COURSE PLANNING AND MAP PRINTING WITH CONDES

by Kim Kasperski and Adrian Zissos

As a course planner, have you ever wanted to be able to produce one of those professional-looking course maps you see at big orienteering events – even for you local event? Are you tired of re-calculating course lengths every time you bend a leg around an object? Do you need to collaborate in your course planning, sharing the latest changes or concerns about your courses or control locations, while keeping everything organized? We could go on… do you want to reduce errors (both during course planning and printing and putting out controls), print maps at different scales for the same event, export course data to the timing software, find controls you created but no longer use on any course, detect over-loaded control sites, compare distances of different route choices, ...and on. Well, there are tools out there that can help. You can download various software programs for orienteering course-planning and printing (OCAD, Condes, and Purple Pen spring to mind), some being more comprehensive than others.

This series of articles focuses on Condes, a program written by Finn Arildsen, that can do all of the above, and more, and is still very easy to use. In this series of articles we hope to provide you with enough information to take you from Condes novice to Condes ninja"[1].

The articles will cover:

1. Getting started: basic course planning.
2. Getting started: course printing.
3. Advanced course planning.
4. Advanced course printing and map layout
5. Advanced tips and tricks for training and non-standard orienteering events.

Condes can be purchased from http://www.condes.net/ and for the price you get a club licence, which means that as many club members as you want can download and use Condes, if they are working on club events. The license fee also includes free telephone and email support and all maintenance releases to the purchased version.

Condes has a useful help file and a comprehensive website that has demo videos, on-line help files, FAQs, and a support forum where Finn (astonishingly quickly) answers all questions ranging from the basic to the esoteric. Condes has a wide user base that provides additional resources such as a user guide from the Scottish Orienteering Association. Also, Finn has added 'smart tags' to most icons and objects: just hover your cursor over an object and more often than not a tag will appear explaining how to use the item.

To follow along with the examples in these articles you can download the free "light" version of Condes that can be used for events with up to two courses with a maximum of 25 controls.

[1] We stole the phrase from the title of a book by Casteldine and Sharkie.

Getting started: basic course planning with Condes

Create a new event

To create a new event, start Condes then select 'new event file' from the 'File' menu (or the 'new event' icon on the tool bar) and follow the instructions of the wizard. If you had already been working on an event the last time you used the software, Condes opens that file automatically (although this depends on whether you have changed settings in 'File' 'Standard Settings for this PC'; in this article we will assume default settings for these options). For the multi-taskers in the audience, you can have more than one event open at the same time; each event being in its own tabbed-window (like multiple windows open in Microsoft Explorer®).

When presented with the all the options as you progress through the new-event wizard, (for example, options of how to use map file(s) (Figure 1)), chose what you think you will use, but don't worry, everything can be changed later if you change your mind.

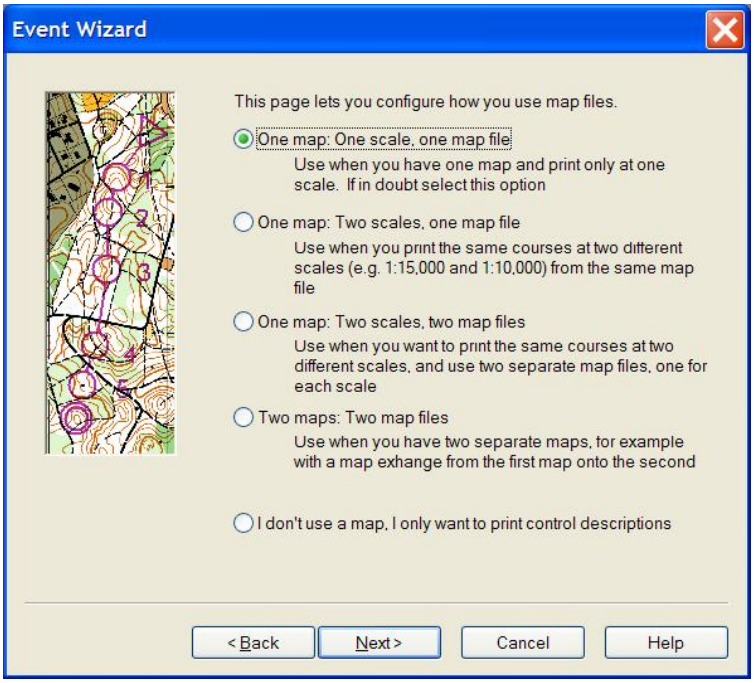


Figure 1 – a screen from the 'new event' wizard

Usually we use an OCAD map file as the map template but you can also use jpegs or bitmaps.

When the New Event wizard is finished a window appears with a tab called 'course layout editor' that will show your map and all the tool bars (see Figure 2). You can chose

which toolbars are displayed from the menu ‘View’ ‘Toolbars’ and also move them around to suit your working style.

On the left-hand side of the window are three tab-like boxes that you use to select either the ‘Controls’ pane, ‘Edit Courses’ pane, or ‘Browse Courses’ pane. Clicking on the ‘Controls’ pane tab will bring up the list of all controls, and on the map all the controls will be displayed. Clicking on the ‘Edit Courses’ pane takes you to the list of all the courses, and the map displays whichever course is selected in the pane. Lastly, the ‘Browse Course’ pane allows you to see more than one course at the same time so you can catch any conflicts between courses.

At this point you have created a new event with no controls yet, nor courses in it. Now would be a good time to save the file - and it is also a good habit to save often.

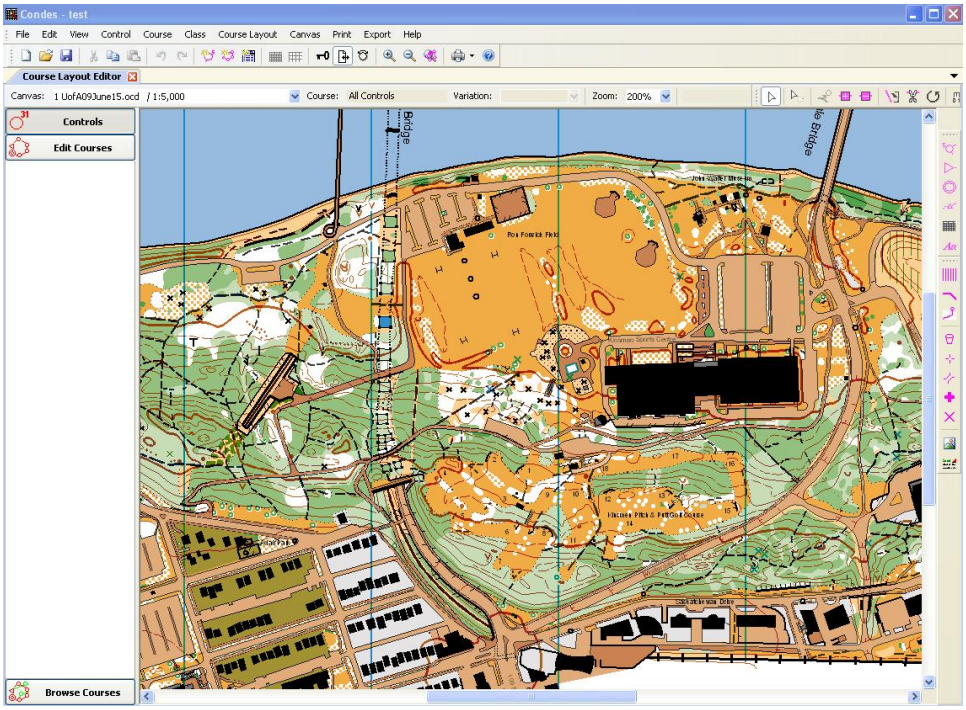


Figure 2 – Appearance of screen after finishing the ‘new event’ wizard; ready for course setting

You are now ready to start course planning…

Well, not quite yet: first some general tips on using the software and moving around the map. As with most software there are usually many ways to do the same action, for example by selecting commands from the menus, using the icons on the toolbars or right- or left-clicking; it all depends on how you prefer to work. As you explore, try double-clicking on items or right-clicking - you will often discover faster ways to access commands or open up dialogue boxes.

Moving and zooming around the map

Moving around the map will soon become second-nature. To move the map click on an "empty" part of the map (i.e. not over a course planning object), hold the mouse button down, and drag. This moves the map around in the window (don't worry, you are not changing anything related to the map coordinates). You can also use the scroll bars on the bottom and right of the window if you prefer. To zoom in, either use the magnifier (accessed from the tool bar (magnifier with a '+') or in the 'View' menu), click to zoom-in one step, or click, hold, and drag to zoom into a specific area, or type or select a number in the 'zoom' drop-down box on the toolbar. Note that if you type in or select a zoom number, the scroll wheel on your mouse can now be used to zoom in or out. Once you do some other action, the mouse scroll-wheel reverts to moving the map up or down.

Selecting Things

You can select all kinds of things on the map – which is how you move them or change their properties. Basically, there are two cursors that are used to select things, one for course objects (controls, lines, etc) and one for any graphics or text you add (see Figure 3). Here we will focus on the former as that is the one you use for basic course planning. With the 'select course object' cursor selected you can click on any item to select it. You can hover the mouse over an item, left click on it to select it, right click on it to get a context-menu, or double click on it to open its properties box. Practice and explore a bit!

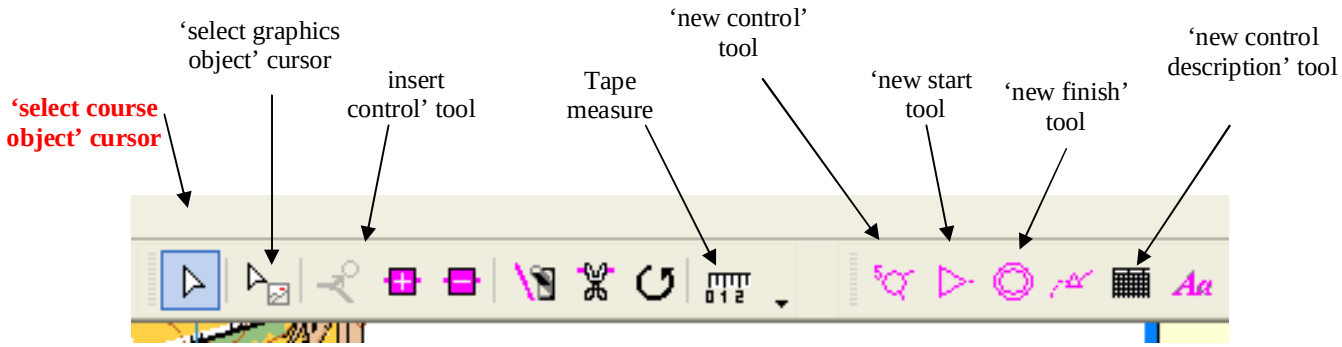


Figure 3 – the 'course edit tools' and 'course symbols' toolbars

Now, finally, its time to create some controls and make your first course.

Planning your course

You can start in any way you want: create a bunch of controls first, then link them to make a course; or place your start and finish and then insert controls as you go, either by creating new ones or selecting controls already placed; or you can do it non-graphically by opening the course dialog box (double-click on the course name in the course pane) and double-click controls from the list into the order you want (of course, this only works if you have already placed controls). To keep this article to a manageable size, we will

describe just one of the possible approaches: starting with placing the start and finish. Here are the steps (refer to Figure 3):

Add start & finish controls

1. Select the 'new start' tool and click on the map at the spot you want the start. The start triangle appears.
2. Condes automatically selects the 'new finish' tool so now click on the map where you want to place the finish.

Enter course name and type

3. At this point a window will open prompting you to name this new course and chose the type of course (e.g. foot-O, ski-O, mountain bike-O). Name the course (eg: "ONA demo"), click 'OK' and the map appears with the start and finish connected by a line.

   By the way, the default line into the finish control is a dashed line which means there are full markings (i.e. a flagged route) from the last control to the finish. If you want to change that, double-click on the finish control and select 'finish point-no markings' from the drop-down box called 'control-type' in the window that appears; the line will change to solid (there, we saved you the time it took one of the authors to figure that out).

Add controls

4. Select the 'insert control' tool and the line now becomes like a rubber band. Move the cursor to the location of your first control and click there (note: this spot can be either on a blank area of the map, which creates a new control, or on a previously created control – for now we will create a new control by clicking on an empty spot on the map). When you click on the map a window appears in which you type in the code for the new control (which can be numbers or letters). When you've entered the control code press OK and you are back on the map ready to insert your next control. Once you have inserted all the controls for your course, hit the escape key on your keyboard (or click some other icon from the tool bars) to get out of 'insert control' mode.
5. At this point you can move control positions (click on the control to select it (it will turn blue), then click again on it, hold and drag with the mouse).
6. You can remove a control from a course using the keyboard delete key, or 'Control' menu 'delete' command, or course dialogue window (to access the course dialogue window, click on the 'Edit Courses' pane on the left, then double-click on the name of the course you want). This does not delete the control from the event; if you want to do that, go to the 'Controls' pane, and delete it there (a big warning window comes up that gives you various options).
7. To insert a control into the middle of an existing leg click on the leg to select it (it will turn bright red) and then click the 'insert control' tool – or you can use the course dialogue window.

Enter control descriptions for each control

8. Once you have finalized the control locations, enter the description for each control. To do this either double-click on a control circle, or on its number in the 'Controls' pane, then click in each box of the description to access and select the appropriate description symbol. Note that the window that opens when setting the symbols has various tabs that you select to access groups of related symbols (
9. Figure **4**).

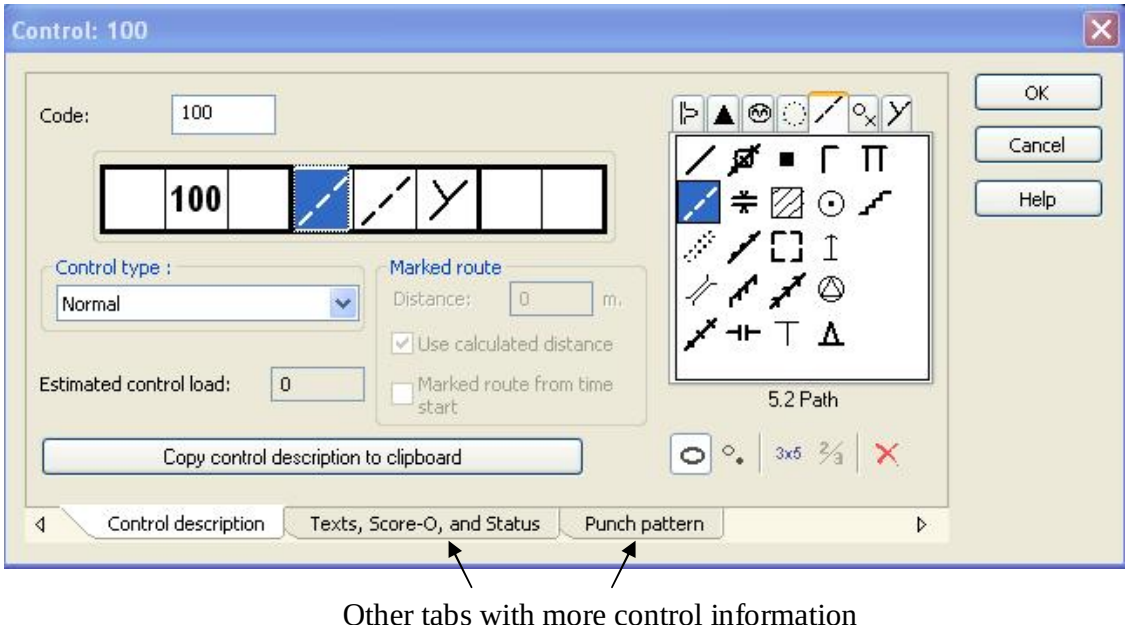


Figure 4 – Control dialogue window that opens when you double-click on a control circle on the map, or control number in the 'Controls' pane. To the right of the window you can see the tabs of symbols that appear when you click on one of the control symbol boxes.

A time-saver is to zoom right in on the map so you can see what the feature is for a control, then double-click on the circle to access the dialogue. Once you are finished with that control (click 'OK' in the box to close it), without changing the zoom, click once on the next number in the control pane and the program automatically moves to that control so you can identify the feature and then enter its description.

Place control description box on the map

10. Condes automatically added a control description (CD): it is placed in the top right of the work area (zoom out, way out…it will be there). Find it, click to select it, then click, hold, and drag it to the location you want. A lot of times we forget it is there, and use the 'new control description' tool (icon looks like a grid,

found to the left of the 'New text' tool) to place another one. That's no problem, as only the one in the print area will print (see article on printing basics). It is possible to have more than one: for beginner's courses we will often add both a text and symbol CD so newcomers can start to learn what the IOF symbols mean.

After entering the symbols, if you chose to have text displayed in the control description, Condes will automatically translate the symbols to text, although you can enter your own text, if you want to, in the control's dialogue box (in the tab labelled 'text, Score-O, and Status', as can be seen in

Figure **4**).

There are many ways to set whether a CD will display as IOF symbols or text, but the easiest way is to double-click on the CD on the map, click on the 'Appearance' tab in the window that appears, and under 'Appearance' select either 'Pictorial' or 'Textual' (see Figure 5).

Tip – if the control description box takes up too much space on the map you can make it smaller by setting the "Box side length" to 6 or even 5mm.

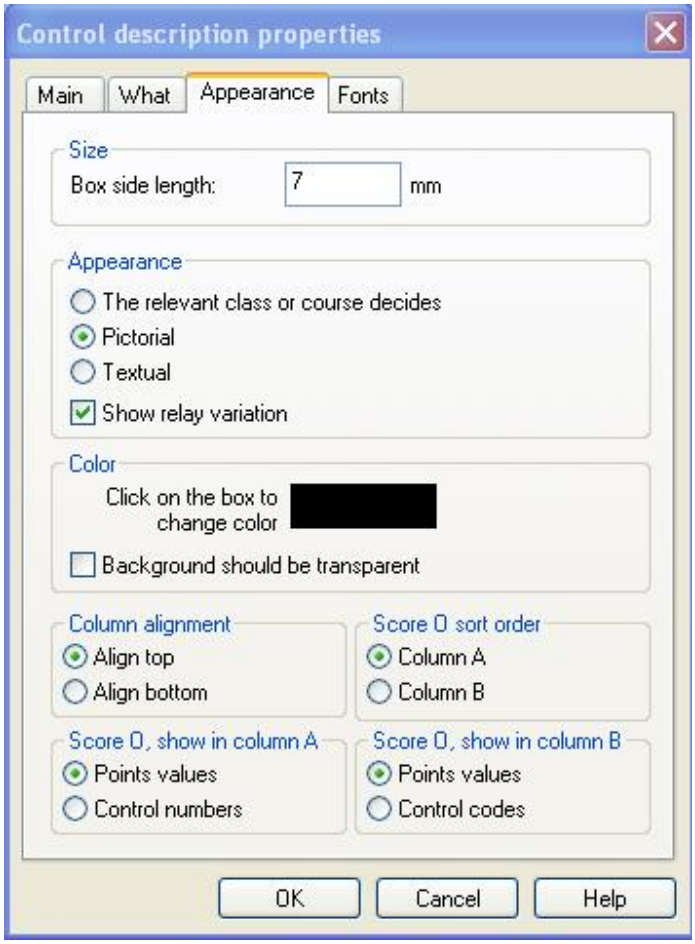


Figure 5 – Control description properties window

You have now created your first course.

When adding another course, a nice feature is that when you select 'new course' (from tool bar or menu) you have the option of creating a copy of an existing course, for those times when you want to start with an existing course and then add or subtract a few controls to create a variation of it.

Some of the useful features and time-saving tools that will help you while course planning include:

- ***Hovering***. When you move the cursor over a control circle or leg, a tag will appear that gives you very useful information on that control or leg. What the tag shows depends on what information you have entered e.g. for a control it includes what courses it is used for, competitor load (see article on advanced course planning), and any annotations (see advanced article). Leg information includes leg length, what course(s) it is on, which controls it joins, and competitor load.

- The ***'zoom to course tool'*** on the toolbar is a great option. As its name suggests it sets the zoom so the selected course fits the whole window, which saves a lot of time zooming in and out;

- Under the 'Course Layout' menu. ***'show adjacent controls'*** highlights in red any control pairs that are closer than 30 m, so you can check that none of the controls violate that IOF rule;

- 'Course Layout' menu, '***show unused controls'*** is self-explanatory and is useful when doing a final clean-up of your courses;

- The ***tape measure*** is a great tool for things such as measuring distances along different route choices, from assembly area to start, or parking to assembly area, etc. Simply click on the tool, click on the start point on the map, then click on the end, or bend the line if not measuring a straight line by using multiple clicks: the window that appeared gives a running sum of the distance. Use the keyboard escape key to get out of this mode.

- Under the 'Control' menu, you can chose to display the '***control/course diagram'*** which is the standard summary of which courses a control is used on, and what its number is on that course, as well as the competitor load. Note that usually when displaying new information, another tabbed window appears: to get back to your map either close the tab or click on the 'Course Layout Editor' tab.

We hope that with this brief description you will begin to see the versatility of Condes, and that you have a basic understanding of using Condes to course plan. In the next articles we will take you through basic printing, and then onto the 'ninja' level for course planning and map printing. Stay tuned!

ARTICLE TWO

Getting started: course printing with Condes

This is the second article in a series on using Condes for course planning and map printing, this one focusing on basic printing. With easy access to increasingly higher-quality color printers, more clubs are generating customized course maps for events of all sizes. Condes supports custom map layouts by providing a great set of tools for quickly adding courses, moving control numbers, cutting circles and lines, adding control descriptions, club & sponsor logos, borders, legends, and so on.

Condes also has strong printing support. You will appreciate all the little details, such as a persistent print area, and print-preview, that save you so much time when printing your race maps, master maps, and vetting maps. You can also use Condes to overprint courses onto pre-printed maps (as in the old days) but we will focus here on describing how to create custom layouts and how to print the course and the map together.

In this article we assume that you have read the first in the series so we will not repeat previous descriptions or definitions. We also assume you have a Condes file with at least one course defined. You can follow along with the examples in these articles by downloading the free "light" version of Condes that can be used for events with up to two courses with a maximum of 25 controls. Visit www.condes.net.

Choose a paper size

When you begin setting courses for an event, one of the first things you must think about is the size of the paper you will be printing on. The paper needs to be large enough to hold the course (at the appropriate map scale) along with a control description box, legend, logos, and other embellishments. If using laser-printers the most common sizes are legal or letter-sized paper although tabloid size is very handy for the long courses.

To set the size of the paper, Select the menu 'File / 'Print setup…' and choose the target printer and the paper size.

Set the print area on the map

In Condes defining this print area is almost trivial. Click on the 'Configure Print Window' icon on the tool bar (this icon looks like a piece of paper with a double arrow on its right edge…next to the 'key' icon). This icon toggles on and off a box, by default red in color (but more about that in advanced printing). This box is called the 'print area box'. This is the box that you resize and move to cover the area of the map that you want to print.

You can adjust the box size manually (click, hold, and drag any of the little black corner boxes that appear after you click on the boundary). You will notice that when you click on the print boundary another boundary in purple appears…this is the size of the paper currently selected in 'Print Setup'.

Better than manual adjustment, you can make use of a neat option in Condes to automatically adjust the print area to the paper size. Click on the print boundary to select it (little black boxes will appear in the corners) and then right-click and a menu appears from which you can select 'resize to fit printer page' and the print boundary will automatically adjust. This saves soooo much time!

Once you've defined the size of the print area, then you can move it (click, hold and drag) to fit around your course. In ten seconds you can have the print area set to fit the printer page. Wonderful!

Print your first test map

Select the menu 'Print' / 'Maps with courses'. A new 'Print Courses' tab will appear in front of the 'Course Editor Layout' tab. On the Print Courses tab choose the course(s) you want to print, make sure you are in the right canvas (more on that in a later article), and then select 'Print Preview' to make sure things are OK.

If you see a problem in print-preview, you can go back to the 'course layout editor' tab, fix the problem, and you will see the change in print preview when you click back on its tab; a great time (and paper) saver. One the preview looks OK, click 'print'. Ta Da! Your first printed map.

Customizing the map layout

The next step is to enhance the map layout. The following list includes some of the most common formatting tasks and how they are done in the 'course layout editor' tab in Condes.

1. ***Adjusting positions of control numbers*** – to move a number to a more legible location, click on the control circle with the 'select course object' cursor: the control circle and its number will turn blue (this is especially useful when the area has a crowd of controls). Click, hold, and drag the number to its new location.

   The location of the number of the control circle is unique to each course in a canvas (more on canvases later).

   Note that you can select whether to print just the control number, or number plus code (used in MTBO and SkiO – eg: "1-112"), and so on, in the course dialog window (double-click on the course in the 'Edit Course' pane) in the 'Number format' drop-down box (Figure 6).

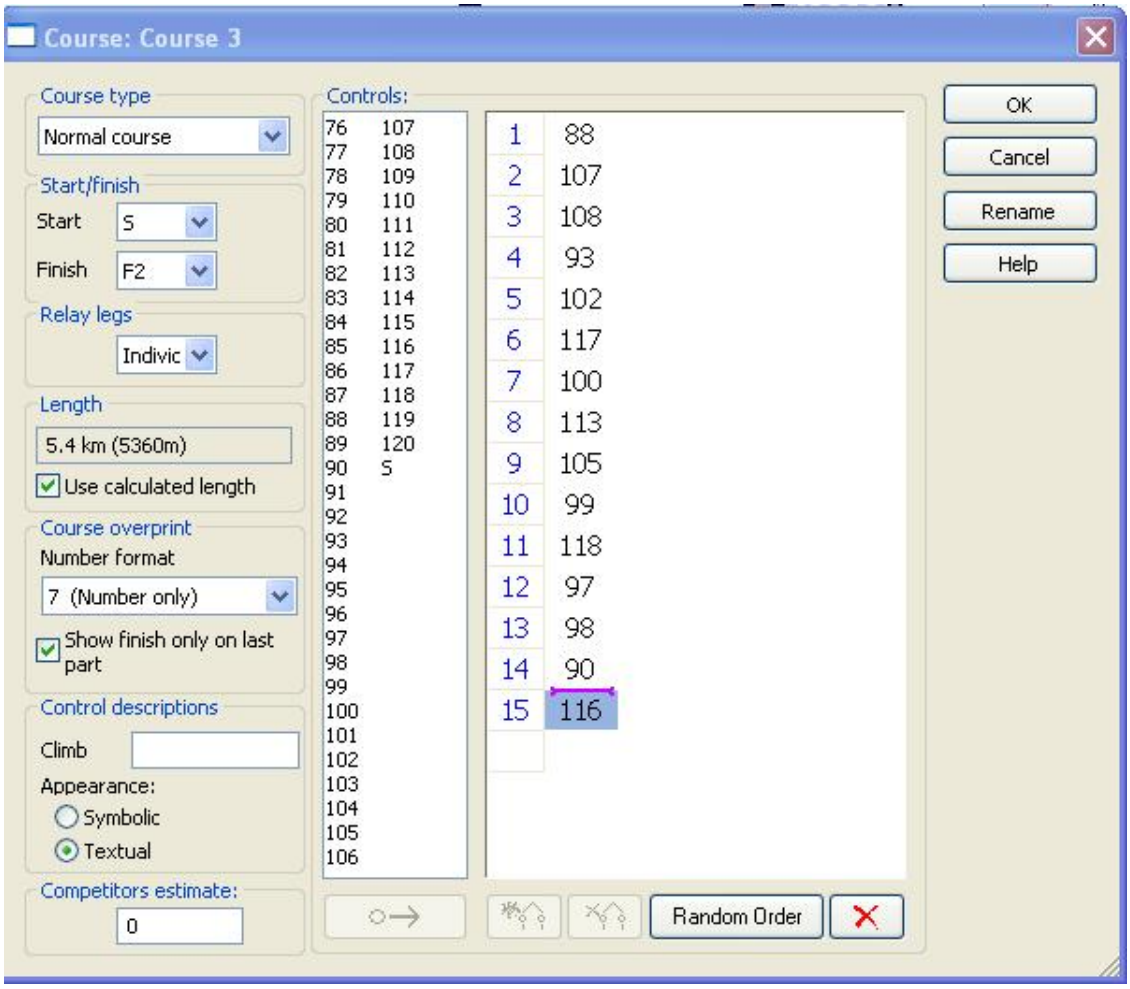


Figure 6 – Course dialog window

2. ***Cutting lines*** – chose the 'cut line' tool (the icon looks like a pair of scissors), click on the line to be cut, click again in the middle of the area to be cut. If necessary, the length of the cut on a line can be fine-tuned by choosing the 'select course-object' cursor, clicking on the cut line, and then click and drag the black squares that appear at each end of the cut. Line can have more than one cut.
3. ***Cutting circles*** - For circles, you can use the 'cut line' tool too. But much better is to click on the circle to select it and then right-click and select 'Control circle…' from the popup menu. This provides a zoomed-in view of the circle and you cut/uncut the circle by clicking in spaces in the picture (it will be obvious what to do).
4. ***Add text*** – To add event or course titles, map notes, safety information or any other text you want, select the 'New Text' tool (see Figure 7) and click on the map where you want to put the text (it can be moved later if need be). You have the option of selecting some standard text (such as the event name or map name) or entering your own text (such as a notes about course closing time or emergency

phone numbers). In this window you also set font size, color, alignment, and background (solid white or transparent). You can add as many text boxes as you want, wherever you want. Note that the cursor automatically switches to the 'select graphics-object' cursor, which is what you need to select and move the text into the exact location that you want. (You can get mixed up between the "course-object" and "graphics-object" cursors and spend a few fruitless seconds trying to select and object with the wrong cursor - until you remember to switch to the needed one).

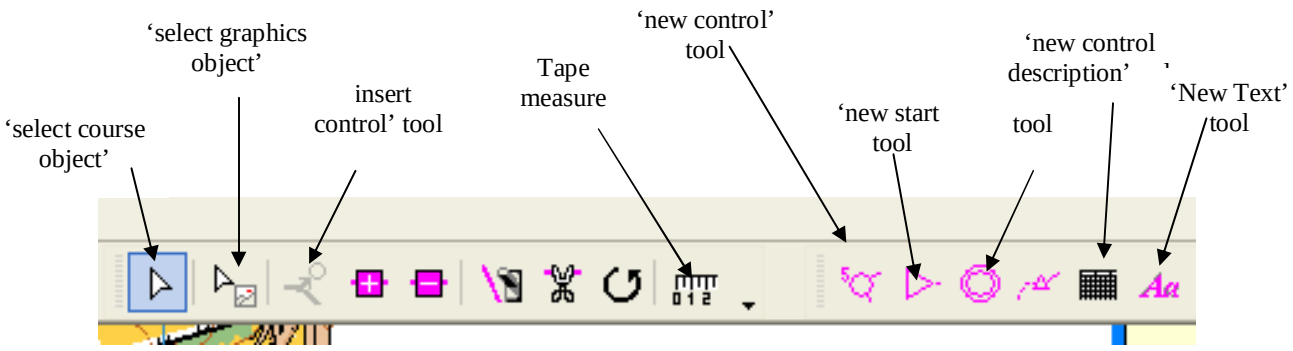


Figure 7 – the 'course edit tools' and 'course symbols' toolbars

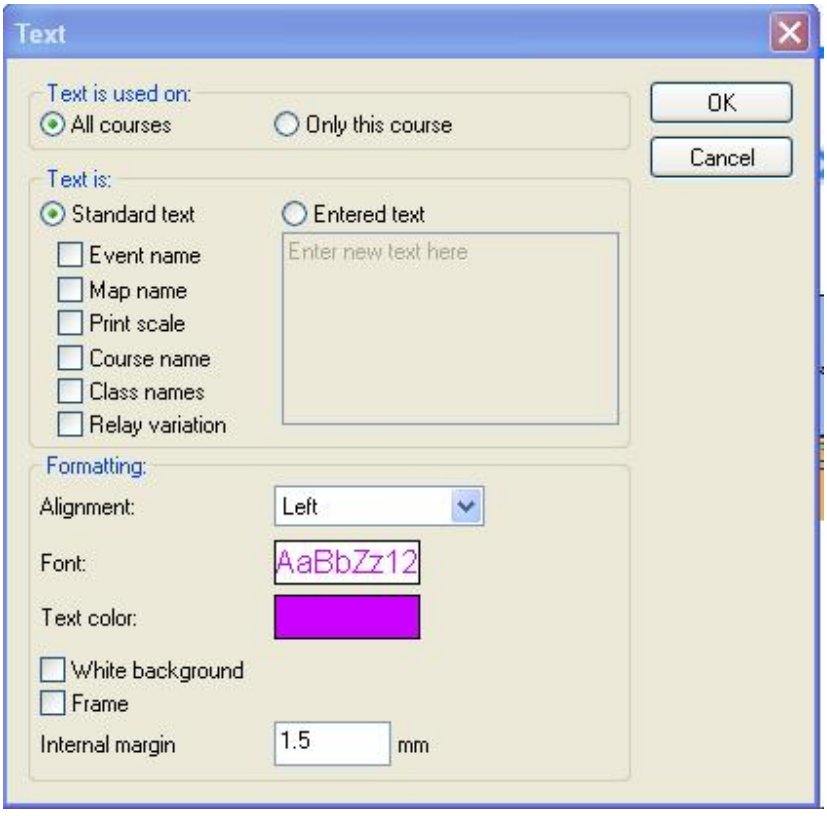


Figure 8 – Text properties box

5. ***Adjust the control description (CD) box*** Move the control description box to the location you want by dragging it with the mouse. As described in the previous article, you can double-click on the CD to display a dialog that allows you to specify textual or symbolic descriptions, and that will allow you to adjust the size (by changing the 'box side length') as well as font and font color.
6. ***Add graphics*** - Use the insert graphics tool to add any logos, legends, or scale bars (for example). Condes can insert graphics from jpg, bmp, and even OCAD files. An easy way to add a legend to your maps is to first create an OCAD file that contains only a legend. Then you can use the "insert graphics" tool to place this legend onto your map layout. Scale bars, north lines, club logos, sponsor logos, and all manner of other graphical embellishments can be added in this way.

   Once you've inserted a new graphic it can be resized by clicking on it to select it, then drag one of the black sizing boxes that appears. Be sure to maintain the proper dimension ratios, and watch out for graphics that appear distorted when stretched or shrunk too far.

Once the map is a picture of perfection, let's print it. Return to the "Print Courses" tab, select your course(s), and do a print preview. If you're happy go ahead and print.

Printing control descriptions

For all those loose CDs you provide for big events, go to the 'Print' menu, 'control descriptions' dialog. You will be able to choose which courses to print CDs for. We recommend printing each course individually as this will print a page filled with copies of that course's control descriptions. If you print CDs for more than one course at a time then the output will mix the CDs for each course on a single page, and we find this too time consuming when it comes to cutting them up.

Creating master maps

One of the authors' favourite features of Condes is the ease of creating a master map with control numbers placed unambiguously, to reduce worries about putting control units in the wrong place in the forest. To layout the master map go to the 'course layout editor' top tab, then select the "Controls" pane – this will display the master map. Now for each control, click on the circle to select it and then adjust the location of the control code (as described above),

To print an all-controls map with 'File' 'Print…', make sure the 'Controls' pane is selected, add a CD, then print. As simple as that. An all-controls map can also be printed from 'Print' 'Maps with course', but you do not get a date and time stamp printing from there.

Overprinting courses

If you are overprinting your course on a pre-printed map, go to the menu ‘Print’ ‘Overprint course’ and select the course you want to print (again making sure you are in the right canvas).

You can change the color with which the course will be printed as well as fonts, by changing settings in the ‘Setup overprint…’ window that opens when you click that button.

Using the ‘Drag course’ arrows, move the course until it is in the print area, rotate as necessary, and print a copy to see what adjustments you need to make.

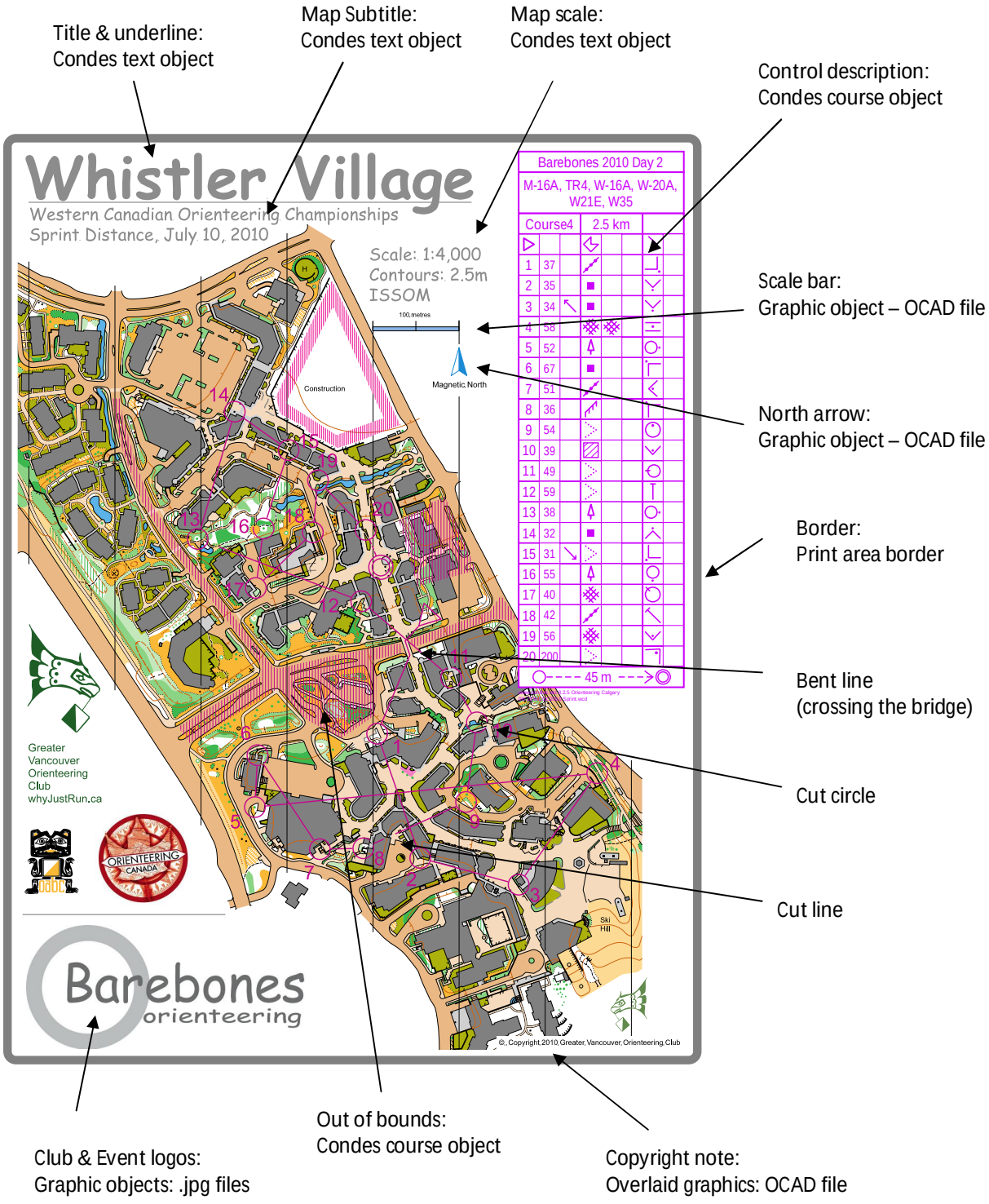
Neither of us have used this option so do not know how easy it is to get that final correspondence between course and map…we are just grateful our clubs now have laser printers and so we no longer have to overprint courses on maps. And a tip of our caps to those in the clubs who struggled with overprinting for all those years!

That other place to print maps from

You can also print your courses from the main ‘File’ menu ‘Print…’ command if the ‘Course Layout Editor’ is the active window. When printing from here, and if you leave enough room, at the bottom of the page Condes prints the name of the file, the course, course length, scale, and finally the date and time of the printing. This is great during the planning stages of an event as you won’t lose track of which version of the courses you are working with. But of course, this is not what you use to print the maps for the competitors.

And a final point, for events where the number coming is not known we will often print blank maps (from ‘Print’ ‘Maps with course’) in case we were to run out of course maps and so would have to manually draw some courses..

And there you have it, all you need to know for basic printing of a course and map. In the next articles we will describe more advanced techniques for using Condes in course planning and map printing, including how to use canvases.


Title & underline:
Condes text object
Map Subtitle:
Condes text object
Map scale:
Condes text object
Control description:
Condes course object
Scale bar:
Graphic object – OCAD file
North arrow:
Graphic object – OCAD file
Border:
Print area border
Bent line
(crossing the bridge)
Cut circle
Cut line
Out of bounds:
Condes course object
Club & Event logos:
Graphic objects: .jpg files
Copyright note:
Overlaid graphics: OCAD file
Whistler Village
Western Canadian Orienteering Championships
Sprint Distance, July 10, 2010
Scale: 1:4,000
Contours: 2.5m
ISSOM
Barebones 2010 Day 2
M-16A, TR4, W-16A, W-20A, W21E, W35
Course4
2.5 km
45 m
Magnetic North
Construction
Greater Vancouver Orienteering Club
whyJustRun.ca
Barebones orienteering
©, Copyright 2010, Greater, Vancouver, Orienteering, Club

ARTICLE THREE

Advanced course printing and map-layout with Condes

This is the third article in our series on course planning using Condes, so we will assume you have begun to master the novice level concepts and we now will guide you further toward ninja level Condes user.

Canvases

OK, we mentioned canvases in the basic printing article, so we figure we had better explain them. They are, after all, one of the key features that differentiates Condes from other less powerful course planner tools. By using Canvases planners can efficiently – and safely - handle a number of situations that would otherwise be tricky and perhaps error-prone.

Every event file has five canvases that you can use to create different page layout. You may want to do this if, for example, you have a number of courses that could be laid out differently – perhaps the long course requires a legal sized paper while the shorter courses can fit onto letter size. Or perhaps you will want to print courses at different scales: easy as pie when using canvases.

Canvases are very useful if you are hosting a multi-day event on the same map. Canvases by default share control locations, codes, descriptions, and line-cuts, so you can create one Condes event file that has all the controls for all the days, and use the five canvases to make different layouts for each individual event. This, in particular, eliminates many potential errors when controls are shared between races.

We tend to use one Condes file per venue, but since each canvas can have its own controls if you want, and its own map file, it is possible to create one multi-day event file that uses different maps. Canvases can also be used for unusual events in which the course extends across two maps – each map will have its own canvas, and you would be delighted at how well the controls are shared between the canvases, so that the controls on the overlapping section of the maps will be correct for sure.

That is a brief overview of some of the power of canvases. We hope it has enticed you to learn more about them. In the remainder of this article we will introduce you to how to work with canvases – one of the most powerful features in Condes.

Switching between canvases

When you create a new event you will by default start using canvas number one (of the five available). In the top left-hand corner of the ‘course layout editor’ window you may have noticed a drop-down box labelled ‘canvas’ (Figure 9). In this particular example it shows we were currently working on canvas number three, the map name (‘Dalmuir-Oskahtak OS, 2010.ocd’0, and the print scale (1:7,500). To switch canvases, simply select a different canvas from that drop-down list.

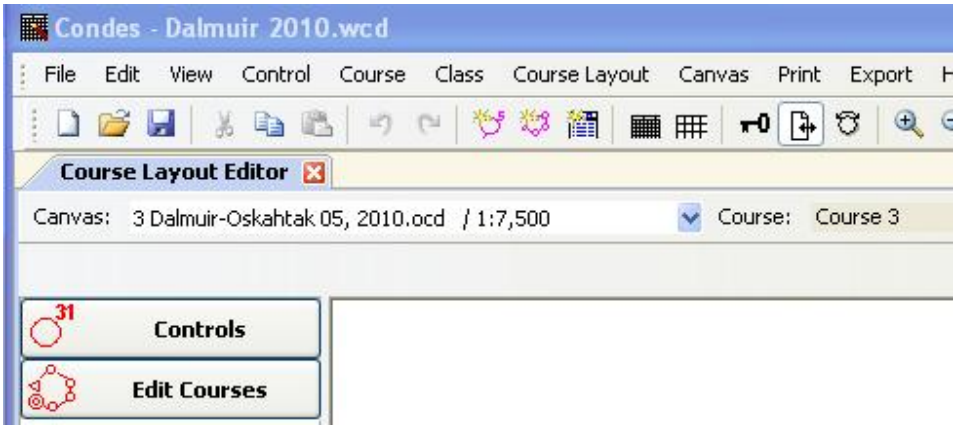


Figure 9 – location of the ‘canvas’ drop-down window in Condes

Initializing a canvas

To set up a canvas the two most important things to do are select the map and the print scale. To do this go to the menu called ‘Canvas’ and select ‘Map…’. In the window that opens select ‘Use a map file for this canvas’ and then either click on the ‘Change file…’ button to go find the right map file, or, what is usually the case, select ‘Use the map of another canvas’ and chose from the drop-down box. Finally, select the print scale for this canvas. You now have initialized you canvas to play with.

Some things to note:

- all courses are ‘available’ for all canvasses. But you will only need to do the layout, and so on, in a given canvas for those courses you will be printing using that canvas.
- The size of control circles etc. are automatically adjusted to fit to IOF standards, but you can change them if you want. (‘Canvas’/‘Circle and line dimensions’).
- control locations can either be unique or the same across canvasses; selected in ‘Canvas’/‘Controls…’. Usually you will want the same controls to be shared between all canvases.
- imported graphics are unique to each canvas, that is, if you use the ‘New graphic’ tool to place a logo on canvas 1 it will only appear on that canvas. If you want it to appear on other canvases then you must use the ‘New graphic’ tool to place the same logo on the other canvases.
- The print area for each course is unique to the canvas.
- Same for control descriptions (CD). A fast way to set up CDs for the courses in a canvas is to insert a CD, and in the ‘Control description properties’ window that appears select ‘All courses’ and ‘OK’. Then, double-click on the CD that

appeared to get back to its properties window and select ‘This course only’. In the window that appears say ‘Yes’ to putting a copy of the CD on all courses. In this way you can change the location of the CD in each course independently, and change between symbol and text CDs as needed for each course. Unless of course the CD will be the same format and in the same location for all courses at that print scale; in which case, ignore that second step.

- The location of graphics is the same for all courses in a canvas. And this is why we said you ‘usually’ use one canvas per print scale. We have found times that if you are printing three or four courses at, let’s say 1:10,000, we often have to move graphics around to get the best layout for each course; to save time, set up another canvas, same print scale, and then do the graphics’ layout that works best for the courses. Usually at most you need two canvasses at the same print scale when you have a large number of courses to print at that scale..

- Added text (e.g. course names, event names) can be unique to a course in the canvas, or the same for all courses in the canvas. If you choose to have the same for all courses, the location of the text is also the same…again it is sometimes useful to have more than one canvas at a given scale if you are having to change the layout of text for the different courses.

Deleting a canvas

You can’t delete a canvas – each event file has five canvases, no more and no less.

Using multiple map scales

Each canvas has a specific print scale. If you want to print courses at different scales you will need to use multiple canvases.

One of the banes of course planners is the demand for multiple map scales for different age categories. Oh, the lucky sprint race planners who have just to print at 1:5,000 scale for everyone. Even the middle distance planner rarely has need to print at other than 1:10,000. But pity the long distance planner who should print 1:15,000 for the elite categories and perhaps 1:10,000 for the others. And increasingly we hear requests for printing the short junior and very senior courses at 1:5,000.

Condes supports printing at different scales through multiple canvases. Each canvas has its own target print scale. So you can easily enough make different layouts for the different scales. When cutting circles so that they don’t obscure important map details Condes allows you to make different cuts for each different scale.

For most events the Condes support for multiple scales will be adequate. Simply use the same map file on multiple canvases and Condes will stretch the map to the appropriate scale. This is good enough in most cases, but if you are planning championship events then you need to be aware of the great big problem with this – and any other – approach.

The elephant in the room

While Condes does a good job of supporting printing at multiple scales – better than other course planning software that we're are familiar with – there are two things that you must address outside of Condes when you are setting courses for major events.

1. Symbol size
2. North lines

Symbols printed at 1:10,000 should be 150% the size of symbols printed at 1:15,000. This is the effect Condes will create, so that is nice. But if the print scale is anything else, the symbols should still be expanded 150% (if we are reading the rules correctly) and this is not what Condes will do – not a huge problem really since the main scales are handled well. However, one problem with a simple expansion of the symbols is that "screened symbols" – for example scattered trees (white dots in yellow background) will look weird as the white dots will be strangely huge.

The problem with north lines is that the spacing between them, as specified by the IOF's mapping standards, varies according to the map scale. So if you simply stretch the map you will end up with non-conforming north lines. No big deal for most events, but if you are determined to conform to the IOF standards – and you should be if you are planning a championship event – then you will need to create a different set of north lines for each scale you will print at. However, keep in mind that north lines must be carefully cut where they obscure map detail. So for each set of north lines created, there is some delicate surgery that must be performed. And the north lines, once cut, must remain in their exact location evermore.

How to handle multiple scales at championship events

The best way to handle multiple scales for serious events is to create different map files – one for each print scale. Then each map will have the correct screening, the proper symbol size, and well spaced north lines.There are a number of techniques that have been developed by very clever course planners and mappers to deal with multiple versions of a map. The goal is to create multiple map files from a single master in a way that any (possibly 'last minute')_updates to the master will be reflected in all map files that will be used to print maps. For example, at Barebones 2010 we avoided the problem by using only one map scale in each race – but we were "lucky" because our Long distance map was so detailed that we used a 1:7,500 scale. In contrast, at the 2010 North American races a sophisticated technique was used which ensured all changes made to the master copy of the map – even if made the moment before printing – would be reflected on all maps. But this is too complicated to describe in this article. Email the authors if you want more detail, and perhaps we'll write another article about that.

Map Layout revisited

In the previous article we gave a whirlwind tour of laying out the final product – complete with borders, logos, titles, scale bars and all of the other adornments that give your event a classy touch and that signifies you are a black-belt course setter. Now we are going to delve a little deeper into the details. We are going to use the 2010 Barebones

event as an example. That event comprised six races and our goal was to create a first-rate impression by using a standard look-and-feel for all the maps for all of the races.

The first step is to list all the elements that you will want to see on the competitors' maps. This will be a surprisingly long list. The second step is to decide for each element where you will get it. The Barebones approach is to do as much of the layout in Condes, so that our course planners did not have to use any other bits of software. Others may choose to do more in OCAD, but this restricts layout configuration options, and requires a lot of back-and-forthing between Condes & OCAD to get the layout finalized. So we chose to do it all in Condes – and this is how…

Types of layout elements

CONDES graphic element	Graphic element created in Condes. For example, out of bounds area, control circle, crossing point symbol, water location.
CONDES text	Text block created in Condes
CONDES control description	Control description box created in Condes
OCAD map	Map file created in OCAD
OCAD mini-graphic	Map element created in OCAD For example, a north arrow, or a scale-bar, or even a map legend
Graphic	Graphic element – such a gif, jpg, or other file – created externally. For example, a sponsor logo.

List of required & optional layout elements

Border	Condes graphic element
Legend – full legend	Not used in Barebones
Legend – special symbols	OCAD mini-graphic
North arrow	OCAD mini-graphic
Scale (text)	Condes text
Scale bar (graphic)	OCAD mini-graphic
Contour interval	Condes text
Map info – date	Condes text
Map info – mapper info	Condes text
Copyright notice	OCAD mini-graphic
Event name	Condes text
Event date	Condes text

Map name	Condes text
Locator map	Not used at Barebones (would be OCAD mini-graphic)
Control descriptions	Condes control description
Course number	Condes control description & Condes text (twice)
Category list	Condes control description
Course closing time	Condes text
Maximum allowed time	Condes text
Safety bearing	Condes control description
Safety – emergency contact	Condes text
Logo – sanctioning body	Graphic file
Logo – organizing group	Graphic file
Logo – sponsors	Graphic file
Map – 1:15,000 scale	OCAD file
Map – 1: 10,000 scale	OCAD file
Map – 1:7,500 scale	OCAD file
Map – 1:5,000 scale	OCAD file
North lines *	OCAD file (see notes)

ATRICLE FOUR – Adding more elements

ARTICLE FOUR

ˆAdding that artistic touch

You have control over the color, size, and fonts for the control description (CD), all text you added, and the print boundary.

Control Description

As mentioned in a previous article, you can increase or decrease the size of the CD by changing the box side length in the control description properties window (Figure 10). The font sizes adjust automatically, although you can still set your own under the 'Fonts' tab. You can also set the CD to print in multiple columns by selecting it, then dragging one of the black boxes that appear to decrease the height of the CD: you will see it split into 2 then 3 columns as you keep decreasing the height. In the properties window you can then select whether the rows in the columns align to the top or bottom, a nice touch of flexibility when you are trying to fit the CD on a crowded map.

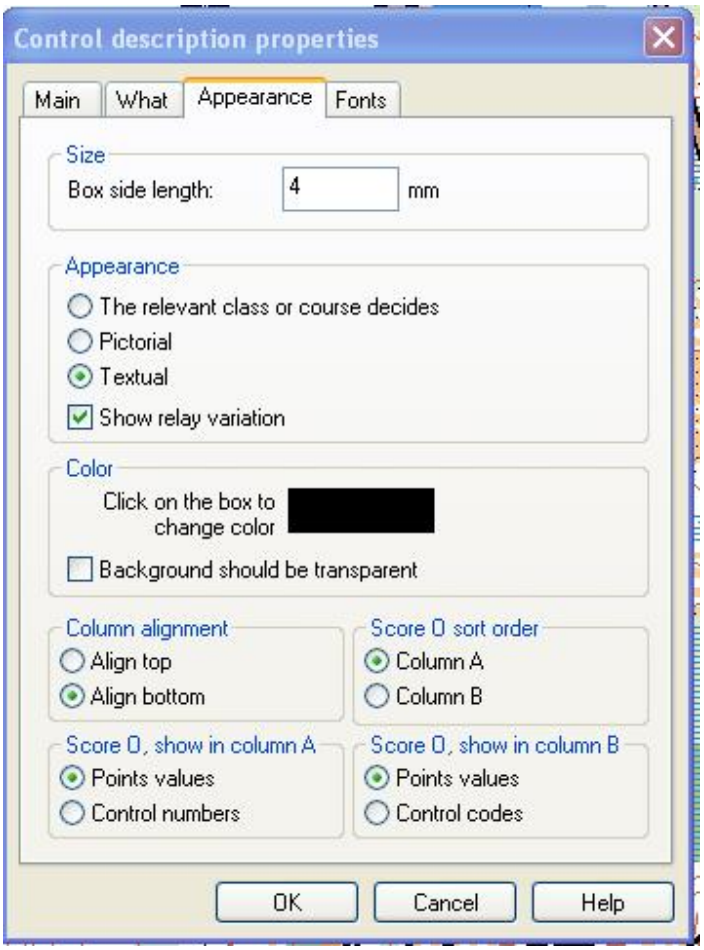


Figure 10 – Control description properties window

You may also have noted in the CD properties window that here is where you can set up the unique features of a CD for a score-O. We will leave it to you to play with the variations to see what it does to the CD layout. Of course, you will only be able to test this if you are working on a score-O course. But, just to test it, you can select any course in a file you have open, open its dialogue window, and in the 'Course type' drop-down window, select score-O course.

Finally, you can set the CD background to be transparent, or solid white in the same properties window.

Printing a frame

First you have to decide if you want to print a frame around your map or not. In our opinion a frame adds a touch of professionalism, but there are times we have found that not having a frame gives you that extra few millimetres to squeeze a course onto a page. Heaven forbid that you have your competitors running off the map for the sake of your artistic sensibilities.

To make changes select the print boundary, then right-click and chose 'Edit print area…'. In the window that appears (Figure 11) you can chose to have a printed frame by selecting the check box 'Draw frame around print area'. The other boxes are self explanatory: set them to the thickness of frame and margin you want, as well as the color. Note that if you chose not to print a frame, when you next select the print boundary it will be display in red on your monitor.

To set the frame color, click 'Select color', and in the widow that appears, click once on one of the basic colors or chose 'Define custom colors>>', click 'Add to custom colors' and then 'OK' and a last 'OK'. The print boundary will display (and of course print) in the frame color and width you set.

Formatting text

This is very straight-forward…the toughest thing is to remember to select the 'Select graphics object' cursor so you can select text.

With the correct cursor, double-click on the text you want to format and set the font, font size, style, and color by clicking in the appropriate boxes in the window that appears (**Figure 12**). Notice that you can also chose to have the background of the text transparent or solid white.

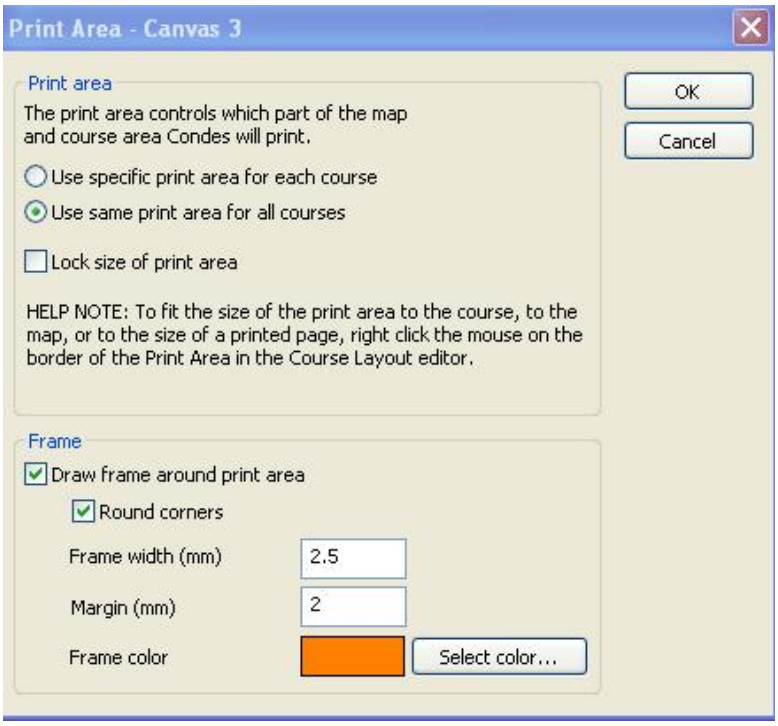


Figure 11 – Print area properties window where you set the frame properties

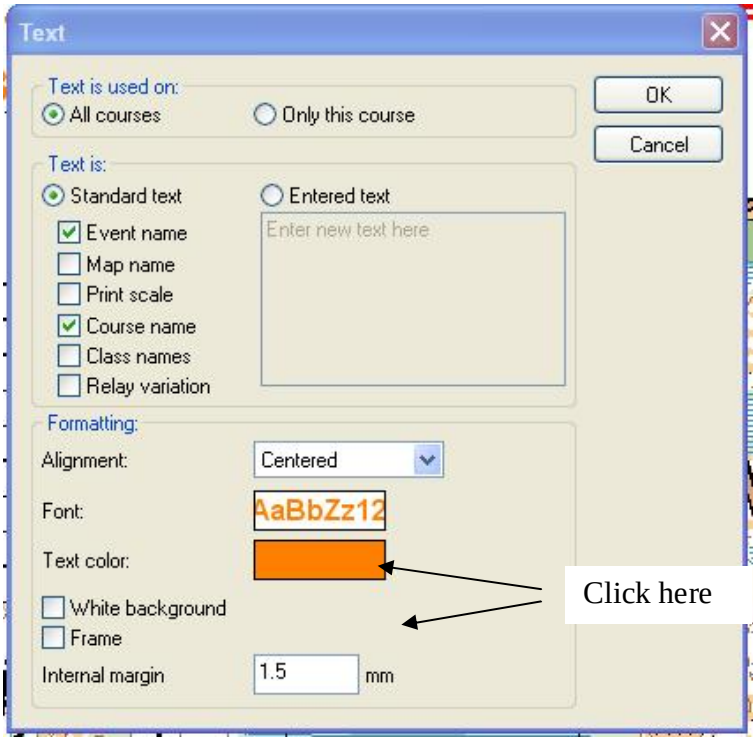


Figure 12 – Text properties window

Printing on both sizes of the page

Of course you can always send a page through a printer twice if you want to print on both sides of the page (as long as this won't mess up the innards of your printer): this section describes how to do so in one pass if you have a duplex-capable printer.

We often use the other side of the map to print a legend, extra CD, sponsor logos, extended instructions to competitors, and so on. There might be various ways to set this up, but this is the way that works for us.

First, make sure you have selected 'Use specific print area for each course' in the print area properties window, then define a new course and call it for example 'Legend'. Size and move the print area boundary for 'Legend' so it is on a blank area of the map. Or if there isn't one, move it off the map area into that pale yellow area in which your map is located (you can think of the yellow area as the table on which you have placed your map). This is a little tricky, as if there is not yet any object in this print area, the print boundary can do funny things when you move it completely off the map. To avoid this, one you have moved the print boundary partly into the yellow area, insert a graphic, and then you can finish moving the print boundary off the map. Set up your graphics, CDs, text, as you wish. We usually do not print a frame around the material on the reverse side of the map.

To then print on both sides of the paper it is a simple matter to select both the course you want to print and the 'Legend' (or whatever name you gave it) course in the 'Print' 'Maps with courses' window, make sure you have selected the duplex print option in your printer's setup, and you are ready to print. As before, it is always a good idea to chose print preview to check things; use either the page down and up keys on your keyboard to switch between the two pages, or the small blue arrow heads near the top of the Condes window.

And finally, another nice feature: if you have to update the OCAD file you do not have to close Condes. Once you save the edited OCAD file, the change will be seen in the map in your open Condes file.

There, you now have a full suite of tools to create a work of art for the competitors at your next event.

ARTICLE FIVE

Advanced course planning with Condes

This is the next article on using Condes for course planning where we plan to offer the tips and tricks we have learned for getting the most of what this program can offer. A lot of the time the biggest help is knowing a program can do something, and then you can either figure it out or ask for advice (or, heaven forbid, read the help file).

Adding special areas

Most of the commands for the less frequent tasks one might need to do are on two tool bars as shown in Figure 13. Most are fairly self-explanatory, such as the 'out-of-bounds' tool, boundary tool, and 'mask area' tool. They are used by clicking on the icon and then using your mouse to set the area. You do this by clicking on one point of the boundary of the area you are drawing then click again at the next spot and so on until you have built the shape you want. To get out of these modes, click 'escape' on your keyboard. As you will have noticed, you can only move in straight lines.

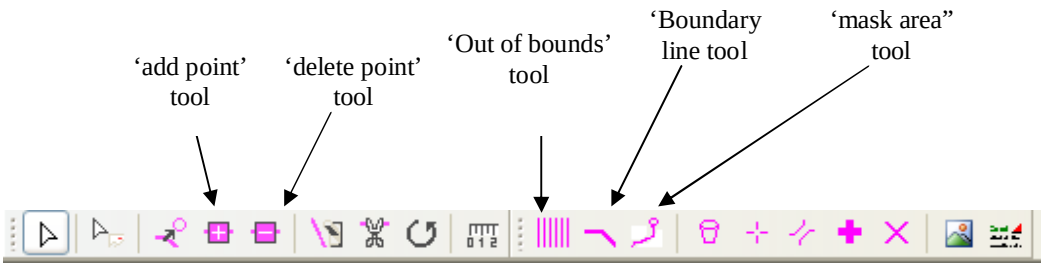


Figure 13 – Special function on Condes tool bars

Once you have created your object you can move it (click, hold, and drag to the new area) or edit the shape. To edit the shape, click once on the object and you will see little black boxes: you can click, hold, and drag these boxes to edit your shape as required. If you want to alter the shape, you do this by adding another little black box, use the 'add point' tool and click on the boundary of the selected object where you want to add the box. Conversely, you can delete one of these points by…you guessed it…the 'delete point' tool.

If you double-click on a 'out-of-bounds' area you have created you get a window in which you can chose between the options out-of-bounds, dangerous, fence, or temporary construction. As well you can chose to have a solid, dashed-line, or no frame. If you double-click on a boundary you have drawn you can set its color.

As you can see on the tool bar, there are also refreshment point markers (for where a water stop is not a at control), mandatory crossing, first aid location, and an 'X' which you use to mark a forbidden route. Simply click the icon, and click on the map where you want them; move as required.

Fine Tuning Courses

The ‘add point’ tool mentioned above is also what you use when you want to bend a leg around an impassable feature. Select the course leg to be bent, then click again with the ‘add point’ tool selected. The small box appears…and, so very helpfully, a smart tag as you hover your cursor over the box that tells you what to do: click and drag to position the box, and hold the keyboard ‘Ctrl’ key while moving the box to bend the leg. When you next hover the cursor over the leg you will notice that Condes automatically re-calculated the length of the leg, and the course. You can add as many edit boxes as you want.

Any control can be set to one of the various special types such as, mandatory marked route, marking to map change, and so on. This is done in the control properties box in the ‘Control type’ drop down box. What you chose determines what Condes does. For example, mandatory route will give a line in the CD below that control showing the distance to the next control. Designating a control leading to a map exchange not only makes the addition to the CD showing this, but also gives you the option of printing the course as a whole, or in parts.

For events where the start triangle is different than the timing start-point, you can now set the start properties to show the distance to the start triangle, and, on the map, you can draw the route. The distance and mandatory route indicator will appear on the CD.

Sometimes you want to add instructions to the control description (CD) that are to be followed after a control, for example ‘watch for cyclists’. To do this, double-click on the control circle (or its number in the control pane) and select the ‘Texts, Score-O, and status tab (Figure 14). In the ‘Additional text’ box, add your instructions; these will be added in a separate row after control 112 in the CD.

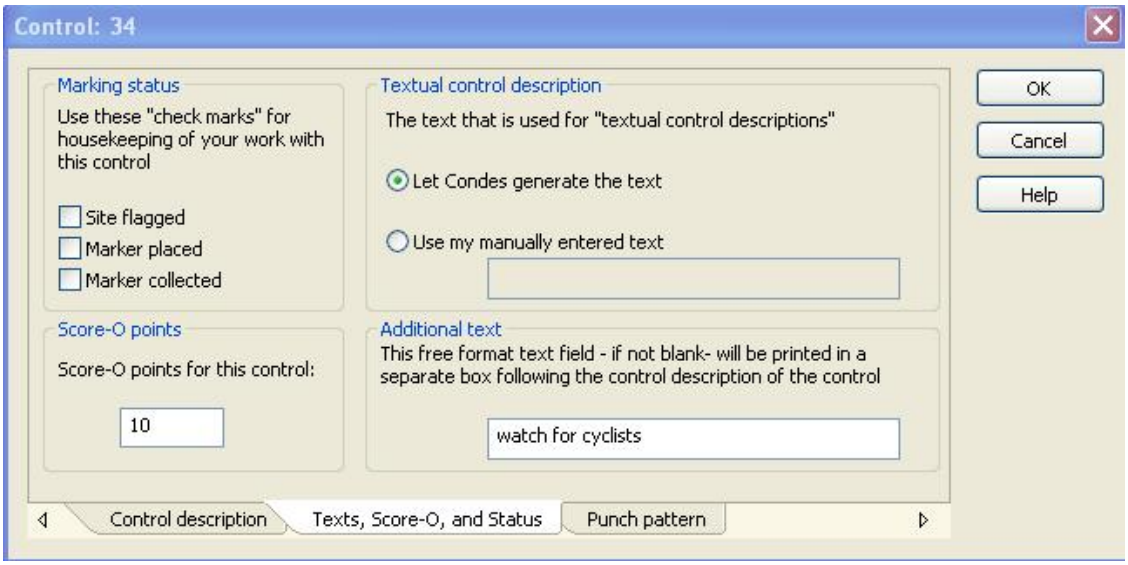


Figure 14 – Control properties window with ‘Text, Score-O, and Status’ tab selected. In this example, the text ‘watch for cyclists’ will be added in a separate row after control 34 in the CD.

Using this box for the control adds this special text to all courses where that control is used (in all canvases). If you only want those instructions used on a specific course (e.g. a 'follow flagging' for beginners, but not for an intermediate course that uses the same control), double-click on the leg after the control where you want the special instructions, and in the bottom of the window that appears, select 'Show a text' and enter your text in the box below. This text can be set to be specific to that course, or to all courses with that leg in the leg properties box. Note that there is a 'follow taped route' option in the leg properties window, and the IOF indicator is added automatically to the CD, but beginners may not recognise the symbols, hence we often add words.

If you want renumber a control, simply change its number in its control properties window. A window will open asking if you want the change to be for all courses as well, or to leave the courses alone (not sure when you would use the latter). By the way, to rename a course, open its property box and select 'Rename'. An analogous window opens asking if you also want to rename the course for all classes that use it, or not.

Lastly, if you have been doing a lot of adding and deleting controls during your planning, it makes setting up the SI units easier if all the controls are in sequence, or, you have been assigned a certain range of SI numbers by your equipment manager…after the fact. To renumber your controls go to the menu 'Control' 'Renumber controls…' and in the window that appears enter the starting number, and then Condes will renumber controls starting from the NW corner of the map. This saves a lot of time worrying about only using the correct numbers while setting up your courses. Obviously, this should only be done if you have not flagged locations already, unless your willing to go and change all the numbers on your flag.

Helpful stuff for managing the event

If you decide it is better to create another start for some course, as with most programs, this is easy to do. In Condes, add another start on the map, and to change a course to that start, go to its course dialogue box and chose which start you want from the start drop-down boxes.

If you want to keep a check on competitor loading at controls (especially for IOF-sanctioned events where there is often a limit to the numbers allowed at a control), you can either add it directly to a course in its course properties window (bottom left corner of the window), add it to a control directly in its properties box, or, by adding classes.

Add classes for the event under the menu 'Class' 'New', and in the spreadsheet that appears, assign the correct course for the class, and an estimate of the number of competitors. Once this is done for all classes, if you hover the cursor over a control circle you will now see the competitor load. You can also see this in the controls' spreadsheet, opened by going to the menu 'View' 'Controls spreadsheet'.

This spreadsheet can be an invaluable aid to keeping things organized. There is a column called 'Annotations' which will have any comments for a given control you have added. To add a comment to a control, select the circle in the map, then go to the menu 'Control' "Control Annotations…' and type in your comment.

For huge events, where keeping track of what has been done can be a problem, you can mark whether a control has been flagged, control put out, and control recovered, all of which will appear in this spreadsheet (although to be honest, one of us has never got beyond marking that sites have been flagged; having an SI unit still in your backpack once you are back at your car is usually a good enough reminder you have yet to place that control). To set the status of the control, open the control properties box, go to the tab 'Texts, Score-O, and Status' and click the appropriate box in the top left corner of the window (Figure 14).

When you print this sheet, Condes adds the event name, date, and time printed which also helps keep track of what version you are working on. One of the authors uses a printout of this sheet to take to the field when hanging flags in order to keep track of flags set, to add any comments, and to note the marker number of her GPS watch which is then used to confirm the location of the control once back at the computer.

Another useful spreadsheet is the courses spreadsheet ('View' 'Courses spreadsheet') which has all the information on all courses, as well as an annotations column where comments are displayed. To add a comment to a course, click on the course name in the course pane, and go to the menu 'Course' 'Course Annotations…'

ARTICLE SIX

Trail-O, mountain-bike-O, ski-O and special O-events

Condes automatically makes the changes in course objects and CDs according to the type of event. Some of the differences from a standard o-event are:

Trail-O – The trail-O control is set in the control properties window in the drop-down box called 'Control type:'. Here you can set the number at controls at each location (up to six), and the CD is updated with this information.

Mountain bike-O – This adds an extra leg line (which does not print) between the start and finish which is used to calculate the optimal course length, as required for these events.

Score-O – The CD automatically adds the points column as previously mentioned. You can set the number of points for the control in the control properties window. Also, of course, there are no legs between the controls.

Relays – This is where we leave you to read the help file. One of the authors has not run a relay event with Condes, but after reading the help file it seems like it can handle most variations. If you want to set up a relay with Condes your best bet is to read the help file and various on-line dialogues about relays.

There are also string course options which are well explained (as are the above) in the help file.

Random controls – for events such as a Goat, there is usually a group of controls at the start which can be taken in any order. To set this up, open the course properties widow and for each control that is to be random, highlight its number in the list and select 'Random Order'. On the map the leg to the next control is deleted, and beside the control is placed its code in brackets. We often draw a boundary around the random controls using the 'boundary line' tool.

Window-O and Line-O – In Condes we use the 'New mask area' tool to create blank areas, which can be time consuming. However, there are very elegant ways to do this in OCAD by use of special defined symbols that you display, or not.

Training events – For training events when you do not know how many people will show up we have used the option of printing all-control maps with multiple CDs printed on the map, one for each training course.

To do this, add CDs to the map that displays when you have the 'Controls' pane selected. In the window that appears when you add a CD, in the tab 'What', and drop down box 'What', chose the course name. This way, people who show up can chose the course they want based on their skill, and then add lines between the controls manually of the course they chose, if they want to, before they head out. You will also notice you can print a CD for any part of a course from the all controls pane. Not sure what you would use that for, but that is probably lack of imagination on the part of one author.

There you have it. In this series of article we hope we have given you enough information that you are comfortable with Condes and confident enough to go exploring what else it can do…which is a lot. We never touched importing and exporting data

(great for setting up Route Gadget and OGPS files), calibrating for over printing, showing two symbols in the same box of the CD, moving the map (useful when you are given a new version of a map for your template that has slightly different coordinates), and more. But, it is all there in the help file. Explore, and, we hope, have fun.