

**Total Station Transmission Software
Manual**

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1. Software Introduction

1.1 Software Introduction



The total station transmission software was designed to bridge the Total station and PC to transmit data.

The Total station communicate with PC by a serial cable, before connection you should install the cable driver, otherwise, it can not communicate.

NOTE: Do not need to install the software, just double click it and run it.

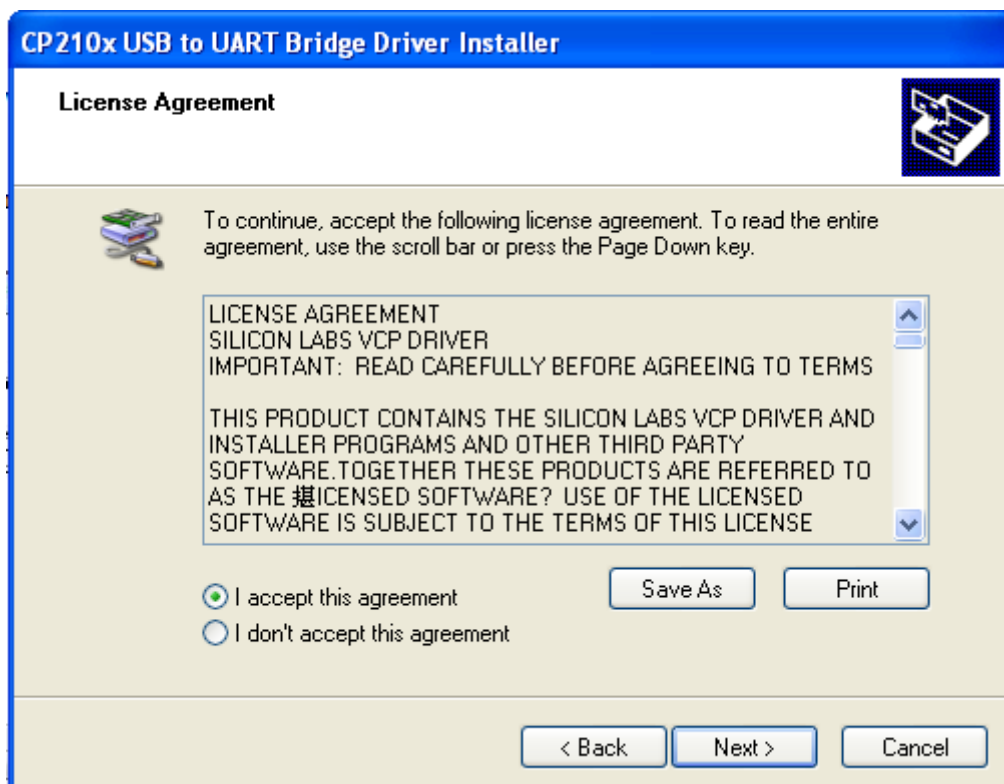
2. Installation of Data Cable Driver

2.1 Installation Steps of Data Cable Driver

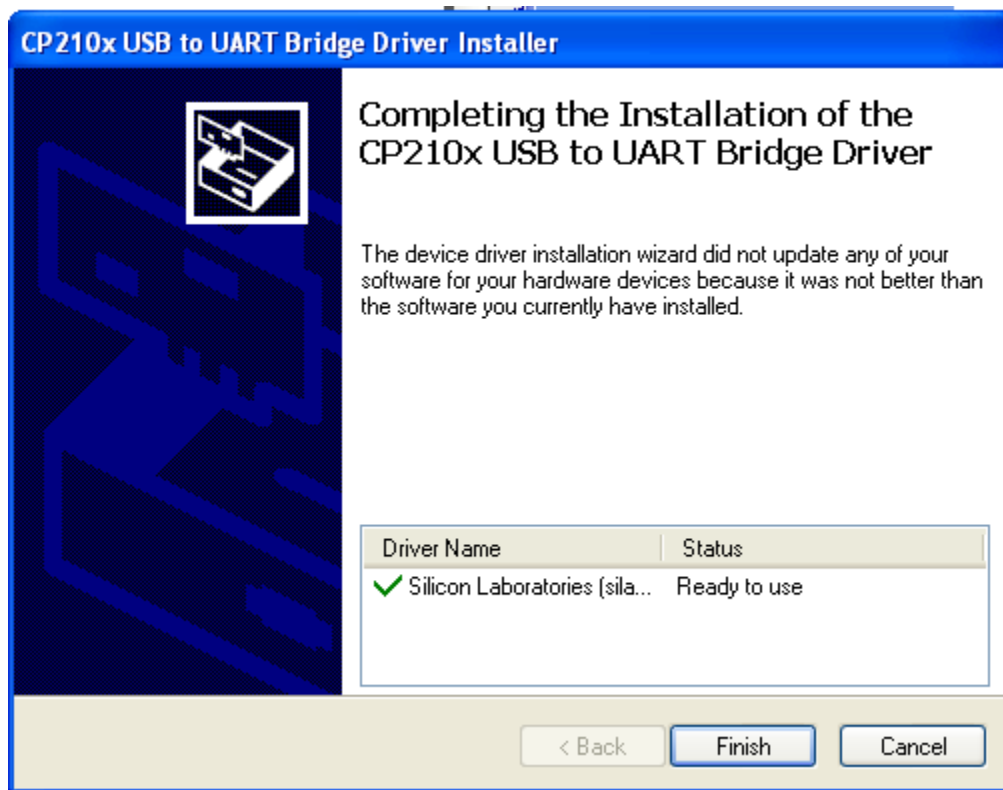
1. Run the driver software  CP210xVCPInstaller_x64.exe or  CP210xVCPInstaller_x86.exe . For this installation you need rights of administrators. For WIN7 operation system, select it and right click it, there will be a prompt *Run as administrator*.



2. Choose the setting as is shown, click *next*.



3. Click *next*.



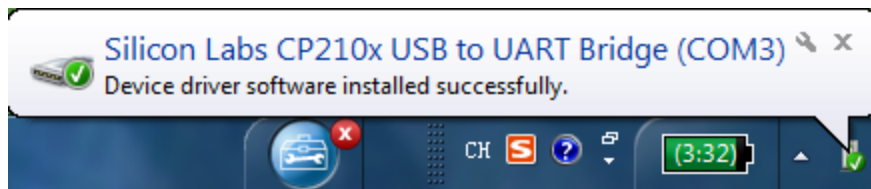
4. Click “Finish”, and complete *installing*.

5. Plug in USB port to PC.



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6. It will prompt you it is installing, after the PC recognise driver, and tell you the current port is COM3.



3. Software Usage

3.1 Transmit Data from TS to PC

Transmitting data, transmit the measurement file to PC.

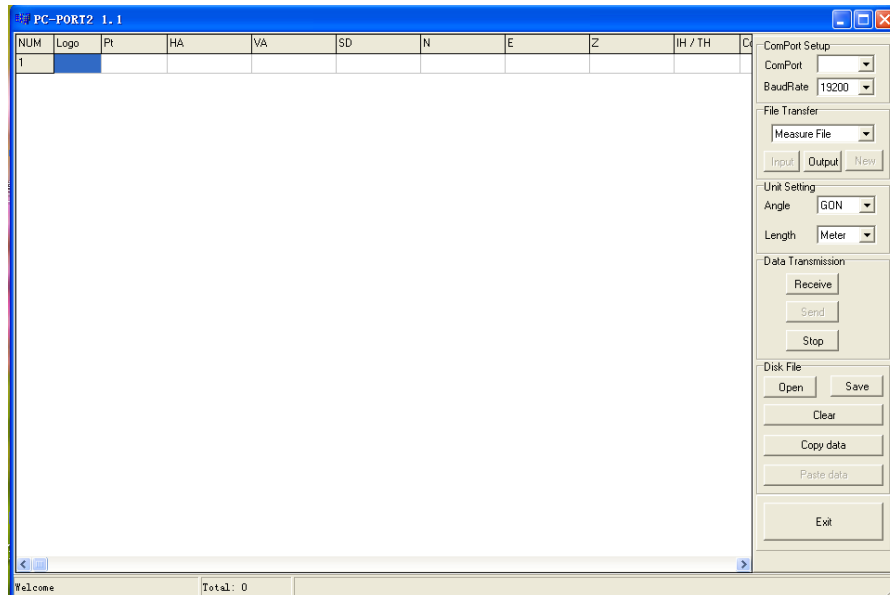
Operation Steps:

1. Install battery (at least half of the full electric quantity) , Plug in 6pin serial port to total station.

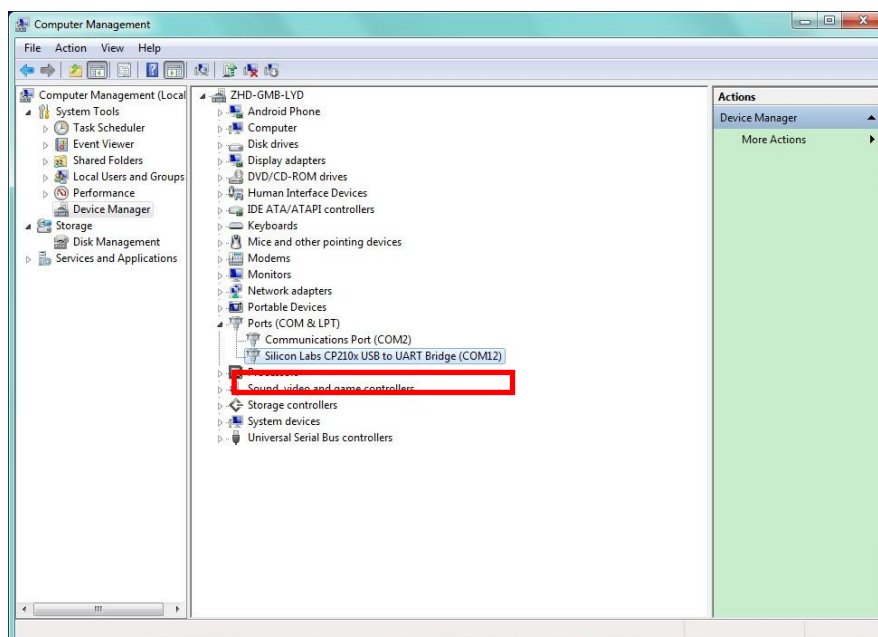


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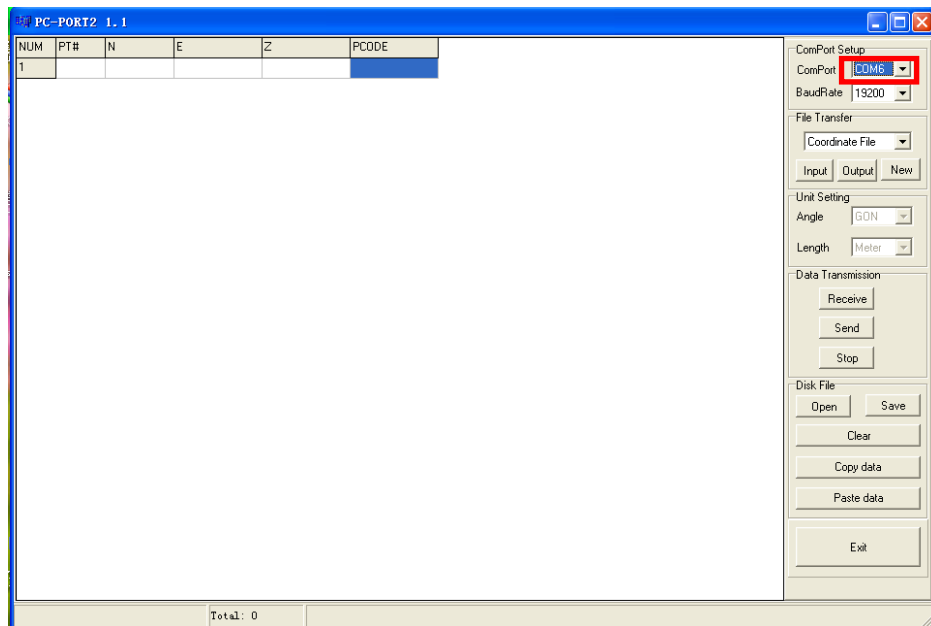
2. Double click the software to run it



3. Choose the serial port COM3. (If you have already installed the USB driver, then you can check the serial port in Device Manager.



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4. Press power button, and run the machine.

1) Operation of Sending Measurement Data

Press “ESC”→“MEM”→“Working Job”→“Comms.

output”→“Select Disc”, and then you select a disc, then press

“Ok”→“NEXT”, then you will get this interface:



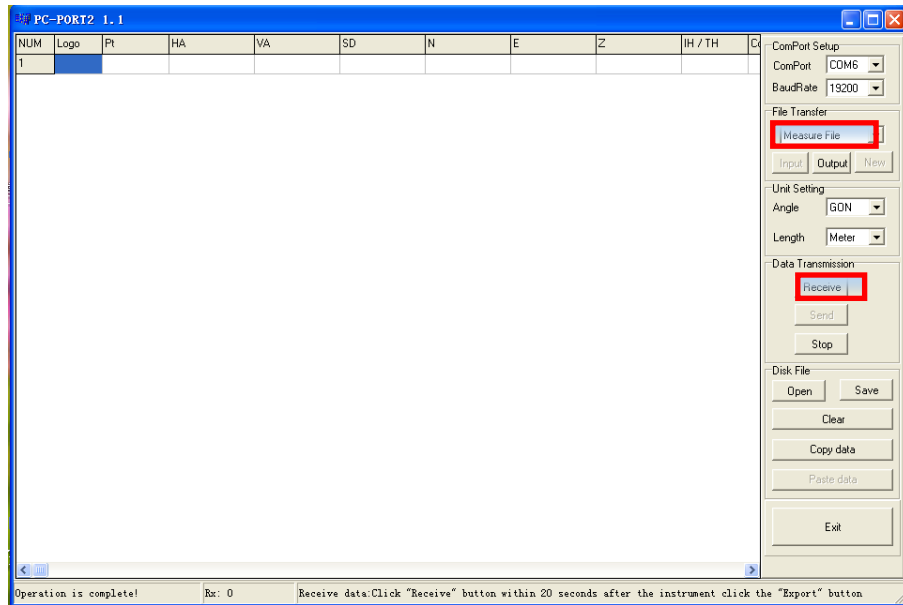
Here, press “↑” “↓” to change baudrate, to match with the PC.

2) Operation of Sending Coordinate Data

Press “ESC”→“MEM”→“Know Data”→“Comms. send”, as follow:



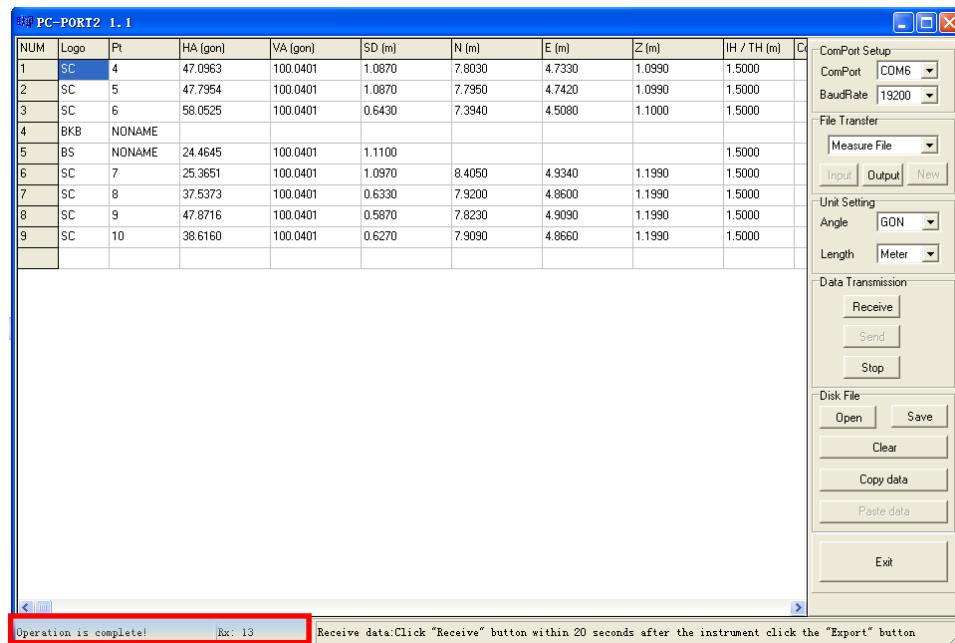
5. Click “Receive”, start to receive data from total station. (Watch the steps, click “Receive” first, then press “F4”)



6. Press “F4” on the total station operation panel, and start to transmit data, after the transmission finished, you can refer to “Number” on total station screen to get the data quantity , the number must be the same with “Total” on the software.

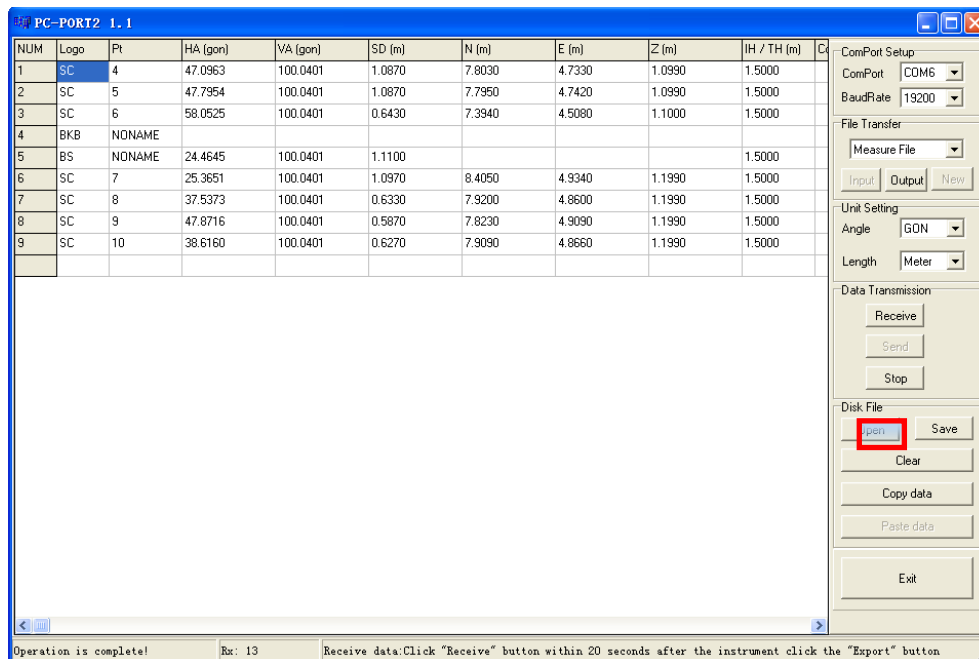
7. After finishing the transmission, the data quantity will be shown on the software status bar, the quantity should be the same with that in total station.

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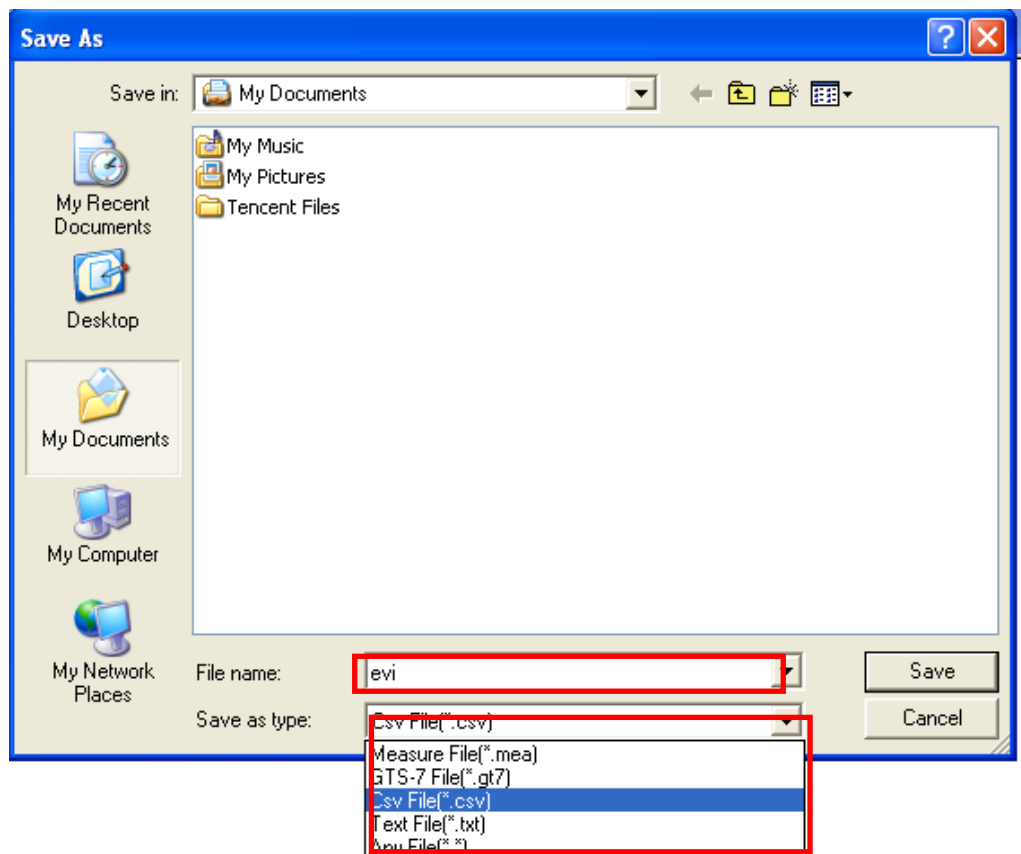


8. After the transmission software got the data, you can save it.

Option 1: Press "Save".

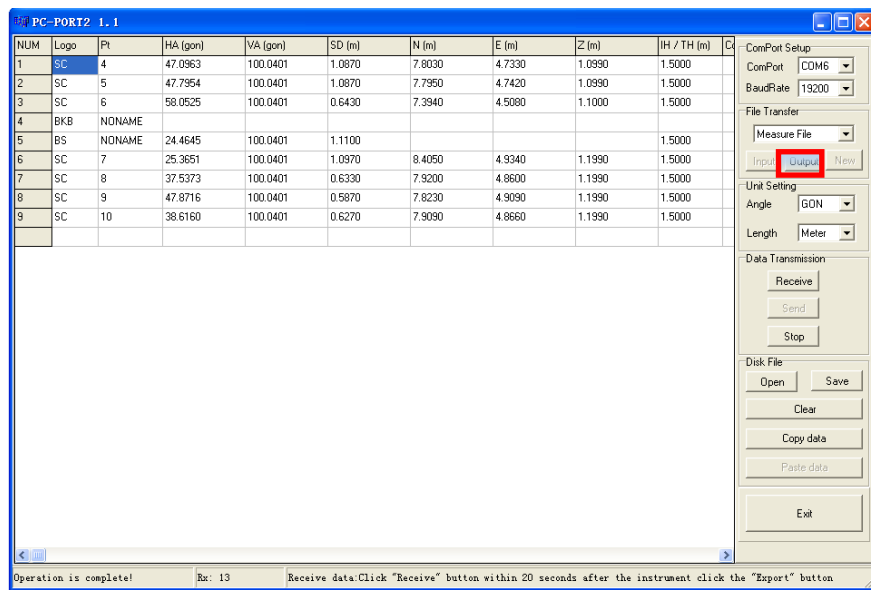


Click “Save” and you will get the dialogue box, name it and select a file format, as follows:

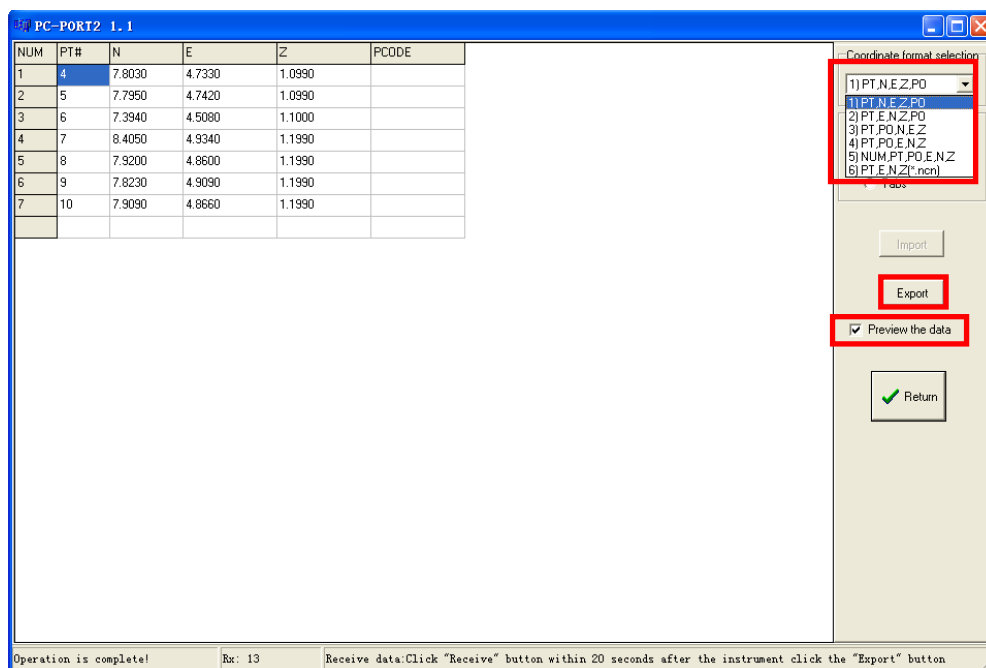


Option2: Press “Export” and save it.

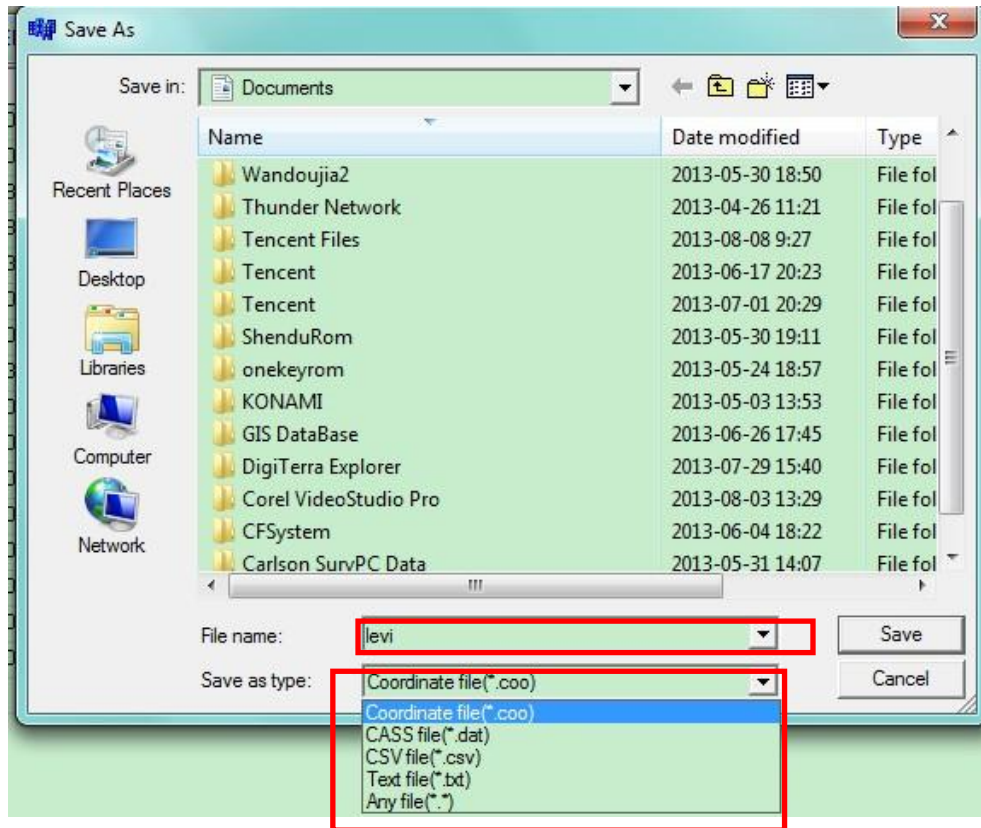
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Go to data outputting interface, select the wanted coordinate format, and click “Export”, if you want, you can go to “Preview the data”.



Click “Export” and name it, select the file format, and save it.



9. If you marked the “Preview the data”, then you click “save”, the saved file will be automatically opened, convenient for you to preview.

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PC-IO DATA 1.1.7 (2013-07-09 EN)

NUM	PT#	N	E	Z	PCODE
1	S1	7.0000	4.0000	1.0000	
2	S2	8.0000	5.0000	2.0000	
3	1	6.2730	4.3880	13.1720	
4	2	6.2730	4.3880	13.1720	
5	3	-3.7000	11.1300	12.3420	
6	1	2344.2340	0.3400		
7	2	5422.2230	0.2200		
8	3	2444.2220	0.2330		
9	JOB	00000.J0	0.0000		
10	INST	HTS221	0.0000		
11	SC	1	0.0000		
12	NEZ	1.000	1.0000		
13	SC	2	0.0000		
14	NEZ	2.000	2.0000		
15	SC	3	0.0000		
16	NEZ	3.000	3.0000		

ComPort Setup

ComPortCOM12

BaudRate19200

File Transfer

Coordinate File

Save

Exit

lewi.coo - Notepad

File Edit Format View Help

S1, 7. 0000, 4. 0000, 1. 0000,
S2, 8. 0000, 5. 0000, 2. 0000,
1, 6. 2730, 4. 3880, 13. 1720,
2, 6. 2730, 4. 3880, 13. 1720,
3, -3. 7000, 11. 1300, 12. 3420,
1, 2344. 2340, 0. 3400, 3. 1000, 0
2, 5422. 2230, 0. 2200, 2. 3000, 0
3, 2444. 2220, 0. 2330, 1. 3000, 0
JOB, 00000, J0, 0. 0000, 0. 0000, 0. 0000
INST, HTS221, 0. 0000, 0. 0000, 0. 0000
SC, 1, 0. 0000, 1. 5000, 0. 0000
NEZ, 1. 000, 1. 0000, 1. 0000, 0. 0000
SC, 2, 0. 0000, 1. 5000, 0. 0000
NEZ, 2. 000, 2. 0000, 2. 0000, 0. 0000
SC, 3, 0. 0000, 1. 5000, 0. 0000
NEZ, 3. 000, 3. 0000, 3. 0000, 0. 0000

Successfully exported!Rtc 29Receive data:Click "Receive" button within 20 seconds after the instrument click the "Export" button

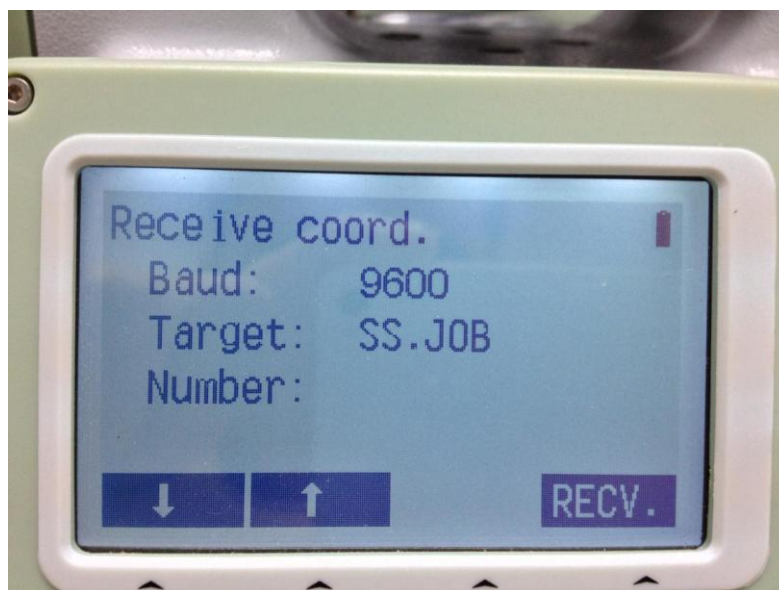
3.2 Transmit Data from PC to Total Station

Procedure:

1. Connect the PC and TS by cable.
2. Turn on machine.

1) Transmit data to working Job:

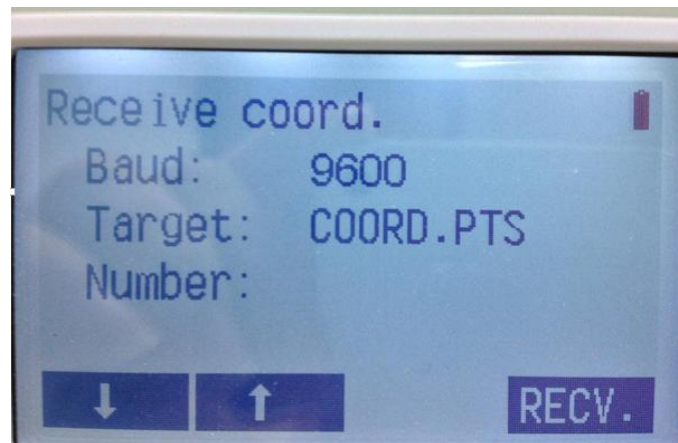
Press “ESC” → “MEM” → “Working Job” → “Comms. Input” → “Select File Received”, and then you select a disc, then press “Ok” → “NEXT”, then you will get this interface:



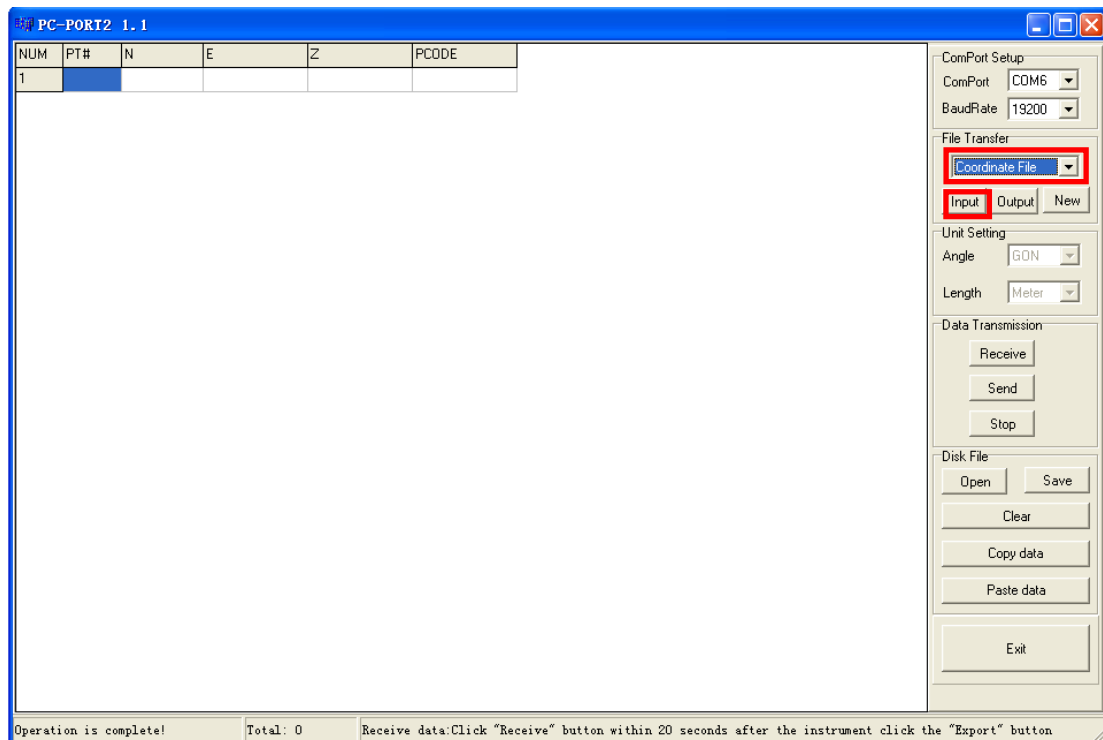
2) Transmit Data to Known Data:

Press “ESC” → “MEM” → “Know Data” → “Comms. receive”, as follow:

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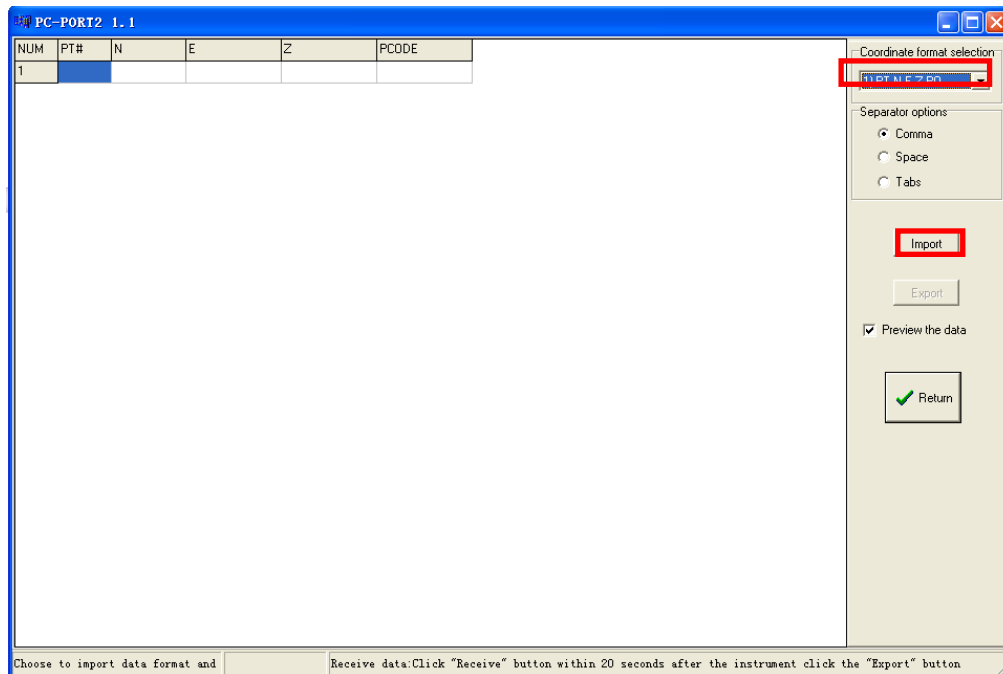


3. Run the transmission software, choose “coordinate file” in “File transfer”, and click “Input”, then you will go into coordinate inputting interface.

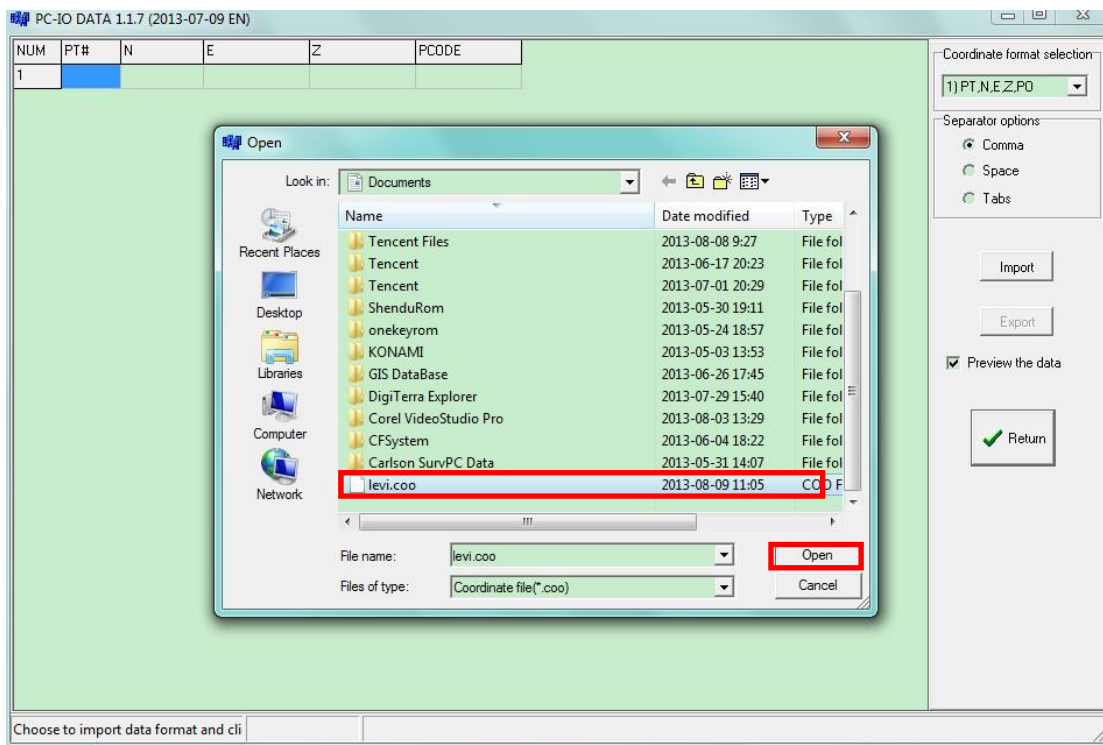


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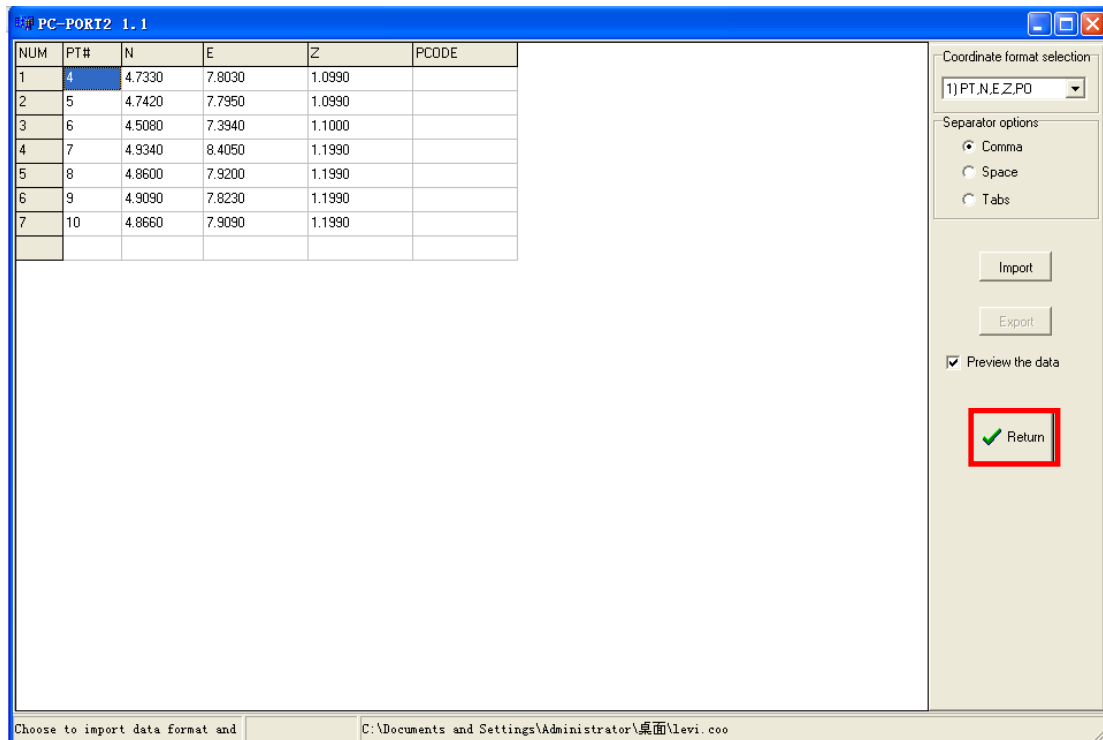
4. Select the inputting coordinate format, then click “input”.



Select the “File format” and click “Open”.

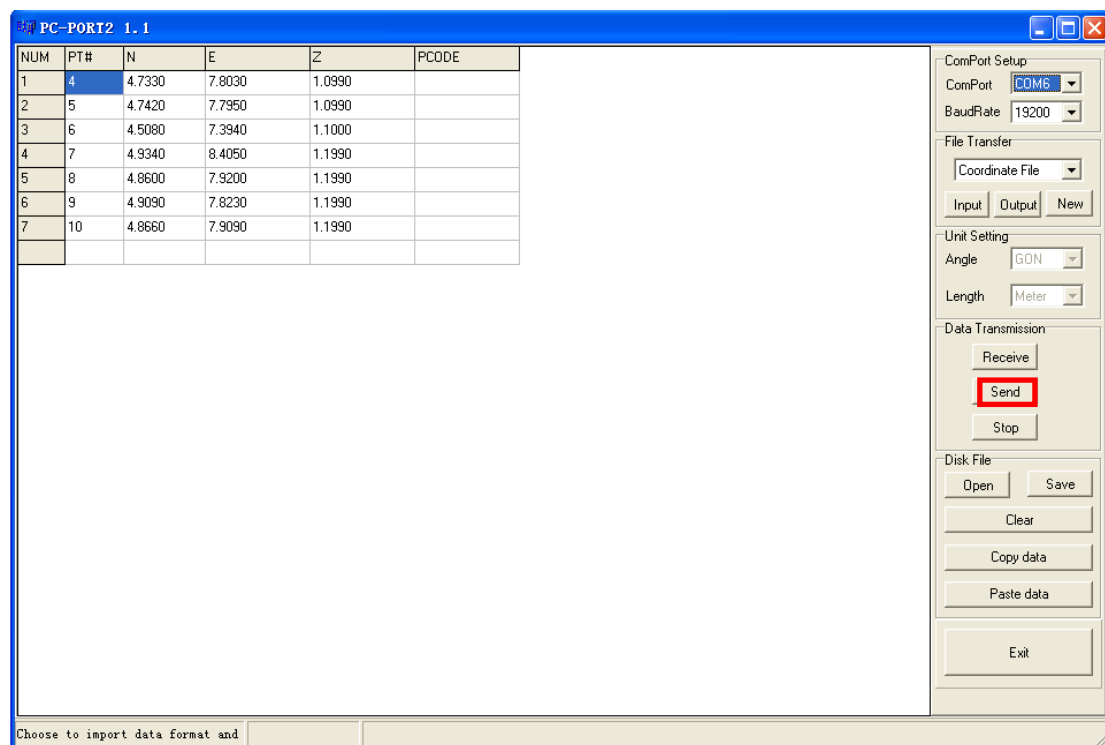


5. After inputting data, the data will be displayed, as is shown below, then click “Return”.



6. Click “Send” and start to send coordinate file.

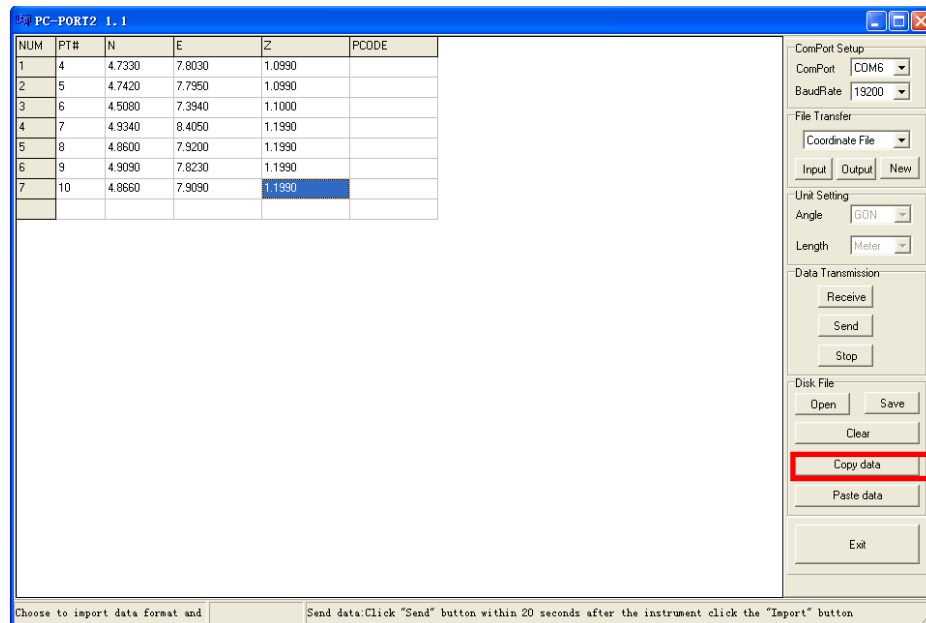
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7. Press F4 “RECV” on total station, after it finished, the data number will be shown on TS screen, which is the same figure as that on transmission software status bar.

3.3 Copy Data and Paste Data

1. After you inputting or opening the coordinate file, click “copy data”.



2. Open EXCEL, paste the data to EXCEL table. The data sequences: point name, N, E, Z, code.

	A	B	C	D	E
43					
44	1001	20001	10001	0.001	c001
45	1002	20002	10002	0.002	c002
46	1003	20003	10003	0.003	c003
47	1004	20004	10004	0.004	c004
48	1005	20005	10005	0.005	c005
49	1006	20006	10006	0.006	c006
50	1007	20007	10007	0.007	c007
51	1008	20008	10008	0.008	c008
52	1009	20009	10009	0.009	c009
53	1010	20010	10010	0.01	c010
54	1011	20011	10011	0.011	c011
55	1012	20012	10012	0.012	c012
56	1013	20013	10013	0.013	c013
57	1014	20014	10014	0.014	c014
58	1015	20015	10015	0.015	c015
59	1016	20016	10016	0.016	c016
60	1017	20017	10017	0.017	c017
61	1018	20018	10018	0.018	c018
62	1019	20019	10019	0.019	c019
63	1020	20020	10020	0.02	c020
64	1021	20021	10021	0.021	c021
65	1022	20022	10022	0.022	c022
66	1023	20023	10023	0.023	c023
67	1024	20024	10024	0.024	c024
68	1025	20025	10025	0.025	c025

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3. On the contrary, you can also copy the data in the EXCEL to the transmission software. The data sequences: point name, N, E, Z, code.

NUM	PT#	N	E	Z	PCODE
1	4	4.7330	7.8030	1.0990	
2	5	4.7420	7.7950	1.0990	
3	6	4.5080	7.3940	1.1000	
4	7	4.9340	8.4050	1.1990	
5	8	4.8600	7.9200	1.1990	
6	9	4.9090	7.8230	1.1990	
7	10	4.8660	7.9090	1.1990	

ComPort Setup
ComPort: COM6
BaudRate: 19200

File Transfer
Coordinate File
Input Output New

Unit Setting
Angle: GON
Length: Meter

Data Transmission
Receive Send Stop

Disk File
Open Save Clear
Copy data
Paste data
Exit

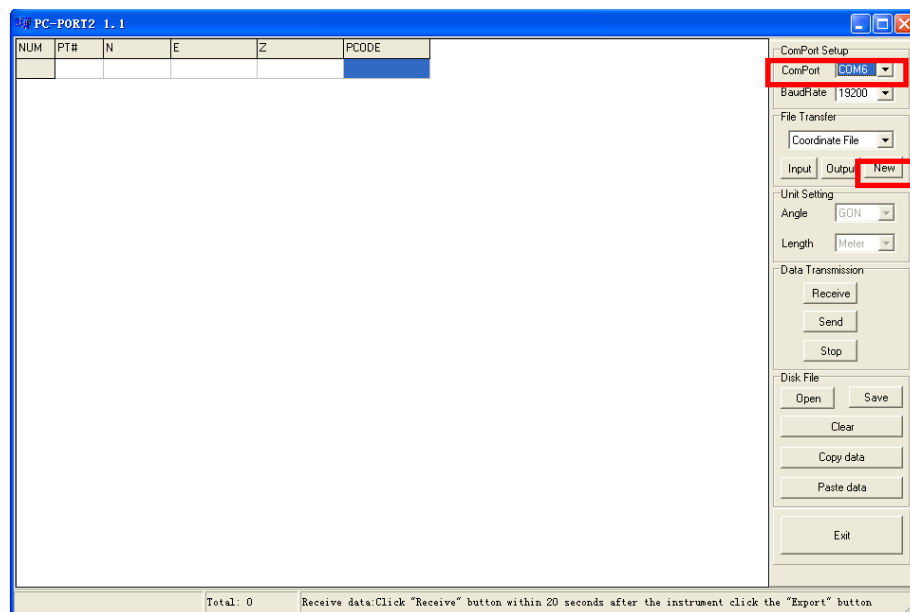
Choose to import data format and Send data: Click "Send" button within 20 seconds after the instrument click the "Import" button

3.4 Create Coordinate File

You can edit a coordinate file manually by transmission software

Here are the steps:

1. Run the transmission software, click “New” in file transfer, and select the coordinate file.



2. In the coordinate editing interface, input point name, N, E, Z, code.

The screenshot shows the 'PC-PORT2 1.1' window. At the top left is a table with columns: NUM, PTR#, N, E, Z, and PCODE. The first row contains the value '1' under the NUM column. A red rectangle highlights the first row of the table. To the right of the table are several buttons: 'Append', 'Insert', 'Delete', a text input field containing 'p1', a 'Search' button, and a 'Return' button with a green checkmark icon. At the bottom of the window, a status bar displays 'Total: 0' and a message: 'Receive data: Click "Receive" button within 20 seconds after the instrument click the "Export" button'.

NUM	PTR#	N	E	Z	PCODE
1					

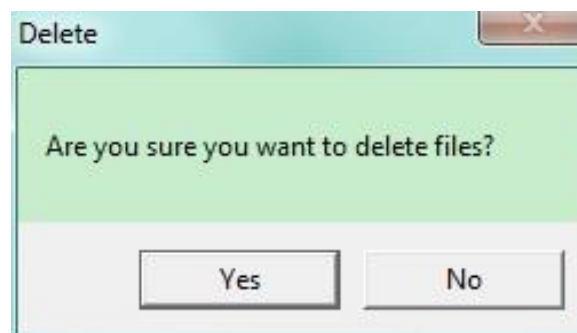
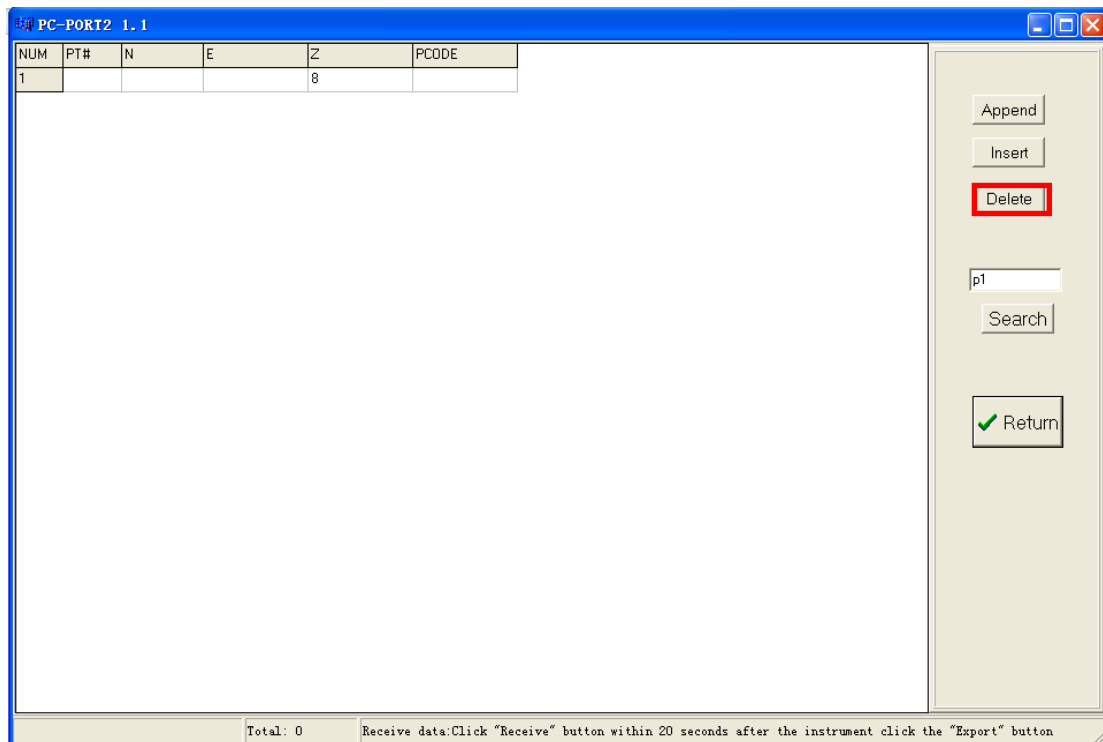
3. Click “Append” when you want to add the next data, you can edit the figure on the table directly.

This screenshot is similar to the previous one, but the 'Append' button on the right side of the interface is now highlighted with a red rectangle. The table at the top left still shows the same data (NUM: 1). The status bar at the bottom remains the same, showing 'Total: 0' and the receive data instruction.

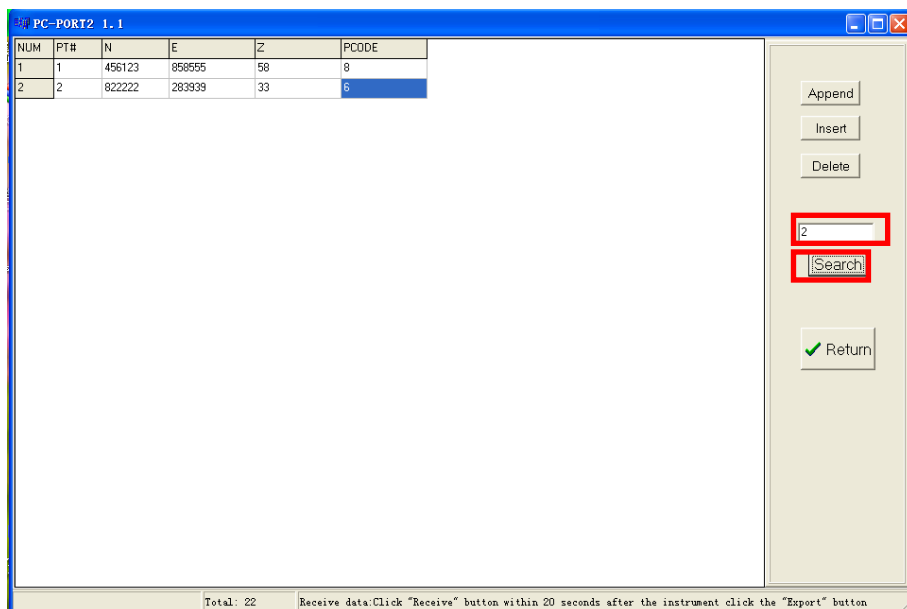
NUM	PTR#	N	E	Z	PCODE
1				8	

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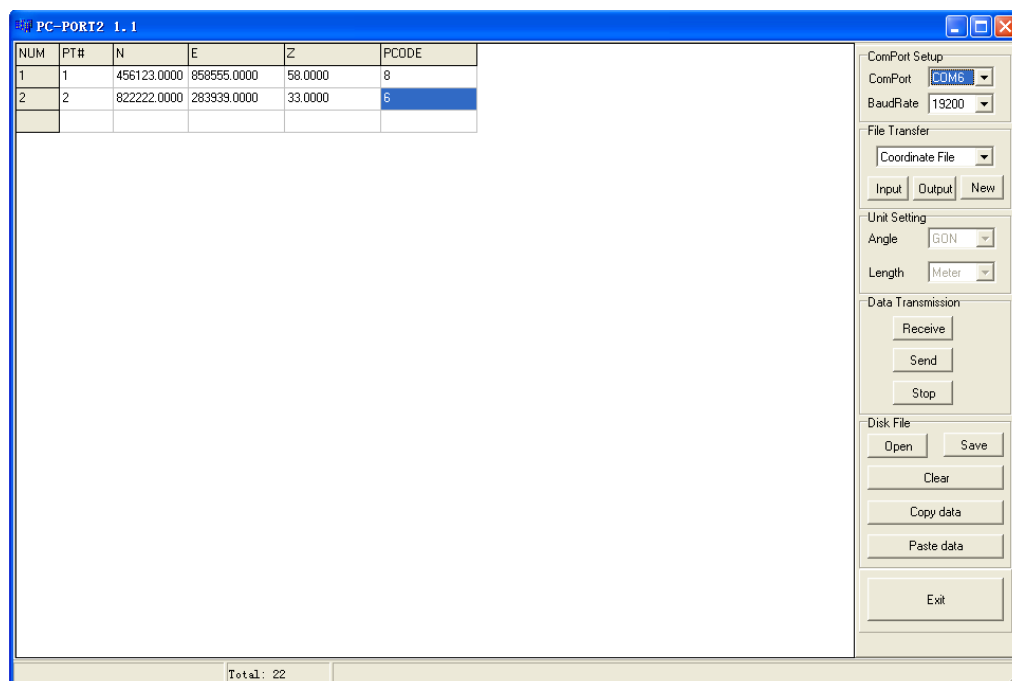
4. If you want to delete some data, click “Delete”, and confirm your operation--click “Yes” in the prompt.



5. You can click “Search” to get quick access to the wanted point, input the point name in the blank and click search, then you will get it.



6. Finished editing, click “Return” and go back to the main interface, you can upload the data to PC or total station.

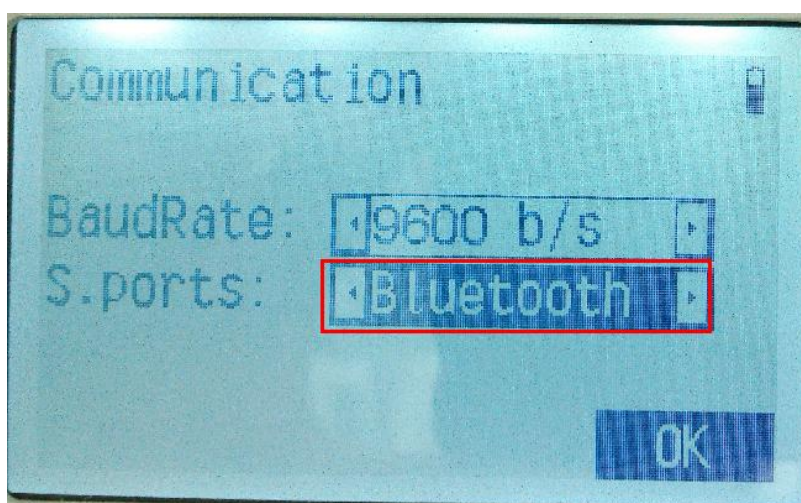


Notice: The operation of creating code file is the same with that of coordinate file, the code file name is PCODE.LIB.

4 Instruction of connecting controller with the instrument by Bluetooth

4.1 Set in total station

After pressing the start button, press the [CNFG] button to enter the config interface, and then press the number key 4 “Com. Para.” to select Bluetooth option.



Click the F4 key to confirm and click [ESC] key to cancel.

4.2 Set in the controller

1. Bluetooth Settings

1). Go to “Settings” and then “Bluetooth” to set the Bluetooth.

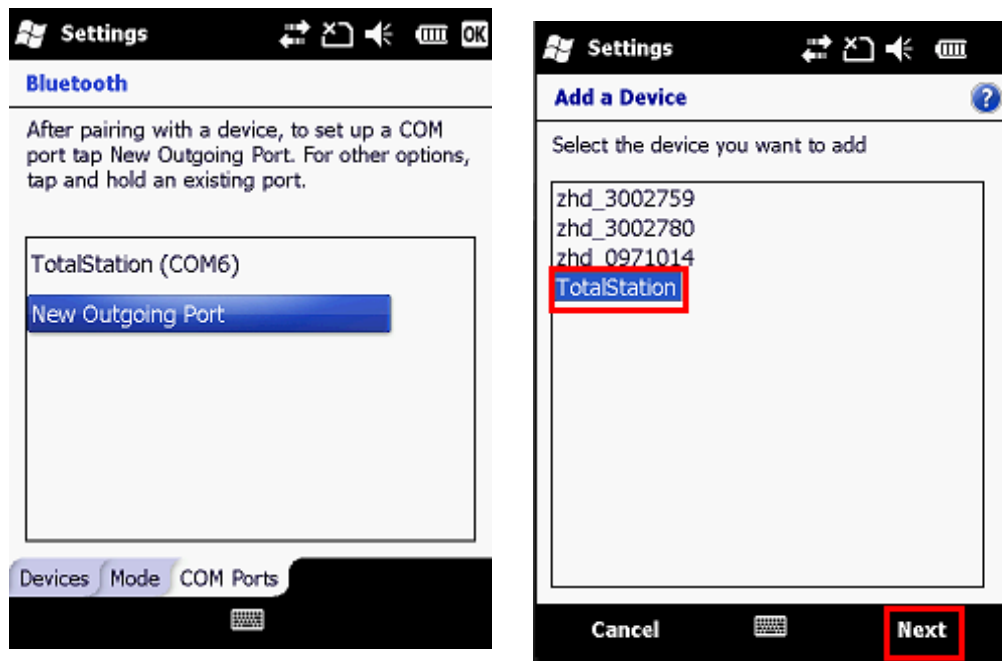


2). Click “Add new device” to search the total station. Then you will see the it in the list. Then click “Next”, enter the pin code “1234” and then click “Next”.

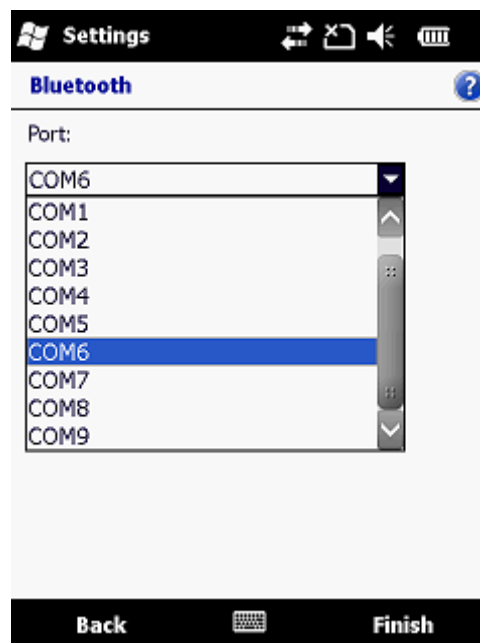


3). Click “COM Ports” in the bottom, then click “New Outgoing Port” to select

a port.

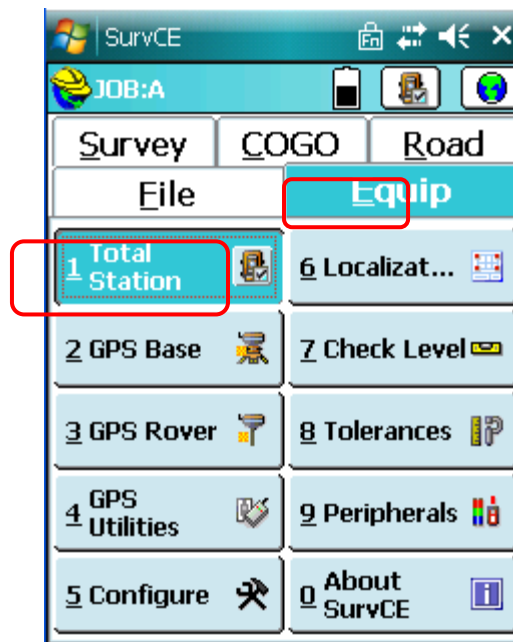


4). Choose a unused port and then click “Finish”.

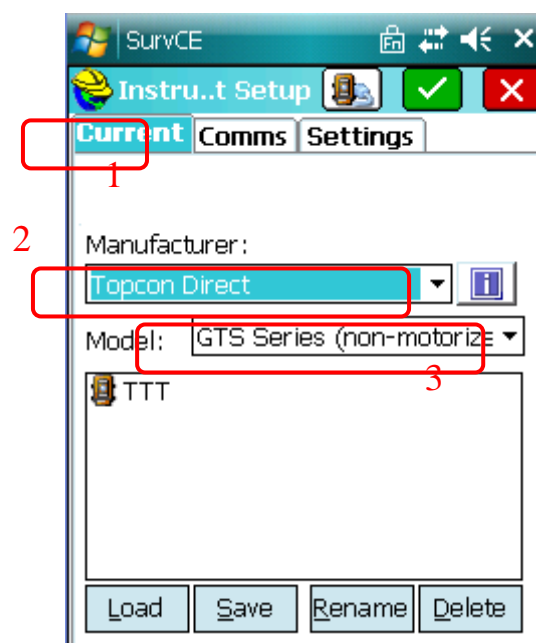


2 Bluetooth connections in SurvCE

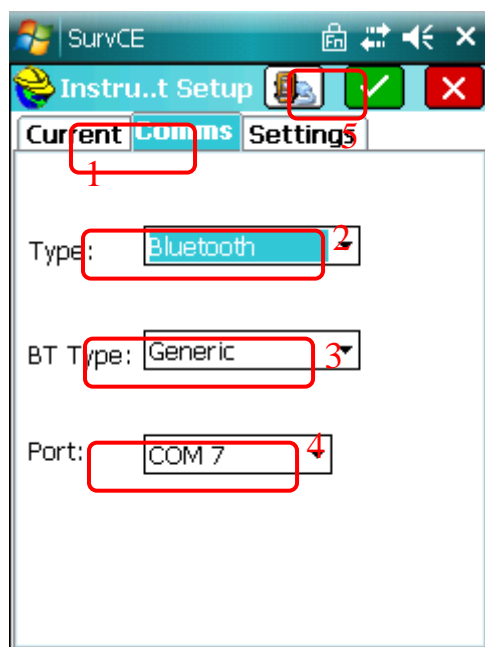
- 1). Run SurvCE software.
- 2). Click “Equip” and then “1 Total Station” in the main interface of SurvCE software..



- 3). In “Current” interface, select “Topcon Direct” for “Manufacturer” and “GTS Series (non-motorize)” for “Model”.



4). Then go to “Comms” interface, select “Bluetooth” for “Bluetooth” and “Generic” for “BT Type”. As to the com port, it’s the one you selected in the Bluetooth setting.



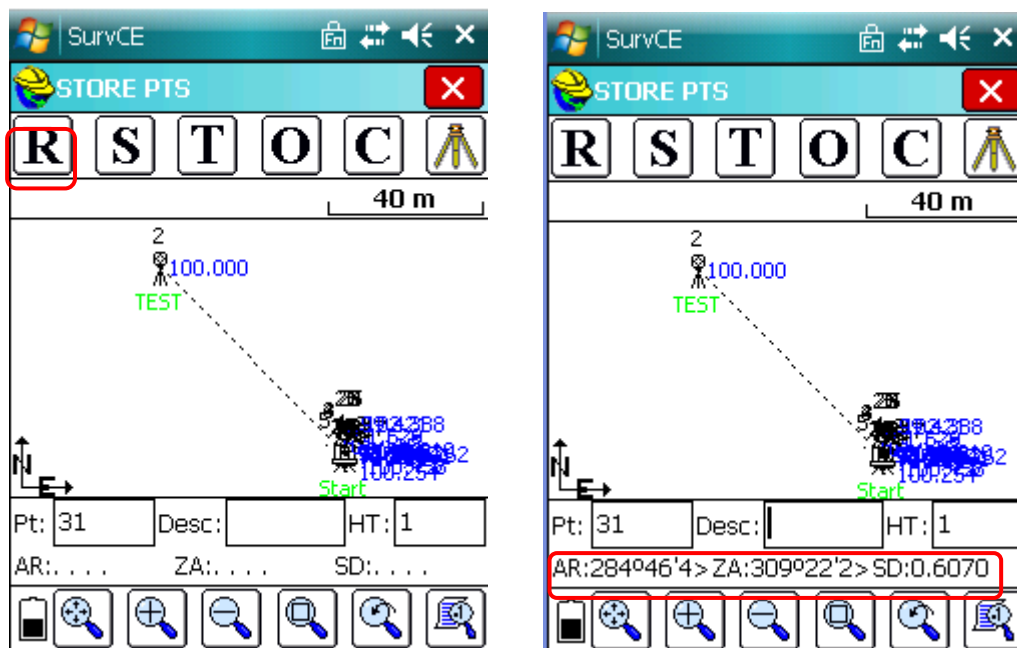
3 Store points

1). Click the “Store Points” items in the “Survey” options.



2). Select the upper-left corner of [R], you can remotely operate the instrument to measure, and display the data on the instrument on the blow screen.

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The data display on the hand book show that the instrument is connected to the hand book.