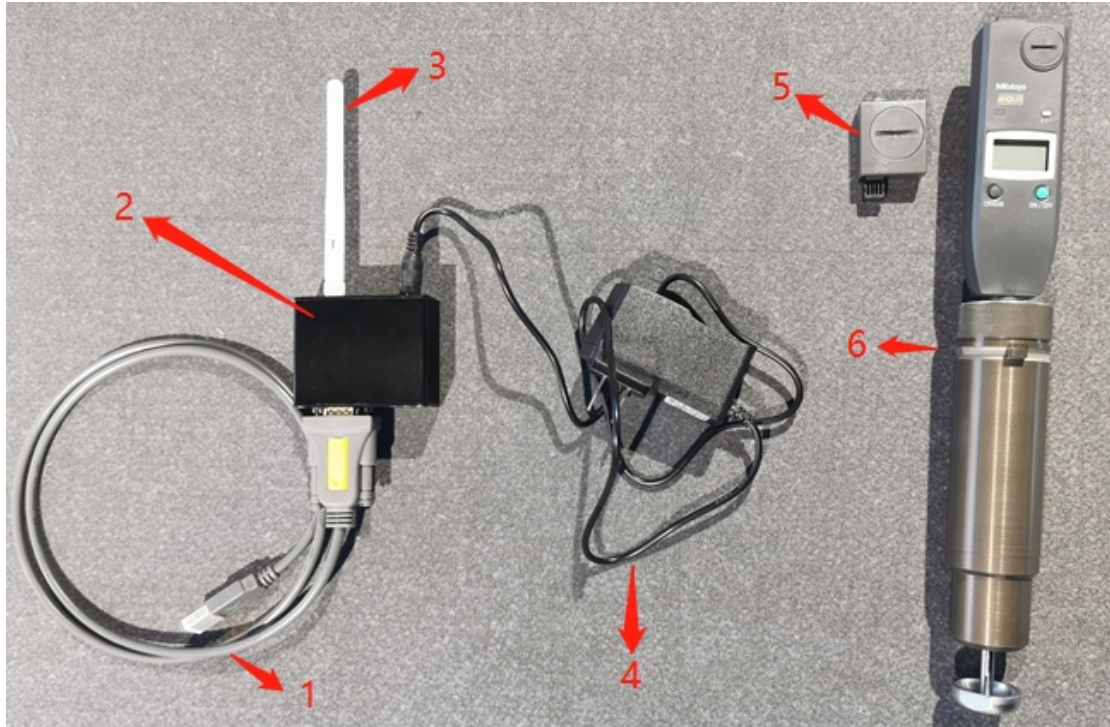# Altitude Cruise manual

Preparatory work:

1- Usb to serial cable (Connect with PC and data convertor)
2- Data convertor
3- Antenna
4- Power cable (AC 220V)
5- Bluetooth transmitter (Need install button battery)
6- Altitude instrument

Install Altitude instrument on cutting head, same like cutting tools installation.

Clean up the table and felt, make sure there are no debris under the felt or on the table.

Install 'Usb to serial' cable driver- PL2303_install.exe
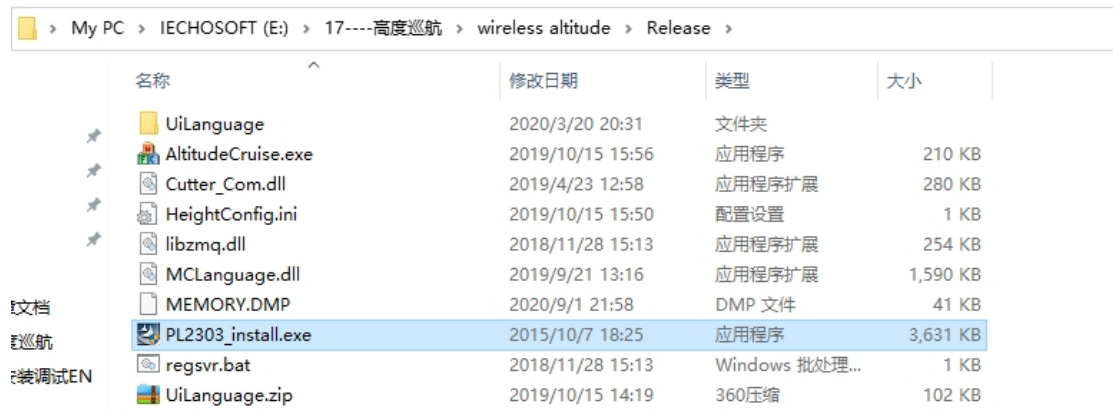
Start calibrate:

1. Turn on machine, open the cutterserver.
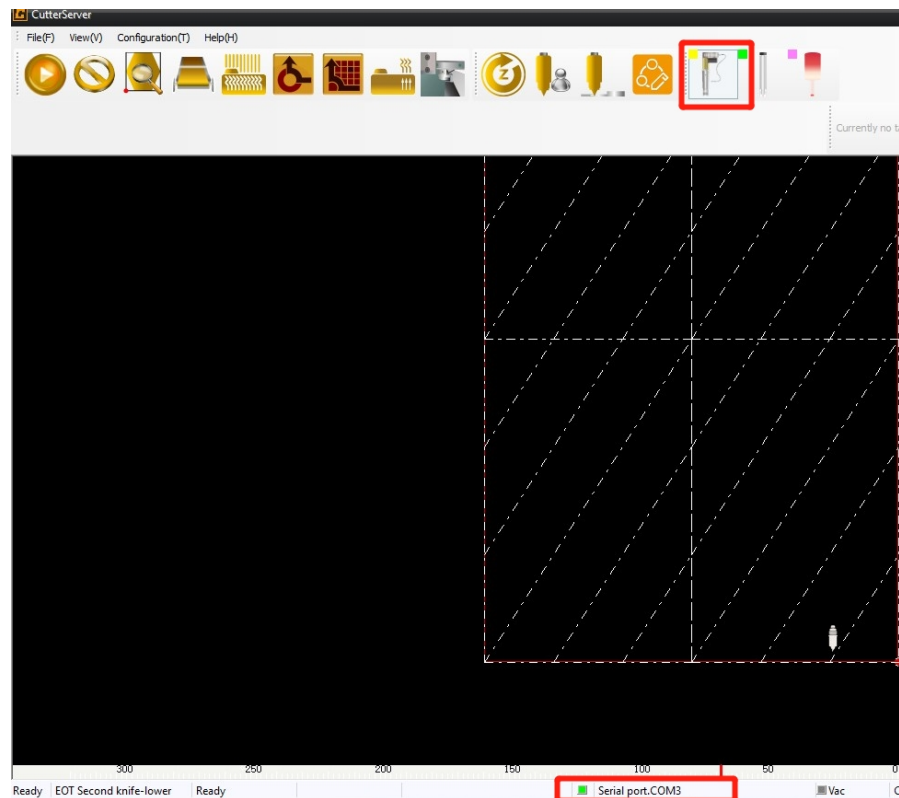
Select the cutting head which you install the altitude instrument, back to origin point.

Remember the serial port number on the bottom of cutterserver.

Open all vacuum area, turn on the pump, adjust the vacuum power to the maximum.

Close cutterserver. (Don't turn off pump, it need open when calibrate table)

2. Open altitude cruise software

The screenshot shows the "Altitude Cruise Version:2.1.0.0Subversion:2019.4.23.1" window.
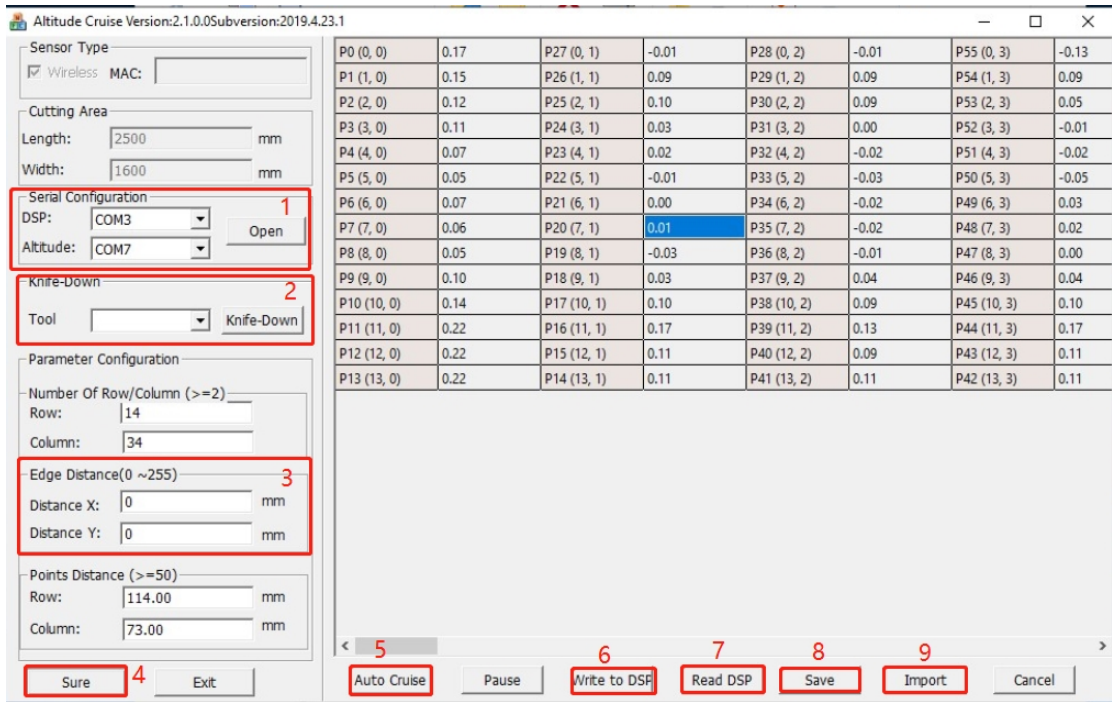
Sensor Type
☑ Wireless MAC: [ ]

Cutting Area
Length: 2500 mm
Width: 1600 mm

Serial Configuration — 1
DSP: COM3 [Open]
Altitude: COM7

Knife-Down — 2
Tool: [ ] [Knife-Down]

Parameter Configuration
Number Of Row/Column (>=2)
Row: 14
Column: 34

Edge Distance(0 ~255) — 3
Distance X: 0 mm
Distance Y: 0 mm

Points Distance (>=50)
Row: 114.00 mm
Column: 73.00 mm

[Sure] — 4 [Exit]

P0 (0, 0)	0.17	P27 (0, 1)	-0.01	P28 (0, 2)	-0.01	P55 (0, 3)	-0.13
P1 (1, 0)	0.15	P26 (1, 1)	0.09	P29 (1, 2)	0.09	P54 (1, 3)	0.09
P2 (2, 0)	0.12	P25 (2, 1)	0.10	P30 (2, 2)	0.09	P53 (2, 3)	0.05
P3 (3, 0)	0.11	P24 (3, 1)	0.03	P31 (3, 2)	0.00	P52 (3, 3)	-0.01
P4 (4, 0)	0.07	P23 (4, 1)	0.02	P32 (4, 2)	-0.02	P51 (4, 3)	-0.02
P5 (5, 0)	0.05	P22 (5, 1)	-0.01	P33 (5, 2)	-0.03	P50 (5, 3)	-0.05
P6 (6, 0)	0.07	P21 (6, 1)	0.00	P34 (6, 2)	-0.02	P49 (6, 3)	0.03
P7 (7, 0)	0.06	P20 (7, 1)	0.01	P35 (7, 2)	-0.02	P48 (7, 3)	0.02
P8 (8, 0)	0.05	P19 (8, 1)	-0.03	P36 (8, 2)	-0.01	P47 (8, 3)	0.00
P9 (9, 0)	0.10	P18 (9, 1)	0.03	P37 (9, 2)	0.04	P46 (9, 3)	0.04
P10 (10, 0)	0.14	P17 (10, 1)	0.10	P38 (10, 2)	0.09	P45 (10, 3)	0.10
P11 (11, 0)	0.22	P16 (11, 1)	0.17	P39 (11, 2)	0.13	P44 (11, 3)	0.17
P12 (12, 0)	0.22	P15 (12, 1)	0.11	P40 (12, 2)	0.09	P43 (12, 3)	0.11
P13 (13, 0)	0.22	P14 (13, 1)	0.11	P41 (13, 2)	0.11	P42 (13, 3)	0.11

[Auto Cruise] — 5 [Pause] [Write to DSP] — 6 [Read DSP] — 7 [Save] — 8 [Import] — 9 [Cancel]

1. Select DSP serial port, same with the serial port on bottom of cutterserver.
   Select altitude serial port.
   Click open, it will read machine length and width automatically.
2. Turn on altitude instrument, press bluetooth transmitter button.

Select the tool which altitude instrument installed. Click knife-down, cutting head will slowly moves down until the altitude instrument touch the table.
Press 'origin' button to reset.

Check bottom cap in case of it loose during calibrate. Move the cap up and down, check the values on the screen, It's negative up here and positive down here, if it is opposite, press +/- button to change.

3. Set distance X/Y to 0.
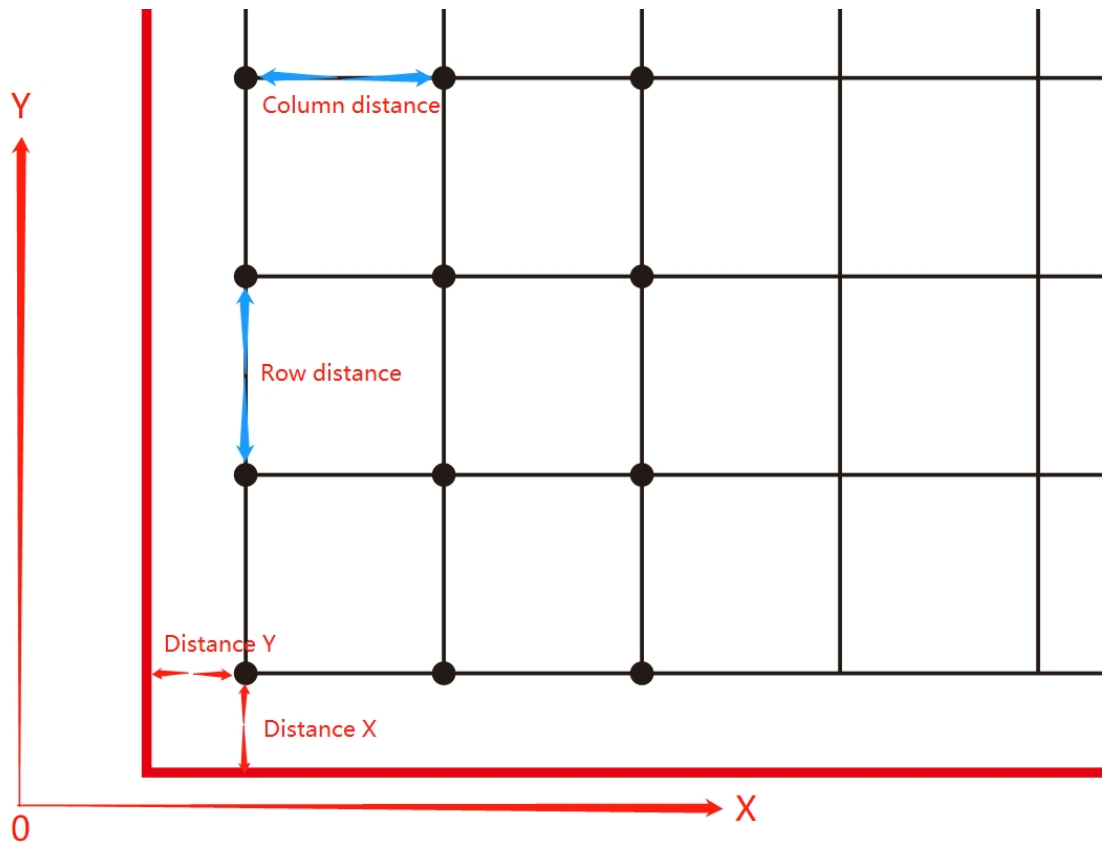
4. Click sure , it will count the rows and columns automatically.

5. Click 'Auto cruise' to start calibrate. During calibrate, please put the receiver in the middle of the machine to avoid losing the signal too far away.
6. After calibrate all points, click 'write to dsp' to save altitude compensation to DSP board.
7. Read DSP- Read altitude compensation from DSP board
8. Save- Save altitude compensation on PC
9. Import- Import altitude compensation from PC
10. Press 'Alt+shift+ctrl+E' in cutterserver, password is 'echocut'. Select 'whether Altitude Cruise to be use' to enable altitude compensation.

Parameter item	Value	Unit	Range Of Value	
Brush down again depth	0.000	mm	-12.700 ~ 12.700	
IO Function Redefine	Press / lift, pressure drop cy			
The IO function redefines 1	Custom machine XK			
A slant cruising altitude	☐			
whether Altitude Cruise to be u	☑			
Router1 speed	54.000	kilo rev/min	1.000 ~ 60.000	
Router2 speed	6.000	kilo rev/min	1.000 ~ 60.000	
Router3 speed	6.000	kilo rev/min	1.000 ~ 60.000	
V-notch Compensation	0.000	mm	0.000 ~ 2.550	
Is PT3 rotate	☐			
PT3 rotate speed	0.000	rev/s	0.000 ~ 255.000	
Select Tracks	☐			
Motor to track down	Do not track down			
Communication mode of mar	8N2, MODBUS RTU			
Servo uses 485 communicatio	☐			
485 master slave setup	main			
No switching to red light.	☐			
Tool1 lead setting	5mm lead of tool1			
Tool2 lead setting	5mm lead of tool2			
Tool3 lead setting	2mm lead of tool3			
Tool4 lead setting	2mm lead of tool4			
Servo uses 485 communicatio	All motors use MODBUS ex			

[Sure]   [Cancel]   [Exit(E)]