



# Axicon PV-1000 portable display unit operating manual



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# Important information

The Axicon PV-1000 portable display unit is designed to operate in conjunction with any of the Axicon 6000, 6500 or 7000 series verifiers. Please note that the Axicon PV-1000 cannot be used in conjunction with any of the Axicon **S** range verifiers.

An Axicon verifier is a high-precision quality control measuring device and should be handled with care.

Only use accessories supplied or approved by Axicon. Use of non-approved accessories will invalidate the warranty.

If the verifier read-head is dropped (or subjected to similar misuse) the accuracy of the results may be affected. The unit should be returned to Axicon immediately for servicing.

Axicon recommends that for optimum accuracy all verifier read-heads should be returned every year to Axicon or an approved reseller to be factory recalibrated.

Any attempt to dismantle the equipment or any Axicon verifier read-head will immediately invalidate the warranty. This equipment contains no user-serviceable parts.



# Introduction

## What is in the case.

The PV-1000 ISO/ANSI portable display unit.

Documentation wallet containing the operating manual.

A set of four AA-sized alkaline batteries (supplied in UK only).



# Getting started

Open the battery housing cover to check if the four AA-sized batteries have been fitted. Observe the correct polarity when inserting the batteries. Ensure their output is at least 2500 mAh.

Plug in an Axicon 6000, 6500 or 7000 series verifier to the USB port on the base of the PV-1000.

Switch on the verifier by pressing the on/off switch.

A light will come on but nothing will be displayed on the screen for about 15 seconds. This is the power-up and initialisation phase.

The PV-1000 will show an **initialising** message before showing the message:

*Axicon Verifier  
Ready to Scan !*

If the PV-1000 is left for some time the screen will go blank to conserve battery power, but can quickly be restarted by pressing the **on/off** button again. The time-out period before this happens can be adjusted to suit the requirements of the user - see page 12.

Please note that a warning message will be shown if a particular verifier read-head has not previously been calibrated on the PV-1000 (Each read-head has its own serial number, and it must be calibrated before use).



# Calibration

The calibration card is supplied with the PV-1000 and is kept in the wallet.

With the *Ready to Scan* message showing on the screen,

Press the *Menu/select* key.

And the screen will show ► *Information*

Press the *Scroll down* button until the screen displays

► *Calibrate*

Press the *Menu/Select* Button

There will be a ♦ *Set RMin* message with a 5 below. Look at your calibration card to find the value for RMin.

Press *Menu>Select* and you can adjust the figure shown (if necessary) by using the *Scroll up* and *Scroll down* buttons. When the numbers match, press *Menu>Select* to confirm the setting. Press the *Scroll down* button again and the screen will display ♦ *Set RMax* message with a 85 below.

Look at your calibration card to find the value for RMax. Press *Menu>Select* and you can change the value by using the *Scroll up* and *Scroll down* buttons until it matches the value shown on the calibration card. Press *Menu>Select* to confirm the setting. Press the *Scroll down* button and the message will be displayed ♦ *Calibrate* press the *Menu>Select* button.

The message will be displayed

*Calibrate*

*Cal. Scan (0/3)*

Pick up the verifier read-head, place it over the barcode on the calibration card in such a way that all four corners of the read-head are touching the card and then press the trigger on the read-head. The message will change to read *Cal. Scan (1/3)*. Press the trigger two more times and the display will first read *Cal. Scan (2/3)* and then *Calibration Successful !*

Press the *Clear/Back* button twice to see the message

*Axicon Verifier Ready to scan*



# Using the PV-1000

Place the verifier read-head over the barcode so that it is flat against the barcode and then press the trigger on the read-head.

The initial screen will show the decoded number followed by the overall print quality grade and a detail of the scan number in the format:

5012345678900  
4.0/06/660 Scan 1/3

Using the *Scroll down* button you can look at further information regarding the quality of the barcode, the symbology, magnification, bar gain (ink spread) etc. Using the *Scroll up* button reviews the data.

Use the *Clear/Back* button to get ready to scan the next barcode.

## Multi-scan averaging

The PV-1000 allows you to take up to 10 scans of a barcode at different points throughout the height of the barcode which will be averaged automatically to grade the barcode. This is the process defined by ISO/IEC 15416. To do this simply use the *Menu>Select* button and you will see the message ► *Information*

Use the *Scroll Down* button until you see the message ► *Setup*  
Press the *Menu>Select* button and you will see:

♦ *Average No 3*

Press the *Menu>Select* button and then use the *Scroll up* and *Scroll down* buttons until you reach the desired number.

Press the *Menu>Select* button to store this scan number.

Press the *Clear/Back* button twice to return to the main menu.

When multiple scans of a barcode have been taken then the *Previous Scan* button allows you to review all of the previous scans for that barcode.



## Print / Save Facilities

Verification reports can be printed by the PV-1000, or saved to memory for subsequent uploading or printing. Automatic saving facilities are also included as an option, and the files are saved in two formats. The first is a text-file, and the second is the Axicon .scn format. This second format can be viewed using the Axicon PC verifier software.

### Direct Printing

Attach a suitable printer to the printer port on the verifier using the optional Axicon printer lead. Verify the barcode. Press the *Print* button - the screen will show ♦ *Print*. Press the *Menu>Select* button - The screen will display the message *Printing* and shortly afterwards the message *Done*. Press the *Clear/Back* button to return to the main screen.

Please note that this is a unidirectional signal transfer - if the printer is not connected properly or not switched on then the PV-1000 is not aware of this.



### Manual saving of verification reports

Verify the barcode.

Press the *Print* button - the screen will show ♦ *Print*

Press the *Scroll down* button and the screen will show ♦ *Save*

Press the *Menu>Select* button - The screen will display the message *Successful!*

Press the *Clear/Back* button to return to the main screen.



# Using the PV-1000

## Automatic saving of verification reports

From the main screen press the *Menu>Select* button and you will see the message

► *Information*

Use the *Scroll Down* button until ► *Setup* is displayed.

Press *Menu>Select*

Press the *Scroll Down* button until the screen displays the message

► *Autosave* is displayed with an *OFF* message

Press the *Menu>Select* button.

Use the *Scroll up* and *Scroll Down* buttons until the desired *On* or *Off* is displayed.

Press *Menu>Select*

Press *Clear/Back* twice to move back to the main screen.

## To print saved scans

Unplug the verifier read-head from the PV-1000, and plug in a USB memory device.

From the main screen press the *Menu>Select* button and you will see the message

► *Information*

Press *Menu>Select* and the screen will display ♦ *Show Code*

Press *Scroll down* until the message ♦ *Transfer* is displayed.

Press *Menu>Select*

The message ♦ *Transferring* will be displayed followed by the message ♦ *Transfer Successful*.

The text file printout will be in a directory named *Scans* on the memory device. This file can then be opened in any suitable program such as Microsoft Word or Windows Notepad for subsequent printing.

This *Scans* file also contains the detailed verification reports (the .scn files) that have been saved. These files may be uploaded to a PC and viewed using the Axicon PC verifier software. Data from these files may also be merged into a quality management document using the Axicon Scan File Data Extractor plugin.



# Configuration set-up

## Setting date and time

The PV-1000 has its own clock, so the user can set the date and time which will be recorded with each record.

To set the date and time, press the *Menu/Select* button to see the message

► *Information*

Use the *Scroll Down* button until ► *Setup* is displayed.

Press *Menu/Select*

Press the *Scroll Down* button until ► *Time* is displayed

Press *Menu/Select*

The Verifier will show ♦ *Time Zone*

If the Time Zone is to be changed then press *Menu/Select* and use the *Scroll up* and *Scroll Down* buttons until the correct time zone is shown and then press *Menu/Select* to lock the data.

Use the *Scroll Down* button and ♦ *Time* will be displayed.

Press *Menu/Select*

Use the *Scroll up* and *Scroll Down* buttons until the correct time is shown and then press *Menu/Select* to lock the data.

Use the *Scroll Down* button and ♦ *Date* will be displayed.

Press *Menu/Select*

Use the *Scroll up* and *Scroll Down* buttons until the correct date is shown and then press *Menu/Select* to lock the data.

Press *Clear/Back* until the *Ready to Scan !* message is shown

Please note that the date and time are maintained by a built-in battery that has an estimated life span of four years. It is not possible for the user to change the battery, so the PV-1000 should be returned to Axicon for servicing when this fails.



# Configuration set-up

## Power Management

The PV-1000 has facilities for the user to control the elapsed time before *Sleep Mode* and *Power Off* are enabled.

### To set the *Sleep Mode*

On the main screen press the *Menu/Select* button to see the message ► *Information*

Use the *Scroll Down* button until ► *Setup* is displayed.

Press *Menu/Select*

Press the *Scroll Down* button until the screen displays the message

► *Power* is displayed.

Press *Menu/Select* The screen will display ♦ *Sleep (m)*

Press the *Menu/Select* button.

Use the *Scroll up* and *Scroll Down* buttons until the desired number of minutes before sleep mode takes effect is displayed.

Remember that if the number of minutes before *Sleep mode* is enabled is higher than the number of minutes before *Power Down* mode then *Power Down* will occur first. Note that *0* (Zero minutes) means that the sleep mode will be disabled. Press *Clear/Back* twice to move back to the main screen.

### To set the *Power Off* option

On the main screen press the *Menu/Select* button to see the message

► *Information*

Use the *Scroll Down* button until ► *Setup* is displayed.

Press *Menu/Select*

Press the *Scroll Down* button until the screen displays the message

► *Power* is displayed.

Press *Menu/Select*

The screen will display ♦ *Sleep (m)*

Press the *Scroll down* button and the screen will display ♦ *Power Off (m)*

Press the *Menu/Select* button.

Use the *Scroll up* and *Scroll Down* buttons until the desired number of minutes before *Power Off* takes effect is displayed. If *0* is selected the automatic Power Off mode will be disabled. Press *Clear/Back* twice to move back to the main screen.

# ISO/IEC or ANSI grades

By default the PV-1000 will display the final barcode quality grade in the ISO/IEC format such as 2.0/06/660 where the 2.0 is the print quality grade, 06 the aperture reference number and 660 is the wavelength of light used expressed in  $\mu\text{m}$ .

If users prefer to see the grades expressed as the letters A,B,C,D or F (the ANSI approach), the format can be changed as explained below.

## To set the ANSI standard display

On the main screen press the *Menu/Select* button to see the message

► *Information*

Use the *Scroll Down* button until ► *Setup* is displayed.

Press *Menu/Select*

Press the *Scroll Down* button until the screen displays the message

♦ *Show ANSI* is displayed.

Press *Menu/Select*

The screen will display ↓ *Show ANSI*

Use the *Scroll up* and *Scroll Down* buttons until the desired display format is shown.

Press *Menu/Select* to confirm the selection.

Press *Clear/Back* twice to move back to the main screen.





# Menu screen formats

Menu level 1	Menu level 2	Menu level 3
Information	Show code	
	Encodation	
	Transfer	
Calibrate	Set Rmin	
	Set Rmax	
	Calibrate	
Setup	Average No	
	Pass grade	
	Units	
	Language	
	Autosave	
	Show ANSI	
	Time	Time zone
		Time
		Date
	Power	Sleep
		Power off
	Printer	Trailing LF



# Frequently asked questions

## *I am verifying barcodes with a lot of data - why can't I see the full decoded number?*

To see all the data encoded in the symbol press **Menu/Select** and the display will change to ► **Information**. Now press **Menu/Select** again and you will see the message ♦ **Show Code**. Press **Menu/Select** again and the full decoded number will be displayed. To return to the original display press **Clear/Back** three times.

## *Why do I have to wait for my PV-1000 to get to the message Ready to Scan?*

The PV-1000 incorporates a Linux computer in order to facilitate upgrades and product enhancements, and this has to go through a power-up cycle before it is ready to use.

## *Why does my verifier keeps switching off by itself?*

The power management options (**Sleep** and **Power Off**) need to be adjusted, as explained on page 12 to meet your requirements. If both of these are set to '0', the PV-1000 will stay on continuously.

## *Will the PV-1072 read-head work with the PV-1000?*

The PV-1072 read-head can only be used with the PV-1072 display unit.

## *How long will a set of batteries last?*

In tests with the PV-1000 remaining continuously on, a set of 2700 mAh NiMH batteries (the type supplied by Axicon as an optional extra) lasts at least ten hours on a single charge.

## *What sort of batteries should I use in my PV-1000?*

Whether using alkaline or rechargeable batteries, make sure they have a rating of at least 2500 mAh (one that is suitable for powering a motor or similar device).

## *How many scans can I store in my PV-1000 before I have to transfer them to a computer?*

If three-scan verifications are made, approximately 1000 scan files can be saved before they need to be transferred.



# Frequently asked questions

***The verifier is emitting a continuous high pitched squeal - what should I do?***

This happens when the batteries have run low. Remove the batteries and either replace or recharge them (if rechargeable).

***How do I change the language used by the PV-1000?***

Switch off the verifier. Switch on the verifier and let it initialise.

Press **Menu>Select** once

Press **Scroll down** twice

Press **Menu>Select** once (you will see a number on the second line of the display which is the averaging number)

Press **Scroll down** three times

Press **Menu>Select** once

Use the **Scroll up** and **scroll down** buttons until the chosen language is shown on the second line of the display

Press **Menu>Select** to confirm the language

Press **Clear/Back** twice to return to the **Ready to scan** Message.





# Technical specifications

Barcode symbologies checked:

EAN-8, EAN-13, EAN-13+2, EAN13+5, UPC-A, UPC-E, Code 39, Code 93, Code 128, GS1-128, GS1 DataBar (both linear and stacked).

Power	Four AA-sized batteries, of at least 2500 mAh output - Alkaline or rechargeable (rechargeable batteries must be charged externally)
Size	Display Box: 180 x 95 x 40mm (7.2" x 3.8" x 1.6")
Weight	650 gms (23oz) incl. batteries
Operating temperature	0°C to 50°C
Storage temperature	-20°C to 70°C
Humidity	5% to 95% RH non condensing
Regulatory approvals	CE approval (see certificates below for full specification)

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

## **Disclaimer**

In the following the expression display unit means the PV-1000 hardware and the associated software. We have taken care to ensure that this display unit is free from defects. However since we have no control over the circumstances in which you might use the display unit, you must satisfy yourself that its performance is suitable for your needs. Neither Axicon Auto ID Limited nor the vendor of this display unit can accept any liability for any loss or damage (consequential or otherwise) which may be caused by its use. If the display unit 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 display unit in any situations where the acceptance or rejection of shipments of goods or your reputation may depend upon the quality of a barcode.

Under no circumstances is this display unit licensed or authorised for use in any situation whatsoever where the health or safety of humans or animals might be put at risk.



# Axicon warranty

The Axicon PV-1000 is sold with a one 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 transit case, Axicon will automatically charge an additional sum for the replacement of this packaging.

Axicon reserves the right to charge an inspection fee for any equipment returned under warranty for which no fault is found.

Please contact Axicon to obtain an RMA (return to manufacturer authorisation) number before returning any equipment. This number must be quoted on all documentation. Axicon cannot accept responsibility for equipment returned without a RMA number.

Church Road, Weston on the Green,  
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## Declaration of ISO/IEC standards conformity

Product: Axicon PV-1000 portable display unit

We Axicon Auto ID Ltd

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

declare under our sole responsibility that the product has been  
designed and manufactured at our address to perform verification of  
barcode quality in accordance with the following standards:

ISO/IEC 15416 Bar code print quality test specification  
ISO/IEC 15420 EAN/UPC bar code symbology specification  
ISO/IEC 16388 Code 39 bar code symbology specification  
ISO/IEC 16390 Interleaved 2 of 5 bar code symbology specification  
ISO/IEC 15417 Code 128 bar code symbology specification  
ISO/IEC 24724 GS1 DataBar bar code symbology specification

We also certify that this equipment conforms to ISO/IEC 15426-1  
barcode verifier conformance standard for linear symbols.

Martin Morrison  
Managing Director



www.axicon.com

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

## Declaration of CE conformity

Product: Axicon Model PV-1000 portable display unit

We Axicon Auto ID Ltd

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

declare under our sole responsibility that this product manufactured  
at our above address is in conformity with the following standards:

Barcodeing ISO/IEC 15426

European Safety EN 60950

Electromagnetic Compatibility EN 55022, EN 55024

We also certify that the standard EN 60825 is not applicable to the  
product.

This equipment meets the requirements of the directives 2004/108/EC  
(Electromagnetic Compatibility), 2006/95/EC (Low Voltage), based on  
our own relevant test reports.

Martin Morrison  
Managing Director



# Contact us

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