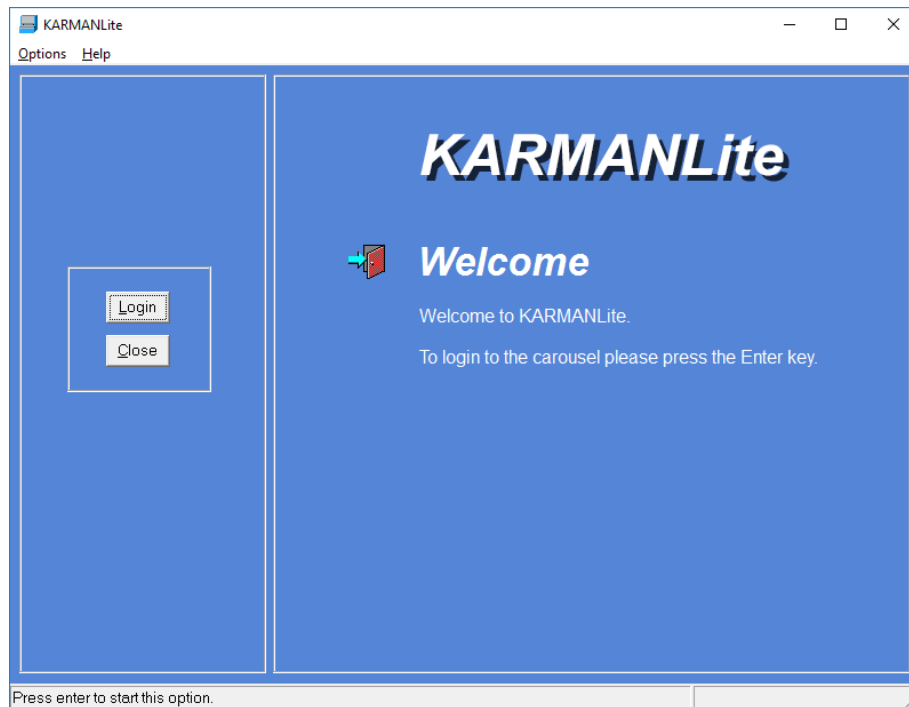


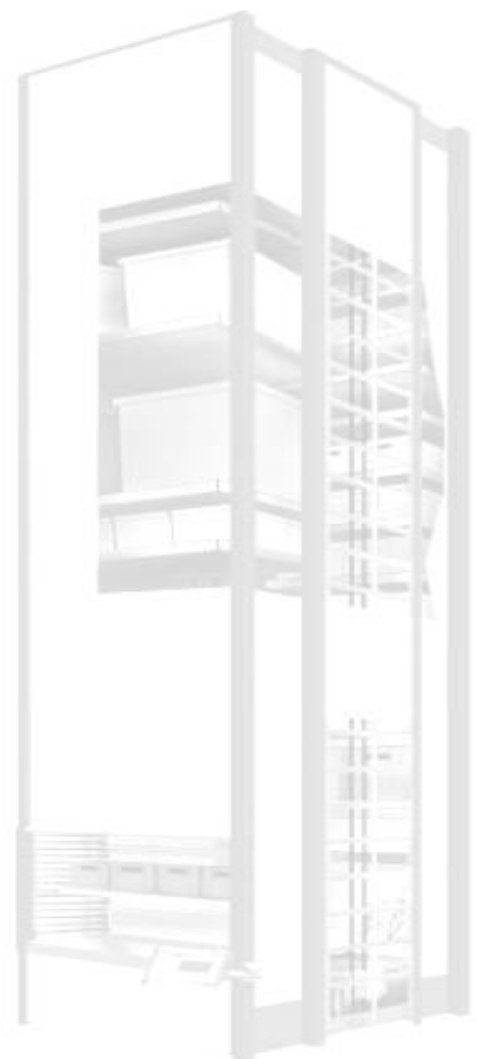
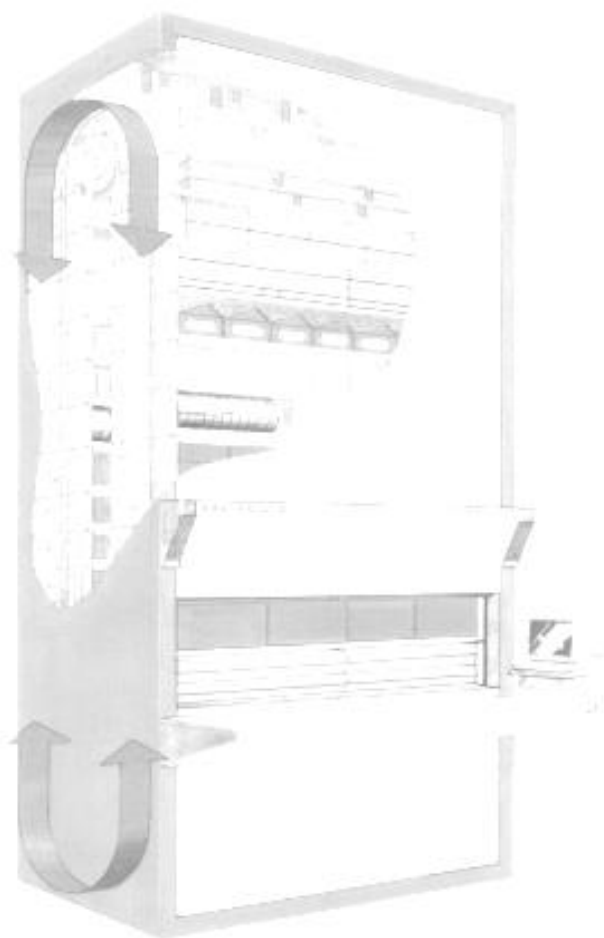
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K A R M A N L i t e

T E C H N I C A L M A N U A L

Issue Date: May 2017



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Valid for KARMANLite Release 1.4.01.xxxxxxxx

IMPORTANT NOTICE

THE PC SUPPLIED WITH THE CAROUSEL IS AN INTEGRAL PART OF THE CAROUSEL CONTROL SYSTEM

IF THE PC **SOFTWARE IS CONFIGURED BY KARDEX VCA**, ITS OPERATION WILL BE CONFIRMED WITH THE CUSTOMER ON COMPLETION OF THE COMMISSIONING PROCESS

THE **WARRANTY WILL BE VOID** IF THE CUSTOMER OR THEIR REPRESENTATIVE CHANGES, MODIFIES OR MAKES ANY ADDITIONS TO THE HARDWARE AND/OR SOFTWARE OF THE CAROUSEL CONTROL SYSTEM WITHOUT THE WRITTEN PERMISSION OF KARDEX VCA




THE **CUSTOMER IS RESPONSIBLE** FOR THE MAINTENANCE OF ALL **DATA FILES**, INCLUDING BACKUP AND RESTORATION PROCEDURES

1 Loading Your Storage System

If you are implementing a new storage system at your site, Kardex VCA will generally have conducted a site survey and provided a recommendation for the shelf configuration to be used in your system. We will set up KARMANLite™, prior to system delivery, based on the location size mix suggested in the sales proposal document. Kardex VCA has a range of 400mm and 600mm storage tote bins suitable for use in our Carousel and Shuttle® units. The number of bins per shelf is determined by the width of the shelf. Our Carousels will generally use a 3600mmW carrier for 12 Large bins and our Shuttles® will use a 3000mmW tray for 10 Large bins:

<i>Bin Type</i>	<i>Dimensions</i>	<i>Max. No. of Locs. / Bin</i>
Small	150mmW x 600mmD x 50mmH	12
Medium	150mmW x 600mmD x 100mmH	8
Large	300mmW x 600mmD x 150mmH	4

The maximum Tote Bins are shown in the following table:

Tote Type:	VCT 01 (Small Tote)	VCT 02 (Medium Tote)	VCT 03 (Large Tote)	
				
Max. Compartments	12	8	4	
Length (mm)	600	600	600	
Width (mm)	150	150	300	
Height (mm)	50	100	140	
Max. Locs / Bin	12	8	4	

Kardex VCA uses a location naming convention to identify the bin location sizes. The naming convention uses the base bin size plus the number of locations in the bin to identify the location size.

For example; a 'large' bin with 4 locations is termed a 'LARGE4'. Similarly, a 'medium' bin with 8 locations is termed a 'MEDIUM8'. The open locations are referred to as 'OPENHALF' or 'OPENFULL'. There are 12 of these locations across a shelf. 'OPENFULL' locations use the full clear height of the carrier and 'OPENHALF' locations use half the carrier clear height. An 'OPENFULL' location is equivalent to 65 litres of volume. An 'OPENHALF' location is equivalent to 32 litres of volume.

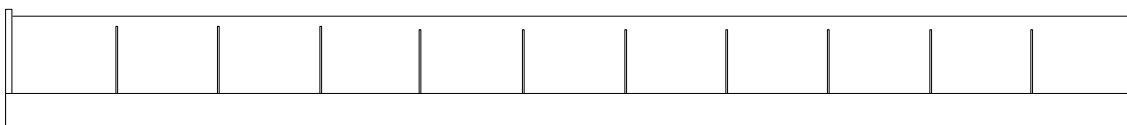
This terminology is used to describe the proposed bin configuration and is also used within the KARMANLite inventory software to identify location sizes during the initial loading and following replenishment process.

Use of Medium and Large tote bins is shown in the following picture:

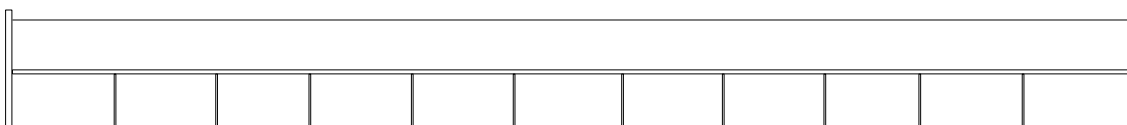


Each of the carrier / bin combinations is shown below:

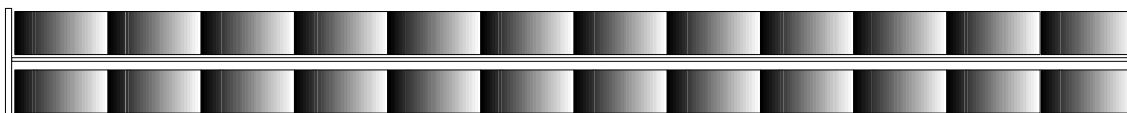
Open Full – 1 Shelf / 12 Locations using upright dividers



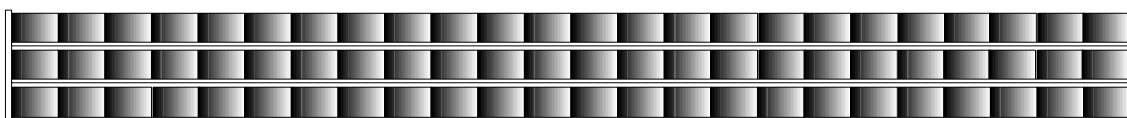
Open Half – 2 Shelves / 24 Locations using upright dividers



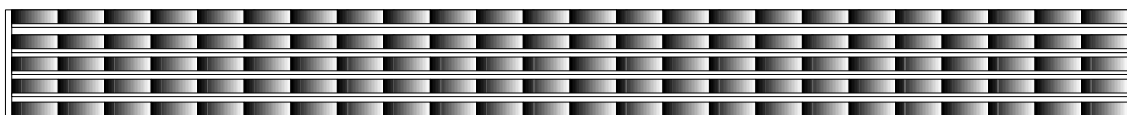
Large Bins – 2 Shelves / 24 Bins per Carrier / Up to 96 Locations



Medium Bins – 3 Shelves / 72 Bins per Carrier / Up to 576 Locations



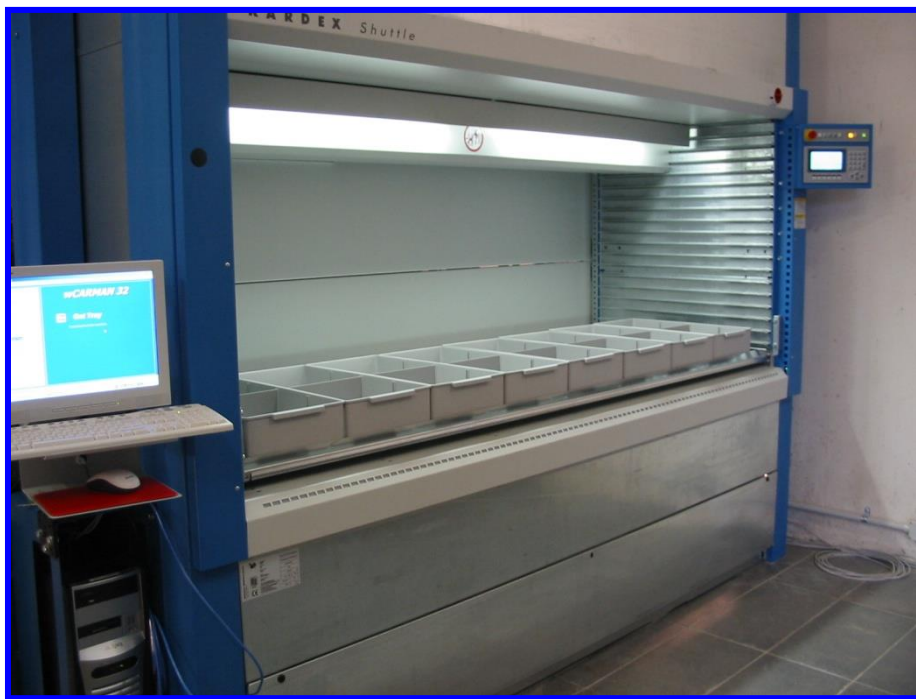
Small Bins – 5 Shelves / 120 Bins per Carrier / Up to 1440 Locations



3600mm →

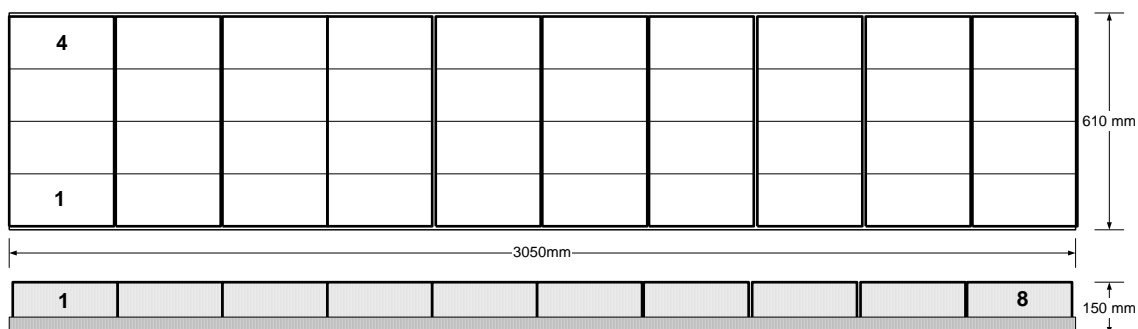
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In the case of the Shuttle®, the storage totes sit on the tray and all locations are accessible from above the tray, as shown in the image below:

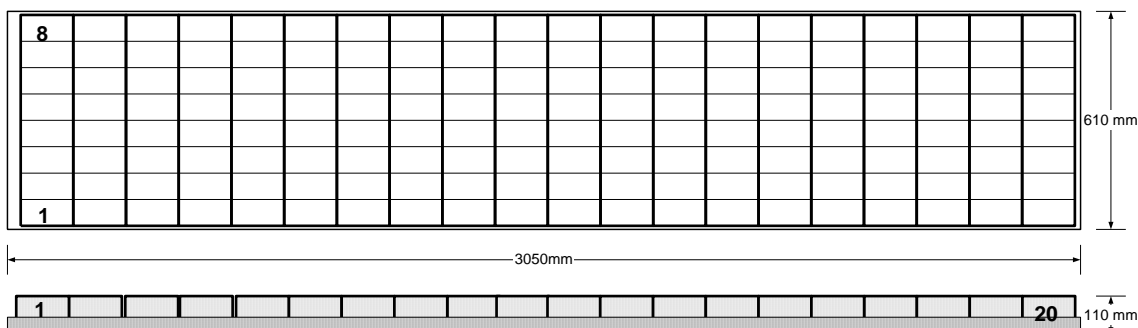


Locations in the bins would be accessible as shown below, when used with a 3050mmW Shuttle Tray:

Large 4 Bins – 10 Bins per Tray / 40 Locations



Medium 8 Bins – 20 Bins per Tray / 80 Locations



NOTE: If you do not have a copy of the suggested shelf configuration, please contact Customer Services on +61 2 6056 5173.

1.1 Vertical Carousel

Your vertical Carousel operates on the counter-balance principle. This means that both front and back carriers should be reasonably in balance throughout the entire cycle.

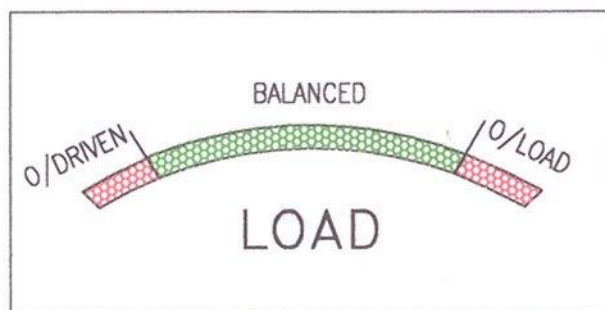
When initially loading your Carousel you should load opposite carriers and thus maintain a reasonable balance. For example, in a 20 carrier Carousel you should load in the following order:

1, 11, 2, 12, 3, 13, 4, 14, 5, 15, 6, 16, 7, 17, 8, 18, 9, 19, 10, 20

The maximum out-of-balance tolerance is 20%.

You will know if your Carousel is out-of-balance by the following symptoms:

- (i) The out-of-balance indicator will show an overload condition. The pointer will be in one of the red zones most of the time or is moving dramatically from one side of the indicator to the other.



- (ii) Motor noise indicates extra load at certain stages of the cycle.
- (iii) The unit starts and runs roughly and trips the electronic drive.

If any of these symptoms are noted, it is recommended that you adjust the load to ensure better balance.

CONSISTENTLY RUNNING YOUR CAROUSEL OUT-OF-BALANCE WILL CAUSE DAMAGE!

WARNING:

The capacity of each carrier in your Carousel is 100/250/500/750kg including any intermediate shelves. Check the Serial Number plate on the LHS of your machine for carrier rating.

Items stored in the carrier must lie within the bounds of the carrier. Items must not protrude over the front lip or exceed the height of the carrier side.

Failure to observe these conditions could damage your Carousel and is not covered under Kardex VCA warranty.

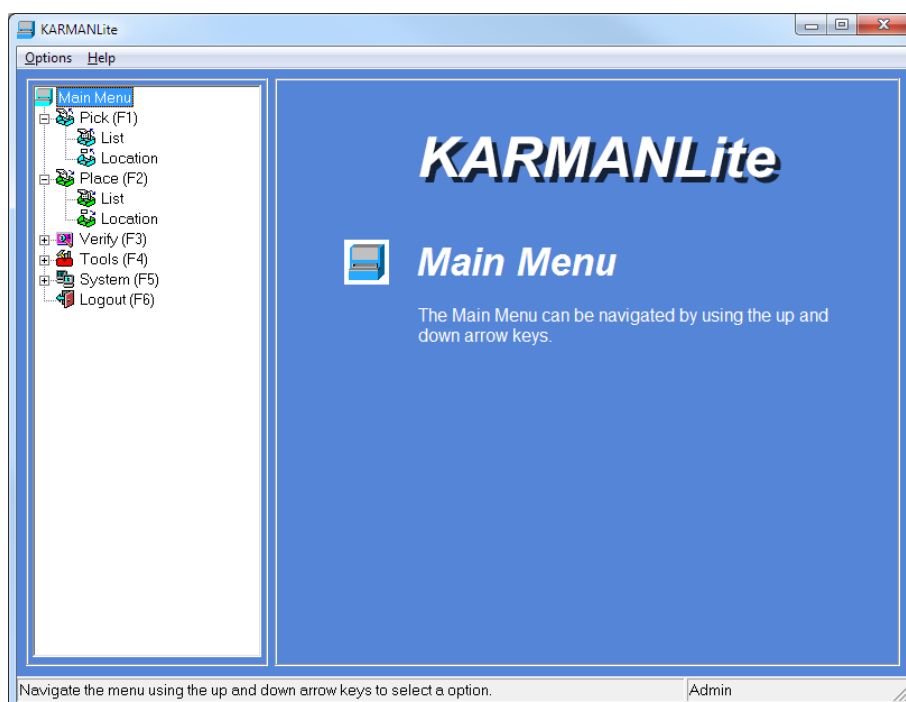
1.2 Vertical Lift Unit - Shuttle®

To be added.

2 Introduction – KARMANLite™

KARMANLite™ is a native 32bit Windows application used to control Kardex Vertical Carousel and Shuttle™ machines. This application functions under all Windows™ operating systems i.e. WIN95, WIN98, WINNT, WIN2000 and XP. KARMANLite™ uses an ODBC compliant SQL database which can be configured as a STANDALONE or CLIENT / SERVER configuration.

KARMANLite™ is based on CARMAN Lite, has all the basic features of KARMANLite, and makes use of the inventory details stored in your comprehensive warehouse management system (WMS). KARMANLite™ does not store inventory details. Your master inventory information is maintained only in your WMS. Single Pick and Place operations can be undertaken using 'location' details or multiple operations can be performed using fully automated using list files from your WMS.



KARMANLite™ connects to your Kardex Carousel or Shuttle® using a standard serial connection to the machine PLC, inbuilt T3 controller or C2000 controller.

The software is designed to be user friendly. It is a menu driven package requiring minimum use of the PC keyboard. Functions are displayed using a collapsing tree structure similar to Windows Explorer.

All available high level functions are displayed to the operator on Login. Each function has a unique ICON displayed in the tree structure and on the associated form making identification of the desired operation easy. All forms are colour coded for ease of identification and all quantity and location information is presented using high contrast colours for easy visibility at a distance.

KARMANLite™ Lite can be conveniently used *without* a mouse. Forms have been designed with consideration to natural process flow and all functions can be used intelligently with basic keystrokes such as the **Enter**, **Tab** and (← → ↑ ↓) arrow keys.

The main operations that KARMANLite provides are:

- *Place*
For storage of parts into the carousel
- *Pick*
For retrieval of parts from the carousel
- *Verify*
For verify that location quantities are correct

Each of these processes is explained in the KARMANLite Operators Manual. There is a Stocktaking section in this manual to explain the Verify function in more detail.

The other operations that KARMANLite provides are described in this manual and can be accessed on KARMANLite via the Tools and System Menus. These are:

- *Users [System Menu]*
To Add, Change or Delete users
- *Reports [Tools Menu]*
To generate standard reports
- *Configuration [System Menu]*
To customise KARMANLite for your site
- *Manual Operations [Tools Menu]*
To move the carousel to a target shelf location or synchronise the access level carrier to KARMANLite.

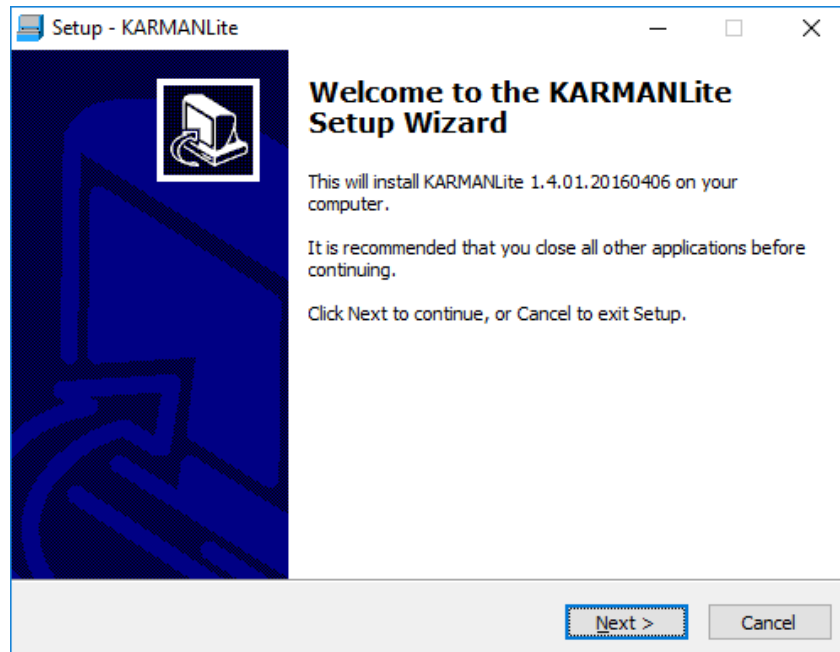
Note: The manual carousel operations 'Move to Shelf' and 'Set Shelf' are explained in the KARMANLite Operators Manual.

3 Installing KARMANLite

3.1 Run Setup Program

The KARMANLite setup program is named 'KARMANLite Setup.exe'. 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** on the Next button or pressing **Alt & N** for Next.

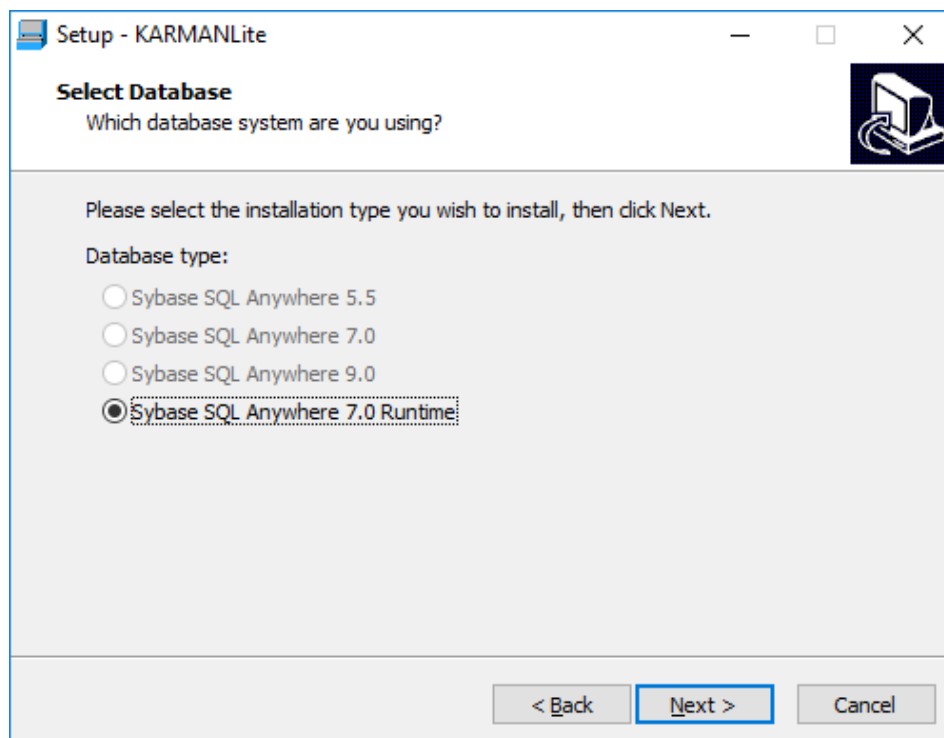


The Registration Information screen will then appear. The registration details will be noted on the software licence provided by Kardex VCA. Use the Tab button to move the cursor from one field to another. You can confirm by pressing **Enter** on the Next button or pressing **Alt & N** for Next.

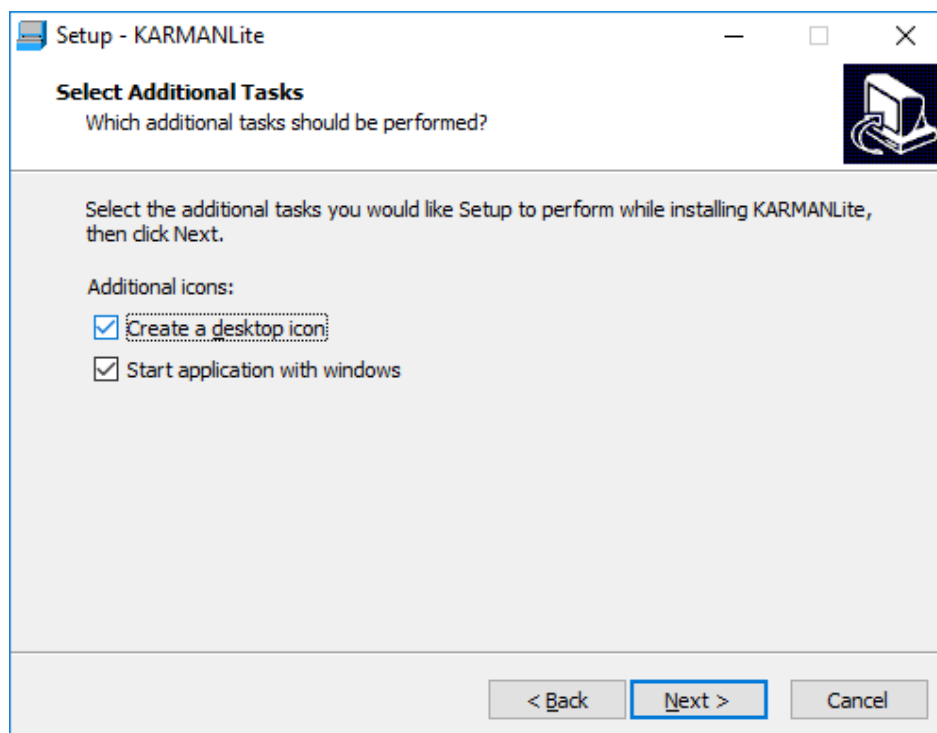
The screenshot shows a Windows-style window titled "Setup - KARMANLite". The title bar includes standard minimize, maximize, and close buttons. The window has a "Registration" header with a sub-header "RegistrationForm description" and a small icon of a computer monitor with a circular arrow. The main area contains the instruction: "Please enter your registration details for your wCARMAN 32 installation below, then click Next." Below this are three text input fields: "Full Name" containing "VSS-VC1", "Company Name" containing "Compant XYZ Pty Ltd", and "Serial Number" containing "250-3616-3600-0123-24". At the bottom, there are three buttons: "< Back", "Next >" (highlighted with a blue border), and "Cancel".

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KARMANLite will then require you to select what database type you are using with this system. KARMANLite supports Sybase SQL Anywhere versions 5.5, 7 and 9. If none are installed, it will create a runtime database system of Sybase SQL Anywhere version 7.0. You can confirm by pressing **Enter** on the Next button or pressing **Alt + N** for Next.

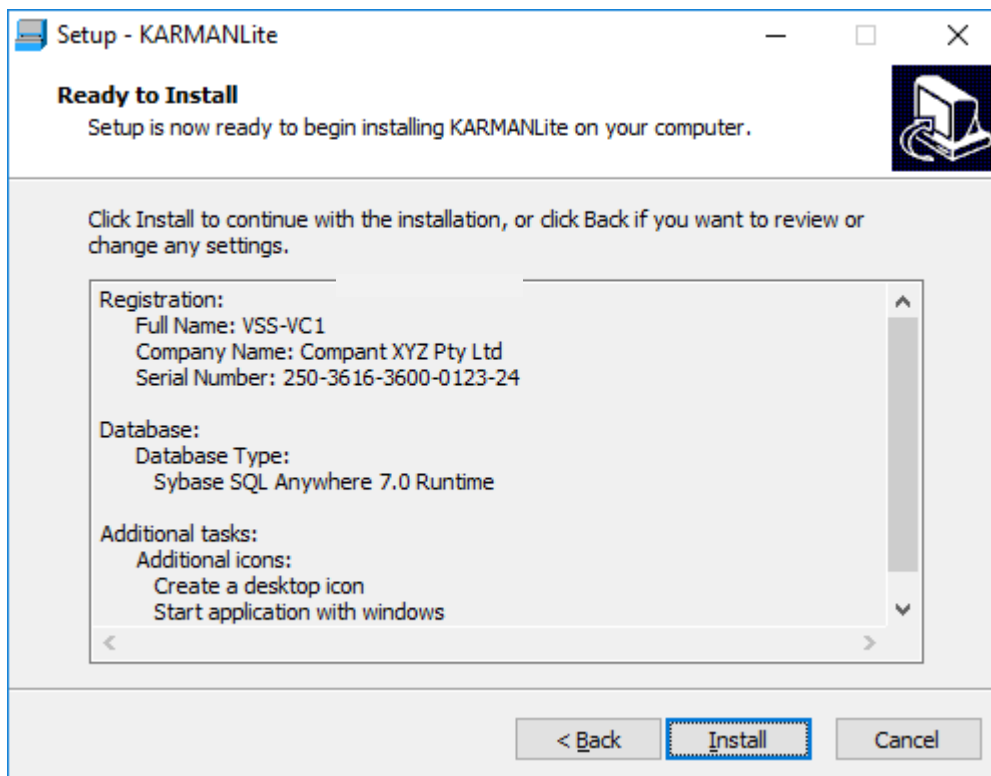


KARMANLite will then ask you if there are any additional tasks you would like, which in this case is additional icons. You can confirm by pressing **Enter** on the Next button or pressing **Alt + N** for Next.

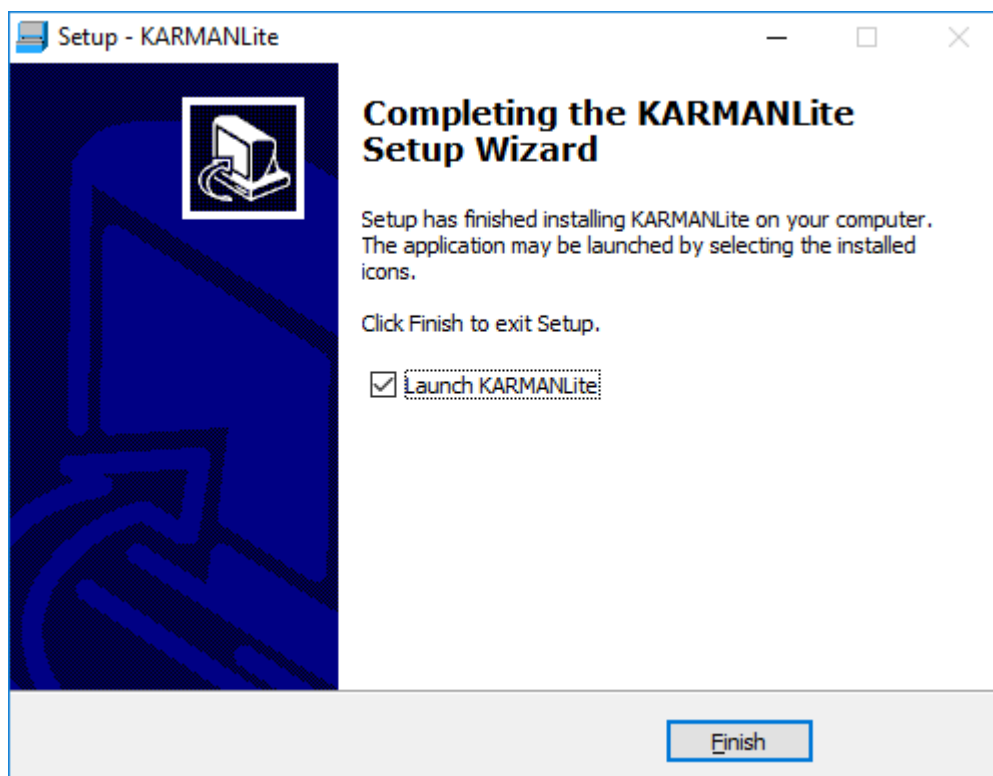


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KARMANLite will now be ready to install. Review the settings you have selected on this form before continuing. You can confirm by pressing **Enter** on the **I**nstall button or pressing **Alt + I** for **I**nstall.



When the setup program has been completed, the installation completed screen will be displayed. You can confirm by pressing **Enter** on the **F**inish button or pressing **Alt + F** for **F**inish.



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KARMANLite can be started from the ICON on the desktop or from the shortcut in the 'Start Menu\Programs\Kardex VCA' folder. The default user name for KARMANLite is ADMIN with no password.

KARMANLite can be uninstalled using the standard Windows Add/Remove program routine, located in the Control Panel. If you are upgrading your version of KARMANLite, **do not** uninstall the application, as you will lose all configuration settings and your database.

3.2 Quick Setup Guide

The default Login for the runtime version of KARMANLite is ADMIN with no password. Once you have logged into KARMANLite, you will need to undertake the following activities so KARMANLite can operate correctly.

1. The full version of KARMANLite has a default user 'Admin' with no password. Use this login to access the set up functions and then add your own users. Refer to Section 4 for details.
2. *Set up your Shelf \ Bin configuration*
Select System \ Configuration from the Main Menu. Go to the 'Carousel' tab. Refer to Section 5.7 for details.
3. *Select your Location Name Format.*
Select System \ Configuration from the Main Menu. Go to the 'Locations' tab. Refer to Section 5.10 for details.

You are now ready to PICK or PLACE items using your location name format. The Carousel will rotate to the required location and indicate the required bin using the bench lamps.

4 User Names

You will need to enter a valid user name and password at the 'KARMANLite™ Lite Welcome' screen before the Main Menu will be presented.

KARMANLite has been set up with a default user called ADMIN, with all privileges enabled. No password is required. The ADMIN User Name should be used the first time you Login to KARMANLite. You can then add new users and modify the privileges each user is given.

To set up user names and passwords, access the User Menu from the System Menu. The User Menu allows you to Add Users (Section 4.1), Change Users (Section 4.2) or Delete Users (Section 4.3).

4.1 Add User

Double click the 'Add' menu item to display the Add User dialog:

Action

Move forward
Move backward
Set All access
Clear All access
Tick Boxes ON or OFF
Save changes and exit
Cancel changes and exit

Method

Tab

Shift & Tab

Ctrl & S or **Enter** on the Set All button

Ctrl & A or **Enter** on the Clear All button

Spacebar

Alt & K or **Enter** on the OK button

Alt & C or **Enter** on the Cancel button

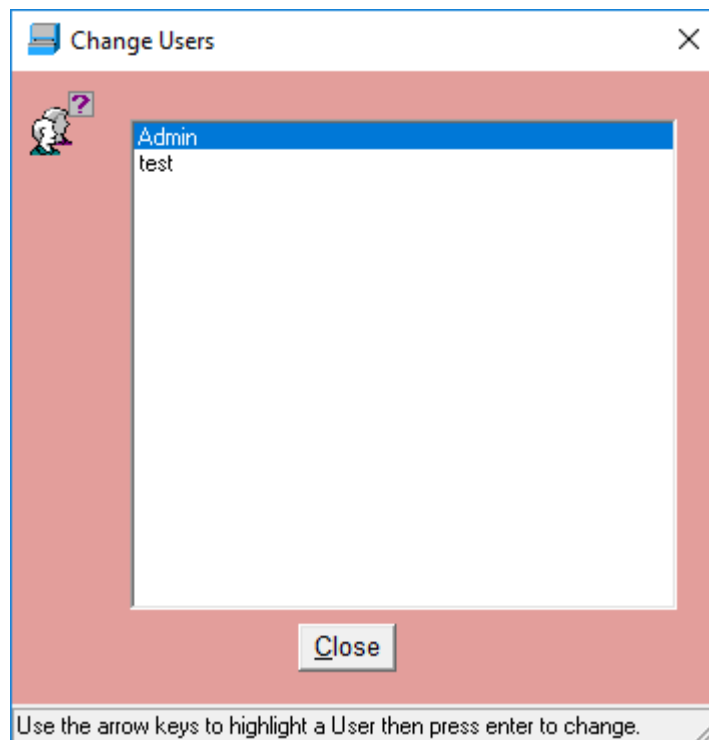
Type in a 'User Name' and 'Password'. The Password may be left blank. Give the user access to functions that are required for their job.

The Configuration and User options should be limited to one or two users from your management team.

The 'Set Shelf' function should be given to all users. It may be needed to realign the Carousel position within KARMANLite. Refer to Getting Started, in Section 2 of the Operators Manual, for more information.

4.2 Change User

Double click the 'Change' menu item to display the Change User dialog:



Action

Move through User Names
Select User Name
Close window

Method

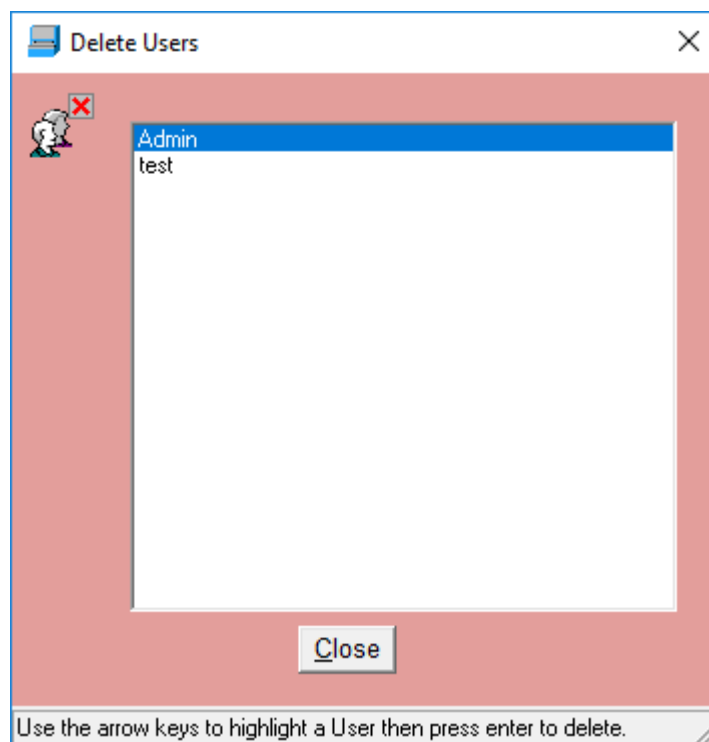
up(↑) and down(↓) arrow keys
Enter
Alt & C or **Tab** to the **C**lose button and press **Enter**

Double click the relevant user to open the 'Change User Details' form. The information presented is the same as the 'Add User' form shown on the previous page.

You can change all configuration details except for the 'User Name'.

4.3 Delete User

Double click the 'Delete' menu item to display the 'Delete Users' dialog:



Action

Move through User Names
Select item
Close window

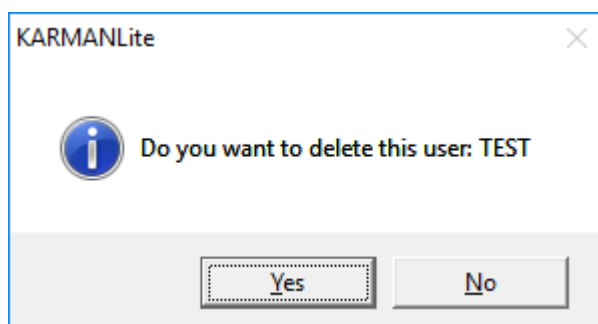
Method

up(↑) and down(↓) arrow keys

Enter

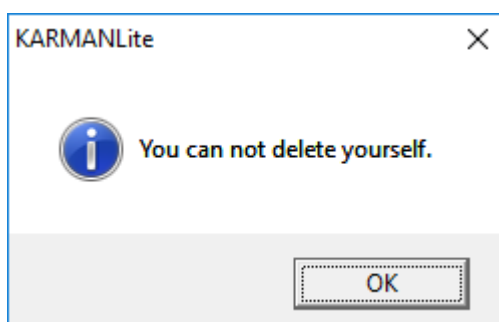
Alt & C or **Tab** to the **C**lose button and press **Enter**

Double click the User name you wish to delete. The following confirmation message will be displayed.



Press **Enter** to confirm deletion of the User Name. If you do not want to delete this User Name then press **Alt & N** or **Tab** to the **N**o button and press **Enter**.

NOTE: **You can not delete the user that is currently logged in.**



5 Customising KARMANLite

5.1 Introduction

All KARMANLite parameters are available from the Configuration forms. There are nine tabs on the Configuration form. A brief description of the parameters on each tab is provided below:

<i>Tab</i>	<i>Section</i>	<i>Description</i>
General	5.3	Automatic Location Selection, Lot Number support and KARMANLite Logout action.
Database	5.4	Database ID set up, Database Mode, Backup Path and Database Maintenance.
Lists	5.5	Host List directory set up, list selection mode, customising list formats
Peripherals	5.6	Hardware support required, Sortbench support
Carousel	5.7	Shelf configuration, Bin Text setup and carousel usage information
Verify	5.8	Default report directories and database update mode
Reporting	5.9	List of available reports and set up options
Locations	5.10	Location Format
Labels	5.11	Format of Labels

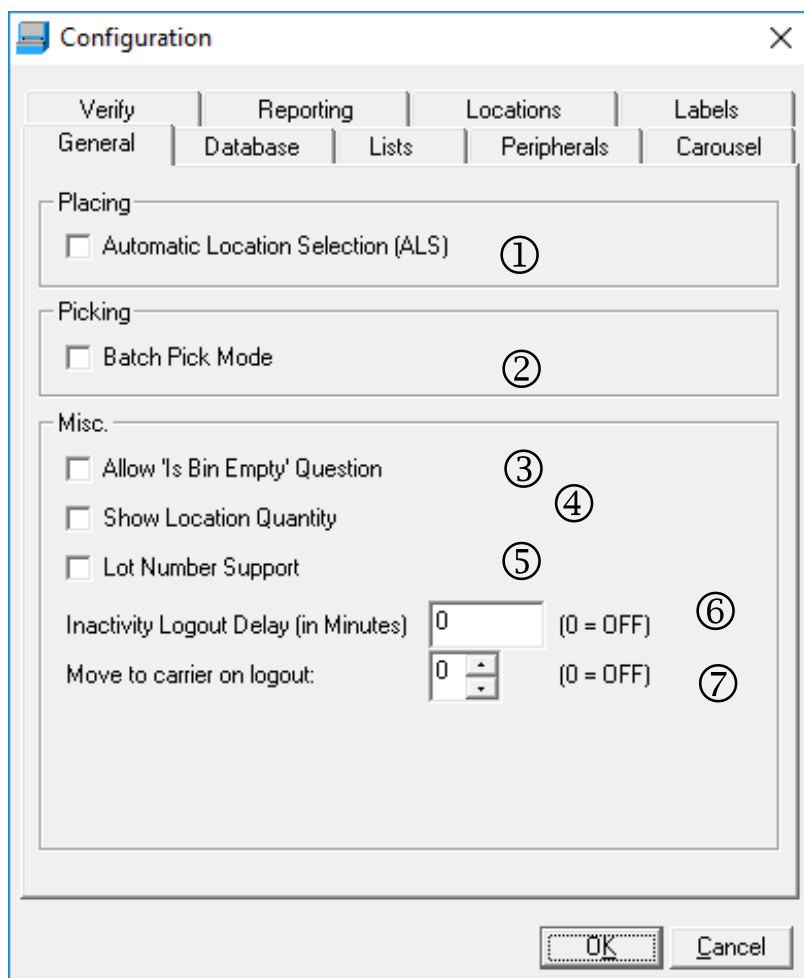
5.2 Getting around the Configuration Form

The following keystrokes can be used to navigate each tab of the Configuration forms:

<i>Action</i>	<i>Method</i>
Switch between tabs	Ctrl & Tab
Move forward to next tab	Tab
Move backward to previous tab	Shift & Tab
Switch Tick boxes ON or OFF	Spacebar
Switch Radio Buttons	left(←) & right(→) arrow key
View pull down menus	F4
Move through pull down menu	up(↑) and down(↓) arrow keys
Select item in pull down menu	Enter
Save changes and exit	Alt & O or Enter
Cancel changes and exit	Alt & C

5.3 General

The 'General' tab has the following appearance:



5.3.1 Placing

① Automatic Location Selection (ALS)

NOTE: ALS is only relevant for Place \ List operations.

The Automatic Location Selection (ALS) option can be switched ON or OFF by pressing the **Spacebar**.

Value	Description
OFF	The operator chooses size, shelf, bin and location from a presented list of free locations.
Default	
ON	The operator selects the bin size required and KARMANLite will automatically choose the closest free location of that size.

Replenishment time is substantially reduced when ALS is used. When your Carousel is approximately 80% loaded, ALS should be set ON.

WARNING: For the initial loading of a Carousel ALS should be OFF. This is so the operator can ensure the Carousel is evenly loaded in the first instance (please refer to Section 1 for loading instructions).

5.3.2 Picking

② Batch Pick Mode

Batch Pick Mode is used in conjunction with the Kardex VCA's SortBench application for multiple order picking. This mode enables KARMANLite to Pick the total quantity of a part, required to satisfy all orders on the SortBench. The SortBench application will then manage the distribution of the parts to each order as required. The SortBench console will then display how many units are required for each order.

Batch Pick Mode is suitable for orders with commonality between parts.

The Batch Pick Mode option can be switched ON or OFF by pressing the **Spacebar**.

Value	Description
OFF	KARMANLite will pick list quantities as required for each list.
Default	
ON	<p>When picking multiple orders for the SortBench, KARMANLite will pick total quantities for parts, to satisfy all orders, in one operation.</p> <p>For example, the same part is required for five (5) Lists. KARMANLite automatically calculates the total quantity of the part to be picked for all 5 Lists and the operator only needs to confirm the total quantity. The SortBench application will then display how many of each part is required for each list and at which SortBench station the list is positioned.</p>

5.3.3 Misc

③ Allow 'Is Bin Empty' Question

NOTE: Parameter is only relevant for List operations.

If the parameter is checked, the operator will be asked if the bin is empty based on the quantity information provided in the list file. If the bin is not empty, the record in the list file will be marked with a particular status to indicate a stock adjustment should be made in the host system.

④ Show Location Quantity

NOTE: Parameter is only relevant for List operations.

This parameter should be checked if the location quantity information is passed down to the system in the Pick list file. This will provide information to the operator as to the expected stock on hand in a location.

⑤ Lot Number Support

NOTE: Parameter is only relevant for List operations.

Lot Number is the terminology used by Kardex VCA when referring to the batch number (or some other unique identifier) which may be associated with received stock.

Lot Number Support can be switched ON or OFF by pressing the **Spacebar**.

Value	Description
OFF	The Lot Number field is not displayed on the Pick / Place or Verify form.
Default	
ON	For each list operation, the Lot Number will be displayed on the form. The Lot Number is provided from the HOST in the list file.

⑥ Inactivity Logout Delay

The purpose of the Inactivity Logout Delay is to have KARMANLite return to the Login screen if it has been inactive for a period of time. This function is used in conjunction with other security features such as automatic doors and 'Move to Carrier on Logout'. This function will ensure that operations undertaken at the Carousel are attributed to the correct user in the Audit Log report.

<i>Value</i>	<i>Description</i>
0 = OFF	No automatic Logout
<i>Default</i>	
1 .. N	Enter a value greater than zero to have KARMANLite automatically Logout to the Welcome screen if there has been no activity for N minutes.

NOTE: *THE INACTIVITY LOGOUT ONLY WORKS FROM THE MAIN MENU I.E. AUTOMATIC LOGOUT WILL NOT OCCUR IF AN OPERATIONS SCREEN IS LEFT OPEN.*

⑤ ⑦ **Move to Carrier on Logout**

The purpose of the Move to Carrier on Logout function is to rotate the Carousel to a known carrier when the user has logged out of KARMANLite. This function can be used to ensure commonly used inventory items are readily available or as a means of ensuring the strictest security regime. This function is typically used in conjunction with Automatic Door control.

<i>Value</i>	<i>Description</i>
0 = OFF	Current carrier remains at access level on Logout.
<i>Default</i>	
1 .. N	Move to Carrier on Logout can be turned ON by entering a carrier number N in the box. To select from the available carriers use the up(↑) and down(↓) arrow keys to highlight the carrier you require, or select one from the pull down menu. Carousel will rotate to the relevant 'A' shelf.

5.4 Database

The 'Database' tab has the following appearance:

The screenshot shows the 'Configuration' window with the 'Database' tab selected. The window has a title bar with a close button. Below the title bar are tabs: 'Verify', 'Reporting', 'Locations', 'Labels', 'General', 'Database' (selected), 'Lists', 'Peripherals', and 'Carousel'. The 'Database' tab contains three main sections: 'Database Setup', 'Database Mode', and 'Backup'. In the 'Database Setup' section, there are three dropdown menus: 'Carousel ID' (set to 1), 'Database User' (set to kxvca1), and 'Database Source' (set to wCARMANLite). In the 'Database Mode' section, there are two radio buttons: 'Standalone Carousel' and 'Multi Carousel Support' (selected). In the 'Backup' section, there is a checkbox 'Do Backup' (unchecked) and a text field 'Backup Folder' (set to C:\wCARMANLite\Data\Backup). At the bottom of the window are two buttons: 'Check Database' and 'Clear Interrupted Lists'. At the very bottom are 'OK' and 'Cancel' buttons. Numbered callouts 1 through 8 are placed next to the following elements: 1. Carousel ID dropdown, 2. Database User dropdown, 3. Database Source dropdown, 4. Database Mode section, 5. Do Backup checkbox, 6. Backup Folder text field, 7. Check Database button, 8. Clear Interrupted Lists button.

5.4.1 Database Setup

WARNING: INCORRECT SETTINGS COULD DISRUPT OPERATION

① Carousel ID

The Carousel ID is used to uniquely identify the Carousel in the system. Kardex VCA will set up this field prior to installation and it should NOT be changed unless instructed by Kardex VCA.

② Database User

The Database User is used to log in to the system database. Kardex VCA will set up this field prior to installation and it should NOT be changed unless instructed by Kardex VCA.

③ Database Source

The Database Source is the name of the ODBC setup and is used to connect to the system database. Kardex VCA will set up this field prior to installation and it should NOT be changed unless instructed by Kardex VCA.

5.4.2 Database Mode

WARNING: INCORRECT SETTINGS COULD DISRUPT OPERATION

④ Database Mode

The Database Mode is used to distinguish between single and multi machine systems. The selection will determine what data KARMANLite creates when the backup is undertaken.

Kardex VCA will set up this field prior to installation and it should NOT be changed unless instructed by Kardex VCA.

Parameter	Value	Description
Standalone Carousel	Selected Default	On shutdown, KARMANLite will back up its registry information and database to the 'Backup folder'
Multi Carousel Support		On shutdown, KARMANLite will back up its registry information to the 'Backup folder' The database must be backed up using the relevant runtime script.

5.4.3 Backup

⑤ Do Backup

The Backup function when turned ON will perform a backup of the key components of KARMANLite to a specified folder. The registry settings, database and database log files are copied to the specified backup folder each time KARMANLite is exited. The backup routine should be used in conjunction with your existing backup strategy. Refer to the backup section at the end of this manual for more information.

Parameter	Value	Description
Do Backup	OFF Default ON	No backup up will take place Backup will be performed, based on selected 'Database Mode', each time KARMANLite is exited.

NOTE: THE BACKUP ROUTINE WILL OVER WRITE PREVIOUS BACKUP DATA.

⑥ Backup Folder

The 'Backup Folder' is where the relevant backup files will be written:

- Default Folder: C:\KARMANLite\Data\Backup

5.4.4 Misc.

⑥ Check Database

NOTE: THIS UTILITY SHOULD ONLY BE USED WHEN INSTRUCTED BY KARDEX VCA.

If KARMANLite is not closed down correctly eg. power failure, the Check Database utility will automatically run when KARMANLite is restarted to repair any anomalies that may occur in your database.

The Check Database utility can be started by pressing **Enter** on the highlighted button or by the shortcut keys **Alt & E**.

⑦ **Clear Interrupted Lists**

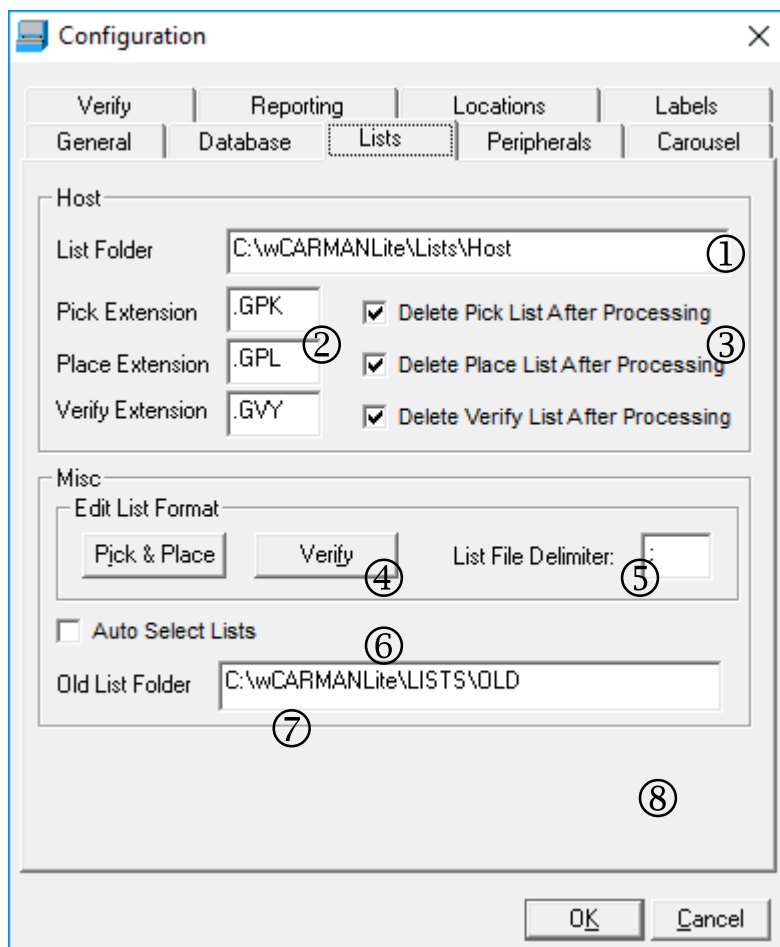
The Clear Interrupted Lists utility will clear any Interrupted Lists that are left in your database. If you have cancelled processing a List of any kind this is the button to use.

The Clear Interrupted Lists utility can be started by pressing **Enter** on the highlighted button or by pressing the shortcut keys **Alt & I**.

For more information on Lists and Interrupted Lists refer to the Section 6, KARMANLite List Files.

5.5 Lists

List files are primarily used to transfer information between your host inventory system to KARMANLite. Please refer to Section 6 for a comprehensive description of the use of lists.



5.5.1 Host

Parameter	Value	Description
① List Folder	Host C:\KARMANLite\Lists\Host	The full path including drive letter should be entered. KARMANLite will look for your List files in this location.
② Pick Extension	Host: .GPK	The file extension is used by KARMANLite to identify the file type i.e. whether Pick, Place or Verify
Place Extension	Host: .GPL	
Verify Extension	Host: .GVY	
③ Delete List After Processing	OFF Default ON	<ul style="list-style-type: none"> Press the Spacebar to switch these options ON or OFF. If switched ON the Lists will be deleted after they are processed. If switched OFF the Lists will remain in the source folder after processing.

5.5.2 Edit List Format

KARMANLite has standard list file formats which are described in Section 6. If the formats do not suit the output of your host inventory system, the file formats can be modified appropriately. The list file formats supports the use of Custom fields for label printing.

The format of your List files can easily be designed to suit your host computer system. For more information on Custom List Formats refer to the Section 6, KARMANLite List Files.

④ Pick & Place

To edit the format of Pick or Place List files press **Enter** on the highlighted button or use the shortcut keys **Alt & I**.

⑤ Verify

To edit the format of Verify List file press **Enter** on the highlighted button or use the shortcut keys **Alt & F**.

⑥ List File Delimiter

The default KARMANLite list file field delimiter is the 'semi-colon' character. This can be changed to an alternative character. Please ensure that this character does not conflict with any of the text in the file.

5.5.3 Misc

⑦ Auto Select Lists

Press the **Spacebar** to switch this option ON or OFF.

Parameter	Value	Description
Auto Select Lists	OFF <i>Default</i>	When set OFF, lists are manually selected by the operator from the List Selection form (refer to KARMANLite Operators Manual)
	ON	When set ON, all available Lists will be selected for processing at one time. The Auto Select List utility lets your host system control which lists are processed and when.

⑧ Old List Folder

The 'Old List Folder' is where the populated list files will be written after the list has been completed:

- Default Folder: C:\KARMANLite\Lists\Old

5.6 Peripherals

The 'Peripherals' tab has the following appearance:

Configuration

Verify | Reporting | Locations | Labels
General | Database | Lists | **Peripherals** | Carousel

PLC Setup

PLC Type: Demo ① Options

Port: COM3 ②

Scale Setup

Scale Type: Not Installed ③ Port: COM3 ④

Sortbench Setup

☐ Enable Sortbench ⑤ Sortbench Group ID: 1 ⑥

Sortbench Computer Name: Sortbench ⑦

No. of Bench Pos.: 10 ⑧

OK Cancel

5.6.1 PLC Setup

WARNING: INCORRECT SETTINGS COULD DISRUPT OPERATION

① PLC Type

Select the required 'PLC Type' from the drop down list. Kardex VCA will set up this field prior to installation and it should NOT be changed unless instructed by Kardex VCA.

② Port

Select the COM port that has been used to connect to your machine. Kardex VCA will set up this field prior to installation and it should NOT be changed unless instructed by Kardex VCA.

5.6.2 Scale Setup

WARNING: INCORRECT SETTINGS COULD DISRUPT OPERATION

③ Scale Type

Select the type of counting scale from the drop down list. KARMANLite will only support the scale types in the list.

④ Port

Select the COM port that has been used to connect to the scales. Kardex VCA will set up this field prior to installation and it should NOT be changed unless instructed by Kardex VCA.

5.6.3 SortBench Setup

WARNING: INCORRECT SETTINGS COULD DISRUPT OPERATION

5.6.4 SortBench Setup

Kardex VCA will set up configuration of your SortBench prior to installation and it should NOT need to be changed unless instructed by Kardex VCA.

Using the Kardex VCA SortBench in conjunction with your carousel is explained in Section 10, Peripherals.

Parameter	Value	Description
⑤ Enable SortBench	OFF <i>Default</i>	When set OFF, lists are manually selected by the operator from the List Selection form (refer to KARMANLite Operators Manual)
	ON	When set ON, SortBench support is enabled. The SortBench 32 application is required.
⑥ SortBench Group ID	1 .. N	Select a Group ID by pressing the up(↑) and down(↓) arrow keys to highlight the ID, or select one from the pull down menu
⑦ SortBench Computer Name	SortBench <i>Default</i>	Type in the computer name of the SortBench PC. The name should be written exactly as it is found in the network settings under the Identification Tab on the SortBench PC.
⑧ No. of Bench Pos.	10 <i>Default</i> 20	Type in the number of bench positions on your SortBench or use the up(↑) and down(↓) arrow keys to move the counter.

5.7 Carousel

The 'Carousel' tab has the following appearance:

Configuration

Verify | Reporting | Locations | Labels
General | Database | Lists | Peripherals | **Carousel**

Carousel Configuration

No. Carriers: 36 No. Bin Lights: 24
Max Carrier Weight: 250 kg Carousel Width: 3600 mm
Max Bin Locations: 12 (Min: 1, Max: 100)

☐ Remote Confirmation Button

☐ Secondary Access Door ☐ Enable Offset Carrier Number
4 Secondary Door Offset 0 Carrier Offset

☐ Enable Auto Door
Rotate Open

Edit Shelf Setup ① Bin Size Text ② Usage Info. ③
Check Carousel ④

OK Cancel

5.7.1 Carousel Configuration

WARNING: INCORRECT SETTINGS COULD DISRUPT OPERATION

Kardex VCA will set up these fields prior to installation and it should NOT be changed unless instructed by Kardex VCA. The physical configuration parameters on this form are determined during installation of KARMANLite and cannot be changed.

Parameter	Value	Description
No. Carriers	10 .. 54	The number of carriers in your carousel.
No. Bin Lights	16 .. 24	The number of bin lights on your carousel bench.
Max. Carrier Weight	750kg	The maximum weight allowed on each carrier in your carousel including intermediate shelves.
Width (mm)	2400 .. 4500	The width of your carousel.
Max No. of bin locations	1 .. 100	Change the maximum number of locations in your bins by typing the number in. The maximum number of bins is only limited by the amount of dividers you can fit into each bin.
Remote Confirmation Button	OFF Default	No remote confirmation buttons installed on carousel bench.
	ON	Remote confirmation buttons are installed on carousel bench. These buttons are used in conjunction with the Enter key during Pick or Place operations. The operator does not have to return to the console to acknowledge Pick or Place operations.

Parameter	Value	Description
Secondary Access Door Enabled	OFF <i>Default</i>	No Secondary access fitted.
	ON	Set to ON if your Carousel has a Primary and Secondary access.
Secondary Door Offset	4 <i>Default</i>	The Offset number is the amount of carriers between the Primary access and the Secondary Access on your carousel. [Only valid for Dual Access carousel]
Enable Offset Carrier Number	OFF <i>Default</i>	When set, this allows multiple machines to have carriers numbered consecutively.
	ON	
Carrier Offset	0 <i>Default</i>	The Carrier Offset should be set to highest carrier number in the previous machine.
Enable Auto Door	OFF <i>Default</i>	When set, this allows the door to open or close automatically. Select:
	ON	Rotate open - The machine will rotate with the door open. Rotate Closed - The door will closed before it will rotate the machine

5.7.2 Misc

① Edit Shelf Setup

Edit the Shelf Setup by pressing **Enter** on the highlighted button or by pressing the shortcut keys **Alt & E**. The Shelf Configuration screen will then be displayed:

The following key strokes can be used to navigate the fields on the Shelf Configuration form:

Action

Move forward to next field
Move backward to previous field
Save changes

Method

Tab
Shift & Tab
Alt & S, or
press **Enter** on the Save button

Reset changes

Alt & R, or
press **Enter** on the Reset button

Close the Shelf Configuration form

Alt & C, or
press **Enter** on the Close button

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The Shelf Configuration form has the following appearance:

Each Carousel location is uniquely defined by four addresses:

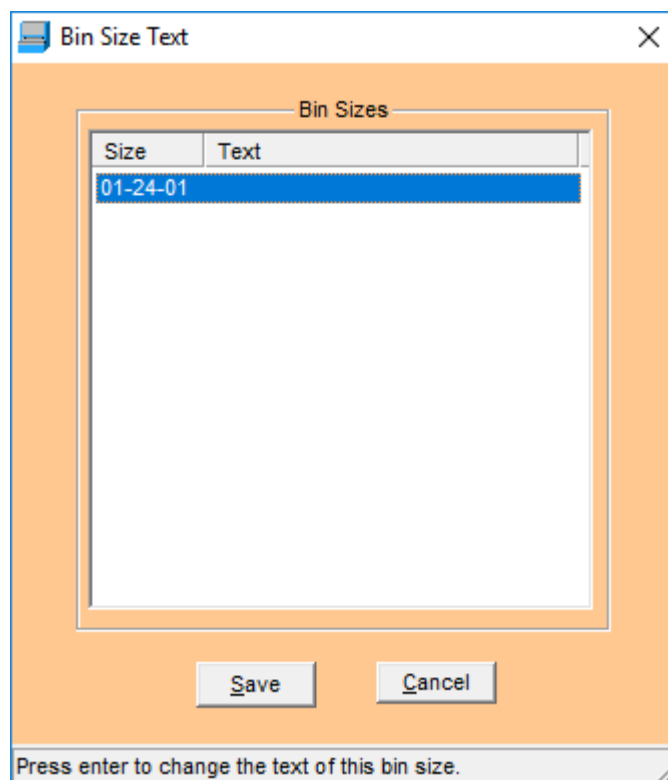
- Carrier
- Shelf
- Bin
- Location

Item	Range	Description								
Carriers	01 .. NN	<ul style="list-style-type: none">To select which carrier information to view use the up(↑) and down(↓) arrow keys.The shelf information for the highlighted carrier will be displayed. In the example, the shelf information for carrier 5 is displayed.								
Shelves	A ..E	Kardex VCA will set up your shelf configuration prior to installation and it should NOT be changed unless instructed by Kardex VCA.								
Bins	1 .. Max (Refer above table)	<ul style="list-style-type: none">To change the number of bins across a shelf, use the use the up(↑) and down(↓) arrow keys.The number of bins across a shelf may change. A standard 3600mm wide shelf will have a maximum of 24 x 150mm bins. A typical configuration for a 3600mm carrier is:<table><tr><td>Single Carrier (A Shelf)</td><td>12 x 300mm large bins</td></tr><tr><td>Two Shelves (A, B Shelf)</td><td>12 x 300mm large bins</td></tr><tr><td>Three Shelves (A,B, C Shelf)</td><td>24 x 150mm medium bins</td></tr><tr><td>Four Shelves (A,B,C,D Shelf)</td><td>24 x 150mm small</td></tr></table>	Single Carrier (A Shelf)	12 x 300mm large bins	Two Shelves (A, B Shelf)	12 x 300mm large bins	Three Shelves (A,B, C Shelf)	24 x 150mm medium bins	Four Shelves (A,B,C,D Shelf)	24 x 150mm small
Single Carrier (A Shelf)	12 x 300mm large bins									
Two Shelves (A, B Shelf)	12 x 300mm large bins									
Three Shelves (A,B, C Shelf)	24 x 150mm medium bins									
Four Shelves (A,B,C,D Shelf)	24 x 150mm small									

		<p>bins Five Shelves (A,B,C,D,E Shelf) 24 x 150mm small bins</p> <ul style="list-style-type: none">• The number of bins will depend on the height of the shelf. The maximum number of bins must match the bin lamp positioning along the carousel bench. To ensure the bin lamps match the bin positions, the number of bins should be a multiple of the maximum number of bins.								
Locations	1 .. Max (Refer above table)	<ul style="list-style-type: none">• To change the amount of locations in a bin, use the use the up(↑) and down(↓) arrow keys.• The number of Locations in your bins is determined by how many separate compartments each bin has. The maximum number of locations for each standard bin size is shown below: <table><tr><td><i>Bin Size</i></td><td><i>No.</i></td></tr><tr><td>Large</td><td>4</td></tr><tr><td>Medium</td><td>8</td></tr><tr><td>Small</td><td>12</td></tr></table> <p>NOTE: All bins on a shelf must have the same Location configuration.</p>	<i>Bin Size</i>	<i>No.</i>	Large	4	Medium	8	Small	12
<i>Bin Size</i>	<i>No.</i>									
Large	4									
Medium	8									
Small	12									

② Bin Size Text

It is possible to associate meaningful names to each bin size such as 'small', 'medium' and 'large'. This speeds up the bin selection process. The name can be up to twenty (20) characters long.

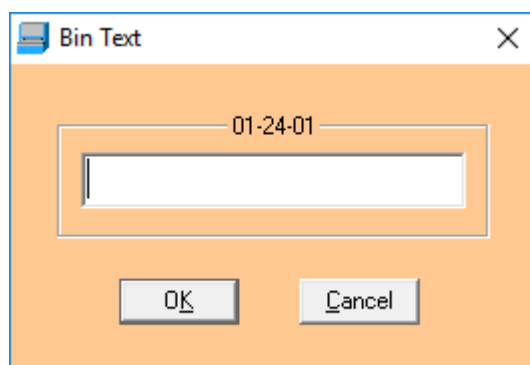


Edit the Bin Size Text by pressing **Enter** on the highlighted button or by pressing the shortcut keys **Alt & B**. The Bin Size Text screen will then be displayed:

Action

Scroll through the Bin Sizes

Select a Bin Size

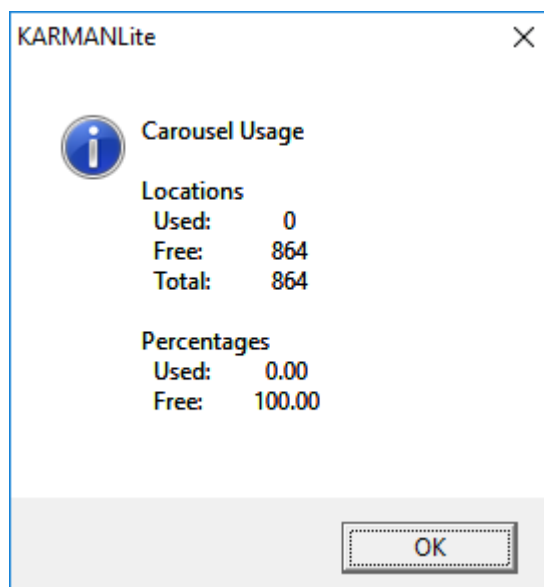
Save changes and close formCancel changes and close form**Method**Press **up(↑) & down(↓) arrow key**Press **Enter****Alt & S**, orpress **Enter** on the Save button**Alt & R**, orpress **Enter** on the Cancel button

When you select a Bin Size the Bin Text window will be displayed. Type the name of the bin size and press **Enter**. The text should easily explain the size of the bin.

In the example, **05-024-05** means, **05** is the carrier height which in this case is divided into 5 shelves. **024** is the number of bins across the carrier and **05** is the amount of compartments in each bin. These three numbers give you the height, width and depth of a compartment and you can name the sizes accordingly.

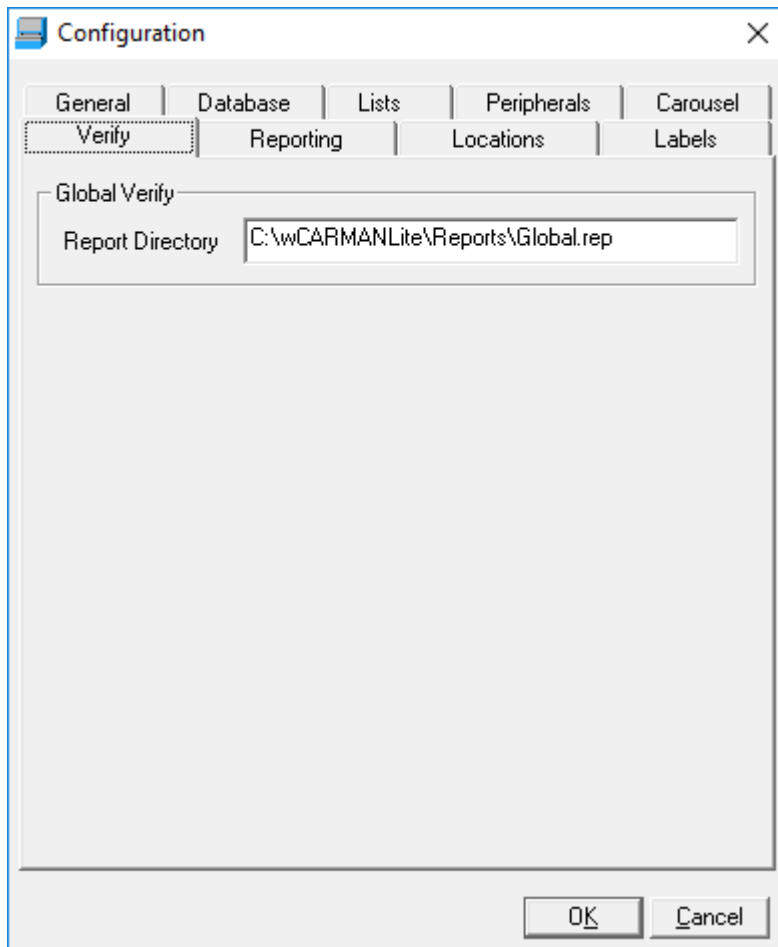
③ Usage Info

Select the Usage Info by pressing **Enter** on the highlighted button or by pressing the shortcut keys **Alt & U**. The Carousel Usage statistics will then be displayed.



The Usage statistics shows information about the location usage in the machine in absolute and percentage terms.

5.8 Verify

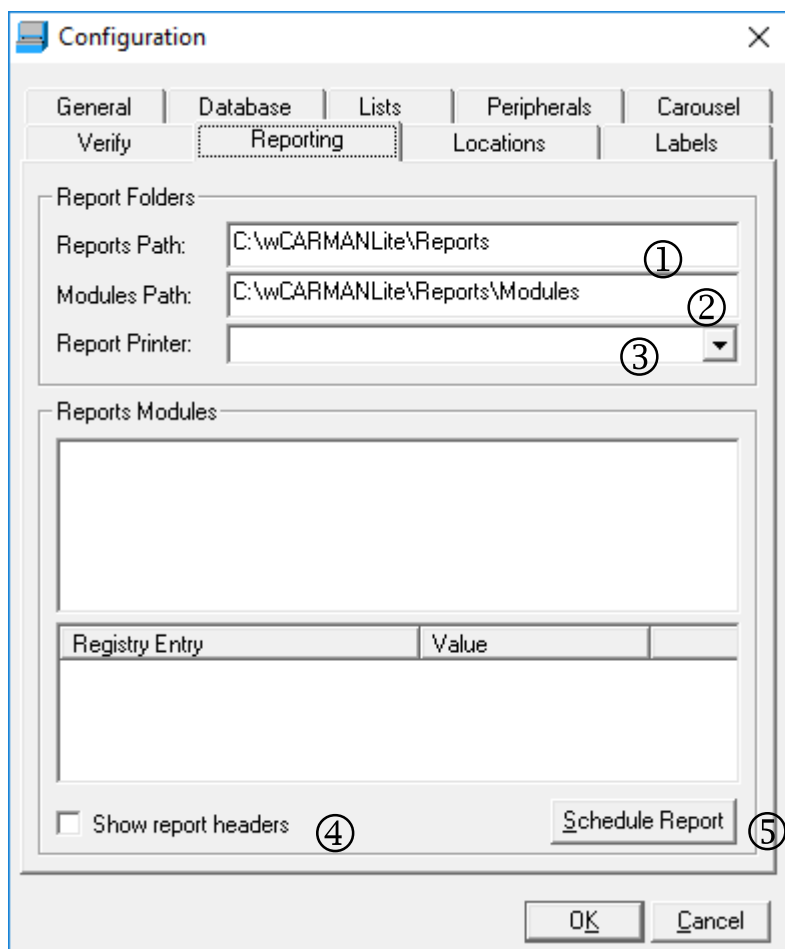


5.8.1 Global Verify

This is the location where the Global Verify report will be saved too. This location can be changed the user, by changing the file path.

5.9 Reporting

The 'Reporting' tab has the following appearance:



5.9.1 Report Folders

① Reports Path

The Reports Path is the location where KARMANLite reports will be written to.

- Default Path: C:\KARMANLite\REPORTS

② Report Modules Path

The Reports module Path is where KARMANLite will look for report modules when they are selected from the Tools menu.

The Report Modules contain the configuration settings for each report that is available from the Tools \ Reports menu.

- Default Path: C:\KARMANLite\REPORTS\MODULES

③ Report Printer

The Report printer is a drop down box if the user wants the option to print the report when it is created. Default selection is blank (no printer).

5.9.2 Reports Modules

The 'Report Modules' window shows the reports that are available in KARMANLite. Each report can be selected and the relevant parameters configured to suit your requirements.

To select a Reports Module for editing, tab into the window and use the **up(↑) & down(↓) arrow key**, or double click the required report with your mouse.

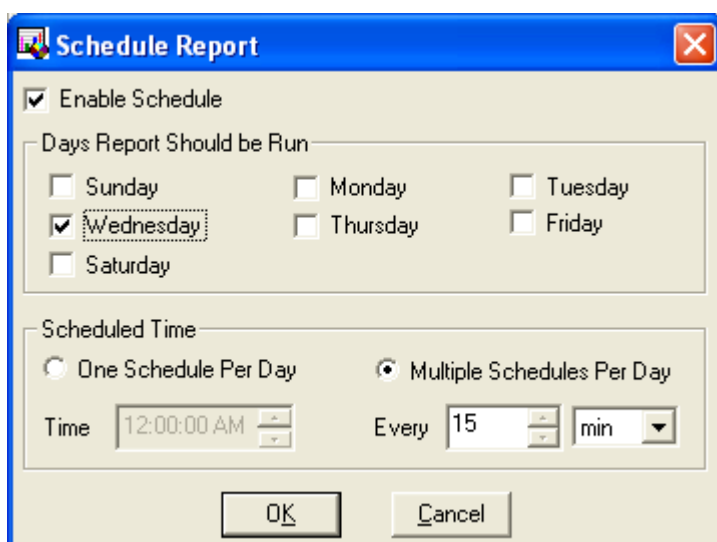
Each Report Module can be configured in the window below the reports to best suit your reporting needs. The available options are listed below. To find out more information about Reports refer to Section 8, Reports.

Parameter	Value	Description
File Name	<Report>.REP <i>Default</i>	<ul style="list-style-type: none"> Type the full file name and file extension. The name of each report can be changed to suit your needs. For example, use a < >.csv so the report will automatically open in MS Excel.
Action	<ul style="list-style-type: none"> New and overwrite existing report New and keep existing report Append to existing report 	<ul style="list-style-type: none"> A new report will be generated each time the report is run. If there is an existing report, it will be overwritten. A new report will be generated each the report it is run. If there is an existing report, it will be renamed. The report will be appended to the existing report each time it is run..
Rollover Size	512 <i>Default</i>	Type in a number in Kb. If you are using Append to existing report the maximum size of the report can be set here so that the file never gets too big to open.
Generate Report at Startup	OFF (0) <i>Default</i> ON (1)	<ul style="list-style-type: none"> Turn this function ON or OFF using the Spacebar. The report can be automatically set to run every time KARMANLite starts up.
Generate Report at Shutdown	OFF (0) <i>Default</i> ON (1)	<ul style="list-style-type: none"> Turn this function ON or OFF using the Spacebar. The report can be automatically set to run every time KARMANLite shuts down.
Printer Template	<Report>.TPL <i>Default</i>	<ul style="list-style-type: none"> This is the template design of how the report is printed out in.
Records Kept For n Months	12 <i>Default</i>	<ul style="list-style-type: none"> Type in the amount of months you want the records kept for. Once their expired they are deleted automatically.
Show report headers	OFF <i>Default</i> ④ ON	<ul style="list-style-type: none"> Turn this function ON or OFF using the Spacebar. When on every report that is created has headers displayed in them.

⑤ Schedule Report

All reports can be scheduled. KARMANLite can schedule a report to run at a certain time on selected days or a number of times during the day.

To schedule a report, select it from the Reporting Modules list using the **Up(↑) & Down(↓) arrow keys**, then press the **Tab key** to get to the Schedule Report button and press **Enter**. The 'Schedule Report' screen will be displayed:



The report can have the scheduling enabled by pressing the **Space bar** as soon as the form is opened. You will then need to select the days you require the report to run, followed by your timing requirement.

Days Report Should Run

The required day(s) can be selected by using the **Tab key, Up(↑) & Down(↓) arrow keys or the Left(←) & Right (→) arrow keys** followed by the **Space bar**.

Scheduled Time

The timing regime can be selected by using the **Tab key** followed by the **Left(←) & Right (→) arrow keys**. Use the **Tab key** to move to the 'Time' field and the **Up(↑) & Down(↓) arrow keys or the Left(←) & Right (→) arrow keys** to set the required time. The shortest report interval is 15 minutes.

5.10 Locations

The 'Locations' tab has the following appearance:

5.10.1 Location Name

① Name Mask

The definition of the elements of the name mask is given on the form:

Mask	Use	Description
&M\&m	Machine ID	Can be an area identifier in your warehouse i.e. 'WH1VC1-'
&C\&c	Carrier	Carrier number i.e. '&M=01, &m=1'
&S	Shelf (Alpha)	Shelf Designation i.e. 'A, B, C, D, E'
&N\&n	Shelf (Numeric)	Shelf Designation i.e. '&N=02, &n=2'
&B\&b	Bin	Bin position on Shelf i.e. '&B=07, &b=7'
&L\&l	Location	Location in Bin i.e. '&N=04, &n=4'
&&	&	

Use Uppercase Letters for a two character field and lower case letters for a single character field.

The Name Mask should be adapted to match your area naming convention in the warehouse.

② Example

This field shows an example of the location format that KARMANLite expects to see. Use this format for PICK and PLACE Single and also ensure the location format in your list file matches the example.

5.11 Labels

The 'Labels' tab has the following appearance:

Configuration

General | Database | Lists | Peripherals | Carousel
Verify | Reporting | Locations | Labels

Label Printer

Printer Type: [Dropdown] (1)

Label Setup

Label Folder: [Text Field] (2)

Pick List Label: [Text Field]

Pick Single Label: [Text Field] (3)

Place List Label: [Text Field]

Place Single Label: [Text Field]

☐ Auto Print Label (4)

Upload Labels (5)

OK Cancel

5.11.1 Label Printer

① Printer Type

All printers installed under windows on the Carousel PC will automatically appear in the list of Printer Types. To scroll through the printers press the **up(↑) & down(↓) arrow keys**.

5.11.2 Label Setup

Parameter	Value	Description
Label Folder ②	C:\KARMANLite\labels\	The full path including drive letter should be entered. KARMANLite will look for label printer formats in this path.
Pick List Label ③	Customer specific	The label format to be used for Pick List Labels.
Pick Single Label		Not used in KARMANLite.
Place List Label	Customer specific	The label format to be used for Place List Labels.
Place Single Label		Not used in KARMANLite.
Auto Print Label ④	ON OFF	Label will automatically print after a quantity has been confirmed. Label can be printed on demand by pressing F10.
Upload Label ⑤		Uploads label formats to the printer. The label formats need to be uploaded to the printer each time the label format is changed.

6 KARMANLite LIST Files

List files are used to facilitate automatic sequential pick or place operations at the machine. The list is generally an electronic copy of the 'Goods Received Advice' or a 'Pick Slip'. The list is created by the host inventory system.

List files can be based on customer orders, works orders or bills of material. There is no practical limit to the number of parts in a List.

KARMANLite refers to lists generated by the high level inventory system as HOST List files. The HOST creates the files and either deposits them directly to a folder on the Carousel PC or to a shared folder on the site LAN where Kardex VCA's utility file handling software will pick up the files. Refer to Section 5.5 for details of list configuration.

It is possible to customise the List format and KARMANLite also supports custom fields. For example, custom fields can be added to hold delivery address information that can then be used to print labels or delivery dockets. Refer to section 6.3 Custom List Formats for more information.

KARMANLite identifies a file type i.e. Pick, Place or Verify List, by the List file extension. The file extensions can be changed to suit your requirements in the Lists configuration section. The KARMANLite default file extensions are shown below:

LIST Type	HOST
Pick	GPK
Place	GPL
Verify	GVY

6.1 Default List File Formats

The default KARMANLite List format for Picking and Placing is as follows:

FIELD	DESCRIPTION	SIZE	COLUMN NUMBER FOR ;
1	Status	1	2
2	Location Name	30	33
3	Part Number	30	64
4	Description 1	60	125
5	Unit	10	136
6	Required Quantity	8	145
7	Confirmed Quantity	8	154
8	Old Location Quantity	8	163
9	New Location Quantity	8	172
10	Old Total Quantity	8	181
11	New Total Quantity	8	190
12	List ID	20	211
13	Priority	3	215
	CR/LF	2	

The default Pick / Place List file has the following characteristics:

- The fields are fixed length
- The delimiter is defaulted to “;” this can be changed to suit your requirements in the Lists configuration section.
- The size of each record in the default file MUST be 217 bytes.
- Fields 2, 6, 8 and 10 are required. Field 3, 4, 5, 12 and 13 are optional. All other fields are populated by KARMANLite after the List file has been processed.

The default KARMANLite List format for Verifying is as follows:

FIELD	DESCRIPTION	SIZE	COLUMN NUMBER FOR ;
1	Status	1	2
2	Location Number	30	33
3	Part Number	30	64
4	Description 1	60	125
5	Unit	10	136
6	Old Location Quantity	8	145
7	New Location Quantity	8	154
8	List ID	20	175
	CF/LF	2	

The default Verify List file has the following characteristics:

- The fields are all fixed length
- The delimiter is defaulted to “;” this can be changed to suit your requirements in the Lists configuration section.
- The size of each record MUST be 177.
- Fields 2 & 6 are required. Field 3, 4, 5, and 8 are optional. All other fields are populated by KARMANLite after the List file has been processed.

CARMAN 2000 Backward Compatibility

KARMANLite supports the DOS CARMAN List files.

FIELD	DESCRIPTION	SIZE	COLUMN NUMBER FOR ;
1	Status	1	2
2	Machine Number	3	6
3	Shelf Number	3	10
4	Bin Number	3	14
5	Location Number	3	18
6	Part Number	30	49
7	PICK/PLACE/VERIFY quantity	8	58
8	Old Stock quantity	8	67
9	New Stock quantity	8	76
10	Confirmed Quantity	8	85
11	List Identifier	20	106
12	List File name	12	119
	CR/LF	2	

The default CARMAN 2000 List file has the following characteristics:

- The fields are all fixed length, separated by a “;”
- The size of each line MUST be 121 bytes.
- Fields 6 and 7 are required. Field 11 is optional. All other fields are populated by KARMANLite after the List file has been processed.

6.2 Populated (Confirmation) List File

After List files have been processed, KARMANLite populates the empty fields with information from the carousel database and writes the List file to the Old list directory, which is set in the Lists configuration section.

The list confirmation file is intended to provide actual inventory movements back to the host inventory system. Interpretation of the list confirmation file will pick up actual pick quantities in the case that stock levels were not as expected.

As seen on the previous page, the first field in the populated list file is the status field. This field indicates whether the operator was successful in performing the required operation or whether manual intervention was required.

Status Code	Descriptions
J	Part has been Picked/Placed/Verified successfully
N	Location not found in database
Y	Quantity altered by operator

6.3 Interrupted List Files

If for any reason the processing of a List is interrupted KARMANLite will retain the list information. The list can then be resumed from the INTERRUPTED section of the Select Lists window. This process is explained in detail in the List section of the KARMANLite Operators manual.

6.4 Custom List Format

To add, remove and customise lists to suit your requirements, select System \ Configuration from the Main Menu. Go to the 'Lists' tab and click on the button **Pick and Place**.

Custom List Format

Current fields:

Field Name	Size	State
Status	1	Empty
Location Name	30	Fill
Part Number	30	Either
Description 1	60	Either
Unit	10	Either
Required Quantity	8	Fill
Confirmed Quantity	8	Empty
Old Location Quantity	8	Fill
New Location Quantity	8	Empty
Old Total Quantity	8	Fill
New Total Quantity	8	Empty
List ID	20	Either
Priority	3	Fill

Record Size: 217 Move Up Move Down

Available fields:

Field Name	Size
Machine	3
Shelf	3
Bin	3
Location	3
List File Name	12
Long File Name	30

Add Field... Delete Field

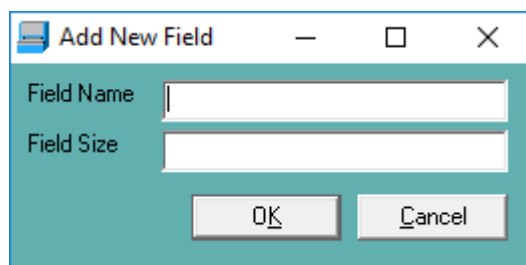
List type:

☐ DOS Carman default
 ☒ Windows Carman default
 ☐ Custom list format

OK Cancel

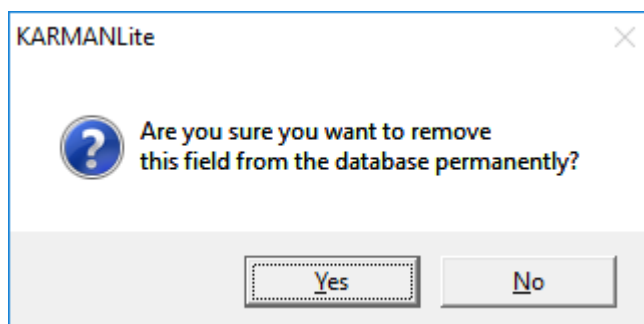
kardexremstar

To add a field press **Alt A** or tab to the **Add Field** button and press **Enter**, then enter the Field name and Field Size.

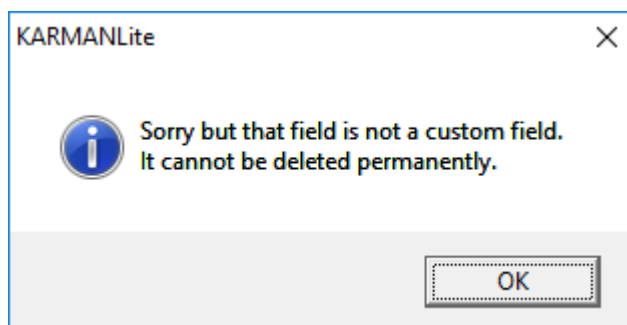
A dialog box titled "Add New Field" with a teal background. It contains two text input fields: "Field Name" and "Field Size". Below the fields are two buttons: "OK" and "Cancel".

To delete a field, select it using the **arrow keys** and press **Alt E**. You can only delete fields that have been customised (with a C next to it). Fields can only be deleted when they are in the Available fields section, because once they have been moved over to the Current fields side they are not a custom field anymore.

The following message will then appear. Press **Enter** or **Alt Y** to delete the field, or tab to **Alt N** and press **Enter** to cancel.



If you try to delete a field that is not a custom field the following error message will appear:



Once created the new field will be placed in the Available fields section. Select the desired field using the **arrow keys** and press **Enter** to move field across to the Current fields table, or highlight the desired field name and tab to the **left facing arrow button** and press **Enter**.

The new field will be presented at the bottom of the 'Current Fields' list. Kardex VCA would recommend leaving custom fields at the bottom of the field list. If you do need to change the relative positioning of the fields, you can use the Move Up and Move Down buttons to do so.

7 STOCKTAKING YOUR CAROUSEL

'Verify' is Kardex VCA's terminology for the stocktake process. In addition to the mechanisms in place to maximise your stock accuracy, such as pick to zero confirmation, KARMANLite provides a method to verify the location quantities in the Carousel.

The method is described below:

Verify Method

- **List**

This method is used to Verify the location quantities of multiple parts in the carousel. The details of each Verify operation are reported in the List file. KARMANLite will present each location in the list file consecutively. The location quantity may be displayed if provided in the list file and the counted quantity (by operator) is recorded in the list confirmation file.

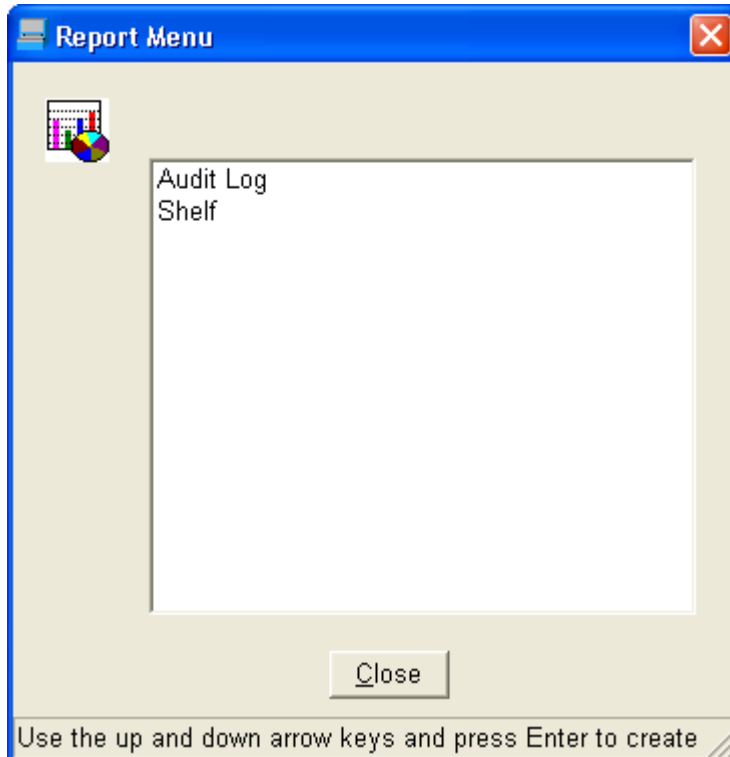
This method may be used for regular checks of fast moving or valuable items. If the list is retained, the same list can be run periodically.

The Verify process is characterised as follows:

- ◆ The Verify \ List method can display quantities on the screen. The location quantity would need to be provided from the host system. Kardex VCA does not recommend including the location quantity to ensure that the location is actually counted.
- ◆ The Verify \ List method will produce a list confirmation file at the end of the process. The file contents should then be interpreted by the host system to determine location variances etc.

8 REPORTS

The Reports Menu can be accessed via the Tools Menu and has the following appearance:



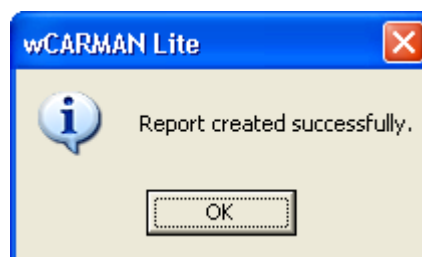
Action

Move through Reports
Select Report
Close window

Method

up(↑) and down(↓) arrow keys
Enter
Alt & C or **Tab** to the Close button and press **Enter**

When you select a report and press **Enter**, the report will be created in the 'Report Folder' (refer to Section 5.9) and the following confirmation message will appear.



Press **Enter** to clear the confirmation message. KARMANLite will then return you to the Report Menu.

The standard Reports are Audit Log and Shelf. Kardex VCA can design other reports to suit your companies reporting needs. For more information please contact Kardex VCA.

8.1 Audit Log Report

The Audit Log report is a complete audit trail of all operations and processes. From the Audit Log you can trace every Pick, Place or Verified item, the time, the date, the username and so on. Each line in the report consists of the following fields.

FIELD	FIELD NAME	FIELD DESCRIPTION
1	Status	Letter I for Information.
2	Date	Date of the operation – YYYY-MM-DD
3	Time	Time of the operation – HH:MM:SS
4	User Name	User Name that performed operation.
5	Part Number	Part Number.
6	Operation	Operation performed – eg. PICK
7	Operation Method	Operation method – eg SINGLE or List name
8	Location	Location of the Part number – eg. 01A-01-01
9	Operation Quantity	Quantity required of the operation
10	Confirm Quantity	Quantity confirmed for the operation.
11	Total Quantity	Total quantity after the operation.
12	List Identifier	List Identifier.
13	Not Used	
14	Old Location Quantity	Location quantity before the operation.
15	New Location Quantity	Location quantity after the operation.

8.2 Shelf Report

The Shelf Report is a List of all locations in your carousel, with a total quantity of locations and a total quantity of used locations. Each line in the report consists of the following fields.

FIELD	FIELD NAME	FIELD DESCRIPTION
1	Shelf Number	Shelf Number.
2	Bins	Number of bins on the shelf.
3	Locations	Number of locations in each bin.
4	Used Locations	Number of used locations in each Shelf.
5	Total Locations	Total number of locations on each Shelf.

9 Interfacing KARMANLite

KARMANLite uses an ODBC compliant SQL database which can be configured as a stand alone or client / server configuration for multiple carousel environments.

In a standalone configuration, all machine movements are initiated by entering the required machine location as defined by the location mask (Refer to Section 5.10).

In an interfaced configuration, the Carousel is driven by location information provided from the host inventory system. In addition to the location details, the host can also provide meaningful information such as:

- Part ID
- Lot Number
- Description
- Unit
- Location Quantity

A Pick \ List screen would have the following appearance:

From the operator's perspective, the Carousel appears as a comprehensive inventory system. KARMANLite is a convenient way to provide information details to the operator without the need to duplicate inventory information in the Carousel system.

This is an ideal setup when the host inventory system contains comprehensive tracking information about inventory items that would be impractical to transfer to the Carousel system.

10 Peripherals

KARMANLite™ Lite has support for a range of peripheral equipment including:

- Kardex VCA SortBench
- Bar Code Scanners
- Label Printers
- Counting Scales

10.1 Kardex VCA SortBench™

The SortBench™ is a place to light system that facilitates simple picking of multiple orders from multiple machines.

SortBench™ facilitates the picking of multiple orders consecutively from your Carousel or Shuttle. The SortBench can be used with single machines and is ideal in multi-machine environments. One operator can successfully pick up to twenty orders at a time from up to four Carousels. If a SortBench™ is included in the scope of your system delivery, Kardex VCA will have set up all configuration parameters for you. These parameters will only need to change if you change your file structure or you need to increase the size of your bench.

The maximum number of lists that can be picked at any time is determined by the physical configuration of the bench. Our SortBench typically has ten (10) or twenty (20) stations.

For more information on our VCA SortBench please contact Customer Services or refer to the SortBench User Guide delivered with your system.



10.2 Barcode Scanners

KARMANLite™ Lite can use keyboard wedge and USB barcode scanners for location entry during Pick \ Location or Place \ Location operations. Use of barcode scanners will minimise keystroke entry and thus error at the keyboard.

For more information on the use of barcode scanners with KARMANLite™, please contact Customer Services.



10.3 Printers

KARMANLite™ Lite supports label printing to some Intermec and Zebra printer. Refer to Section 5.11 for a list of printer types currently supported. Kardex VCA can custom design labels to suit your requirements. Order number and associated part information contained in the list files can be printed on labels along with pass thru data presented via custom fields in list files. Labels can be generated automatically or on demand.

KARMANLite™ Lite support for custom list fields enables additional pass through information to be printed on labels such as customer name and address.

For more information on using Printers please contact Customer Services.



10.4 Counting Scales

Integrated counting scales are a particularly useful addition to a machine system where parts are typically quite small and picked or placed in large quantities.

KARMANLite™ Lite supports the DIGI DC120 range of scales where the unit weight of a part is passed to the scale at the start of the Pick or Place operation. The operator will then use the scale to ensure the correct quantity is recorded for the transaction.



For more information on using Counting Scales please contact Customer Services

11 BACK UP Recommendations

KARMANLite keeps all of its database files in the KARMANLite folder situated on the root directory of your hard drive.

This folder and all of its sub folders should be included in your usual network backup routine. All your configuration settings are found in the Windows registry. These settings should be printed out or exported and backed up whenever changes to your configuration settings are made.

The registry settings are found in the windows registry editor at:

HKEY_LOCAL_MACHINE\Software\Kardex VCA\KARMANLite

KARMANLite has a backup routine installed that when turned ON in the configuration will automatically backup the Registry settings, Database and Database log file to a specified path. This path should then be included in your company's daily backup strategy.

NOTE: This backup is automatically overwritten

KARMANLite will be delivered on a CDROM. The installation instructions are in the installation section at the beginning of this manual.

PC Files

New installations – The PC supplied with your carousel will be delivered with a recovery diskette that will contain the operating system and all of the hardware device drivers.

Pre-existing installations – the PC that was supplied with your carousel was delivered with all of the hardware device drivers and operating system on diskettes or CDROM.

Kardex VCA can help design a backup strategy for your carousel. For carousels that are not on a network, Kardex VCA has designed backup packages that include a Zip drive and an automatic backup scheduler that copies all required files and registry settings to a zip drive on a daily basis.

Please contact Kardex VCA for more information.

12 Security For Your Carousel

KARMANLite has been designed with security for your stock as the foremost consideration.

User names and passwords are required to start KARMANLite and each user name can be given access ranging from a single operation to all operations. The Audit Log will track all transactions at the carousel and can be used to allocate costs to particular cost centres if required.

The Inactivity Logout Delay is one of the many ways KARMANLite has been designed to help keep your stock safe and secure. When using this option KARMANLite will automatically logout when there has been no activity at the Main Menu for a specified amount of time. With the carousel mode selected to AUTO, the carousel can only be rotated using KARMANLite.

The Move to Carrier on Logout option will automatically rotate the carousel to a specified shelf whenever KARMANLite is logged out. When used in conjunction with the Inactivity Logout Delay and a carousel with Automatic Doors, a very secure environment is provided for your carousel stock.

To enable these modes of operation, refer to Section 5, Customising KARMANLite.

13 Troubleshooting

13.1 Vertical Carousels

If the Carousel is operating in MANUAL mode, and a fault occurs, the yellow lamp on the local panel will light. Pressing the RESET pushbutton can reset the FAULT lamp, when the problem has been cleared.

If the Carousel is operating using KARMANLite, an error message will appear on the KARMANLite display. Refer to the KARMANLite Operators Manual for a comprehensive description of each fault.

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

(i) Check the for Power

The wall switch or circuit breaker in your power board should be ON. The Main Isolator on the carousel should be ON. This is located on the right-hand side of the carousel. The fluorescent lights above the carousel bench will be ON if power is available.

(ii) Check the Emergency Stop Buttons

These should be rotated to the OFF position. It is sometimes difficult to tell whether they are set correctly. It is a good idea to rotate them in the direction marked to make sure.

(iii) Check the Photocell Eyes

Ensure that the Photocell Eyes are not blocked. If you are using KARMANLite an error message will be displayed.

(iv) Check the Light Grid (post 1998)

Ensure that the light grid is not obstructed. If you are using KARMANLite an error message will be displayed.

(v) Check the Access Doors (Biparting - pre 1998)

Ensure that the access doors are not forced down below the normal operating position.

(vi) Check the Access Panels

Ensure that all the access panels are correctly fitted, particularly if you have disturbed them recently.

(vii) Check the Machine Mode on Local Panel

The local panel is located on the right-hand side of the carousel. If you are using the PC controller, check that the AUTO/MAN switch is in AUTO.

To drive the carousel with the pushbuttons on this panel, select MAN and press the UP or DOWN pushbutton.

If you can not determine the cause of the problem, you should make sure KARMANLite is running and then try to rotate the carousel using 'Move To Shelf'. When the shelf number is selected and the Enter keyed is pressed, KARMANLite should bring up an error message relating to the problem.

Refer to the KARMANLite Operators Manual for a comprehensive description of Carousel faults.

13.2 Shuttle

To be added.

14 Servicing and Assistance

In most instances, new machines are covered by a 12-month or 24-month warranty.

The first service is usually conducted four to six weeks after the machine is loaded, and you will be contacted by our Customer Service Manager to organise a convenient time (within normal business hours).

Service and Maintenance programs are managed from our Wodonga office. Before your machine is due for its second service, our Customer Service manager will contact you to organise the necessary maintenance program for your site.

Each machine should be serviced twice in its first year of operation and twice yearly thereafter.

For any problems or assistance please contact:

Kardex VCA Customer Service
Wodonga Office [Australia]
Phone: +61 2 6056 5173
Fax: +61 2 6056 2422
Email: support@kardex.com.au

Where problems cannot be immediately resolved, a service call will be arranged. Kardex VCA has trained Service Agents in regional centres and all capital cities.