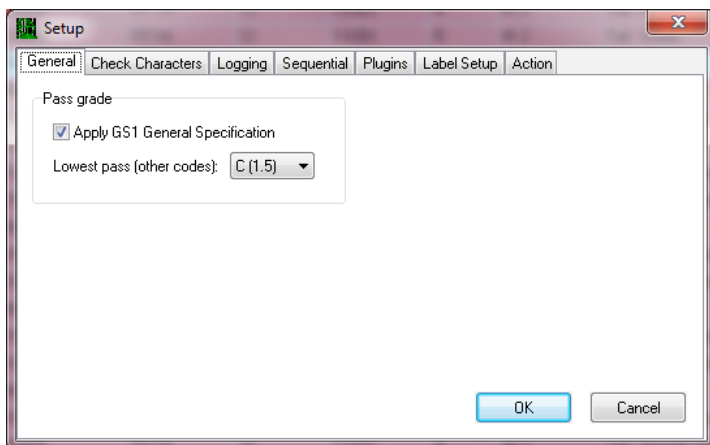
By default the software application will only save sets of scans that fail to meet the pass criteria and then only if the verification run has been given a job name. When starting a job there is the option to give the subsequent saved information a job name or it can just be saved as a default job.



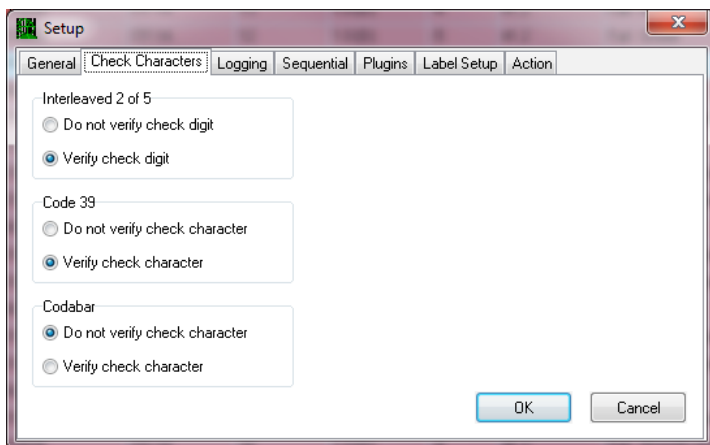
Setup

The verifier has a range of configuration settings. These can be set by clicking on **Options** and then **Setup**.

The **General** tab shows options associated with pass grade and by default the application will apply the requirements of the GS1 General Specifications. For other barcodes such as Code 39, it is possible to select a minimum pass grade on this screen.



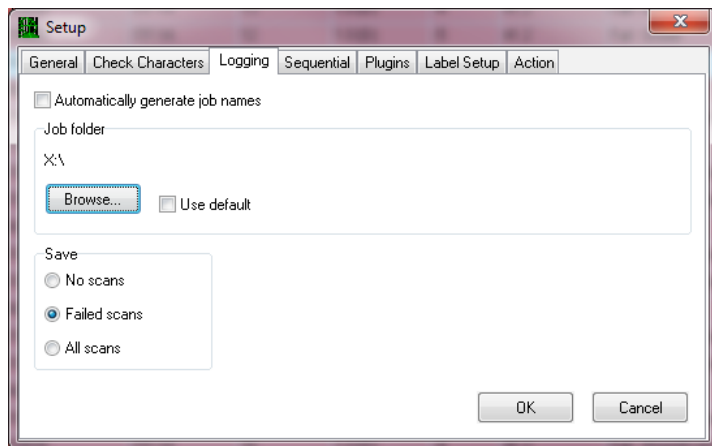
The **Check Characters** tab shows the optional check characters for symbologies which do not have a mandatory check digit, so these can be checked or not depending on the settings selected.





The **Logging** tab shows the job folder where results are saved. This can be configured to save all scans, failed scans, or none. These results will be saved as Axicon's .scn files.

When a job is run two other files will always be created. These are a summary file stored as an HTML page (shown earlier in this document) and a CSV file which contains detailed information for each symbol that has been scanned.

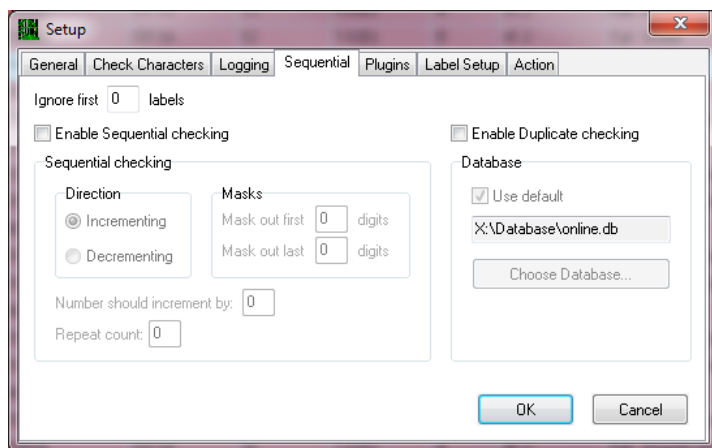


If no job name is entered when the job starts, then only the summary HTML and the CSV files will be created and these files will be called Default.HTML and Default.CSV respectively. These files will be overwritten if a job name has not been created.



Setup

This **Sequential** tab shows the sequential numbering and duplicate checking options. To use sequential numbering the enable box should be ticked and the settings for the number increment or decrement should be made with any masking that may be required.



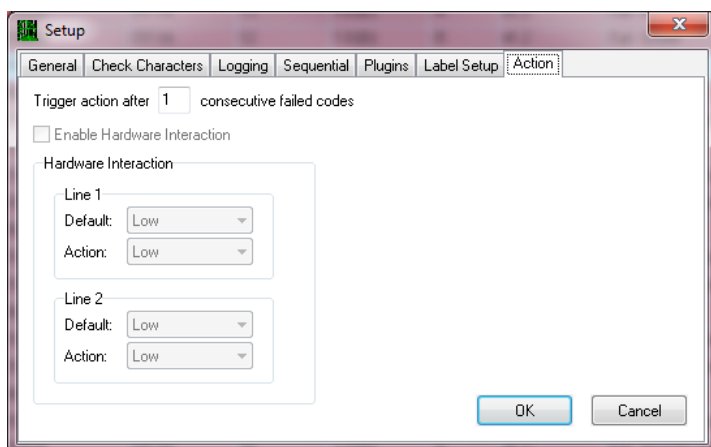
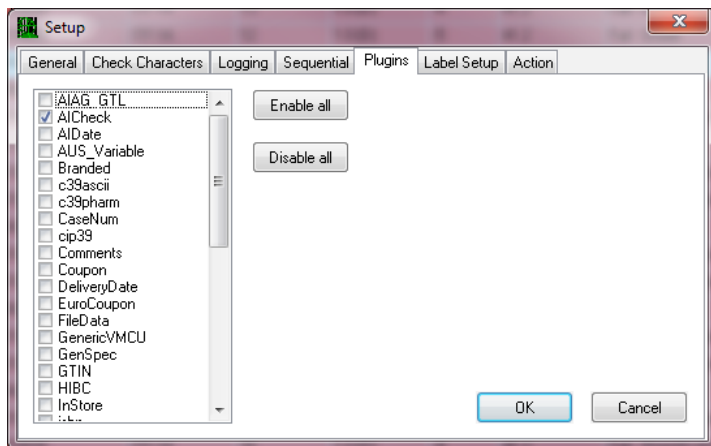
The duplicate checking facility enables the application to check whether the numbers being printed have already been used.

The Axicon inline system can check for the existence of duplicated numbers, not only within the current print run but also across print runs which may have been made months or even years earlier. The system can hold any number of separate databases holding records of different jobs - each of which should have unique references.



The **Plugins** tab allows the software to be tailored to industry specific or user specific features, such as running a product lookup database, validation of the structure of variable weight items, or checking the formats of European pharmaceutical codes. The plugins can be installed from the CD by using the **Install Optional Plugins** or can be downloaded from our website. An explanation of what each plugin does is on our website.

The **Action** tab can define the action to be performed if an error occurs. In order to make use of this feature, it is necessary to have the appropriate interface with the printer.





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Cradle setup



The kit comprises the following items - please check that you have all of these available before you start the assembly.

- Base plate (1)
- Vertical supports (2)
- Screws (4)
- Assembled cradle unit (1)
- Knurled screws (2)



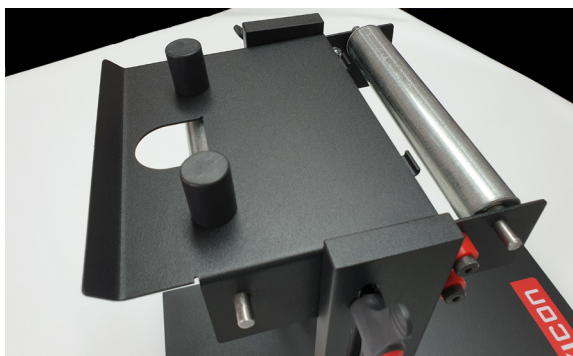
There are four pairs of holes in the base plate. The two inner pairs of holes are used with the Axicon 6525-S verifier. The two outer pairs of holes are used with the 7025-S.

The two vertical supports will be fitted to the base plate using the four small screws. The screws will need to be fitted from the underside of the baseplate.

The vertical support should be positioned on top of the base plate. It is important that the slot in the vertical support is nearer the short end of the base plate.

The cradle assembly position should be in between the vertical supports. Make sure that the roller is facing the longer end of the base plate.

Secure the cradle to the vertical supports using the two knurled screws.





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Cradle setup

The verifier is then positioned into the baseplate by inserting it front first and positioning it against the two stops on the cradle.

The rear of the verifier is then lowered and it is held in place by the sprung-metal clip at the rear.

The longer end of the baseplate should then be positioned under the thermal transfer printer.



The height of the cradle is fully adjustable. To alter the height simply release the knurled screws, raise or lower the height of the cradle assembly and then re-tighten the screws.

When in use the labels should pass from the printer, over both of the rollers in the cradle assembly and then back to a rewinder.

The easiest way to feed labels through the verifier assembly is to lift the verifier out of the cradle, pass the labels over the rollers and then put the verifier back into place.



Pause interface setup - Cab SQUIX

Connect the pause interface between the Cab printer and the computer. Go to the Action tab via the Options and Setup tabs. When the printer has been connected you will be able to tick the Hardware interaction check box. Now set the Line1 Action to High. Open the Cab software and get a label ready to print.

The screenshot shows the Axicon Inline Verifier software interface. The main window displays a table of scan results. The first two rows are highlighted in red, indicating failed scans. The first row shows a successful scan (Pass) for label 1. The second row shows a failed scan (Fail - Incorrect no. of code) for label 2. The Setup dialog box is open, showing the Action tab. The Hardware Interaction checkbox is checked. The Line 1 Action is set to High. The Line 2 Action is set to Low.

No.	Label No.	Message	Symbology	No. of Scans	Overall Grade	Gain (%)	Tolerance (%)	Info	Filename
1	1	05012345678900	ITF-14	42	4.0 (A)	-4	32.9	Pass	000001.scn
2	1	05012345678900	ITF-14	42	3.5 (A)	-4	33.1	Fail - Incorrect no. of code	000002.scn
3	1	05012345678900	ITF-14	42	4.0 (A)	-3	32.7	Fail - Incorrect no. of code	000003.scn
4	1	05012345678900	ITF-14	42	3.4 (C)	1	32.9	Fail - Right margin: Incorrect	000004.scn
5	1	05012345678900	ITF-14	42	4.0 (A)	-3	33.0	Fail - Incorrect no. of code	000005.scn
6	1	05012345678900	ITF-14	42	3.3 (B)	-4	33.2	Fail - Incorrect no. of code	000006.scn
7	1	05012345678900	ITF-14	42	4.0 (A)	-5	32.7	Fail - Incorrect no. of code	000007.scn
8	1	05012345678900	ITF-14	42	3.9 (A)	-4	33.3	Fail - Incorrect no. of code	000008.scn
9	1	05012345678900	ITF-14	42	3.5 (A)	-5	33.2	Fail - Incorrect no. of code	000009.scn
10	1	05012345678900	ITF-14	42	3.5 (A)	-3	32.9	Fail - Incorrect no. of code	000010.scn
11	1	05012345678900	ITF-14	42	4.0 (A)	-4	32.9	Fail - Incorrect no. of code	000011.scn
12	1	05012345678900	ITF-14	42	4.0 (A)	-4	32.8	Fail - Incorrect no. of code	000012.scn
13	1	05012345678900	ITF-14	42	3.7 (A)	-3	32.9	Fail - Incorrect no. of code	000013.scn
14	1	05012345678900	ITF-14	42	4.0 (A)	-5	33.0	Fail - Incorrect no. of code	000014.scn
15	1	05012345678900	ITF-14	42	3.3 (B)	-5	33.0	Fail - Incorrect no. of code	000015.scn
16	1	05012345678900	ITF-14	42	4.0 (A)	-3	32.8	Fail - Incorrect no. of code	000016.scn
17	1	05012345678900	ITF-14	42	4.0 (A)	-2	32.9	Fail - Incorrect no. of code	000017.scn

Setup dialog box:

- General tab selected
- Trigger action after 1 consecutive failed codes
- Enable Hardware Interaction checkbox checked
- Hardware Interaction section:
 - Line 1: Default: Low, Action: High
 - Line 2: Default: Low, Action: Low

Calibrate the Axicon high-speed verifier using the Axicon Linear Verifier software. Now close this software and open the Inline Verifier Software again. Click on the Play/Run button (or use the shortcut F2) and enter the details of the job in the pop up window.

The unit is ready to check the printed barcodes. Run the Cab printer job and scan the barcodes as they come out of the printer. Once a failed barcode is scanned a pop up window will appear and the printer will be paused. "Hardware line set, Would you like to set to default?" will appear. Once the problem with the faulty barcode has been resolved click on "Yes". This will start the job printing again until the next problem barcode is found.



Stand alone mode

The Axicon verifiers are all also designed to be used in stand alone mode with the verifier positioned so that it touches the barcode, as shown in the pictures below.

When you first start the main software you will see the **Command** window and the **Summary** window.

The **Command** window gives access to all of the main features of the verifier. Use the pull down menus or the icons to operate the software.

The **Summary** window shows the overall print quality of the barcode as measured by the ISO/IEC standards

There are five more windows you can open to look at the verification results. Go the View menu on the **Command** window, and the select the window you want, or use the icons that appear just below the menu headings. If you hold your mouse over each icon a brief description of its function will appear at the bottom left of the Command window.



The verifier should be placed either just above or just below the barcode and the trigger pressed. With the trigger still pressed, move the verifier down the height of the barcode. The verifier will scan at the rate of 100 verifications a second until it reaches the bottom of the barcode (or gets to the maximum number of scans).

The verifier will automatically calculate an average of the results of all of the scans to provide an overall quality grade based upon an assessment across the scanned bar height.



Software licence agreement

This software is Copyright © Axicon Auto ID Limited

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No disassembly or decryption

You may not disassemble or decompile the software without prior written consent from Axicon.

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Termination

Axicon may terminate your licence upon notice of failure to comply with any of these terms. Upon termination, you must immediately destroy the software, together with all copies, adaptations and merged portions in any form.



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Software licence agreement

Export requirements

You may not export or re-export the software in contravention of any applicable laws or regulations.

This agreement should be construed in accordance with the laws of England.

DISCLAIMER

In the following the expression “verifier” means the verifier hardware and the associated software.

We have taken care to ensure that this verifier is free from defects. However since we have no control over the circumstances in which you might use it you must satisfy yourself that it is suitable for your needs. Neither Axicon Auto ID Limited nor the vendor of this verifier can accept any liability for any loss or damage (consequential or otherwise) which may be caused by its use.

If the verifier or any part of it is defective in any way, or in some other way does not meet your expectations, the liability of Axicon Auto ID Limited is limited to the cost of the product. You should bear this limitation in mind if you use this verifier in any situations where the acceptance or rejection of shipments of goods or your reputation may depend upon the quality of a barcode.



Warranty

All Axicon products covered by this documentation (Axicon 6525-S and 7025-S verifiers) are sold with a two year parts and labour warranty against manufacturing defects. This is a return to bench warranty with shipping costs in one direction being borne by the customer/distributor.

Should you need to return the unit to Axicon the original case (plus appropriate packaging) must be used. If the equipment is returned without the original case, we will automatically charge an additional sum for its replacement.

Axicon's standard repair turnaround time is 7-10 working days. This standard warranty does not include the provision of a loan unit. Loan units can be supplied on request.

Axicon reserves the right to charge an inspection fee for any equipment returned under warranty for which no fault is found. Please contact us to obtain an RMA number before returning any equipment. This number must be quoted on all documentation. We cannot accept responsibility for equipment returned without an RMA number.



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Maintenance agreement

A service contract may be purchased within 30 days from the date of despatch. This allows you to return your verifier back to us at no extra cost for its annual VCAS (verifier conformance and alignment service) so that you can be sure it still measures barcode quality in accordance with the requirements of ISO/IEC 15426-1.

The service contract will also extend the warranty beyond two years, so that if the verifier breaks down, all parts and labour will be provided free of any extra charges. The only exception is when the verifier has been misused, in which case labour costs will be covered, but not those of the parts.



Annual service

All verifiers need servicing every year to ensure that they measure barcode quality in accordance with the relevant ISO/IEC standards. This verifier conformance and alignment service (VCAS) ensures that the verifier is internally dust-free, checks that it is focused correctly, and adjusts the hardware to account for any change in the brightness of the LEDs used to illuminate the barcodes.

This annual service is not the same as user calibration, as it looks at the output of the LEDs and corrects for any variance in their evenness of illumination across the whole field of view. Over time the LEDs will fade but they will not fade uniformly. User calibration ensures that the verifier is measuring the darkest and brightest reflectances correctly but it cannot correct for any variance in the illumination.

After your verifier has been serviced, we will return it you with the latest version of the software on CD together with a new calibration sheet, and a new user guide that will include the new certificate of ISO/IEC conformance. You will then need to calibrate the verifier before you use it again. The latest software can always be downloaded free of charge from our website, www.axicon.com.



Contact us

Axicon Auto ID Ltd
Church Road
Weston on the Green
Oxfordshire
OX25 3QP
UK

Tel: +44 (0) 1869 351 155
Fax: +44 (0) 1869 351 205
Email: info@axicon.com
Website: www.axicon.com

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