

Monitoring Points in MAGNET Field: DS/PS

A monitoring survey requires the constant and careful observation of a set of previously recorded stations of known and defined coordinates. It ensures any alteration in station position due to various stresses is detected and highlighted to guarantee the integrity of the examined structure.

Prior to undertaking a monitoring survey, carry out an **Instrument Setup** and ensure **Occupation** and **Backsight** points have been established.



(1)

From the main MAGNET home screen, select the **Survey** menu button.

(2)

From here, select the **Topo** menu button.

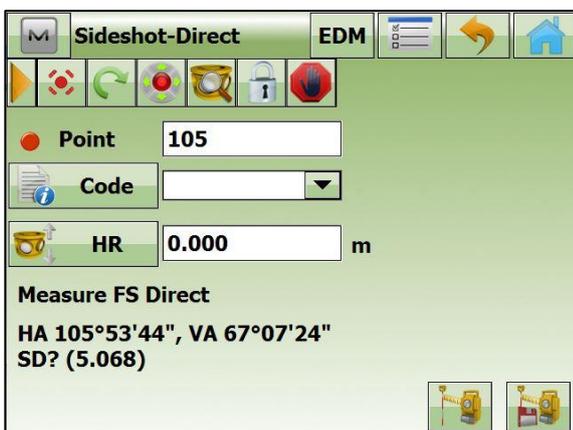


(3)

Enter a **Point Name/Number** and **Feature Code** for the first station to be monitored.

Sight and **Record/Store** the point as usual.

Repeat for as many points as required for the job.



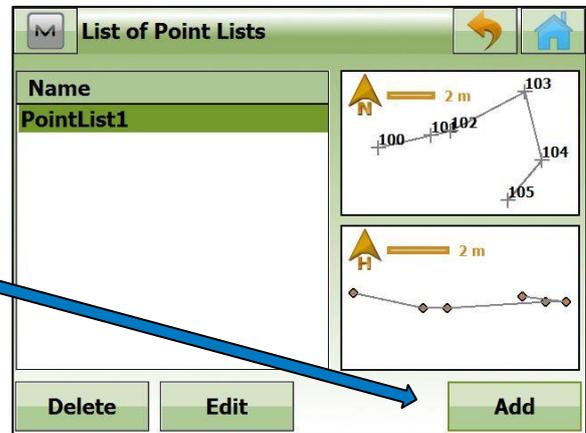


(4)

From the home screen, enter the **Edit** menu and select the **Point Lists** icon.

(5)

Create a New Point List for the job by pressing the **Add** button.

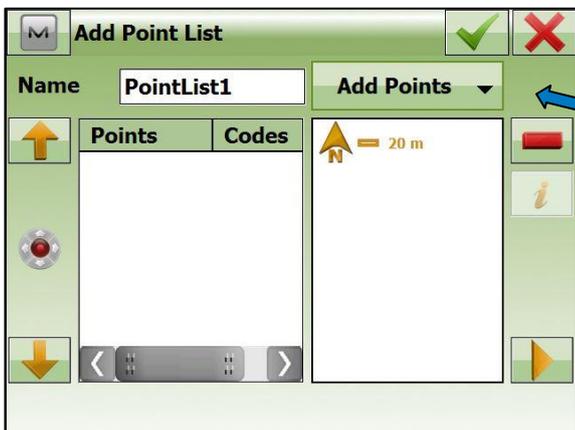


(6)

Enter a name for the list.

From the **Add Points** drop-down box select the relevant option.

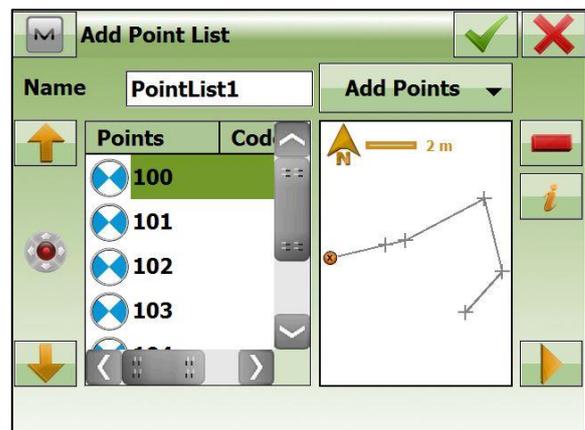
These will become the monitored 'base' coordinates from which all further measurements will be compared.



(7)

Selected points populate the left-hand box. A plan of sighted stations is visible on the right. Points can be removed by using the red eraser icon.

Once all required points have been added, press the **green tick** to save.



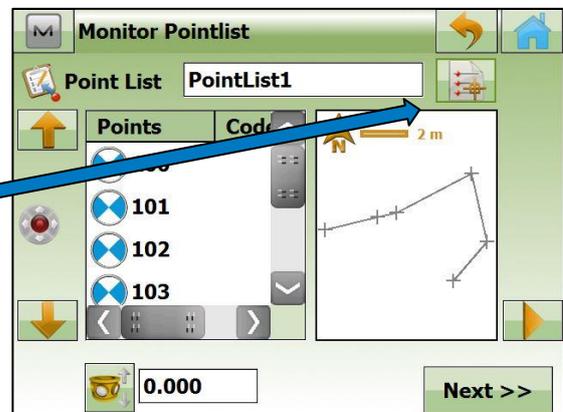


(8)

From the MAGNET home screen select **Survey** followed by the **Monitor** icon.

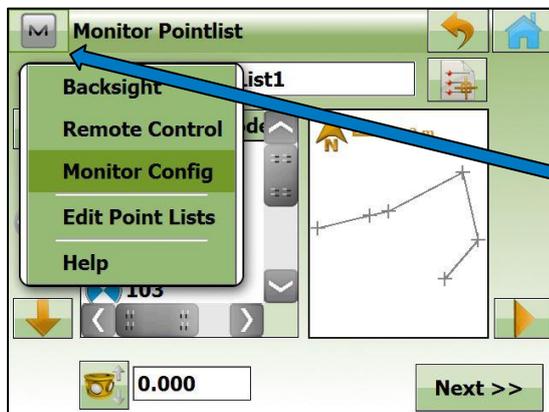
(9)

Within the **Monitor** menu, use the **list** icon to select and load the newly created **Point List**.



(10)

Within the same menu, press the grey **MAGNET** icon and select the **Monitor Configuration** option.

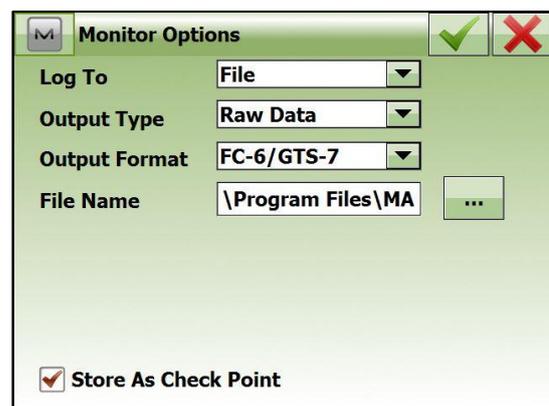


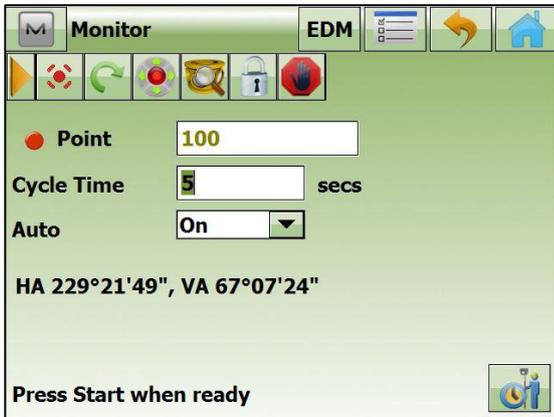
(11)

Make sure the data is logged to **File** with a suitable **File Name** and path. Select **Raw Data** as the Output Type.

Ensure that the '**Store As Check Point**' box is **ticked**.

Press the **green tick** and then press **Next**.





(12)

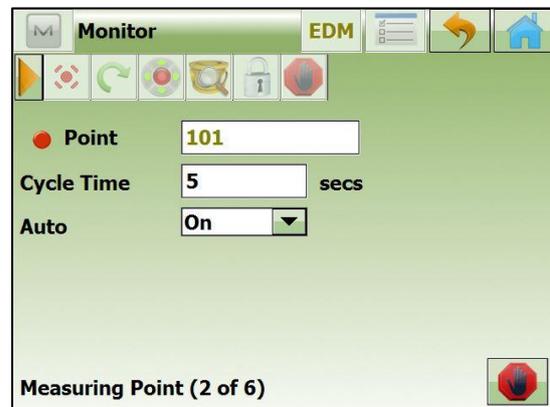
To begin the monitoring survey, press the **Start** button at the bottom right.

The instrument will continue to record measurements until the user manually stops the process.

(13)

When the required number of rounds has been completed, press the **Stop** button at the bottom right.

Press the **home** icon to return to the main menu.



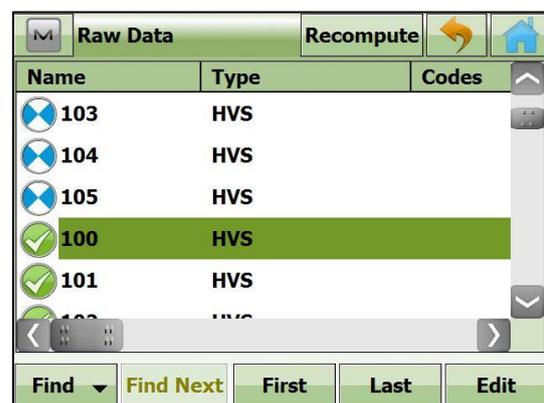
(14)

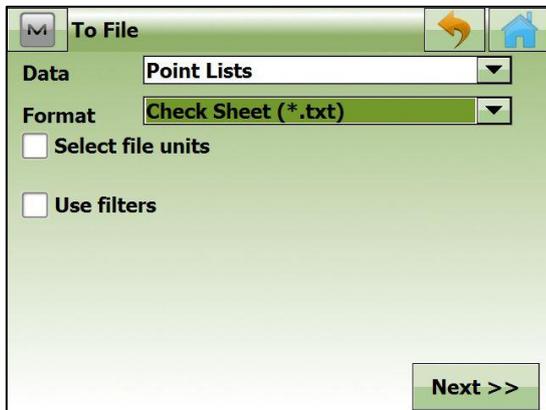
Enter the **Edit** menu and select the **Raw Data** icon.



(15)

Confirm the original Point List stations are represented by blue and white quadrants and that all **monitored points** have a **green tick icon**.





(16)

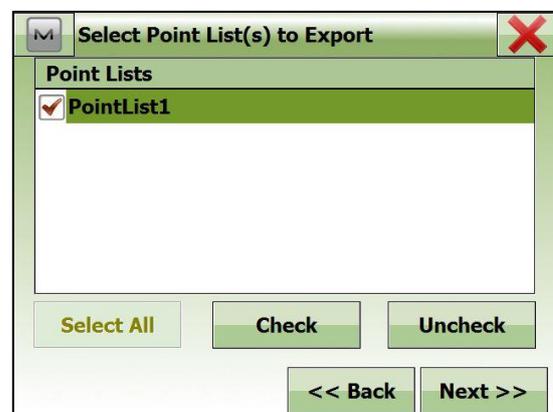
To export the survey data, enter the **Exchange** menu from the home screen and select the '**To File**' option.

From the Data drop-down menu select **Point Lists**.

Under Format select **Check Sheet (*.txt)**

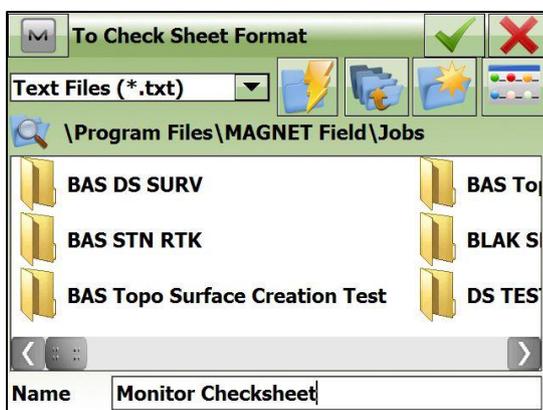
(17)

Tick the correct Point List for the job (if more than one) and press **Next**.



(18)

Enter a sensible Filename and select the required path (internal drive or memory stick) and press the **green tick**.



(19)

Ensure the **Point List** and **Check Points** are exported successfully.

Press **Close**.



(20)

If saved to the Field Controller's internal memory, connect the device to a PC via USB cable and load Windows Mobile Device Center.

Browse to and open the newly created .txt file.



Monitor_Checksheet[1].txt - Notepad

File Edit Format View Help

Check Data Sheet

TIME :11:06:28 DATE :4/28/16

JOB NAME :MONITORING

UNITS :Meters

PT#100	CODE: NORTH	EAST	ELEVATION
OBSERVED:	201.332	97.661	52.596
CHECK:			
Sta#100	201.331	97.661	52.595
Difference	0.000	0.000	0.000
Sta#100	201.331	97.661	52.595
Difference	0.000	-0.001	0.000
Sta#100	201.332	97.660	52.596
Difference	0.000	0.001	-0.001
Sta#100	201.311	97.655	52.580
Difference	0.021	0.006	0.015
Sta#100	201.332	97.660	52.596
Difference	0.000	0.000	0.000
Sta#100	201.310	97.651	52.596
Difference	0.022	0.010	0.000
Sta#100	201.331	97.661	52.595
Difference	0.000	-0.001	0.000
Sta#100	201.331	97.661	52.595
Difference	0.000	0.000	0.000
Sta#100	201.331	97.661	52.595
Difference	0.000	-0.001	0.001
Sta#100	201.312	97.655	52.593
Difference	0.020	0.006	0.003
Sta#100	201.331	97.661	52.595
Difference	0.000	0.000	0.000
Sta#100	201.331	97.661	52.595
Difference	0.000	0.000	0.000
Sta#100	201.304	97.652	52.600
Difference	0.027	0.008	-0.004

(21)

Basic job information is found at the top of the document.

Below this lies the **Observed** coordinate of the first original **Point List** station.

The coordinate of each **new** measurement during each round is then listed.

The **difference** in position from the original to the observed coordinate during that particular round is listed underneath.

This continues for the number of rounds completed and for each station on the Point List.