



ChainLink

Version 4

User Manual

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Steven Wood
Northampton, England

STEVENWOOD
SOFTWARE

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1. ChainLink

1.1. Introduction

The Time Location Chart originates from a project management system known as Line of Balance or Elemental Trend Analysis, which is used on projects which are repetitive and require strict trade sequencing, i.e. factory production lines, housing estate construction, etc. The chart highlights the importance of activity completion, production rates and relationships between selective activities, and thus, has been developed by the Construction Industry for use on linear projects such as roads, tunnels and pipelines.

On these linear projects the location element is usually expressed in terms of chainage¹ or metreage and hence the term Time Chainage or Time Metreage is also applied to these charts.

Until recently, the only way to produce these charts was by hand, either with pen and paper, or by using a CAD system. This is a long, laborious, time consuming process and, just as the last line or annotation has been drawn, along comes the Project Manager with new ideas or information which requires changes to the programme.

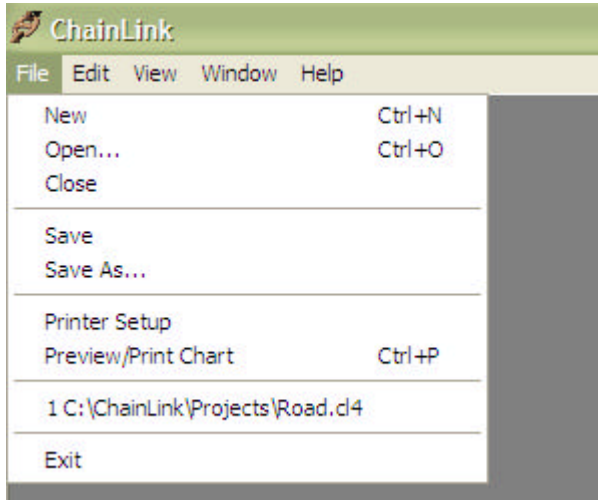
ChainLink resolves this problem, Time Location Charts can be produced in minutes using manually entered data or the data from your existing Project Management system. Providing your existing system runs under **Microsoft Windows 98** or above and has the capability of copying the activity data and timings to the Clipboard, usually by means of the Cut or Copy commands, then **ChainLink** can handle the rest, producing a variety of Time Location Charts on any printer or plotter.

In addition, data can be imported directly from an interim file such as a Microsoft Project Exchange (MPX) file, a Primavera P3 (PRN) file or a Primavera P3e-P6 (XER) file.

¹ A 'chain' is an old English measuring device comprising a metal chain, 22 yards (approximately 20m) or 1/80th of a mile in length, used by Land Surveyors to measure distances on the ground. Although yards and miles have now been replaced by metres and kilometres the term chainage has remained in use in the UK to denote distances along roads, pipelines, etc.

1.2. Menus

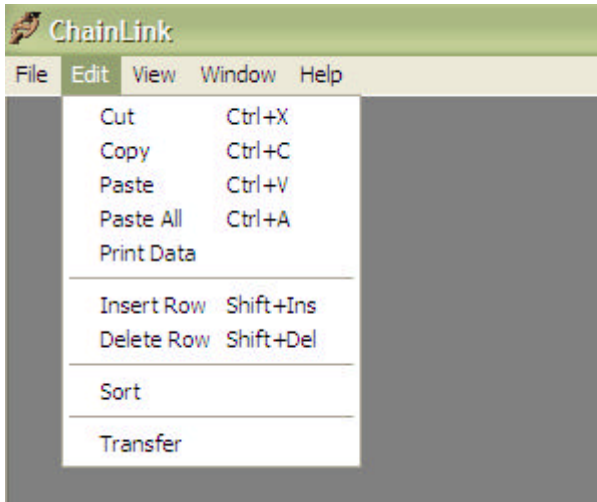
1.2.1. File Menu



- New** Displays the New Project dialogue window to allow creation of a new ChainLink project and initialises the project data and chart parameters. Once the project has been created a request to set the time units is displayed, click Yes to work in hours, click No to work in days.
- Open** Displays the Open Project dialogue window to allow selection of the ChainLink project file to be loaded. Any number of projects may be loaded at the same time, however, the amount of RAM memory available and the size of the projects will determine the maximum.

Close	Closes the active ChainLink project window. If changes have been made to the project data or chart parameters then a Save Project request will be displayed.
Save	Saves the active ChainLink project file.
Save As...	Displays the Save As... dialogue window to allow the active ChainLink project file to be saved under a different name.
Printer Setup	Displays the Printer Setup dialogue window to allow the parameters of the printer to be changed or a different printer to be selected.
Preview/ Print Chart	Generates the Time Location Chart and displays a preview on the screen using ChainLink Viewer. The chart may be printed from the preview screen.
Recently Used File List	Contains the details of the last four ChainLink Projects to be loaded. The project, to be loaded, may be reselected from this list instead of selecting the Open option.
Exit	Closes all open project windows and exits the ChainLink program.

1.2.2. Edit Menu/Popup Menu



Cut Copies the data in the highlighted cells, of the active spreadsheet, to the Clipboard and then deletes the data from the spreadsheet.

Copy Copies the data in the highlighted cells, of the active spreadsheet, to the Clipboard.

Paste Copies the data from the Clipboard into the active spreadsheet starting at the currently selected cell or the first cell of a selected block.

If a block of cells has been selected for pasting into the spreadsheet and the block copied to the clipboard has more rows or columns than the selected block then the additional copied rows or columns will be ignored.

If a block of cells has been selected for pasting into the spreadsheet and the block copied to the clipboard has less rows or columns than the selected block then the copied block will be multiple pasted to fill all the cells selected.

Paste All

Copies the data from the Clipboard into the active spreadsheet starting at the first cell, any existing data in the spreadsheet is deleted.

This feature should be used if the data is being imported from the Project Management system by means of the Clipboard.

Print Data

Prints the data from active spreadsheet or highlighted section of the spreadsheet on the printer.

Insert Row

Inserts a blank row at the current cursor position or for each highlighted row, in the active spreadsheet.

Delete Row

Deletes the row at the current cursor position or every highlighted row, in the active spreadsheet.

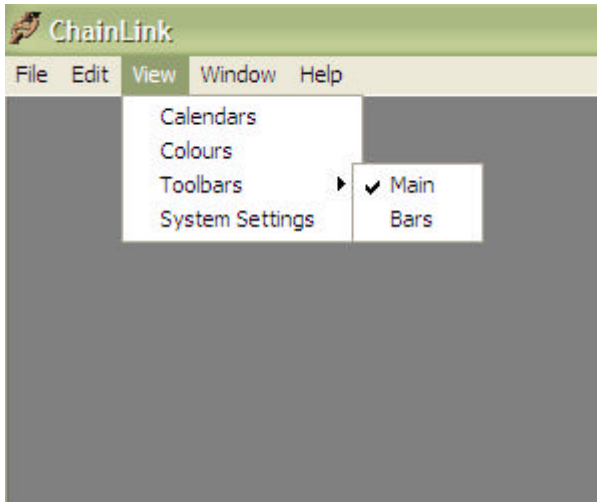
Sort

Sorts the active spreadsheet, or the selected rows of the active spreadsheet by the data in the currently selected column.

Transfer

Copies the data from another ChainLink project into the active spreadsheet, any existing data in the spreadsheet is deleted.

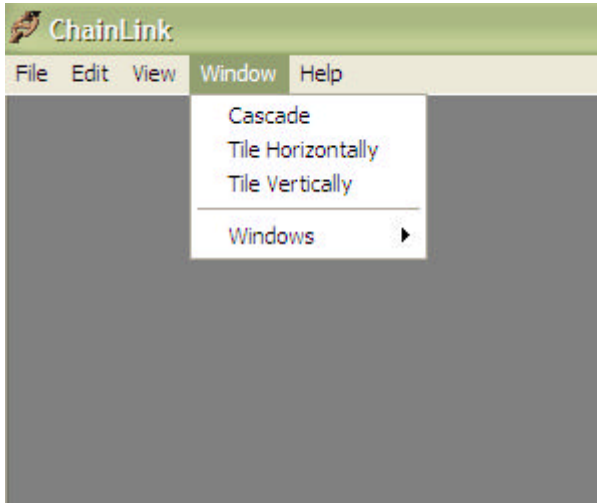
1.2.3. View Menu



- Calendars** Displays the Calendars window to allow the project calendars to be created or amended.
- Colours** Displays the Colours dialogue window to allow the colour for data in the active spreadsheet to be set.
- Toolbars** Allows the user to select which of the toolbars are to be displayed or hidden.
- System Settings** Displays the System Settings dialogue window to allow the default setting for the ChainLink system to be set or amended. The system Authorisation Code is also entered using this facility.

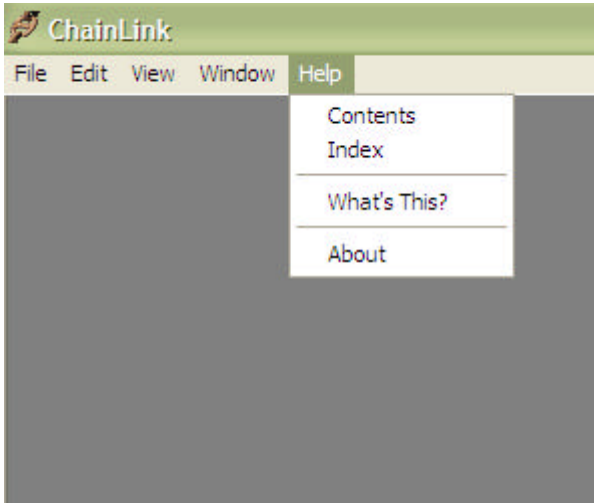
Changes to the System Settings will not be implemented until the next time ChainLink is loaded.

1.2.4. Window Menu



- Cascade** Displays all the open projects in overlapping windows.
- Tile Horizontally** Displays all the open projects windows, one above the other.
- Tile Vertically** Displays all the open projects windows, side by side.
- Windows** Lists all the currently open project windows. The active window is checked, it can be changed by selecting a different project from the list.

1.2.5. Help Menu










- | | |
|---------------------|---|
| Contents | Loads the Help system and displays the Contents page. |
| Index | Loads the Help system and displays the Index dialogue window. |
| What's This? | Causes the mouse pointer to change to the What's This? Pointer and prepares ChainLink to display What's This Help on the selected item. |
| About | Displays a window which gives details of the ChainLink program. This window also contains a System Info button which gives details about the computer on which the software is running. |

1.3. ToolBars

1.3.1. Main Toolbar



-  **New** Displays the New Project dialogue window to allow creation of a new ChainLink project and initialises the project data and chart parameters.
-  **Open** Displays the Open Project dialogue window to allow selection of the ChainLink project file to be loaded. Any number of projects may be loaded at the same time, however, the amount of RAM memory available and the size of the projects will determine the maximum.
-  **Close** Closes the active ChainLink project window. If changes have been made to the project data or chart parameters then a Save Project request will be displayed.
-  **Save** Saves the active ChainLink project file.
-  **Printer Setup** Displays the Printer Setup dialogue window to allow the parameters of the printer to be changed or a different printer to be selected.
-  **Preview / Print Chart** Generates the Time Location Chart and displays a preview on the screen using ChainLink Viewer. The chart may be printed from the preview screen.
-  **Cut** Copies the data in the highlighted cells, of the active spreadsheet, to the Clipboard and then deletes the data from the spreadsheet.

 **Copy**

Copies the data in the highlighted cells, of the active spreadsheet, to the Clipboard.

 **Paste**

Copies the data from the Clipboard into the active spreadsheet starting at the currently selected cell or the first cell of a selected block.

If a block of cells has been selected for pasting into the spreadsheet and the block copied to the clipboard has more rows or columns than the selected block then the additional copied rows or columns will be ignored.

If a block of cells has been selected for pasting into the spreadsheet and the block copied to the clipboard has less rows or columns than the selected block then the copied block will be multiple pasted to fill all the cells selected.

 **Print Data**

Prints the data from active spreadsheet or highlighted section of the spreadsheet on the printer.

Font Name

Sets the Font for the data in the highlighted cells, of the active spreadsheet.

Select the name of the font from the pull down list.











Font Size

Sets the Font Size for the data in the highlighted cells, of the active spreadsheet.

Select the size of the font from the pull down list.

 **B Bold**

Turns on or off the Bold setting for the font in the highlighted cells, of the active spreadsheet.

-  **Italic** Turns on or off the Italic setting for the font in the highlighted cells, of the active spreadsheet.
-  **Underline** Turns on or off the Underline setting for the font in the highlighted cells, of the active spreadsheet.
-  **StrikeThru** Turns on or off the StrikeThru setting for the font in the highlighted cells, of the active spreadsheet.
-  **Align Left** Positions the data in the highlighted cells of the active spreadsheet to the left of the cell.
-  **Centre** Positions the data in the highlighted cells of the active spreadsheet to the centre of the cell.
-  **Align Right** Positions the data in the highlighted cells of the active spreadsheet to the right of the cell.
-  **Colours** Displays the Colours dialogue window to allow the colour for data in the active spreadsheet to be set.
-  **Bar Styles Toolbar** Displays or hides the Bars Styles Toolbar.
-  **Calendars** Displays the Calendars window to allow the project calendars to be created or amended.
-  **Help** Loads the Help system and displays the Contents page.

1.3.2. Bar Styles Toolbar



The Bar Styles Toolbar allows easy selection of Line Styles, Bar Styles and Symbols by removing the necessity to remember the style reference numbers associated with each combination of style and type/hatch.







The Bar Styles Toolbar varies depending on the Bar Type selected.

Lines



Bar Type number = 0

Line Type number =

	0
	1
	2
	3
	4
	5









The Bar Style number can be calculated by adding together the Bar Type number and the Line Type number, thus a dotted line is Bar Style number $0 + 2 = 2$.

Bars



Bar Type number = 10

Hatch Type number =

-  0
-  1
-  2
-  3
-  4
-  5
-  6
-  7









The Bar Style number can be calculated by adding together the Bar Type number and the Hatch Type number, thus a diagonally crosshatched bar is Bar Style number $10 + 6 = 16$.

Boxes



Bar Type number = 20

Hatch Type number =









-  0
-  1
-  2
-  3
-  4
-  5
-  6
-  7

The Bar Style number can be calculated by adding together the Bar Type number and the Hatch Type number, thus a diagonally crosshatched box is Bar Style number $20 + 6 = 26$.

Triangles



Bar Type number = 30









- Hatch Type number =
-  0
 -  1
 -  2
 -  3
 -  4
 -  5
 -  6
 -  7

The Bar Style number can be calculated by adding together the Bar Type number and the Hatch Type number, thus a diagonally crosshatched triangle is Bar Style number $30 + 6 = 36$.

Inverted Triangles



Bar Type number = 40

- Hatch Type number =
-  0
 -  1
 -  2
 -  3
 -  4
 -  5
 -  6
 -  7






The Bar Style number can be calculated by adding together the Bar Type number and the Hatch Type number, thus a diagonally crosshatched inverted triangle is Bar Style number $40 + 6 = 46$.

Symbols



Bar Type number = 100

Symbol number =

	0
	1
	2
	3
	4

The Bar Style number can be calculated by adding together the Bar Type number and the Symbol Type number, thus a left pointing arrow is Bar Style number $100 + 3 = 103$.

Select



Click on this button when both Bar Type and Line, Hatch or Symbol Type have been selected to set the Bar Style for the selected Activities.

1.4. Data Tabs

1.4.1. Project Data

Milestones/Notes		Diagrams/Clipart		User Defined Bars		Labels	
Project Data		Activity Data		Key/Legend		Labels	
Project Title	ChainLink - Example Road Programme						
Chart Title	Time Chainage/Location Chart						
Chart Number	CL/ROAD						
Revision	Original						
Produced by	Steven Wood						
Base Date	16/NOV/1998						
Time Now	29/NOV/1998						
Run Date	26/AUG/2003						

The Project Data comprises of eight fields which are used to define the project on the chart.

Most of this data is displayed in the Title Block of the chart. It may be enhanced using the font formatting facilities on the Main Toolbar, however, alignment settings are ignored as the text is always centred in its allocated box of the Title Block.

These fields are:-

- Project Title** A text field used to describe the project.
- Chart Title** A text field used to describe the chart.
- Chart Number** A text field containing a unique reference number for the chart.
- Revision** A text field containing the revision number/letter.
- Produced by** A text field containing the name or initials of the originator.

Base Date A date field containing the date of the first day of Week 1 of the project. This may be a date before the start, at the start, or after the start of the chart.

Time Now A date field containing the date of the last completed day of the project. This may be a working or non-working day.

Run Date A date field normally containing the current date. This date may be changed if desired.

The format of the three date fields is dependant upon the format set in the **ChainLink** System Settings.

Dates may be entered manually or selected from a calendar by double clicking on the cell and selecting the desired date from the calendar display.

1.4.2. Activity Data

Milestones/Notes		Diagrams/Clipart		User Defined Bars				
Project Data		Activity Data		Key/Legend		Labels		
	Activity ID	Duration	Calendar	Description		Sort Code 1	Sort Code 2	Re
1	2030	5	5	Access Road		2000	0000	
2	3030	5	5	Access Road		4000	0000	
3	4030	5	5	Access Road		4000	0000	
4	1050	11	5	Temporary Fencing		1000	0000	
5	2050	5	5	Temporary Fencing		2000	0000	
6	2045	10	5	Breakout Old Road		2000	0000	
7	3050	14	5	Temporary Fencing		3000	0000	
8	2185	3	5	Tie-In		2000	0000	
9	3180	10	5	Tie-In		3000	0000	
10	1180	6	5	Tie-In		1000	0000	
11	1195	5	5	Landscaping		1000	0000	

The Activity Data comprises twenty one or twenty seven fields, dependant on whether the time units are set to days or hours respectively, which are used to position and format the activity bars on the chart. It may be enhanced using the font formatting facilities on the Main Toolbar, however, alignment settings are ignored.

These fields are:-

Activity ID A text field containing the reference to identify the activity.

This field may be displayed at each end of a bar on the chart by selecting "Show Activity ID's" on the Format Chart form in **ChainLink Viewer**.

Duration A numeric field containing the duration of the activity in days.

Calendar A numeric field containing the calendar to be used by the activity.

Description A text field describing the activity.

This field may be displayed on the chart by setting the Bar Text field to "Yes", the text is centred on the bar. If the text is not horizontal then font settings are ignored and a standard font is used.

Sort Codes Two text fields containing user determined codes for sorting and filtering purposes.

Start and Finish Reference Two numeric fields containing the start and finish references (chainages) of the activity bar along the Location axis of the chart. The references may be entered in either ascending or descending order.

Bar Direction A pull down list containing three options to determine the direction of progress along the bar.

The options are:-

As Reference Use the order in which the Start and Finish References are entered.

L-R The bar starts at the leftmost reference and progresses towards the rightmost reference on the chart.

R-L The bar starts at the rightmost reference and progresses towards the leftmost reference on the chart.

Bar Style A numeric field containing the style in which the bar is to be drawn. The value may be entered manually or selected from the Bar Styles Toolbar.

Alternatively, the bar style can be set to the current Bar Styles Toolbar settings by double-clicking on the Bar Style cell.

If no Bar Style is set for an activity then the style will automatically be set to 0.

Bar Colour

A numeric field containing the numeric value of the colour in which the bar is to be drawn.

The bar colour can be set by selecting the row(s) containing the activities, clicking on the Colours button on the Main Toolbar and choosing the colour required from the displayed palette. Once selected, the cell will be displayed in the chosen colour.

The cell will actually contain the numeric value which denotes the colour, however, as both foreground and background colours are set to the selected colour it will not be visible. These numbers may be entered directly into the cell to set a colour if known. To reveal the number for editing purposes, highlight the cell and press the Enter key.

Another way to set the colour is by double-clicking on the Bar Colour cell and choosing the colour from the palette displayed.

The colour can also be set to one of the standard colours by typing the name of the colour directly into the cell.

The standard colours are:-

Red	Magenta
Orange	Pink
Yellow	Brown
Green	Black
Blue	Grey
Cyan	White

The word may be in upper or lower case or a combination of both.

If no Bar Colour is set for an activity then the colour will automatically be set to Black (0).

Bar Text

A pull down list containing two options to determine whether or not the Activity Description.

The options are:-

If the activity description is to be shown printed along the bar then the Text Toggle should be set to Yes, otherwise set it to No.

Line Thickness

A numeric field between 1 and 9 which determines the thickness of the line drawn for bar styles 0 to 7.

Setting 1 draws a line 0.4mm thick and increases in 0.4mm increments up to 4mm thick for setting 9.

Location and Time Offsets

Two numeric fields containing user specified Location and Time offsets.

When **ChainLink** draws a sloping bar a horizontal and vertical offset is calculated, in order that the bar remains within the time and location restraints set. These Chainage/ Location and Time Offsets can be predetermined by the user to produce a "fat" bar.

This enhancement facility can be applied to bar styles 10 to 17, providing that the bar is not horizontal or vertical.

The value of the Location Offset required for this activity is entered in Location units.

The value of the Time Offset required for this activity is entered in days.

The Time Offset figure may be positive or negative. If a negative figure is entered then the widening of the bar will be within the current time limits of the bar. If a positive figure is entered then the widening of the bar will be added to the current finish of the bar.

NB When using the latter method of widening holidays will be ignored.

These fields should be set to blank or zero if not required. Offsets less than those calculated by **ChainLink** will be ignored, offsets greater than the difference in the Location references or the start and finish dates will be set to these differences.

Start and Finish Dates and Times Six date fields and six time fields containing the timing schedules of the activity. If the minimum time unit is set to days then the time fields are not displayed.

Up to three schedules for each activity may be entered, however, only one schedule at a time may be used on the chart.

The format of the dates is dependant upon the format set in the **ChainLink** System Settings. Time is always in the 24 hour format of **hh:mm**.

Dates may be entered manually or selected from a calendar by double clicking on the cell and selecting the desired date from the calendar display.

Total Float A numeric field containing the amount of total float in days or hours.

1.4.3. Key/Legend Data

Milestones/Notes		Diagrams/Clipart		User Defined Bars	
Project Data		Activity Data		Key/Legend	
Sequence	Bar Style	Bar Colour	Description		
1	1	10	Access Roads		
2	2	12	Roadbase		
3	3	14	Basecourse		
4	4	17	Wearing Course		
5	5	11	Tie-ins (Temporary and Permanent)		
6	6	17	Arrester Bed		
7	7	27	Bridgeworks		
8	8	14	Stream Diversion		
9	9	12	Pre-Earthworks Drainage		
10	10	17	Drainage		
11	11	14	Reclaim Stone for Walling		

The Time Location Chart may be enhanced by **ChainLink** to display a key or legend on the chart by incorporating its container into the layout and by entering the data into the spreadsheet. See the **ChainLink** Page Setup utility on how to incorporate the Key/Legend container.

The Key/Legend Data comprises four fields which are used to define what each bar style and colour represents on the chart.

The fields are:-

Sequence **A** numeric field containing the sequence number of the order in which the key/legend is to be listed on the chart.

Bar Style **A** numeric field containing the style of the bar. The value may be entered manually or selected from the Bar Styles Toolbar.

Alternatively, the bar style can be set to the current Bar Styles Toolbar settings by double-clicking on the Bar Style cell.

If no Bar Style is set then the style will automatically be set to 0.

Bar Colour

A numeric field containing the numeric value of the colour.

The Bar Colour can be set by selecting the row(s) containing the activities, clicking on the Colours button on the Main Toolbar and choosing the colour required from the displayed palette. Once selected, the cell will be displayed in the chosen colour.

The cell will actually contain the numeric value which denotes the colour, however, as both foreground and background colours are set to the selected colour it will not be visible. These numbers may be entered directly into the cell to set a colour if known. To reveal the number for editing purposes, highlight the cell and press the Enter key.

Another way to set the colour is by double-clicking on the Bar Colour cell and choosing the colour from the palette displayed.

The colour can also be set to one of the standard colours by typing the name of the colour directly into the cell.

The standard colours are:-

Red	Magenta
Orange	Pink
Yellow	Brown
Green	Black
Blue	Grey
Cyan	White

The word may be in upper or lower case or a combination of both.

If no Bar Colour is set then the colour will automatically be set to Black (0).

Description

A text field describing the bar style/colour combination.

1.4.4. Labels Data

Milestones/Notes		Diagrams/Clipart		User Defined Bars	
Project Data		Activity Data		Key/Legend	
Reference	Line Colour	Line Style	Label		
1	0	2	000+000		
2	500	2	000+500		
3	620	0 Track			
4	660	0			
5	822	4	Stream		
6	838	4			
7	1000	2	001+000		
8	1500	2	001+500		
9	1560	0	High St		
10	1580	0			
11	1608	4			

The Time Location Chart is automatically subdivided, by **ChainLink**, at regular intervals along its Location axis, by vertical lines drawn from the top to the bottom of the chart and labelled with the Location reference in numeric units. The spacing of these vertical lines defaults to one tenth of the print range or can be specified by the user on the **ChainLink Viewer** Chart Format form.

If subdivisions at irregular intervals or labels other than the numeric references are required then the Label facility is provided to achieve this.

N.B. This facility suppresses the normal labelling function of **ChainLink**, therefore, if normal numeric labels are to be intermixed with special labels then these must be entered as well.

The Label Data comprises four fields which are used to define the position, colour and style of the vertical line to be drawn and the label to be assigned.

The fields are:-

Reference A numeric field containing value of the reference along the Location axis of the chart at which the label line is to be drawn

Line Colour A numeric field containing the numeric value of the colour.

The Line Colour can be set by selecting the row(s) containing the activities, clicking on the Colours button on the Main Toolbar and choosing the colour required from the displayed palette. Once selected, the cell will be displayed in the chosen colour.

The cell will actually contain the numeric value which denotes the colour, however, as both foreground and background colours are set to the selected colour it will not be visible. These numbers may be entered directly into the cell to set a colour if known. To reveal the number for editing purposes, highlight the cell and press the Enter key.

Another way to set the colour is by double-clicking on the Line Colour cell and choosing the colour from the palette displayed.

The colour can also be set to one of the standard colours by typing the name of the colour directly into the cell.

The standard colours are:-

Red	Magenta
Orange	Pink
Yellow	Brown
Green	Black
Blue	Grey
Cyan	White

The word may be in upper or lower case or a combination of both.

If no Line Colour is set then the colour will automatically be set to Black (0).

Line Style

A numeric field containing the style of the line. The value may be entered manually or selected from the Bar Styles Toolbar.

Alternatively, the Line Style can be set to the current Bar Styles Toolbar settings by double-clicking on the Style cell.

If no Line Style is set then the style will automatically be set to 0.

Label

A text field containing the label to be printed at the top and bottom of the vertical line. It may be enhanced using the font formatting facilities on the Main Toolbar. The alignment of the text will be used to position the label over the vertical line, thus, Align Left will position the label such that the left hand side of the label aligns with the vertical line.

The orientation of the text (horizontal or vertical) can be specified by the user on the **ChainLink Viewer** Chart Format form.

1.4.5. Milestones/Notes Data

Project Data		Activity Data		Key/Legend		Labels
Milestones/Notes		Diagrams/Clipart		User Defined Bars		
	Date	Colour	Type	Start Reference	Finish Reference	Text
1	30/AUG/1999		Line Above	0	1579	Open Sections 1 and 2 to Tra (Traffic to use new road from tie new roundabout)
2						

The Time Location Chart may be annotated by **ChainLink** to show sectional and project commencement and completion dates. This facility may also be used to place lines or blocks of text anywhere on the chart or notes in the Notes column if its container has been incorporated into the layout. See the **ChainLink** Page Setup utility on how to incorporate the Notes container.

The Milestones/Notes data comprises six or seven fields, depending on whether the time units are set to days or hours respectively, which are used to define the position, colour and style of the text.

The fields are:-

Date and Time A date field and a time field containing the calendar date and time at which the milestone line is to be drawn or the line or block of text is to begin. If the minimum time unit is set to days then the time field is not displayed

The format of the date is dependant upon the format set in the **ChainLink** System Settings. Time is always in the 24 hour format of **hh:mm**.

Dates may be entered manually or selected from a calendar by double clicking on the cell and

selecting the desired date from the calendar display.

Colour

A numeric field containing the numeric value of the colour.

The Colour can be set by selecting the row(s) containing the activities, clicking on the Colours button on the Main Toolbar and choosing the colour required from the displayed palette. Once selected, the cell will be displayed in the chosen colour.

The cell will actually contain the numeric value which denotes the colour, however, as both foreground and background colours are set to the selected colour it will not be visible. These numbers may be entered directly into the cell to set a colour if known. To reveal the number for editing purposes, highlight the cell and press the Enter key.

Another way to set the colour is by double-clicking on the Colour cell and choosing the colour from the palette displayed.

The colour can also be set to one of the standard colours by typing the name of the colour directly into the cell. The standard colours are:-

Red	Magenta
Orange	Pink
Yellow	Brown
Green	Black
Blue	Grey
Cyan	White

The word may be in upper or lower case or a combination of both.

If no Colour is set then the colour will automatically be set to Black (0).

Start and Finish Reference

Two numeric fields containing the start and finish references (chainages) of the activity bar along the Location axis of the chart. The references may be entered in either ascending or descending order.

Text

The line or block of text to be printed along the milestone line or within the limits specified. The text entered may contain return and line feed characters.

1.4.6. Diagrams/Clipart Data

Project Data		Activity Data		Key/Legend		Labels	
Milestones/Notes		Diagrams/Clipart		User Defined Bars			
	File Name	Start Reference	Finish Reference	Start Date	F		
1	C:\ChainLink\Diagrams\Road.wmf	0	2200				
2							

The Time Location Chart may be enhanced by **ChainLink** by placing a diagram or diagrams at the top of the chart to show the features of the project. This facility may also be used to place diagrams/clipart anywhere on the chart.

The diagram/clipart data comprises five fields which define the size and position of the diagram/clipart.

The fields are:-

File Name A text field containing the name and path of the diagram file/clipart file to appear on the chart.

Double clicking on this cell will display a file selection dialogue window.

The diagram/clipart file may be any of the following file types:-

.bmp .dib .gif .jpg .wmf .emf .ico .cur

Start and Finish References The Location References at which the left hand and right hand edges of the diagram/clipart are to be positioned.

If the chart is plotted with Descending Chainage/Location set then start and finish references may still be entered in ascending order. The diagrams/clipart will not be inverted horizontally, it will appear as normal, between the start and finishes references entered.

Start and Finish Dates The Dates at which the top and bottom edges of the diagram/clipart are to be positioned.

If the diagram/clipart is to appear at the top of the chart, above the grid, then the start and finish dates must be left blank.

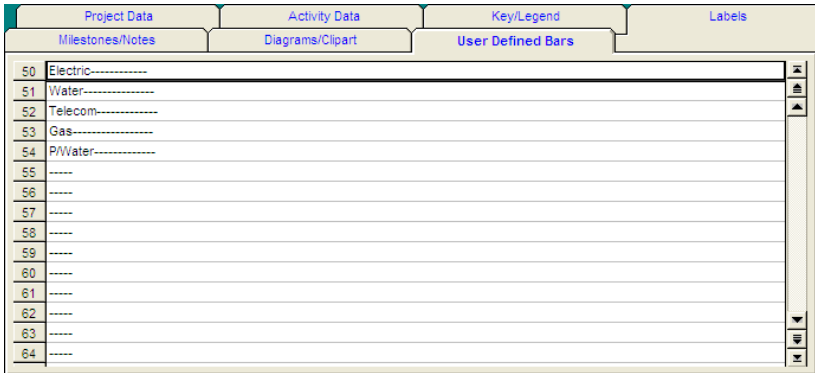
If the diagram/clipart is to appear within the chart then a start and finish dates must be entered.

If the chart is plotted with Draw Time Grid Upwards set then start and finish dates may still be entered chronologically. The diagrams/clipart will not be inverted vertically it will appear as normal, between the start and finishes dates entered.

The format of the dates is dependant upon the format set in the **ChainLink** System Settings.

Dates may be entered manually or selected from a calendar by double clicking on the cell and selecting the desired date from the calendar display.

1.4.7. User Defined Bars Data



The standard graphic bar styles built into **ChainLink** may not be suitable for all situations and a special bar style may be required for a particular project or a set of standard bar styles may be required for every project.

It is not practical to create user defined graphic bar styles, however, **ChainLink** can produce a special bar style made up of the standard characters that can be entered from the keyboard, thus a bar to denote fencing could be created using the '|' and '-' characters by typing the sequence '|-----' into the spreadsheet . This sequence and/or a part of this sequence will be used, as many times as is necessary to produce a bar of the required length.

The result would be as follows:-

|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|

The spacing between the '|' characters can be changed by entering extra '-' characters.

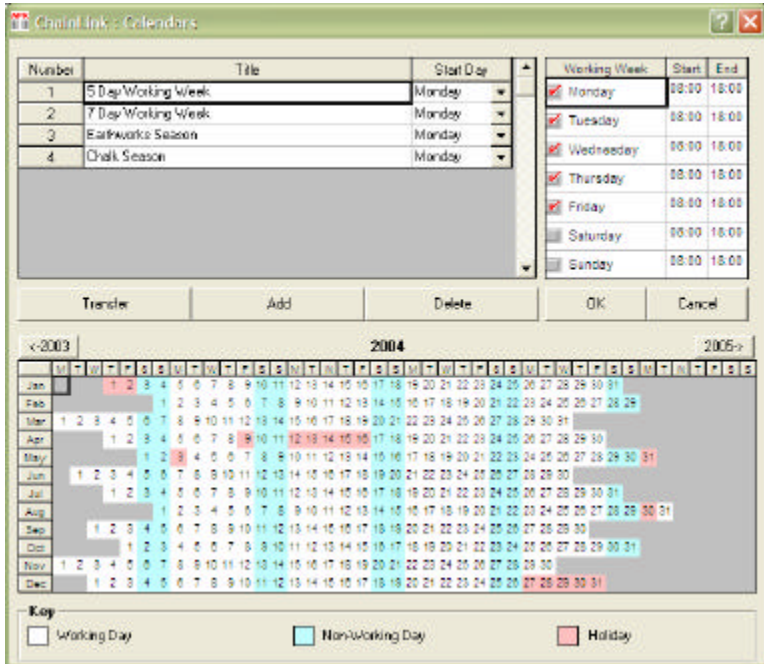
Alternatively the sequence 'Fence-----' could be entered which would produce:-

Fence-----Fence-----Fence-----F

Up to fifty of these bar styles may be defined.

The User Defined Bar Data comprises a single text field of up to 255 characters. If the field is left blank and the bar style allocated then a single '-' character will be used. They may be enhanced using the font formatting facilities on the Main Toolbar, however, alignment settings are ignored.

1.5. Calendars



ChainLink allows the use of multiple calendars with varying weeks and holidays.

Calendar List

A list containing the Calendar Data for all the current calendars.

Click anywhere on the list to display the details for the selected calendar.

The Calendar Data comprises of three fields:-

Number A numeric field containing a unique reference number for the calendar.

This field cannot be amended, it is created when the calendar is added.

Title A text field used to describe the calendar.

Start Day A pull down list containing the name of the first day of the working week.

Working Week

Check the days of the week which are working days, leave non-working days unchecked. The holiday grid display will change as the days are selected or deselected.

Set the start and finish time of the shift for each day in the 24 hour format of **hh:mm**. If the calendar is to be set to a night shift then the start and finish of the shift are entered against the day in which the shift starts, thus if the shift starts at 10:00pm on Monday night and finishes at 6:00am on Tuesday morning then 22:00 is entered under Start and 06:00 is entered under End for Monday.

Holidays

A grid showing the working days, non-working days and holidays for the displayed year.

To set a day or a block of days as a holiday select the dates required and press the 'H' key or press the right mouse button and select 'Holiday' from the popup menu.

To reset a day or a block of days to working select the dates required and press the 'W' key or press the right mouse button and select 'Work' from the popup menu.

Buttons

OK Click on the OK button to close the calendar window. If changes have been made to the currently selected calendar then a 'Save Changes?' message will be displayed.

Cancel Click on the Cancel button to close the calendar window. Any changes made to the currently selected calendar will be discarded.

Transfer Click on the Transfer button to copy calendars from another project.

A file selection dialogue will be displayed to allow selection of the project from which the calendars are to be transferred. The calendars in the existing project will be added to any calendars already created in the current project. Calendars with the same calendar number will be overwritten.

Add Click on the Add button to create a new calendar.

A calendar number window will be displayed with the next available number preset. Accept this number or enter a another unique number for the new calendar and click the OK button. A new calendar will be created at the end of the list. Enter a title, select a start day, define the working week and set the holidays for the new calendar.

This new calendar will be positioned in its correct numerical position next time the calendar window is loaded

Delete Click on the delete button to remove the selected calendar. A confirmation will be requested before the calendar is deleted.

Previous Year Click on the Previous Year button to display the working days, non-working days and holidays grid for the previous year.

Next Year Click on the Next Year button to display the working days, non-working days and holidays grid for the next year.

Key

A key showing the colours which indicate working, non-working and holiday dates on the grid.

1.6. Colour Numbers

The Colour Numbers represents the proportions of red, green and blue which go to make up the colour. The amounts of red, green and blue are determined by a number between 0 and 255 expressed in hexadecimal format i.e. 0 - 9 = 0 - 9, 10 - 15 = A - F, thus 0 = 00 and 255 = FF.

These 3 colour component values are then combined to form a six figure hexadecimal number in the order blue, green, red, thus the values for the basic colours can be easily calculated as:-

Blue	=	FF0000
Green	=	00FF00
Red	=	0000FF
White	=	FFFFFF
Black	=	000000

However, apart from these five colours, calculating the number of other colours is virtually impossible.

The easiest way to create a Colour Number chart is to create a test project in **ChainLink**, then on the Legend spreadsheet widen out the colour column to about 2cm wide by dragging the separator line to the right of the header, select the colour required from the palette and type a description of the colour in the text column. Repeat the process for the next colour on the next line and continue for all the colours required, then print out the spreadsheet data from the Edit menu or Toolbar button.

The numbers for the 'standard' colours built into **ChainLink** are:-

Red	=	255	Cyan	=	16776960
Orange	=	33023	Magenta	=	16711935
Yellow	=	65535	Pink	=	12615935
Green	=	32768	Brown	=	128
Blue	=	16711680	Black	=	0
White	=	16777215			

1.7. Importing Data

1.7.1. using the Clipboard

To import activity data using the Clipboard both **ChainLink** and the project management software must be loaded in the Windows environment.

Importing data using the clipboard can be achieved in several ways, dependant on how the project management system handles the copying of data to the clipboard.

Option 1

This is the easiest and quickest way is to transfer data from a project management system to **ChainLink**.

1. Set up the layout of the data in the project management system to match the twenty one columns of the **ChainLink** Activity Data spreadsheet exactly. If an exact match cannot be achieved then:-
 - a) Columns two, three and twenty one must contain a numeric field or be blank.
 - b) Columns seven to fourteen can be set to any blank fields if the eight **ChainLink** settings fields have not been entered into the project management system.
 - c) Columns fifteen to twenty must contain date fields or be blank
2. Select the activities to be copied to ChainLink and use the Copy facility to transfer the data to the clipboard.
3. Switch control to **ChainLink** and open an existing project or create a new project.
4. Select the Activity Data tab and click on the spreadsheet.
5. Select Paste All from the Edit Menu or click the right mouse button and select Paste All from the Popup Menu.

6. Click 'Yes' to the 'Are you sure?' question. Any existing data in the spreadsheet will be removed and replaced by the new data from the clipboard.
7. If a heading line is copied to the Clipboard by the project management software then this should be deleted using the Delete Row option from the Edit or Popup Menu.
8. Add any missing data.

The data is now ready to be used by **ChainLink** to produce the Time Location Chart.

Option 2

If the project management system cannot be setup to match the **ChainLink** Activity Data spreadsheet but the Activity Data can be copied in columns then the following procedure can be used:-

1. Select the column(s) to be copied to ChainLink and use the Copy facility to transfer the data to the clipboard.
2. Switch control to **ChainLink** and open an existing project or create a new project.
3. Select the Activity Data tab and click on the spreadsheet.
4. Click on the top cell of the first column to which the data is to be copied and select Paste from the Edit or Popup Menu.
5. Switch control back to the project management system.
6. Repeat steps 1 to 4 for each column to be copied.
7. Add any missing data.

The data is now ready to be used by **ChainLink** to produce the Time Location Chart.

Option 3

If the project management system cannot be setup to match the **ChainLink** Activity Data spreadsheet and the Activity Data cannot be copied in columns then copy all the data to an interim spreadsheet program such as Microsoft Excel and use either the Option 1 or Option 2 procedure to transfer the data from that software.

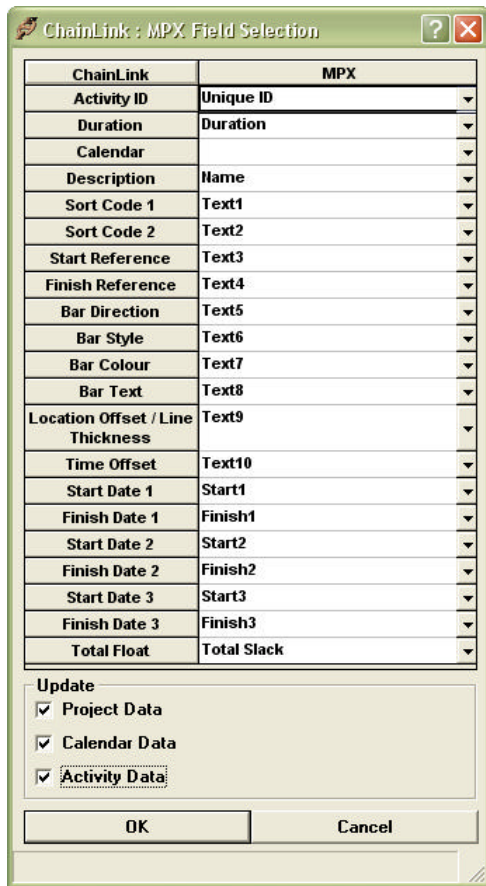
1.7.2. from a Microsoft Project Exchange (MPX) File

Data can be imported from a Microsoft Project Exchange file (.MPX) which can be produced by most project management software.

When importing from an MPX file partial data can be input into **ChainLink** to update an existing file as well as creating a new project.

To import an MPX file the following procedure should be followed:-

1. Open an existing project file if required.
2. Select Open... from the File menu, change the 'Files of Type' to 'Microsoft Project Exchange File (*.mpx)' and select the MPX file.
3. If an existing project has been loaded an 'Update current project?' query will be displayed, answer 'Yes' or 'No' as appropriate. If the answer is 'No' or no existing project is loaded then a new project will be created.
4. The MPX Field Selection window will be displayed



5. Match the fields to be imported by selecting the MPX fields from the pull down lists for each **ChainLink** field. The field selections will be saved as the default for the next import. **Note:** Although **ChainLink** will import any calendars from the MPX file there is no Task Calendar field in MPX to match the Calendar field, this data will have to be entered manually after import.
6. If an existing project is to be updated, then select which parts of the data are to be updated, by ticking one or more of the boxes. This section will be disabled when creating a new project.
7. Click on the OK button, the data will be imported and the Activity Data spreadsheet populated or updated.

1.7.3. from a Primavera P3 Export (PRN) File

Data can be imported from Primavera P3 either by using the clipboard method or alternatively it can be imported from a **Primavera P3** export file (.PRN).

The advantage of using an export file instead of the clipboard is that partial data can be input into **ChainLink** to update an existing file, thus removing the necessity to enter the settings fields of Start and Finish References, Bar Direction, Style, Colour, Text Toggle, Location Offset and Time Offset into **Primavera P3**.

If it is desired that some or all of the settings fields are to be entered into **Primavera P3** then custom code fields should be created to hold this data and these fields exported into the PRN file. The suggested custom code fields are:-

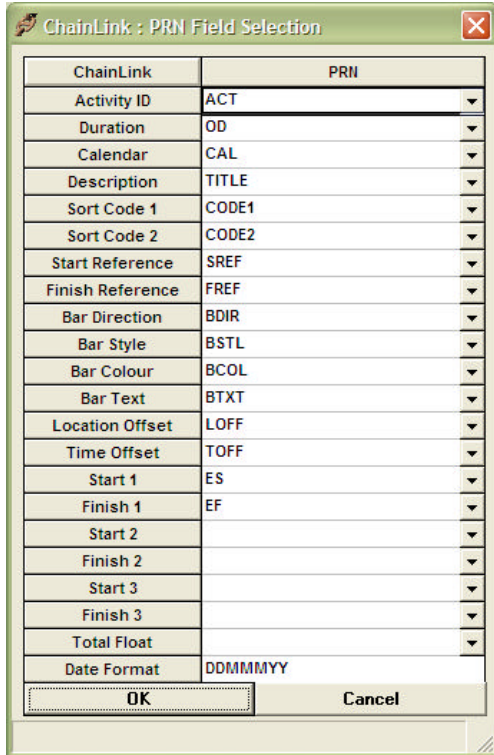
<u>Field Name</u>	<u>Type</u>	<u>Size</u>	<u>Description</u>
SREF	N	6	Start Reference
FREF	N	6	Finish Reference
BDIR	C	3	Bar Direction
BSTL	N	3	Bar Style
BCOL	N	8	Bar Colour
BTXT	C	3	Bar Text
LOFF	N	4	Location Offset
TOFF	N	3	Time Offset

(see Primavera P3 manual on how to create these fields)

The following procedure should then be followed:-

1. Export the data from Primavera P3 (see the P3 manual on how to export data). For a full transfer of data the following fields need to be exported:-
 - a. Activity ID
 - b. Original Duration
 - c. Calendar ID
 - d. Activity Description
 - e. Sort Codes
 - f. Custom Codes
 - g. Early Start
 - h. Early Finish
 - i. Any other Start (Late Start)
 - j. Any other Finish (Late Finish)
 - k. Any other Start (Actual Start)
 - l. Any other Finish (Actual Finish)
 - m. Total Float
2. Load **ChainLink** and open an existing project file if required.
3. Select Open... from the File menu, change the 'Files of Type' to 'Primavera P3 Export File (*.prn)' and select the export file created by **Primavera P3**.
4. If an existing project has been loaded an 'Update current project?' query will be displayed, answer 'Yes' or 'No' as appropriate. If the answer is 'No' or no existing project is loaded then a new project will be created. If a new project is created a request to set the time units is displayed, select the desired units from the pull down list.

5. The PRN Field Selection window will be displayed.
6. Match the fields to be imported by selecting the PRN fields from the pull down lists for each **ChainLink** field. The field selections will be saved as the default for the next import.
7. Set the Date Format for the layout of the dates to be imported. This is usually DDMMYY for PRN files as **Primavera P3** normally exports the date in the format 01SEP03.



8. If an existing project is to be updated, then select which parts of the data are to be updated, by ticking one or more of the boxes. This section will be disabled when creating a new project.
9. Click on the OK button, the data will be imported and the Activity Data spreadsheet populated or updated.

1.7.4. from a Primavera P6 (P3e) Export (XER) File

Data can be imported from Primavera P3e-P6 either by using the clipboard method or alternatively it can be imported from a **Primavera P6 (P3e)** export file (.XER).

The advantage of using an export file instead of the clipboard is that partial data can be input into **ChainLink** to update an existing file, thus removing the necessity to enter the settings fields of Start and Finish References, Bar Direction, Style, Colour, Text Toggle, Location Offset and Time Offset into **Primavera P6**.

If it is desired that some or all of the settings fields are to be entered into **Primavera P6** then user defined fields should be created to hold this data and these fields exported into the XER file. The suggested custom code fields are:-

<u>Field Name</u>	<u>Description</u>
User_Text1	Sort Code 1
User_Text2	Sort Code 2
User_Integer1	Start Reference
User_Integer2	Finish Reference
User_Text3	Bar Direction
User_Integer3	Bar Style
User_Integer4	Bar Colour
User_Text4	Bar Text
User_Integer5	Location Offset
User_Integer6	Time Offset

(see Primavera P6 manual on how to create these fields)

The following procedure should then be followed:-

1. Export the data from **Primavera P6** (see the P6 manual on how to export data).
2. Load **ChainLink** and open an existing project file if required.
3. Select Open... from the File menu, change the 'Files of Type' to 'Primavera P3e-P6 Export File (*.xer)' and select the export file created by **Primavera P6**.
4. If an existing project has been loaded an 'Update current project?' query will be displayed, answer 'Yes' or 'No' as appropriate. If the answer is 'No' or no existing project is loaded then a new project will be created. The XER Parameters window will be displayed.
5. The XER file can contain more than one project, so select the project to be imported from the pull down list.
6. If a new project is being created then select the time units from the pull down list, set then number of hours per day (**Primavera P6** stores all durations in hours) and select the default calendar to be used by **ChainLink**. These fields cannot be changed when updating a project.

ChainLink	XER
Sort Code 1	
Sort Code 2	
Start Reference	user_integer1
Finish Reference	user_integer2
Bar Direction	user_text3
Bar Style	user_integer3
Bar Colour	user_integer4
Bar Text	user_text4
Location Offset / Line Thickness	
Time Offset	

7. Match the fields to be imported by selecting the XER fields from the pull down lists for each **ChainLink** field. The field selections will be saved as the default for the next import.
8. If an existing project is to be updated, then select which parts of the data are to be updated, by ticking one or more of the boxes. This section will be disabled when creating a new project.
9. Click on the OK button, the data will be imported and the data spreadsheets populated or updated.

1.8. Exporting Data

1.8.1. to Primavera P3

Activity Data can be only be exported to **Primavera P3** by the use of a **Lotus 1-2-3** spreadsheet.

If it is desired that some or all of the **ChainLink** settings fields of Start and Finish References, Bar Direction, Style, Colour, Text Toggle, Location Offset and Time Offset are to be imported into **Primavera P3** then custom code fields should be created to hold this data and these fields exported into the PRN file. The suggested custom code fields are:-

<u>Field Name</u>	<u>Type</u>	<u>Size</u>	<u>Description</u>
SREF	N	6	Start Reference
FREF	N	6	Finish Reference
BDIR	C	3	Bar Direction
BSTL	N	3	Bar Style
BCOL	N	8	Bar Colour
BTXT	C	3	Bar Text
LOFF	N	4	Location Offset
TOFF	N	3	Time Offset

(see Primavera P3 manual on how to create these fields).

The following procedure should then be followed:-

1. With **Primavera P3** loaded create a **Lotus 1-2-3** WK1 file by using the Export facility to transfer the data of, at least one activity, into a file of this type, making sure that all the fields to be later imported, are exported into the file. This process creates a file with the headings required to import the data back into **Primavera P3**.

For a full transfer of data the following fields need to be exported:-

- a. Activity ID
- b. Original Duration
- c. Calendar ID
- d. Activity Description
- e. Sort Codes
- f. Custom Codes

Note: Date fields and float cannot be imported.

2. Load the WK1 file into a spreadsheet such as Microsoft Excel.
3. Delete all activity data from the WK1 worksheet.

Note: Do not delete any of the heading rows or edit them in any way, this will prevent the data from being imported into **Primavera P3**.

4. Load the project into **ChainLink**, whose data is to be transferred.
5. Select the activity data to be transferred to be transferred to **Primavera P3** and copy it to the clipboard.
6. Paste the ChainLink data to a new worksheet in the spreadsheet software.
7. Copy and paste the data from the new worksheet to the WK1 sheet, ignoring any columns not required.
8. Finally save the WK1 sheet, with the additional activity data. This file can now be imported into **Primavera P3**, using the import facility, to update or create activities.

1.8.2. to a Microsoft Project Exchange (MPX) File

To export data to a Microsoft Project Exchange (MPX) file the following procedure should be followed:-

1. Load the project into **ChainLink**, whose data is to be transferred.
2. Select 'Save As...' from the File menu, change the 'Files of Type' to 'Microsoft Project Exchange File (*.mpx)', select the directory, enter a file name and click on the 'Save' button.
3. The ChainLink data will be saved in the selected directory under the entered name with an .mpx extension. The Sort Code fields and the **ChainLink** settings fields of Start and Finish References, Bar Direction, Style, Colour, Text Toggle, Location Offset and Time Offset are saved in the Text1 – Text10 fields of the MPX file.

1.8.3. to a Comma Separated Variables (CSV) File

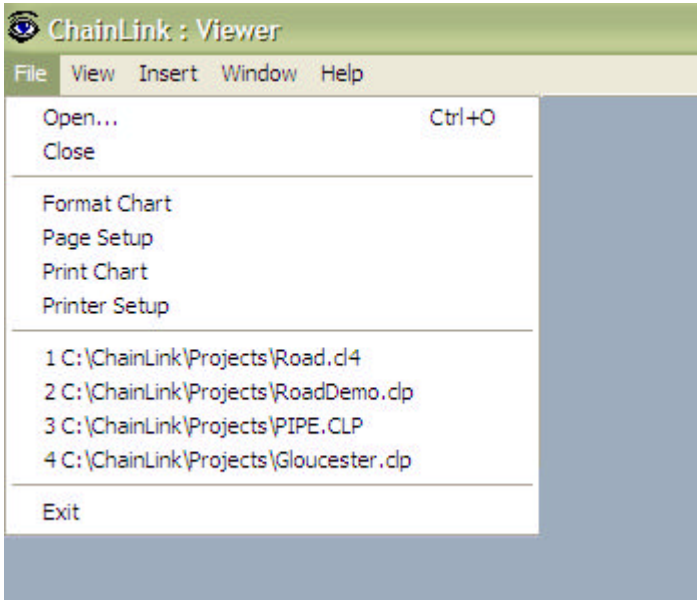
To export data to a Comma Separated Variables (CSV) file the following procedure should be followed:-

1. Load the project into **ChainLink**, whose data is to be transferred.
2. Select 'Save As...' from the File menu, change the 'Files of Type' to 'Comma Separated Variables File (*.csv)', select the directory, enter a file name and click on the 'Save' button.
3. The ChainLink data will be saved in the selected directory under the entered name with a .csv extension.

2. ChainLink Viewer

2.1. Menus

2.1.1. File Menu



- Open** Displays the Open Project dialogue window to allow selection of the ChainLink project file to be loaded. Any number of projects may be loaded at the same time, however, the amount of RAM memory available and the size of the projects will determine the maximum. This option is only available in the stand-alone viewer.
- Close** Closes the currently selected project window. This option is only available in the stand-alone viewer.

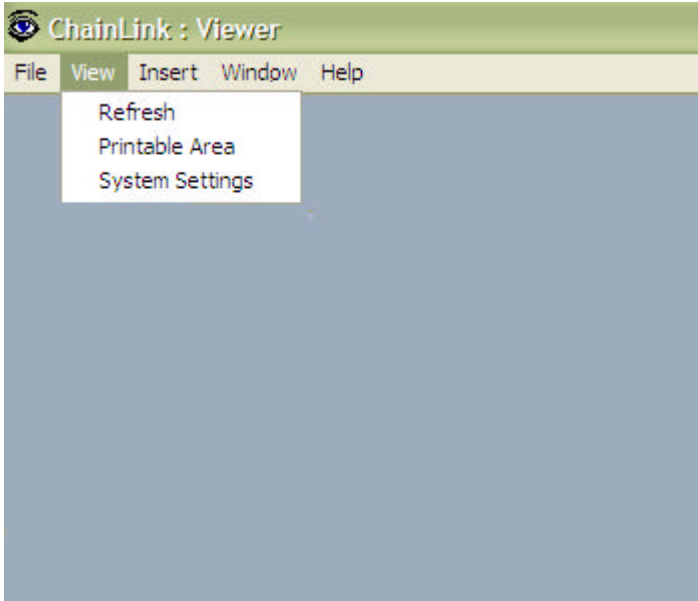
Format Chart	<p>Displays the Format Chart window to allow the parameters of the chart to be changed.</p> <p>Any changes made in the stand-alone viewer are only temporary and not permanently changed in the project.</p>
Page Setup	<p>Displays the Page Setup window to allow the design of the Page Layout to be changed.</p> <p>Any changes made to the Page Layout will be saved, however, in the stand-alone viewer, any change in the name of the Page Layout file is temporary and will not be permanently changed in the project.</p>
Print Chart	<p>Prints the Time Location Chart on the currently selected system printer.</p> <p>The system printer may be changed before printing by selecting Printer Setup.</p> <p>Changing the system printer will not change the dimensions of the chart as designed, if the printer selected has a different paper size than that used to generate the chart, then the chart will be scaled down to fit on the new paper size.</p>
Printer Setup	<p>Displays the Printer Setup dialogue window to allow the parameters of the printer to be changed or a different printer to be selected.</p>
Recently Used	<p>Contains the details of the last four ChainLink Projects to be loaded</p>
File List	<p>into the stand-alone viewer. The project, to be loaded, may be reselected from this list instead of selecting the Open option.</p> <p>This option is only available in the stand-alone viewer.</p>

Exit Closes all open project windows and exits the stand-alone viewer program.

In the main ChainLink program this option is replaced by:-

Close Closes the viewer window and returns to the main ChainLink program.

2.1.2. View Menu



Refresh Refreshes (redraws) the currently selected project window.

Printable Area Displays the margins (printable area) of the currently selected system printer. Any areas of the chart which fall outside of the printable area will be cropped at time of printing.

System Settings Displays the System Settings dialogue window to allow the default setting for the ChainLink system to be set or amended.

Changes to the System Settings will not be implemented until the next time ChainLink or ChainLink Viewer is loaded.

2.1.3. Insert Menu

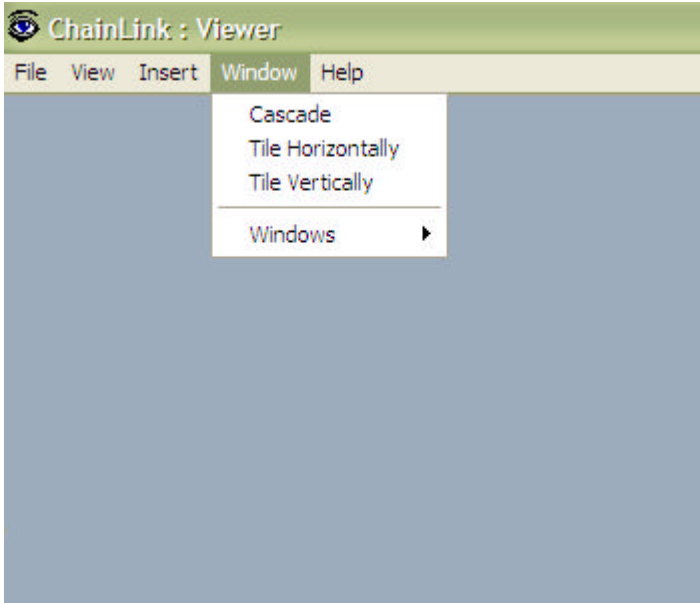


This menu is only available in the main ChainLink program.

Picture Displays the Insert Picture dialogue window to allow clip art or graphics to be placed on the chart.

Text Displays the Insert Text dialogue window to allow the chart to be annotated with Text, Milestones and Notes.

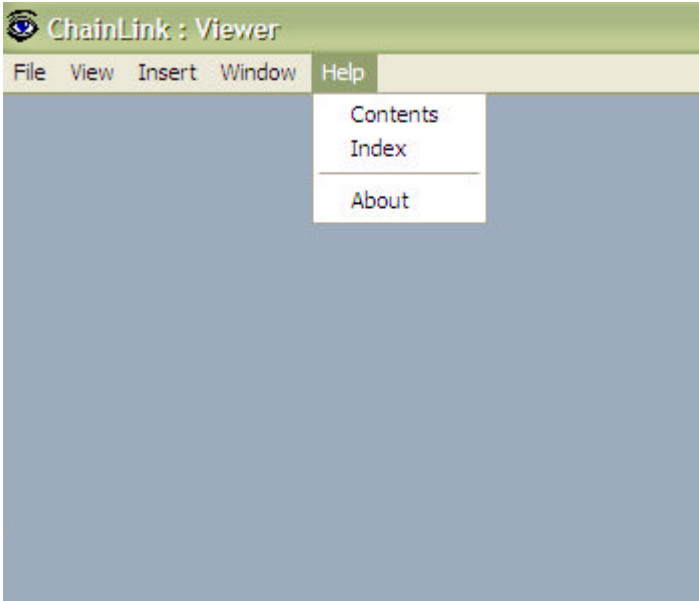
2.1.4. Window Menu



This menu is only available in the stand-alone viewer.

- Cascade** Displays all the open projects in overlapping windows.
- Tile Horizontally** Displays all the open projects windows, one above the other.
- Tile Vertically** Displays all the open projects windows, side by side.
- Windows** Lists all the currently open project windows. The active window is checked, it can be changed by selecting a different project from the list.

2.1.5. Help Menu



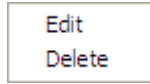
Contents Loads the Help system and displays the Contents page.

Index Loads the Help system and displays the Index dialogue window.

About Displays a window which gives details of the ChainLink Viewer program. This window also contains a System Info button which gives details about the computer on which the software is running.

This option is only available in the stand-alone viewer.

2.1.6. Popup Menu



This menu is displayed when the cursor is positioned over clipart, pictures, text or milestones, already displayed on the chart, and the right mouse button is pressed.

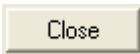
This menu is only available in the main ChainLink program.

- | | |
|---------------|--|
| Edit | Displays the Insert Picture or Insert Text dialogue window containing the details of the picture, text or milestone, at the cursor position, already displayed on the chart to allow it to be amended by the user. |
| Delete | Deletes the picture, text or milestone, at the cursor position, already displayed on the chart. A confirmation of the deletion will be requested before the item is deleted. |

2.2. Toolbar



In the main ChainLink program the Open Project and Close Project buttons are replaced by:-



which closes the viewer window and returns to the main ChainLink program.



Open Project Displays the Open Project dialogue window to allow selection of the ChainLink project file to be loaded. Any number of projects may be loaded at the same time, however, the amount of RAM memory available and the size of the projects will determine the maximum.

This option is only available in the stand-alone viewer.



Close Project Closes the currently selected project window.

This option is only available in the stand-alone viewer.



Format Chart Displays the Format Chart window to allow the parameters of the chart to be changed.

Any changes made in the stand-alone viewer are only temporary and not permanently changed in the project.



Page Setup

Displays the Page Setup window to allow the design of the Page Layout to be changed.

Any changes made to the Page Layout will be saved, however, in the stand-alone viewer, any change in the name of the Page Layout file is temporary and will not be permanently changed in the project.



Print Chart

Prints the Time Location Chart on the currently selected system printer.

The system printer may be changed before printing by selecting Printer Setup.

Changing the system printer will not change the dimensions of the chart as designed, if the printer selected has a different paper size than that used to generate the chart, then the chart will be scaled down to fit on the new paper size.



Printer Setup

Displays the Printer Setup dialogue window to allow the parameters of the printer to be changed or a different printer to be selected.

Zoom

Increase or decreases the size of the chart image on the preview screen.

If the chart image is greater than the size of the screen then the remainder of the image can be viewed by use of the scroll bars.

'Fit' displays the whole of the chart at the maximum size that will fit in the current window.

The range of zoom percentage values available depends on the size of the paper specified by the Layout File.

These ranges have been optimised for a 128Mb RAM computer. If the computer being used has less RAM than this then selecting the higher levels of zoom may result in a blank white screen. This can be corrected by selecting a lesser value.



Insert Picture Displays the Insert Picture dialogue window to allow clip art or graphics to be placed on the chart.

This option is only available in the main ChainLink program.



Insert Text Displays the Insert Text dialogue window to allow the chart to be annotated with Text, Milestones and Notes.

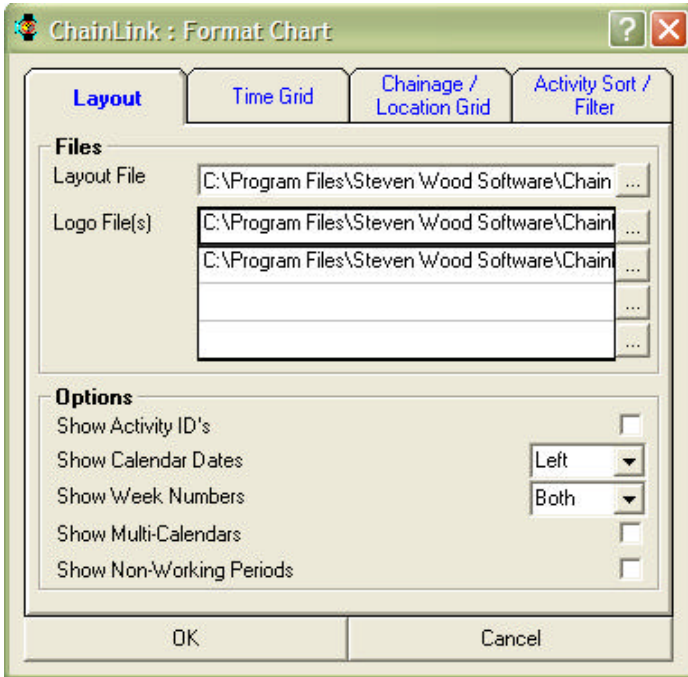
This option is only available in the main ChainLink program.



Help Loads the Help system and displays the Contents page.

2.3. Formatting the Chart

2.3.1. Layout Tab



Files The Files section allows the user to specify the page setup for the chart by selecting the saved Layout file and the Logo files to be used.

Layout File The path and name of the saved layout file (.clb) to be used for the page setup of the chart.

If no layout file is specified then the current system default layout will be used.



Browse button Click on this to display a file selection dialogue window.

Logo File(s)

The path and names of graphics files containing the logos to be incorporated into the chart. Up to four logos may be displayed on the chart.

The graphics file may be any of the following file types:-

.bmp .dib .gif .jpg .wmf .emf .ico .cur



Browse button Click on these to display a file selection dialogue window.

Options

The Options section allows the user to enhance the chart by selecting the items of data and features which are to be incorporated into the chart.

Show Activity Ids

Check this option if the Activity IDs are to be shown adjacent to the bars on the chart.

Show Calendar Dates

Select Left, Right or Both to show calendar dates in a column on the left-hand, right-hand or both sides of the chart.

Show Week Numbers

Select Left, Right or Both to show week numbers in a column on the left-hand, right-hand or both sides of the chart.

Show Multi-Calendar

Check this option if bars are to show the holiday periods of their individual calendars and not the default holidays set in

Show Non-Working Periods

the Chart Calendar Number box on the Time Grid Tab.

Check this option if bars are to show the non-working periods either of their individual calendars or the default calendar set in the Chart Calendar Number box on the Time Grid Tab, dependant on whether the Show Multi-Calendars box is ticked.

2.3.2. Time Grid Tab

The screenshot shows the 'ChainLink : Format Chart' dialog box with the 'Time Grid' tab selected. The dialog has four tabs: 'Layout', 'Time Grid', 'Chainage / Location Grid', and 'Activity Sort / Filter'. The 'Time Grid' tab contains the following options:

- Draw Time Grid Upwards**: A checkbox that is currently unchecked.
- Print Range**: A section with a 'User' button, a radio button for 'Min / Max' (which is selected), and two pairs of date pickers. The first pair shows 'Start Date' as 16/11/1998 and 'Finish Date' as 12/11/1999. The second pair shows 'Start Date' as 16/11/1998 and 'Finish Date' as 14/11/1999.
- Grid Spacing**: A dropdown menu set to 'Week'.
- Schedule**: A dropdown menu set to 'Schedule 1'.
- Calendar**: A section with four settings: 'Chart Calendar Number' (5), 'Week Numbers' (Fiscal), 'Week Numbers Start Month' (Jan), and 'Chart Calendar Font' (Arial, size 8).

At the bottom of the dialog are 'OK' and 'Cancel' buttons.

Draw Time Grid Upwards

Check this option if the Time Grid is to run chronologically from the bottom to the top of the page. Leave unchecked if the time grid is to run chronologically from top to bottom.

Print Range

The dates at which the Time Grid is to start and finish.

Check the Max/Min button if the minimum and maximum dates, which are calculated by **ChainLink** using the selected Schedule and the dates in the Activity Data, are to be used as the Print Range.

Check the User Defined button and enter the required Print Range start and finish dates in the format specified in the System Settings. The dates may be selected rather than entered by clicking on the downward arrow to the left of the date and choosing the date from the displayed calendar.

The start and finish dates will be automatically adjusted to the first and last days of the week.

Grid Spacing

The spacing at which the lines are to be drawn on the Time Grid.

Select the No Grid, Days, Weeks, Months, Quarters or Years from the pull down list as required.

Schedule

The schedule to be used for the start and finish dates of each bar.

Select the schedule required from the pull down list.

Calendars

The Calendar parameters allow the user to customize the appearance of the chart by selecting which aspects of the calendar data are to be incorporated into the chart.

Chart Calendar Number

The Chart Calendar Number determines the timing format and the holiday periods to be shown on the chart. Select the Calendar Number from the pull down list.

The Start Day of the calendar selected will determine the day at which the week separator lines are drawn. If the Chart Calendar Number is left blank the system defaults are Start Day equals Monday and 7 working days per week.

**Week
Numbers**

Select Project, Annual or Fiscal to determine how week numbers are displayed on the chart.

Project week numbers use the Base Date, set in the Project Data, to determine week number 1 and increment or decrement by 1 from that date.

Annual week numbers use the first full week of the year as week number 1 and increment by 1 until the end of the year is reached.

Fiscal week numbers use the first full week of the month, selected in the Week Numbers Start Month, to determine week number 1 and increment by 1 until the same point in the following year.

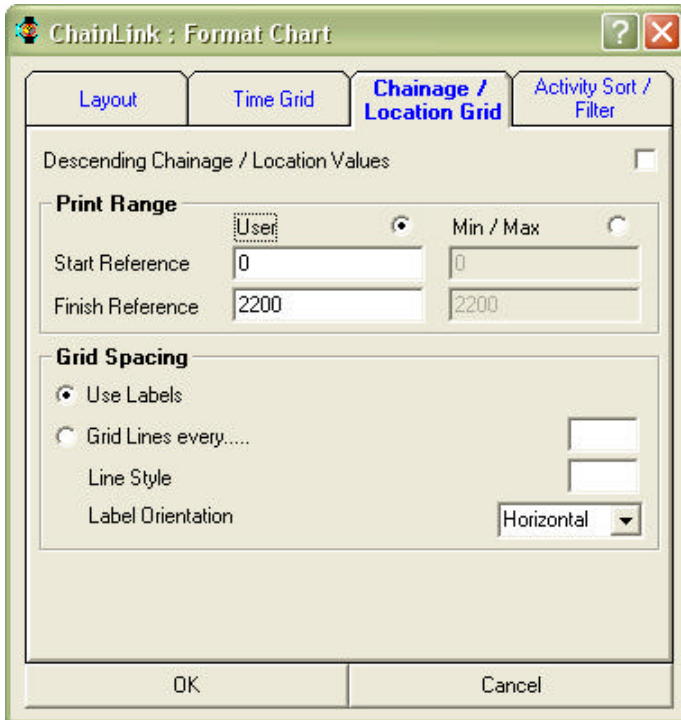
**Chart
Calendar
Font**

The font name and size to be used to print the dates and week number on the chart.

If the height of the characters of the selected font is too large to fit between the horizontal grid lines then the dates and weeks numbers will not be shown.

This facility allows the font and size to be changed to enable the text to fit in the available space.

2.3.3. Location Grid Tab



Descending Location

Check this option if the Location grid numbers are to run in descending order from left to right.

Leave unchecked if the Location grid is to run in ascending order from left to right.

Print Range

The Location References at which the Location grid is to start and finish.

Check the Max/Min button if the minimum and maximum Location references, which are calculated by **ChainLink** using the start and finish references in the Activity Data, are to be used as

the Print Range.

Check the User Defined button and enter the required Print Range start and finish references.

The references will be automatically adjusted to suit any spacing value that is set.

Grid Spacing

The spacing at which the vertical lines are to be drawn on the Location grid.

Check the Use Labels option if grid lines are to be drawn using the parameters in the Labels Data.

Check the Grid Lines every.. option if the vertical grid lines are to be spaced at regular intervals, and enter a numeric value (in Location units) in the box to the right.

If Grid Lines every.. is selected and no numeric value is set then **ChainLink** will automatically set grid line spacing at one tenth of the overall Location print range.

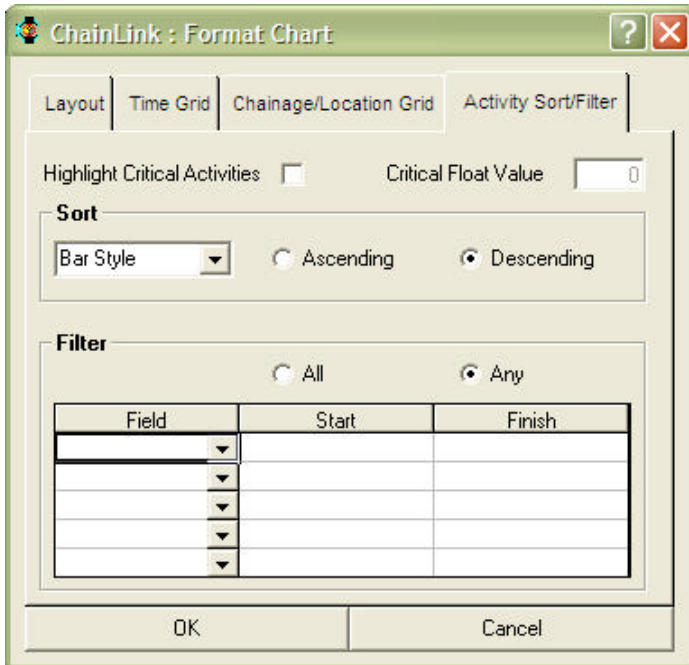
If Grid Lines every.. is checked then the line style of the grid lines can be specified by entering the appropriate number in the Line Style box. The line style may be one of the following:-

- 0 Solid
- 1 Dashed
- 2 Dotted
- 3 Dash Dot
- 4 Dash Dot Dot

Label Orientation

The orientation of the Location Grid labels. Select horizontal or vertical as preferred.

2.3.4. Activity Sort/Filter Tab



Highlight Critical Activities Check this option and enter a critical float value if critical activities

Activities are to be highlighted on the chart. Critical activities will be highlighted by printing a © at each end of the activity.

Sort Activities An automatic sort can be performed on the activity data prior to generating the chart in order that the bars, etc are plotted in a sequence which places some bars on top of others.

Select the column on which the data is to be sorted from the pull down list.

The data may be sorted in ascending or

descending order by checking the appropriate button.

Filter Activities

The activities to be included on the chart may be filtered.

Select the fields on which the activities are to be filtered from the pull down list. Up to 5 fields may be selected for filtering purposes.

Enter the start and finish values of the filter range in the second and third columns of the grid.

If Description has been selected as a filter then the text to be matched should be entered in the second column, the third column will remain blank.

If Colour has been selected as a filter then the colour selection should be entered in the second column, the third column will automatically be set to the same value.

Check the All or Any button to further define the selection criteria.

2.3.5. Buttons

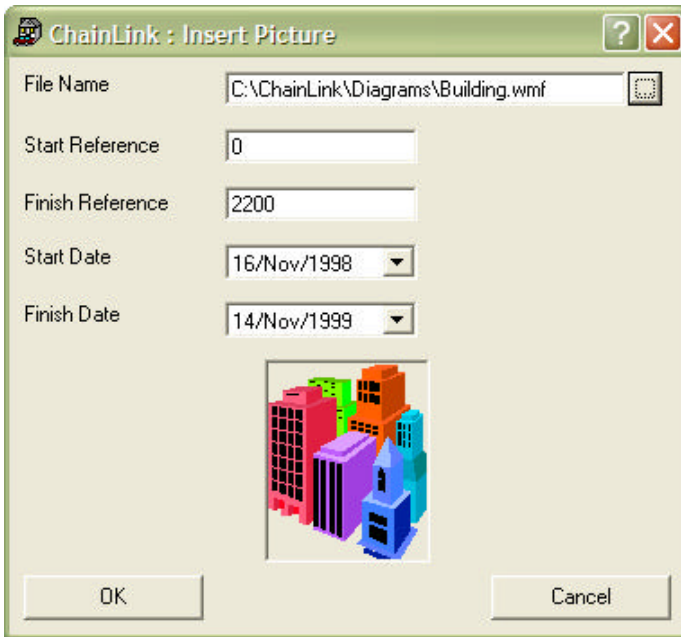
- | | |
|---------------|--|
| OK | Click on the OK button to regenerate the chart using the new format parameters. |
| Cancel | Click on the Cancel button to terminate the Format Chart request. No changes will be made to the currently displayed chart |

2.4. Pictures, Text, Milestones and Notes

These options are only available in the main ChainLink program.

2.4.1. Inserting a Picture

Pictures may be added to the chart on the preview screen. These pictures may be any of the standard picture files i.e. Bitmaps (BMP & DIB), GIF Images (GIF), Metafiles (WMF & EMF), JPEG Images (JPG) and Icons (ICO & CUR)



File Name

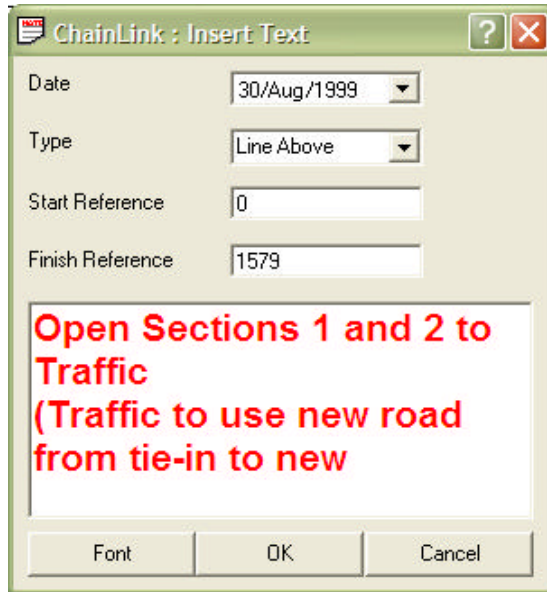
The path and name of the picture file to be placed on the chart.



Browse button Click on this to display a file selection dialogue window.

- Start Reference** The Location Reference at which the left hand edge of the picture is to be positioned.
- Finish Reference** The Location Reference at which the right hand edge of the picture is to be positioned.
- Start Date** The date at which the top edge of the picture is to be positioned.
- Finish Date** The date at which the bottom edge of the picture is to be positioned.
- Picture Preview** When the File Name has been selected a preview of the picture is shown in this window.
- OK** Click on the OK button to regenerate the chart incorporating the picture.
- Cancel** Click on the Cancel button to terminate the Import Picture request. No changes will be made to the currently displayed chart.

2.4.2. Inserting Text, Milestones and Notes



Date and Time The date and time at which the text is to be positioned. If the time unit is set to days then the time field is omitted.

Type The type of the text to be inserted.

It may be one of the following:-

- A block of 'Text Only'
- A block of text with a 'Full Border'
- A Start Milestone with a 'Line Below'
- A Finish Milestone with a 'Line Above'
- An entry in the 'Notes' column

Start Reference The Location Reference at which the left hand edge of the text is to be positioned.

- Finish Reference** The Location Reference at which the right hand edge of the text is to be positioned.
- Text** Type the text to be inserted into this window.
- It may be entered as a single line or multiple lines.
- Font** Click on the Font button to set or change the text font and colour.
- A font dialogue window will be displayed from which the new font parameters can be selected.
- OK** Click on the OK button to regenerate the chart incorporating the text.
- Cancel** Click on the Cancel button to terminate the Import Text request. No changes will be made to the currently displayed chart.

2.4.3. Moving

Place the cursor over the picture, text or milestone to be moved, the picture, text or milestone will be outlined and the cursor will change to a four headed arrow. Press and hold down the left mouse button and drag the picture, text or milestone across the chart. Release the left mouse button when the desired position for the picture, text or milestone is achieved.

A picture, text or milestone which has been clipped by the settings of the chart window cannot be moved by this method.

2.4.4. Resizing

Place the cursor over the edge of the picture or text to be moved, the picture or text will be outlined and the cursor will change to a double headed arrow, either up/down or left/right dependant on the edge selected. Press and hold down the left mouse button and drag the edge of the picture to increase or decrease the size, the Location Reference or the Date of the new position of the edge will be shown as the cursor is moved. Release the left mouse button when the required size is achieved.

An edge of a picture, text or milestone which has been clipped by the settings of the chart window cannot be resized by this method. The bottom edge of text and milestones cannot be resized.

2.4.5. Editing

Place the cursor over the picture, text or milestone to be edited, the picture, text or milestone will be outlined and the cursor will change to a four headed arrow. Press and hold down the right mouse button and select edit from the Pop Up Menu. The Insert Picture or Insert Text dialogue window, containing the details of the picture, text or milestone will be displayed. Amend the data as necessary and click on the OK button.

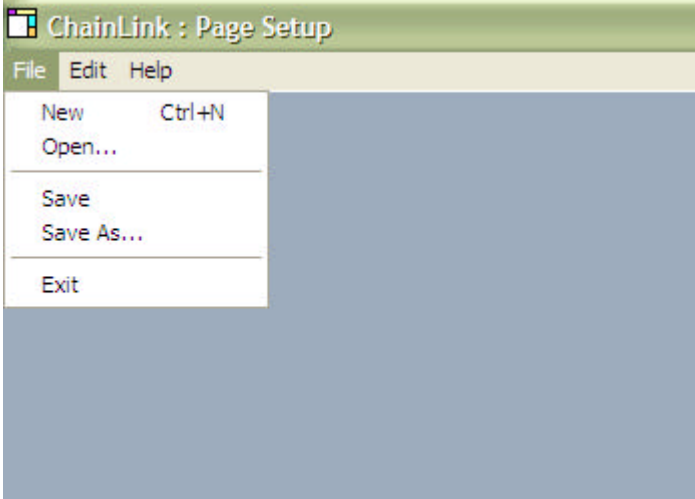
2.4.6. Deleting

Place the cursor over the picture, text or milestone to be deleted, the picture, text or milestone will be outlined and the cursor will change to a four headed arrow. Press and hold down the right mouse button and select delete from the Pop Up Menu. A confirmation of the deletion will be requested before the picture, text or milestone is deleted.

3. ChainLink Page Setup

3.1. Menus

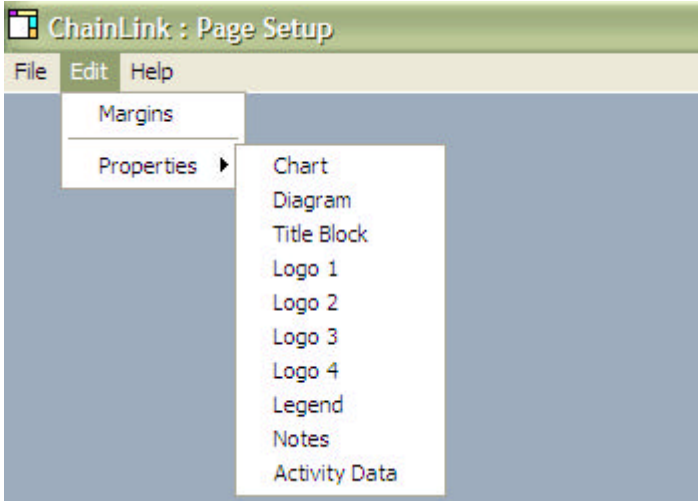
3.1.1. File Menu



- New** Creates a new blank layout for the currently selected page size. Only the Chart Container and Diagram Container will appear on the newly created page. The Margins dialogue window will be displayed with the preset values of 15mm to allow these to be amended before adding other features to the chart.
- Open** Displays the Open Layout dialogue window to allow selection of the ChainLink layout file to be loaded. Only one layout may be loaded at a time.
- Save** Saves the currently loaded ChainLink layout file. If the current layout is unnamed then the Save As... feature is invoked.

- Save As...** Displays the Save Layout dialogue window to allow the currently loaded ChainLink layout file to be named and saved.
- Exit** Closes the currently loaded ChainLink layout file and exits the Page Setup program. If the layout is new or changes have been made to the layout and the layout has not been saved then a prompt to save the layout will be displayed.
- If the Page Setup utility has been activated from ChainLink or ChainLink Viewer then this option is replaced by:-
- Return** Closes the currently loaded ChainLink layout file and returns to ChainLink or ChainLink Viewer. If the layout is new or changes have been made to the layout and the layout has not been saved then a prompt to save the layout will be displayed.

3.1.2. Edit Menu/Popup Menu



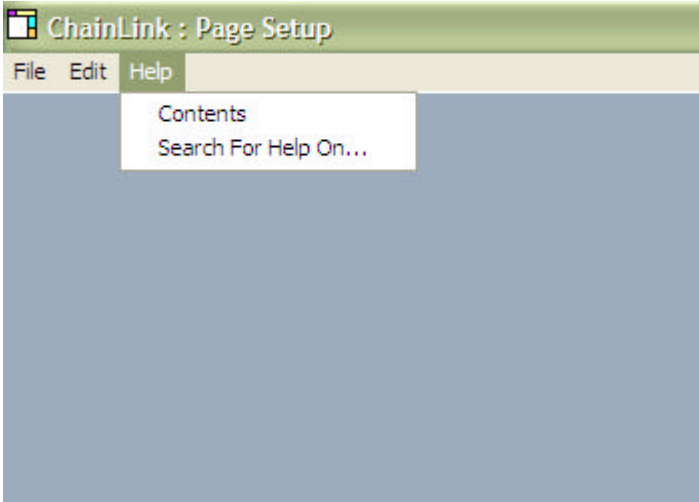
The Popup Menu is displayed when the right mouse button is pressed and the cursor is positioned within the Paper Container. The Popup Menu has no Containers sub-menu, the Properties dialogue window displayed contains the details of the Container immediately below the cursor position. If the cursor is positioned over the Paper Container but outside any other Containers the only the Margins option will be available.

Margins Displays the Margins dialogue window.

Properties Displays the Containers sub-menu.

Containers Selection of the chart container required displays the Properties dialogue window for that container.

3.1.3. Help Menu



- | | |
|------------------------------|---|
| Contents | Loads the Help system and displays the Contents page. |
| Search For Help On... | Loads the Help system and displays the Index dialogue window. |

3.2. Toolbar



- New** Creates a new blank layout for the currently selected page size. Only the Chart Container and Diagram Container will appear on the newly created page. The Margins dialogue window will be displayed with the preset values of 15mm to allow these to be amended before adding other features to the chart.
- Open** Displays the Open Layout dialogue window to allow selection of the ChainLink layout file to be loaded. Only one layout may be loaded at a time.
- Save** Saves the currently loaded ChainLink layout file. If the current layout is unnamed then the Save As... feature is invoked.
- Paper Size** Sets the paper size for the current layout by allowing selection of standard sizes from a pull down list. Any containers already on the layout will be scaled to fit the new paper size.
- Paper Orientation** Sets the paper orientation for the current layout by allowing selection of Landscape or Portrait from a pull down list. Any containers already on the layout will be scaled to fit the new paper orientation.
- Help** Loads the Help system and displays the Contents page.

3.3. Toolbox

The Toolbox holds all the additional containers that may be placed on the chart. To add each container to the chart drag the item from the Toolbox and drop it onto the chart and then resize it to suit,

Paper Area

The Paper Area represents the size and orientation of the currently selected paper size, scaled to fit within the window

Plot Area

The Plot Area represents the Container on the paper where the chart will be printed. Its size is determined by the Margin settings.

Chart Container

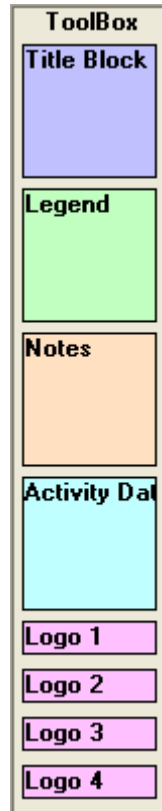
The Chart Container is used to display the Time Location Chart. This container is always displayed on the layout and cannot be removed.

Diagram Container

The Diagram Container is used to display the diagram(s) which is(are) a pictorial representation of the project. This container is always displayed at the top of the Chart Container on the layout and cannot be removed, .Only the height of the Diagram Container can be changed, the Left, Top and Width properties are determined by the size and position of the Chart Container

Title Block Container

The Title Block Container is used to display the Project Data on the chart. For best results the height of the Title Block Container should be approximately 150% of its width. The overall size of the box will determine the font sizes to be set



in the Project Data.

**Legend
Container**

The Legend Container is used to display the Legend Data on the chart. The container may be divided into columns to display more of the Legend Data, however, the minimum width of a column is 50mm so multiple columns may only be displayed if the container width is greater than 100mm.

**Notes
Container**

The Notes Container is used to display the Notes, contained in the Milestones/Notes Data, on the chart. The container may be divided into columns to display more Notes, however, the minimum width of a column is 50mm so multiple columns may only be displayed if the container width is greater than 100mm.

**Activity Data
Container**

The Activity Data Container is used to display the Activity Data on the chart. The container may be divided into columns to display more of the Activity Data, however, the minimum width of a column is 50mm so multiple columns may only be displayed if the container width is greater than 100mm.

**Logo(s)
Containers**

Up to four Logos Containers may be displayed on the chart, with or without a border. The proportions of the Logo Containers are only used as a guide to determine the maximum height or width of the logo. The proportions of the logo as drawn will be maintained and the width or height of the container adjusted to suit. This facility may also be used to display diagrams, clipart or photographs outside the container of the main chart.

3.4. Status Bar



- Properties** Shows the sizing properties of the container immediately below the current cursor position when the cursor is positioned over the chart.
- File Name** Displays the name of the currently loaded Layout File or "New" if a new layout.
- Save Indicator** Displays the word "Save" when changes have been made to the layout to indicate that the layout needs to be saved if the changes are to be retained.

3.5. Margins

Top The distance in millimetres from the top edge of the paper to the top of the chart.

Bottom The distance in millimetres from the bottom edge of the paper to the bottom of the chart.

Left The distance in millimetres from the left edge of the paper to the left of the chart.

Right The distance in millimetres from the right edge of the paper to the right of the chart.

OK Click on the OK button to set the margins for the currently displayed chart. Any Containers already on the layout will be scaled to accommodate the new margins.

Cancel Click on the Cancel button to terminate the Margins request. No changes will be made to the currently displayed chart.



3.6. Properties

Left The distance in millimetres from the left edge of the paper to the left edge of the currently selected container. The distance cannot be less than the width of the left margin.

Top The distance in millimetres from the top edge of the paper to the top edge of the currently selected container. The distance cannot be less than the depth of the top margin.

Width The width in millimetres of the currently selected container. The width cannot be greater than the remaining distance from the left edge of the container to the right edge of the paper less the right margin.

Height The height in millimetres of the currently selected container. The height cannot be greater than the remaining distance from the top edge of the container to the bottom edge of the paper less the bottom margin.

Columns The number of columns of data to be displayed. The minimum width of a column is 50mm so multiple columns may only be displayed if the currently selected container width is greater than 100mm.



The screenshot shows a 'Properties' dialog box with the following settings:

Property	Value
Left	15
Top	15
Width	810
Height	564
Columns	1
Border	Yes

This option is only enabled for the Notes, Legend

and Activity Data Containers.

Border

Determines whether or not a border is to be drawn around the currently selected container.

This option is only enabled for the Logo Containers.

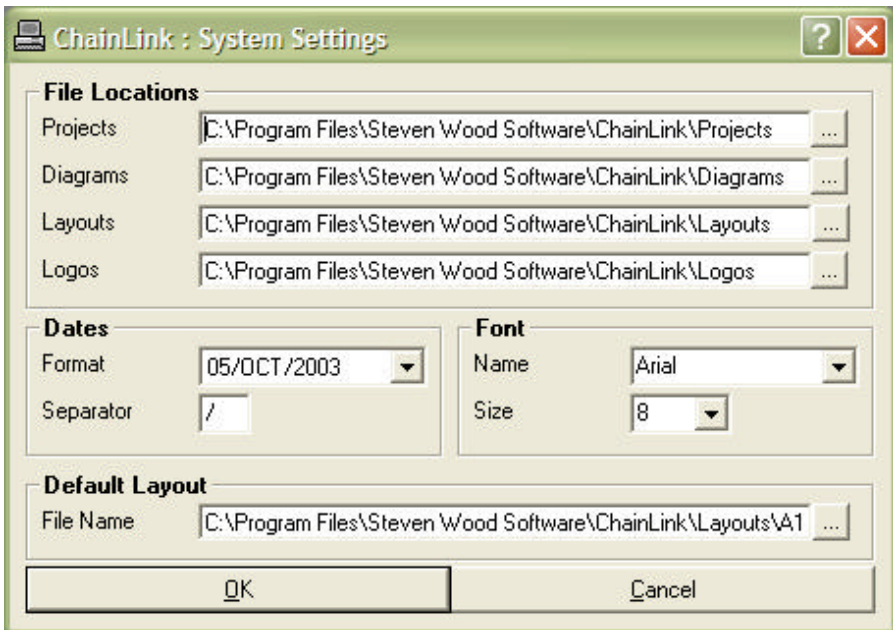
OK

Click on the OK button to set the properties for the currently selected container

Cancel

Click on the Cancel button to terminate the Properties request. No changes will be made to the currently selected container.

4. ChainLink System Settings



4.1. File Locations

The File Locations section allows the user to specify where the Projects, Diagrams, Layouts and Logo files, used by ChainLink, are to be stored. The directories specified here will be the default directories selected by ChainLink when the Open and Save File dialogue windows are invoked.

Projects The path of the folder where Project files (.cl4) are to be stored.

If no path is specified then the current folder will be used.



Browse button

Click on this to display a path selection dialogue window.

Diagrams

The path of the folder where Diagrams, Pictures and Clipart files (.bmp .dib .gif .jpg .wmf .emf .ico .cur) are to be stored.

If no path is specified then the current folder will be used.



Browse button

Click on this to display a path selection dialogue window.

Layouts

The path of the folder where Layout files (.clb) are to be stored.

If no path is specified then the current folder will be used.



Browse button

Click on this to display a path selection dialogue window.

Logos

The path of the folder where Logo files are to be stored.

If no path is specified then the current folder will be used.



Browse button

Click on this to display a path selection dialogue window.

4.2. Dates

The Dates section allows the user to specify the date format used by ChainLink.

Format

Select the format required from the pull down list.

Separator

Type the character to be used to separate the elements of the date.

4.3. Font

The Fonts section allows the user to specify the default font to be used by ChainLink.

Name Select the name of the font from the pull down list.

Size Select the size of the font from the pull down list.

4.4. Default Layout

The Default Layout section allows the user to specify the layout to be used by ChainLink when no layout is specified in the project.

File Name The path and name of the saved layout file (.clb) to be used as the Default Layout by ChainLink.



Browse button

Click on this to display a file selection dialogue window.

4.5. Buttons

OK Click on the OK button to save the new System Settings and close the window. The new settings will not be used until the next time ChainLink is loaded.

Cancel Click on the Cancel button to close the System Settings window without saving the changes.

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