# CARGOMANAGER - Getting Started:

1. Installation.

If you are carrying out a TRIAL of **CARGOMANAGER** then the CD will contain a fully functional version of the software which will function for a limited time period - up to 21 days. [Those who have purchased a license should follow the installation instructions provided with their licensed CD].

Trial copies **(only) MUST be installed LOCALLY on your computer (e.g. C: drive).** After installation is complete Exit from the CD menu system. The application can then be run by selecting **Start / Programs / CARGOMANAGER / runcargo**. The rest of this very brief guide should help get you started. A **full manual** can be accessed from within the installed application (e.g. from the opening screen).

2. What you will be able to do.

CARGOMANAGER is a powerful suite of programs which allows you to quickly and easily determine:

- Whether a given cargo can be loaded into a given container / trailer size and exactly how this can be achieved.

- Which of a number of available container / trailer sizes is best suited for a given consignment - CARGOMANAGER will rank these for you.

- What additional cargo can be accommodated into any partly full container / trailer.

- How many containers are required to accommodate a given cargo set and what additional cargo can be loaded into any spaces remaining in any of them.

- and quickly produce detailed load plans and picking lists for each container / trailer as well as a miniature overview (as below) of all the containers.
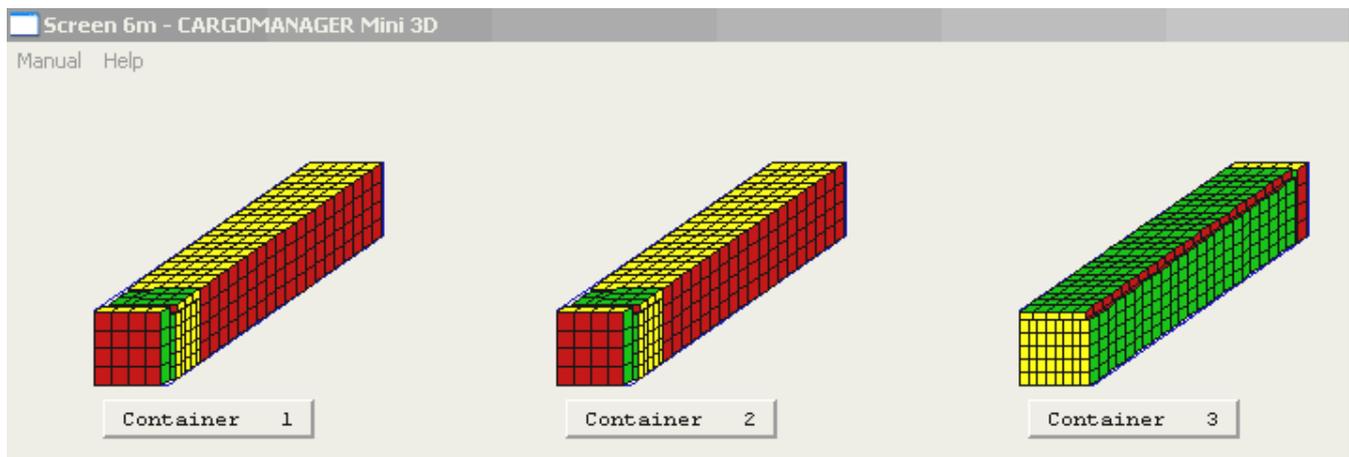
In doing so a wide range of practical considerations - priorities, weight, fragility etc are considered. Solutions typically take just a few seconds to produce and thus can be used for both load planning and telephone orderline support.

When you first try out the software on your own problems you will need to have available

dimensional information on your products - once this data has been entered once, then data entry for each item in a consignment is just a mouse click away.

Data formats used by **CARGOMANAGER** ensure that should you have product information available on other IT systems (e.g. in a spreadsheet), then this can be used as database or consignment data

3. Getting Started.

*Start **CARGOMANAGER** from the Start / Programs / CARGOMANAGER entry which will have been set on your machine.*

After an introductory screen the Opening Menu Screen is shown below:

CARGOMANAGER input comprises of container and consignment details.

If a new problem is about to be investigated (as we will illustrate below) then **New Data** is selected.

If consignment data has been entered previously and perhaps some changes are needed to this then **Data File** would be selected.

A full online **Manual** can be accessed and well as the GOAL Internet site.

CARGOMANAGER has an inbuilt database of Container Sizes - **ContBase** (which users can configure to the sizes of their containers and trailers), together with a database of cargo items - **Itembase**. The Itembase can be created from data held in other systems (e.g. via a spreadsheet using our MAKEIB utility), or gradually built up by making manual entries as you use the system. **Linkfile** allows input of complete consignment data from other computer systems.

4. How many containers are needed?

CARGOMANAGER can tackle loading problems involving just a single container load or a consignment requiring 100 or more containers. The basics of data entry are the same in all instances and as a first step we will show how to determine the number of containers needed for a very simple consignment.

*To tackle a new loading problem the **New Data** option is selected.* You are then invited to give the consignment you are to input a title or description.

After making some suitable entry and selecting **Proceed** you are then presented with some possible container / trailer sizes as held in the Container Database. In practice you will use the Contbase option on the main menu screen to set up your own set of possible container / trailer sizes. [Standard internal container sizes vary slightly from company to company].

On this occasion we wish to use a 40ft Std Steel (Maersk) container - the first entry in our container table. We *use the mouse to select this from the list*, and the details are then displayed just in case we wish to modify them for the current run.

Code/Description		Dimensions(mm)			Wt. Limit (kg)
40ft Std Steel (Maersk)	–	12035 x	2350 x	2393	28800.0
ISO Container 1AA,　40ft.	–	11998 x	2330 x	2350	30000.0
ISO Container 1B,　30ft.	–	8931 x	2330 x	2197	25000.0
ISO Container 1A, 40ft.	–	11998 x	2320 x	2197	28000.0
20ft Std Steel (Maersk)	–	5896 x	2350 x	2385	24850.0
40ft High Steel (Maersk)	–	12035 x	2350 x	2697	30200.0
45ft High Steel (Maersk)	–	13556 x	2352 x	2697	27820.0

> If you have an evaluation system then you will have to select the (different) fixed container size. However the basic ideas described below can be followed through.

Having selected OK you will be presented with one of a number of 'User Tip' screens which explain what you can do next. Once you have become familiar with the system you can (as described on the Tip screen) choose not to display these. If you find these annoying you can at any time tick the box to stop them being displayed. They can always be re-activated on the CARGOMANAGER opening screen.

The next step is to specify the items in the consignment. For each item we will need to input the dimensions, weight and quantity, and indicate the orientation(s) valid for packing. We will also need to indicate special considerations (e.g. weight, fragility etc).

> On this occasion we will assume that our problem is to load CATERING items of size 590*460*535, each weighing 40.5kg. We have an order for 1600 of these - how many 40' containers are required?

When first displayed the screen data entry fields await completion and in the picture overleaf we have entered details of our (single) consignment item. A smaller database screen will typically be shown to the left of the above screen, this is discussed later and provides cargo input 'with a single click of a mouse'.

You will note from the data entry screen that as well as entering the dimensions, a quantity to ship and the weight of our product, we have left the two orientation boxes ticked - this means that the boxes can be loaded in any orientation.

You will also note that there are data entry fields available to cater for heavy or fragile cargo items. Also, the ability to specify packing priorities is useful when packing either multi-drop loads or when you have some essential cargo to send together with additional filler items.

If we had more cargo to specify we would select 'Add more Items' and continue until the Cargo list was complete. Later in this guide we will also show how to enter all the above product data with the click of the mouse. On this occasion we select *Cargo List Complete*. We are then invited to select the type of loading required. Our objective in this instance is to maximise fill *so we accept the first option and Continue.*

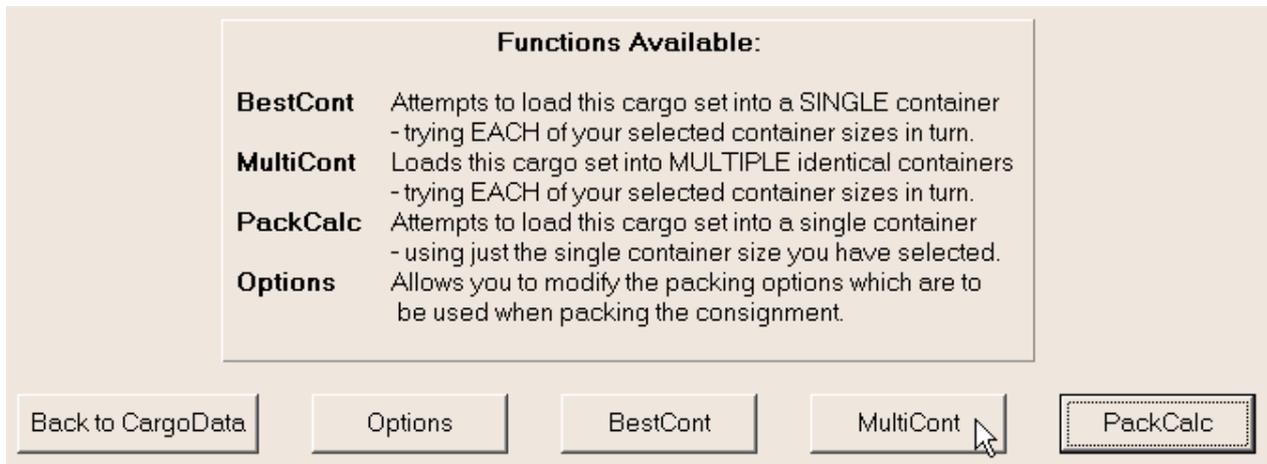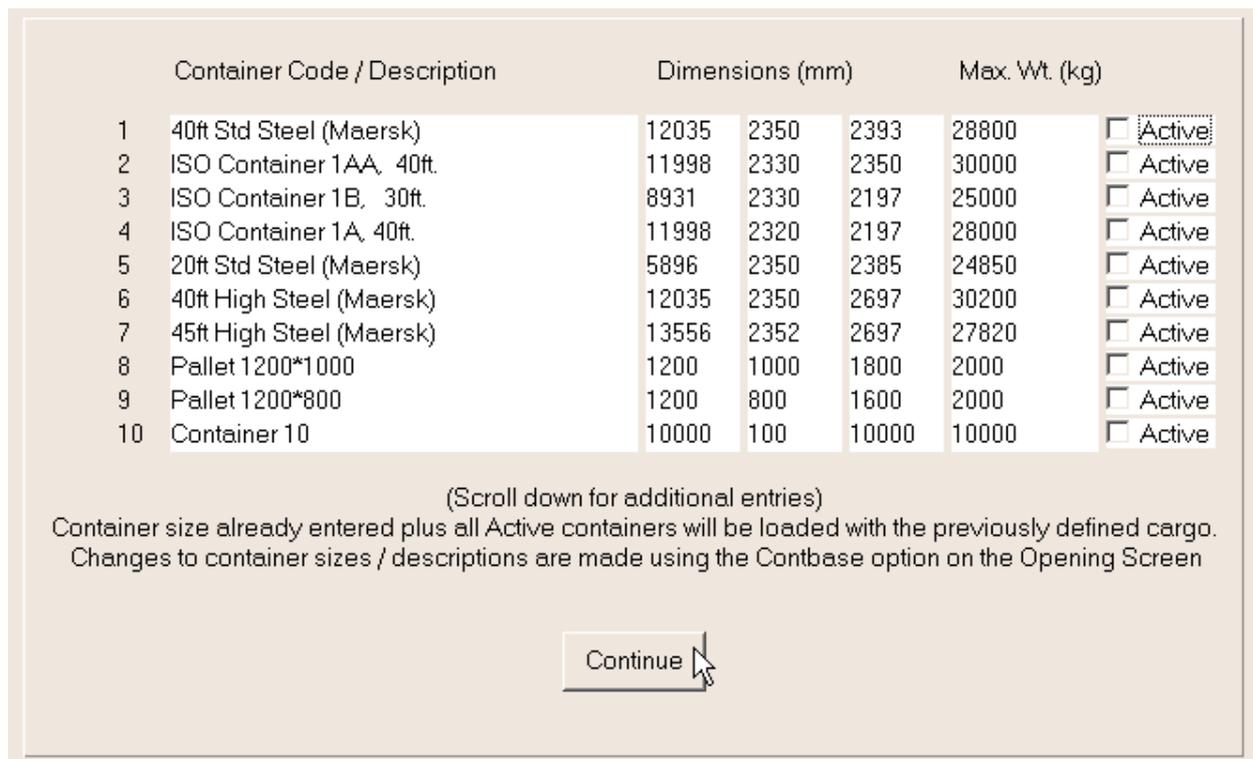The screen that follows (aside from any User Tip Screen), provides you with details of the cargo volume, the container volume and the percentage fill which would need to be

achieved in order to pack the whole consignment. In this instance a fill of 343.26% - nearly 3.5 containers worth. The bottom half of the screen (below) shows the options now available. Here we will select **Multicont** to load the given consignment into multiple containers of the size we have already specified.

Functions Available:

BestCont	Attempts to load this cargo set into a SINGLE container - trying EACH of your selected container sizes in turn.
MultiCont	Loads this cargo set into MULTIPLE identical containers - trying EACH of your selected container sizes in turn.
PackCalc	Attempts to load this cargo set into a single container - using just the single container size you have selected.
Options	Allows you to modify the packing options which are to be used when packing the consignment.

Back to CargoData	Options	BestCont	MultiCont	PackCalc

Although we have already selected a 40' container as that to be used, we now have the opportunity to select other containers which we might wish to utilise. This will allow CARGOMANAGER to provide you with a loading comparison between several container sizes. On this occasion we will just press **Continue**.

	Container Code / Description	Dimensions (mm)			Max. Wt. (kg)	
1	40ft Std Steel (Maersk)	12035	2350	2393	28800	☐ Active
2	ISO Container 1AA, 40ft.	11998	2330	2350	30000	☐ Active
3	ISO Container 1B, 30ft.	8931	2330	2197	25000	☐ Active
4	ISO Container 1A, 40ft.	11998	2320	2197	28000	☐ Active
5	20ft Std Steel (Maersk)	5896	2350	2385	24850	☐ Active
6	40ft High Steel (Maersk)	12035	2350	2697	30200	☐ Active
7	45ft High Steel (Maersk)	13556	2352	2697	27820	☐ Active
8	Pallet 1200*1000	1200	1000	1800	2000	☐ Active
9	Pallet 1200*800	1200	800	1600	2000	☐ Active
10	Container 10	10000	100	10000	10000	☐ Active

(Scroll down for additional entries)
Container size already entered plus all Active containers will be loaded with the previously defined cargo.
Changes to container sizes / descriptions are made using the Contbase option on the Opening Screen

Continue

We are then prompted to save the consignment details to disk for subsequent recall but on this occasion we will just accept the default filename (saved.dat) and then CARGOMANAGER will proceed to pack the cargo in the most efficient manner in the given 40' containers.

On this occasion the next screen reports that 4 containers are required -

No	Container Description	[1] Containers Used	[2] Items Packed	[3] % Util Full	[4] % Util Last	[5] Items Last	[6] Items Left
1	40ft Std Steel (Maersk)	4	1600	96.33	54.28	253	0

and on selecting the **Solution** button the detailed solution, container by container is available:

Container	Volume Packed	Wt. Packed	Items	Utilisation
1	65.19	18184.50	449	96.33%
2	65.19	18184.50	449	96.33%
3	65.19	18184.50	449	96.33%
4	36.74	10246.50	253	54.28%

When you select the **Continue** button you are then presented with miniature pictures of each of the 4 loaded containers. The load plans for the first 3 containers are, not surprisingly given the single product, identical. That for Container 4 shows the partly filled load.

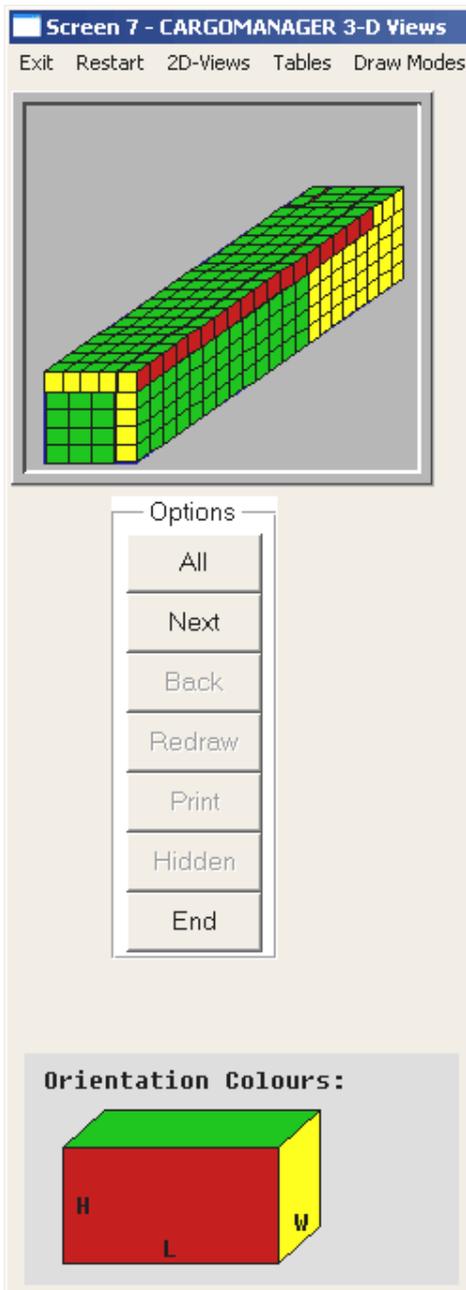Container 2   Container 3   Container 4
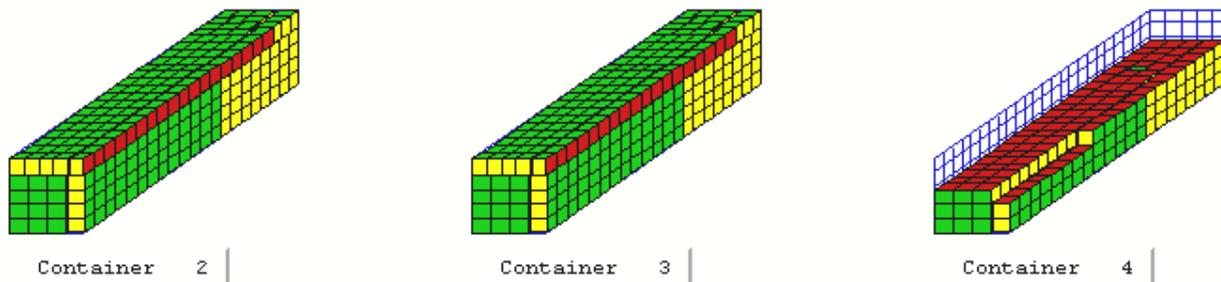
You can then highlight any of the containers and proceed to obtain a detailed consignment list and 3D pictures of the load as it is built up, or select PrintALL to immediately get summary load plans for all the containers.

Before doing so, what else might we wish to do?

- Go back to the Cargo Data and add more cargo (of the same or different types) and re-pack? [Use the back button]

- Ignore the 4th partly filled container and just ship the 3 full units? [Select each of the 3 containers in turn and print appropriate diagrams]

- Take the existing solution and add cargo (of the same or different types) to the 4th container? [Select Container 4 and then the Add function]

- Review your decision to use std 40' containers and go back and perform the MultiCont run trying perhaps 40' high or 45' high containers to see if they might be more suitable.

CARGOMANAGER offers all the above and far far more!

On this occasion we select (say) **Container 1** and then **Continue**, firstly to a detailed summary of the contents and then **Draw Picture** to reach the screen shown overleaf:

Screen 7 - CARGOMANAGER 3-D Views

Exit   Restart   2D-Views   Tables   Draw Modes

Options

- All
- Next
- Back
- Redraw
- Print
- Hidden
- End

Orientation Colours:

H   L   W

The small picture of the complete loaded container is first shown in the top left.

The remainder of the screen initially shows a 3D view of the empty container and a key to the colour coding used to show item orientation. On printed diagrams colour or shading is optional as orientation codes are also output.

The buttons shown allow you to build up the load plan and select the number of printed reports and the positioning of these. You can draw the full consignment as a single picture (use the **All** button), or build up the load plan a step at a time from the rear of the container using the **Next** button.

As the picture is built up you can select the number and positioning of pictures to be produced (on printer or to an email file) using the **Back**, **Hidden** and **Print** buttons. Once again the manual will assist in understanding this simple process.

Each picture which is subsequently output (to printer / email) will contain a detailed picking list together with printed codes on each case indicating the orientation in which it is to be placed and (optionally) colour/shaded coding.

On screen, pointing at a cargo item with the mouse in the main drawing will show details of that item. Once the load view is complete the printing or emailing (using the add-on e-CARGO PDF module) of the load diagrams can be activated.

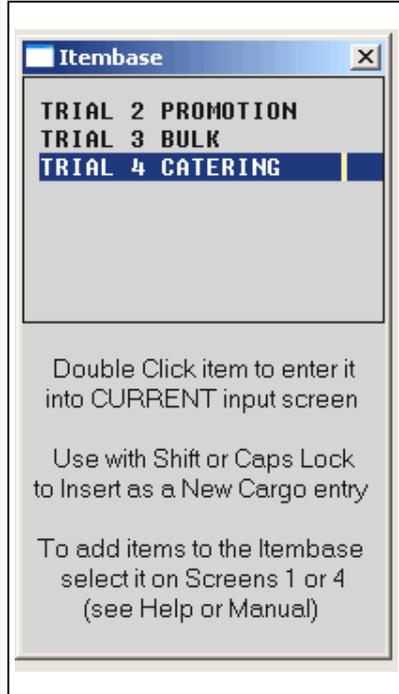Naturally one can produce side and plan views of the load (by selecting the 2D-Views option).

Additional Points:

Three packing modes are supported - **PackCalc** - calculating the best packing of the cargo specified into a single container of a given size; **BestCont** - where you specify which of the container / trailer sizes in your Container Database might be used for this consignment - and **CARGOMANAGER** provides a list ranked on performance; and **MultiCont** - where you want to know how many containers of the selected size are required for the cargo specified, or compare the efficiency of using alternate sizes.

It is also possible to create complete consignment lists (e.g. in a spreadsheet) which can be input into CARGOMANAGER using the *Linkfile Option* on the opening screen.

To meet specific loading requirements it may be necessary on a one-off basis to adjust the default settings for the CARGOMANAGER Packing Options.

5. Getting Data in Quickly:

	When you manually entered data into the Cargo Data Entry screen earlier in this guide then a 2nd Itembase window

Itembase

TRIAL 2 PROMOTION
TRIAL 3 BULK
TRIAL 4 CATERING

Double Click item to enter it
into CURRENT input screen

Use with Shift or Caps Lock
to Insert as a New Cargo entry

To add items to the Itembase
select it on Screens 1 or 4
(see Help or Manual)

When you manually entered data into the Cargo Data Entry screen earlier in this guide then a 2nd Itembase window

was also displayed to the left of the screen as shown to the left here. This contains 3 TRIAL products and their dimensions etc, which we have input using the Itembase option on the opening screen. TRIAL 4 CATERING is, in fact, the product previously entered manually into the Cargo Entry screen.

Instead of manually typing in the dimensions you could have *double-clicked on TRIAL 4 CATERING* and all the information would have been entered automatically leaving you to just enter a quantity.

In addition, had you *typed in TRIAL 4 CATERING* as the Case Code then CARGOMANAGER would have seen that the product was in the Itembase and, once again, completed the appropriate fields.

An Itembase can be created by direct entry from the keyboard, or from cargo sets you have entered previously, or should you have dimensional and weight information available in (say) a spreadsheet or database this too can be used to create an Itembase of up to 25,000 items using the supplied MAKEIB utility.

Modules Available.

CARGOMANAGER is available in two basic forms. **Both** of these allow you to investigate how best to load a consignment into a user-defined container / trailer, with up to 20,000 individual items / container and up to 15,000 different item types forming the complete cargo set. **CARGOMANAGER Lite** allows you to investigate any problems involving the loading of cargo to form a single container load. This includes a facility to rapidly compare the efficiency with which up to 10 user-specified container / trailer sizes may be loaded. The full **CARGOMANAGER** product extends this to allow both the rapid calculation of multi-container loads needing 1-999 containers, as well as providing a rapid comparison as to the efficiency achieved from using any set of up to 50 of the user-specified container sizes. PDF email support for load plans is available through e-CARGO.

Gower Optimal Algorithms Ltd have over 30 years experience in providing companies worldwide with logistics solutions. Our unique, powerful and reliable windows software meets the demands of the packaging professional, and has behind it an unrivalled research basis (see our website for further information).

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