



Thermo Scientific™ VisionMate™ High Speed 2D Barcode Reader

April 2014

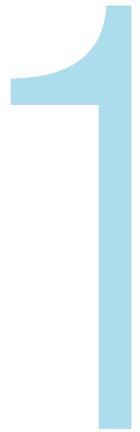
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Chapter 1

Package Contents

Your Thermo Scientific™ VisionMate™ High Speed Scanner package should contain the following items:

- One VisionMate High Speed Scanner
- One Installation CD
- One Printed Manual
- Three power leads suitable for US, UK, and European use
- One black ABS carry-case

NOTE: If your package does not contain the above items, please contact your supplier or Thermo Scientific Representative.

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Chapter 2

Installation

Installation Requirements

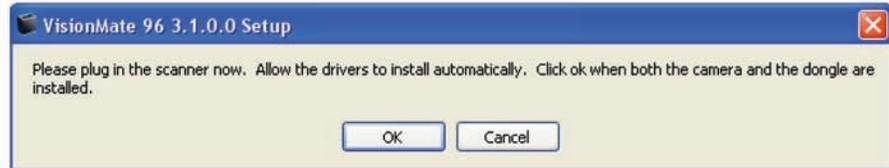
The recommended operating system to use the Thermo Scientific VisionMate High Speed 2D Reader is Microsoft Windows XP. The minimum requirements for a personal computer running the VisionMate software at a satisfactory level are listed below: If performance is noticeably slow, increasing RAM to 1GB or above and / or increasing processor speed will normally help.

Component	Requirement
Computer/Processor	2 GHz 32-bit (x86) or 64-bit (x64) or higher processor
Memory	1 GB RAM
Hard disk	300 MB of available hard disk space
Operating System	Microsoft Windows 2000, Windows XP or Windows Vista Windows 7
Drive	CD-ROM drive
Display	Super VGA (800x600) or higher resolution monitor with 256 colors
Peripherals	Mouse or compatible pointing device
USB	One available USB2.0 port <i>Note: The scanner should not be connected via an external USB hub!</i>
Power	One mains power socket

Installing the VisionMate Software

1. Insert the CD and start the installation.
 - If the installation does not start automatically, double-click the setup application on the root of the CD. “**VisionMate96 3.2.1.7 Setup.exe**” Newer version may also be supplied
2. Confirm that you agree to the terms in the license agreement by selecting “**Yes**” to continue with the installation.

3. Select **“Next”** on the **“System Update Summary”** screen.
 - The “System Update Summary” screen displays the software updates that your PC requires.
4. Keep selecting **“Next”** or **“OK”** to apply software updates until you are asked to plug in the scanner.
 - Various updates depending on your current system configuration will be applied during this step.
 - **Do not select OK** until Step 4 is complete.



5. Plug in the scanner. Do not select **“OK”** on the Installation dialog until all of the hardware is installed and ready to use by following the following directions. When prompted in the **“Found New Hardware Wizard”** dialog, select **“No, not this time”** if asked to connect to Windows update.



Choose to **“Install the hardware automatically”**. The camera driver will install.



Select “**Continue Anyway**” on the Hardware Installation screen that appears.



Select “**Finish**” to complete the New Hardware Wizard.

- Windows will continue to install the scanner hardware then will prompt you that your new hardware is installed and ready to use.

6. Select “**OK**” in the VisionMate dialog.

- The installer will continue to install files.



7. When the Final Installation is complete, select “**Finish**”.

- The VisionMate High Speed 2D Reader is now ready to use!

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Chapter 3

Getting Started

Logging into the VisionMate software

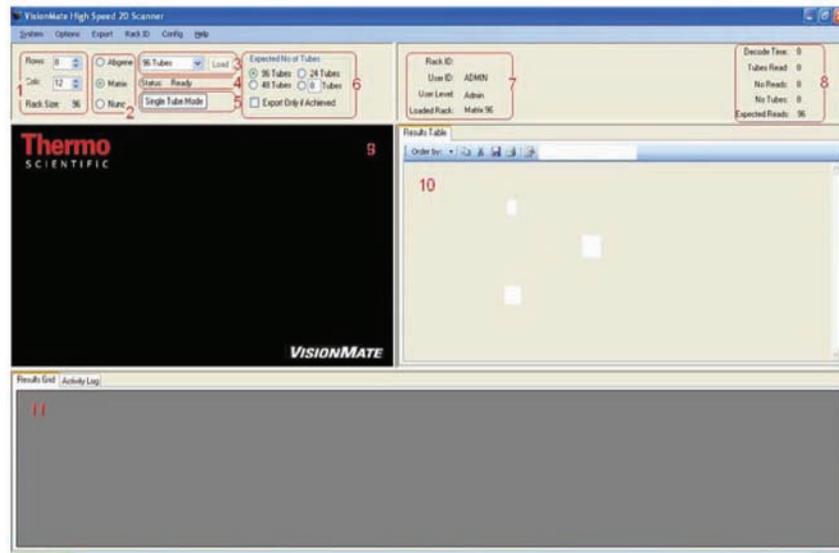
1. Start the application by double-clicking the desktop or start menu shortcuts.
2. Upon starting the VisionMate software, you will be presented with a Login screen, where you will enter the **User Name (default: Admin)** and **Password (default: Thermo)**.
 - If you select “**Cancel**”, the software will exit.
 - The default user level is Administrator. See Chapter 13.1, Step 7, for details.



3. The status area will be display “ready” once the software is loaded.

Status: Ready

The main screen of the VisionMate software is shown below and the following table outlines each numbered feature indicated on the image.



#	Component	Function
1	Rack Size Selector	The Rack Size Selector is used to set a custom rack size from 1x1 tubes/rack size to 12x12 tubes/rack size. Generally, for standard 24, 48 or 96 tube racks, the Quick Rack Selector (see # 3 below) should be used.
2	Manufacturer Selector	By using the Manufacturer Selector to select the correct rack type, the scanner will be optimized for that rack type. Generally, if no failed read errors are encountered, it is acceptable to use only the Matrix or Abgene setting for any rack manufacturer type.
3	Quick Rack Size Selector	The Quick Rack Size Selector can be used to quickly select either a 24, 48 or 96 tube rack, or alternatively to select Single Tube Mode.
4	Status Display	This displays the software status. The possible status messages are: “Loading” : The software is busy loading the selected rack type and making a connection to the camera. “Ready” : The software is ready to scan. “Load Rack Required” : The software needs to load a rack before scanning. The load button must be pressed or the software will automatically load next time a rack is attempted to be scanned.
5	Single Tube Mode Button	The Single Tube Mode Button switches the scanner into single tube mode where a single tube may be held to the scanner glass and read. (See Chapter 11 on Single Tube Mode). When the scanner is in single tube mode, clicking the button again returns the scanner to its previously selected rack mode
6	Expected no. of Tubes Selector	This allows the user to specify the number of tubes in a rack which are expected to be decoded in the case where a rack is not full of tubes. The expected number of tubes selector is only visible when “Enable Expected No of Tubes” is checked on the “Options” menu.

#	Component	Function
7	Rack and User Display	The User ID (entered at login) and the User Level are displayed. The Rack ID is shown when a rack is scanned and an ID is entered. The current Loaded Rack type is displayed.
8	Decode Results Display	When a rack is scanned the number of tubes decoded or not decoded is displayed here as well as the actual scan time in milliseconds. (1000 milliseconds = 1 second)
9	Decode Window	When a rack is being scanned, the image received from the scanner is shown here. As each individual tube is decoded, a box is placed around the code in the image.
10	Textual Results Display Window	After a completed scan, the decoded tube codes are displayed in textual format here. The results may be ordered either by column or row and the text can be copied and saved.
11	Grid Results Display Window	After a completed scan, the decoded tube codes are displayed here and arranged in grid format as they would be in the rack. The results are always shown in the correct order regardless of the orientation in which the rack is placed on the scanner.

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Chapter 4

Setting Basic Parameters

Setting the Rack Type

- The scanner will decode any of the Thermo Scientific family of 2D coded tube racks up to a rack size of 12x12, with minimal configuration.

The screenshot shows a configuration panel with the following elements:

- Rows: 8 (dropdown)
- Cols: 12 (dropdown)
- Rack Size: 96 (text)
- Manufacturer: Matrix (radio button selected, with options Abgene and Nunc)
- Status: Ready (text)
- Single Tube Mode (checkbox checked)
- Load (button)

1. Choose the rack manufacturer by selecting either “**Abgene**”, “**Matrix**” or “**Nunc**”.
 - It is normally possible to decode various manufacturers’ racks on a single manufacturer setting.
 - The Matrix setting is recommended for scanning most types of racks quickly.
 - However, if some tubes fail to read due to ambient light conditions, high-humidity environments, etc., it is advisable to choose the correct manufacturer.
2. To set the tube layout within the rack, choose one of the following methods (**a or b**):
 - a. Use the Quick Rack Selector to select either a 24, 48 or 96 tube rack.
 - b. Set the number of rows and columns by changing the values in the scroll boxes.
3. The status message will display “**Load Rack Required**”. Select the “**Load**” button. The status message will display “**Loading**” and then “**Ready**” when the scanner is ready to decode the selected rack type.

Decoding a Rack

1. Automatically starting a scan:
 - a. Determine if the rack being used has a “mousehole” or small notch on the front right base as a rack orientation feature.
- Current Abgene, Matrix and Nunc racks all have this feature

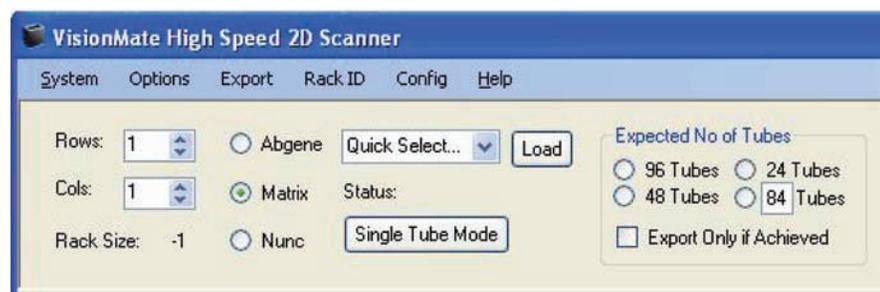
*Blocked sensors can result in failure of the Auto-Rack Orientation Feature

- b. The VisionMate scanner has two optical sensors located in two corners of the metal lid which automatically sense the presence of a rack and use this mousehole to properly and automatically placing the tube codes into the proper well location. In order to use the automatic rack sensing, go to the “**Config**” menu and check the “**Enable AutoScan Function**”. Ensure the sensors located in the upper left and lower right of scanner glass remain free of debris.
- c. Place a rack on the scanner.
- After a small delay to enable placing of the rack, the scan will start and the decode results will be displayed.
2. Starting a scan manually:
 - a. Ensure that the “**Enable AutoScan Function**” menu item under the Config menu is NOT checked.
 - b. Place a rack on the scanner.
 - c. Pull down the System menu and select “**Start Scan**”. The scan will start and the decode results will be displayed.
3. For starting a scan via TCP/IP, please see Chapter 10 “**Using the TCP/IP Server**” for details.

Setting the expected number of tubes

The expected number of tubes function is useful when you are scanning a rack that is not completely full. This function speeds up the decoding time on partial racks since the software does not spend time trying to decode empty rack locations.

1. Enable the **Expected Number of Tubes Function**
 - a. Open the “**Config**” menu.
 - b. Select “**Expected No of Tubes**” to bring up the Expected Number of Tubes selector.



- c. To set the set the expected number of tubes, choose one of the following methods:
 - Select a fixed number of tubes option (24, 48 or 96)
 - Select the fourth option and enter a number of tubes (shown above as “84”).
2. Export only if Expected Tubes are Read
 - a. If you wish to only export data when the expected number of tubes are read, then select the check box “**Export Only if Achieved**”.

Setting the Rack ID

Each rack that is scanned is given a rack ID.

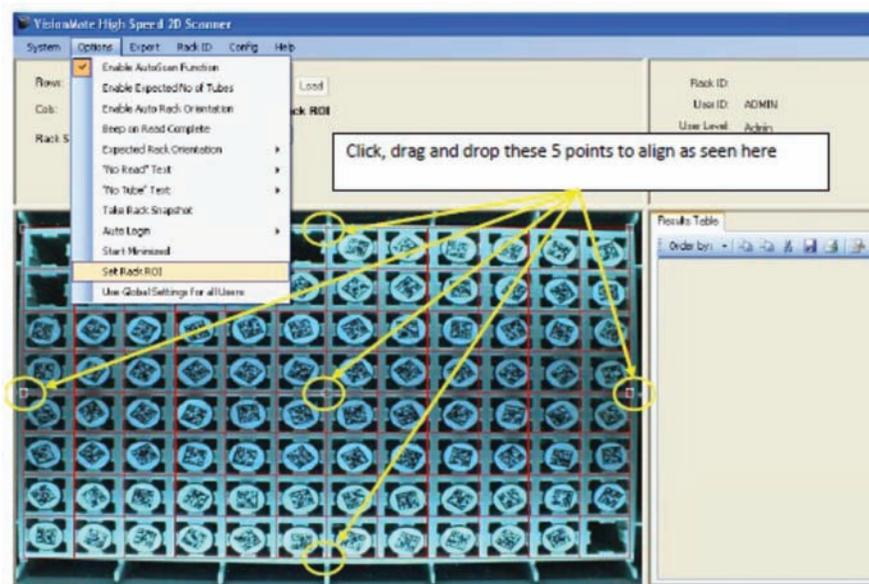
- The rack ID identifies the rack within the software and after export.

1. To select the Rack ID naming method select the “**Rack ID**” menu.
2. Select the rack id method you wish to use. The table below describes the available rack naming methods.

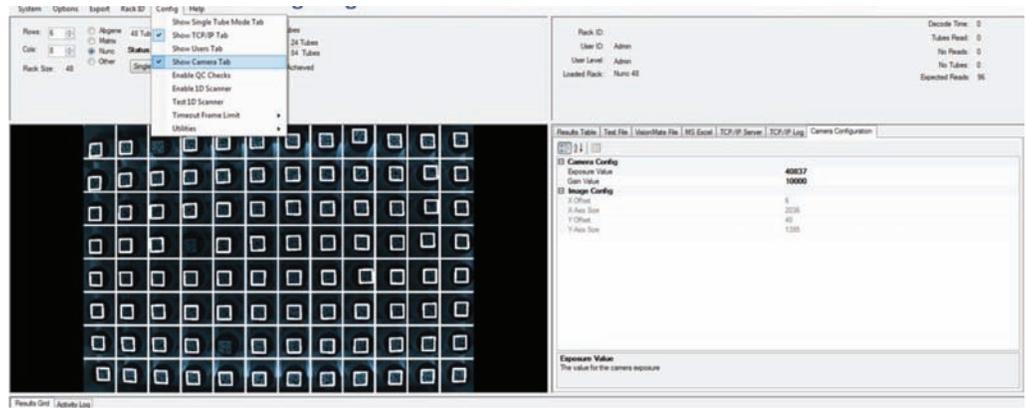
Rack ID Method	Description
Request Before Scan	A dialog box is shown before the scan is performed in which you may enter a rack id.
Request After Scan	A dialog box is shown immediately after the scan is
Use Date and Time (default)	The rack ID is automatically completed using the current date and time. The date and time format used for the rack id is “yyyymmdd-hhmmss”.
Set via TCP/IP	The rack ID is set via the TCP/IP connection from a remote system. Please see Chapter 10, “Using the TCP/IP Server”.
Set via 1D Reader	The rack ID is read from a rack linear barcode using the optional Thermo 1D reader accessory (AB-1860). If you wish to use a third-party 1D keyboard-wedge style reader then it is possible to use one of the first two rack id methods above to scan the rack barcode when the dialog box is displayed.
Use Fixed ID	If this option is selected and a Rack ID is entered in the related menu item, then each rack will be named using this fixed ID.

Setting the ROI (Region of Interest)

1. Select the Tube manufacture and the rack configuration for your specific storage tube.
2. Go to **Options** and select **Set ROI** from the list.
3. Place the rack of tubes on the scanner and press the ‘**Ok**’ button.
4. Start to adjust the alignment by clicking on the center of the grid and dragging it to align the very center of the tube rack.
5. Once the center is aligned click and drag each edge of the grid and drag it to align the codes.
To save and test the alignment remove the rack and place it back on to the scanner.



6. Camera settings need adjustment: Open camera configuration tab and make adjustments to gain and exposure values independently. Optimum adjustments will be dependent on tube contrast as well as ambient lighting conditions.



NOTE: Although can only select up to 30, larger values can be manually typed) – for very poor quality barcodes this may need to be increased to 120 or greater.

7. Go to **Config** -> **“Timeout Frame Limit”** – Increase
8. **Delete Config Files, shutdown the VisionMate HS software delete the folder C:\ProgramData\Thermo\VisionMate SR\Config**

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Chapter 5

Exporting to a .CSV or other text file

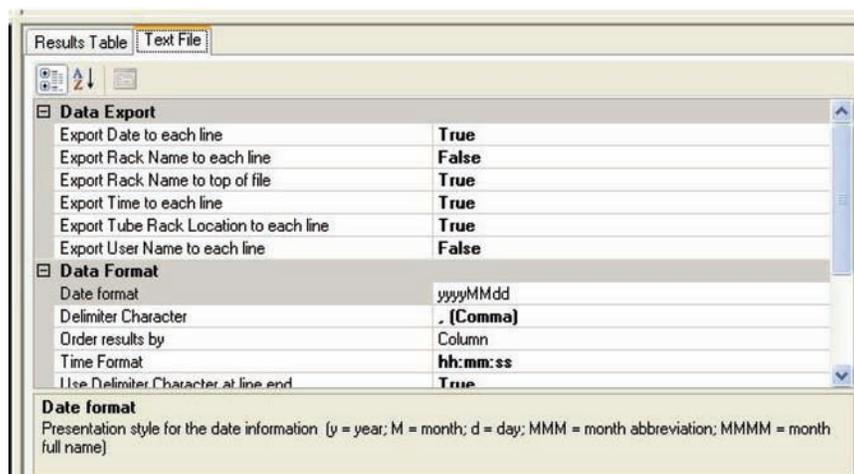
This export function allows the data to be decoded to any of the following text file types:

- Comma-delimited file (*.csv for Microsoft Excel compatibility)
- Text file (*.txt for Notepad compatibility)
- Log file (*.log)

The main difference between the files is the application they normally open with in Windows.

Enabling the CSV File Export Function

1. Open the “**Export**” menu.
2. Open the “**Export To**” sub-menu.
3. Select the “**Text File (*.csv)**” option to bring up the text file configuration tab.



4. Choose the appropriate export parameters according to the details below. The data output is performed automatically at the end of each scan.

Data Export Group

Item	Description
Export Date to each line	Exports the date to each line in the output file based on the date format.
Export Rack Name to each Line	Exports the ID to each line in the output file.
Export Rack Name to top of file	Exports the rack name to the top of the file on a single line.
Export Time to each line	Exports the time to each line in the output file based on the time format.
Export Tube rack location to each line	Exports the tube locations to each line in the output file.
Export User Name to each line	Exports the current user name to each line in the output file.

Data Format Group

Item	Description
Date Format	A drop down box allows the selection of a date format to use when exporting the date to the output file. (y = year; M = month; d = day; MMM = month abbreviation; MMMM = month full name)
Delimiter Character	A drop down box allows the selection of the delimiter character.
Order Results By	Option to order the results by Column or Row in the output file..
Time Format	A drop down box allows the selection of a time format to use when exporting the date to the output file. (h = hour; m = minute; s =second; t = PM/AM)
Use Delimiter Character at End of Line	This option allows the user to include or not include the delimiter character at the end of each line in the output file.

File Format Group

Item	Description
Directory	Use the browse button to select a folder in which the output files are to be created.
File Naming Method	<p>There are three options for naming the csv file:</p> <ul style="list-style-type: none"> • Use Date and Time: This option uses the date and time at the point of file creation to name the file. The date format is as specified in the “Date Format” property. • Use Rack Name: This option uses the rack name which was given to the rack during the scan and is probably the most useful option. • Use Fixed Filename: This option always names the file with the filename specified in the “Fixed Filename” property. If the file exists, it is overwritten.
Filename Extension	<p>This property allows you to select the filename extension for the output file. The available options are *.csv (comma-delimited file), *.txt (text file) and *.log (log text file)</p> <ul style="list-style-type: none"> • The *.csv file will normally open automatically in MS Excel where available. • The *.txt file will normally open automatically in MS Notepad. • The *.log file is not normally associated with any program.
Filename Prefix	It is possible to add a text prefix for the filename here. E.g., if the file naming method is “ Use Date and Time ” and a “ Filename Prefix ” of “ Test_Rack ” is used, then the output file would be named e.g. “ Test_Rack01012008.csv ” instead of just “ 01012008.csv ”
Fixed File Name	If you select the “ File Naming Method ” of “ Fixed Filename ” then you should enter the fixed filename here. E.g. “ Test_Rack ”.

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Chapter 6

Exporting to a Microsoft Excel File

This export function allows the data to be exported to a Microsoft Excel file (*.xls). The export function will create files even if MS Excel is not installed on the system.

Enabling the MS Excel File Export Function

1. Open the **“Export”** menu.
2. Open the **“Export To”** sub-menu.
3. Select the **“MS Excel File”** option to bring up the MS Excel configuration tab.

Data Export	
Export Date to each line	True
Export Rack Name to each line	False
Export Rack Name to top of file	True
Export Time to each line	True
Export Tube Rack Location to each line	True
Export User Name to each line	False

Data Format	
A1 Tube Column	A
A1 Tube Row	1
Data Layout Style	Rack Layout
Date format	yyyyMMdd
Time Format	hh:mm:ss

Export Date to each line
Choice to export the date to each data record

4. Choose the appropriate export parameters according to the details below. The data output is performed automatically at the end of each scan.

Data Export Group

Item	Description
Export Date to each line	Exports the date to each line in the output file based on the date format.
Export Rack Name to each Line	Exports the ID to each line in the output file.
Export Rack Name to top of file	Exports the rack name to the top of the file on a single line.
Export Time to each line	Exports the time to each line in the output file based on the time format.
Export Tube rack location to each line	Exports the tube locations to each line in the output file.
Export User Name to each line	Exports the current user name to each line in the output file.

Data Format Group

Item	Description
A1 Tube Column	This option allows you to shift the layout of the data in the Excel sheet. E.g if the value is "1" then the data will be written starting in the first column of the sheet. If the value is "3" then the data will be written starting in the third column of the sheet, giving you two empty columns to the left of the worksheet which could be used for other external data
A1 Tube Row	This option allows you to shift the layout of the data in the Excel sheet. E.g if the value is "A" then the data will be written starting in the first row of the sheet. If the value is "C" then the data will be written starting in the third row of the sheet, giving you two empty rows at the top of the worksheet which could be used for other external data.
Data Layout Style	This drop-down option allows the choice of either " Rack Layout " or " Column Layout " as a method of displaying the data in the Excel Worksheet. <ul style="list-style-type: none"> • Rack Layout: The data is displayed in same layout as if they were in the rack. Therefore the tube in position E4 in the rack will be displayed in cell E4 in the worksheet. (subject to the above two properties being set to a start cell of A1) • Column Layout: The data is displayed in vertical columns. Each column containing separate information fields, e.g., code, date, location..
Date Format	A drop down box allows the selection of a date format to use when exporting the date to the output file. (y = year; M = month; d = day; MMM = month abbreviation; MMMM = month full name)
Time Format	A drop down box allows the selection of a time format to use when exporting the date to the output file. (h = hour; m = minute; s = second; t = PM/AM)

File Format Group

Item	Description
Add Sheet if Workbook Exists	This function allows you to use a fixed Excel file and add a new worksheet to it each time you export a rack. Each worksheet will be named using the rack name.
Directory	Use the browse button to select a folder in which the output files are to be created.
File Naming Method	<p>There are three options for naming the Excel file:</p> <ul style="list-style-type: none"> • Use Date and Time: This option uses the date and time at the point of file creation to name the file. The date format is as specified in the "Date Format" property. • Use Rack Name: This option uses the rack name which was given to the rack during the scan and is probably the most useful option. • Use Fixed Filename: This option always names the file with the filename specified in the "Fixed Filename" property.
Filename Prefix	It is possible to add a text prefix for the filename here. E.g., if the file naming method is " Use Date and Time " and a " Filename Prefix " of " Test_Rack " is used, then the output file would be named e.g. " Test_Rack01012008.xls " instead of just " 01012008.xls "
Fixed File Name	If you select the " File Naming Method " of " Fixed Filename " then you should enter the fixed filename here. E.g., " Test_Rack ".
Overwrite Workbook if it Exists	This option allows you specify that if a file already exists in the location that you are writing to that it should be overwritten.

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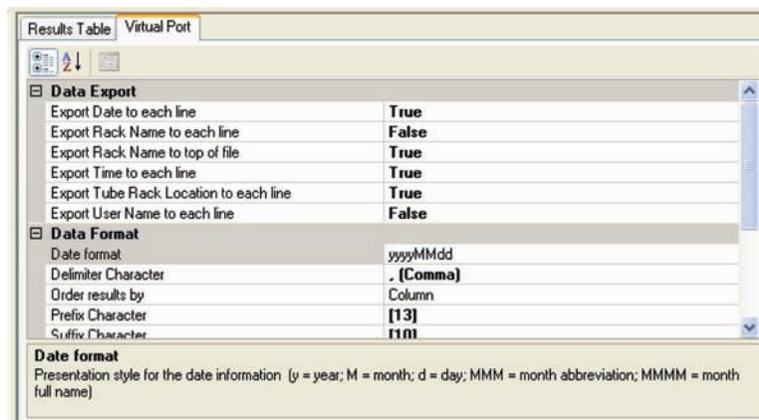
Chapter 7

Exporting to a Virtual COM Port

- A virtual com port appears to other applications to be a bona-fide physical COM port, but is actually just a piece of software which simulates a real port.
- This can be advantageous if you have a legacy piece of software that has to communicate via a COM port, but do not have a physical COM port.
- The virtual COM port can be given a meaningful name (not just COMX).

Enabling the Virtual COM Port Function

1. Open the “**Export**” menu.
2. Open the “**Export To**” sub-menu.
3. Select the “**Virtual COM Port**” option to bring up the virtual COM port configuration tab.



4. Choose the appropriate export parameters according to the details below. The data output is performed automatically at the end of each scan.

Data Export Group

Item	Description
Export Date to each line	Exports the date to each line in the output file based on the date format.
Export Rack Name to each Line	Exports the rack id to each line in the output file.
Export Rack Name to top of file	Exports the rack name to the top of the file on a single line.
Export Time to each line	Exports the time to each line in the output file based on the time format.
Export Tube rack location to each line	Exports the tube locations to each line in the output file.
Export User Name to each line	Exports the current user name to each line in the output file.

Data Format Group

Item	Description
Date Format	A drop down box allows the selection of a date format to use when exporting the date to the output file. (y = year; M = month; d = day; MMM = month abbreviation; MMMM = month full name)
Delimiter Character	A drop down box allows the selection of the delimiter character.
Order Results By	Option to order the results by Column or Row in the output file.
Prefix Character	If you wish to prefix the output with a character then it should be entered here. The prefix can be plain text e.g. "ABC" Or it can be an ASCII character code (see www.asciitable.com). To specify an ASCII character, enclose the ASCII value with square brackets. E.g., [13] would add a carriage return as the prefix
Suffix Character	If you wish to suffix the output with a character then it should be entered here. The suffix can be plain text e.g. "ABC", or it can be an ASCII character code (see www.asciitable.com). To specify an ASCII character, enclose the ASCII value with square brackets. E.g., [13] would add a carriage return as the suffix.
Time Format	A drop down box allows the selection of a time format to use when exporting the date to the output file. (h = hour; m = minute; s = second; t = PM/AM
Use Delimiter Character at End of Line	This option allows the user to include or remove a delimiter character at the end of each line in the output file.

File Format Group

Item	Description
File Naming Method	<p>There are three options for naming the csv file:</p> <ul style="list-style-type: none"> • Use Date and Time: This option uses the date and time at the point of file creation to name the file. The date format is as specified in the “Date Format” property. • Use Rack Name: This option uses the rack name which was given to the rack during the scan and is probably the most useful option. • Use Fixed Filename: This option always names the file with the filename specified in the “Fixed Filename” property. If the file exists, it is overwritten.
Rackname Prefix	<p>It is possible to add a text prefix for the rackname here. E.g., if the file naming method is “Use Date and Time” and a “Filename Prefix” of “Test_Rack” is used, then the output file would be named e.g. “Test_Rack01012008.csv” instead of just “01012008.csv”.</p>

NOTE: Note: Do not use spaces in the Virtual Port Name. (Underscores are an acceptable alternative) If you change the name of the Virtual COM port which you are using, you must disable, then re-enable the Virtual COM Port export option. All other changes take effect immediately without this requirement.

Virtual Port Group

Item	Description
Virtual Port Name	<p>This is the name of the port that other applications will see. The default is ThermoPort, but it is possible to use any alphanumeric characters in the name and it is possible to call it e.g. COM5 (as long as COM5 doesn't already exist on the system).</p>

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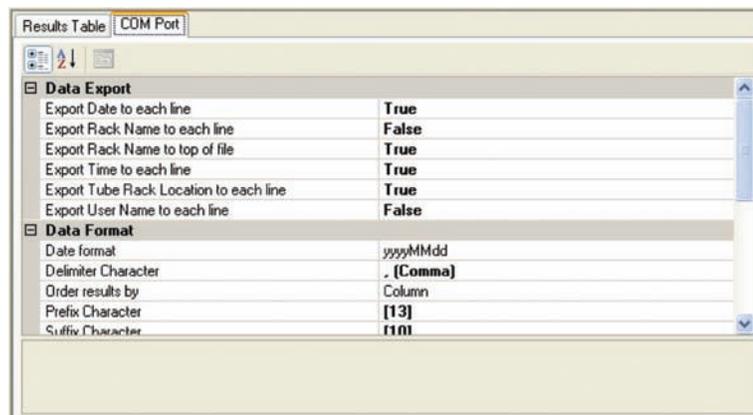
Chapter 8

Exporting to a COM Port

This export function allows the data to be outputted to an onboard COM Port

Enabling the COM Port Function

1. Open the “**Export**” menu.
2. Open the “**Export To**” sub-menu.
3. Select the “**COM Port**” option to bring up the COM port configuration tab.



4. Choose the appropriate export parameters according to the details below. The data output is performed automatically at the end of each scan.

Data Export Group

Item	Description
Export Date to each line	Exports the date to each line in the output file based on the date format.
Export Rack Name to each Line	Exports the rack id to each line in the output file.
Export Rack Name to top of file	Exports the rack name to the top of the file on a single line.
Export Time to each line	Exports the time to each line in the output file based on the time format.
Export Tube rack location to each line	Exports the tube locations to each line in the output file.
Export User Name to each line	Exports the current user name to each line in the output file.

Data Format Group

Item	Description
Date Format	A drop down box allows the selection of a date format to use when exporting the date to the output file. (y = year; M = month; d = day; MMM = month abbreviation; MMMM = month full name)
Delimiter Character	A drop down box allows the selection of the delimiter character.
Order Results By	Option to order the results by Column or Row in the output file.
Prefix Character	If you wish to prefix the output with a character then it should be entered here. The prefix can be plain text e.g. "ABC", or it can be an ASCII character code (see www.asciitable.com). To specify an ASCII character, enclose the ASCII value with square brackets. E.g., [13] would add a carriage return as the prefix.
Suffix Character	If you wish to suffix the output with a character then it should be entered here. The suffix can be plain text e.g. "ABC", or it can be an ASCII character code (see www.asciitable.com). To specify an ASCII character, enclose the ASCII value with square brackets. E.g., [13] would add a carriage return as the suffix.
Time Format	A drop down box allows the selection of a time format to use when exporting the date to the output file. (h = hour; m = minute; s = second; t = PM/AM)
Use Delimiter Character at End of Line	This option allows the user to include or remove a delimiter character at the end of each line in the output file.

File Format Group

Item	Description
File Naming Method	<p>There are three options for naming the csv file:</p> <ul style="list-style-type: none"> • Use Date and Time: This option uses the date and time at the point of file creation to name the file. The date format is as specified in the “Date Format” property. • Use Rack Name: This option uses the rack name which was given to the rack during the scan and is probably the most useful option. • Use Fixed Filename: This option always names the file with the filename specified in the “Fixed Filename” property. If the file exists, it is overwritten.
Rackname Prefix	<p>It is possible to add a text prefix for the rackname here. E.g., if the file naming method is “Use Date and Time” and a “Filename Prefix” of “Test_Rack” is used, then the output file would be named e.g. “Test_Rack01012008.csv” instead of just “01012008.csv”.</p>

Port Config Group

Item	Description
Baud Rate	This is the transmission speed used for the COM Port communication. This should match the baud rate of the receiving COM port.
COM Port	This is the physical COM port to use for data export. If you change the COM port that you are using, you must then disable and re-enable the Export to COM port option to make the change.
Data Bits	This is the number of data bits used in the data communication structure. This should match the number of data bits used by the receiving COM port.
Handshaking	This is the type of handshaking, or flow control used by the COM port. The handshaking method should match the type used by the receiving COM port.
Parity	This the error detection method used by the COM port. The parity method should match the type used by the receiving COM port.
Stop Bits	This is the number of stop bits used in the data communication structure. This should match the number of stop bits used by the receiving COM port.

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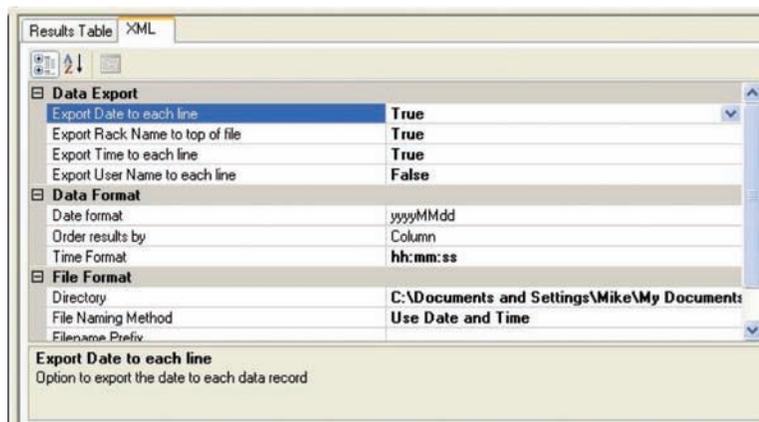
Chapter 9

Exporting to an XML file

- This export function allows the data to be exported to an “**Extensible Markup Language file**” (*.xml).
- XML files are text based files conforming to a standard and are increasingly used to share information between platforms in a common format.

Enabling the XML file Function

1. Open the “**Export**” menu.
2. Open the “**Export To**” sub-menu.
3. Select the “**XML**” option to bring up the XML configuration tab.



4. Choose the appropriate export parameters according to the details below. The data output is performed automatically at the end of each scan.

Data Export Group

Item	Description
Export Date to each line	Exports the date to each line in the output file based on the date format.
Export Rack Name to each Line	Exports the rack id to each line in the output file.
Export Rack Name to top of file	Exports the rack name to the top of the file on a single line.
Export Time to each line	Exports the time to each line in the output file based on the time format.
Export Tube rack location to each line	Exports the tube locations to each line in the output file.
Export User Name to each line	Exports the current user name to each line in the output file.

Data Format Group

Item	Description
Order Results By	Option to order the results by Column or Row in the output file.
Date Format	A drop down box allows the selection of a date format to use when exporting the date to the output file. (y = year; M = month; d = day; MMM = month abbreviation; MMMM = month full name)
Time Format	A drop down box allows the selection of a time format to use when exporting the date to the output file. (h = hour; m = minute; s = second; t = PM/AM)

File Format Group

Item	Description
Directory	Use the browse button to select a folder in which the output files are to be created.
File Naming Method	<p>There are three options for naming the csv file:</p> <ul style="list-style-type: none"> • Use Date and Time: This option uses the date and time at the point of file creation to name the file. The date format is as specified in the “Date Format” property. • Use Rack Name: This option uses the rack name which was given to the rack during the scan and is probably the most useful option. • Use Fixed Filename: This option always names the file with the filename specified in the “Fixed Filename” property. If the file exists, it is overwritten.
Filename Prefix	It is possible to add a text prefix for the filename here. E.g., if the file naming method is “ Use Date and Time ” and a “ Filename Prefix ” of “ Test_Rack ” is used, then the output file would be named “ Test_Rack01012008.xls ” instead of just “ 01012008.xls ”.
Fixed File Name	If you select the “ File Naming Method ” of “ Fixed Filename ” then you should enter the fixedfilename here. E.g., “ Test_Rack ”.

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Chapter 10

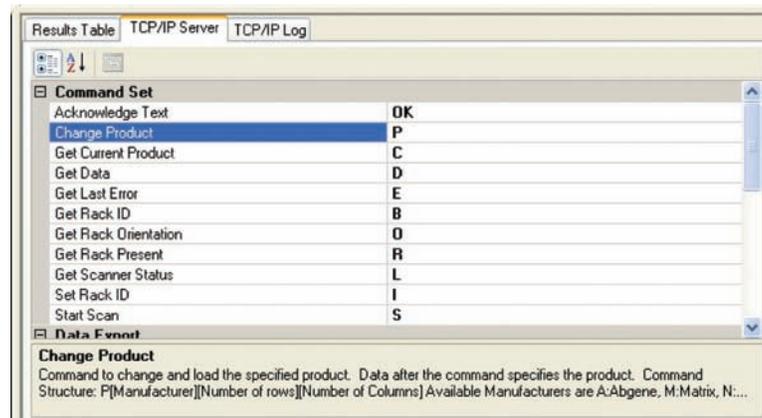
Using the TCP/IP Server

It is possible to control the VisionMate scanner by sending commands and receiving responses via a TCP/IP connection.

The VisionMate software acts as a TCP/IP server to which the controlling application can make a client connection using an IP address and port number.

Viewing the TCP/IP Configuration Tab

1. Open the “**Config**” menu.
2. Select the “**Show TCP/IP Tab**” option to bring up both the TCP/IP Server configuration tab and the TCP/IP Log tab.



Command Set Group

Item	Description
Acknowledge Text	This is the response which will be returned by the VisionMate Server to acknowledge a command from the client. The response format is [Acknowledge Text][Command]. E.g., if you send an “ S ” the response will be “ OKS ”
Change Product	This is a command to change and load a new product. The format of the command is [Change Product Command][Manufacturer First Letter][Number of Rows][Number of Columns]. E.g., To change to a Matrix 48 tube rack, the command is “ PM0806 ”.
Get Current Product	The currently loaded product is returned The response structure is [Manufacturer First Letter][Number of Rows][Number of Columns] E.g., The response for a Nunc 96 tube rack would be “ N0806 ”.
Get Data	The last scanned rack data is returned. The format of the data is dependant on the settings made in the data format group.
Get Rack ID	The Rack ID is returned
Get Rack Orientation	The Rack orientation is returned. “ 0 ” is returned for correct orientation, “ 1 ” for incorrect orientation. This command should be used after the “Get Rack Present” command to ensure reliable results.
Get Rack Present	If a rack is on the scanner “ 1 ” is returned. If there is no rack present, “ 0 ” is returned.
Get Scanner Status	<p>A byte value is returned indicating the scanner status based on status bits as described below</p> <ul style="list-style-type: none"> 0 = Initialized 1 = Scanning 2 = Finished scan 3 = Data ready 4 = Data sent 5 = Rack96 6 = Empty 7 = Error <p>E.g., if the scanner is initialized and is scanning a 96 rack, but the data is not ready or sent and there is no error, then the value would be 100011. The returned value is then 35 (which is the decimal value of 10011). Then the scan is finished and the data is ready, the bits would be 101101 and the return value is 45.</p>
Set Rack ID	This command sets the Rack ID. The command format is [Set Rack ID Command][Rack ID] E.g., “ RThermo Rack ” would set the rack id to “ Thermo Rack ”.
Start Scan	The command to start scanning a rack

Data Export Group

Item	Description
Export Date to each line	Exports the date to each line in the output file based on the date format.
Export Rack Name to each Line	Exports the rack id to each line in the output file.
Export Rack Name to top of file	Exports the rack name to the top of the file on a single line.
Export Time to each line	Exports the time to each line in the output file based on the time format.
Export Tube rack location to each line	Exports the tube locations to each line in the output file.
Export User Name to each line	Exports the current user name to each line in the output file.

Data Format Group

Item	Description
Date Format	A drop down box allows the selection of a date format to use when exporting the date to the output file. (y = year; M = month; d = day; MMM = month abbreviation; MMMM = month full name)
Delimiter Character	A drop down box allows the selection of the delimiter character.
Order Results By	Option to order the results by Column or Row in the output file.
Prefix Character	If you wish to prefix the output with a character then it should be entered here. The prefix can be plain text e.g. "ABC", or it can be an ASCII character code (see www.asciitable.com). To specify an ASCII character, enclose the ASCII value with square brackets. E.g., [13] would add a carriage return as the prefix.
Suffix Character	If you wish to suffix the output with a character then it should be entered here. The suffix can be plain text e.g. "ABC", or it can be an ASCII character code (see www.asciitable.com). To specify an ASCII character, enclose the ASCII value with square brackets. E.g., [13] would add a carriage return as the suffix.
Time Format	A drop down box allows the selection of a time format to use when exporting the date to the output file. (h = hour; m = minute; s = second; t = PM/AM)
Use Delimiter Character at End of Line	This option allows the user to include or remove a delimiter character at the end of each line in the output file.

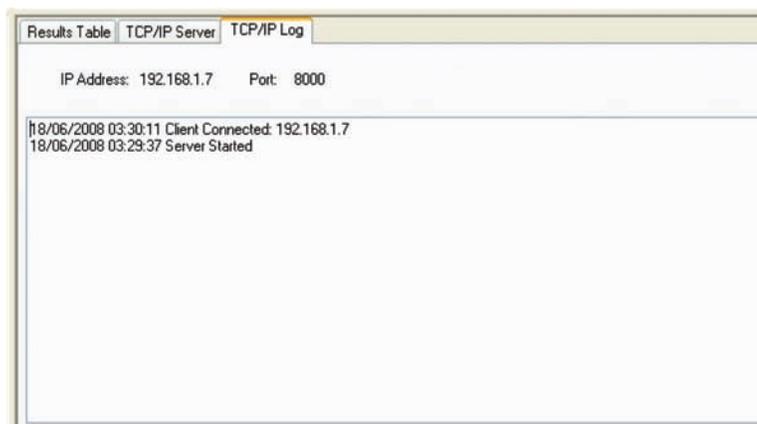
Port Configuration Group

Item	Description
IP Address Mode	<p>This is the IP address which the on which the server will listen for incoming connections.</p> <p>There are two options:</p> <ul style="list-style-type: none"> • Loopback Address: This uses the local loopback address 127.0.0.1. This can only be used, and is the recommended method, if the client is on the same machine. • Automatic IP Address: This option automatically retrieves and uses the primary IP address of the server pc.
Port Number	<p>This is port on which the server will listen for incoming connections. The valid range is 1024-65536.</p>

Enabling the TCP/IP Server

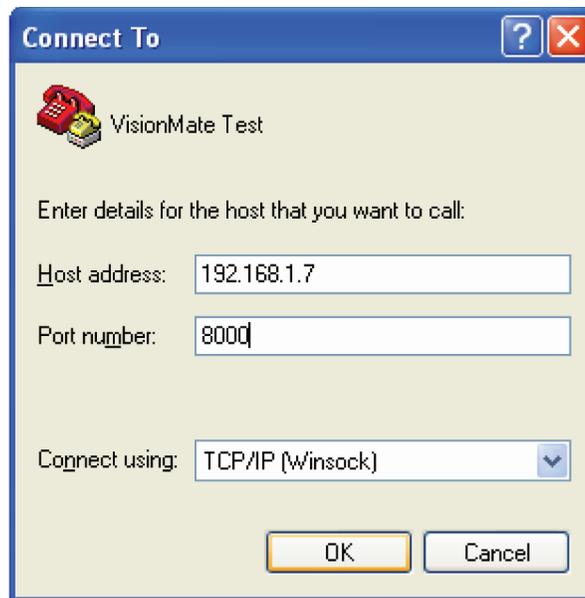
1. Open the “**Export**” menu.
2. Select the “**Enable TCP/IP Server**” option.

The TCP/IP server will start and wait for a client connection. The IP address and port number in use will be displayed in the TCP/IP Log screen along with a message confirming that the server has started.

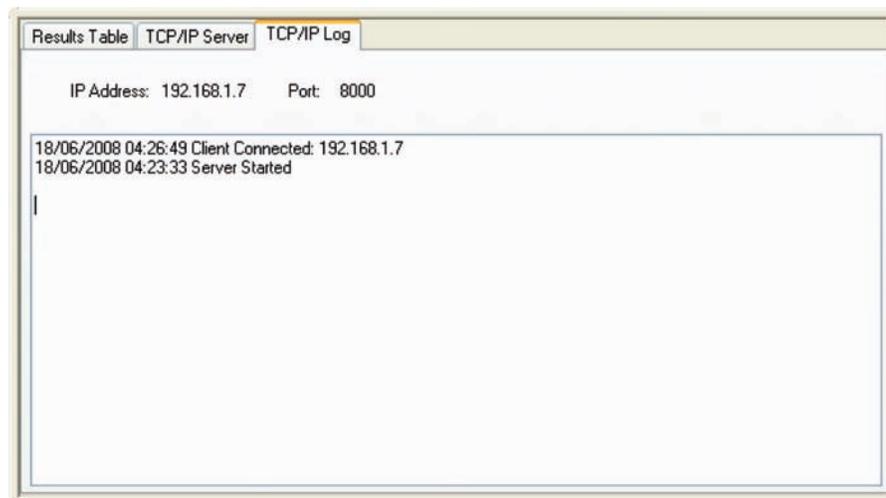


Testing the TCP/IP Server with Hyperterminal

- The following steps demonstrate controlling the scanner using Hyperterminal.
 1. Within the VisionMate software, display the TCP/IP configuration and log tabs as detailed in section 10.1 above.
 2. Enable the TCP/IP server as shown in section 10.2 above.
 3. Note the IP Address and port number which are being used. This information is shown on the TCP/IP Log tab.
 4. Start Hyperterminal.
 - a. go to Windows Start Menu – All Programs – Accessories – Communications- Hyperterminal
 5. Enter a meaningful name for the connection (E.g., “**VisionMate Test**”), and select “**OK**”.
 6. Choose to connect using TCP/IP (Winsock), enter the IP Address and port number previously noted in step 3 above and select “**OK**”.



7. Hyperterminal will connect to the server and the VisionMate TCP/IP log tab will display a “**Client Connected**” message.



8. Within the Hyperterminal window, type an uppercase **"S"** and press return. The server will acknowledge the command by responding with **"OKS"** and the scan will start.
9. To check that the scan has finished, send the Get Status command by typing **"L"** and pressing enter. When the scan has finished, the response will be **"OK45"**.
10. Retrieve the data by typing **"D"** and pressing enter. The results will be returned.

NOTE: If an unknown command is received, the response will be **"OK?[UNKNOWN COMMAND TEXT]"**.

Chapter 11

Exporting using an ODBC connection

- This export function allows you to setup a connection to an existing database table via ODBC.
- The ODBC export method is used to fill existing databases and tables with data records. It does not create databases or tables.
- A demo database is available in the application directory. This is called “**Thermo VisionMate Demo Database.mdb**”. This is a good example of how the database tables should be structured. (see Section 11.2)
- The data may be exported to the following database types:
 - Jet (e.g. MS Access)
 - SQL Server
 - Oracle
 - DSN (ODBC Data Source Name)

Viewing the ODBC Configuration Tab

1. Open the “**Export**” menu.
2. Open the “**Export To**” sub-menu, and select the “**ODBC**” option to bring up the ODBC configuration tab

Connection Details	
Database	
Database Connection Type	
Database Login Name	
Database Login Password	
Database Server	
Driver	
DSN	
Table Name	

Data Fields	
Date Field Name	Log_Date
Rack ID Field Name	Rack_ID
Time Field Name	Log_Time

Database
The database to connect to

Connection Details Group

(Items required are dependent on the database connection type)

Item	Description
Database	The database file name. Use the browse button to locate the database.
Database Connection Type	The connection type of either MS Access, SQL Server, DSN or Oracle.
Database Login Name	The login name for the database if required.
Database Server	The database server name if required.
Database Driver	The ODBC driver for the database type. This list is filled using the available drivers registered on the system
DSN	If using a DSN connection, this is the DSN name. The list is filled automatically using the DSN names registered in Windows.
Table	The name of the table to which you wish to export data.

Data Fields Group

Item	Description
Date Field Name	The field name to which the date should be written
Time Field Name	The field name to which the time should be written
Rack ID Field Name	The field name to which the Rack ID should be written
User Column 1 Field Name	The field name to which the ' User Column 1 Value ' should be written
User Column 2 Field Name	The field name to which the ' User Column 1 Value ' should be written
User Column 1 Enabled	True or False option to enable writing to User Column 1
User Column 2 Enabled	True or False option to enable writing to User Column 2
User Column 1 Value	The value to write to User Column 1 if enabled
User Column 2 Value	The value to write to User Column 2 if enabled

Pilot System Group

Item	Description
Clear Results before Write	If using the Pilot system, this option clears any results in the data table before commencing to write to it.

Rack Method Group

Item	Description
Add new record for each	Option to either write a database record for each tube, or for a whole rack.

Create a record for each tube:

- This method creates a new record for each tube in the rack. So for a 96 tube rack, 96 new records will be created.
- Each record can contain the Rack id, date, time and user id as well as the tube code and location.
- The tube location can be stored either in a single field (e.g. "Tube_Location") or split into two individual fields for the location row and location column (e.g. "Tube_Row" and "Tube_Column")

Create a record for each rack:

- This method creates a single new record for each rack.
- Each record contains the Rack id, date, time and user id.
- Each tube's code is placed in a separate column named A01, A02, A03 etc.

Record Rack Details Group

(Only used if 'Add new record for each Rack' is selected)

Item	Description
Use Leading zero in Tube Location	True or false option to place a zero in front of single digit tube location fields. E.g. '09' instead of '9'

Record Tube Details Group

(Only used if 'Add new record for each Tube' is selected)

Item	Description
Store tube location in	Option to record each tube location in a single database field (e.g. Tube_Location), or to record the location in separate fields (e.g. Tube_Row and Tube_Column)
Tube Code Field	The name of the database field where the decoded tube code should be written
Tube Location Separate Field Name Column	If opting to store the tube location in separate fields, this is the field to which the location column will be written
Tube Location Separate Field Name Row	If opting to store the tube location in separate fields, this is the field to which the location row will be written
Tube Location Single Field Name	If option to stor the tube location in a single field, this is the field to which the location will be written.

Record Tube Details Group

(Only used if 'Add new record for each Tube' is selected)

Item	Description
Store tube location in	Option to record each tube location in a single database field (e.g. Tube_Location), or to record the location in separate fields (e.g. Tube_Row and Tube_Column)
Tube Code Field	The name of the database field where the decoded tube code should be written
Tube Location Separate Field Name Column	If opting to store the tube location in separate fields, this is the field to which the location column will be written
Tube Location Separate Field Name Row	If opting to store the tube location in separate fields, this is the field to which the location row will be written
Tube Location Single Field Name	If option to stor the tube location in a single field, this is the field to which the location will be written.

Connecting to the demo database

A demo MS Access database is installed into the program directory. It contains two tables named “**Tubes**” and “**Racks**” which store the records in the two possible formats.

1. Open the “**Export**” menu.
2. Open the “**Export To**” sub-menu, and select the “**ODBC**” option to bring up the ODBC configuration tab.
3. Set the Database property by browsing to the database file. (Usually c:\Program Files\Thermo\Thermo VisionMate 96 V3\Thermo VisionMate Demo Database.mdb”).
4. Set the following properties within the ODBC configuration tab:

Connecting to the demo database

A demo MS Access database is installed into the program directory. It contains two tables named “**Tubes**” and “**Racks**” which store the records in the two possible formats.

1. Open the “**Export**” menu.
2. Open the “**Export To**” sub-menu, and select the “**ODBC**” option to bring up the ODBC configuration tab.
3. Set the Database property by browsing to the database file. (Usually c:\Program Files\Thermo\Thermo VisionMate 96 V3\Thermo VisionMate Demo Database.mdb”).
4. Set the following properties within the ODBC configuration tab:

Property	Value
Database Connection Type	MS Access
Driver	Microsoft Access Driver (*.mdb)
Table Name	Tubes
Date Field Name	Log_Date
Rack ID Field Name	Rack_ID
Time Field Name	Log_Time
User Column 1 Enabled	False
User Column 2 Enabled	False
Add new record for each	Tube
Store Tube Location in	Separate Fields
Tube Code Field	Tube_Code
Tube Location Separate Field Name Column	Tube_Col
Tube Location Separate Field Name Row	Tube_Row

5. Ensure that you do not have the Tubes table open in MS Access and complete a scan. The results will be stored to the table after the scan is complete.

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Chapter 12

Single Tube Mode

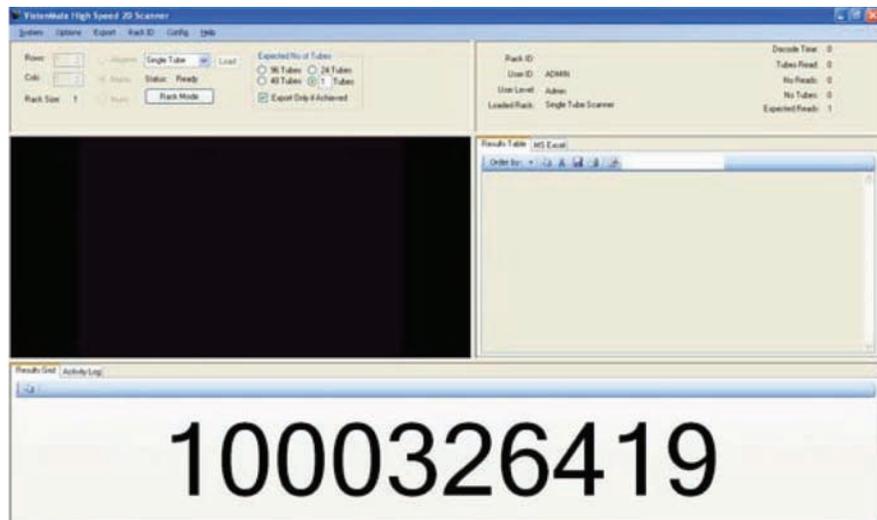
Single Tube Mode allows the scanning of a single tube without the use of a separate tube scanner.

Activating Single Tube Mode

1. Select the “**Single Tube Mode**” button
 - The software will proceed to load into single tube mode which may take some seconds. Once the loading is complete, the status message will display “**Ready**” and the rack type description will be displayed as “**Single Tube Scanner**”
 - The scanner lights will turn on in readiness for scanning a tube.
 - Racks cannot be scanned until the scanner is returned to the “**Rack Mode**” method of operation.

Scanning a Single Tube

1. Once you have loaded the Single Tube Mode, simply hold a tube to the surface of the glass. The scanner will decode the tube, draw a box around the tube in the camera area and display the tube code in the results box at the bottom of the screen.



Exporting using Single Tube Mode

It is possible to export the decoded single tube results via a method called Keyboard Wedge. The file or application receiving the data must have a component selected which is able to receive keyboard input (e.g., cursor placed in the text editor area within Notepad or a cell in MS Excel).

1. Open the **“Config”** menu.
2. Open the **“Show Single Tube Mode”** tab

Results Table		Single Tube Mode
Data Export		
Export Date to each line		True
Export Time to each line		True
Data Format		
Date format		yyyyMMdd
Prefix Character		[13]
Suffix Character		[10]
Time Format		hh:mm:ss
Decode Configuration		
Decode Mode		Standard Decode
Date format Presentation style for the date information (y = year; M = month; d = day; MMM = month abbreviation; MMMT full name)		

3. Choose the appropriate export parameters according to the details below:

Data Export Group

Item	Description
Export Date to each line	Exports the date to each line which is outputted based upon the date format.
Export Time to each line	Exports the time to each line which is outputted based upon the time format.

Data Format Group

Item	Description
Date Format	A drop down box allows the selection of a date format to use when exporting the date to the outputfile. (y = year; M = month; d = day; MMM = month abbreviation; MMMM = month full name)
Time Format	A drop down box allows the selection of a time format to use when exporting the date to the output file. (h = hour; m = minute; s = second; t = PM/AM)
Prefix Character	If you wish to prefix the output with a character then it should be entered here. The prefix can be plain text e.g. “ ABC ”, or it can be an ASCII character code (see www.asciitable.com). To specify an ASCII character, enclose the ASCII value with square brackets. E.g., [13] would add a carriage return as the prefix.
Suffix Character	If you wish to suffix the output with a character then it should be entered here. The suffix can be plain text e.g. “ ABC ”, or it can be an ASCII character code (see www.asciitable.com). To specify an ASCII character, enclose the ASCII value with square brackets. E.g., [13] would add a carriage return as the suffix

Decode Configuration Group

Item	Description
Decode Configuration	There are three drop-down selectable options for the decode configuration. Different Decode: Decodes a code once, then waits for a different decode before decoding again Standard Decode: Decodes a code once, then there is a period of two seconds where it will only decode a different code. After the 2 second period it will reset to allow decoding of any code. Every Decode: This option allows the scanner to decode any code at any time.

Returning to Rack Scanning Mode.

1. Once in Single Tube Mode, in order to return to rack scanning mode, select the “**Rack Mode**” button.

The software will load the previously loaded rack type.

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Chapter 13

User Management

The VisionMate software employs User names and levels to control access to configuration options within the software and also to assist traceability when exporting data.

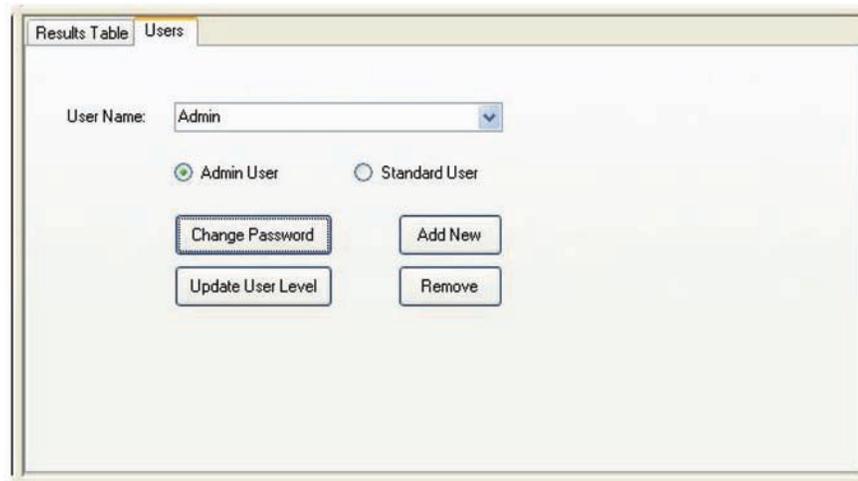
Adding a User

1. Each time the software is started, a login screen appears which requires a User Name and Password to proceed. The system comes with a default user (“**Admin**”) and password (“**Thermo**”) that will log on the first-time user at the Administration level (see Chapter 3, “**Getting Started**”).



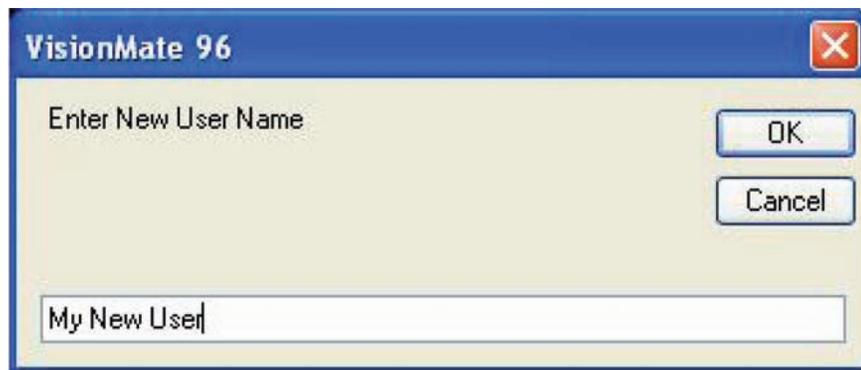
2. Once logged in as an Admin level user, open the “**Config**” menu.

3. Select the “**Show Users**” option.

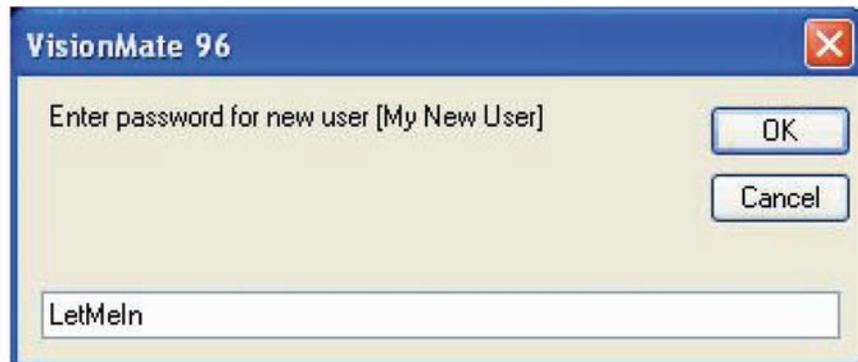


4. Select the ‘**Add New**’ button.

5. Enter a User Name in the dialog box, and select “**OK**”.



6. Enter a Password for the new user, and select “**OK**”.



7. There are two user levels within the VisionMate software
 - a. **“Admin”**: has access to all functions within the software
 - b. **“User”**: has no access to the menu items within the software except for changing rack type and manufacturer, and access to the Shutdown menu item, which prevents the User level from making any changes to export functions and other critical software functions.
8. Select **“Yes”** to add the user as an **“Admin”** level user, or **“No”** to add the user as a **“User”** level user.

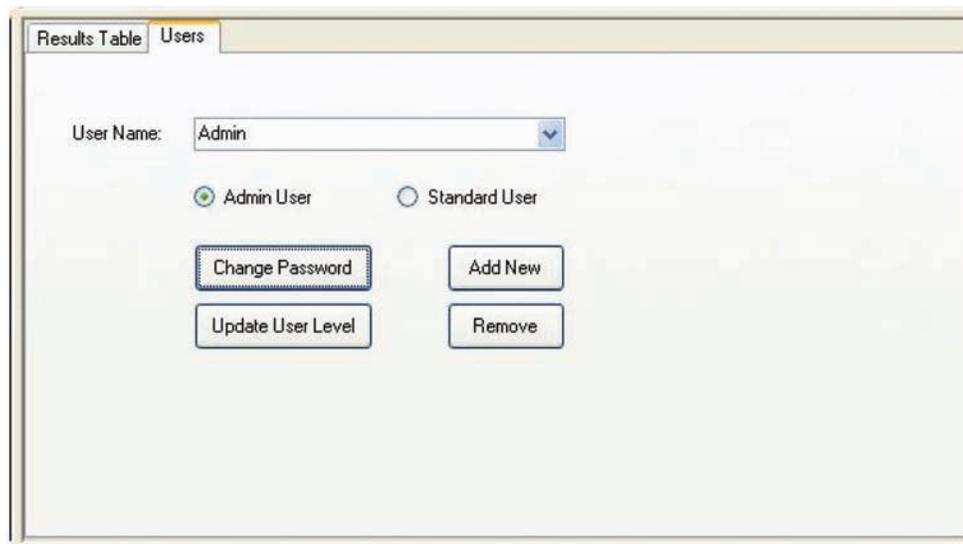


9. A confirmation box will inform you that the user has been added successfully. Select **“OK”**. Your newly added user will now appear in the Users dropdown box. Selecting your user will show their user level by highlighting the user level option for their level.

Removing a User

It is not possible to remove the default Admin user, although you may change the password. All other users may be removed as long as you are logged in as an Admin level user.

1. Once logged in as an Admin level user, open the **“Config”** menu.
2. Select the **“Show Users”** option.



3. Select the user which you want to remove from the “**User Name**” drop-down list.
4. Select the ‘**Remove**’ button.
5. A dialog box will display requesting a confirmation to delete the selected user. Select “**Yes**” to delete and “**No**” to return to the Users tab

Updating a User's User Level

1. Once logged in as an Admin level user, open the “**Config**” menu.
2. Select the “**Show Users**” option.
3. Select the user which you want to update from the “**User Name**” drop-down list.
4. Select the new user level (Admin or User).
5. Select the “**Update User Level**” button.
6. A dialog box will display requesting a confirmation to update the selected user level. Select “**Yes**” to delete and “**No**” to return to the Users tab.

Changing a User's Password

1. Once logged in as an Admin level user, open the “**Config**” menu.
2. Select the “**Show Users**” option.
3. Select the user which you want to update from the “**User Name**” drop-down list.
4. Select the “**Change Password**” button.
5. When the text-entry dialog box displays, enter the new Password and select “**OK**”.
6. A confirmation box will inform you that the user password has been updated successfully. Select “**OK**”.

Disabling Need for Login

It is possible to disable the user login screen so that the software automatically logs in as an administrator.

1. Once logged in as an Admin level user, open the “**Options**” menu.
2. Select the “**Auto Login**” option so that it is checked.
3. Restart the software which will login automatically.

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Chapter 14

QC Check

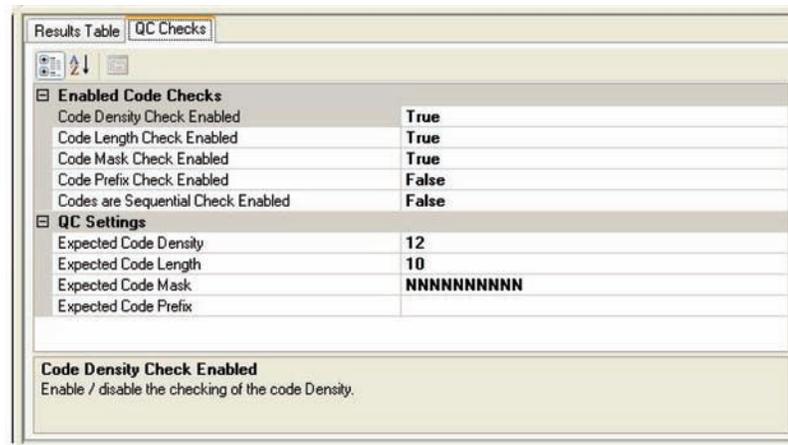
The VisionMate software 'QC Check' function allows the checking of decoded tube results to ensure that the correct tube type is being used and alerts the user if a tube is found which does not match the expected type.

Enabling the QC Check function

1. Open the **"Config"** menu.
2. Select the **"Enable QC Checks"** option.
 - A 'QC Check' tab is displayed which allows configuration of the QC Checks to be performed.
 - A 'Quality' tab appears behind the results grid at the bottom of the screen. This is where the QC check results are displayed.
3. To disable quality checks again, simply uncheck the **'Enable QC Checks'** menu item under the **'Config'** menu.

Configuring the QC Checks

1. Go to the QC Checks tab



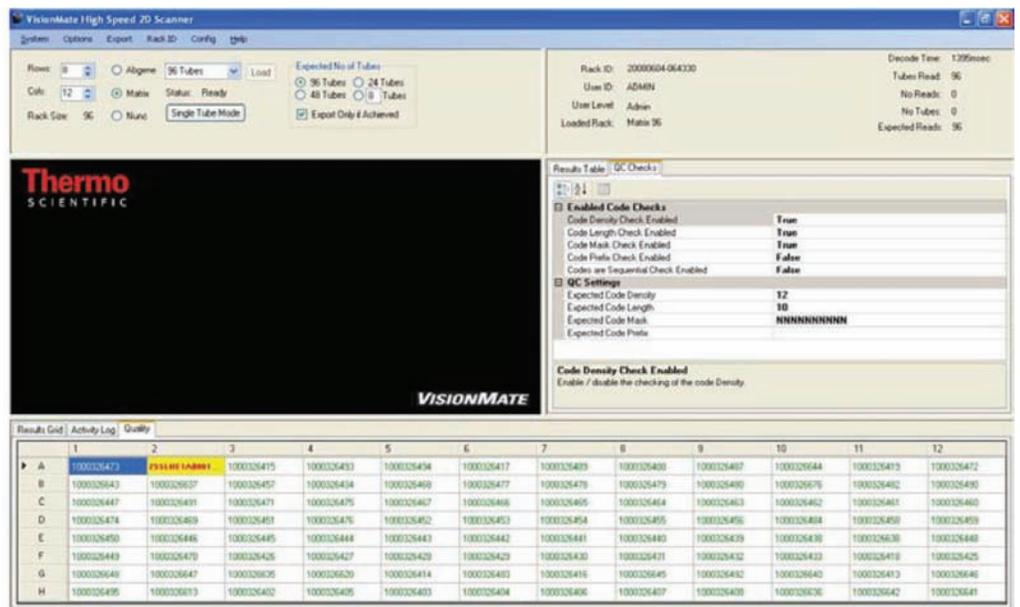
- Choose the appropriate QC parameters according to the details below by selecting “True” where appropriate and setting the parameters in the QC Settings section:

Enable Code Checks and QC Settings

Item	Description
Code Density Check Enabled	This checks that the codes are all of the specified 2D code density. E.g. 12x12, 14x14 etc.
Code Length Check Enabled	This checks that the codes are all have the specified number of characters in them. E.g. A code of '0011001122' would have a code length of 10.
Code Mask Check Enabled	This checks that the codes all start with the correct characters. E.g. Many Abgene tubes begin with 'AB'
Code Prefix Check Enabled	This checks that the numbers and letters in the code match the specified mask characters. Available mask characters are: 'A' :Any upper-case alphabetic character e.g. A,B,C 'a' :Any lower-case alphabetic character e.g. a,b,c 'N' :Any numeric character e.g. 1,2,3 '?' :Any alphanumeric character e.g. 1,2,3,a,B,c
Codes are Sequential Check Enabled	This checks that the numeric portions of the codes in the rack are sequential.

QC Check Results

- The results of the QC check are displayed in a grid format at the bottom of the main screen on the **'Quality'** tab.



- If a tube passes the quality checks, it is displayed in green text with a white background.
- If a tube fails the quality checks, it is displayed in red text with a yellow background.
- Moving the mouse pointer over a failed tube will display a quick pop-up message giving the reasons why the tube failed. (e.g. **"failed length"**)

5. The failed tube is also logged in the Activity Log located at the bottom of the screen. In the figure above, the logged message would be similar to the following:

20080604 06:43:35 QC Check Failure: Tube A2 failed Density; User ID: ADMIN

20080604 06:43:35 QC Check Failure: Tube A2 failed mask; User ID: ADMIN

20080604 06:43:35 QC Check Failure: Tube A2 failed length; User ID: ADMIN

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Chapter 15

Frequently Asked Questions and Troubleshooting

1. **Does this reader work with REMP tubes?** No. We do not support or promote this product as being compatible with REMP's type of 2D code.
2. **Can I run a SmartScan Solo and the VisionMate reader are on the same computer?** Yes. But you only need to use the security key already included in the VisionMate reader (so the separate key for the Solo is not necessary).
3. **Can I run two VisionMate readers on the same computer?** No.
4. **Can I run the VisionMate reader on a Mac?** In some cases. . . .with the latest Mac models and utilizing the latest version of the Mac OS running Windows XP in a virtual machine this is possible. Older models and software or running straight off of the Mac OS is not possible.
5. **Can I run the new VisionMate reader on Windows Vista?** Yes. This software is compatible with Vista.
6. **Can I use my old SmartScan96, VisionMate96 or VisionMate96 Plus with the new software?** No. The software is not backwards compatible.
7. **Can I use my old software with a new VisionMate reader?** No. The hardware is not compatible with old versions of the SmartScan96 software.
8. **Am I able to use the Single Tube Mode to scan codes directly into fields?** Yes. Anywhere you place a cursor you can load simply scan in the code.
9. **Can the new VisionMate reader read Matrix 12 ml tubes? 2.0 mL Abgene tubes? Matrix Glass tubes? 14 x 14 codes? Nunc screw cap tubes? 14x14 and 12x12 codes in the same rack?** Yes to all.
10. **Can the new VisionMate read Matrix 384 tubes?** A separate model for 384 tubes is available.
11. **Will the other VisionMate readers have their software changed to be the same as the new VisionMate reader.** There are no plans to change the VisionMate 96 or VisionMate 96Plus software.
12. **Is the SmartScan96 model prior to the new VisionMate model still available?** The new VisionMate reader is the replacement for the SmartScan96.

13. **What affects the speed of my VisionMate scanner?** The speed of the scanner is generally influenced by.
 - a) The computer hardware: Increasing memory and processor speed will often decrease scanning times.
 - b) The selected rack type: Ensuring that you have the correct rack type selected will ensure quicker scanning. Sometimes, a different rack type will work better on some tubes.
 - c) Environmental Lighting: Avoid placing the scanner in direct sunlight or under a bright light as this can cause variations over the scanning area and may increase scan times and no-tube/ no-read recognition.
14. **Can I use a USB 1.X port to connect the VisionMate Scanner?** No. The scanner requires a USB 2 port. Using a USB 1.X port will cause very slow scan speeds and could cause erratic performance and application errors.
15. **Can I scan very cold racks (from VPLN) on the VisionMate scanner?** Yes. The scanner contains protection against internal condensation, though if the base of the tubes is highly frosted over, a quick wipe with a cloth may be necessary.
16. **Do I need to perform maintenance on my VisionMate scanner?** No. Apart from keeping the glass clean and dust-free, including ensuring the corners do not accumulate debris, there is no maintenance necessary. Ensuring that the sensors located in the upper left and lower right of scanner remain free of dust and debris will prevent failures in the Auto-Rack Orientation feature.

Disabling USB Power Management Setting

Instructions for disabling USB power management in Windows:

1. From your taskbar click the windows icon then right click on the “**Computer**” icon, and select **properties**.
2. Then select “**Device Manger**”.
3. Expand the “**Universal Serial Bus Controllers**” and right click on “**USB Root Hub**” and select properties.
4. Select “**Power Management**” and ensure that this is NOT checked “**Allow the computer to turn off this device to save power.**”
5. Click “**OK**” to save.
6. Repeat for All Generic USB Hub’s and remaining USB Root Hub’s

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Chapter 16

Technical Specifications

Dimensions (W x D x H)	5.1"/130 mm x 7.1"/ 180 mm x 7.3"/185 mm
Weight	8.1 lbs/3.7 kg
Power Supply	110-240 V, 50-60 Hz
Speed	Less than 1 second/rack
Decoding Capacity	1 rack, 1 tube or 2D code (in single tube mode)
Supported Barcode Type	Any Thermo Scientific 2D Barcoded Storage Tube as well as virtually any other tube with high contrast 2D codes
Computer Requirements	1 GB RAM PC with Microsoft Windows 2000, Windows XP or Windows Vista Windows 7
Connection Method	Via supplied USB cable to internal USB2 port (External USB hubs not recommended)

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Addendum: AB1860 1D Barcode Reader Accessory

Package Contents

Your Thermo Scientific VisionMate 1D Scanner package should contain the following items:

- One VisionMate AB1860 1D Scanner Magnetic Attachment
- One Installation CD

NOTE: If your package does not contain the above items, please contact your supplier or Thermo Scientific Representative.

Overview

What does the VisionMate AB1860 1D Attachment do?

The VisionMate AB1860 allows you to read a 1D (linear) barcode label affixed to your rack and send the barcode data to the VisionMate HS software. The 1D code can then be used as the rack identifier within the VisionMate HS software.

Can the AB1860 be used as a standalone barcode scanner?

No, the AB1860 is an accessory to the VisionMate HS Rack Reader and cannot be used separately.

Which code symbologies are supported?

The AB1860 is preprogramed to read the following 1D code types out of the box:

1. Code 128
2. Code 39
3. Codabar
4. Interleaved 2 of 5
5. EAN 13/UPC
6. EAN 8
7. UPC-E

Installation

In order to complete the 1D Reader Accessory Software Installation you will need the scanner and installation cd.

Pre-installation requirements:

1. You must have ADMIN privileges on the computer to install software/hardware drivers and to write to the registry.
2. Please UNPLUG the VisionMate HS scanner & 1D reader and make sure any VisionMate software is NOT running.
4. Insert the installation CD "**VisionMate HS V3.2.1.5**" or above

To Install:

- a. Start the installation program '**Thermo_VisionMate_96_V3_Setup.EXE**' manually by Double-clicking on it
 - b. Follow the installation menus making sure you plug the hardware in when it prompts you to do so.
 - c. Once complete plug in the 1D scanner into an available USB port, you should hear a beep.
5. You are now ready to start the VisionMate HS software up. Both the VMHS and 1D reader should be plugged in and all windows driver wizards are completed.

Using the AB1860 1D Accessory

After installing the software, follow these simple steps to get started with the VisionMate AB1860 1D Accessory Scanner.

1. Start the VisionMate HS software using the desktop shortcut or the Start Menu shortcut. Fix the 1D Accessory to the side of the VisionMate HS using its magnetic base. In the Config Menu select '**Enable 1D Scanner**'

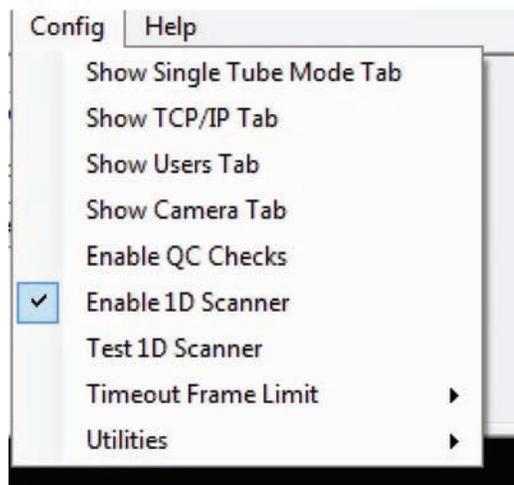
NOTE:

*To AIM the scanner correctly you can use

TEST 1D SCANNER

*Once you have aimed the scanner UN-tick

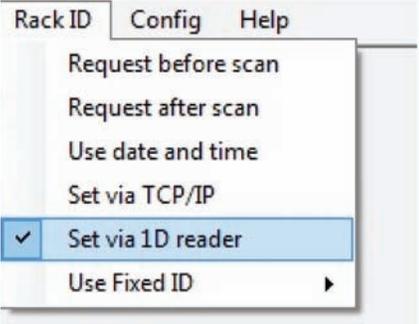
TEST 1D SCANNER



2. Choose to enter the Rack ID via the 1D Scanner

Open the **"Rack ID"** menu, then select **"Set via 1D Reader"**.

The VisionMate HS software is now set up to use the 1D Accessory to read 1D rack barcodes.



To Enable or Disable symbology types please put the scanner in “**Test 1D Scanner**” under the Config Menu and scan the barcode below. You will need to click “**Test 1D Scanner**” after every scan you make on this page as it programs the 1D reader.

It is recommended you disable code types you do not use to stop partial reads.

	. A003\$ DISABLE ALL CODE	
ENABLE		DISABLE
. G008\$ CODE 39		. G009\$ CODE 39
. J010\$ CODE 128		. J011\$ CODE 128
. H019\$ EAN-8		. H020\$ EAN-8
. H013\$ EAN-13		. H014\$ EAN-13
. N001\$ INDUSTRIAL 2 OF 5		. N002\$ INDUSTRIAL 2 OF 5
. I001\$ CODABAR		. I002\$ CODABAR
. L010\$ UK PLESSEY CODE		. L011\$ UK PLESSEY CODE

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