

**axicon**

THE BARCODE EXPERTS



# Axicon 15000 2D-linear barcode verifier user guide





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# Introduction

The Axicon 15000 is designed to work with any PC running a currently supported version of Windows (Windows 7, Windows 8, Windows 10 - both 32 bit and 64 bit versions).

## Specification and application

This verifier can be used to verify barcodes with a size of up to 51mm x 31mm. These will usually be barcodes used on retail point of sale or healthcare items. ITF-14 and GS1-128 barcodes will typically be too large to be read by this verifier.

Linear barcodes: EAN-8, EAN-13, UPC-A, UPC-E, Code 39, Code 93, Code 128, Codebar, ITF, MSI Plessey.

2D barcodes: GS1 Data Matrix, GS1 QR codes

Other: OCR human readable characters for EAN/UPC barcodes can be matched to the barcode number

Application standards: Data content checking can be performed for GS1 DataMatrix or GS1 QR Codes that encode GS1 Application Identifiers.

Multiple barcodes within the field of view will be found and can be verified to the appropriate standards.

## What is in the case.

- Axicon 15000 Series verifier
- Software CD
- Wallet containing this user guide and the calibration card.

## System requirements

- Currently supported Windows Operating System (either 32 or 64 bit)
- 12 MB disc space
- 512 MB RAM minimum
- USB 2.0 port

## Software Installation

Insert the CD into an appropriate drive and the Install program should start automatically. If it does not, run **Setup.exe**. When the software has been successfully installed, leave the CD in the drive, so that the USB driver will be installed when the verifier is connected to the computer.

## Hardware installation

Connect the USB lead from the verifier to a USB2 port on the computer. Please install the software before connecting the 15000 verifier.



## How the verifier works

The verification begins with capturing an image which includes one or more barcodes. Having captured this image, the verifier is then asked to decode any barcodes it can find in the image. This is a two stage process, which is started by clicking on the green arrow icon (or pressing one of the buttons on the verifier) to start the image capture, and then by clicking on the decode command icon (the two turning arrows) or by pressing one of the buttons a second time.

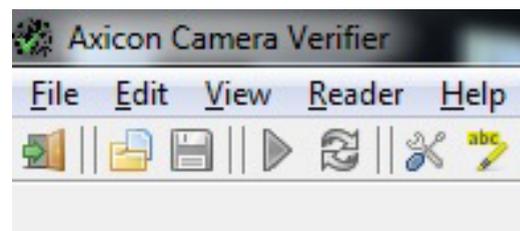
The image that has been captured and decoded can be saved as a .png file, and this can be re-verified at any later time. This is useful when the image contains more than one barcode. The software allows the creation of verification reports for each barcode that appears in the image, and the user simply clicks on the relevant barcode for which a report is required.

More details about this process, saving image files, and saving verification reports are explained later on in this user guide.

## Getting started

The home window for the software is shown below, and this will appear when the software is launched. The window has four main areas, and these are explained below.

Double-click on the Axicon Camera Verifier icon. The first window will open, and the software will check if the verifier is connected. If a verifier is not connected, the message **Found Readers 0** will appear in the status bar. It will then be possible to load (to open) previously saved verification reports. When a verifier is connected, the message here will provide the verifier's serial number.



### The file menu and the icons

The top left of the Axicon Camera Verifier window includes the menu bar with five options, and the toolbar which includes seven command icons.

The File dropdown menu includes options for saving, load scan (open), appending and printing verification reports.

The Edit dropdown menu provides options for cutting, copying and pasting.



# Getting started

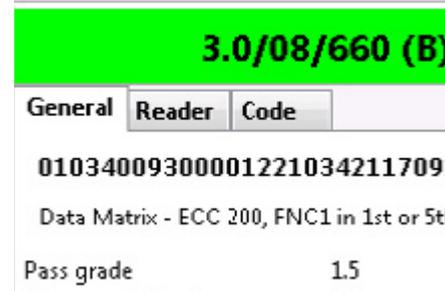
The View dropdown menu gives access to Settings (F5) and User data.

The Reader menu provides options for choosing which verifier is operational, reader information, Scanning, decoding, and calibrating the reader (the verifier).

The Help menu provides access to the Axicon website, a check for software updates, and information about the software.

## The Command icons

-  Quit the application, or use Ctrl + Q
-  Load a saved barcode image, or use Ctrl +O
-  Save the current image and verification report, or use Ctrl + S
-  Start collecting barcode images in the field of view, or press one of the two buttons on the verifier. (They both do the same thing, so use whichever one is more convenient.)
-  Find and decode the barcodes seen in the field of view.
-  Edit the settings for the application, or use F5
-  Display and edit user-defined data for this scan.



This panel has three tabs, where the first set of information about the barcode is shown. The General tab will show you the decoded data from the symbol, its x and y dimensions, the print gain, and the aperture size.

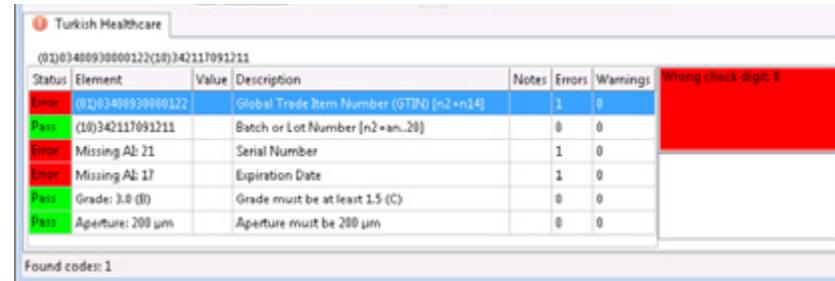
The Reader tab simply gives you detailed information about the verifier such as its serial number and build version.

The Scan tab provides details of when the image to be verified was scanned by the verifier.



The Details tab provides a summary of the results of the verification.

The ISO tab will include details of all the separate parameters defined by ISO/IEC for the particular barcode being verified.



The bottom left panel will include details that relate to the analysis of a symbol by one or more of the optional plugins. Plugins are briefly explained later on.

The status bar is at the very bottom of the window, and provides details of what the verifier is doing.

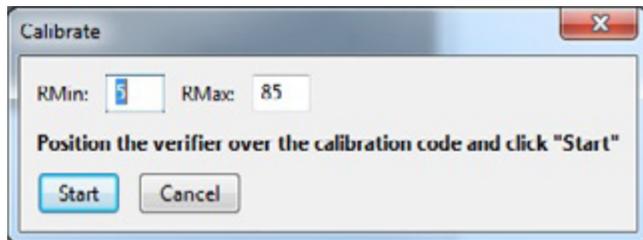


# Calibration

Users must calibrate the verifier on a regular basis to ensure that its measurements are equivalent to reference values. The calibration card supplied with the verifier provides barcodes with known maximum and minimum reflectance values. The calibration card is certified for a minimum of one year (unless it has been physically damaged).

When it is not being used please keep the card flat in its plastic envelope, and away from direct sunlight. If the card shows any sign of damage - for example, scratches or any change in colour - please obtain a new card from us before proceeding.

Take the card from the plastic wallet, and place on a flat surface. Place the verifier over the EAN-13 barcode at the top left hand side of card so that it appears in the **Axicon Camera verifier** window as shown below. Start the image capture process by clicking on the green arrow icon. This will change to the pause button icon while this is taking place.

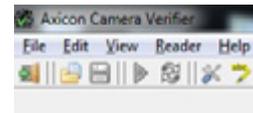


Then select **Reader**, and from the pull-down menu select **Calibrate**. The verifier will ask the user to confirm positioning and confirm that the RMax and RMin figures shown on the window conform to those printed on the card. If they are different, alter the numbers on the window as required and then press **Start**.

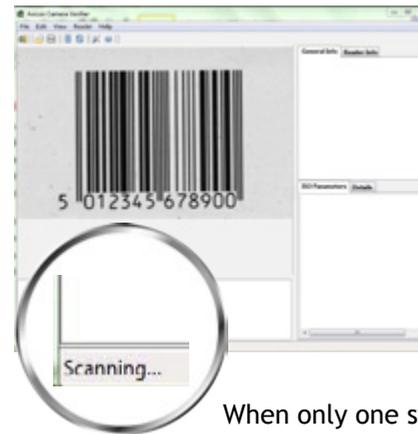
The verifier software will then check the image before calibrating the instrument and then rechecking. When this has been done a message **Calibration Successful** will be shown and the verifier is ready for use.



# Operating the verifier



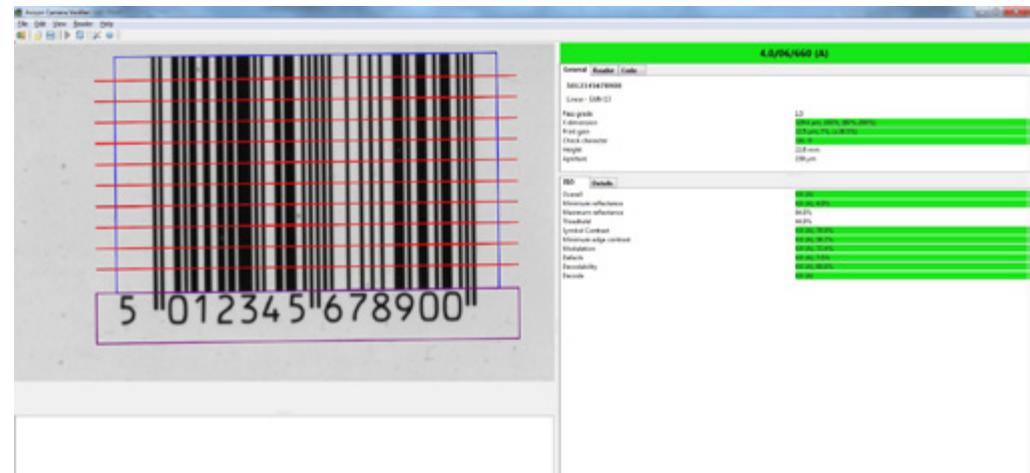
Activate the verifier by pressing the green **Start Scanning** arrow, or press one of the buttons on the verifier (Both buttons perform the same functions). Then place the verifier over the barcode(s). The message **Scanning** will appear at the bottom of the window.



Press the **Search/verify** button to search for all barcodes within the current field of view or alternatively press one of the buttons on the verifier (both buttons perform the same function).

The verifier will draw a purple box around each of barcodes it has found, and automatically select the first barcode to decode. It will change the colour of the box around this one to blue and display the verification results.

When only one symbol is present the box will be blue, and if it is an EAN/UPC barcode a purple box will appear around the numbers shown below it.





# Operating the verifier

Any linear barcode will be verified using ten different scan lines, as specified by ISO/IEC 15416, and the verification grade will be based on the average of these ten readings.

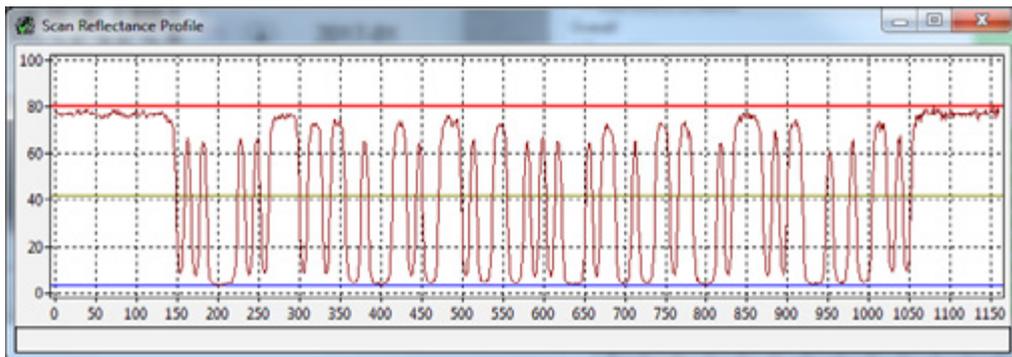
In this case the verifier has responded with the message **Found codes: 1** and has found both the EAN-13 barcode and the numbers (the Human Readable Interpretation) beneath the barcode.

The verifier will automatically display the overall verification result based on the average of ten scans made of the barcode.

To get more information about the grading of any of the particular parameters you can click on the relevant parameter.

The verifier will then indicate where the scan lines were taken and (if relevant) which scans were a pass for that parameter (shown in green) and which scan lines were a fail (shown in red).

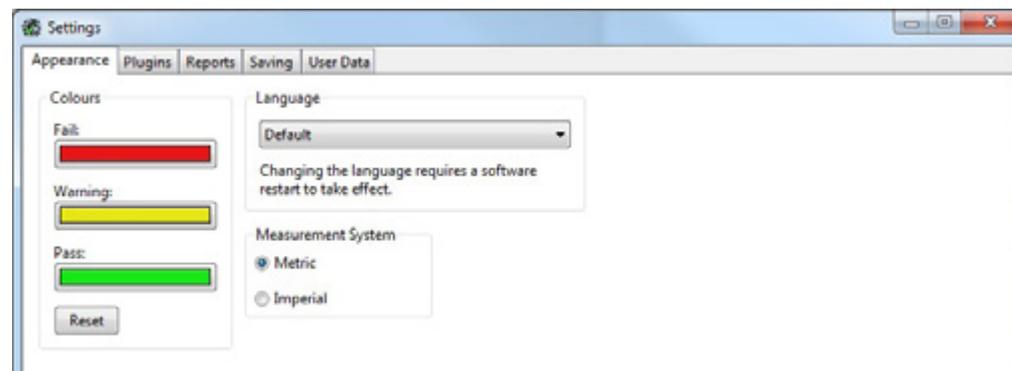
To get a scan reflectance profile of your linear barcode you can click on the **Details** tab and select any of the **Scan Info** rows available. The reflectance profile will now show at the bottom of the **scan info** results. Click on the reflectance profile to enlarge it.



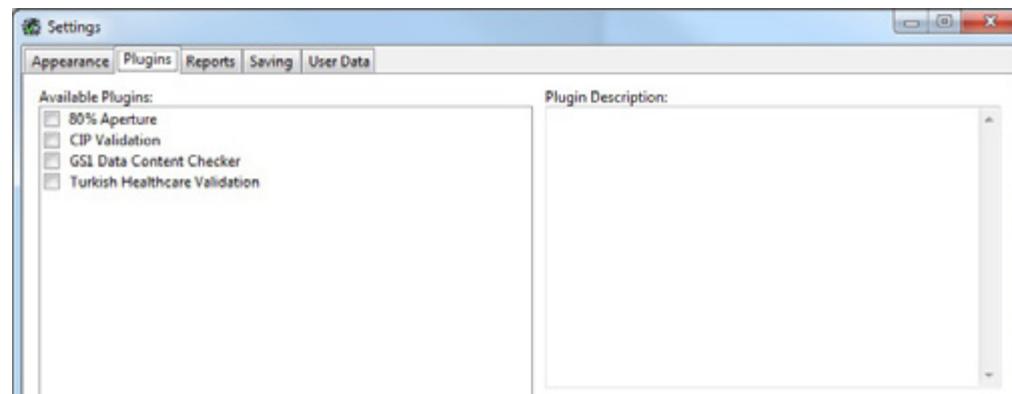
# Settings

The verifier has a range of configuration settings. These can be set by clicking on **View** and then selecting Settings.

**Appearance:** The Appearance tab allows you to change the colours used for Fail, Warning and Pass, choose the language and switch between metric or imperial units of measurement.

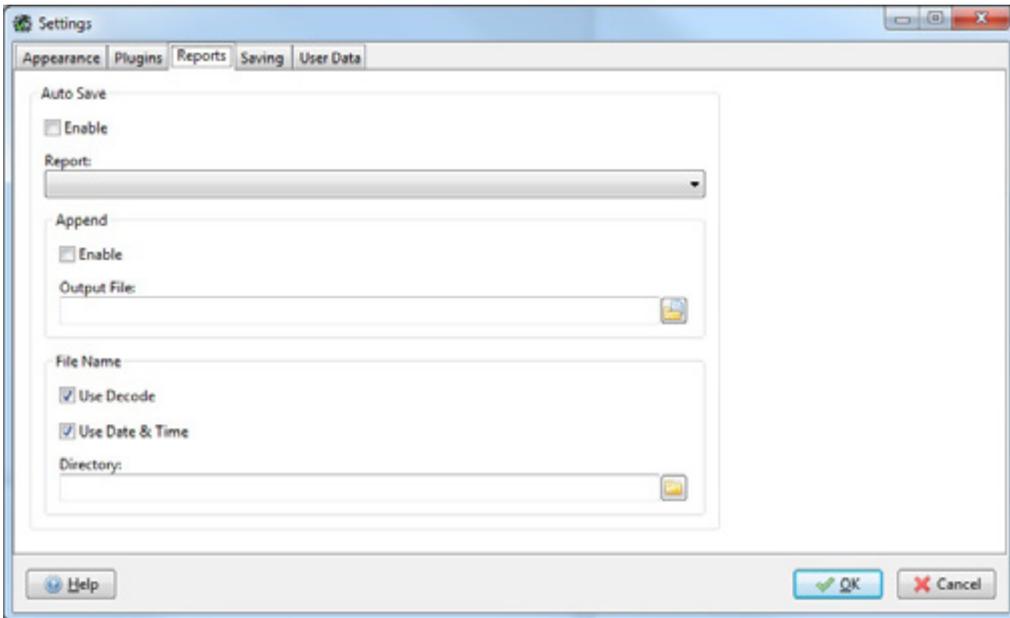


**Plugins:** The **Plugins** tab can be used to select data content checking to any of the various standards shown.





# Settings

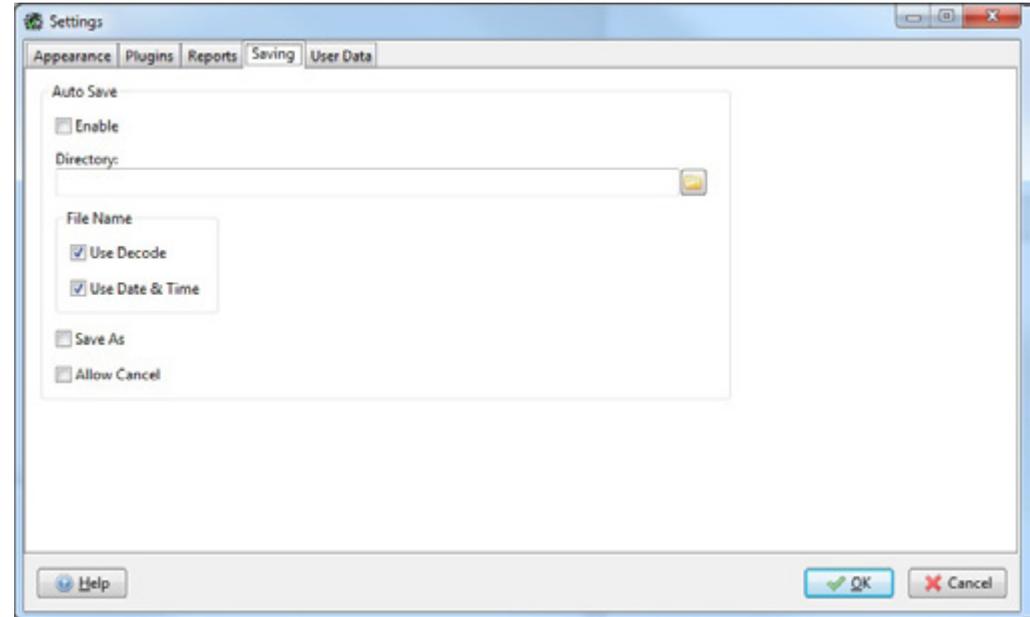


**Reports:** In this window you can enable **Auto Save**, select the type of report file to be created, and choose an output file where the data will be kept. There is an option to add the records to an existing file rather than replacing the file, which is mainly of benefit with spreadsheet (.csv) files.

**Saving:** The **Saving** tab can be used to enable an **Autosave** of all of the barcodes checked for audit purposes. The options are as follows:

**Autosave** - records will be automatically saved to provide a complete audit trail of verifications performed. The **Autosave Directory** name should be set by the user.

If **Enable** is ticked on and a directory specified but all other boxes remain unticked then the verifier software will create sequentially numbered files of the saved data. This will ensure that records cannot be inserted, deleted or modified without it being apparent (essential for compliance with 21 CFR Part 11 requirements).



If **Use Decode** box is ticked, the file name will automatically be created using the first digits of the decoded number.

If **Use Date and Time** box is ticked, the file name will automatically be created using the date followed by the time as a file name.

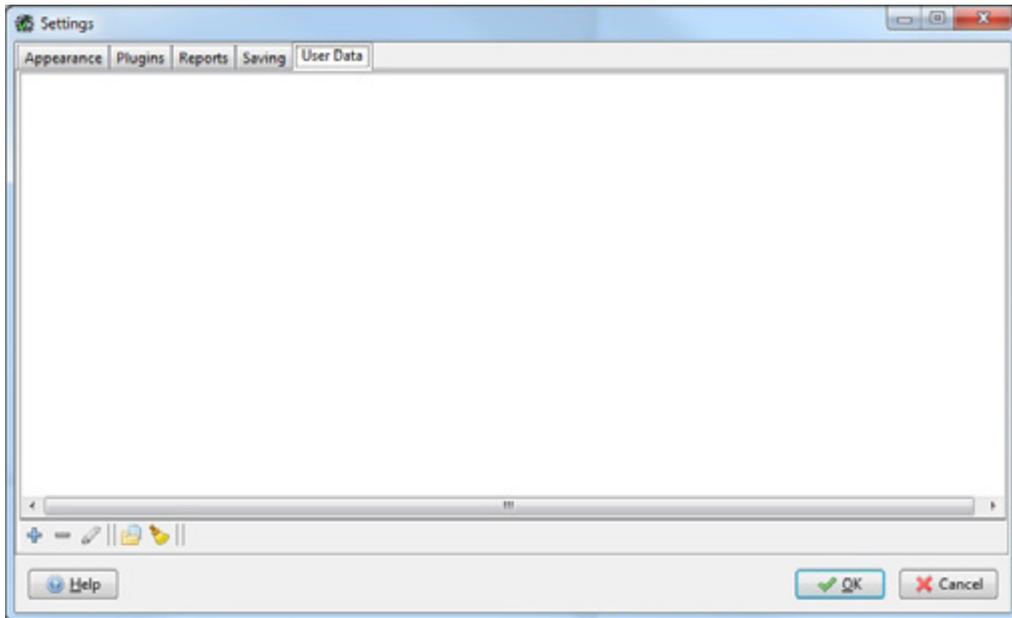
If **Use Decode** and **Use Date and Time** boxes are both ticked, the file name will automatically be created using the decoded number followed by the date and time.

If **Save as** box is ticked, a dialogue box will appear and you can enter a filename.

If **Auto Save as** box is ticked in addition to **Use Decode** or **Use Date & Time** (or both), then the dialogue box will appear with the pre-selected data and allow the operator to override this if required.



# Settings



User data: **User Data** allows you to program the Axicon 15000 software to ask questions when a verification is being made, to collect the answers and to store these with the verification report. This supplementary user date will then always be displayed with the verification report.

Such data may typically be a job reference number or batch number, but equally it could be information about the barcode such as the substrate or print process or details about the operator, the department or the site. Multiple questions can be entered if desired.

To set up the User-Data:  
From the pull-down menu select **View** and then **Settings**. Click on the **User Data** tab of the **Settings** window. To add a **User Data** item press the + symbol at the bottom left of the window. The Create User Datum window will be shown. This can now be completed as required.

An example of a **Job Reference** entry is shown here. The title is entered and the **Allow Blank** is un-ticked to force you to enter data into this field.

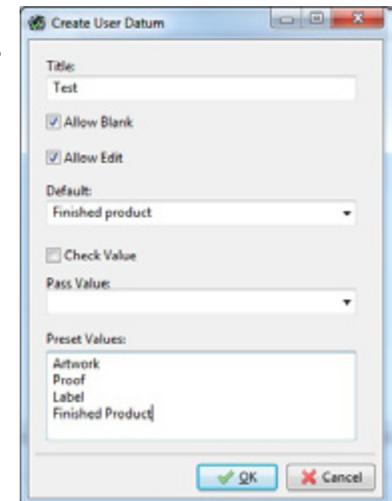
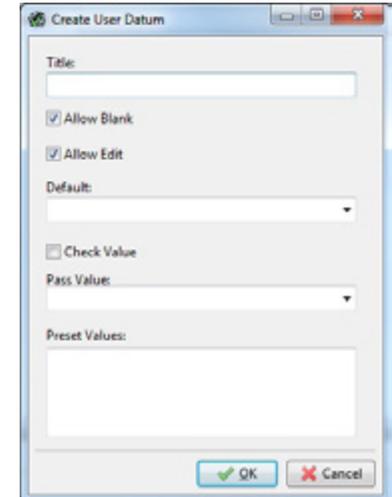
This sample shows how you can be offered a **pull-down** menu of options but with a default option given. The default can be left blank. When the list of selected questions has been completed press the **OK** button.

Now when you verify a barcode and select **save scan** the **User Data** dialogue window will appear and allow you to enter the required information. If you now save the scan file the **User Data** information is automatically saved with it.

When loading a pre-saved scan file for which User Data has been attached you simply need to load the scan file, and re-verify the code using the **Search for all barcodes** icon and then select **View/User-Data** from the pull-down menu.

The Axicon software also includes a facility for populating the **User data** settings screen from an existing scan file (whether made from this computer or not). Simply load an existing scan file, go to the **View/settings/User Data** screen and then press the **populate** icon.

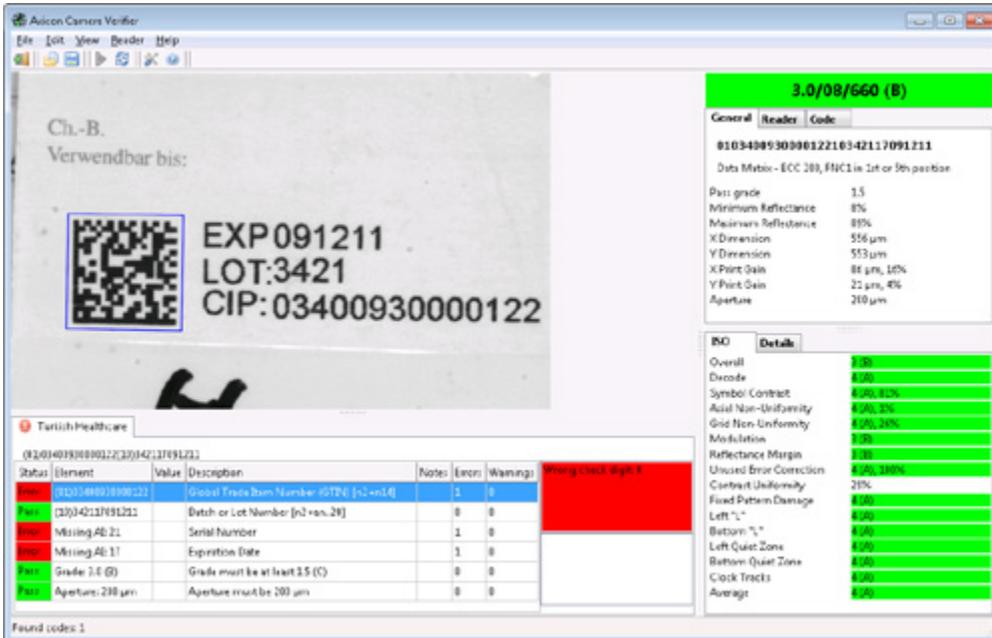
There are also facilities to edit an existing **User Data** entry (ideal for adding items to a pull-down menu). You can also **clear** an existing **User Data** population.





# 2D matrix codes

After you have activated the verifier and set it to **search/verify** for any barcodes, the result of verifying a GS1 DataMatrix symbol will appear like this window:



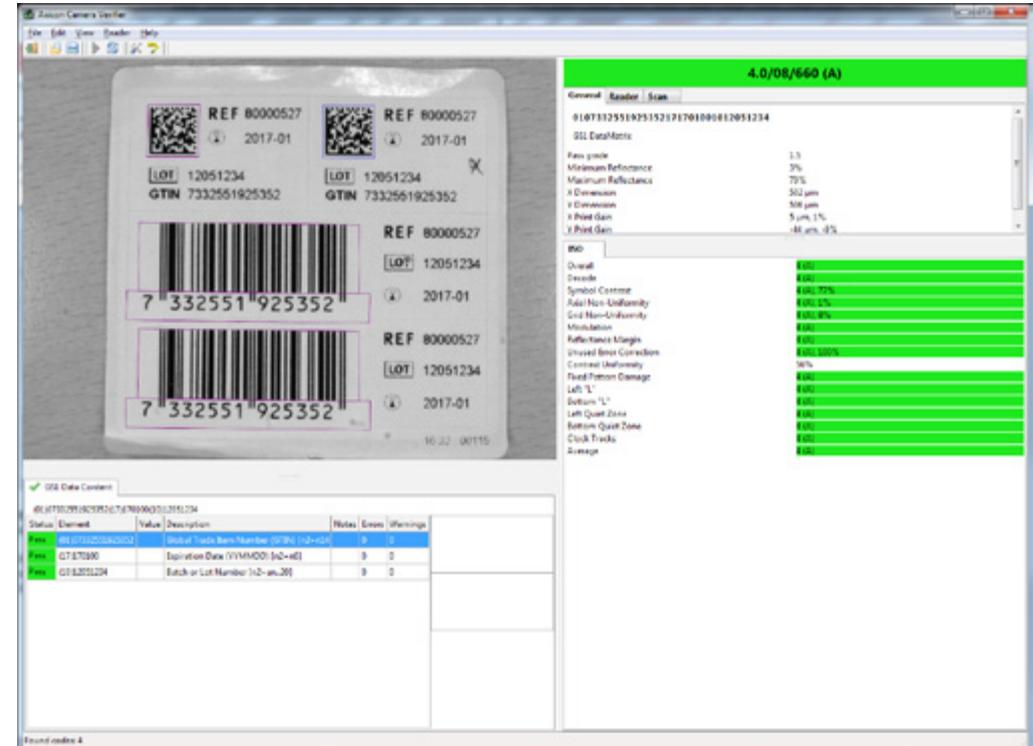
By clicking on the individual parameter the reason for any data content error is displayed

If required the **Data Content** box can be stretched vertically to show more information - just hover over the top edge of the box until the double horizontal lines appear and then stretch the box.



# Several barcodes in field of view

In cases where there are multiple barcodes within the field of view the verifier will automatically recognise the codes present.



Each symbol that is recognised as a barcode will be surrounded by a purple or blue box. The blue box indicates which symbol's results are being shown on the right hand side of the Axicon Camera Verifier window. To change to the other barcode, click on the purple box, which will now become blue.

The results for this barcode are now shown in the window.



## Saving and printing

A verification report may be saved in .csv, .pdf, .html or .txt formats. Additionally reports can be manually saved for subsequent printing or else printed without saving.

Use the **File** tab from the pull-down menu and then select **Save Report**. Options will then be given for the various report saving options and you can then select between these as required.

If you want the report to be automatically opened on creation (for example, if there is a need to print the report) then tick the **open report** box.

For some file types you may wish to save data to a single file and append the data rather than replacing the previous data - for example when saving data to a .csv file.

In this case the **Append Report** box should be ticked. If this is left unticked and the same file name as previous is specified then the data will be overwritten.

After a successful decode of a barcode, the results can be saved to a file in special form of .png format). This is done by using the **File/Save as** function. These results can be reviewed at some later stage and shared with others.

When a saved scan is opened by the application, the original data is available and displayed. In addition, the original image can also be re-verified using the **verify** button - this will then automatically use any plugins that are activated (such as CIP or serialisation validation) regardless of whether the plugins were used at the time of original verification.

To open a saved scan, use the **File** option from the pull-down menu and then select **Load Scan**. Select the file to be viewed and re-verified. The .png file is then displayed in the viewing area. The user should then press the **Verify** button.

The full verification information is then shown and can be viewed (and additionally printed) as required.

## 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 the Verifier, you must satisfy yourself that the performance of the Verifier 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 use of this Verifier.

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.



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Axicon grants you a licence to use any number of copies of the software, but only for use with an Axicon verifier. “Use” means storing, loading, installing, executing or displaying the software. You may not modify the software or disable any of its licensing or control features.

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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.

## 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

Axicon 15000 verifier is 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.

## 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 calibration and alignment service) so that you can be sure it still measures barcode quality in accordance with the requirements of ISO/IEC 15426-1 and ISO/IEC 15426-2

The service contract will also extend the warranty beyond two years, so that if it 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.



# Factory re-calibration

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

This factory re-calibration 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. The latest software can always be downloaded free of charge from our website, [www.axicon.com](http://www.axicon.com).

To arrange for your verifier to be serviced:

1. Contact us on  
Telephone: +44 (0) 1869 351155 | Fax +44 (0) 1869 352404  
Email: [vcas@axicon.com](mailto:vcas@axicon.com)
2. We will provide you with an RMA number (Return to Manufacturer Authority) and an RMA form.
3. Please fill in all details requested on the RMA form, including the RMA number.
4. Return the verifier (including all cables) in its original case with the completed RMA form, purchase order and your payment details to us at Axicon Auto ID Ltd, Church Road, Weston on the Green, Oxfordshire OX25 3QP. We cannot take responsibility for units returned in alternative packaging.
5. We will normally complete the service and re-calibration of your verifier within 7-10 days.



Church Road, Weston on the Green,  
Oxfordshire, OX25 3QP, UK

# Certificate of ISO/IEC conformance

We, Axicon Auto ID Limited, of Church Road, Weston on the Green, Oxfordshire, OX25 3QP, UK, hereby declare, that the following barcode verifier(s):

Model number(s) .....

Serial number(s) .....

has been designed and manufactured at our address in the UK to verify barcode quality and to conform to: ISO/IEC 15426-1 and ISO/IEC 15426-2 barcode verifier conformance specification.

The equipment has been tested and calibrated using primary reference test symbols traceable to the USA's National Institute of Standards and Technology's reflectance standards. We also state that this equipment, when used with the latest verifier software, and configured appropriately has the features to meet the requirements of the United States Food and Drug Administration regulation, Title 21 CFR Part 11.

This verifier has been quality assurance checked today, and conforms to this ISO/IEC standard. This declaration of conformity is valid for a year.

Issue date .....

Expiry date .....

Authorised signatory .....

Signatory Name .....

At or before the expiry date the verifier should be returned to Axicon for its annual servicing and factory re-calibration. This VCAS (verifier calibration and alignment service) will ensure that the verifier remains conformant to ISO/IEC 15426-1 and ISO/IEC 15426-2 for another year.



# Contact us

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