

miniCAD5 QuickStart Tutorial

Stage: 1

Enter Survey Plan Information

Aim: To give the user a brief overview of miniCAD5. In *Stage 1* you will enter survey plan information and perform an area calculation.

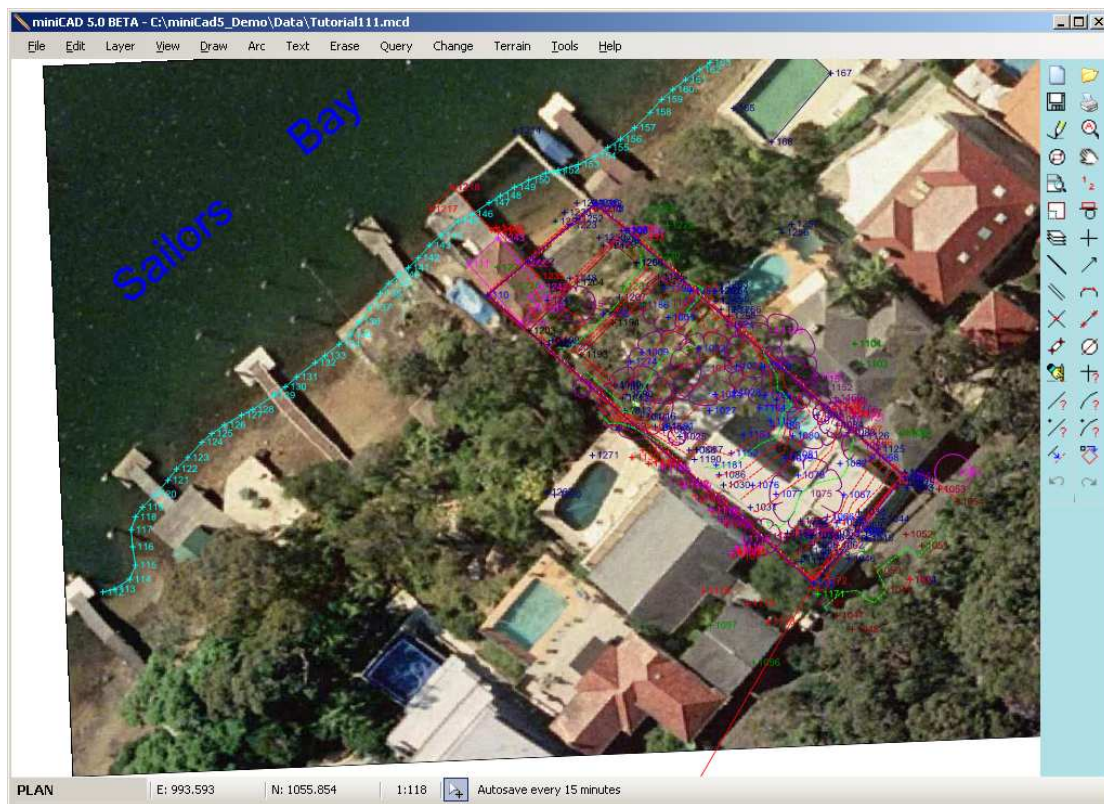


Figure 1 - The finished tutorial

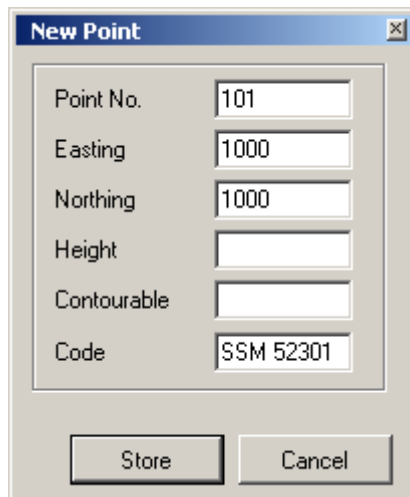


Figure 2 - Starting point for the job

- Select View>>All

The point should appear in the centre of the screen.

Note: It is advisable to use the same point numbering as shown in these tutorial stages as they will be referred to later.

About Getting Help

Press Shift and the F1 key simultaneously to get help on the dialogue with focus. In an edit field press the F1 key to display specific help pertaining to that field. Experiment while you have the New Point Dialogue open.

More on dialogue boxes:

Most dialogue boxes open at the size and position when they were last used. In addition most dialogues open with the same data in edit fields. To clear all edit fields press F5. To highlight an edit field press F2. Pressing F2 again removes highlighting and places the cursor at the end of the text. (The same as Microsoft Excel !)

- Close the Dialogue. (X in top corner OR press Esc key)

The survey plan information defining the boundaries of Lot 1 and the associated reference marks are to be entered into miniCAD. Our start point is at SSM 52301 at the bottom left of Picture 1 above.

Customising miniCAD

- Select Tools>>Options.

On the **Open & Save** tab in the File Safety section, check the Automatic save, Prompt before saving and Create a backup. Also enter the number of minutes between saves. Take some time to explore the other settings in this section.

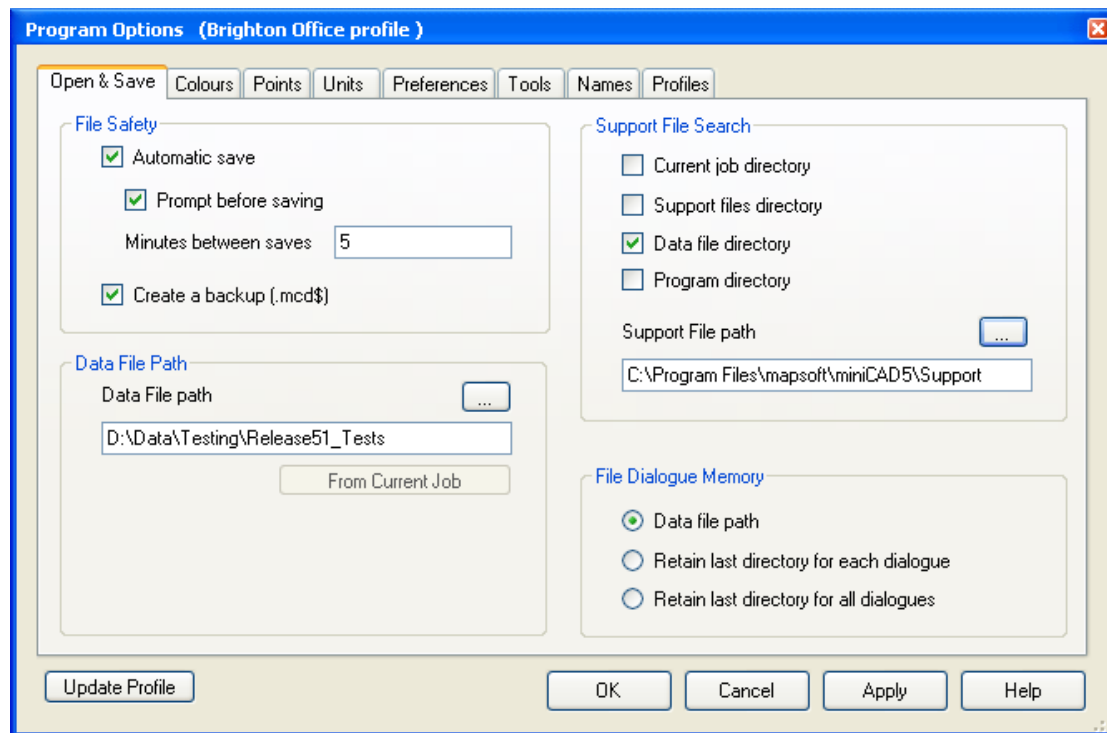


Figure 3 – Options – Open and Save

Save the Current Job

- Select File>>Save (or Save-As) and name the job Tutorial1.

About the Data File Path

The data file path is where miniCAD expects to find the current job and related files. (Think of it as a project folder containing many related jobs.) As an example you may have downloaded the tutorial 1 resources into a new folder on your hard. Make this folder your current Data File Path.

About the Support File Path

This folder (or folders) is where miniCAD expects to find support files such as the code library, symbol and line type files and title blocks. Review the help to learn more.

Using Draw Traverse

- Select Draw>>Traverse.
- Snap to point 101 by left clicking near it.
- Enter a bearing of 30°18'15"
- Enter a Distance of 36.136 metres.
- Press the Store button.

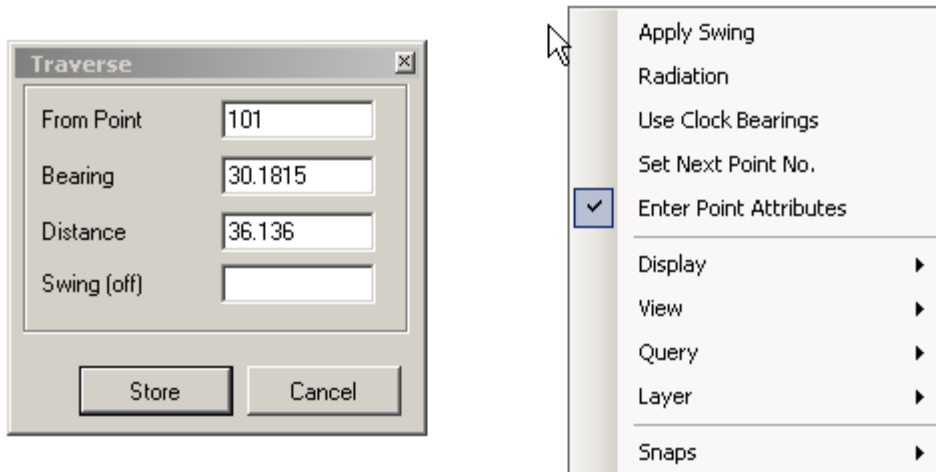


Figure 4 - Traverse Entry and the Right Click Menu.

About Right Click Menus

Right clicking the mouse in the work area (drawing screen) will display a menu with 2 areas:

Upper Area: Functions customised to suit the current tool. (i.e. Apply Swing)

Lower Area: Standard functions (i.e. such as Display, View, Query, etc..).

These 'Context Menus' are available for most tools in miniCAD.

The next step is to enter a radiation. Right click and select Radiation from the pop-up menu.

- Enter the radiation to the reference mark of $267^{\circ}47'30''$ for 10.5 metres.

The bearings for all reference marks in the survey plan are shown from the reference mark to the corner. See the figure below. Note that because we are going from the corner to the reference mark, a negative distance is entered. Also note that there is no need to enter trailing zeros in the case of the bearing.

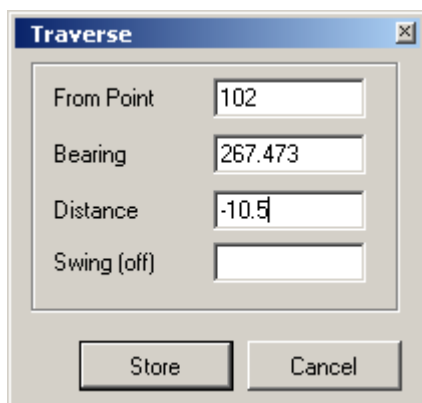


Figure 5 – Radiation entry

About Navigation around the screen – Zooming and panning is easy with a wheel mouse. Simply roll the wheel toward you to zoom out and away from you to zoom in. To pan, hold the wheel down whilst dragging the mouse.

If you use a laptop or net-book you can configure the shift key to pan and keys F7, F8 and F9 to zoom. (zoom out, zoom in and zoom window respectively). F7 and F8 work relative to the mouse cursor position.

Right click and select Radiation again (to switch it off) and return to bearings mode.

- Enter the following traverse legs:

| | | |
|------------|-------|---|
| 41°24'30" | 7.475 | |
| 38°58'10" | 7.765 | |
| 311°28'30" | 40.31 | |
| 41°28'30" | 0.08 | |
| 311°00'00" | 4.425 | |
| 4°04'00" | 0.55 | (Radiation – remember to reverse bearing) |

About Display Settings – To see the point numbers use the Display>>Settings menu. It is available as a right click or from the View menu.

- Select Draw>>2 Line Intersection.
- Snap to point 102 and enter 311°27'40" in Bearing 1 edit field.
- Snap to point 108 and enter 49°46'50" in Bearing 2 edit field.
- Press the STORE button to create the intersection point.

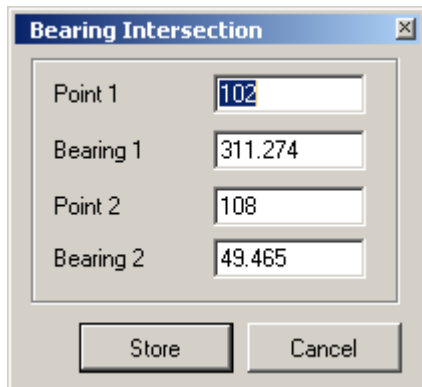


Figure 6 - Bearing Intersection

- Select Draw>>Line.
- Join points 102 – 110 – 108 with 2 lines.

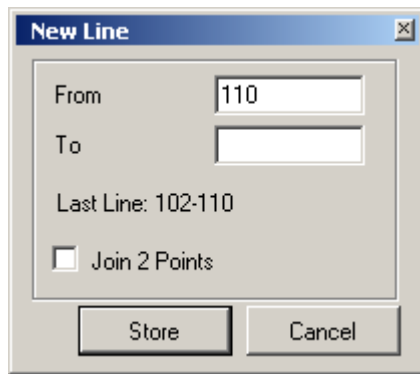


Figure 7 - Line entry

- Right click and select Query>>Line.
- Snap to line 108 – 110. Confirm that the distance is 15.449 which is very close to the 15.45 shown on the survey plan. See figure 7 below.
- Similarly you can snap to line 110 – 102 to confirm the distance of 47.315. This command also allows you to click to two points, which is useful if there is no line joining the two points.

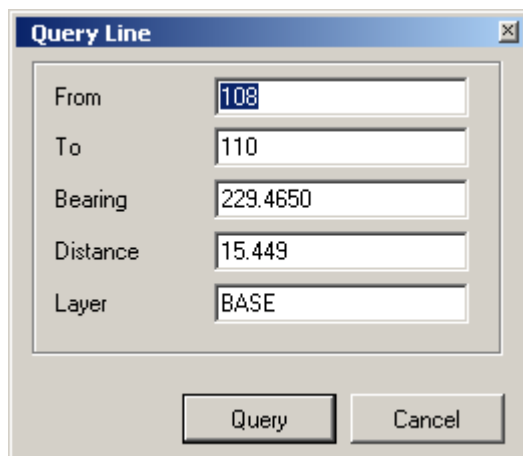


Figure 8 - Line query

About Undo and Redo – If you make a mistake, there are undo and redo buttons which perform multiple undo and redo's. To undo, select Edit>>Undo (Ctrl-Z) and redo Edit>>Redo (Ctrl – Y). What has just been undone or redone is listed in the message area on the status bar. Try undoing a number of your last commands and then restore your job to normal by redoing each command again.

Layer upon layer upon layer - to date, we have been drawing in the one layer. We wish to split the job into 2 layers, PLAN and REFERENCE. The current layer is displayed in the status bar at the bottom left of the screen. By default a new miniCAD job creates a layer called BASE. Lets edit our layers:

- Left click in the current layer field to open the layer dialogue.
- Right click on the name BASE in the layer name list on the left and select **RENAME**. Type PLAN and hit <ENTER>.
- Change the colour of layer PLAN to 3 – Blue.

- Select the **NEW LAYER** button and enter the layer REFERENCE. Set its colour to 4 – Red. See figure 8 below.

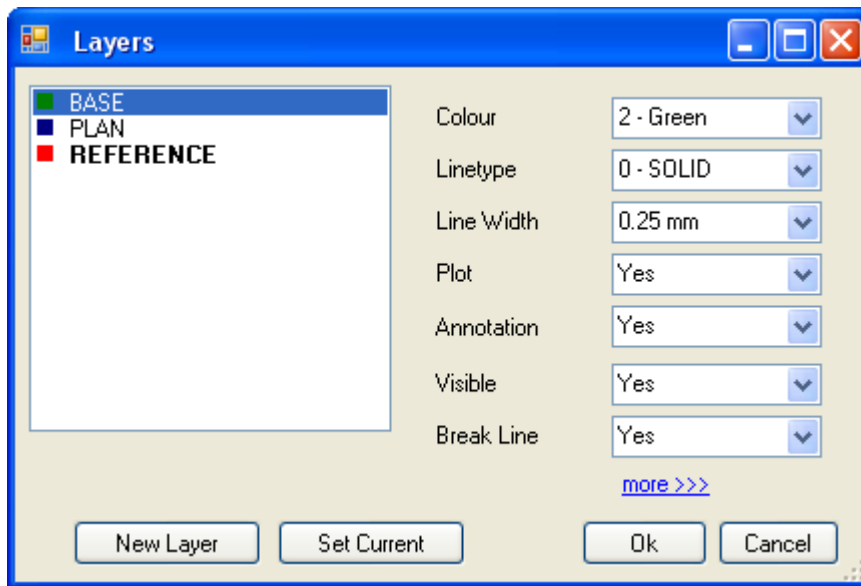


Figure 9 - Layer dialogue

Select OK to close the Layer dialogue box.

About Mouse Selection of Points, Lines and Arcs – When a drawing tool is active (i.e. has focus) it controls the mouse. Most tools don't allow the general selection of entities. The white arrow button on the status bar indicates when general selection is possible.

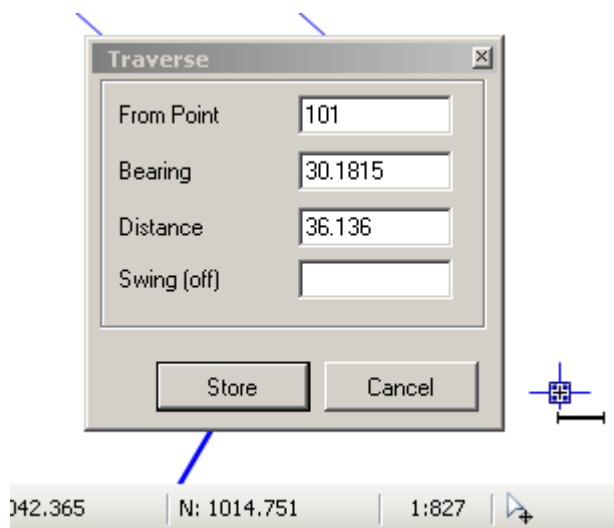


Figure 10A – Traverse Tool has focus and has set the cursor. (a cross over a line.)

If you press the arrow on the status bar the current tool will lose focus and you will be able to make a general selection. See the figure below.

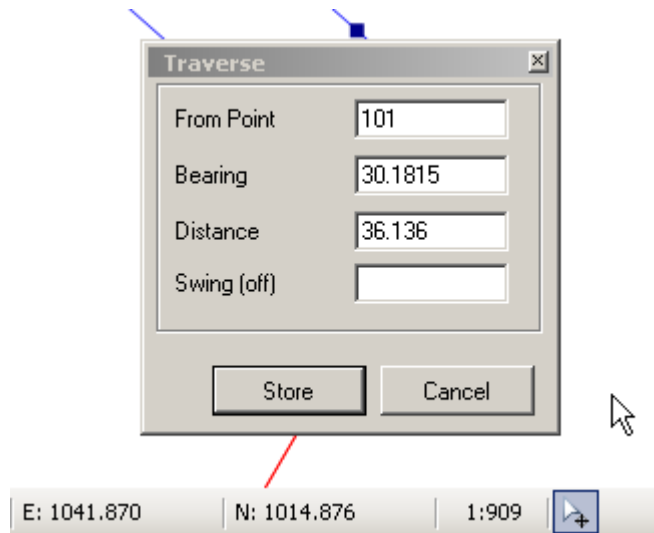


Figure 11B – Tool has lost focus. Cursor is a pointer. General Selection is possible.

Changing the Layer of an Existing Entity

- Select point 101 with the mouse. (Click the status bar white arrow first if needed)
- Hold down the <CTRL> key and select the line 101 – 102.
- Hold down the <CTRL> key and select point 103.
- Use the wheel mouse to zoom in on point 109. Hold down the <CTRL> key and select point 109.
- Right click and select Layer>>Change Layer to open the Change Layer dialogue. Make sure REFERENCE is highlighted and press the STORE button. See Figure 9 below.

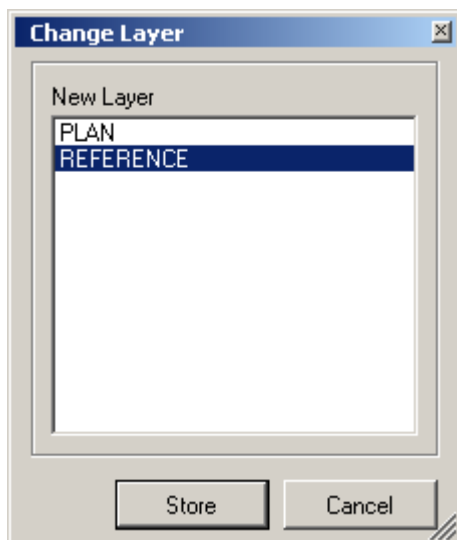


Figure 12 - Change Layer

To Calculate the Lot Area.

- Select Query>>Area.
- Click in the middle of the lot.

OR YOU CAN:

- Snap to the lines around the lot, being careful to snap to the correct ends of the lines. For instance, to travel clockwise around the lot starting from point 102, snap on line 102 – 110 closest to point 102. Next snap on line 110 – 108 closest to point 110. Continue around the lot in this fashion. You will need to zoom in on line 106 – 107 as it is very short.

Press F5 to restart the area calculation at any time.

As you move around the lot the distance travelled is also listed in the message area on the status line. When the start point number is returned to, the area is displayed, in this case 702.89 square metres. The perimeter of the lot is 122.819 metres.

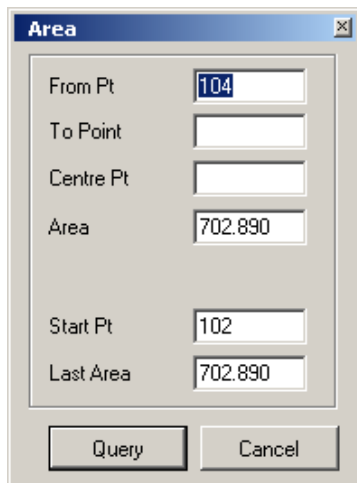


Figure 13 - Area calculation

About selecting open and closed strings : Quicker techniques exist to select a closed string (polygon). Simply click inside the enclosed area. This method may require layers other than the one containing the polygon to be turned off.

To select a string by segments always start with a point and then each adjacent line or arc. A collection of points may also be selected, one by one. (i.e. The desired figure must not contain arcs.)

The creation of strings is discussed in the following tutorials.

Congratulations on reaching the end of this tutorial. By now you can see how easy miniCAD5 is to use. You are encouraged to explore the extensive help files associated with the program and found online. Should you have further queries, don't hesitate to contact us directly.

We endeavour to take on board as many user suggestions as possible. I think you will find us a very responsive and responsible company. Enjoy!

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