




mesaTM
Mesa with Barcode Scanner

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P/N 23295.01

 **CAUTION:** This symbol indicates that failure to follow directions could result in damage to equipment or loss of information.



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Mesa With Barcode Scanner

The Mesa Rugged Notepad™ with a barcode scanner allows you to read 1D and 2D barcodes and easily import barcode data into custom or standard programs running on the Mesa.

Quick Start – Easily Scan a Barcode Now

When you receive your Mesa with the barcode scanner, you can scan a barcode right away using the default settings. Follow these steps:


1. Find a barcode to scan (or use this one):

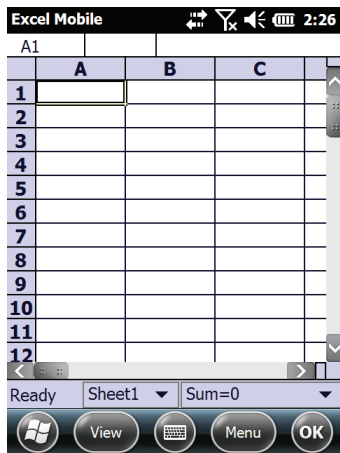



CODE 39

2. Plug the Mesa AC wall power charger into a wall socket. Plug the other end into the DC power jack on the Mesa.
3. The Mesa powers on and a progress indicator is shown on the screen.
4. The Barcode Connector utility automatically opens. Minimize it by pressing the x in the bottom right corner of the screen. The Mesa Home screen is shown.
5. Open a document to receive the barcode data. Microsoft® Office Excel® Mobile

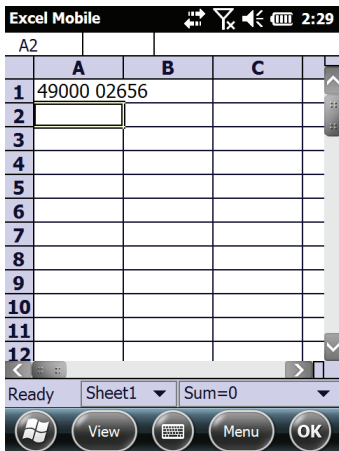
(shown below), Microsoft® Word Mobile, and Notes are provided on the Mesa.

Note: If the application you want isn't shown on the Home screen, tap the Windows soft key  to view and select an application.



- Put the cursor where you want the barcode data to be placed.
- Press the notes button  to begin scanning. Using the red crosshairs, aim the scanner at the barcode you are scanning.

8. When the scanner decodes the barcode, the data is placed in your document where the cursor is placed. (With Excel, press enter to see data in the selected column).



What You Receive

If the barcode scanner is a retrofit to an existing Mesa performed at a service center, you receive the following items:

- Your Mesa with the barcode scanner attached
- Barcode Connector™ utility, pre-installed
- This Owner's Manual

If you purchased a new Mesa with the barcode scanner, you receive the items listed plus the standard Mesa accessories (Li-Ion battery packs, hand strap, USB communication cable, stylus, AC wall power charger, screen protectors, connector protector, documentation CD, carrying case).

Third-party Software

You might be using an application provided by someone other than Juniper Systems, Inc. Please refer to the documentation provided for that software for details on how to use it.


Using the Mesa with the Barcode Scanner

To use the Mesa with the barcode scanner, we recommend that you follow these steps:

1. Review the Mesa manual so you are familiar with its features.
2. Apply a screen protector to the Mesa.
3. Charge the battery pack(s).
4. Perform the Mesa set up (date and time, etc.).
5. Adjust the Mesa hand strap. When you are scanning, you might want to tighten the strap on your hand to make it easier to use.
6. While initiating a scan, do not obstruct the scan window with a finger, glove, dust, moisture, etc. as it could affect the performance of the barcode scanner.

Barcode Connector Utility

The Barcode Connector™ utility is a barcode wedge program provided with the barcode scanner. Depending on the configuration of your Mesa it either loads automatically when the Mesa is turned on or you can open it from the Mesa Home screen.

Note: *If the program does not appear in the favorites bar as shown below (lower right-hand corner), tap the Windows soft key  and find it in the Windows Start menu.*



While the Barcode Connector utility loads, a progress bar is displayed, then the main Barcode Connector utility screen appears as shown below:



Two main functions are accessed from here:

1. Barcode Setup – Use the setup screens to configure the settings of the barcode hardware and Barcode Connector utility.
2. Power Down Barcode and Exit – This function completely shuts down the barcode scanner. You may want to do this to prevent accidental triggering of a scan sequence. Otherwise, we

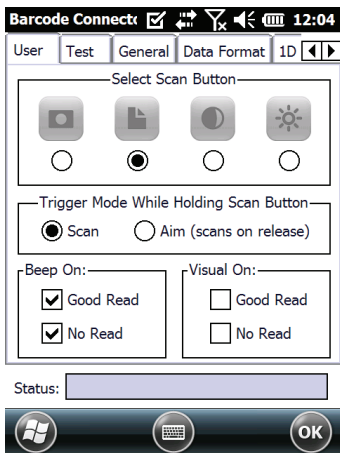
recommend that you leave it powered on. The barcode is configured to enter a sleep state when it is inactive and consumes about 8mW of power when it is in this state.

To minimize the Barcode Connector utility press the X in the bottom right corner of the display.


Barcode Setup

When you select *Barcode Setup*, a window is displayed with several tabs along the top. Select these tabs to view or edit the configuration of the Barcode Connector utility and the barcode hardware. A description of these tabs follows.

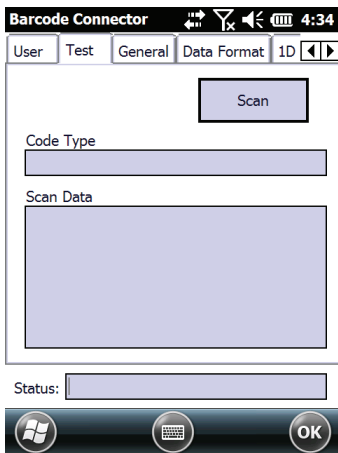
User Tab



The *User* tab has the following functions:

- Select Scan Button – Configure which of the four top function buttons on the Mesa will be the scan button (notes  is the default).
- Trigger Mode While Holding Scan Button – Select *Scan* to start scanning the moment the button is pressed. Select *Aim* to turn on the aimer when the button is pressed and to start scanning when the button is released.
- Beep On and Visual On – Select options for audio and visual indicators based on good or bad scan reads.

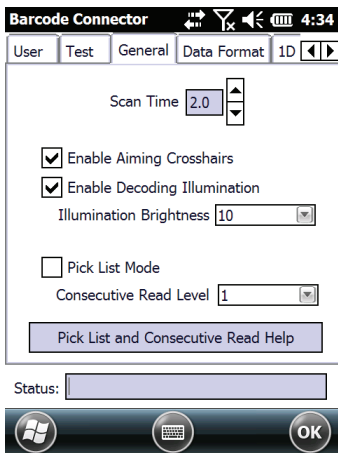
Test Tab



The *Test* tab has the following functions:

- **Scan** – Use this function to test the settings and to view information about a scanned bar code. (The assigned hardware button can also be used.)
- **Code Type and Scan Data** – After a successful scan, the code type of the barcode and the scan data are displayed.

General Tab

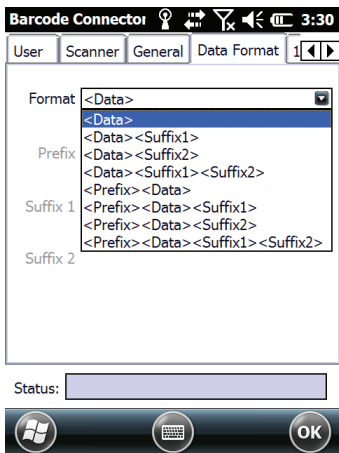


The *General* tab has the following functions:

- Scan Time – Adjust the scan time which is the duration of time before the scanner times out.
- Enable/Disable Aiming Crosshairs.
- Enable/Disable Decoding Illumination (red light).
- Illumination Brightness – You can adjust the illumination brightness, but for performance reasons, it is recommended you leave this at the maximum value of 10.

- Pick List Mode – Enable this mode if barcodes are close together. The scanner only decodes barcodes aligned directly under the center of the aiming crosshairs. Disable this mode if only one barcode is viewable. The aiming crosshairs do not have to line up directly on the barcode in order for the scanner to read it. Just aim the scanner in the general area where the barcode is located. This can be helpful in situations where it might be difficult to precisely aim the scanner, such as in locations with bright sunlight. Read the *Help* on this topic for more information.
- Consecutive Read Level – Select how many successful consecutive reads the barcode must get before being decoded. Read the *Help* on this topic for more information.

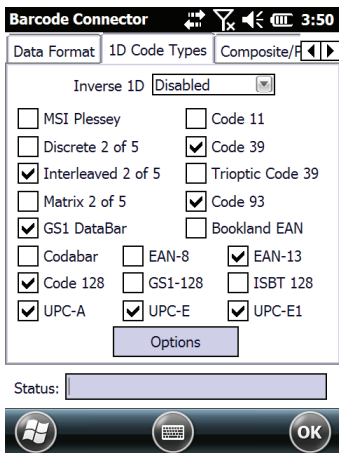
Data Format Tab



The *Data Format* tab has the following function:

- Select optional prefix and suffixes from the *Format* pull-down list to add to the scan data. (If you use a program like Excel, we recommend that you Select <Data><Suffix1> with Suffix1 set to a carriage return (<CR>). This puts each scan on a new line.)

1D Code Types Tab

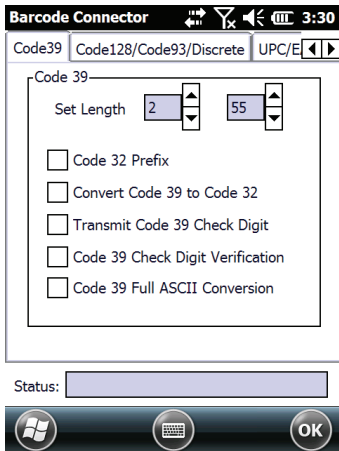


The *1D Code Types* tab has the following functions:

- Inverse 1D – Enable/disable inverse 1D bar codes or select *Auto Detect*.
- Enable/disable the 1D code types listed.

- Select the *Options* function to configure 1D code type specific settings. New tabs are shown across the top for Code 39, Code 128/Code 93/Discrete, UPC/EAN 1, UPC/EAN 2, Interleaved GS1 DataBar, MSI Plessey, Codabar/Code 11, and Matrix 2 of 5. Depending on which 1D barcodes you are going to read, you should review the options and configure them for your needs.

For example, below is the tab for Code 39:



Set Length: This option allows you to specify the length of the barcodes you want to read. This could be useful if you know that all valid barcodes will be a specific length or a range of lengths.

There are four ways to specify the allowed barcode lengths. Let A refer to the first length field and B refer to the second length field.

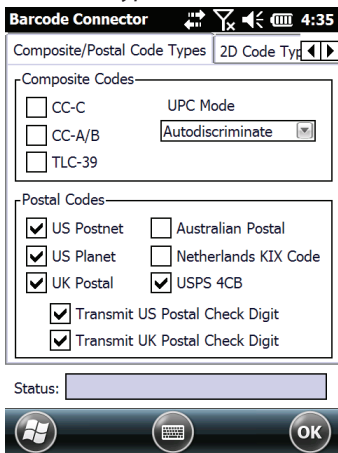
1) One Discrete Length – Set A to the discrete length and B to 0. Only barcodes with an exact length of A are decoded.

2) Two Discrete Lengths – Set A greater than B (both non-zero). Only barcodes with lengths A or B are decoded.

3) Length Within Range – Set A less than B (both non-zero). Barcodes between and including A and B are decoded.

4) Any length – Set A to 0. Any barcode length is decoded.

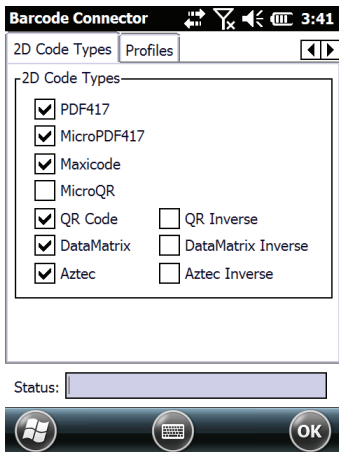
Composite/Postal Code Types Tab



The *Composite/Postal Code Types* tab has the following functions:

- Composite Codes - Enable or disable composite code types.
- Postal Codes - Enable or disable postal code types.

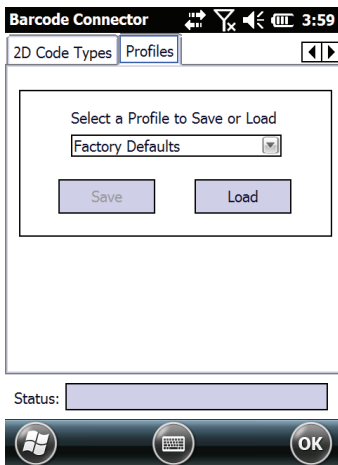
2D Code Types Tab



The 2D Code Types tab has the following function:

- 2D Code Types - Enable or disable 2D code types.

Profiles Tab

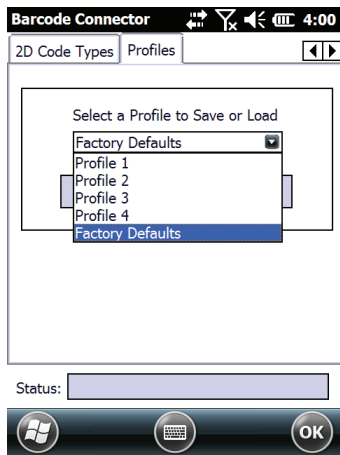


The *Profiles* tab has the following functions:

- Select a Profile to Save or Load - A profile is a saved set of settings. To load a profile, select the profile from the drop-down list and select *Load*.

Note: *When a setting is changed a hidden profile (called "last user") is updated. When this utility is launched, it loads the settings from the last user profile.*

Up to four profiles with different settings can be saved.







To save a new profile, configure the settings previously discussed, come to this tab, select the profile name you want to use, and select Save.

Note: Any changes to settings after a profile is loaded will not automatically get saved out to the profile, but will get saved out to “last user.”

Troubleshooting

1 – The Mesa's *pop up status icon bar* appears at the top of the screen when I try to scan a barcode.



Reason/Solution: If you are using the notes  button as the scan button, (the default) it is easy to inadvertently press on the top part of the Mesa's touchscreen when pressing this button, which brings up the status bar. Try one of the following solutions: 1) Set the camera/pictures  or brightness up  button as the scan button since they are closer to the edge of the Mesa (see *User Tab* instructions). 2) Disable the touchscreen by pressing and holding the screen orientation  button.

2 – The Mesa's *connectivity popup box* is displayed when I try to scan a barcode.

Reason/Solution: This can happen if a carriage return is selected for a data format suffix, and you accidentally press the top of the touchscreen when trying to press the hardware scan button. The solutions suggested for *Issue 1* above work for this issue as well.

3 – I need to set up several Mesas the same way. Do I need to configure all of them individually?

Reason/Solution: You don't need to configure them individually. Set up one Mesa the way you want all the Mesas to be configured. Copy the "LastUser.cfg" file from this Mesa located at "\Program Files\Barcode Connector" to the other Mesas. (You can use a thumb drive to transfer the information from one Mesa to another or transfer it to a PC and download it from there to the other Mesas using synchronization software. See the Mesa manual for details). If you want to be able to restore to this point, after you set up the first Mesa, go to the *Profiles* tab, and save these settings as *Profile 1*. Copy the "Profile1.cfg" file located at "\Program Files\Barcode Connector" to the other Mesas. Now all the Mesas can load from *Profile 1* to get back to this restore point.

4 – When I read a barcode, the data returned is not correct.

Reason/Solution: Ensure that the configurations are set up correctly so you are given the information you need. For example, to read a Code 32 barcode, on the *ID Code Type* tab, ensure that *Code 39* is selected. Select *Options*, and on the *Code 39* tab ensure that *Convert Code 39 to Code 32* is selected.

5 – I don't know what type of barcode I am trying to scan.

Reason/Solution: Enable all the barcode types on the *1D Code Types*, *Composite/Postal Code Types*, and *2D Code Types* tabs (some types are mutually exclusive). Go to the *Test* tab. Scan the barcode and the *Code Type* window shows the type of barcode scanned. When you are finished, go back and deselect barcode types you are not using.

6 – My TLC-39 Composite barcode will not scan.

Reason/Solution: On the *1D Code Types* tab ensure that *Code 39* is checked. Also select *Options*, then the *Code 39* tab and ensure that *Convert Code 39 to Code 32* is unchecked.

7 – My UPC barcode will not scan.

Reason/Solution: On the *1D Code Types* tab ensure that barcode types *UPC-A*, *UPC-E* and *UPC-E1* are checked. If composites codes are also enabled on the *Composite/Postal Code Types* tab and you still want to allow a UPC 1D to scan, select *Autodiscriminate* from the drop down list. Also go to the *1D Code Types* tab, select *Options*, then the tabs for *UPC/EAN-1* and *UPC/EAN-2*. Make sure the settings are correct for your application.

8 – My Code 39 Full ASCII barcode will not scan.

Reason/Solution: On the *1D Code Type* tab, select *Options*, then the *Code 39* tab. Ensure that the lengths are set to the fullest range.

9 – My Bookland EAN barcode will not scan.

Reason/Solution: Ensure that both *Bookland EAN* and *EAN-13* are enabled on the *1D Code Types* tab.

10 – My ISBN, ISMN, ISSN, or JAN barcodes will not scan.

Reason/Solution: These barcode types are all subsets of *EAN-13*. Ensure that *EAN-13* is enabled on the *1D Code Types* tab.

11 – I can't figure out how to configure Intelligent Mail or OneMail barcodes.

Reason/Solution: Intelligent Mail and OneMail barcodes are the same thing. They are also called USPS 4CB (located on the *Composite/Postal Code Types* tab).

12 – CLSI editing has no effect.

Reason/Solution: CLSI editing is only supported for 14 character Codabar barcodes.



Certifications and Standards

CLASS 1 LASER PRODUCT

Classified US IEC 60825-1:2007

Classified AS/NZS 60825-1:2011

Classified EU EN/IEC 60825-1:2014

Complies with 21 CFR 1040.10 & 1040.11 except for deviations pursuant to Laser Notice No. 50 dated June 24, 2007

Caution – use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

This barcode scanner is not user-serviceable. Units requiring service or repair must be returned to the factory.

This barcode scanner is not to be opened or modified by the user. This product does not require scheduled maintenance to remain compliant to the applicable standards.

This laser product is designated as Class 1 during all procedures of operation. For instructions on activating/deactivating the laser aimer and LEDs, please read the section on software operation.

Laser

Wavelength	650nm, nominal
Emission	Repetitive Pulsed
Pulse Energy*	7uJ
Pulse Width	9 mSec
Pulse Rep Rate	55Hz, nominal
Divergence	1 Radian XY, approx.
Classification	Class 1

FCC and Industry Canada

United States and Canada

Please refer to the Mesa Owner's Manual for information.

This Class B digital apparatus complies with Canadian ICES-003. This device also complies with Part 15 of the FCC Rules. Operation of this equipment is subject to the following conditions:


- 1.** The device may not cause harmful interference.
- 2.** This device must accept any interference received, including interference that may cause undesired operation.

In compliance with the FCC rules, 47 CFR 15.105(b), the user must be notified that this equipment has been tested and found to

comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

European Union (CE Marking)

 Products bearing the CE marking comply with the 2004/108/EC (EMC Directive), 2006/95/EC (Low Voltage Directive) issued by the Commission of the European Community.

CE compliance of this device is valid only if powered with/by a CE-marked wall charger provided by the manufacturer. Cables connecting to the USB host port must use a ferrite core/bead on the cable. The ferrite core must be placed on the cable near the end that connects to the Mesa. Compliance with these directives implies conformity to the following standards:

- EN 55022 (CISPR 22) Electromagnetic Interference
- EN 55024 (IEC 61000-4-2, 3, 4, 5, 6, 8, 11) Electromagnetic Immunity
- EN 60950 (IEC 60950) Product Safety

Mesa Barcode Scanner Specifications

Imager and Decoder	Motorola/Symbol SE4500 imager and PL4507 624MHz decoder
Sensor Resolution	752 X 480
Field of View	Horizontal 40°, vertical 25°
Reading Angles	Skew & pitch $\pm 60^\circ$, roll 360°
Read Range	1" – 24" depending on code type, size, and density
Symbologies	All common 1D, 2D (PDF417, MicroPDF417, Composite, RSS, TLC-39, Data matrix, QR code, Micro QR code, Aztec, MaxiCode, Postal codes)
Trigger Buttons	Programmable
Aiming Crosshair Pattern	Visible with low light illumination
Barcode Connector™ Utility	Wedge and configuration
Operating Temperature	-22°F to 131°F / -30°C to 55°C

Storage Temperature	-24°F to 158°F / -40°C to 70°C
Certification	Class 1 Laser and LED Product
Power	1.49W active, 0.54W standby, 8mW sleep; by default device returns to sleep after 1 second of inactivity
SDK	Support Available

For the most current information on the Mesa Barcode Scanner software, hardware, Owner's Manual and FAQs go to our website:

www.junipersys.com, Support.

Sample 1D Barcodes



123456789

Code 39



Juniper Systems, Inc.

Code 128

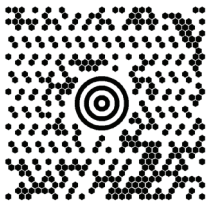


UPC-A

Sample 2D Barcodes



Aztec



Maxicode



MicroPDF417



QR Code