

Corpse

Version 6

Reference Manual

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Chapter 1 - Introduction

Corpse (**C**ourse **P**lanning and **S**etting software) is a computer-based facility which can assist in the development of quality orienteering courses.

Corpse uses a computer image of the orienteering map to enable courses to be developed interactively on a computer. These map images can be sourced from scanning an existing map or exporting a map image out of OCAD.

All courses for an event are plotted directly “onto” the map image. This enables the course planner to quickly see the interaction between courses and the suitability of sharing controls between courses. It also enables the course planner to quickly try “what if” scenarios, e.g. what is the course length if a control is added to a course or moved to another location. This is an invaluable teaching aid when demonstrating the nuances of course setting to the new course setter.

Corpse facilitates change by rippling the change through all affected courses. For example, a control’s number or description can be changed and all control description sheets are automatically updated.

Disclaimer

Corpse is a tool only. Good orienteering courses cannot be developed from the armchair; course setters must visit control sites to confirm their suitability. While Corpse can aid in the course planning and printing processes, it cannot guarantee that the right control is put in the right place. Furthermore, Corpse does not have any intuitive powers; it cannot identify what feature the control circle is centred on and cannot prevent you from describing a watercourse as a termite mound in the control descriptions sheets.

Manual Conventions

The following typographical conventions are used throughout this manual:

text	Indicates a menu or speed button on the screen.
text ▶ text	Indicates a menu hierarchy.
<i>text</i>	Reference to another part of this manual.
<key>	Indicates a key on the keyboard, e.g. <Alt>.
+	Two or more concurrent actions, e.g. <Ctrl>+<End>+.
<click>	Click the designated mouse button.

Licence

Corpse is available in two forms:

► **Corpse - Demonstration**

This version is capable of loading any file created by Corpse. All facilities such as add controls, move controls, change course descriptions, add courses and preview maps and control descriptions are available. Files can be saved.

Courses which have more than 5 controls (including the start and finish) can not be created or printed.

► **Corpse - Licenced**

Once Corpse is licenced, the 5 control restriction is lifted.

Corpse is registered by providing a valid Product Key in the form *****_*****_*****_*****_***** at installation time. The key is provided following payment and should be stored in a safe place.

Purchase of Corpse can be arranged through:

Corpse Home Page: <http://www.o-ware.com>; or

the author:

R.A.Saye,
5 Hooley Place,
KAMBAH ACT 2902
Australia
Ph: (02) 6231 9661.
email: rex.saye@actewagl.net.au

Licencing of Corpse is to an individual. Corporate or club licencing is available upon application to the address above.

Chapter 2 - Overview

Features

Corpse offers the following features:

- ✧ Plan courses directly onto the map. Add a control with the click of the mouse. Drag and drop controls into new locations. See which other courses use this control.
- ✧ The description for any control need only be entered once. This description will then appear in any control description for any course that makes use of that control.
- ✧ Control description sheets for courses can be printed in English or using IOF symbols.
- ✧ Course lengths are automatically calculated.
- ✧ Last leg lengths are automatically calculated.
- ✧ Control description sheets can be printed in various formats, e.g. multiple copies per page of individual descriptions for guillotining, multiple descriptions per page for distribution with event information packages or print descriptions straight onto the map.
- ✧ Control identification codes are checked for duplication. A cross reference of all controls used in an event and the courses on which those controls are used is available.
- ✧ Check control loadings, leg loadings, whether legs are being run in both directions, etc.
- ✧ Master maps and course maps can be printed. Leg lines and control circles can be broken so as not to hide important map features. Leg lines may be bent if required. Additional features such as logos, crossing points, water drops, out of bounds areas and forbidden routes can be printed at the same time.
- ✧ Courses, additional features and control descriptions can be inserted into the EPS file created by OCAD. Courses will then be printed at the same time as the map. Alternatively, the same Corpse data can be added to the purple

colour separation and printed as an overlay onto existing maps.

- ★ You can produce OCAD quality maps without OCAD. Corpse cannot change the map file or OCAD file. OCAD's *.OCD files need never leave your protection.
- ★ Courses can be planned on a map of one scale (e.g. 1:15000) and then simply moved to a map of a different scale (e.g. 1:10000).
- ★ Courses with multiple loops can be created.
- ★ Course climbs can be automatically calculated.

What Is New In Version 4?

Corpse Version 4 has:

- Timed backup of CPE file.
- Ten level undo command.
- Approach/departure arrows are displayed around controls to aid in the placement of course sequence numbers on maps.
- Control sequence numbers can be positioned in different places on different maps for the same control.
- Control identifiers or sequence numbers can be displayed on the master map.
- A new "cartography mode" to allow maps to be marked with out of bounds areas, forbidden routes, boundaries, water drops, etc.
- Preferences such as control circle diameter, line thickness, fonts, etc. are now saved with the CPE file enabling the more affective sharing of files.
- Two symbols can be entered into column H.
- Funnel Finish has been added.
- IOF symbols have been revamped. The user can even select the thickness of pen used to draw these symbols.
- The number of courses is now unlimited.

- The number of "holes" has been increased to 150.
- Finish circles can be broken in the same way as normal control circles.
- Corpse can leave a gap in the control circle to prevent "ink blobbing" in the plotting process. The user can now select the size of the gap.
- Plotter registration points are now general registration points (e.g. for EPS printing). They can now also be deleted.
- English descriptions generated by Corpse can be long (e.g. north eastern) or short (e.g. NE).
- Controls can be used more than once on a course. This is intended mainly for the design of multi-loop courses with a single map exchange.
- The information displayed by XRef can be copied to the clipboard.
- The "Tailor Map" function now allows for the map to be cropped to a smaller size. This will help Corpse to run faster. The process which reduces map colours to 256 has been enhanced to give a better colour representation of the map.
- Titles can be optionally printed or plotted on maps to facilitate identification of different courses.
- EPS output can be stretched to facilitate overprinting courses on preprinted maps.
- EPS output does not use fonts to render text. This removes the need for a font to exist on the computer equipment of the print shop.
- Right <click>ing over the course tabs now selects the new course before displaying the Events menu.
- Controls which are not on the currently active course can be hidden providing an uncluttered view in areas with many control sites.

What Is New In Version 5?

Corpse Version 5 has:

- The number of D symbols has been extended to include all IOF defined

symbols. D symbol selectors are now grouped in blue, green, brown and black representing their orienteering classifications.

- A new window has been added to permit you to view a course leg as the orienteer would see it. The map is rotated so that the leg line goes from the bottom to the top of your screen (south to north).
- A quick entry facility has been added. You can now establish courses using a spreadsheet type entry. Basic information such as course name, number of competitors and classes can be edited.
- View control options have been added to control the display of cartography, control identifiers, and screen centring if a selected control is not visible.
- New Course EPS files can be produced without the need for a template file such as the "purple.EPS" file.
- You can now create and maintain a personalised list of control identifiers which you consider to be unacceptable, for example 161 and 191. Corpse will warn you if you attempt to use any of these control identifiers.
- The current course length and current leg length have been added to the status bar to facilitate course planning in "full map mode".
- When planning courses, the use of <Ctrl>+<up arrow>, <Ctrl>+<down arrow> moves the position of the currently selected control up or down one position within the current course. This allows you to add a new control and move it to its correct sequence position while operating in "full map mode".
- When planning courses, the use of <Shift>+<up arrow>, <Shift>+<down arrow>, <Shift>+<left arrow> and <Shift>+<right arrow> moves the position of the currently selected control one pixel at a time on the map in the direction selected by the arrow.
- When planning courses, the use of <Ctrl>+<Delete> deletes the currently selected control.
- Corpse can now input the "map.EPS" file generated by OCAD. You can now select any amount of detail you wish. I have loaded maps at 900 dpi. You no longer have to use the BMP file created by OCAD. Using the EPS file will ensure that you are not course planning on a BMP file which represents one area of the map and adding courses to EPS files which represent another area of the map.

- Corpse can now preview EPS files which have been produced by OCAD or Corpse, and can overlay "course.EPS" files produced by Corpse onto a template EPS map.
- Multi-loop courses can be planned as a single course. The multi-loop course can be split into its component loops automatically.
- Relay courses can be planned as a single course. For the purposes of the relay, any control on a course can have up to 4 alternatives. The composite relay course can be automatically split into the various separate relay courses.
- A concise option has been added to the XRef facility. The information presented in the detailed XRef can also be tailored to suit your individual needs.
- Ski-O, Bike-O control format (1-32, 2-33) numbering on maps has been added.
- Courses can now have a pre-start distance (the distance from the map collection point to the start triangle).
- Check marks can now be added to the master control list. This is useful when ticking off controls which have been field checked or identifying controls which need special attention, etc.
- Corpse data can now be exported to a text file or mailed directly.

What Is New In Version 6?

Corpse Version 6 has:

- Corpse has been updated to comply with the IOF 2004 Standard. Corpse 6 can read files created by earlier versions of Corpse but cannot write files for use with earlier versions. This has arisen because of the fundamental changes made by the IOF 2004 Standard.
- Course information can be exported (in the XML format) for use with other software packages such as Sport Ident.
- The map display routines have been improved giving a much faster response time when scrolling maps.
- Each leg can now have a climb associated with it. These are automatically

totalled to give an overall climb for the course. Climbs for legs occurring in multiple courses need only be entered once.

- A "display cross hairs" option has been added to control circles. This aids in the accurate positioning of control circles on map features.
- Map markup (printing of control descriptions on maps) has been enhanced. Control descriptions can be printed on the map fronts and/or backs.
- Overlay printing has been added. This enables the printing of courses on existing maps with your own printer.
- An Event Footer has been added. This can be used for general comments such as "safety bearings" and "course closure times".
- Corpse can now add colour text and colour pictures onto maps e.g. sponsor's logos.
- Blank borders can be added to the OCAD EPS file to provide off-map areas to print control description sheets, logos, etc.
- Many other improvements such as popup menus, real-time generation of text descriptions, user entered course length, control selector, etc.
- Direct support for plotter technology has been dropped. Plotter technology is generally being (or been) phased out. Drivers for XP are either unavailable or poor quality.

Design Philosophy

Corpse uses an image of the orienteering map to define a working area in which to plan the orienteering course. While the extents (length and breadth) of the map establish the bounds of the course(s) Corpse does not alter the map in any way. Instead, control circles and leg lines are drawn on a "film" covering the map. Corpse also introduces the concept of "holes" in the "film". If a leg line crosses a "hole" then the line disappears allowing the map feature in the "hole" to be seen.

As Corpse uses the map to define the limits of the course area, then if no map exists then there can be no courses. Furthermore, as the map is under the drawing film then the map can be replaced by any other map or scanned image. Corpse has no way of knowing that the image is a map let alone the right map.

Corpse maintains a “master control list” which contains the control descriptions for all controls for a particular event. Any controls added to a course are automatically added to the master list and are then available for use on any other courses. As the controls in the master list are shared, any changes made to a control (position or features) are applied to all instances in all courses. While controls are added automatically to the master list when adding them to courses, they can only be removed from the event by actually deleting them from the master list. A check is first made to ensure the control is not included on any of the courses before it is removed.

Corpse creates a single file (*.CPE) for an event. This file contains the description of the controls, the controls in courses and their X,Y coordinates on the drawing film. Sharing of Corpse information therefore, is achieved by sharing this CPE file. The CPE file is typically very small and suitable for email.

The controller/setter relationship can be effectively established by initially providing both parties with a copy of the map image. The CPE file can then be exchanged as often as desired through the life of the course setting process.

Design Parameters

Maximum number of courses - Unlimited

Maximum number controls for an event - 255

Maximum number controls per course - 50

Maximum number of holes - 150

Maximum number of cartographic objects - Unlimited

Corpse Files

System Files

Corpse.exe	Corpse program
Corpse.hlp	Help file
Corpse.cnt	Help file
Corpse.pch	Punch patterns as defined by the user

Temporary Files

Corpse.tmp	Transient copy of current Corpse data
Corpse.bck	Timed backup of last/current Corpse data file
Corpse.00?	Files created to support the Undo feature

Input files

*.bmp	Map images in Windows bmp format
*.eps	Map images in Postscript format

Output files

*.cpe	Corpse data files containing course information
"course name".eps	Map images with courses in Postscript format
"course name".bmp	Course templates in Windows bmp format
*.bmp	Copies of bmp map images mentioned above (usually with lower colour definition or with lower DPI) in Windows bmp format
*.xml	A self documenting XML file containing much of the data used by Corpse for the event

System Requirements

Corpse was developed with Delphi 4 under Windows 98 SE, XP.

The development machine was a Celeron 2.4 GHz with 512mb of real memory, a 17 inch display set at 1024x768. Performance and responsiveness were very good. Printing was tested on a Canon S600 and Xerox Phaser 7700 laser printer.

While Corpse will run on a display set at 640x480, much of the capability of Corpse will be unavailable as buttons do not fit on the screen.

A recommended minimum configuration is a Pentium 133 with 128mb of real memory.

Windows 98 or better is essential.

Colour printers provide better results when printing maps otherwise a black only graphics capable printer is fine.

Chapter 3 - Getting Started

The information in this section is intended to provide a simple process for using Corpse to plan an orienteering event and print control description sheets. There are many more features available in Corpse which can be explored after mastering the basic process.

House Keeping

► Create an Event Folder

Using Windows, create a folder where all files relating to this orienteering event can be stored. While having more than one event in a folder is possible it should be avoided as Corpse creates files with default names and may therefore overwrite or intermingle files with other event files. (For further information, refer to the production of EPS files.)

► Acquire an Event Map

Acquire a map file by scanning a map or exporting a BMP file or an EPS file from OCAD. Save this file in the event folder.

A BMP file with a resolution of 200 dpi and 64000 colours provides adequate detail.

It is better to use an EPS file if it is available. EPS files provide better quality maps and you can adjust the display quality with Corpse without having to get another BMP file from OCAD.

► Acquire an Event EPS File

This step is only absolutely necessary if the intention is to print high quality course maps for an orienteering event.

If your event map is an EPS file, this step can probably be skipped. If your event map is a BMP file from OCAD then it is best to acquire the EPS file at the same time as you acquire the BMP file so that you are certain that the EPS file is an exact replica of the event map BMP file. Save this file in the event folder.

► Start Corpse

Start Corpse by <click>ing on the appropriate Windows icon.

Create An Event File

The event file contains the control descriptions, courses and other parameters for an orienteering event. The name of these files is “filename.CPE”. A separate file is required for each event.

A new event file is created by selecting **File** ▶ **New** on the menu bar. The default name of the file is set to “Untitled.CPE”. Use the **File** ▶ **Save As** option to save the event file immediately; this has the effect of setting the default folder for all other files.

An existing file can be opened using **File** ▶ **Open** on the menu bar or by selecting a file from the list of up to five files displayed on the **File** menu on the menu bar.

Corpse checks the structure of the event file when it opens the file. If problems occur then, the file is reported as “corrupt”. Corpse maintains upward compatibility in that Corpse Version 1 files can be read by Corpse Version 2, etc. The reverse however is not possible.

Name the Event

The “event name” is displayed at the top of each control sheet listing. Any combination of printable characters can be entered. Maximum length is 100 characters. The default is “Untitled”.

The text is wrapped to fit into the available space. If the text contains a “|” then the text is broken and a new line is commenced.

The event name is entered using **Event** ▶ **Event Name** on the menu bar.

Load A Map

A map is required to make use of the Corpse system. As it provides a surface on which to place the controls, many of the tools are unavailable until a map is loaded.

Large map files will slow down the operation of Corpse. However, using maps which are at a low DPI can mean that features on the map may not be visible.

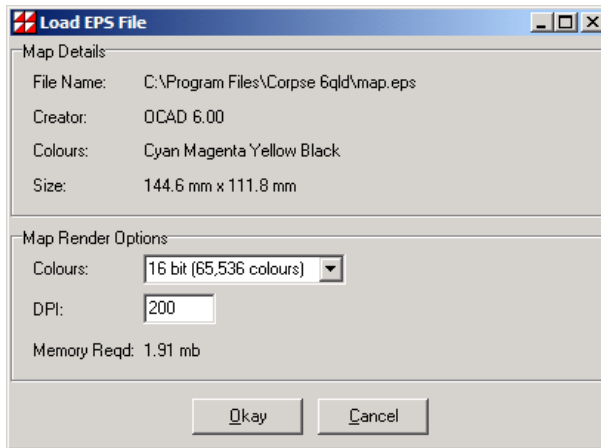
The map is loaded using **Map ▶ Load Map** on the menu bar.

BMP Map Files

Some BMP files do not have the DPI information recorded in the file. If the DPI information cannot be found in the file by Corpse, a dialog box will appear so that it can be entered manually.

EPS Map Files

EPS map files should be used whenever possible. The quality and size of the resulting map is controlled by you at the time of loading with the following dialog.



To change the quality, simply reload the EPS file. You can also use the same EPS file in the printing process.

It is recommended that you start with settings of 200 DPI and 16 bit colour and experiment with other settings.

Warning The map requires the use of the physical memory of the computer (RAM). If the map storage requirement is larger than the available RAM then Corpse will run slowly and probably fail. It may be necessary to close other programs to maximise the availability of your computer's RAM for Corpse.

Set Map Scale

The map's scale influences the calculation of course and leg lengths.


Scale This is the orienteering map scale, common values being 1:10,000 and 1:15,000. A drop down list of typical values is provided. However, any numeric value can be entered.

The scale is set using **Map** ▶ **Scale** from the menu bar. The default is 1:15,000.

Hint - Create a two control course on the map's scale bar and compare the length of the scale bar with the course length calculated by Corpse.



Customise View

The map is the main interface to the Corpse package.


When the map is first loaded, it is displayed at full scale. Using the zoom tools, adjust the magnification to provide the largest view while still maintaining sufficient detail to allow the placement of controls. The whole screen can be dedicated to the map display by selecting the map mode with the  button.

The section of the map which is displayed is controlled by using the slider bars at the right and at the bottom of the map display.

Create Courses

The procedure outlined here requires that the control description sheet be visible on the screen. Ensure that either the  button or the  button is down.

Repeat the following steps for each course:

- Create a new course with the desired name using **Event** ▶ **New**.
- With the  button down, position the cursor over the selected control site and <click> to add a control. Controls not already on this course are also displayed on the map. <Click>ing on an existing control will mean that it is "shared" and not "duplicated", e.g. the start and finish.
- Enter the control description using procedures explained at **Course Descriptions** in this manual.

- Set any other information required for this course (class, course climb, competitors, etc.) using the options on the **Event** menu.
- Drag the controls in the control list to the required position in the list to create the desired course. Refer to **Menu Bar, Control Descriptions Panel** in this manual for more information.

Note! Tools are available to remove controls from courses and reposition controls. Refer to **Screen Components, Map Tools** in this manual.

Multi-Loop Courses

A multi-loop course is one which requires the competitor to visit a map exchange one or more times to obtain a map and control descriptions which describes the next segment of the course.

Corpse enables you to plan the course as a single course using map exchange controls where required. (See **Create Courses**). Because you are re-using controls you must ensure that the control protection option is turned off. This is done through **File ▶ Settings ▶ Controls**.

The single, multi-loop course can be split into its individual loops prior to printing of maps or control descriptions. This is achieved with **Event ▶ Separate Loops**.

During the split process, the first sequence number of each loop is altered so that the numbers are identical to those of the single course. The course being split is also replaced by one of its component loops. To retain a copy of the full course copy it to another course prior to splitting it. This is achieved with **Event ▶ Copy Course**.

When a multi-loop course is split, new course names are generated (refer to **Relays**). If errors are encountered, the separation process will be abandoned.

Butterfly Courses

A butterfly course is similar to a multi-loop course described above. The only difference is that the re-visited control is not a map exchange control.

A butterfly course is planned like a standard course, re-using controls as required. (See **Create Courses**). Because you are re-using controls you must ensure that the control protection option is turned off. This is done through **File ▶ Settings ▶ Controls**.

To prevent Corpse from placing the control sequence numbers of the re-visited control sites on top of each other on the map, you must use the “local control sites” setting for this course. This is done through [Event ▶ Local Control Sites](#). You will now be able to position the various sequence numbers for the re-visited controls in your preferred positions. Refer to [Course Descriptions, Setting IOF Descriptions, Column A - Control Number](#).



Relays


A relay is a course where team competitors visit one control of a cluster of controls as opposed to all competitors visiting the same control. Control clusters are set up so that the courses are ostensibly the same (in distance, climb and complexity) but are not identical.

Creating Relay Courses

Relays can be planned by allocating alternative controls on a course. If, for example, an alternate control is specified at control 2 then two relay courses will be available. These are: Start, 1, 2, 3...., and Start, 1, 2a, 3....

To develop a relay follow the following steps:

- Develop a course in the normal way. (See [Create Courses](#)). The controls defined at this time are called "primary controls". Primary controls are the ones which appear in the control descriptions at the side of the screen. This is called the "primary course".
- Select a control on the primary course for which you wish to define an alternative control.
- With the  tool from the map tools selected, click on a new control site with the <Ctrl> button down. Corpse will now display the original course and the alternative path. If a control description sheet is displayed, it will only show details for the primary course.
- Controls can be deleted from a relay by clicking over the control to be deleted with the  tool from the map tools selected. If the control is an alternative control, it will be deleted and the map updated. If the control is a primary control, it will be deleted and replaced by one of the alternative controls (the control descriptions sheet will also be updated). The map will then be updated.
- Details of the various relay courses can be viewed using XRef. Alternatively,

relays can be "exploded" into the individual courses. Once a relay has been "exploded" it cannot be "unexploded". However, the "explode" can be undone with the  button.

- Print the courses or control description sheets as required. If component courses and control description sheets for relays are required then the relay must be "exploded" first. Otherwise, only the "primary" course will be printed. Refer to [Screen Components, Event Menu, Explode, Relays](#).

Course Setting Limitations

The relay is a standard course with alternative courses. You can work on the standard course (primary course) in the normal way e.g. add controls, delete controls, move controls on the map, etc.

Alternative courses are added to the standard course by defining alternatives for the primary controls on the standard course. If you reposition the primary control in the control sequence, the alternative controls are also repositioned in the control sequence.

To modify an alternative control you will need to gain access to it; usually through the master list. It is only there where you may enter the description, break the control circle, or move the position of the control on the map.


Relay Course Names

The following rules apply during the "explode" process:

- The names of the "exploded" courses will be based on the original course name with "-01", "-02", ... added. The original course name may be truncated if the resulting name exceeds 10 characters. If the resulting names are not unique, the "explode" process will be terminated with an error message.
- If the original course uses "local control sites" then, these positions will be used wherever possible when placing the control identifier. Generally, for alternative controls, the control identifier will be positioned as specified in the master list.

Control Identification Numbers

The master control list contains all of the controls used in the event. Identification numbers of controls can best be set using the master control list. Select the first control in the list to have an identification number (usually not the

start or finish) and enter the first number. Use the  tool to allocate sequential numbers to all controls in the master list. To establish different number runs, perform this procedure by selecting a control anywhere in the list. Controls above the selected control will not be renumbered.

Control numbers on the ground can be clustered by ordering the master control list so that controls which are near each other on the ground are near each other in the list. Auto-numbering will result in adjacent controls having consecutive numbers.

Checking Control Utilisation

Use the **XRef** facility located on menu bar to check information such as:

- duplication of control identifiers,
- controls that have not been provided with identifiers,
- the number of controls required,
- control loadings (especially for water drops),
- distance to the first water station on courses,
- course leg lengths, and
- leg utilisation.

Print Course Descriptions

All printing is carried out using the **Print** option, available on the tool bar. A **Preview** option has been provided to enable the output to be reviewed prior to printing. It is highly recommended that a preview is always done before a print.

Select the appropriate print arrangement. Typically this would be:

One per page when a single copy is required, e.g. master control list.

Many Courses per page for field checking of courses or preparation of material for event kits.

Many Copies per page for producing multiple copies of control description

sheets for the day of the event.

Select landscape or portrait page layout. This along with font and print margins can affect the number of control description sheets which can be printed on each page.

Change Scale

When preparing maps for an event, it is often necessary to produce course maps at 1:10,000 and 1:15,000. This is easily achieved by doing all of the control positioning and control descriptions at say the 1:15,000 scale. When all work has been completed for this scale then create a 1:10,000 scale file by:

- Save your current CPE file, e.g. “file 15000.cpe”.
- Save your current CPE file with a different name, e.g. “file 10000.cpe”.
- Use the stretch facility (accessed through **Map** ▶ **Stretch**) to change the scale from 1:15,000 to 1:10,000.
- Load the new map file (which would be a 1:10,000 map) through **Map** ▶ **Load Map**.
- Identify a control which has a map position which can be accurately located e.g. on a track crossing. Use the procedure outlined at **Screen Components, Tool Bar, Map Tools, Select, Position All Controls** in this manual to relocate all controls to their correct positions.
- Save your current CPE file, i.e. “file 10000.cpe”.

Warning The control circles will cover different areas on the map at different scales. Check your control descriptions and circle breaks to make sure that they are still accurate.

Chapter 4 - Settings

Use the **File** ▶ **Settings** option to set options that are in effect each time you start Corpse. These settings apply only to your computer. The following options are available.

System

► Colour Match On Load

This option causes Corpse to internally change the colour depth of the map if the map has more colours than the screen can display.

Systems such as OCAD and some scanners produce 24bit bit maps representing 16.7 million colours. If your screen is not set to display this many colours then the computer spends significant time translating the map from the large colour set to the smaller set.

Use **Help** ▶ **System Parameters** to determine the colour setting for your screen.

Warning! The affect of using colour matching is that Corpse will operate faster. The down side is that the initial load process for a map can be quite lengthy. It is better to create a new BMP file using **Map** ▶ **Tailor Map**. If your map file is an EPS file then the initial load process is not affected

► Timed Backups

Setting this option will cause Corpse to periodically create a full copy of your CPE file. The frequency at which this backup is taken is controlled by selecting a value for "minutes" from 1 to 1000. Backups are not taken if there have been no changes since the last backup or if Corpse is not licenced.

If timed backups have been selected, a clock is displayed on the bar at the top of the map panel.

► Punch Size

Corpse can support punches which have a size of 3x3 up to 9x9 pins. Setting this option will cause Corpse to create new punches with the number of pins you have selected.

► EPS Interpreter

Corpse can read EPS map files produced by OCAD. The interpretation of these EPS files has been optimised to shorten the reading process. If problems are experienced with reading EPS files, uncheck this option.

► Control Number Window

This parameter controls the size of the flyout map segment which is used for positioning the control identifier on the map. A segment size ranging from 10 to 50 millimetres of the map can be selected.

► Course Tabs

This parameter controls the number of characters from the course names which are displayed on the course tabs.

Characters from the beginning or the end of the course names may be selected. Setting the number of characters to 0 will mean that the whole name is selected. Selecting a small number of characters will mean that more course tabs will fit on the screen.

Controls

► Control Protection

When this option is checked, Corpse will prevent the accidental reuse of a control on a course.

Control reuse (of a map exchange for example) permits multi-loop courses to be planned on a single course. This composite course can then be broken up into the separate loops (if required) prior to printing.

► Invalid Control Codes

This option provides you with the ability to maintain and use a list of control identifiers which you do not wish to use, e.g. 1, 2, 3. Ticking the "Warn if used" to warn you when one of the control identifiers listed here is about to be used. This is only a warning and you may ignore it if you wish.

New "invalid control codes" may be entered in the edit box provided. Press <Enter> to have each new code added to the list displayed. To remove a code from the list, select it then press <Ctrl>+<Delete>.

► XRef

The XRef facility produces a cross reference listing of the controls used in this event. It will assist in identifying unused controls, control identifier duplication and the number of controls required for the event.

A listing of the components of the Detailed XRef enables you to tick the items which you wish to have included in the Detailed XRef listing.

Refer to [Screen Components](#), [Menu Bar](#), [XRef](#) for further information.

Chapter 5 - Preferences

Use **Preferences** to control the way in which Corpse generates courses and control description sheets. These preferences are stored in the CPE file with the course and control descriptions. This means that different files can have different preferences. Furthermore, these preferences are in effect if the file is used on any other computer.

You can save and recall your own preferences using the **Save as Defaults** and **Load Defaults** buttons. These defaults are also used when creating a new CPE file.

Map Preferences

► Control Symbol Colours

Select the colours used to display the control circles, start triangles, finish circles and leg lines on the map.

Selected Control - the selected control identifies the control whose characteristics will be changed by <click>ing on its elements in the status bar at the bottom of the screen.

Normal Control - controls which are included on this course. This colour is also used for start triangles, finish circles and leg lines on the map. If the master map is active, then all controls are normal controls.

Inactive Control - controls which are included in the master control list but do not form a part of the currently active course.

► Map Text Font

Select the font to be used when placing control numbers on the map. You may select the font name and size of the font. Features such as bolding and italics are ignored. Setting a large font size may cause unpredictable results.

Note Use a common font such as "Arial" if it is intended to share files with other computer users.

► **Hole Size**

Select the size (from 1.0 to 9.99 millimetres) at which holes will be placed on the map for the purposes of breaking leg lines.

► **Control Symbol Size**

Select the size at which control circles are drawn on the map. A circle size of 6 mm produces a good result.

► **Sequence Number Format**

Select the format to be used when drawing the sequence numbers on the map. Selecting 1 will result in consecutive numbers; selecting 1-300 will cause the control identifier to be printed after the normal sequence number.

► **Leg Line Clearance**

The leg line clearance is the amount of space left between the control circle and the end of the leg line when rendering courses on maps. Select the size of the gap required.

► **Control Line Thickness**

Select the width (from 0.1 to 0.99 millimetres) at which lines and circles are drawn on the map. A line thickness of 0.35 mm produces a good result.

IOF Control Descriptions Sheet

► **IOF Sheet Line Thickness**

Select the width (from 0.1 to 0.99 millimetres) at which lines are drawn when producing the boxes on IOF control descriptions sheets.

Note IOF control description sheet boxes have been sized at the centre of the lines which form the boxes. If thick lines are used printing will encroach into the page margins. If the left page margin is set to zero the vertical box lines on the left may appear to be half as thick as the other lines. This is because half the line thickness occurs in an area in which the printer cannot print.

► IOF Sheet Lines

All IOF sheet lines are drawn with the “normal” thickness specified above.

Checking “heavy outside line” will cause the outside line of the IOF control descriptions sheet to be drawn with the “heavy” line thickness specified above.

Checking “heavy third line” will cause the horizontal line after every third control description of the IOF control descriptions sheet to be drawn with the “heavy” line thickness specified above.

Check the desired column boxes to produce a “heavy” line after the selected box or boxes on the IOF control description sheet.

► Control Descriptions Sheet Cell Size

Select the size of the boxes used on the IOF control descriptions sheet.

► Control Descriptions Sheet Font

Select the font to be used when placing text such as control numbers on the IOF control descriptions sheets. You may select the font name and size of the font. Setting a large font size may cause unpredictable results.

Note Use a common font such as “Arial” if it is intended to share files with other computer users.

► IOF Symbol Pen Width

Corpse renders IOF symbols by drawing straight lines and curves. This option allows you to select the width of the pen used in the drawing process. Select a value (from 0.1 to 0.99 millimetres) which provides you with the best result for the printing process.

English Control Descriptions Sheet

► Sheet Width

Select the width in millimetres available to print English control descriptions sheets. Setting this number to less than 50 millimetres or setting a large font size may cause unpredictable results. The minimum value accepted is 30 millimetres.

► Font

Select the font to be used when placing text on English control descriptions sheets. You may select the font name and size of the font. Setting a large font size may cause unpredictable results.

Note Use a common font such as “Arial” if it is intended to share files with other computer users..

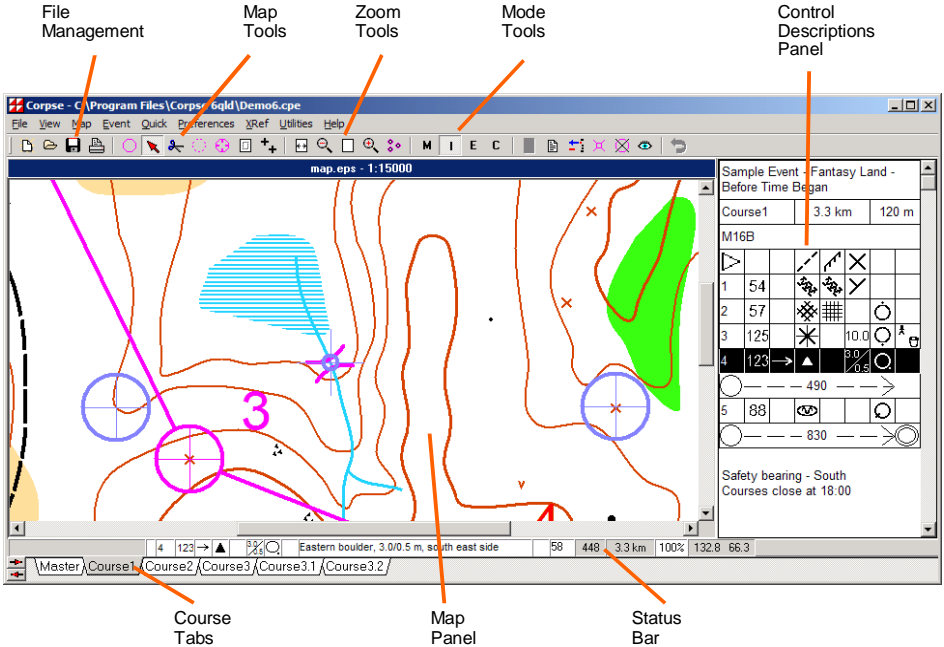
This font is also used for the printing of other English (text) based reports such as XRef, Control Codes and Punch Patterns, as well as for rendering map titles.

► Descriptions

You can elect to have Corpse generate English descriptions in long (e.g. north eastern) or short (e.g. NE) format. To put this option into effect you have to regenerate the English descriptions.

You can elect to have Corpse generate a new English description for a control each time the IOF description is changed. If this option is selected, any user-entered text is automatically replaced by Corpse. If this option is not selected then a new English description is entered by the processes outlined at [Course Descriptions](#), [Setting English Descriptions](#) in this manual.

Chapter 6 - Screen Components



Menu Bar

The menu bar provides access to the following facilities:

- File Menu
- View Menu
- Map Menu
- Event Menu
- Quick Entry
- XRef
- Preferences
- Utilities Menu
- Help Menu

File Menu

The commands on the File menu are:

New	Create a new event file. The file is either new (no courses) or one of the model events previously defined.
Open	Load an existing event file.
Save	Save the current project using its current name.
Save As	Save the current event using a new name.
Export	Creates a text file with much of the information for the current event. The format of this file is self documenting.
Mail To	Generates an E-mail with a copy of the current event file (*.CPE) attached.
Settings	Sets parameters that affect the operation of Corpse, e.g. timed backups. For more information refer to Settings in this manual.
Models	A model is a new event with a selected set of course tabs already created. This option enables the creation of a new model using the course tabs defined for this event. No other information is saved, only the course names.
Print Setup	Enable the selection of a printer and the setting of its characteristics.
Print	Initiate printing of the current active file.
Exit	Close the open file and exit Corpse.
History List	Lists the last five events you have closed.

View Menu

The View Menu permits you to control the way Corpse displays the information on the screen.

The map provides the working surface on which to place controls. Until a map is selected, many Corpse functions are not available. The map can be changed at any time, however, if a smaller map is chosen, already defined controls may no longer be accessible as they are no longer on the map.

► Map Only

Refer to [Screen Components](#), [Tool Bar](#), [Mode Tools](#).

► Map and IOF

Refer to [Screen Components](#), [Tool Bar](#), [Mode Tools](#).

► Map and English

Refer to [Screen Components](#), [Tool Bar](#), [Mode Tools](#).

► Cartography

Refer to [Screen Components](#), [Tool Bar](#), [Mode Tools](#).

► Control Focus

When a control is selected, via the Control Descriptions Panel for example, Corpse will ensure that the control can be seen on the computer's screen by moving the focus (view window) of the map. This will also occur when changing view from one course to another. This option can be de-selected to prevent this refocusing from occurring.

► Runner's View

Selecting this option causes the Runner's View window to be displayed.

► Refresh

Refreshes the display.


► Hide Cartography

Cartographic items take time to draw on the screen. Selecting this option will prevent Corpse from displaying these objects on the map unless Corpse is in Cartography mode. Setting this option has no affect on the printed result.

► Hide Control Numbers

Selecting this option will prevent Corpse from displaying control identifiers or sequence numbers. This means that important map detail will not be obscured by these numbers. This can be a problem on the master map which may have many controls in a confined area.

► Hide Inactive

Selecting this option will prevent Corpse from displaying controls which do not belong to the course currently being displayed. This means that important map detail will not be obscured by these controls. However, controls which are not currently visible can still be added to the current course by *<click>*ing over the location of the hidden control with the  button down.

► Quick Scroll

When the map image is scrolled using the vertical and horizontal slider bars, the course is drawn on the newly exposed section of map. This drawing process may slow down the scrolling process. Selecting this option will prevent the course from being redrawn until the mouse is released at the end of the scrolling process.

Note Quick scroll is always selected when in Cartography mode.

► Cross Hairs

When Cross Hairs is selected, Corpse will display a fine line "+" depicting the centre of the control circle. Cross hairs in conjunction with speed keys can be used for accurate positioning of control circles.

Map Menu

The map provides the working surface to place controls. Until a map is selected many Corpse functions are not available. The map can be changed at any time, however, if a smaller map is chosen, already defined controls may no longer be accessible as they are no longer on the map.

► Load Map

A dialog box is provided to select a Windows BMP file representing the orienteering map. The BMP file can be sourced from your scanner or from OCAD. The software which loads the EPS file is specifically designed for EPS files generated by OCAD. Refer to [Corpse, OCAD and EPS](#) for further information.

Some BMP files do not have the DPI information recorded in the file. If the DPI information cannot be found in the map file, a dialog box will appear so that it can be entered manually. Corpse will compensate for changes in DPI. This means that for large maps, a file with low resolution can be used for the preliminary work; this will provide better responsiveness from the computer. A map with higher resolution can then be used for any necessary fine tuning in positioning controls or printing of maps.

Warning When the map is loaded, Corpse checks to ensure that any existing controls still fit on the map and provides you with the opportunity to delete controls which no longer fit on the map.

► Map Scale

The map's scale influences the calculation of course lengths. Typical orienteering map scales being 1:10,000 and 1:15,000. A drop down list of typical values is provided. Any numeric value can be entered.

Hint Create a two control course on the map's scale bar and compare the length of the scale bar with the course length calculated by Corpse.

► Stretch

This option permits the courses which have already been entered into Corpse to be overlaid on a map of a different scale.

Suppose a map of 1:15,000 has been used for course setting and that all courses except the Blue course are to be printed on a 1:15,000 map; the Blue course is to be printed on a 1:10,000 map. Prior to printing the Blue course, **Map** ► **Stretch** should be used to tell Corpse that the map's scale is to be changed from 1:15,000 to 1:10,000. A new BMP or EPS file should also be loaded to ensure the control locations are correct (the different maps may not cover the exact same areas or may be positioned differently on the printed page). Refer to **Screen Components, Tool Bar, Map Tools, Select** to see how to move all controls in a single action.

It is best to save the Corpse event file to another file before undertaking this operation to avoid confusion.

► Map Borders

Corpse uses the area defined by the map as a drawing surface for control circles, lines, control descriptions, etc. In situations where there is insufficient room on the map, the drawing surface available to Corpse can be extended.

Selecting this option will present a dialog box for you to add borders to the map. Borders may be altered at any time, Corpse will automatically reposition control locations etc if the left or top border is changed. However, items for which you have entered the position from the top left corner of the map are not moved. These items include the position of the of control descriptions on printed maps.

The colour used to display the map borders is set with **File** ► **Settings** ► **System**. No fill colour is used in the printing process.

► EPS File Info

This option displays information about the currently selected map file.

► Tailor Map

The tailor map function is provided for altering the colour depth, size and resolution of a BMP based map. To alter these parameters for an EPS based map, re-load the EPS file and select the new parameters required.

The BMP file produced by OCAD or a scanner can make the operation of Corpse quite slow. This may arise from the DPI of the BMP file being too high or colours in the BMP file being far greater than can be viewed on the screen of your PC.

This tailor map function presents you with two images of your BMP file. The left most image is the original while the right most image shows you what will happen if the changes you have selected are implemented.

You may:

- Reduce the DPI of the map
- Reduce the number of colours in the map (increasing the number of colours does not have that affect; it simply slows Corpse by using more memory)
- Remove any white border on the map (crop)
- Select an area (window) of the map which is large enough for the courses you are setting

A new BMP file with new characteristics can be created and saved. This new BMP file can be used interchangeably with the BMP file from which it was created. Corpse automatically compensates for variations in DPI between files. However, if you crop the map on the left or the top then all controls will have to be repositioned.

Event Menu

The Event menu can be accessed through **Event** on the menu bar or by <click>ing the right mouse button when the cursor is over the course tabs at the bottom of the screen.

The Event menu provides access to the following functions (which generally apply to the currently selected course):

► **Event Name**

Selecting this function will provide you with a menu to enter the name of the “orienteering event”. The name of the event is limited to 100 characters. If the text contains a “|” then a new line will be forced at that position. Care should be taken such that this name will be printed clearly on the control descriptions sheets.

► **Event Footer**

Selecting this function will provide you with a menu to text which will appear at the bottom of each control descriptions sheet e.g. a safety bearing, or course closing time. The footer is limited to 100 characters. If the text contains a “|” then a new line will be forced at that position. Care should be taken such that this text will be printed clearly on the control descriptions sheets.

► **New Course**

Selecting this function will create a new course and provide you with a menu to enter the name of that course. The name of the course is limited to ten characters and must be unique. Care should be taken such that this name will be printed clearly on the control description sheets. Selection of a large font may result in this name being clipped when control description sheets are printed.

► **Delete Course**

Selecting this function will enable you to delete the course currently showing. The controls used by this course are not affected by deleting the course and remain in the master control list.

Note The master control list cannot be deleted.

► **Rename Course**

Selecting this function will enable you to change the name of the currently selected course according to the same constraints applying when creating the course.

Note The master control list cannot be renamed.

► **Copy Course**

Selecting this function will enable you to copy the control descriptions from another course to the current course. Any existing information in the current course will be overwritten. To duplicate a course, create a new course and then copy the course to be duplicated.

This option is disabled if there are no other courses available.

Note The master control list cannot be copied from or to.

► **Explode Relays**

This function is available if the current course is a Relay. Selecting this function will cause the current relay course to be replaced by all of the courses which make up the relay. It is wise to create a backup copy of your cpe file before using this function.

► **Separate Loops**

This function is available if the current course is a Multi-Loop course. Selecting this function will cause the current course to be replaced by a separate course for each loop. It is wise to create a backup copy of your CPE file before using this function.

► **Climb**

Selecting this function will enable you to enter up to eight characters to describe the course climb of the currently selected course. To get Corpse to calculate the course climb from the leg climbs you have entered, use a "#" for climb in metres or a "%" for climb as a percentage of the course length.

This option is disabled when the master control list is selected.

► **Classes**

Selecting this function will enable you to enter up to 100 characters to describe the competitor classes for the currently selected course. If this field is left blank then this area is omitted from the display or printing of control description sheets. If the text contains a "|" then a new line will be forced at that position.

This option is disabled when the master control list is selected.

► **Competitors**

Selecting this function will enable you to enter the number of competitors for the currently selected course.

This option is disabled when the master control list is selected.

► **First Sequence Number**

Selecting this function will enable you to enter the sequence number of the first control of a course. This provides the capability to generate multi-loop courses and still maintain a consecutive sequence of control numbers.

This option is disabled when the master control list is selected.

► **Map Markup**

The Map Markup facility provides you with control over the way your maps are prepared for printing. Refer to [Map Markup](#).

► **Local Control Sites**

If this option is selected, the position of control sequence numbers on the map are unique to this course. The initial positions will be copied from the positions specified for the master control map.

If this option is not selected, the position of control sequence numbers on the map are those specified for the master control map.

This option is disabled when the master control list is selected.

► **Display Control IDs**

If this option is selected, the numbers displayed on the screen are the control identification numbers. If not selected the sequence number in the list of controls is displayed.

This option is only available when the master control list is selected.

► **Order Controls**

<Click>ing this option will cause the controls in the master control list to be sorted in order of the control identifier. The order is start, finish, numeric, alphanumeric and leg bends. Each group is in ascending order.

This option is only available when the master control list is selected.

Quick Entry

The Quick facility provides you with the ability to create, delete and order courses using a spreadsheet format. Only the basic information such as course name, classes, climb and competitors can be added. Fields in the spreadsheet can be copied using the standard Windows functions of `<Ctrl>+<C>` and `<Ctrl>+<V>`. Data can be entered into a cell by moving to the cell and start typing. If you press `<Enter>` the contents of the cell will be selected and you will be ready to edit the information already in the cell. Press `<Enter>` to complete the edit operation or `<Esc>` to abort the operation.

► Add Course

Use the **Quick** ▶ **Edit** menu or `<Ctrl>+<Ins>` to create a new course. The course is inserted after the currently selected course.

► Delete Course

Use the **Quick** ▶ **Edit** menu or `<Ctrl>+` to delete the currently selected course.

► Move Course

Courses can be moved to a different position in the list by dragging them to a new position with the mouse. A course can also be moved one position up or down by using the **Quick** ▶ **Edit** menu commands or `<Ctrl>+<U>` or `<Ctrl>+<D>`.

XRef

The XRef facility produces a cross reference listing of the controls used in this event. It will assist in identifying unused controls, control identifier duplication and the number of controls required for the event.

It should be noted that the usage of individual controls can also be viewed by `<Click>`ing the right mouse button while the mouse is over a control in the map panel. This will display a list of courses using the particular control.

If the event contains relays, the relays will be "exploded" into their component courses prior to XRef generating its information. If there is a problem exploding the courses, XRef will terminate and no information will be generated. Refer to

Getting Started, Relays for more information.

► Concise

Concise XRef lists course name, course length, number of controls, competitors and classes in a tabular form.

► Detailed

Information produced by Detailed XRef includes:

- Event statistics (control requirements, unused controls, number of courses and total number of competitors).
- Course statistics (number of competitors, competitor class, controls on course, distance to water and, maximum, minimum and average leg lengths).
- Control utilisation (number of competitors to visit a control and which courses use the control).
- Leg utilisation (number of competitors to use a path between two particular controls and which direction they will run).

This information can be copied to your computer's Clipboard by pressing <Ctrl>+<C>.

Preferences

Refer to [Preferences](#) in this manual.

Utilities Menu

The Utilities menu provides access to:

► Off Map

This utility enables the removal of controls which no longer fit within the bounds of the map. This can occur if the map file is replaced by a smaller file.

► Clear Holes

This utility removes all holes which may have been added to the event file.

► **Clear Cartography**

This utility removes all cartographic objects which may have been added to the event file.

► **Clear Checked**

This utility removes all of the check marks from the control descriptions.

► **Load Punch Patterns**

If the Punch Pattern file has been altered, this utility updates the punch patterns for the controls in this event.

► **Sort Courses Ascending**

This utility rearranges the course tabs (excluding Master) into ascending alphabetical order from left to right.

► **Sort Courses Descending**

This utility rearranges the course tabs (excluding Master) into descending alphabetical order from left to right.

► **Punch Patterns**

This utility enables the creation and editing of a punch pattern file. Refer to [Punch Patterns](#) for further information.

► **EPS Viewer**

Corpse has a facility for viewing EPS files. You can view a base EPS map and can also overlay course maps onto the base map. Refer to [Corpse](#), [OCAD](#) and [EPS](#) for further information.

Help Menu

The Help menu provides access to:

► **Contents**

This item displays the Help Topics dialog box to enable you to quickly navigate through specific areas of Help.

► System Parameters

The system parameters provide information about:

Maximum number of courses - The maximum number of courses (not including the master control list) which can be managed in a Corpse event file.

Maximum number of controls for an event - The maximum number of control descriptions which can be held in the master control list.

Maximum number of controls per course - The maximum number of control descriptions which can be held in any course description list (control descriptions sheet).

Maximum number of map holes - The maximum number of holes which can be placed over the map for the purpose of ensuring that leg lines do not hide features on the map.

Map colours - The number of colours possible in your current map.

Map file size - The disk space in kilobytes used by your current map BMP file.

Map DPI - The scan resolution of your current map BMP file.

Map size - The size of your current map (width x breadth) in millimetres.

Screen colours - The number of colours supported by your screen driver and screen.

Screen resolution - The number of dots in horizontal and vertical direction on the screen. The resolution is determined by the installed screen driver and is set by Windows.

Physical memory - The size of the computer's physical memory (RAM) in megabytes.

Swap file size - The disk space in kilobytes used by Windows to support the programs currently running.

Available space on drive - The available disk space in kilobytes on the drive where Corpse is installed.

► About

This item provides access to program information such as release number and release date.

► Corpse Home Page

A direct link to the Corpse web page where you can find out more about the latest version of Corpse.

► Support Request

Commences an e-mail to the writer of Corpse. It includes the Licensee and product key automatically. Without these pieces of information, support may not be provided.

Tool Bar

File Management Tools



The tools in this group are shortcuts to functions contained on the File menu and include:

- New file
- Open file
- Save File
- Print

Map Tools



The tools in this group affect the operation of the mouse when it is over the map panel. These buttons are mutually exclusive with one and only one button being selected at any one time.

A button is selected by *<click>*ing it. While the mouse is over the map image, right clicking will display a pop up menu giving you direct access to some of the map tools.



Control

When this button is down the cursor will change to crosshairs with a circle when it is over the map. The effect from *<click>*ing while the cursor is over the map depends on the following:

The master control map is showing. *<Click>*ing on any area on the map that does not have a control marked will cause a control to be placed on the map and an entry added to the master control list. Controls cannot be placed directly on top of each other.

A course map is showing. *<Click>*ing on any area on the map that does not have a control marked will cause a control to be placed on the map and an entry added to the master control list. *<Click>*ing on top of an existing control which is not already part of the current course will cause this control to be added to the end of the course.

The new control will become the active control.

Controls can be placed with their centres at a distance of one eighth of the diameter of the control circle. To create close controls, it may be necessary to create the second control clear of any existing controls and then drag it into position or move it using keyboard controls.



Select

When this button is down the cursor will change to an arrow when it is over the map. Four actions are possible in this mode.

Select Control. *<Click>*ing on top of a control on this course will cause it to become the active control. The colour of the control on the map will change to reflect this. The control will be highlighted in the control descriptions sheet if it is displayed. The control description will be displayed in the status bar at the bottom of the screen.

Position Control. If the left mouse button is held down while the cursor is over a control on the current course then that control can be dragged off to a new location on the map. The drag action is started when the cursor changes to directional crosshairs. The drag action is stopped when the mouse button is released. The dragged control will also become the active control.

Position All Controls. If *<Ctrl>* is held down before the “position control” action is started then all controls will be moved.

Control Usage. The usage of individual controls can be viewed by holding down the right mouse button while the mouse is over a control in the map panel. This will display a list of courses using the particular control. The list disappears when the right mouse button is released.



Cut

When this button is down the cursor will change to a pair of scissors when it is over the map. Two actions are possible in this mode.

Delete Course Control. <Click>ing on top of a control on this course will cause it to be removed from the course.

Delete Event Control. Controls can only be removed together if the delete function is carried out on the master control map. If the control is in use on any other courses it cannot be deleted unless it is first deleted from the other courses.



Break

When this button is down the cursor will change to crosshairs with a broken circle when it is over the map. <Click>ing with the crosshairs on the line of a control circle will cause a segment of the control circle to appear or disappear. The double finish circle can also be broken but you must <click> over an imaginary circle midway between the double circles. Both circles will be broken.

This feature can be used to prevent control circles from hiding important features on the map. The control circle has been defined to have 16 segments which can be turned on or off individually. It is possible to turn off all 16 segments; this will make it difficult to select the control later on.



Holes

When this button is down the cursor will change to crosshairs with a hole symbol when it is over the map. Any holes which have already been defined will also become visible.

<Click>ing over the map area will cause a hole to appear at the crosshairs. Holes can be removed by <Ctrl>+<Click>ing with the crosshairs over a hole. Holes cannot be moved. They must be deleted and redefined. There is no restriction with the placement of holes. They can be placed directly on top of each other (causing some confusion when trying to delete a hole) or they can be overlapped to form an elongated affect.

Holes should be added when nearing completion of course setting as a large number of holes may slow down the operation of Corpse. It should be remembered that holes only affect leg lines; control circles, triangles and text are not affected by holes.



Window

When this button is down, <click>ing and holding the mouse button down will start drawing a rectangle on the map. The rectangle will be complete when the mouse button is released. The rectangle drawn can be resized or moved as required; the cursor changes to show the possible action when over the window or the lines which delineate the window.

This rectangle denotes the window of the map which can be printed if desired. The rectangle disappears when the <Window> button is up and will reappear the next time it is down.



Print Registration

When this button is down the cursor will change to crosshairs with two "+" signs. This enables you to identify two printing registration points. These will aid in ensuring that Corpse course prints are positioned correctly on the map. Registration points are optional unless courses are being overlaid.

Registration Point 1 - Locate the crosshairs at the desired point, then <Ctrl>+ <click>. A "+" will appear on the map.

Registration Point 2 - Locate the crosshairs at the desired point, then <Alt>+ <click>. A "+" will appear on the map.

To redefine either of the registration points, execute the appropriate step defined above.

To remove the registration points, with both the <Ctrl> and <Alt> button pressed, <click> the left mouse button anywhere over the map.

Zoom Tools



The tools in this group affect the magnification of the map display. The current magnification is displayed on the status bar at the bottom of the screen.



Zoom to fit

<Click>ing this button changes the view magnification so that all of the map is displayed on the screen. A magnification of less than 25% can occur depending on the size of the map.



Zoom out

Each time this button is <click>ed the map is moved further away. The current magnification is reduced by 25% of full size. The minimum magnification is 25%.



Full scale

<Click>ing this button causes the map to be displayed at the size at which it was scanned (100%).



Zoom in

Each time this button is <click>ed the map is moved closer in. The current magnification is increased by 25% of full size. No upper limit has been set on the magnification.



Zoom to Course

<Click>ing this button causes the map to be displayed at the size at which all controls of the current course will just fit in the map display window.

Mode Tools



The tools in this group affect the display. These buttons are mutually exclusive with one and only one button being selected at anyone time.



Map

The screen displays only the map.



IOF

The screen displays the map and the corresponding control descriptions sheet in IOF symbol notation.

English

The screen displays the map and the corresponding control descriptions sheet in English notation.

Cartography

The screen displays the map and a set of cartographic tools. These tools allow features such as crossings, out of bounds, water drops, etc. to be placed on the map. Many of the other tools are disabled when in this mode.

Miscellaneous Tools



Auto Number

The auto number tool is only active when the master control list is displayed.

The auto number tool numbers control identifiers in the following way. Working in the master control list, the first standard control (i.e. not a start or finish control) is located; the search commences from the currently selected control. If the control identifier is numeric then all subsequent standard controls receive a sequential number based on the first standard control.



Auto Words

The auto words tool generates English descriptions from the IOF descriptors for the control. The English descriptions for ALL controls will be replaced. Any personalised editing will have to be re-performed.



Delete Unused Controls

This tool removes any controls which are included in the master control list but not used in any course descriptions. The listing of these controls can be viewed with through [XRef](#) ▶ [Detailed](#) located on the menu bar.

Unused controls can be removed from the master control list using the normal map tools.



Show All Courses

When this tool is depressed it shows all courses on the current map. This provides an overview of the utilisation of a control site and the various arrival and departure legs for a control.



Show Inactive Controls

When this tool is down inactive controls (i.e. controls not on this course) are not displayed. The controls are still there and Corpse reacts accordingly. This mode provides a clear view of surrounding features which might otherwise be hidden by inactive controls.



Runner's View

When this tool is down a floating, resizeable window is displayed. The window contains an image of the map as the runner would probably hold it. The current control is displayed at the bottom of the window. The next control is displayed at the top of the window. The map is rotated such that the leg line is orientated in a south to north direction with north at the top of the screen.

If the runner is at the last control, the window is black indicating the end of the course.

The field of vision of the runner can be altered by dragging the sides of the window left or right. However, the larger the map segment is the more the processing power that is required to rotate the map. The window may also be moved to any position on the screen.

When the Runner's View window is displayed it is displayed at its last used position. Holding down the <Ctrl> button when activating the Runner's View window will display the window at the top left of the screen. This will enable the recovery of the window if it fails to appear on screen when it is supposed to.



Undo

Corpse supports 10 levels of undo to allow changes to be backed out. When the mouse is placed over the undo button a message is displayed identifying the nature of the change which will be backed out should the button be pressed. In backing out the change, Corpse returns itself to the state it was in just prior to the change which is being backed out.

Map Panel

The map panel displays the map currently loaded. The top bar displays the name and the scale of the map.

A new map can be loaded at any time. The scale can also be changed at will. Changing these can affect course length calculations or result in controls that cannot be accessed as they do not fit within the bounds of the new map.

The appearance of a clock on the top bar indicates that timed backups of the event file will be taken.

Control Descriptions Panel

The Control Descriptions Panel, when visible, appears at the right hand side of the screen. Corpse can be set to display control descriptions in either English or IOF notation. See Tool Bar, Mode Tools in this manual.

The Control Descriptions Panel shows the control descriptions and the order of controls on a course.

The order in which controls appear on the control descriptions sheet can be changed by <click>ing over the control descriptions sheet the control to be moved and with the mouse button down, dragging it to its new position. Information on the control descriptions sheet such as course length, distance to finish control, and control sequence number are all automatically adjusted. The course is also redrawn on the map showing the control in its new position.

Status Bar

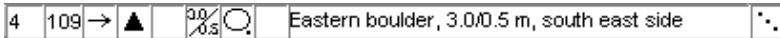
The status bar is located above the course tab set at the bottom of the screen and contains the following displays:



When control features are being selected, this window will display an English description of the feature currently under the cursor. In this case a "Boulder" control site is being selected.



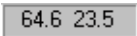
This enables you to add check marks to controls. This is useful when ticking off controls which have been checked or identifying controls which need special attention, etc. Check marks are printed on the master control list. Checked controls are displayed with a grey background in control description sheets. Checked controls are not reflected in any way in course control descriptions.



This display shows the complete description (IOF symbols and words) of the control currently selected on the course show in the map panel. This display is "live" and is used to establish or change control features. See Course Descriptions, Setting IOF Descriptions Features later in this manual.



This display shows the current magnification of the map displayed in the map panel. A new view scale can be selected by <Click>ing the right mouse button over this display.



This display shows the current position (X,Y) of the mouse over the map image. The X and Y values are expressed in millimetres from the top left hand corner of the map image.



This display shows the current leg length in metres. The distance is from the highlighted control (or leg bend) to the previous control. The previous control may be the course start. If a distance is displayed for the first control then this is the pre-start distance.



This display shows the current course length in kilometres. The distance also includes any pre-start distance.

Course Tabs



The course tabs identify the courses currently defined for this event. Selecting one of the available tabs will make that course active and display both the relevant course on the map and control descriptions sheet. The active control in the status bar will also be changed. The map screen will be scrolled to bring the active control into view.

When there are more tabs than will fit across the bottom of the screen, two arrows will appear at the right hand side to scroll the tabs to provide access to

the tabs not currently visible.

To add or delete courses, or modify information such as course name, use the **Event** menu. Alternatively, a right *<click>* over a tab on the tabs bar will produce an Event pop up menu. This will allow you to change information for the currently selected course.

*<Click>*ing either of the two arrows at the left hand end of the course tabs will move the currently selected tab one position to the left or right. The Master tab cannot be moved.

The *<Page Up>* and *<Page Down>* keys will allow you to select the tab to the right or to the left of the currently selected tab.

Chapter 7 - Map Markup

The Map Markup facility provides you with control over the way your maps are prepared for printing. You can decide whether maps have IOF or text based control description sheets on the front of the map, where the descriptions are positioned and whether they are overprinted or whether the area behind the control description is blanked out first.

The markup for each course can be based on the markup of the Master map. For example, if all maps are to have IOF descriptions in the top right hand corner then these options should be selected for the Master. All of the other courses should then identify "Use Master". If one or two of the other courses require something different then turn off the "Use Master" and set the specific requirements for that course.

When producing EPS files as output, you have the option to specify printing control descriptions on the back of the map. Corpse produces a new file which has the same dimensions as the map. This is a blank sheet with the specified markup. As a result you can have control descriptions printed on both the front and the back of the map. You may even have IOF on the front and text on the back.

General

► Overlay Printing

If checked, material is printed on to the map without first clearing the map image behind.

Front of Map

► Titles

Text - Any printable text up to 50 characters in length. If you include a "|" then a new line will be forced at this position. If you include "%e" then the current Event Name will be substituted. If you include "%c" then the current Course Name will be substituted.

Position - The distance in millimetres (X,Y) from the top left corner of the map sheet. The default position is 0,0. If the map borders are changed, this Position will have to be changed to cater for the new borders.

► Control Descriptions

Type - Choose from one of None, IOF, English descriptions on the map.

Position - The distance in millimetres (X,Y) from the top left corner of the map sheet. The default position is directly below the position of the titles plus a vertical gap equal to the Gutter setting in Print Options. Care must be taken to ensure that the control descriptions to be printed will fit on the printed map. Furthermore, if the map borders are changed, this Position will have to be changed to cater for the new borders.

► Logo

Position - The distance in millimetres (X,Y) from the top left corner of the map sheet. The default position is directly below the position of the control descriptions plus a vertical gap equal to the Gutter setting in Print Options. If the map borders are changed, this Position will have to be changed to cater for the new borders.

Back of Map

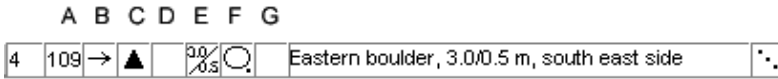
► Control Descriptions

Type - Choose from one of None, IOF, English descriptions on the map.

Position - The distance in millimetres (X,Y) from the top left corner of the map sheet. The default position is 0,0. Care must be taken to ensure that the control descriptions to be printed will fit on the printed map back. Furthermore, if the map borders are changed, this Position will have to be changed to cater for the new borders.

Chapter 8 - Course Descriptions

Setting IOF Descriptions



► Column A - Control Number

The first control number (its sequence number) on a course defaults to 1. This can be changed to accommodate multi-loop courses through **Event** ► **First Sequence Number**. The second and subsequent control numbers are automatically generated and cannot be changed independently.

The default position on the map where the number is placed is the centre of the control circle. The control number position can be altered so as to avoid confusion with nearby controls or course lines, or such that it does not hide important map detail.

<Click> and hold over the control sequence number box to activate a flyout map segment. The map segment will also display arrows indicating the approach and departure directions of the various courses which use this control. The position of the control number can be moved anywhere inside the flyout box. Move the cursor to the desired position and release the mouse button. The control number will then be automatically repositioned on the map.

The size of the flyout map segment is controlled through **File** ► **Settings**.

Warning If the currently active course uses “local control sites” the new control number position will only apply to the current course. Otherwise, the new position will apply to this course, the master and all other courses which do not use “local control sites”. Refer to **Screen Components, Menu Bar, Event Menu** in this manual.




► Column B - Control Code

When a control is first placed on the map it is an unnumbered control site. It can be changed to a start triangle or finish control, or be given a control code.





<Click> and hold over the control code box to activate a flyout menu which

offers a choice of control types. Move the cursor to the desired control type and release the mouse button. The control symbol will then be automatically redrawn on the map to reflect your choice.

The control types available are:

-  **Normal control** - depicted by a circle on the map.
-  **Taped control** - depicted by a circle on the map. This is a normal control but also indicates that the route from the previous control is taped. An extra line of text containing "Follow tapes to next control" is automatically added to the English control descriptions sheet between the two controls.
-  **Start triangle** - depicted by a triangle on the map. On course maps the triangle is rotated to point in the direction of the next control. On the master map the triangle is orientated north south.

When the start triangle option is selected, a dialog box will appear to enter a "pre-start distance" in metres from the start area to the start triangle. After a pre-start distance is entered, the course length will then contain this distance.

-  **Map Exchange** - depicted by a triangle on the map. On course maps the triangle is rotated to point in the direction of the next control. On the master map the triangle is orientated north south. The leg line approaching this control is dashed to indicate that the route is taped.
 -  **Finish control** - depicted by a double circle on the map. The approach to this control is not taped and requires the orienteer to navigate to it.
 -  **Taped Finish** - depicted by a double circle on the map. The leg line approaching this control is dashed to indicate that the route is taped.
 -  **Funnel Finish** - is depicted by a double circle on the map. The approach to this control is not taped and requires the orienteer to navigate to the funnel tapes.
- **Follow tapes** - control is depicted on the screen map as a dashed circle. The dashed circle is not printed on course maps but is printed on the master map. The course leg from the previous control is dashed indicating "follow tapes # metres away from the previous control".

-  **Leg bend** - depicted on the screen map as a small circle. The circles

do not appear on printed maps. Leg bends enable you to change a leg line from a straight line to one with bends. The bend does not affect the leg line type (dashed or solid) but does affect the leg length. A number of leg bends can be placed between any two controls.

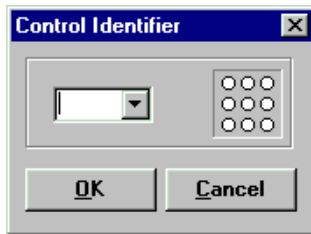
⌋ **Mandatory Crossing** - depicted on the screen map as a small circle. The Mandatory Crossing is the same as a Leg Bend with the additional function that it places a Mandatory Crossing description in the control description sheet.

If a crossing symbol is required on the map then this is done in cartography mode.

⌋ **Mandatory Passage** - depicted on the screen map as a small circle. The Mandatory Passage is the same as a Leg Bend with the additional function that it places a Mandatory Passage description in the control description sheet.

Control Code

If the normal control symbol or taped control symbol is selected, a dialog box will appear to enable you to enter a control code. The dialog box provides a drop down list of control codes already in use. A warning is provided if you use a control code which is already in use.



(Pressing <Ctrl>+<N> will also display this dialog box.)

Punch Pins

When the control code is entered, Corpse will interrogate the file "Corpse.pch" to see if a punch pattern exists for this control code and will update the punch pattern in the dialog box. A punch pattern can be entered manually by <click>ing on the pins in the punch pattern to turn them on or off. Black indicates a punch pin, while white indicates no pin.

You may also change the number of pins in a punch by <click>ing the up or down arrows beside the punch pin editing display. The default number of pins used when creating a new punch can be set with through **File** ▶ **Settings**.

▶ **Column C - Which Feature**

To assign a symbol, <click> and hold over the which feature box to activate a flyout menu which offers a choice of symbols. Move the cursor to the desired symbol and release the mouse button.

To clear this item, select the blank square on the flyout menu.

▶ **Column D - Control Feature**

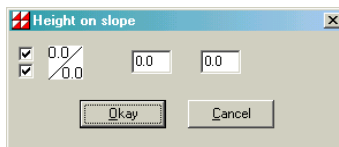
Refer to the procedure outlined for column C.

▶ **Column E - Appearance**

Refer to the procedure outlined for column C.

▶ **Column F - Dimensions/Combination**

To assign a symbol, <click> and hold over the dimensions box to activate a flyout menu which offers a number of options. Move the cursor to the desired option and release the mouse button. If a dimension symbol is selected, then a dialog box will appear to enable you to enter the relevant dimensions.



Dimensions may be entered with a single or no decimal places. This is achieved by checking the upper checkbox for the left dimension and the lower checkbox for the right dimension (if one exists). The left box is automatically updated so that you may preview the dimension as you make changes.

To clear column F, select the blank square on the flyout menu.

▶ **Column G - Marker Location**

Refer to the procedure outlined for column C.

► Column H - Other Information

It is possible to enter two symbols in the other information column.

The first or primary symbol is input using the procedure outlined for column C.

A second symbol can be entered by holding down the <Ctrl> button before using the procedure outlined for column C. The second symbol cannot exist if the primary symbol does not exist.

Setting English Descriptions



Corpse will provide a guess at a possible English description based on the symbols used in the IOF notation. To generate this default, double *click* over the English description on the status bar. To accept this description, press <Enter>; to discard it, press <Esc>. Alternatively, type your own modifications (up to 100 characters) and press <Enter> to accept it. If the text includes a “|” then the following text will start on a new line.

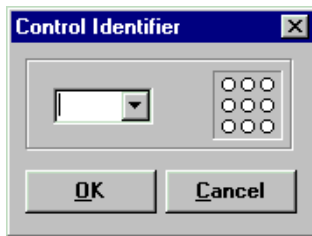
The default description provided for a control corresponding to a marked route will contain a “#” at the point that a distance would normally appear, for example, “Follow tapes # metres to finish”. This is to accommodate the fact that this description describes a leg and not a control position. Whereas the control such as a finish is fixed, the last legs of different courses start from different controls thus making the leg length different

The first “#” is replaced automatically by the appropriate leg length when generating the English description for the course. You can deactivate this feature by removing all “#” characters from marked route descriptions. Or you can have your own marked route descriptions which include a “#”.

Corpse can produce long English descriptions (e.g. north eastern) or short descriptions (e.g. NE). To select the description length, refer to [Preferences, English Control Descriptions Sheets](#) in this manual.

Corpse can also produce English descriptions to immediately reflect changes you have made to the IOF descriptions. This feature is enabled through [Preferences](#) ► [English Control Descriptions](#).

Setting Punch Pattern



The punch pattern for a control is entered with the Control Identifier dialog. This dialog box can be activated by *<click>*ing over the punch pattern box on the status bar or pressing *<Ctrl>+<N>*. The punch pattern can also be entered when setting the control type to a normal or taped control (refer to [Course Descriptions](#), [Setting IOF Descriptions](#)).

When the control code is entered, Corpse will interrogate the file ““Corpse.pch”” to see if a punch pattern exists for this control code and will update the punch pattern in the dialog box. A punch pattern can be entered manually by by *<click>*ing on the pins in the punch pattern to turn them on or off. Black indicates a punch pin, while white indicates no pin.

You may also change the number of pins in a punch by *<click>*ing the up or down arrows beside the punch pin editing display. The default number of pins used when creating a new punch can be set through [File](#) ➤ [Settings](#).

Setting Leg Climb

The climb involved in getting to the current control from the previous control is entered in the Leg Climb box on the status bar.

Corpse will total the individual leg climbs for a particular course and place it in the control descriptions. It will only add the climbs to get to normal controls and taped controls and the last control. Any climbs associated with leg bends are ignored.

If a climb is entered for a control and the control exists on another course(s) and has the same previous control or leg bend then the climb will be automatically added to the other course(s). This means that leg climbs need only be entered once.

Warning! Always ensure leg climbs are correct before finally printing course descriptions. This is best done using the on screen XRef or printed XRef material. Refer to [Screen Components](#), [Menu Bar](#), [XRef](#) for further information.

Chapter 9 - Cartography

Overview

Cartography mode has been introduced to permit the addition of supplementary information to the map. These features are called cartographic objects.

Cartographic objects fall into five categories:

Area Object	Enclosed areas which are dangerous or out of bounds
Line Object	Lines representing boundaries or forbidden routes
Point Object	Single points such as marked crossings, water drops, first aid, etc.
Text Object	A single point which can contain any required text
Graphic Object	A single point which can contain any required picture or graphic

Tools

► Editing Tools



Change Object

This button is activated when an object is selected and when a symbol is selected which is compatible with the selected object. For example an area can be changed to another area, but not to a point or line symbol.

<Click>ing this button will cause the currently selected object to be changed to the new symbol. For example, this allows you to change an out of bounds area to a dangerous area.

If the object is a Text object, Change Object provides a dialog box to enable you to change the text of the selected object.



Delete Object

<Click>ing this button will cause the currently selected object to be deleted.



Edit Object

When this button is down <click>ing over an object will select it for editing.

The selection process gives priority to point objects.

Edit Points


When this button is down the individual nodes of an object can be moved or deleted. New nodes may also be added to area or line cartographic objects. Refer to following sections on Area Tools, Line Tools, Text Tools, Point Tools and Rotatable Point Tools.


Draw

When this button is down new cartographic objects may be drawn. Refer to following sections on Area Tools, Line Tools, Text Tools, Point Tools and Rotatable Point Tools.

► Area Tools

 Out Of Bounds Area - boundary not marked on the ground

 Out Of Bounds Area - boundary marked continuously on the ground

 Out Of Bounds Area - boundary marked intermittently on the ground

 Dangerous Area

To add an area object, select the draw tool and the required area tool. Define the object by *<click>*ing on the map at adjacent points of the object. When all points have been defined complete the operation by *<click>*ing the right mouse button.

The object can be adjusted by selecting it and dragging the node boxes to new positions.

New nodes can be added to an object by selecting it then, with the edit points tool selected, holding down *<Ctrl>+<Shift>* and *<click>*ing over the edge of the object in which you wish to add a new node. The new node can then be dragged to the desired position.


Nodes can be removed from an object by selecting it then, with the edit points tool selected, holding down *<Ctrl>* and *<click>*ing over the node to be deleted.

Area objects which have less than three nodes (corners) are automatically

deleted.

Area objects cannot be moved. This is achieved by selecting the edit points tool and dragging the individual nodes to new locations.

► Line Tools


 Uncrossable Boundary


Line objects are created using the steps outlined for Area objects.

Line objects which have less than two nodes (corners) are automatically deleted.

Line objects cannot be moved. This is achieved by selecting the edit points tool and dragging the individual nodes to new locations.

► Text Tools

 Text - Text is rendered using the font used for control numbers on maps.

 Colour Text - Text can be any font, colour, style and size.

A text object is placed on the map by <click>ing at the desired point with the draw tool selected. The text will be centred on that point. A dialog window will appear to enable you to enter the desired text.

The text can be changed by selecting the object and pressing the Change object tool. A dialog window will appear to enable you to enter the desired text.


Text objects can be moved by selecting the edit points tool and dragging the object to the new location.

Text objects which have no text are automatically deleted.


► Point Tools

 Drinks

 Radio Control

 Manned Control


 First Aid


 Hash House

A point object is placed on the map by <click>ing at the desired point with the draw tool selected.

Point objects can be moved by selecting the edit points tool and dragging the object to a new location.

► Rotatable Point Tools

 Forbidden Route

 Crossing Point

A rotatable object is placed on the map by <click>ing at the desired point. If the mouse button is held down and dragged off to the side, a line will appear showing the angle to which the object will be rotated when the mouse button is released.

Rotatable objects can be dragged to new positions by selecting the edit points tool and dragging the object to the new location.

Rotatable objects can only be rotated at the time of creation. To change the rotation, delete the object and create a new one at the desired angle.

► Graphic Tools

 Graphic

A graphics object is placed on the map by <click>ing at the desired point with the draw tool selected. The graphics object will be centred on that point. A dialog window will appear to enable you to enter the desired graphics file as well as to enter its width and height.

The graphics object and its size can be changed by selecting the object and pressing the Change object tool. A dialog window will appear to enable you to enter the desired changes.

Graphics objects can be moved by selecting the edit points tool and dragging the object to the new location.

Graphics objects which have no graphic or no size are automatically deleted.

Chapter 10 - Printing

All printing is conducted through the Print Manager menu. You can access this menu by selecting **File** ▶ **Print** on the menu bar or the [*Print*] button on the tool bar.

Printing refers to the production of printed control descriptions sheets, maps, etc., as well as the production of EPS files.

Print Control

The Print Manager menu has a number features which control the way in which the printed product is produced.

▶ Printer

Use this option to select a printer available to your computer. A dialog box enables you to select one of the installed Windows printer drivers. <Click> the **Properties** button to change the printing options (for instance to print in landscape mode).

▶ Copies

A number of copies can be produced by entering a number between 1 and 99 in this edit box. This option only affects the paper printing process. The number of copies is generated by internally executing the print process the prescribed number of times. It is far more efficient to use the copies feature provided by your printer, if one exists.

▶ Options

<Click> this button to display the Print Options dialog box. Refer to **Print Options** in this manual for an explanation of the options available.

▶ Print

<Click> this button to output the maps, control descriptions sheets, EPS files, plots or templates selected. If a selection of items has been chosen then a pick list of items will be displayed before printing takes place.

► Preview

Preview enables you to view your output prior to printing.

Note Every effort has been made to ensure that the preview feature provides an exact representation of the printed results. There may be minor variations as the resolution of the preview material is usually much lower than the resolution on the printer.

► Selection

Select the range of course maps or control descriptions sheets to be printed.

Current - the course currently displayed on the screen.

All - all courses including the master control list.

Selection - a pick list of all courses will be displayed when the print or preview process is initiated. Highlighted courses will be printed. Select/deselect a course by <click>ing the course name in the pick list.

► Arrangement

Select the arrangement to print the course control descriptions sheets on the printer page.

One per page - print each course on a separate page.

Many courses per page - print as many courses on each page as is possible.

Multiple copies per page - print each course on a separate page, as many copies of that course as will fit are printed on each page.

Always use **Preview** to check the result prior to printing.

Selecting landscape or portrait page layout can affect the number of courses printed on each page.

This also applies to the font and print margins used. These settings are changed with the **Preferences** located on the menu bar.

Control Descriptions Sheets

► Print Type

Select the type of output required.

Control Descriptions - IOF - print control descriptions sheets in IOF symbol notation.

Control Descriptions - English - print control descriptions sheets in English.

Maps

Use this option to print maps. The maps which are printed are based on the map image you have loaded through **Map** ▶ **Load Map**. The printed map will have (at best) the quality of the loaded map. For example, if an EPS file is loaded with settings of 100 DPI and 256 colours, the printed map will look very pixelated and the colour of the map will probably be different from the original map. Best results will be achieved if the map is loaded with the DPI setting of your printer and colours set to 24 bit colour. The same applies if you have loaded a BMP file.


When using this option **Arrangement** is deactivated as maps can only be printed one per page. The map(s) are printed using the options you have selected through the **Options** button.

If the map file is large, previewing and printing maps may be slow. Depending on the speed and storage capacity of your computer it may be practicable to only print and preview maps individually.

Overlays

This option is used when you want to print courses and control descriptions onto existing maps, usually with your own printer. It is assumed that all output fits onto one page. The output can also be shifted and scaled using the Overlay options you have selected through the **Options** button.

A suggested process for printing overlays is:

1. Select two registration points which will appear on the map when printed. Add these points to the map with the  tool as described at **Screen Components, Tool Bar, Map Tools**.

2. Print an overlay with the registration point offsets set to 0;
3. For both registration points, measure the distances between the printed overlay registration point and the map registration points. Enter these numbers in the Print Offset boxes provided in **Print ▶ Options ▶ Overlays** . Negative offsets will move the printed registration points up and to the left while positive offsets will move them down and to the right.
4. Print another overlay.

You may need to repeat the adjustment process a number of times to achieve the desired result.

Note - Overlays cannot be previewed. Use **Print ▶ Maps ▶ Preview** if required.

EPS Files

The EPS file is the file that is sent to the print shop for printing. In general, the EPS file will contain the whole map or the purple colour separation along with the course and control descriptions sheet information. As it is usually expensive (time and money) to have the resultant EPS files printed, **it is essential that they be checked prior to heading off to the print shop.**

EPS output cannot be previewed. Use **Maps ▶ Preview** to check the output before creating the EPS files.

Each course selected in the **EPS Files ▶ Print** process will create a file named "course name.eps" in the same directory as the CPE file. Any existing files with the same name will be automatically overwritten.

When Corpse is asked to create new EPS files during the print process it does this by firstly copying the base EPS file you have nominated through the **Print ▶ Options ▶ EPS ▶ Background File** setting. The course lines and circles, and any control descriptions sheets, etc. are then overlaid at the end of the copied EPS file.

Warning Ensure that you have nominated the correct base EPS file as Corpse has no way of knowing if the EPS file is the same as the BMP/EPS map file used to create the courses.

IOF Symbols

Use this option to print a list of IOF symbols with their English translations.

XRef

Use this option to print statistics for the event. Refer to [Screen Components](#), [Menu Bar](#), [XRef](#) in this manual, for further information.

Punch Patterns

This option prints out the Punch Patterns for controls on a course. All courses are listed.

Control Codes

This option produces a list of course information for all courses in the orienteering event. The information includes: course name, length, climb, classes and an ordered list of control codes.

Chapter 11 - Print Options

General

Use this option to control the way in which Corpse generates printed output and files. These preferences are stored in the CPE file with the course and control descriptions. This means that different files can have different preferences. Furthermore, these preferences are in effect if the file is used on any other computer.

Choose from:

- Page Setup
- Map Options
- EPS Options
- Overlay Options

You can save and recall your own preferences using the **Save as Defaults** and **Load Defaults** buttons. These defaults are also used when creating a new CPE file.

Page Setup


Select the white space which is to appear in your printout. The printer you have may have its own margin settings. The areas specified below are applied to the printable area provided by the printer. The following settings, specified in millimetres are available:

- Top Margin
- Bottom Margin
- Left Margin
- Right Margin
- Gutter White space between control descriptions sheets (at the sides and at the bottom).

Map Options

► Area

Full map - The whole map is printed.

Window - The window defined using the  button on the tool bar is printed.

► Size

Full size - the map or map window is printed at its original size. If the area to be printed will not fit on one page it is segmented and printed across several pages. If segmenting occurs then a 10 millimetre overlap area is provided.

Fit on page - the map or map window is scaled down so that when printed it will fit on one page. The map proportions are maintained (ratio of width to height). No scaling occurs if the map will fit on the page full size.

► Identifiers

Sequence - Consecutive numbers as in the first column of the control descriptions sheet are printed near the control circles.

Control - Control identification numbers as in the second column of the control descriptions sheet are printed near the control circles. This format is always used for the master map.

► Approach Arrows

The master control map can be printed with approach arrows corresponding to the entering and leaving leg lines for each course. This may help when selecting control marker sites in the field. This option is only available for maps being printed and does not apply to EPS files.

EPS Options

► EPS Colour

Select the colour that is used for all Corpse printing on EPS maps. Reference should be made to International Orienteering Federation guidelines.

Note! The EPS colour should be set to black if you are working with colour separations of the map. Refer to [Corpse](#), [OCAD](#) and [CPE](#) for more information.

► Stretch Printed Output

When printing courses onto already printed maps there maybe a less than perfect alignment of controls with features on the map. This is typically caused by distortion in the printing process. The Stretch Printed Output option gives you the capability of compensating for this affect. The courses produced by Corpse can be altered by +/- 10%.

Note! Ensure that 100% is selected if maps and courses are being printed at the same time. If 100% is not selected, the courses **will not** match the map.

► Background File

The EPS file produced by Corpse consists of a background with the course lines, circles, control descriptions overlayed on that background. The background may be one of:

Template - This will usually be a file which has been produced by OCAD which contains a copy of the "map" which you have used with Corpse to compile your courses. Although you can use a different map, by default, Corpse will use the "map" file you have loaded using it as the template EPS file. Refer to [Map, Load Map](#) in this manual. The end result is a single EPS file containing both the original map and the course mark up material (circles, leg lines, control descriptions) from Corpse.

Pristine B/W - This option is used to create a purple layer EPS file. Corpse creates a blank sheet and lays the course lines, circles, control descriptions etc in greys on that sheet. This file would then be used for overlay printing onto existing maps using offset printing processes. The shades of grey in the EPS file would control the darkness of the print colour in the offset printing process.

Pristine Colour - This would be used to create a full colour overlay EPS file. Corpse creates a blank sheet and lays the course lines, circles, control descriptions etc on that sheet in full colour. This file would then be used for full colour digital printing onto existing maps.

Overlay Options

Courses can be overlay printed directly from Corpse on to existing maps.

Select values for print offsets which result in the printed registration points being printed over the map registration points. A method for determining the offsets

is described at [Printing, Overlays](#) in this manual.

Chapter 12 - Punch Patterns

Corpse has the capability of producing and using a master list of punch patterns. This information is stored in the file "Corpse.pch" and records a punch pattern for each unique control identification code.

All versions of Corpse have the ability to use the information contained in the punch file but only Corpse Extended has the facilities to create the file. To share punch information it is simply a matter of providing a copy of "Corpse.pch" to other users. The new file must be installed in the same directory as Corpse.exe.

To create or update your punch file use **Utilities** ▶ **Punch Patterns**.

▶ Add a punch code

Press <Ctrl>+<Enter> to display an edit box to enter a new code. Press <Enter> to complete the operation or <Esc> to abort the operation.

▶ Alter a punch code

Select the punch code to be altered from the list displayed. Press <Enter> to display an edit box to enter a new code. Press <Enter> to complete the operation or <Esc> to abort the operation.

▶ Delete a punch code

Select the punch code to be deleted from the list displayed. Press to delete the code.

▶ Enter a punch pattern

Select the punch code to be edited from the list displayed. <Click> on the pins in the punch pattern displayed to turn them on or off. Black indicates a punch pin, while white indicates no pin.

Chapter 13 - Corpse, OCAD and EPS

Overview

This is a technical note about Corpse, Bitmaps and OCAD. The comments on OCAD are based on user experience and should be in no way interpreted as scientific fact or opinions of OCAD. For detailed or current information on OCAD please refer to OCAD product information.

This material attempts to give a basic insight into the interaction between Corpse and OCAD. If, as a Corpse user, you are dependant on another party (OCAD user) for the supply of BMP files or EPS files it is essential that they also be aware of the information in this chapter.

The Corpse/OCAD Connection

Corpse can work with two file types produced by OCAD; these are the BMP file and the EPS file. Corpse assumes that these two files contain **exactly** the same map in different formats.

Corpse uses either the BMP file or the EPS file for positioning controls. Corpse can then superimpose the controls, course descriptions, etc., onto the EPS files that have been produced by OCAD to produce high quality course maps for the orienteer. If a combination of BMP and EPS files is to be used, it is essential that the BMP file and the EPS file are **exactly** the same. To ensure that this is the case, produce both the BMP file (use the export function in the file menu of OCAD) and the EPS file (using the print function of OCAD) at the same time.

Note! It is essential that the print window is set to the map size while in OCAD and before producing the EPS file.

Bitmaps

► Requirements

The requirement for the Corpse user is to have a bitmap which:

- (a) Shows adequate detail. The detail visible on the bitmap is increased by increasing the DPI (dots per inch) in the bitmap.

(b) Enables Corpse to operate at a reasonable speed or better. The smaller the bitmap that Corpse has to deal with the faster it will operate.

As you can see, requirements (a) and (b) are in direct conflict. Increasing the visible detail (by increasing the DPI of the bitmap) creates a bigger file. The bigger file slows down Corpse. Where you strike the balance is dependant on personal choice and compute power at your disposal.

► Colour

The colour quality of the map is not very important and can be sacrificed in an effort to better meet (a) or (b) above. Although OCAD users probably operate in 64,000 colour mode or higher, 256 colours is perfectly adequate for course setting.

If speed is an issue, it is not just enough to create a bitmap at 256 colours (for example) and then run your computer with a display setting of 16 million colours. Every time Corpse displays the map, Windows translates the map back to 16 million colours.

► Detail Versus Speed

The table below should give you some appreciation of the interaction between colour, DPI and the size of the resultant BMP file.

BMP File Size - Bytes Per Square CM				
DPI	100	150	200	250
Colours				
16	388	872	1,550	2,422
256	1,550	3,488	6,200	9,688
64,000	6,200	13,950	24,800	38,750
16M	13,950	31,388	55,800	87,188

For Little Bombay, a map of around 39cm x 44cm, a file of 10mb is required at 200 DPI and 256 colours. At 200 DPI and 16M colours it is around 90mb.

► Recommendation

For Corpse work, a bitmap of 200 DPI or more gives adequate detail. In complex granite, the higher the better. It is better to provide a map that has too much detail than one with too low a DPI. Corpse can reduce the detail with its "Tailor Map" facility but it cannot create the detail.

► OCAD

Producing bitmaps (BMP files) via OCAD has a few hidden traps. My experience is with OCAD 6, the issues could be different for later versions.

When working in OCAD, some mappers use the HATCHED AREA feature. This displays solid areas as stripes. If you use the export bitmap facility to produce a BMP file, the BMP file will also have stripes and not solid colours. Therefore, before producing the BMP file make sure that the HATCHED AREA feature is not turned on.

You may have noticed by now that OCAD (6) has some internal barrier which prevents it from producing bitmaps with a higher DPI. I have observed that this limit is when the resultant BMP file hits a size of around 16mb. On larger maps (such as Little Bombay) the map has to be cut down and the DPI reduced to 150 DPI to get any sort of map.

For most computer setups, OCAD produces a bitmap with 16 million colours. This typically produces a large file with more colours than you can see and certainly more than is required for course setting.

It is possible to get OCAD to produce a 256 colour bitmap. This permits the production of a bitmap with around 50% higher resolution before hitting OCAD's 16mb barrier. To achieve this, set the screen colours on your computer to 256 before opening OCAD to produce the BMP file. Screen colours are set through Windows (Settings/Control Panel/Display) and can be done without re-booting the computer. You can return the colour setting to its previous value in the same way.

EPS

EPS Explained

The Encapsulated PostScript (EPS) language file format is an industry standard format for the exchange of print files. This is the format most commonly used in the printing of Orienteering maps.

In general terms, OCAD produces maps using a colour palette comprising black, blue, brown, green, yellow, purple and grey. These colours represent the features on an orienteering map.

OCAD produces two types of map:

Colour Map - All colours are printed. This represents the map that you use when orienteering.

Colour Separations - A map is printed a single colour at a time. If these were printed on clear film then laying all films on top of each other would produce the full colour map.

Colour separations are special prints used in the printing industry. Of importance is that, for example, a purple separation is not purple; it is black. When used in the print process, the presence of black represents where the printer is to place ink on the map (the printer must be told the colour of the ink to be used). Whether the colour is a light or dark shade is signified by the shade of black (greyness) on the separation. Black signifies to deposit a lot of ink while light grey signifies to deposit only a thin layer of ink.

On the other hand, the full colour map EPS file has the information for all colours defined in it. As such, the colours are actually defined as colours. This leads to the following peculiarity:

- (a) If Corpse is being used to superimpose courses onto a colour map file, you must set the EPS colour to the correct shade of purple.
- (b) If Corpse is being used to superimpose courses onto a purple colour separation, you must set the EPS colour to black. The shade of purple will be established at the time of printing and by the shade of black which you specify with Corpse.

OCAD EPS Implementation

The EPS system is an extensive printing process capable of rendering typeset books, photographs and artwork. At this time, the implementation of EPS by OCAD requires only part of the full EPS capability.

CORPSE EPS Implementation

Corpse has an EPS interpret function which can interpret EPS files generated by OCAD and Corpse. This interpreter may or may not be able to successfully read EPS files created by other packages.

The EPS interpreter has been developed as a separate module of the Corpse package. Should OCAD change the way it implements the EPS facility, then it is intended to make available an upgraded EPS interpreter for Corpse without needing to upgrade Corpse itself.

The Corpse EPS interpreter has been optimised to process the range of EPS commands used by OCAD at this time. This allows Corpse to load EPS files faster. The optimisation capability can be turned off should problems arise with loading EPS files.

Hint If you have an EPS file which Corpse cannot load with its own interpreter then you can use a product such as Adobe Photoshop to create a BMP file from the EPS file.

EPS Advantages

The Corpse user can gain a number of advantages from using EPS files generated by OCAD:

1. The EPS file is likely to be much smaller than the equivalent BMP file.
2. Corpse can vary the map's detail and colour at load time. These parameters can be increased or decreased as desired.
3. If courses are to be added to EPS files, the problem of ensuring that the BMP file used by Corpse and the EPS files to be overprinted match, is virtually eliminated. An EPS Viewer has been provided with Corpse. This viewer enables you to view EPS files created by Corpse. It is also capable of overlaying course files onto a base map file.

Chapter 14 - Speed Keys

► Course Setting

<Ctrl>+<N>	Display the Control Identifier window enabling input of a control identifier or punch pattern for the currently selected control.
<Ctrl>+<O>	Display the Open File menu.
<Ctrl>+<S>	Save the current file.
<Ctrl>+<+>	Zoom in.
<Ctrl>+<->	Zoom out.
<Ctrl>+<Delete>	Delete the currently active control.
<Ctrl>+<up arrow>	Move the active control one position closer to the start of the course.
<Ctrl>+<down arrow>	Move the active control one position closer to the end of the course.
<up arrow>	Change focus to the preceding course control.
<down arrow>	Change focus to the next course control.
<Shift>+<right arrow>	Shift the active control one pixel to the right on the map.
<Shift>+<left arrow>	Shift the active control one pixel to the left on the map.
<Shift>+<up arrow>	Shift the active control one pixel upwards on the map.
<Shift>+<down arrow>	Shift the active control one pixel downwards on the map.
<PgUp>	Display the course one to the right of the current course.
<PgDn>	Display the course one to the left of the current course.
<F5>	Refresh display.

► Quick Entry

<Enter>	Start editing the current cell.
<Ctrl>+<C>	Copy the current cell.
<Ctrl>+<V>	Paste the current cell.
<Ctrl>+<X>	Cut the current cell.
<Ctrl>+<Insert>	Insert a new course after the currently selected course.
<Ctrl>+<Delete>	Delete the currently selected course.
<Ctrl>+<U>	Move the currently selected course up one position.

<Ctrl>+<D> Move the currently selected course down one position.

► **Punch Management**

<Ctrl>+<S> Save the current file.
<Enter> Start editing the current cell.
<Ctrl>+<C> Copy the current cell.
<Ctrl>+<V> Paste the current cell.
<Ctrl>+<X> Cut the current cell.
<Ctrl>+<Insert> Insert a new punch after the currently selected punch.
<Ctrl>+<Delete> Delete the currently selected punch.
<Ctrl>+<U> Move the currently selected punch up one position.
<Ctrl>+<D> Move the currently selected punch down one position.

► **XRef**

<Ctrl>+<C> Copy the XRef data to the clipboard.

► **EPS Viewer**

<Ctrl>+<L> Load a new EPS file.
<Ctrl>+<O> Overlay another EPS file.

Chapter 15 - Performance Issues

This section identifies factors which will affect the overall performance of Corpse. Performance in this instance covers the speed of operation as well as the quality of the results provided by Corpse.

The topics covered are generally restricted to those over which you have some control and can influence with your current equipment and how you use it.

Poor Print Quality

Shading in IOF control descriptions If your printer has a "dither" option ensure that it is set to "none" when printing IOF control descriptions. Dither was not found to have any affect when printing English control descriptions.

Slow Performance

► Large MAP file

Large map files take a long time to load and consume a lot of system resources to manage. Slowness can be experienced when changing course views if the computer has limited amounts of memory.

► Map Colours

Best performance is achieved if the number of colours of the map BMP file is the same as the computer's screen capability. If your map has been scanned with 16 million colours but your computer screen is configured at 256 colours the computer has to translate from 16 million to 256 every time the map is refreshed. The map is refreshed frequently, including every time a control is moved, added or its number changes.

► Screen Colours

If your map has 256 colours, best performance is achieved by setting the screen colours to 256 while using Corpse. The screen can be temporarily set to 256 colours through Windows/Settings without having to re-boot the computer.

► Preview

The preview option stores a complete page image for each page previewed. These can take a significant amount of time to generate and may consume all system resources if a large number of pages are previewed.

When leaving the preview function the system has to reclaim all space used by the preview function. The system may use all of its energy doing this reclaim and forget to talk to you. The symptom is a lot of disk activity.

The obvious solution is to only preview what you want to look at. It may be necessary to preview material in segments which your computer can handle comfortably.

► Holes and Cartographic Objects

Only add items such as "holes", breaks in control circles and cartographic objects after the main course planning has been completed. The display of cartographic objects can be deactivated.

► Excess Objects

Remove unwanted controls, holes and cartographic objects.

Program Failure

► Map Size

If the memory required by Corpse for the internal representation of the map is too large Corpse can fail due to insufficient physical memory on the computer. The map storage requirement should be kept to below 60 mb. Larger map storage is possible on more powerful computers.

► Shortage of Computer Memory

Corpse uses large slabs of computer memory. Corpse will fail if it cannot find the memory it needs. A memory shortage can be caused by having too many tasks running in your computer at the same time or if the available memory is fragmented. The solution is to minimise the number of other programs running. If the memory has become fragmented you may have to reboot your computer.

Detail Missing in Preview

The preview option permits the user to see what the printed result will look like when it is printed. To conserve computer resources, the preview is generated at a much lower resolution than your printer. This leads to some lines disappearing when previewed. It also causes objects in IOF boxes to look as though they are off to one side or the two circles for the finish to not be concentric.

In extreme circumstances it "may" be possible for the printed result to be different from the previewed result. This is brought about by scaling of images between two different sized pages and mathematical rounding in calculations which may occur during the process.

Looks Different

You may notice that text will wrap differently on different computers; the ability to fit text into IOF boxes may also vary. If you print course descriptions at 180 DPI, for example, letters in text will typically take up more space on the page than if it was printed at 360 DPI.

For consistent results, always print with the same DPI setting for the output printer.

Glossary

cartographic object

These are additional markings placed on the map to indicate important locations for this event. These symbols denote the location of first aid, water drops, manned controls, safe crossings, out of bounds areas, etc.

control descriptions sheet

A description of controls (sequence numbers, identification numbers, site characteristics) provided to competitors on a course of an orienteering event. Control descriptions sheets can be written in English or IOF symbols.

CMYK

Acronym for cyan, magenta, yellow and black; the four colours used in the standard model in the printing industry. Refers to a method of specifying colour using CMYK colour values. (K is used for black)

course name

Course name is the descriptive name given to the orienteering course, e.g. RED 1.

CPE

CPE is the file extension used for files created and used by Corpse.

DPI

Quality of a graphics image measured in dots per inch. This applies to scanned images (or maps) as well as printed documents.

EPS

The Encapsulated PostScript (EPS) language file format is an industry standard format for the exchange of print files. This is the format most commonly used in the printing of Orienteering maps.

event name

The descriptive name of the orienteering event printed in the top box of each course control descriptions sheet.

map

The map is a Windows BMP file which contains an image of the area in which the orienteering event is to be held. It may be a complete orienteering map or a segment of an orienteering map.

OCAD

A commercially available computer aided drawing package for orienteering maps.

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