

kardexremstar



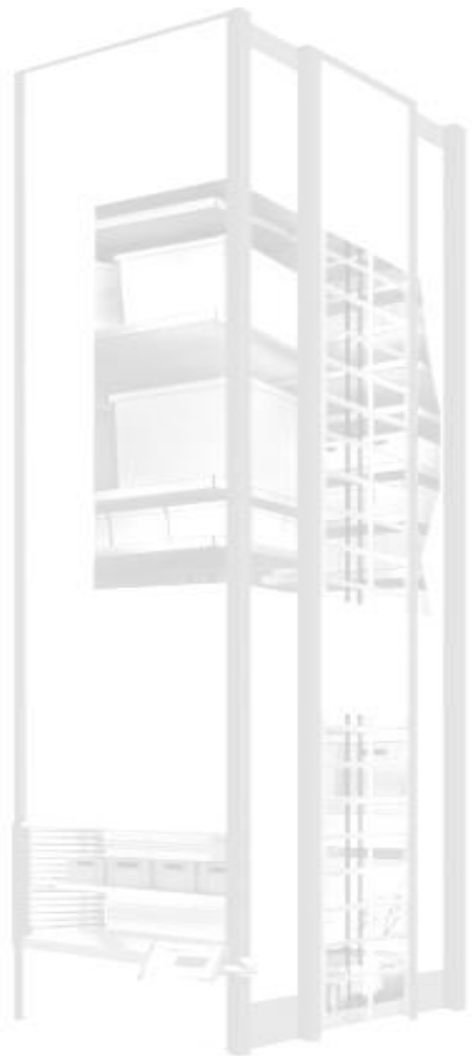
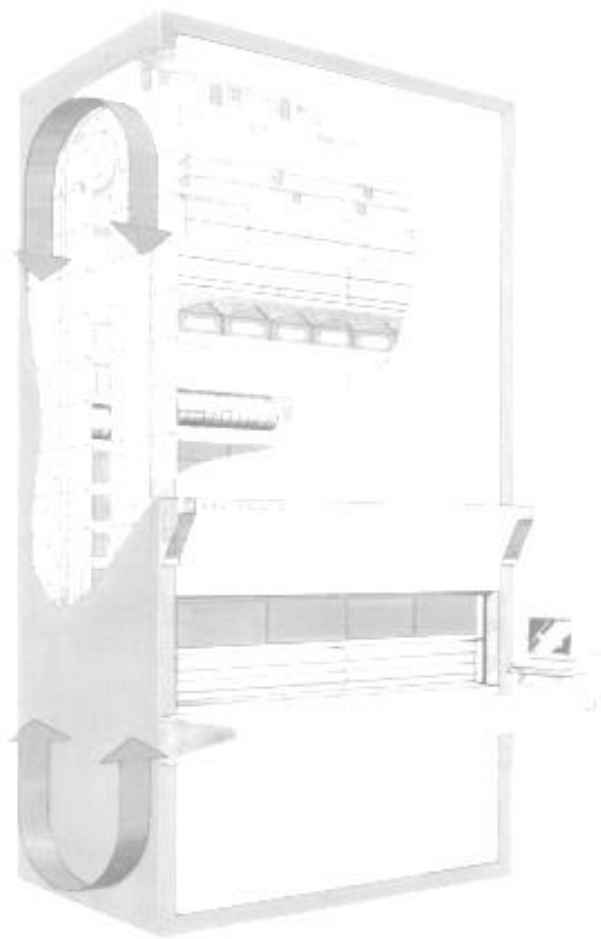
S O R T B E N C H
C O N T R O L L E R

S o r t B e n c h

U S E R G U I D E

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Version 2.0



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Table of Contents

1	Introduction	1
1.1	Description.....	1
1.2	Definitions.....	2
2	Installation	3
2.1	Run Setup Program	3
2.2	Upgrade to SortBench™	6
3	Set up.....	6
3.1	Configuration	6
3.2	Options	7
3.2.1	<i>Options / Order</i>	8
3.2.2	<i>Options / General</i>	9
3.2.3	<i>Options / Advanced</i>	14
3.2.4	<i>Options / Barcode</i>	16
3.2.5	<i>Options / Labels</i>	17
3.2.6	<i>Options / Communication</i>	23
3.2.7	<i>Options / Wake on LAN</i>	24
4	Getting Started	25
4.1	SortBench Functionality	26
4.1.1	<i>Pending Orders</i>	27
4.1.2	<i>Orders on SortBench</i>	28
4.1.3	<i>Command Buttons</i>	29
4.2	Closing SortBench.....	30
5	SortBench™ Picking.....	31
5.1	Manual Order Selection.....	31
5.2	Barcode Order Selection.....	32
6	How to Select Orders	33
6.1	Single Order	33
6.2	Group of Orders	34
6.3	Barcode Selection.....	35
7	Picking Mode	36
7.1	Group Picking.....	36
STEP 1	Set up KARMAN™	36
STEP 3	Start Order Processing.....	36
STEP 4	Pick Parts from VSU	37
STEP 5	Place Parts into Tote Boxes on SORTBENCH	37
STEP 6	All Lists Completed	38
7.2	Continuous Picking Mode.....	39
STEP 1	Set up KARMAN	39
STEP 2	Select Orders at SortBench	39
STEP 3	Start Order Processing.....	39
STEP 4	Pick Parts from VSU	39
STEP 5	Place Parts into Tote Boxes on SORTBENCH	39
STEP 6	List Completed.....	39

7.3	Automatic Picking Mode.....	41
7.4	Interrupt / Resume Orders	41
7.4.1	Interrupt from SortBench™	41
7.4.2	Interrupt From KARMAN™	41
7.4.3	Resume Orders.....	42
8	SortBench Host	43
8.1	SortBench Type	44
8.1.1	Hitachi	44
8.1.2	ATOP.....	45
8.2	Accessibility.....	46
9	Trouble Shooting.....	47
9.1	PC and / or Monitor does not operate	47
9.2	Bench Lamps do not operate	47
9.3	SortBench to Controller Communication Problems.....	47
9.4	SortBench to KARMAN Communication Problems	48
9.5	Site Support	48

Valid for SortBench version 2.0.44

IMPORTANT NOTICE

This software is made available for use under the terms of your 'Software Licence Agreement'.

For new equipment installations Kardex Vertical Storage System software is configured by our staff and operation of the equipment (Carousel / Vertical Lift / SortBench) and utility software is confirmed as part of the commissioning process.

The software warranty will be voided if the Customer or their representative changes, modifies or makes any additions to the hardware and/or software of the Vertical Storage System without the written permission of Kardex VCA Pty Ltd. Kardex will not withhold that permission if the changes will have no material effect on the system operation or performance.

The **Customer** is responsible for the maintenance of all **system** and **data files** including backup and restoration procedures.

1 Introduction

1.1 Description

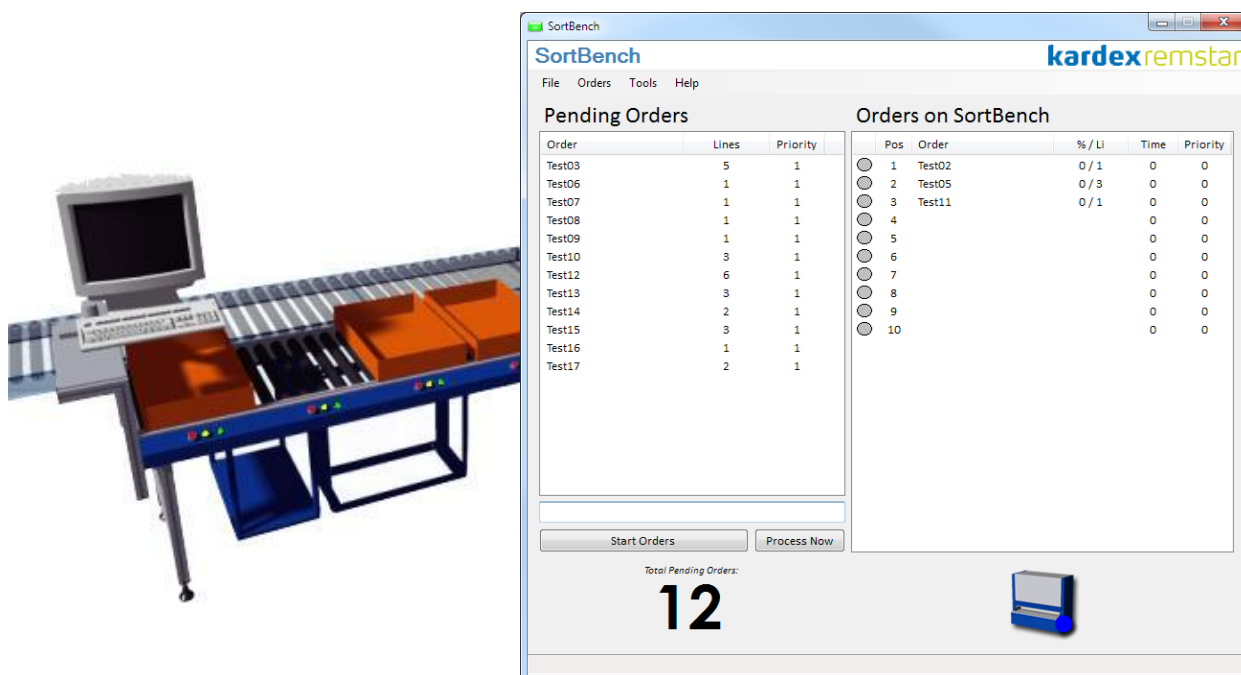
SortBench™ is Kardex's proven application for multi-order picking and order consolidation from your Vertical Storage System. SortBench™ is a 32-bit .net Framework 4 application and supersedes all previous SBCx, CARSERV and SortBench™ 32 applications, providing seamless integration with our Windows based Kardex Vertical Storage System (VSS) inventory manager **KARMAN™**.

SortBench™ offers a paradigm change in the handling of orders to both single and multi-machine systems. Orders are presented directly to the SortBench™ for operator selection using keystroke entry or barcode selection. SortBench™ will support multiple machines and will operate in cascaded systems, providing measurable benefits in improved process flow.

SortBench™ facilitates the picking of multiple orders from your VSS and can also be used in a multi Carousel or Shuttle environment where your orders must be satisfied from more than one Vertical Storage Unit (VSU). SortBench™ communicates with KARMAN™ using TCP/IP network protocol.

Picking multiple orders with the SortBench™ is the most efficient way to use the VSS. The Carousel or Lift provides a pick to light system at the machine aperture while the SortBench™ provides a place to light system, minimising the opportunity for operator error when handling orders. When picking multiple orders, all orders will be retrieved during one cycle of the VSU.

The following picture shows the SortBench™ active window with a ten (10) station configuration. All stations are empty and are ready for orders (LIST files) to be assigned. Typically, a SortBench will have ten (10) stations. It is also possible to have twenty (20) stations in a single or dual tier configuration.



The main features of the SortBench™ application are:

- Support for up to four (4) VSUs
- Support for cascaded SortBench groups in a multi VSU configuration
- The SortBench becomes the central point of the VSS for order handling
- Standard group picking where a group of up to ten (10) [or max. no. of stations on bench] orders can be processed simultaneously.
- Continuous picking where new orders can be inducted on demand or automatically to the bench as other orders are completed
- Interruption / Resumption of orders on the bench for picking of single parts or additional urgent orders
- Orders are prioritised either by the HOST system (via the list file) or by the SortBench™ application.
- Both standard KARMAN™ flat file format and XML based files supported.

1.2 Definitions

In this document the following terms are used:

- *SORTBENCH* refers to the physical multi-station bench, station controller and indicator array.
- *SortBench™* refers to Kardex's proprietary software application that is installed on the system PC.
- *KARMAN™* refers to Kardex's proprietary VSU inventory application that is used in conjunction with *SortBench™*
- *RackMAN™* refers to Kardex's proprietary static shelving / racking inventory application that is used in conjunction with *SortBench™* and *KARMAN™*.

All Kardex applications are part of our Kardex Inventory System (KardexIS) suite.

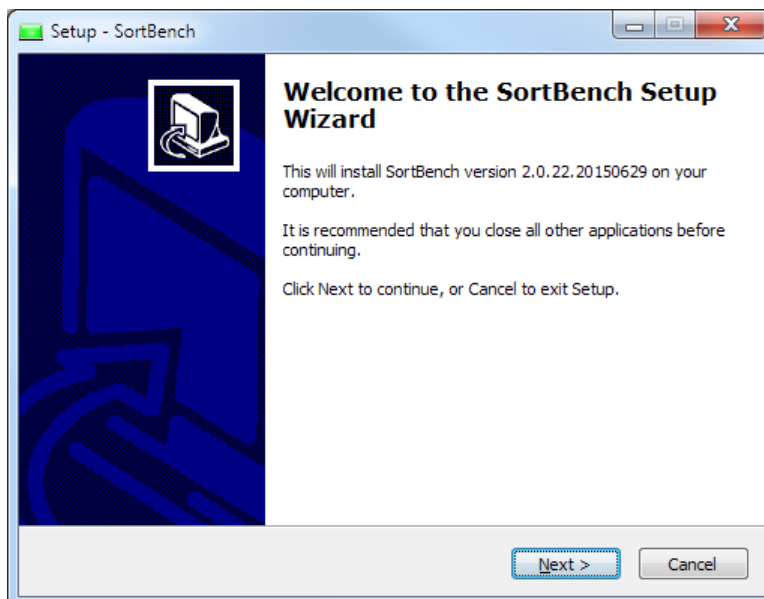
2 Installation

2.1 Run Setup Program

SortBench™ is generally delivered on CD. It has an installation program called 'SortBench Setup.exe' located under the ..\SortBench sub directory. Run this program by double clicking on the ICON with the mouse or by pressing **Enter** on the highlighted ICON.

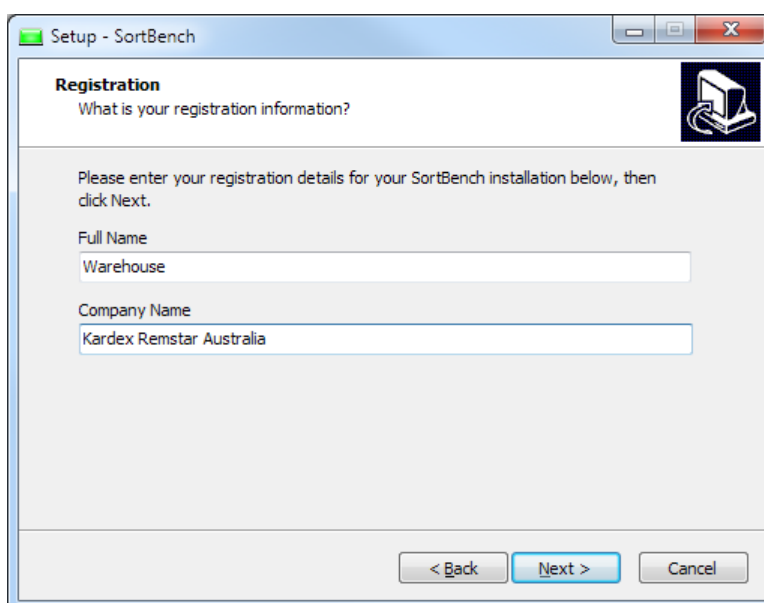
First the setup program displays the Welcome screen and waits for confirmation to begin the installation process.

You can confirm by pressing **Enter** when the Next button is selected or pressing **Alt & N** for Next.



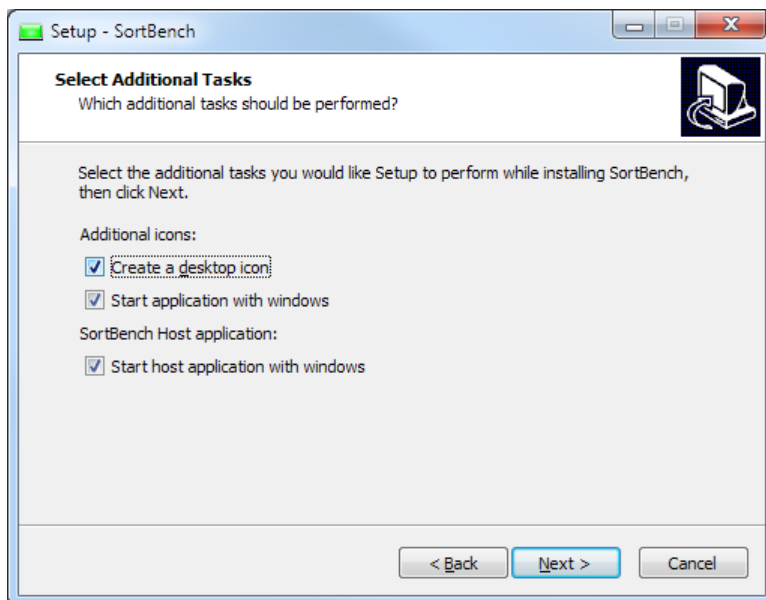
The Registration Information screen will then appear. Enter your Full Name and Company Name to continue.

Use the **Tab** key to move the cursor from one field to another. You can confirm by pressing **Enter** on the Next button or pressing **Alt & N** for Next.



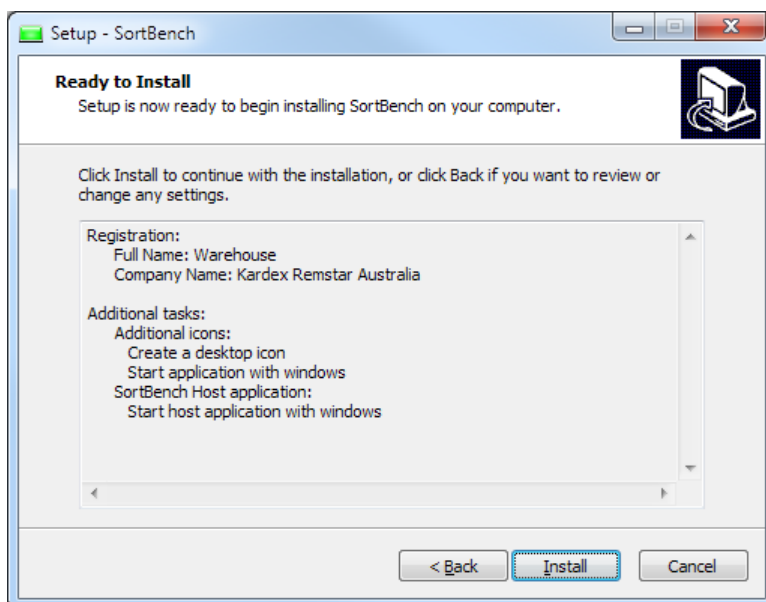
The Additional Tasks window will then be displayed. Select the options you wish to enable. The SortBench™ Host application is used to facilitate communication to the SORTBENCH hardware.

Use the **Tab** key to move the cursor from one option to another and the **Space** bar will enable or disable an option. You can confirm by pressing **Enter** on the Next button or pressing **Alt & N** for Next.



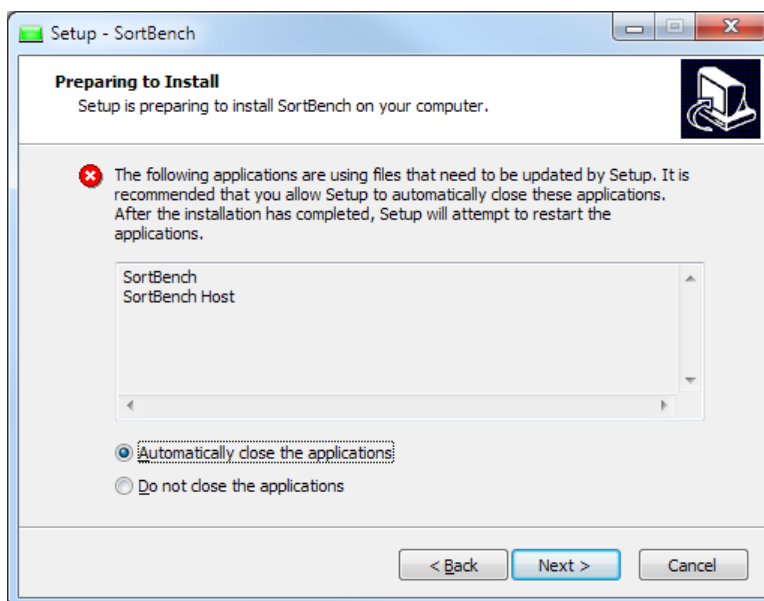
The SortBench™ software is now ready to install and will display your configured settings you have selected. Check your configuration and go back if you need change any settings.

You can confirm by pressing **Enter** when the Install button is selected or pressing **Alt & I** for Install.



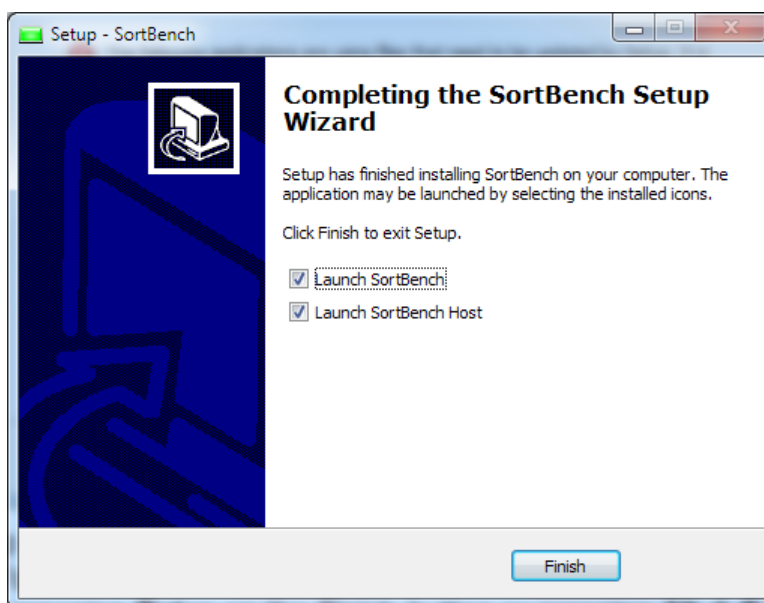
If you are upgrading your version of SortBench™, if you have left the current version running, the following screen will be displayed to close the applications automatically, or you can close them yourself manually.

You can confirm by pressing **Enter** on the Next button or pressing **Alt & N** for Next.



When the setup program has been completed, the Completing Installation screen will be displayed. You can start the SortBench™ and/or the SortBench™ Host application

Use the **Tab** key to move the cursor from one option to another and the **Space** bar will enable or disable an option. You can confirm by pressing **Enter** on the Finish button or pressing **Alt & F** for Finished.



You are now ready to set up your SortBench™ application. Please refer to Section 3.

2.2 Upgrade to SortBench™

If you are upgrading to SortBench™ from CARSVR or SBCx, you should remove any files and shortcuts associated with both these applications, as they are no longer needed. Search your hard drive for SBC*. * or CARSVR*. * and delete any files that you find.

If you are upgrading to SortBench™ from SortBench™ 32, to avoid any conflict you should use the Add/Remove Program feature of Windows to uninstall the SortBench™ 32 application before or after installation.

SortBench™ is a completely separate application from CARSVR, SBCx and SortBench™ 32.

SortBench™ v2.0 will only function with KARMAN™, KARMANlite™ or wCARMAN™ and its derivatives with versions later than January 2015.

3 Set up

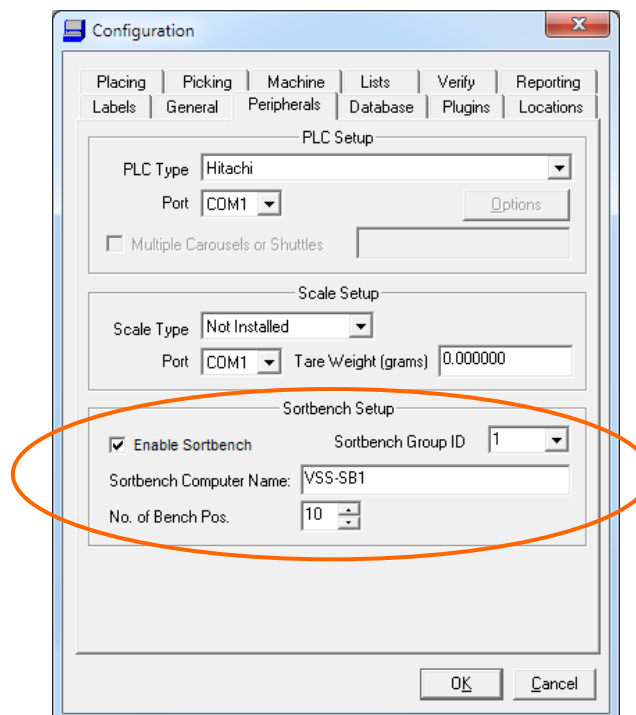
3.1 Configuration

SortBench™ uses TCP/IP to communicate with KARMAN™. You will need to install this protocol even if you are running both applications on the same PC. If you are unsure of how to set up your network configuration, please contact your network administrator.

NOTE: *If you are uncertain about the security of your network and the devices on it, Kardex recommends that the VSS is implemented in a standalone network configuration with a connection to your LAN via a 2nd NIC in the SortBench PC.*

NOTE: *A point-to-point connection should be set up from the SortBench PC to the HOST system. The TCP/IP address range to use in a standalone network (based on the Home Network standard) is: 192.168.0.x, where x can be any number between 0 and 255*

KARMAN™ identifies the SortBench™ application by the PC Network Identification Computer Name. The SortBench™ PC computer name needs to be added to the SortBench™ Setup on the Peripherals tab, under Configuration in KARMAN™.



Kardex sets up the SortBench PC with default configuration settings as follows:

<i>Parameter</i>	<i>Default</i>
Computer Name	VSS-SBn where 'n' is the SORTBENCH group ID
Workgroup	Warehouse
Computer Description	VSS SortBench PC

These settings are found on the 'Computer Name' tab under System Properties on your PC.

Once your network set up is completed, you should start up SortBench™ and then start up KARMAN™. Set up your SortBench™ parameters in KARMAN™ and then restart the application.

If the two applications are not communicating, the machine will be indicated on the main SortBench™ form as shown below:

Connected

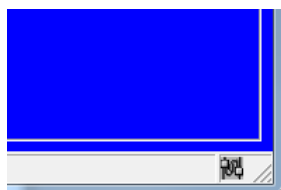


Disconnected

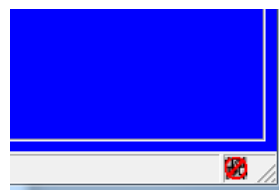


KARMAN™ also has an ICON in the bottom right hand corner of the main form to indicate if SortBench™ communication is active. The ICONS have the following states:

Connected



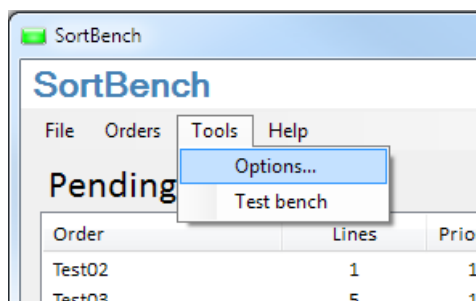
Disconnected



If KARMAN™ does not display active communication with the SortBench™, you should ensure the SortBench™ application is running and then shutdown KARMAN™ and restart it.

3.2 Options

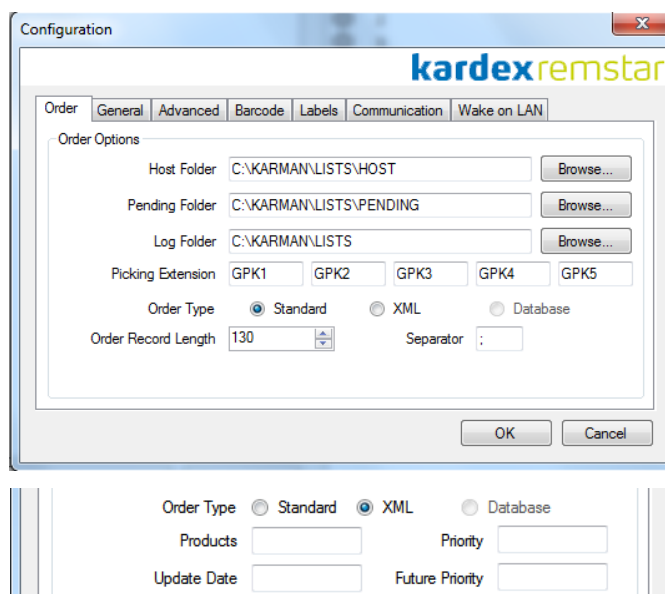
SortBench™ configuration options are available from the Tools Menu on the main form.



Click on Options or use the key combination **Alt & O** to open the form.

There are four tabs under the Options form. The parameters on each tab are described below.

3.2.1 Options / Order



The following are the settings that may need to be set up for list handling.

Parameter	Default Value	Description
Host Folder	C:\KARMAN\Lists\Host	This folder is used to deposit the lists for processing by each instance of KARMAN™. KARMAN™ must have the correct path statement set up under its List configuration.
Pending Order Folder	C:\KARMAN\Lists\Pending	This folder is where the HOST system should deposit files. The files in this folder will be visible in the Pending Order window.
Log Folder	C:\KARMAN\Lists	Folder where all error and communication logs are stored.
Picking Extension	GPK1, GPK2, GPK3, GPK4, GPK5	This is the file extension required for Pick files. SortBench will only process files with this extension.
Order Type	Standard	This is the type of files that are being used to process through SortBench and KARMAN. Standard are KARMAN default files, XML require the Advanced Lists Plugin for KARMAN and Database will allow import from another database system (future).
Order Record Length	130	For Standard files, total number of characters in a single line in the list file. Obtain this number from the KARMAN List File configuration.
Separator	; (semi-colon)	For Standard files, the separator between subsequent columns in a file. This is used to extract field data from the first line of the file.
Products	<BLANK>	For XML files, the XML tag used to hold Part or Product information.
Priority	<BLANK>	For XML files, used to hold Priority number of this List.
Update Date	<BLANK>	For XML files, used to hold the Date to increase the Priority.
Future Priority	<BLANK>	For XML files, used to hold the increased Priority once the Update Date is reached.

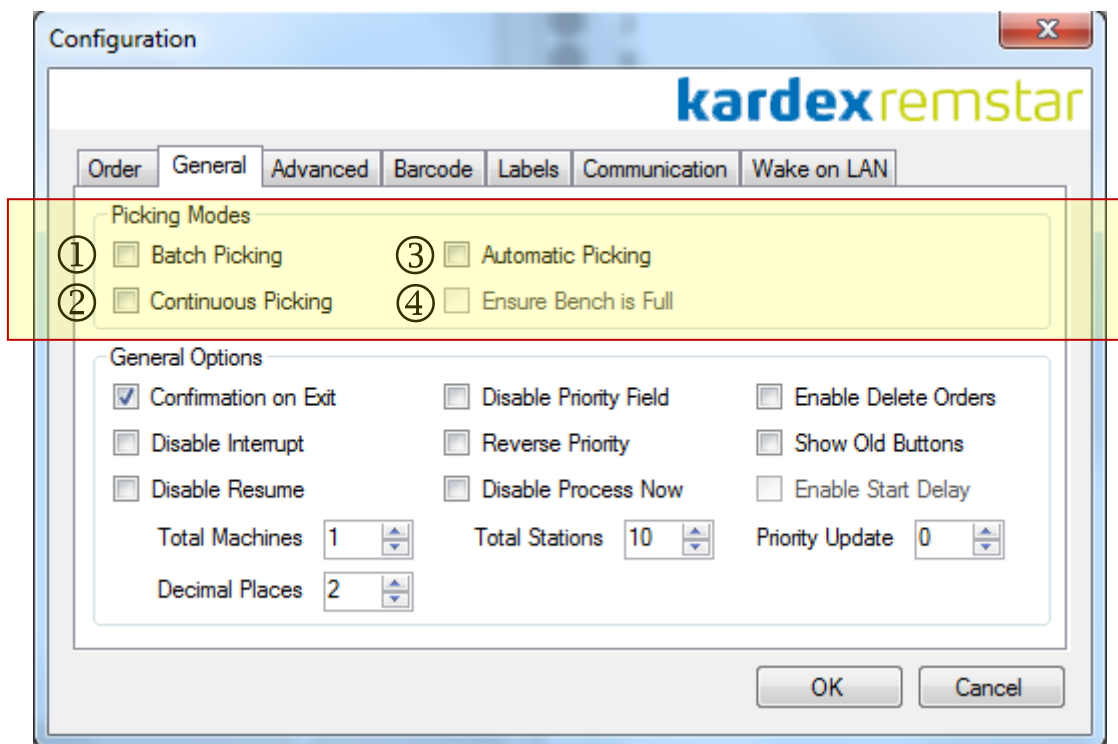
In a multi machine configuration, the system would be configured as described above. Each instance of KARMAN™ i.e. each VSU, would need to be referred back to the SORTBENCH PC for access to Pick List files. Kardex recommends the use of discrete device paths rather than drive mappings.

If you do not know how to set up the correct paths, please contact your network administrator.

3.2.2 Options / General

3.2.2.1 Picking Modes

SortBench™ in combination with KARMAN™ offers a number of picking modes. Each mode is described below.



① Batch Picking

This mode batches parts into a single pick from KARMAN™, but separates the placing into separate totes on the SortBench™. The SortBench will display the order/station quantity using the numeric indicators at the station. The SortBench application will also show the station quantity on the main form.

This option can be switched ON or OFF by pressing the **Spacebar**.

Value	Description
OFF (Default)	Takes no effect.
ON	<p>When this option is set, items picked from the VSUs will be batched together. KARMAN™ will pick the total requirement for the item which is then distributed by the operator to the necessary orders on the SortBench.</p> <p>Where there is commonality amongst orders, this method can save time whereby the operator does not pick each discrete order quantity.</p>

② Continuous Picking

This mode enables the induction of new lists on to the bench as a list is completed.

This option can be switched ON or OFF by pressing the **Spacebar**.

Value	Description
OFF (Default)	Lists will be handled in a group i.e. all lists will be completed at the same time. All RESET lamps will flash to indicate the group is completed. The RESET lamp(s) must be pressed before the next group can be loaded onto the SORTBENCH.
ON	When a list is complete, the RESET lamp will flash. After pressing the RESET pushbutton, it is possible to induct a new list onto the SORTBENCH.

③ Automatic Picking

This mode enables automatic processing of lists allowing for continuous processing of orders.

This option can be switched ON or OFF by pressing the **Spacebar**.

Value	Description
OFF (Default)	Takes no effect.
ON	When this option is set orders will be inducted into the SortBench Orders window automatically.

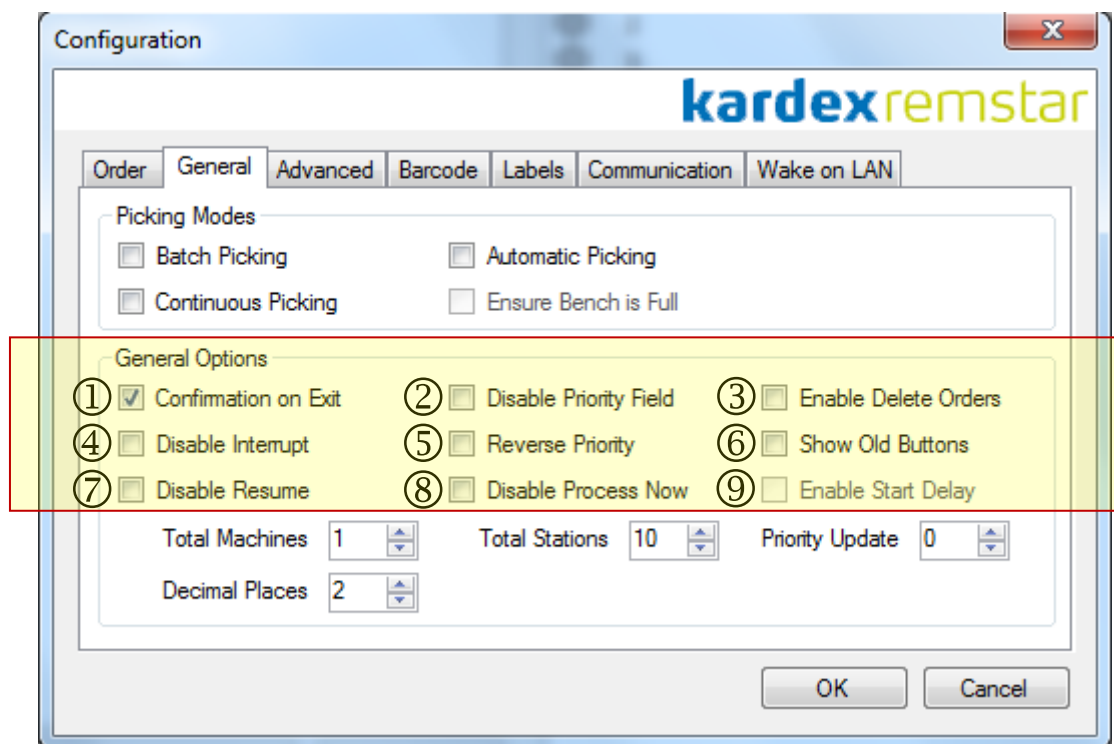
④ Ensure Bench is Full

This option determines whether the orders start before the SORTBENCH is full of orders or not.

This option can be switch ON or OFF by pressing the **Spacebar**.

Value	Description
OFF (Default)	Takes no effect.
ON	For use with automatic picking. A new group of orders will not be processed until all positions on the SortBench are full.

3.2.2.2 General Options / Check Boxes



① Confirmation on Exit

This option determines whether the operator is asked to confirm shutdown of the SortBench™ application when it is shut down using normal means.

This option can be switched ON or OFF by pressing the **Spacebar**.

Value	Description
OFF <i>Default</i>	Operator is not asked to confirm shutdown of the SortBench™ application when <u>E</u> xit is selected from the <u>F</u> ile menu
ON	Operator is asked to confirm shutdown of the SortBench™ application when <u>E</u> xit is selected from the <u>F</u> ile menu

② Disable Priority Field

This option can be switched ON or OFF by pressing the **Spacebar**.

Value	Description
OFF (<i>Default</i>)	Priority fields in both the 'Pending Orders' and 'Orders on SortBench' windows are active.
ON	Disables the priority fields in both the Pending window and the Orders on SortBench windows. This is for people who do not wish to use priority settings within SortBench.

③ Enable Delete Orders

The Delete key can be used to delete items from the Pending Orders window.

This option can be switched ON or OFF by pressing the **Spacebar**.

Value	Description
OFF (<i>Default</i>)	Operator cannot delete list files from the 'Pending Orders' window.
ON	Operator can delete files from the 'Pending Orders' window.

④ Disable Interrupt

The 'Interrupt' button is used to interrupt the current group of pick lists.

This option can be switched ON or OFF by pressing the **Spacebar**.

Value	Description
OFF (<i>Default</i>)	Enables the <u>I</u> nterrupt button located to the bottom right side of the main form allowing the operator to interrupt the current group of pick lists at any time.
ON	Disables the <u>I</u> nterrupt button. Text 'Interrupt' is permanently greyed out.

⑤ Reverse Priority

Change the way priority sorts the Pending Orders window.

This option can be switched ON or OFF by pressing the **Spacebar**.

Value	Description
OFF (<i>Default</i>)	The priorities of orders are sorted from low to high. With large numbers being high priority and small numbers being low priority.
ON	The priorities of orders are sorted from low to high. With large numbers being low priority and small numbers being high priority.

⑥ Show Old Buttons

The SortBench software has been redesigned to minimise accidental button pressing, but the old buttons can be re-enabled if you so desire.

This option can be switched ON or OFF by pressing the **Spacebar**.

<i>Value</i>	<i>Description</i>
OFF (Default)	The buttons for 'Set Priority', 'Resume/Interrupt' and 'Reset Bench' are not displayed on the main form. They can be accessed from the 'Orders' menu.
ON	The buttons for 'Set Priority', 'Resume/Interrupt' and 'Reset Bench' are displayed on the main form under the 'Orders on SortBench' window.

⑦ Disable Resume

The 'Resume' button is used to restart a group of interrupted pick lists.

This option can be switched ON or OFF by pressing the **Spacebar**.

<i>Value</i>	<i>Description</i>
OFF (Default)	Enables the Resume button located to the bottom right hand side of the main form allowing the operator to resume interrupted lists if required.
ON	Disables the Resume button. Text 'Resume' is permanently greyed out.

⑧ Disable Process Now

The 'Process Now' button is used to fill the Orders on SortBench and automatically start the pick lists.

This option can be switched ON or OFF by pressing the **Spacebar**.

<i>Value</i>	<i>Description</i>
OFF (Default)	Displays the 'Process Now' button located next to the 'Start Orders' button below the 'Pending Orders' window.
ON	Hides the 'Process Now' button and extends the 'Start Orders' button width to cover where the button would normally be displayed.

⑨ Enable Start Delay

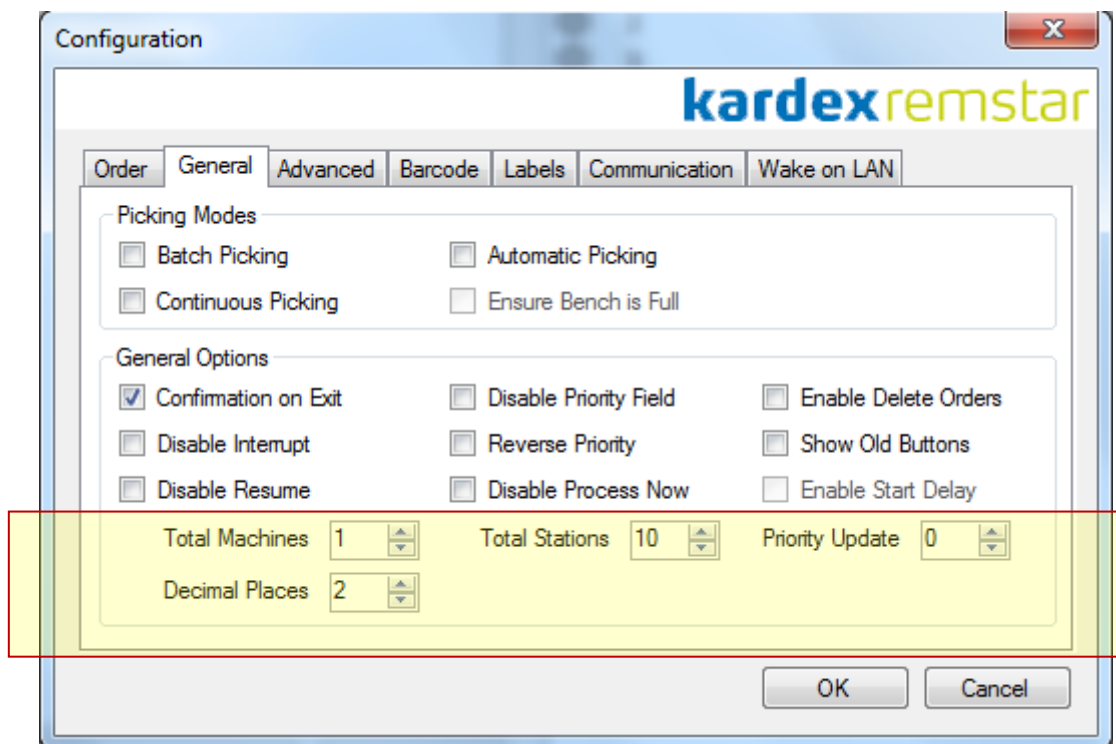
After adding orders to the SortBench there will be a delay of 2 seconds before the orders will start automatically.

This option can be switched ON or OFF by pressing the **Spacebar**.

<i>Value</i>	<i>Description</i>
OFF (Default)	Disables the automatic starting of orders once they have been added to the orders on SortBench.
ON	Enables the automatic start system.

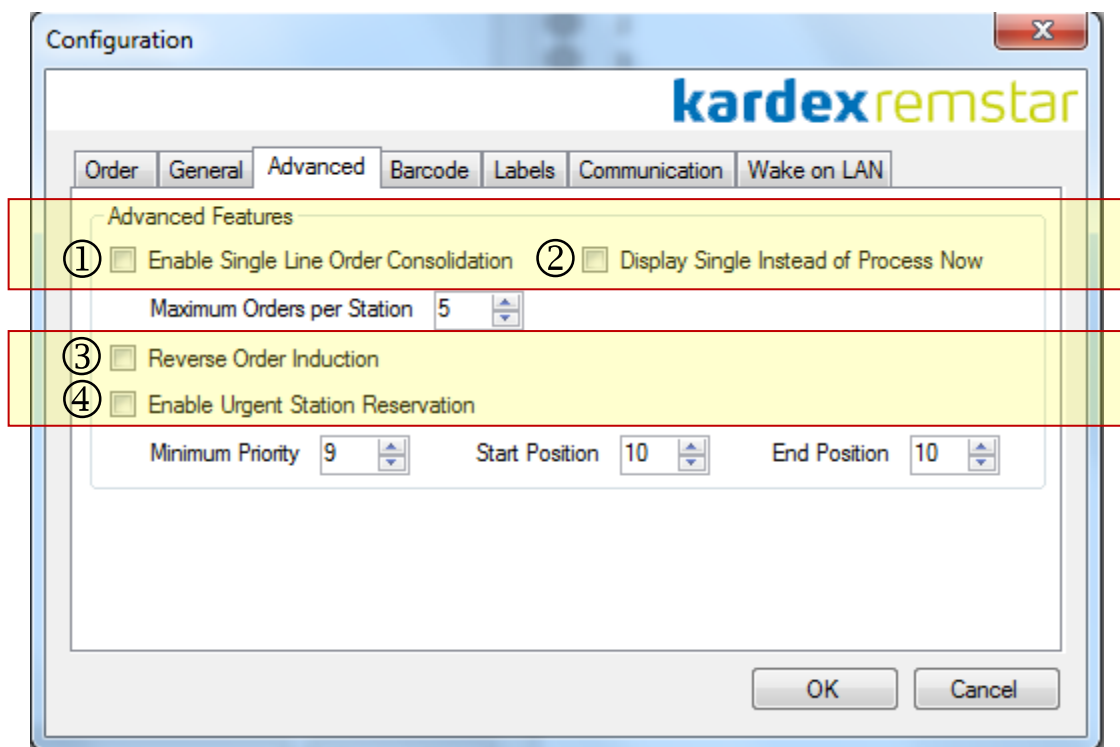
3.2.2.3 General Options / Other

The following parameters are used to configure the SortBench for machines, stations and list handling.



Parameter	Default Value	Description
Total Machines	1	The total amount of machines that this SortBench is controlling. Valid range is from 1 to 4.
Total Stations	10	The total amount of stations that this SortBench is setup to handle. Valid range is from 1 to 20.
Priority Update	0	This is the time in minutes that an order is on the SortBench before it will automatically increase in priority. Valid range is from 0 to 60 minutes. A value of 0 disables the functionality.
Decimal Places	2	This is the amount of decimal places that the quantity field supports. Valid range is from 0 to 3.

3.2.3 Options / Advanced



① Enable Single Line Order Consolidation

Consolidates multiple single line orders into one station when enabled.

Value	Description
OFF(Default)	Disables consolidation of multiple single line orders
ON	Allows consolidate multiple single line orders into one station

② Display Single Instead of Process Now

Changes Process Now function with single lines when enabled.

Value	Description
OFF(Default)	The Process Now function is Active
ON	The Single Lines Function is Active

③ Reverse Order Induction

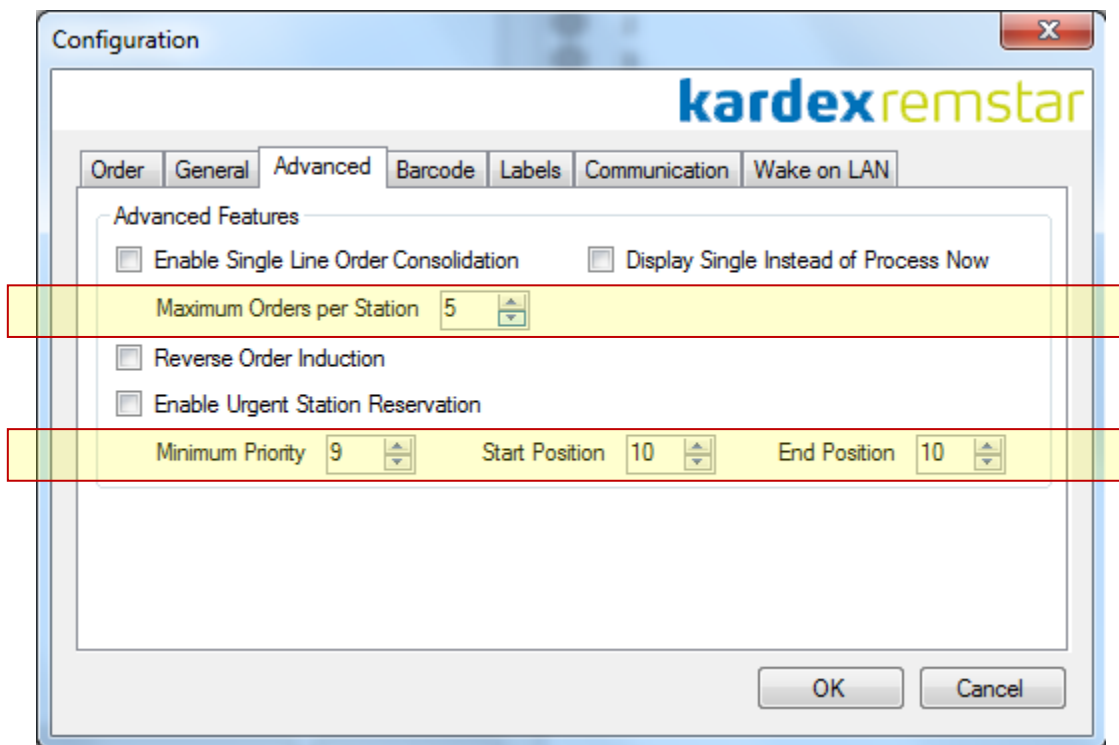
Reverses order induction from 1-10 to 10-1 when enabled.

Value	Description
OFF(Default)	Order induction is from 1-10
ON	Order induction is 10-1

④ Enable Urgent Station Reservation

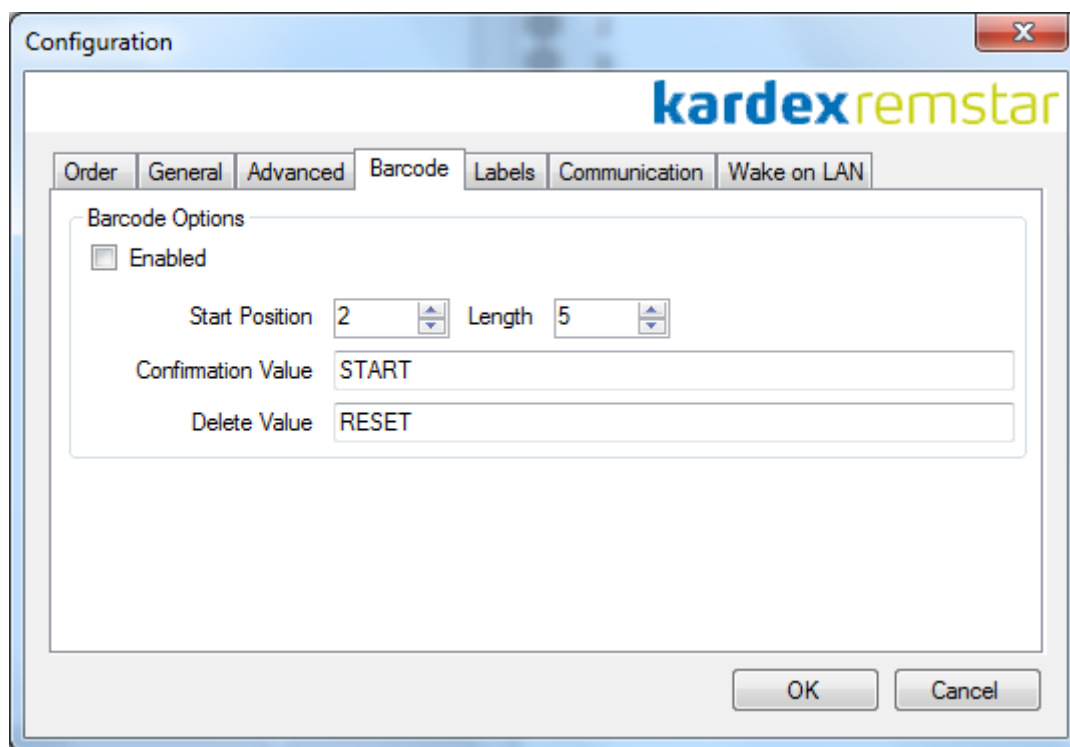
Reserves a station for urgent orders when enabled.

Value	Description
OFF(Default)	Will not reserve a station for Urgent orders
ON	Will Reserve a station for Urgent orders



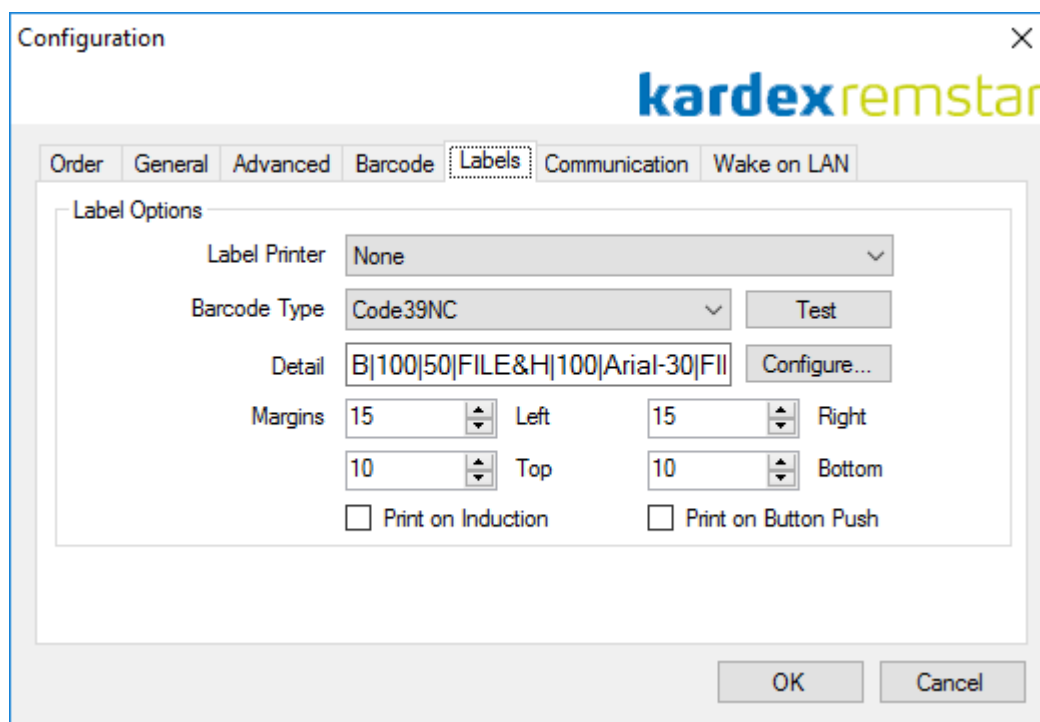
Parameter	Default Value	Description
Maximum Orders per Station	5	The Maximum amount of orders that can be processed per station
Minimum Priority	9	Minimum Priority you can set to an urgent order
Start Position	10	The starting position of an urgent order or where an urgent order is processed
End Position	10	The Finishing position of an urgent order or where an urgent order is processed

3.2.4 Options / Barcode



The following are the settings for barcodes including their default values. The barcodes <i>Parameter</i>	<i>Default Value</i>	<i>Description</i>
Enabled	Off	Enables the barcode entry field on the main SortBench form.
Start Position	2	The start position of the order name within the barcode.
Length	5	The length of the order name contained in the barcode.
Confirmation Value	START	The barcode value that is used to start the orders once scanned.
Delete Value	RESET	The barcode value that is used to remove the previous order that was inducted.

3.2.5 Options / Labels



Parameter	Default Value	Description
Label Printer	None	The printer to be used for printing the labels for each of the orders.
Barcode Type	Code39NC	The barcode type to be displayed on the label.
Configure.....	N/A	This button will display a new window that will allow the customisation of the labels printed.
Detail	B 100 50 FILE&H 100 Arial-30 FILE&H 100 Arial-36 STATION STATION	The detail to be printed on the label. See below for details.
Margins <ul style="list-style-type: none"> - Left - Right - Top - Bottom 	Values <ul style="list-style-type: none"> - 15 - 15 - 10 - 10 	This is the margins of the label to ensure that label is inside printable area of the printer.
Print on Induction	Off	Print a label on induction of the order onto the SortBench.
Print on Button Push	Off	Print a new label each time the station button is pressed. This will also increase the tote count.

SortBench uses a text based label formatting system. Each field or section is separated by the '&' symbol. Each field has multiple columns separated by the '|' symbol.

Each field is formatted in the following way:

{Type}|{Section}

There is further detail of what these mean and how to format them below.

There are two types of fields that can be printed on the label format:

Type	Description
Human Readable	Basic printed text. It can be formatted with any font installed on your computer including font, size and alignment.
Barcode	A printed scannable image that holds the specified data. There are 13 different barcode formats that SortBench supports, but only one type can be used on a label at any time. See 'Barcode Type' above.

A 'Human Readable' field has the following format and requires the following detail:

H|{Width}|{Font}-{Size}-{Alignment}|{Section}

- Width – a maximum percentage of the width that this field takes up
- Font – the font to use for this field, Arial is a good option
- Size – a numerical value for the size of the font
- Alignment – optional – either C for centre (default), L for left or R for right
- Section – details of the text to display see below for further details

A 'Barcode' field has the following format and requires the following detail:

B|{Width}|{Height}-{Alignment}|{Section}

- Width – a maximum percentage of the width that this field takes up
- Height – the height of the barcode to be printed
- Alignment – optional – either C for centre (default), L for left or R for right
- Section – details of the text to display see below for further details.

There are six types of sections that can be printed on the label format:

Section	Description
Filename	The filename of the order that you wish to display.
Column	A field or column value from the first line in the order that you would like to display. This is usually custom data you have included in your file and allows printing of information like customer names or extra order detail.
Date / Time	This prints the date and/or time that the label was printed.
Text	This is any specific text you would like to be printed on the label.
Station Number	This prints the station number on which this order has been inducted.
Count	This is used to facilitate the ability to print multiple labels for a single order. This is incremented and updated to KARMAN every time the station reset button is pressed while processing an order.

A 'Filename' field has the following format and requires the following detail:

FILE|{Prefix}
FILE|SPLIT|{Character}|{Field}|{Prefix}
FILE|RANGE|{Start}|{Length}|{Prefix}

- Prefix – optional – text to add before the rest of the detail
- Character – the character to split the filename up with
- Field – the field index from the split text (zero is the first field)
- Start – the character to start at (zero is from the start, one skips the first etc.)
- Length – the length of the text to display

A 'Column' field has the following format and requires the following detail:

COLUMN|{Number}|{Prefix}
COLUMN|{Number}|SPLIT|{Character}|{Field}|{Prefix}
COLUMN|{Number}|RANGE|{Start}|{Length}|{Prefix}

- Number – the specific field number that you wish to print
- Prefix – optional – text to add before the rest of the detail
- Character – the character to split the filename up with
- Field – the field index from the split text (zero is the first field)
- Start – the character to start at (zero is from the start, one skips the first etc.)
- Length – the length of the text to display

A 'Date / Time' field has the following format:

DATE|{Prefix}
TIME|{Prefix}
DATETIME|{Prefix}

- Prefix – optional – text to add before the rest of the detail
- DATE prints the current date in dd-mm-yyyy format
- TIME prints the current time in hh:mm:ss a/p format
- DATETIME prints both in one line

A 'Text' field has the following format and requires the following detail:

TEXT|{Value}|{Prefix}

- Value – the specific text you wish to display
- Prefix – optional – text to add before the rest of the detail

A 'Station Number' field has the following format and requires the following detail:

STATION|{Prefix}

- Prefix – optional – text to add before the rest of the detail

A 'Count' field has the following format and requires the following detail:

COUNT|{Prefix}

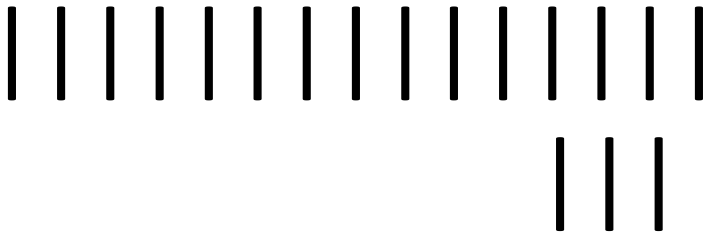
- Prefix – optional – text to add before the rest of the detail

Examples

Some simple examples of detail for a label format and how they will look when printed from the SortBench application.


The following format will print human readable and barcode readable versions of the filename and the station number.

```
H|75|Arial-12-L|TEXT|Order Number&H|25|Arial-12-R|TEXT|Station&H|75|Arial-24-L|FILE&H|25|Arial-24-R|STATION&B|75|40-L|FILE&B|75|40-L|STATION
```

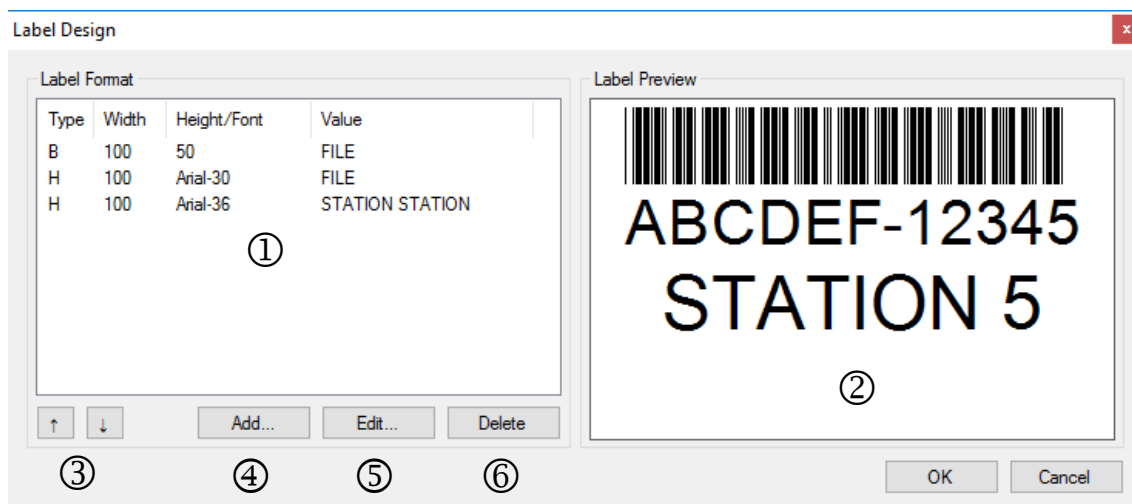
Order Number	Station
FILENAME	1
	

The following format will print human readable versions of the filename, column 20 from the file, the carton number, the tote count and the date time. It will also print column 20 and tote count as barcoded fields.

```
H|100|Arial-12-L|TEXT|Order&H|100|Arial-24-L|FILE&H|75|Arial-12-L|TEXT|Tote&H|25|Arial-12-R|TEXT|Carton&H|75|Arial-24-L|COLUMN|20&H|25|Arial-24-R|COUNT&B|75|50-L|COLUMN|20&B|25|50-R|COUNT&H|100|Arial-12-L|DATETIME
```

Order		Carton
FILENAME		
Tote		
CUSTOM20		1
		

3.2.5.1 Configuration



① Label Format

Shows the current formats that are on the label that is being printed.

② Label preview

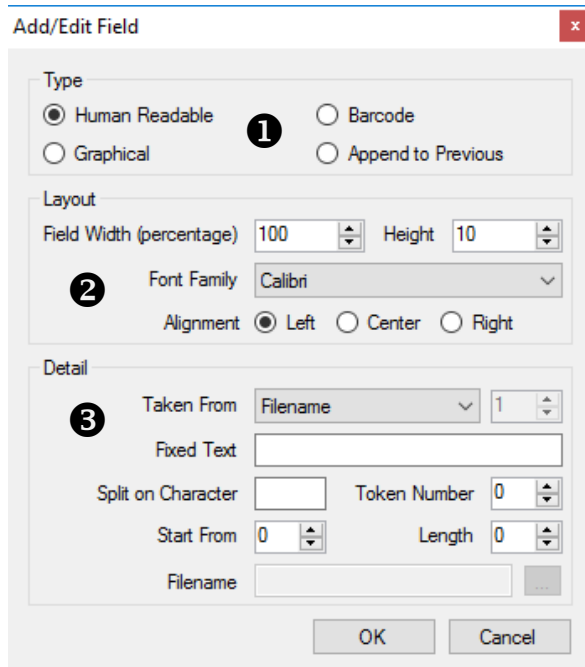
Shows the current label that is printed

③ Movement Arrows

Will allow you to move a format that is selected up and down the list as desired.

④ Add... ⑤ Edit...

You can add a new format to the current barcode.



① Type

Select what the desired type of the new format will be.


- Human Readable – Text.
- Barcode – Scannable barcode.
- Graphical – Insert Images.
- Append to Previous – Will disable the layout section and will copy the layout of the previous format.

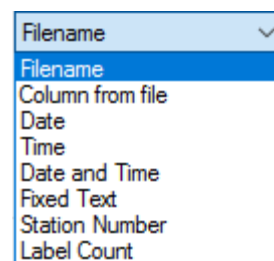
② Layout

Configure the layout of the format you desire with sizing font and alignment

- Field Width (percentage) – Is the percentage of which the format will take up in regards to the current margin settings.
- Height – The font size or height of the barcode.
- Font Family – The type of font that is to be used for the format.
- Alignment – Select where the format will be placed on the label.

③ Detail

- Taken From – Select from the drop box
 - Filename – Order filename.
 - Column from File – Will use data from the selected column in the order form being used. Then displays as your desired type (i.e. Barcode or text). Select the desired column in the numeric field next to the 'Taken From' drop box
 - Date – Date of the label printing.
 - Time – Time of the label printing.
 - Date and Time – Date and Time of label printing.
 - Fixed Text – Normal Text.
 - Station Number – Station on the SortBench.
 - Label Count – Label number.
- Fixed Text – A normal text field that will be appended before the detail selected in the 'Taken From' section.
- Split on Character – Splits text from a typed character.
- Token Number – Used with 'Split on Character' to identify which token to show on label.
- Start From – Choose which character the text starts from in the format.
- Length – The maximum amount of characters in the format.
- Filename – Use the () browse button to find the image and insert it.



⑤ Delete

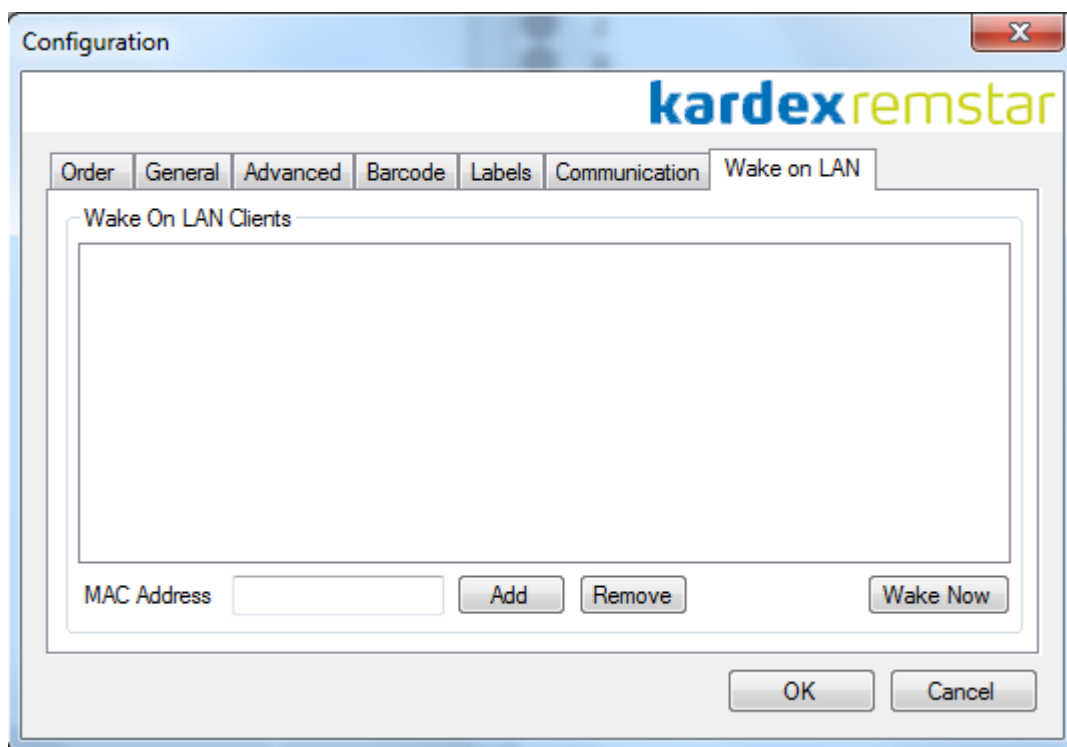
Allows you to delete the currently selected label format

3.2.6 Options / Communication

The screenshot shows the 'Configuration' dialog box with the 'Communication' tab selected. The 'kardexremstar' logo is at the top right. The 'Communication Options' section contains 'Host IP Address' (127 . 0 . 0 . 1) and 'Sortbench Group' (1). The 'Machine Options' section contains five 'Machine ID' spinners (1-5), five 'Colours' dropdowns (Blue, Green, Purple, Yellow, Light Blu), and a 'Reset Colour' dropdown (Red). 'OK' and 'Cancel' buttons are at the bottom right.

Parameter	Default Value	Description
Host IP Address	127.0.0.1 (local PC)	The IP address of the PC where the SortBench Host software is installed
SortBench Group	1	SortBench Group number must be set to the same number as has been set up in the SortBench setup in KARMAN software.
Machine ID	1, 2, 3, 4, 5	Machine ID
Colours	Blue, Green, Purple, Yellow, Light Blu	Available indicator colours
Reset Colour	Red	

3.2.7 Options / Wake on LAN



SortBench has the ability to start up other computers by using the wake on LAN system. When the SortBench application starts, all MAC Addresses in the client list will be sent the WoL 'magic packet'.

Enter a valid MAC Address in the format **##-##-##-##-##-##** into the field and click the 'Add' button. This will add it to the client list.

To remove, select a MAC address from the client list and click the 'Remove' button.

Finally, to test that the system is working, clicking the 'Wake Now' button will send the WoL 'magic packet' for each device in the client list. This will wake each of the intended devices.

To discover the MAC address on your computer:

1. Depending on your windows version:
 - Windows 10, 7 and Vista
 - Click Start
 - Type **cmd** and press enter
 - Windows 8
 - From the Start screen type **cmd** and press enter
 - Or
 - Move the mouse cursor to the very bottom-left corner of the screen and right-click or press Windows key + X
 - In the power user task menu, select Command Prompt
 - Windows XP, 2000 and NT
 - Click Start
 - Click Run
 - Type **cmd** and press enter
2. At the command prompt, type **ipconfig /all** and press enter
3. Look for the **Physical Address** of the adaptor, it will be similar to:
 - 12-34-56-78-90-AB

4 Getting Started

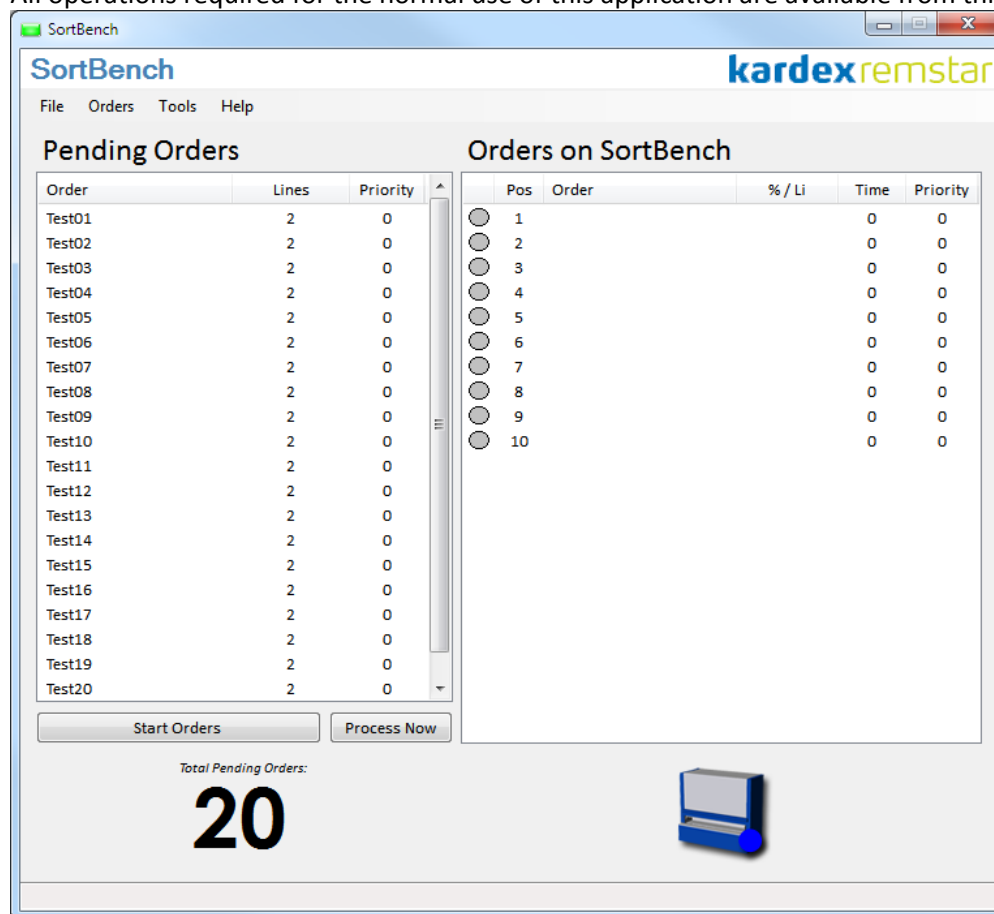
The SORTBENCH can be turned ON using the power switch on the side of the control box, which is suspended under the SORTBENCH table. This switch provides power to the SORTBENCH hardware, PC and any other peripherals used by the system.

SortBench™ automatically runs when Windows is started, however, it can be run from the following shortcuts:

C:\Windows\Desktop\	- For Easy Desktop Access
C:\Windows\Start Menu\	- For Easy Start Menu Access

SortBench™ has one main form, which is shown below.

All operations required for the normal use of this application are available from this form.



SortBench

File Orders Tools Help

Pending Orders

Order	Lines	Priority
Test01	2	0
Test02	2	0
Test03	2	0
Test04	2	0
Test05	2	0
Test06	2	0
Test07	2	0
Test08	2	0
Test09	2	0
Test10	2	0
Test11	2	0
Test12	2	0
Test13	2	0
Test14	2	0
Test15	2	0
Test16	2	0
Test17	2	0
Test18	2	0
Test19	2	0
Test20	2	0

Start Orders Process Now

Orders on SortBench

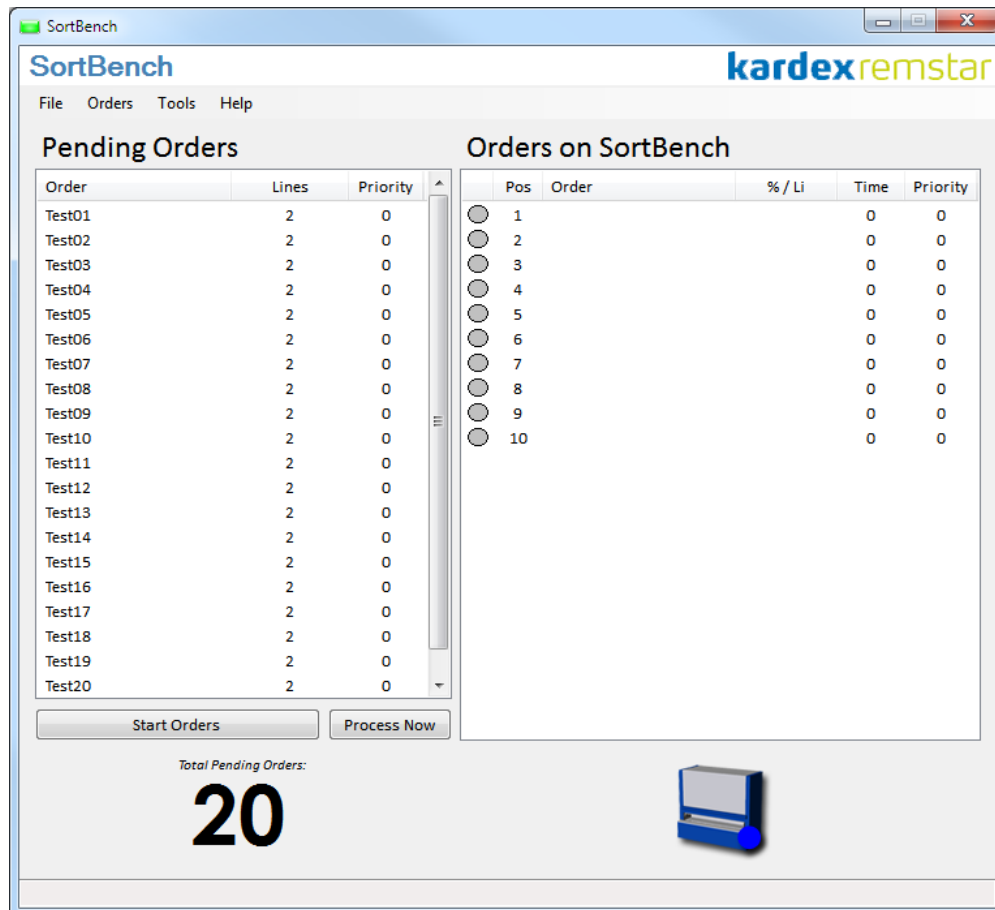
Pos	Order	% / Li	Time	Priority
1			0	0
2			0	0
3			0	0
4			0	0
5			0	0
6			0	0
7			0	0
8			0	0
9			0	0
10			0	0

Total Pending Orders: **20**

4.1 SortBench Functionality

All functions that are required for the normal operation of SortBench™ are available from the main form. The main form has two main sections:

- Pending Orders
- Orders on SortBench



There are also a series of buttons and fields that are available depending on your configuration of the SortBench application.

The default is shown in the main screen above, below are the differing optional buttons and fields:



i. General / Disable Process Now (section 3.2.2.2)



ii. General / Show Old Buttons (section 3.2.2.2)



iii. Barcode / Enabled (section 3.2.3)

4.1.1 Pending Orders

This window displays all orders that are waiting to be processed. The order name and priority will be displayed along with the number of lines for each VSU. The priority can be set as a value in the order file, which is determined by the HOST system.

① **Orders**

This is the name of the list file that is waiting to be processed. These lists are sent down from your HOST system. There should be one order (filename) corresponding to each pick slip. This filename should be the same as the identifier on your printed pick slip.

② **Lines**

This field displays the number of lines to process from each VSU for an order.

In the case of two or more VSUs, the Lines field may show as follows 2 / 3 / 1 where 2 is the number of lines from VSU1, 3 from VSU2 etc.

③ **Priority**

This is the priority of the order that has been set by the HOST system. SortBench uses two different systems to determine the priority of orders.

First for standard orders, a file naming convention is used:

<FILENAME>.<EXT>.<PRIORITY>

For XML orders, there are XML tags that can be set to contain the priority. See section 3.2.1 for configuration parameters.

The priority can be 'U' for urgent files or a numeric value and depending on the setting selected in 2.2.2.3 with the larger number or lower number being a higher priority.

④ **Barcode Entry**

This field is enabled from a configuration parameter on the Tools / Options / Barcode form for use with barcoded Pick Slips.

Scanning the Pick Slip anywhere on the main form, will look for a matching order in the 'Pending Orders' window. If the file is available for picking, the order will be moved to the 'Orders on SortBench' window.

You can also start typing characters into the Order Number entry field to limit which orders are displayed or to find a specific order on the 'Pending Orders' window.

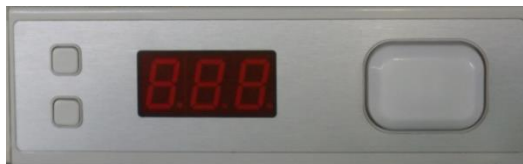
4.1.2 Orders on SortBench

This window displays information about the orders that are being processed on the SORTBENCH. The following information is given:

①

Lights

This field displays the expected status of the SORTBENCH. Each SORTBENCH station will flash a colour associated with a specific machine:



The colours can be configured to your specific environment, see section 3.2.5 for colour configuration.

It also allows you to use the SortBench application without any physical hardware. This would be useful in a multi-machine situation where you want to process orders simultaneously, but do not have the physical SORTBENCH to provide the order separation.

②

Pos

This field shows the SORTBENCH station number. This is a numerical value starting from 1 to the 'Total Stations' value set in section 3.2.2.3.

③

Order

This field shows the name of the active order which located in the noted SORTBENCH position.

④

% / LI

This field shows two pieces of information about the order. The first number is the percent completeness of the order and the second number is the total number of line items in the order. As the order progresses, the % completion will increase and the number of lines (outstanding) will decrease.

⑤

Time

This field shows the amount of time in seconds that the order has been on the SORTBENCH. This information can be relevant in 'Continuous Picking' mode where an order may sit on the bench for a lengthy period of time. If this is the case, raise the order priority to clear it from the SORTBENCH.

⑥

Priority

This is the priority that has been assigned to the order from the HOST system. The higher the priority, the quicker the order will be picked by the system. The operator can also adjust the priority by selecting the order in the 'Orders on SortBench' window after the group has been started, and clicking the 'Priority' button on the main form.

4.1.3 Command Buttons

Six command buttons are located in the bottom part of the main form. These buttons are used to control the induction of new orders into the *Orders on SortBench* window and the management of those orders while active.

① Start Orders

Once you have one or more orders in the 'Orders on SortBench' window, you can start KARMAN processing the files.

SortBench will transfer the files to the 'Host Folder' (see section 3.2.1) and then inform KARMAN to start processing them.

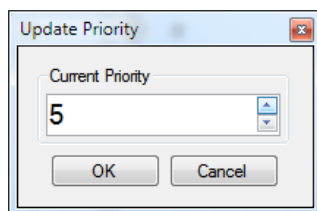
● Process Now

The 'Process Now' button will select enough orders to fill the SortBench and then start KARMAN processing them.

When selecting orders, it selects from the top until it either runs out of orders to process or fills the SortBench.

③ Set Priority

It is possible to change the priority of an order. The order priority can be changed by selecting the specific order in the 'Orders on SortBench' window and then press the 'Set Priority' button. The following window will be displayed:



④ Resume / Interrupt

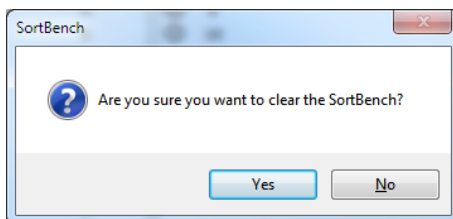
The 'Resume' or 'Interrupt' button will be displayed dependent on the state of the SortBench software.

When processing orders, it is possible to interrupt the current group of orders being processed. Orders may need to be interrupted to be able to pick a single item or to pick an urgent order.

When SortBench is idle, an interrupted group of lists can be resumed. Interrupted groups will be queued with the most recently interrupted group presented first.

⑤ Reset Bench

The 'Reset Bench' button will clear all orders from the 'Orders on SortBench' window. If this button is activated while a group of orders is still active in the 'Orders on SortBench' window, the following message will be displayed.



If you clear the orders before completion, KARMAN™ will continue to pick the balance of the orders but the bench lamps will **not** illuminate.

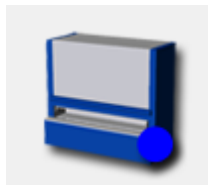
⑦ **Total Pending Orders**

This displays the total number of orders that are waiting to be picked from the system.

⑧ **Machine Status**

This section displays the current connection status of each machine that is controlled by this SortBench. The image for each machine shows the bench lamp colour associated with that particular machine and also the network status of KARMAN™.

Connected

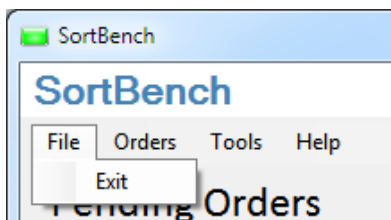


Disconnected

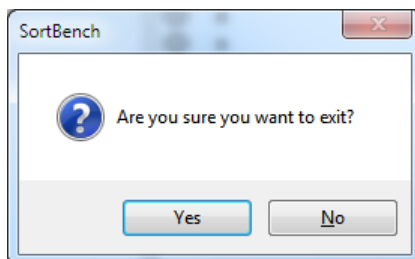


4.2 Closing SortBench

SortBench™ can be shut down from the File Menu. Press **Alt & F**, to select the File menu, followed by **E** for Exit. You will be returned to the Windows desktop.



If you have selected 'Confirm on exit' under Tools\Options menu, General Tab, the following screen will be displayed:



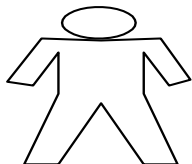
Press **Enter** on the keyboard or **Alt & Y** to acknowledge the message and close the application.

NOTE: *If you need to power the system down completely, you must follow the standard Windows shut-down procedure.*

5 SortBench™ Picking

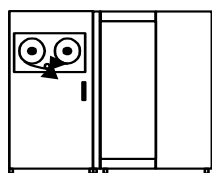
5.1 Manual Order Selection

STEP 1



- Clear the SORTBENCH stations of any tote boxes
- Press any flashing RESET lights on the SORTBENCH fascia.
- Check SortBench™ shows empty bench positions or <finished> orders. If necessary, activate Reset Bench to clear the bench positions.
- Prepare KARMAN™ by selecting the blue Main Menu screen.

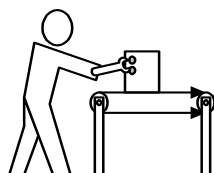
STEP 2



- Select the orders you require from the *Pending Orders* window.

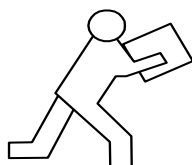
Refer to Section 6 for a description of all methods of inducing orders on to the SortBench™.

STEP 3



- Place Pick Slip inside tote box and position tote box to the SORTBENCH station shown in the *Orders on SortBench* window.
- Select Start Orders to initiate picking at the VSUs

STEP 4



- The VSUs will present the closest bin location and the KARMAN™ screen(s) will show the item and the quantity to be picked.
- Pick the item(s) from the bin. A bin light will indicate where the item is to be picked from in the VSU and the KARMAN™ screen will indicate the location in the bin.

STEP 5

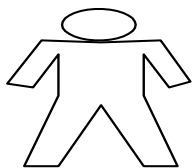


- Place picked items in the tote box where the station lamp is flashing on the SORTBENCH. The station lamps are colour coded for each VSU.

Repeat steps 4 & 5 until all items are picked from the VSUs. When the lists have been completed, a message will be displayed on the KARMAN™ screen. All station RESET lamps will begin to flash when the orders are finished.

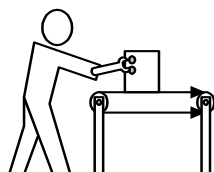
5.2 Barcode Order Selection

STEP 1



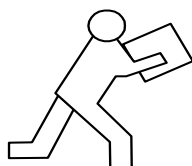
- Clear the SORTBENCH stations of any tote boxes
 - Press any flashing RESET lights on the SORTBENCH fascia.
 - Check SortBench™ shows empty bench positions or <finished> orders. If necessary, activate Reset Bench to clear the bench positions.
 - Prepare KARMAN™ by selecting the blue Main Menu screen.
-

STEP 2



- Place Pick Slip inside tote box and position tote box to the required SORTBENCH station.
 - Make sure cursor is in the Barcode Entry field
 - With the cordless scanner, scan the 1st pick slip. The RESET lamp on the 1st station will flash as confirmation that the order is inducted. Repeat for each Pick Slip.
 - Scan the 'Start Orders' label along the SORTBENCH fascia to initiate order picking.
-

STEP 3



- The VSUs will present the closest bin location and the KARMAN™ screen(s) will show the item and the quantity to be picked.
 - Pick the item(s) from the bin. A bin light will indicate where the item is to be picked from in the VSU and the KARMAN™ screen will indicate the location in the bin.
-

STEP 4



- Place picked items in the tote box where the station lamp is flashing on the SORTBENCH. The station lamps are colour coded for each VSU.

Repeat steps 3 & 4 until all items are picked from the VSUs. When the lists have been completed, a message will be displayed on the KARMAN™ screen. All station RESET lamps will begin to flash when the orders are finished.

6 How to Select Orders

There are a number of ways to select orders for processing by SortBench™:

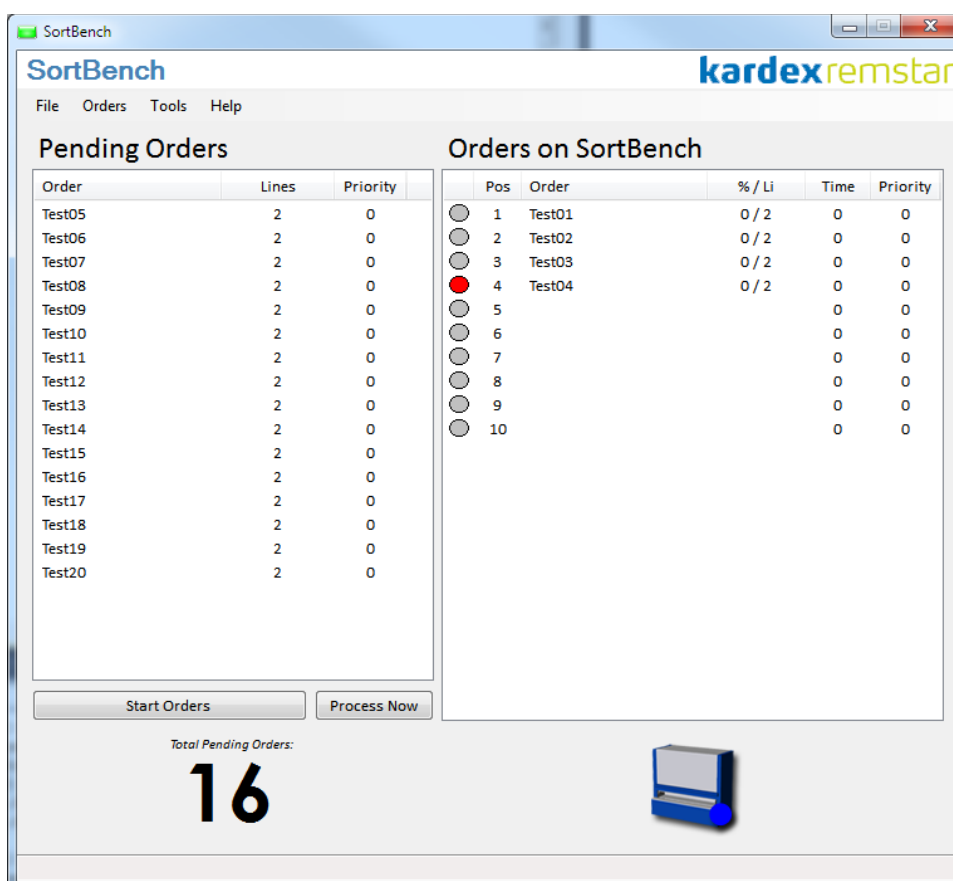
- Single Order
- Group of Orders
- Barcode Selection

6.1 Single Order

Use the **Tab** key to move the cursor into the 'Pending Orders' window. Use the **↑** and **↓** arrow keys to select the required order and then press the **Enter** key. It is also possible to select the order by double clicking with the mouse.

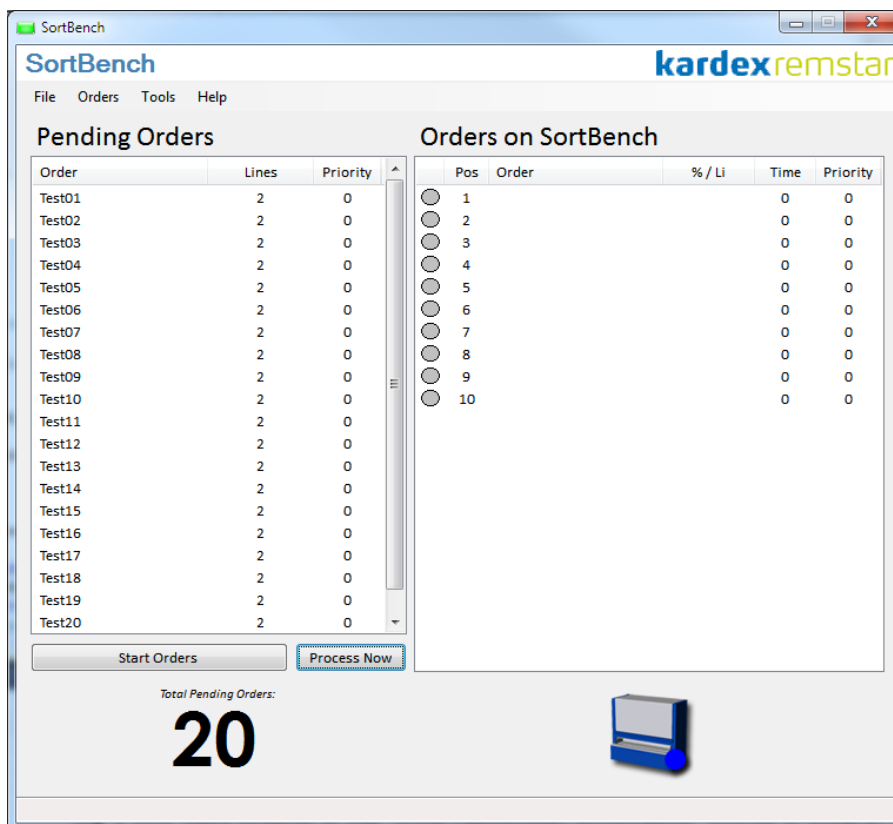
As orders are selected a red light will flash on the SORTBENCH indicating which station the order will be picked to.

The selected order will be moved into the 'Orders on SortBench' window. Continually use the **Enter** key or mouse to select all the required orders.

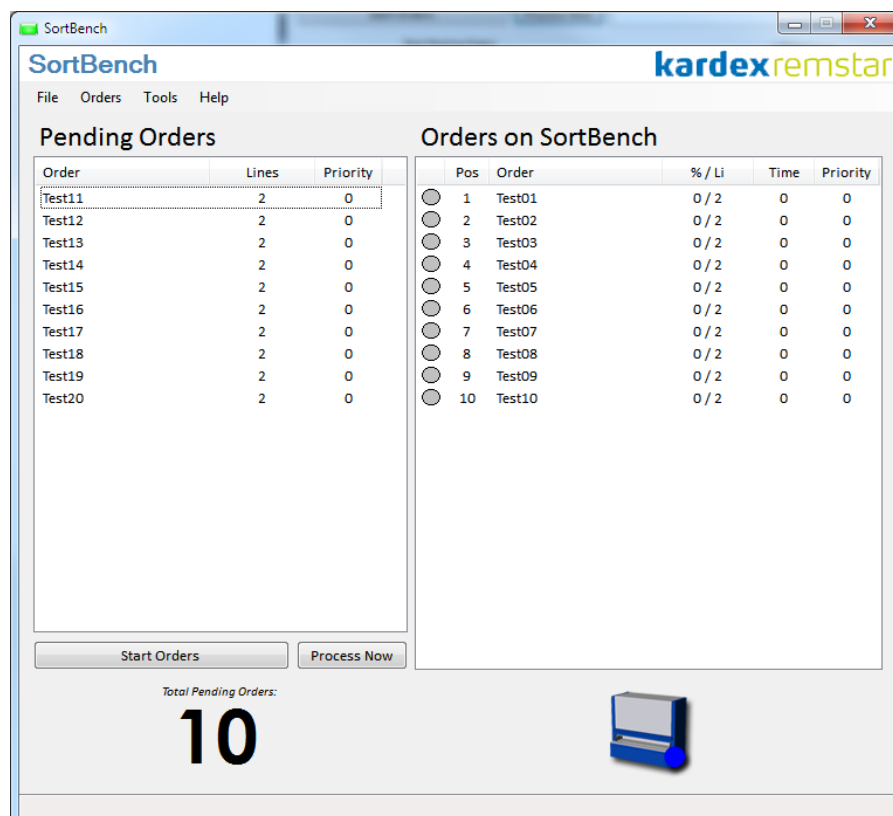


6.2 Group of Orders

Use the **Tab** key to move the cursor to the 'Process Now' button and then press **Enter**. Alternatively, you can use the mouse to click the button.



The maximum number of orders will be moved into the *Orders on SortBench* window. Picking is automatically initiated at KARMAN™.

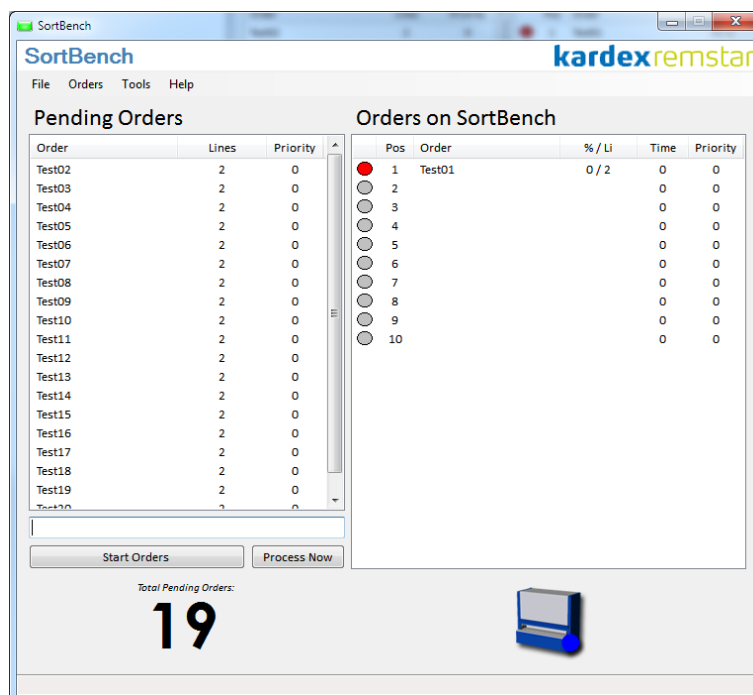


6.3 Barcode Selection

Barcode selection is intended to be used in conjunction with Pick Slips that have the Pick Slip identifier barcoded on the form. The identifier must match the order filename that is visible in the 'Pending Orders' window.

The 'Barcode Entry' field on the main form can be enabled from the 'Tools / Options' under the Barcode tab. It may also be necessary to set up the barcode filter where the barcode does not exactly match the order filename. Refer to Section 3.2.3.

Scan the barcode on your Pick Slip. If the order is available to be processed, the order will be inducted to the 'Orders on SortBench' window and the RESET lamp for the associated station will flash.



Scan each required barcode until all SortBench stations have an allocated order.

Alternatively, if the barcode scanner is not working you can type the barcode into the barcode entry field. As soon as you start typing, the barcode entry field will receive the focus.

Type the order number on the Pick Slip in the barcode entry field and then press **Enter**. If the order is available, it will be added to 'Orders on SortBench' window.

Start Orders

Once all orders have been inducted, scan the barcoded Confirm label (these labels are usually placed at regular distances along the front of your SortBench) to initiate picking from the VSUs. The purpose of the Confirm label is to allow the order picking to start without the operator returning to the SortBench console.

Contact your System Administrator if labels are not available. Alternatively, **Tab** to the 'Start Orders' button and press enter, or use the mouse to click the button.

Delete Orders

To delete an order from the 'Orders on SortBench' prior to starting the pick, you can scan the Barcode Delete Value (refer Section 3.2.3) or you can enter the Barcode Delete Value manually into the Barcode Entry field. The order will be moved back to the 'Pending Orders' window.

Refer to Section 3.2.3 Barcode Options for more information regarding barcode setup.

7 Picking Mode

7.1 Group Picking

Group picking is the default pick mode used with the SortBench™. This mode picks all orders as part of one cycle of the VSU/s and will show completed orders once the last item has been picked.

Once a group has been started, it is not possible to induct more orders into the group. All orders will be completed at the same time.

A group pick can be interrupted at any time to pick a single item from a VSU or to pick another (higher priority) group of orders.

STEP 1 Set up KARMAN™

Ensure that KARMAN is displaying the Main Menu on all your VSUs.

NOTE: *KARMAN™ will not commence list processing unless the Main Menu screen is displayed.*



STEP 2 Select Orders at SortBench™

Refer to Section 6.

STEP 3 Start Order Processing

Use the **Tab** key to select the Start Orders command button and then press **Enter**. Alternatively, press **Alt & S** or use the mouse.

KARMAN™ will automatically start to process the selected lists. It is not necessary to select the lists by the usual method i.e. from the Pick \ List Menu at KARMAN™.

STEP 4 Pick Parts from VSU

KARMAN™ will display the normal Pick form. The order identifier should be visible in the List Identifier field.

The example below shows Part Number 10-225-092 is required for order HOSTPICK1.GPK.

The screenshot shows the KARMAN Pick form interface. At the top, there are fields for Part Number (111), Find, Info, and Quantity (1). Below these are buttons for Pick, Reset, and Exit. The Description field shows 'Widget 111' and the List Identifier field shows 'PK-QL-201704211336'. A table of Locations is displayed with columns for Location, Quantity, ID, Shelf, Bin, and Location. The first row shows 'M 27D-02-03 1' with a large blue '1' in the Quantity column. A large red '3' is shown in the Location column. A Notification area displays '111' and 'Confirm Quantity'. At the bottom, there are 'Yes', 'No', and 'Cancel' buttons. A status bar at the bottom indicates 'Press the Enter key to confirm the picked quantity.' and 'Remaining: 2'.

Order HOSTPICK1 is at station 1 on the SORTBENCH. This is shown in the *Orders on SortBench* window in STEP 5.

STEP 5 Place Parts into Tote Boxes on SORTBENCH

When the operator confirms the quantity picked at KARMAN™, the GREEN lamp at station 1 on the SORTBENCH will flash rapidly for ~ 5 seconds. After this time, the lamp will flash slowly to indicate an 'old' pick.

The GREEN indicator at station 1 on the SortBench main form will also flash, as shown below. While the operator is placing items into the required tote bin, the VSU will present the item required from the next closest location.

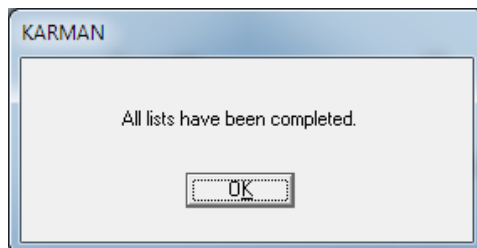
The screenshot shows the SortBench main form interface. It has a menu bar with 'File', 'Orders', 'Tools', and 'Help'. The main area is divided into two panels: 'Pending Orders' and 'Orders on SortBench'. The 'Pending Orders' panel shows a table with columns 'Order', 'Lines', and 'Priority'. The 'Orders on SortBench' panel shows a table with columns 'Pos', 'Order', '% / Li', 'Time', and 'Priority'. A large blue '5' is displayed at the bottom of the screen. A status bar at the bottom indicates 'Total Pending Orders: 5' and 'Process Now'.

The operator then places the parts into the tote box at the station with the flashing lamp. The operator should be careful to ensure they have observed the coloured lamp that is associated with the VSU they have picked from.

STEP 4 and **STEP 5** should be repeated until all items have been picked for all lists.

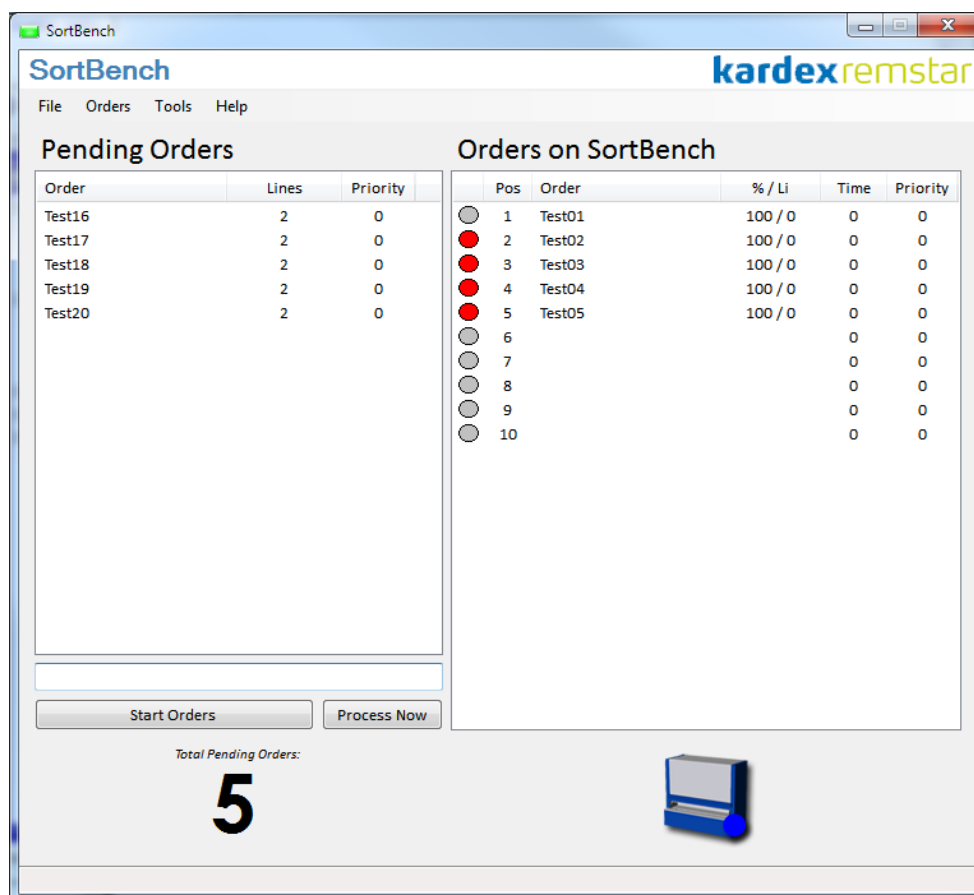
STEP 6 All Lists Completed

When all lists are complete at each VSU, the following message will be displayed.



Press **Enter** to acknowledge the message. KARMAN™ will now return to the Main Menu screen and is ready to process more orders.

When the orders are completed, all RESET lamps will flash.



When one of the RESET buttons is pushed or the Reset Bench command button is activated, the completed orders will be cleared from the 'Orders on SortBench' window.

SortBench is now ready to process more orders.

7.2 Continuous Picking Mode

Continuous Picking Mode is selected via a configuration parameter under the Tools\Options\General tab. This picking mode is useful when the orders range in size or are typically small.

The purpose of this pick mode is to keep the SORTBENCH full of orders and picking as much as possible from the VSUs at any time.

This pick mode allows orders to be inducted on to the bench when another order has been completed.

STEP 1 Set up KARMAN

Ensure that KARMAN™ is displaying the Main Menu on all your VSUs.

STEP 2 Select Orders at SortBench

Refer to Section 6.

STEP 3 Start Order Processing

Refer to Section 7.1

STEP 4 Pick Parts from VSU

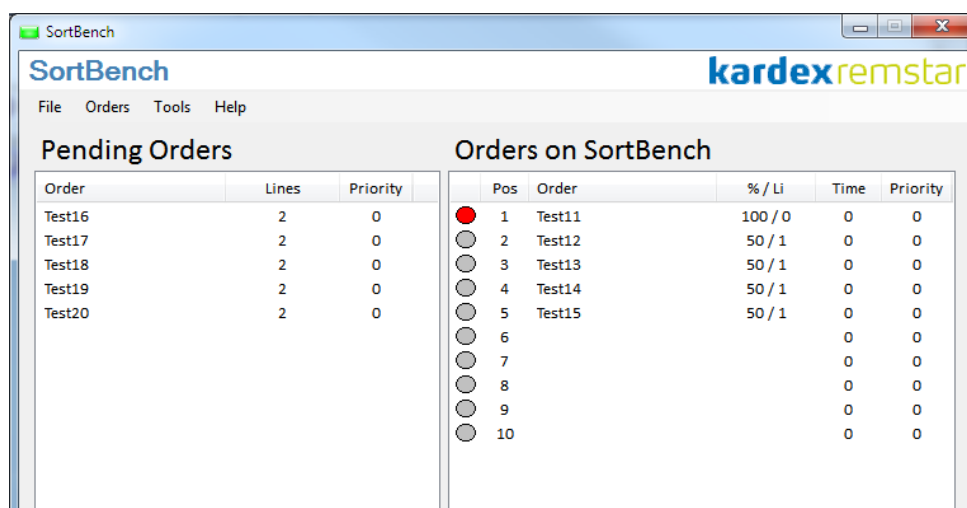
Refer to Section 7.1

STEP 5 Place Parts into Tote Boxes on SORTBENCH

Refer to Section 7.1

STEP 6 List Completed

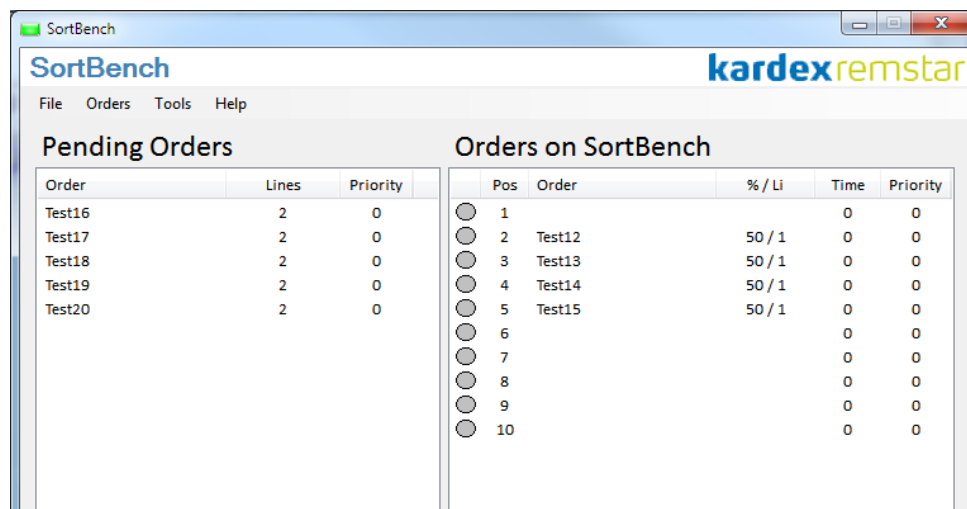
When a list is complete, the red RESET lamp will flash at the relevant station. The indicators will also flash on the main form as shown in the screen below:



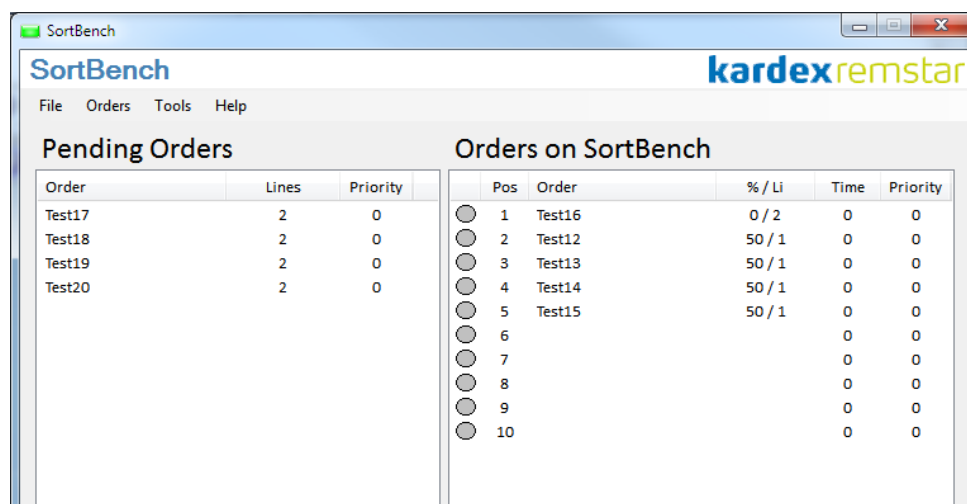
The screenshot shows the SortBench software window with the Kardex Remstar logo. It features two main tables: 'Pending Orders' and 'Orders on SortBench'.

Pending Orders			Orders on SortBench				
Order	Lines	Priority	Pos	Order	% / Li	Time	Priority
Test16	2	0	1	Test11	100 / 0	0	0
Test17	2	0	2	Test12	50 / 1	0	0
Test18	2	0	3	Test13	50 / 1	0	0
Test19	2	0	4	Test14	50 / 1	0	0
Test20	2	0	5	Test15	50 / 1	0	0
			6			0	0
			7			0	0
			8			0	0
			9			0	0
			10			0	0

At this point, the operator must press the RESET button. The order name will be cleared from the SORTBENCH position which is now available for a new order:



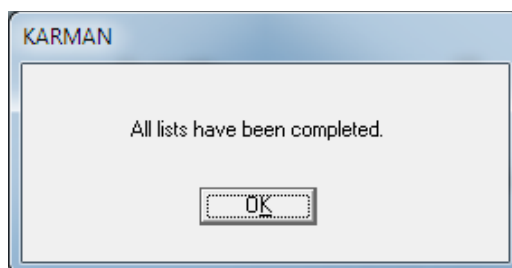
New orders can be inducted on to the SORTBENCH by any of the methods described in STEP 2 above. When a new order is inducted on to the SORTBENCH, KARMAN™ will resort its orders to ensure efficient VSU operation is maintained.



This process can be repeated as each order is completed.

STEP 7 All Lists Completed

When all lists are complete at each VSU, the following message will be displayed.



KARMAN™ will now return to the Main Menu screen and is ready to process more orders.

7.3 Automatic Picking Mode

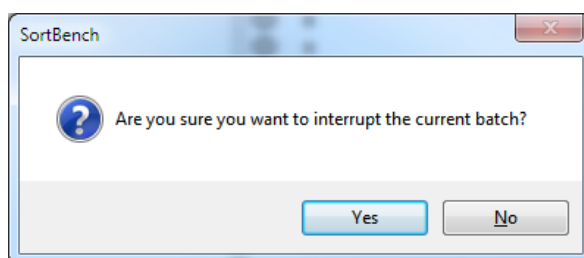
Automatic Picking Mode is selected via a configuration parameter under the Tools\Options\General tab. This picking mode can be used in a paperless warehouse where a new group of orders is inducted onto the SortBench as soon as the current group is completed.

The operator does not need to select orders or initiate processing.

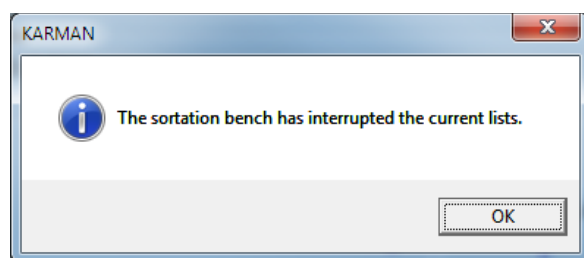
7.4 Interrupt / Resume Orders

7.4.1 Interrupt from SortBench™

It is possible to interrupt the current group of orders at any time. Use the **Tab** key to select the Interrupt command button and then press **Enter**. Alternatively use the mouse or press **Alt & I** to interrupt the group of orders in the *Orders on SortBench* window:



When the operator has completed the current pick at each VSU, the following KARMAN™ message will be displayed:

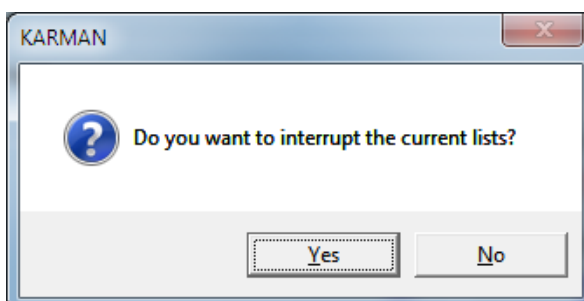


Press **Enter** to acknowledge the message. KARMAN™ will return to the Main Menu and the *Orders on SortBench* window will be cleared.

It is now possible to load up a new group of orders onto the SortBench or use the Pick \ Single operation at any of the VSUs.

7.4.2 Interrupt From KARMAN™

It is also possible to interrupt orders from KARMAN™ by pressing the Cancel button rather than confirming a pick quantity. The following message will then appear:



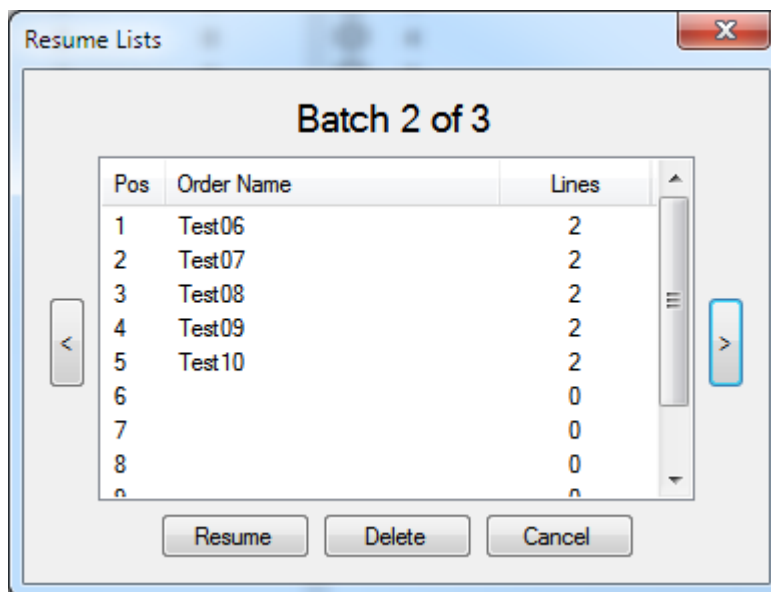
Press **Enter** when the Yes button is highlighted.

7.4.3 Resume Orders

Interrupted lists can be resumed via the 'Resume' menu item under the 'Orders' menu or alternatively the command button on the main form.

Use the mouse to click the menu or button or by using the keyboard, press the **Tab** key to select the 'Resume' command button and then press **Enter**.

The following screen will then appear:



Use the < and > command buttons to move through each of the interrupted batches.

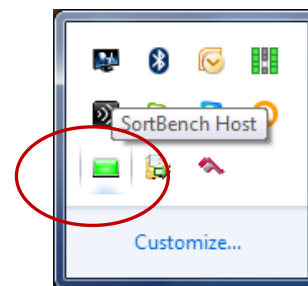
Once you have found the batch of lists that you want to resume, use the mouse or **Tab** to the 'Resume' button and press **Enter**. The interrupted lists will be loaded back to the 'Orders on SortBench' window and the picking process will continue.

If you want to delete the batch, use the mouse or **Tab** to the 'Delete' button and press **Enter**.

It is possible to interrupt and resume the lists indefinitely. If you interrupt more than one group of lists, the lists will be returned to the 'Resume Lists' screen in the reverse order to which they were interrupted.

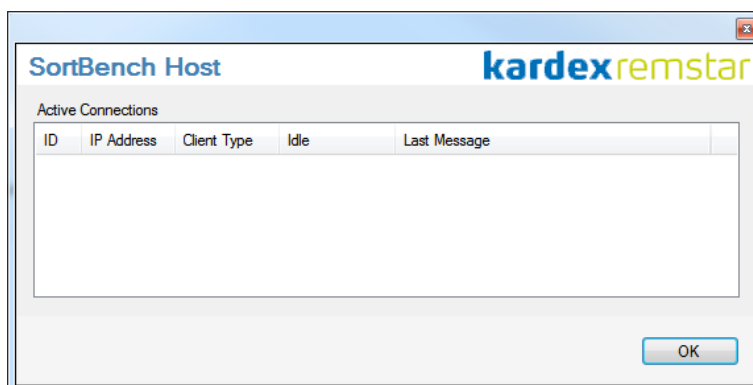
8 SortBench Host

Kardex provides a small application which provides communication between the SortBench application and the SORTBENCH controller hardware called SortBench Host. This application runs in the system tray and is required for SortBench to function correctly.

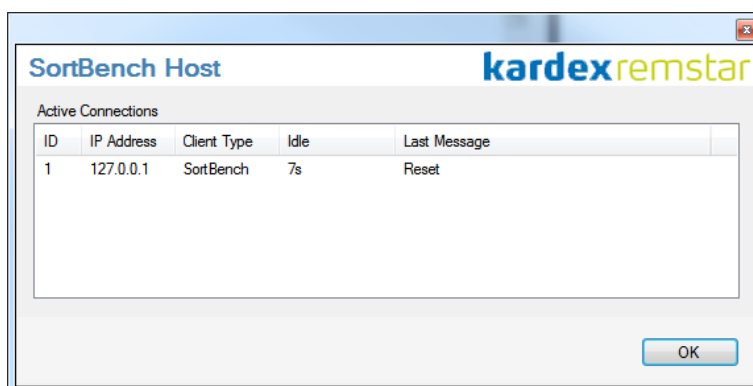


SortBench Host requires configuration and can be used with the actual indicator hardware or in emulation mode for development purposes. Right click on the green icon to access the application menu items:

Click 'Show' to open the 'Active Connections' window. When first started, the application will not have any active connections and look similar to the window below:

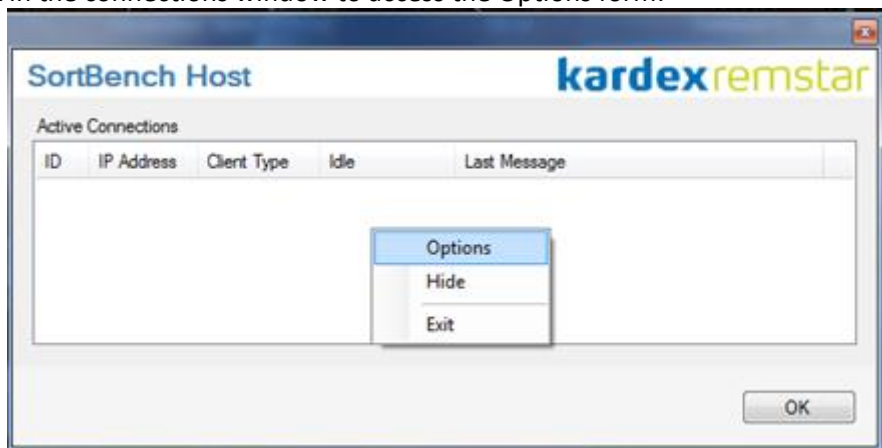


Once the initial connection from the SortBench application occurs, an Active Connection will be listed including its specific IP Address, Client Type, Idle time and Last Message received. This is useful for troubleshooting a connection to the client.

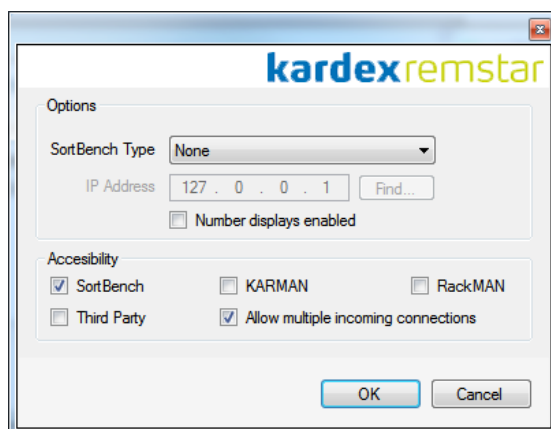


Depending on the configuration of the SortBench Host there could be more connections than the one displayed and also different client types other than SortBench connecting to your SortBench Host.

Right click in the connections window to access the Options form:



Configuration of the SortBench Host is quite straight forward. Your application may not require use of all options that are presented on the form. Kardex

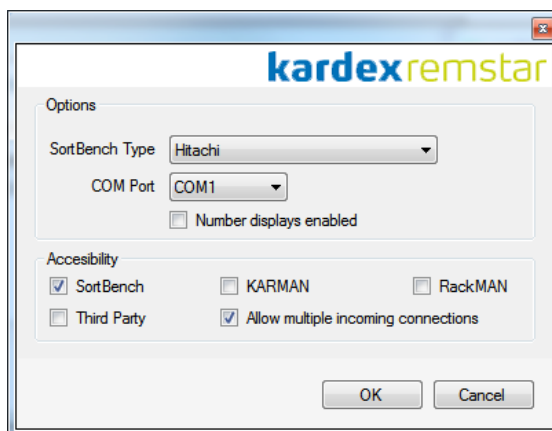


8.1 SortBench Type

The SortBench Host application supports two (recent) SORTBENCH hardware configurations used by our customers. These are the Hitachi PLC and current ATOP networked controller.

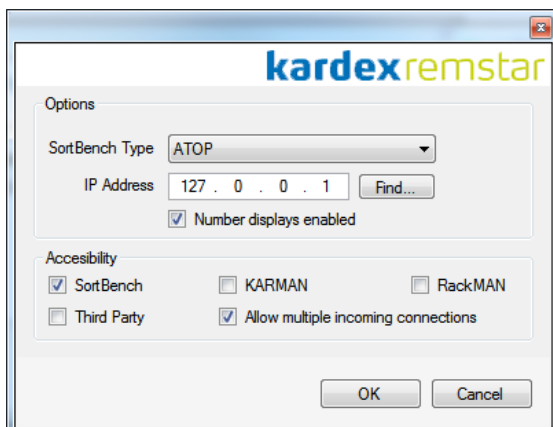
8.1.1 Hitachi

Select the 'Hitachi' type and select the COM port used for communication. Select 'Number displays enabled' if your bench has numeric displays.

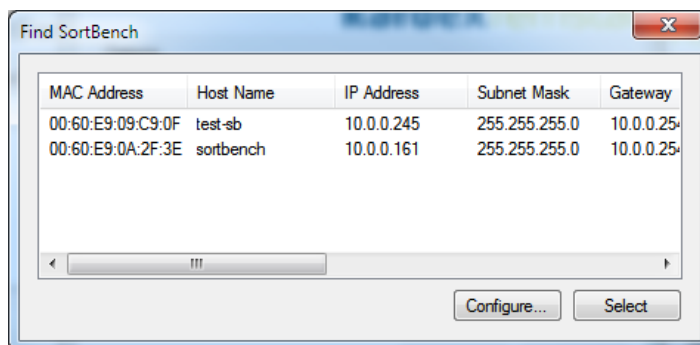


8.1.2 ATOP

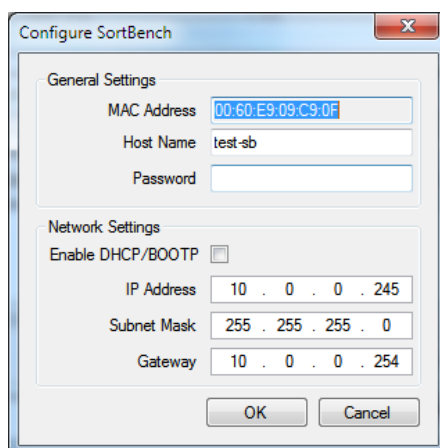
This is the current generation of the SORTBENCH hardware supplied by Kardex. It has a network interface rather than serial communication and also supports number displays.



Once selected from the list, the IP address and the 'Find' button become enabled. The IP address can be entered manually if you already know what it is. If not, click the 'Find' button and you will see the following window where you can select or configure your ATOP hardware.



If you need to adjust the settings of the SORTBENCH, select the ATOP device from the list and click **Configure**. The following window will be displayed.



After you have made your required changes click the **OK** button to restart the ATOP hardware to active the new settings.

Once you are sure the device is configured correctly and is the one you require, select it from the list and click the **Select** button.

8.2 Accessibility

The accessibility options at the bottom of the form enable and disable communication options that the SortBench Host will support.

The four available communication sources are:

- SortBench (on by default)
- KARMAN or wCARMAN32
- RackMAN
- Third Party

The first three are Kardex supplied products and the first is the default application to support the SORTBENCH hardware.

FUTURE: Plugins for KARMAN and RackMAN will be available to add support for direct communication with the SORTBENCH hardware.

Third Party support is for customers wishing to communicate directly with the SORTBENCH hardware. Please contact Kardex for further information.

The final option under Accessibility is 'Allow multiple incoming connections'. This parameter allows more than one application to talk with the SORTBENCH hardware. It can also enable and/or disable communication from occurring outside an application that you want to have connected. The SortBench application from time to time can lose connection and having this setting off can mean communication with the Host being lost. It is recommended that this setting is left on.

9 Trouble Shooting

If your SortBench will not operate, please check for the following:

9.1 PC and / or Monitor does not operate

a) Check for Power

Check that the SORTBENCH power lead is plugged into a standard 240VAC GPO and the outlet is switched on. This can be verified by pressing the LAMPTEST pushbutton on the side of the cabinet (Hitachi) . If there is power to the cabinet, all SORTBENCH lamps should illuminate.

For recent configurations, the PC and monitor are plugged into the double GPO located on the LHS of the PLC cabinet (Hitachi). Make sure the PC / monitor leads are plugged in and the outlet sockets are switched on.

b) Check the RCD CB in the Control Cabinet

The PC is powered via the RCD CB in the control cabinet. Check that this device has not tripped.

9.2 Bench Lamps do not operate

c) Check the Controller

Press the LAMPTEST pushbutton on the side of the cabinet. If the lamps illuminate, the PLC is operational and the problem must be elsewhere. If the lamps do not illuminate, there may be a problem with the PLC or with an internal power supply. If you do not have onsite electrical assistance, please contact Kardex to arrange a callout.

To investigate a possible PLC problem you will need to open the Control Cabinet:

ATOP

Make sure the Controller is turned on (check toggle switch). Check if the Controller is operational (flashing green RUN light). Check the status of the Alarm lamp. Lamp should normally be off. If the lamp is GREEN, there is some problem with the Controller. Please contact Kardex Customer Service for assistance.

9.3 SortBench to Controller Communication Problems

d) Check the Communication Cable

- Check if the PLC Communication Cable is securely connected to the required COM port at the PC.
- Check if the PLC Communication Cable is securely connected to the socket on the side of the Control Cabinet.
- Check if the PLC Communication Cable is securely connected to the COMM port on the PLC CPU.

e) Check the correct COM Port is selected in SortBench

Open the Tools \ Options \ Communications form and check the correct COM Port has been selected. Refer to Section 3.2.4.

f) Check the correct PLC Type is selected in SortBench

Open the Tools \ Options \ Communications form and check the correct PLC Type has been selected. Refer to Section 3.2.4.

If ATOP for SortBench PLC Type is selected, check the IP Configuration in options

Open the Tools \ Options \ Communications form and click on Options button to check the correct IP address has been entered (IP address is same as the ATOP SortBench Controller). Refer to Section 3.2.4.

9.4 SortBench to KARMAN Communication Problems

a) Check the SortBench Group ID

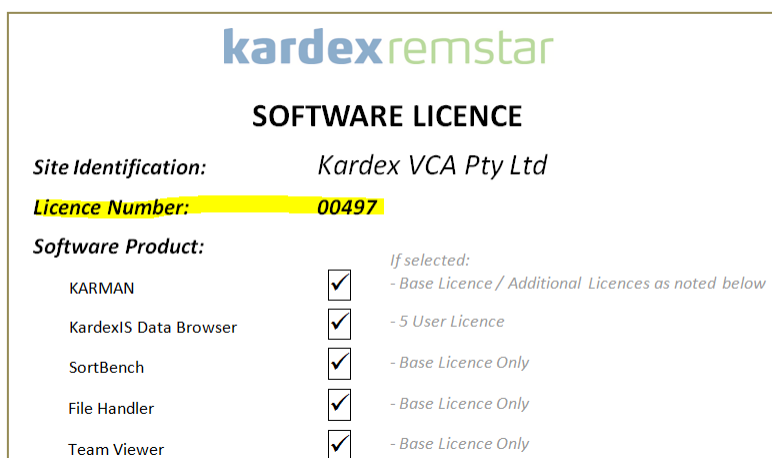
Open the Tools \ Options \ Communications form and check the correct SortBench Group ID has been selected. Refer to Section 3.2

b) Check the Network Identification

Open the Control Panel \ Network \ Identification and check the correct configuration has been set up. Refer to Section 3.1

9.5 Site Support

If a problem occurs with SortBench™ that you are unable to resolve, please contact our site support team. Please have your Site ID ready (Licence Number) to advise our team (you can find this on the software licence provided with your installation documentation or on the bottom of your current Site Support program certificate:



kardexremstar

SOFTWARE LICENCE

Site Identification: Kardex VCA Pty Ltd

Licence Number: 00497

Software Product:

KARMAN	<input checked="" type="checkbox"/>	<i>If selected:</i> - Base Licence / Additional Licences as noted below
KardexIS Data Browser	<input checked="" type="checkbox"/>	- 5 User Licence
SortBench	<input checked="" type="checkbox"/>	- Base Licence Only
File Handler	<input checked="" type="checkbox"/>	- Base Licence Only
Team Viewer	<input checked="" type="checkbox"/>	- Base Licence Only

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Email: support@kardex.com.au

Please quote your 'Site ID' code to assist us to find your site details. Your site code is listed on the site software license or your service agreement document.