JYB20 Concise Manual

Thank you for purchasing our company's JYB20 (Beidou bulldozer leveling guidance system). Please read this manual carefully before working, so that you can use this product quickly, correctly and safely.

Disclaimer:

This document does not convey, by implication, estoppel, or otherwise, any right or license under or under patents, trademarks, copyrights or titles of the Company or any third party. The company is not responsible for any changes or deletions of relevant work data caused by your use or inability to use this product.

Notice to users:

The display terminal is mounted at a convenient location for the driver using a RAM bracket. For tractors without a cab, the instrument should be protected from sun exposure/rain, and care must be taken to prevent the instrument from falling to the ground or being strongly impacted by other objects.

- The power must be cut off before installing and disassembling each cable;
- Do not use hard objects when operating the display screen;
- Please connect your device strictly according to the requirements in this manual;

When supplying power, pay attention to the equipment power supply requirements (DC12V);

• Pay attention to take appropriate lightning protection measures to prevent lightning strikes; The equipment is damaged due to force measure (lightning strike, high voltage, collision, etc.), which is not within the scope of free maintenance of the company;

• It is forbidden to disassemble the product by yourself, otherwise the warranty will not be granted;

- When using this system, it should be in an open field far away from the shelter;
- Please stay away from interference sources such as strong electric fields, magnetic fields, high-voltage lines, and radio signal towers during use of the device.

List of main instruments:

name	Terminal	GNSS antenna	Camera	Power cable	Main cable	GNSS cable	Camera adapter cable	RAM bracket	4G Antenna	R26 base
PCS	1	2	1	1	1	2	1	1	1	1
	Radio									
Remark	module									
	included									

System connection diagram:



- ①: Display terminal: fixed at the convenient operation position of the cab;
- ②: GNSS cable: connect the display terminal to the GNSS antenna;
- ③: 4G antenna: connected to the display terminal;
- 4: GNSS antenna: connected to the display terminal through the antenna cable, fixed
- at a suitable position on the left side of the shovel body;
- ⑤: GNSS antenna: connected to the display terminal through the antenna cable, fixed
- at a suitable position on the right side of the shovel body;
- (6): Communication main cable: connect the display terminal and other interfaces;
- \bigcirc : Camera extension cable, connecting the display terminal and the camera;
- ⑧ : On-board camera, real-time monitoring of shovel status

9 : Power cord: directly connected to the 12V battery, pay attention to the positive and negative poles to prevent reverse connection;

Job display information:



Job operation process:

- 1. Set up a mobile base station (the network base station ignores this step);
- 2. Check whether the instrument is firmly fixed;
- 3. Check whether the cable is connected correctly;
- 4. Set the working datum:
 - a. Start the bulldozer;
 - b. Turn on the system power switch and start the level ground guidance software;
 - c. Click "SYSTEM to select a suitable base station;

d. Select "TASK" - "New" to create job information; e. Click "MODE" and select "LEVEL/SLOPE" mode;

- 5. After setting the leveling mode, click "AUTO" to start the operation;
- 6. Drive the bulldozer for guided leveling work.

Latest software download link :

https://www.dropbox.com/sh/shv8twous76ja51/ AACMkxQJwI8yOZGB1GUkewEPa?dl=0

Common situation:

The bulldozing shovel cannot continue to push the soil during leveling: click the "SET H" - "↓" icon to set the base level down by 3~5cm;

2. During leveling, the bulldozing blade continues to push the soil without unloading: click the "SET H" - " [†] " icon, and set the base level to adjust by 3~5cm;

3. Occasionally, the bulldozer blade pushes too much soil during leveling: in automatic state,

manually control the lifting of the bulldozer blade;

4. Re-adjust the datum level during leveling: adjust the height of the bulldozer blade, click "SET H" - "BASE" - "COMFIRM";

Common exceptions:

1. There is no response when the system power switch is turned on: Check the power cord, insurance, and battery power;

2. The base station signal is abnormal: click "SIGNAL" - "CORS" - Log in to the CORS account again

Equipment main parameters:

Name: Beidou satellite grader Signal tracking number: Beidou, GPS, GLONASS RTK Accuracy: \pm (20+1×10-6×D) mm Base station selection: network/radio station/CORS Protection level: IP67 dustproof and waterproof (display terminal) Display indication: 10-inch touch screen Working temperature: -20°C~+65°C Working voltage: DC12V Tablet size: 281mm×181mm×42mm Weight: about 4Kg (system)

1. Base station selection:

a. First check the RTK status, if it is displayed as "single", then select the base station;b. SIGNAL -- CORS -- Log in to your CROS account.

SAT 000	RTK	positioning	Speed 0km/h	Type * 3:45 Level
(()) >20cm	\leftarrow	Base station setting		Adjustment:-0.5cm
A SIGNAL +10~+200 +5~+10cr +5~+2.5c	Current mode:	NONE	CLOSE	SET H
-2.5~+2.5 -2.5~-5cn -5~-10cm	RADIO		CORS	Ē
MODE -10~-20cr <-20cm		IP: 192.168.0.1		TASK
TOOL	Po MountLi	rt: (15000 st		
*	Use	er: cors		
SYSTEM	Passwor			
		LUGIN		AUT
	_	_	_	0
	. <u>4.6</u> ⊄'		⊲ »	area(mu):0

c. After connecting to the base station, check whether the RTK status is "Fixed", and the reference display is a digital non-text prompt;

2. New job information:

TASK -- NEW -- CREATE ; (or click "CREATE" directly after starting the software)

SAT 🦰 RTK		Speed	Type * ¥ 3:46
🖄 🐗 0 🛄 none	positioning	0km/h	Level
	基准高:20cm		Adjustment:-0.5cm
(()) >20cm			
+10~+20cm +5~+10cr	New Job		
+5~+2.50			SETH
-2.5~-5cn	project 2023-02-13-15-45-28		
-5~-10cm MODE -10~-20cr		2	GE NEW TASK
<-20cm	user username		
<i>2</i>	nhone telephone number		
TOOL			
1	Remarks Lot Remarks		
SYSTEM			
	CREATE		
		_	
DATUM			AUT
			0
4.6	1 0 5	45	
ጚ [`]	Terrain height :0m		area(mu):0

3. Set base height (horizontal mode):

a. Manually adjust the bulldozing blade to a position 5~10cm away from the ground;



b. MODE -- LEVEL -- H Lock -- SURE



C. MODE -- LEVEL -- H System -- SURE

SAT 0	RTK none	positioning	Speed 0km/h	Type * * * 3:46 Level
SIGNAL >20cm +10~+200 +5~+100 +5~+2.50 MODE EVEL SLEVEL SLEVEL SUBJECT COL SYSTEM SYSTEM DATUM	1. Manually o ground; 2. Click on th 3. Control the about 15cm. tractor while	基准高:20cm Level OH Lock OH System control the scraper to the e Ground Height button; elevel shovel to raise Do not scrape the driving, click the Start lue Highest point Value Aver GROUND SURVEY FIN	rage point value	Adjustment:-0.5cm
_	4.6 -1	4 О П	r19	area(mil):0
		Terrain height :0m	50	area(inu).0



4. Slope mode (Two-point mode -- Heading mode -- Double mode)

a. MODE -- SLOPE -- Two-point mode -- Collect point A -- Collect point B -- FINISH -- AUTO

SAT 0	0.0 RTK none	positioning	Speed 0km/h	Type * * 3:47 Level
		基准高:20cm		Adjustment:-0.5cm
《 <u>人</u> 》 《 <u>人</u> 》 +10~	÷	Slope		
SIGNAL +5~+	Two-point m	Heading mode	O Double slope	SET H
MODE LEVEL COL	1. Drive the tract as shown on the A button, and wa collect data. Afte is completed, the Acquired; 2. Follow the sys tractor to point E	or to point A on the plot right, click the Point ait for the system to ar the data collection e button will display stem prompts to drive the 8 on the plot as shown	H	
SYSTEM	NOTE: If a positive leveling is comple	B Height H(cm): 0.0 e number is input, the B point is highe ted, on the contrary, the B point is low	r than the A point after the er than the A point.	
DATUM				AUT
				0
	⊄'	Terrain height :0m		area(mu):0



b. MODE -- SLOPE -- Heading mode -- Collect point A -- Collect point B -- FINISH -- AUTO

c. MODE -- SLOPE -- Double mode -- Collect point A -- Collect point B --Collect point c -- FINISH -- AUTO



5. SET T

- a. The bulldozing shovel cannot continue to push the soil during leveling: click the "Baseline Setting" "↓" icon to set the base level down by 3~5cm;
- b. When leveling, the bulldozing blade continues to push the soil without unloading: click the "Baseline Setting" - "个" icon, and set the base level to be adjusted by 3~5cm.

SAT 0 RTK none	positioning	Speed Type * * * *	3:43
	基准高:20cm	Adjustment:-0.5c	m
SIGNAL >20cm +10~+20cm +5~+10cm +5~+2.5cm		BASE UP DOWN SET H	
-2.5~+2.5cm -2:5~-5cm -5~-10cm -10~-20cm <-20cm			J
TOOL	· · · ·		
SYSTEM			
АТИМ		AUT	
		0	
⊄,	✓ Orerrain height :0m	r්) area(mu):0	

6. Blade width (SYSTEM--Other)

SAT A	RTK	Speed	Type * 🕈 🚺 3:48
🖄 🎻 i 🔍	none POSITIONIN	0 🗳 0km/h	Level
	基准高:20cm		Adjustment:-0.5cm
(A) >20cm +10~+20 +5~+10cr	← Other		
+5~+2.5c -2.5~+2.5 -2.5~-5cn	Display Working mode	UPDATES	
MODE -5~-10cm -10~-20cr	✓ Relier Layer ✓ Height display ✓ All display track	SIM ST	TASK
<-20cm	✓ Display driving status ☐Open mirror ☐Start at boot	REGISTER	
TOOL	width(m) 3.0	SWITCH-BD	
SYSTEM ACCU VA	horizontal calibration (value) (cm)	CONTROLLER UPGRADE	
	CONFIRM	SENSOR CALIBRATION	
DATUM			AUT
			0
	4.6		area(mu):0

7. Driving status(SYSTEM--Other--Tick"display driving status"), real-time display of driving status.

SAT 00	RTK pone	ositioning	Speed 0km/h	Type * * * 3:48 Level
		基准高:20cm		Adjustment:-0.5cm
SIGNAL >20cm +10~+20 +5~+10cr		Other		
-2.5~+2.5 -2.5~+2.5 -2.5~-5cn	Display Working	mode	UPDATES	
-5~-10cm -10~-20cr	 Relief Layer Height display 	All display track	SIM ST	TASK
2-20cm	Display driving status	Open mirror	REGISTER	
TOOL	width(m)	3.0	SWITCH-BD	
SYSTEM ACCU VA	horizontal calibration (cm)	(value)	CONTROLLER UPGRADE	
	CONFI	RM	SENSOR CALIBRATION	
				AUT
	^{4.6} ↓ ≺	Terrain height :0m	↓ »	area(mu):0

8. Localization map (After the job is completed, start the software again to load the last job track).

9. ALL display track (After the job is completed, start the software again to load the last job track)

SAT 0	RTK none	positioning	Speed 0km/h	Type * * 3:48 Level
		基准高:20cm		Adjustment:-0.5cm
SIGNAL >20cm +10~+20 +5~+10cr +5~+10cr +5~+25	\leftarrow	Other		DOWN SET H
-2.5~+2.5 -2.5~-5cn	Display	Working mode	UPDATES	
-5~-10cm -10~-20cr	✓ Relier Lay ✓ Height di	splay All display track	SIM ST	TASK
<-20cm	✓ Display dr □Start at b	iving status Open mirror	REGISTER	
	width(m)	3.0	SWITCH-BD	
SYSTEM ACCU VA	horizontal c (cm)	alibration value	CONTROLLER UPGRADE	1
		CONFIRM	SENSOR CALIBRATION	
DATUM	_			AUT
				0
	弌'		L.	area(mu):0