S100 Radio Quick Guide



S100 Radio Interface Overview





- 1. Connect to S100 RTK Receiver
- 2. Connect to Power Bank (5V Power Input)
- 3. Radio Mode Select
- 4. Radio Configuration Port
- 5. SMA Connector for Radio Antenna
- 6. SD Card (Base Image or Rover Image)

S100 Radio Hook Up

- 1. SD Card Should Already Be In the SD Card Slot
- 2. Jumper to Transceiver Mode (Connect Right 2 Pins)
- 3. Connect to S100 RTK Receiver
- 4. Connect to Power Bank

Polaris

5. Connect to Radio Antenna



Base Radio comes with SD Card preloaded with Raspberry Pi Zero image for base radio.

Rover Radio comes with SD Card pre-loaded with Raspberry Pi Zero image for rover radio.

Polaris Connect App Setup



Rover Radio Setup



After Polaris Connect App has been setup for both base radio and rover radio, the S100 rover will be able to receive S100 base data transmitted over radio.

Polaris Connect App will exist after setting up the Base Radio.

Polaris Connect App stays after setting up the Rover Radio. One can keep Polaris Connect App running in background and use 3rd party GIS App.

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Use S100 as Base				
More Info.	Settings	Start		
USB Base				
	Base	PC		
	Dase			
	US	B		
		Padia		
	Base	Module 3		
	03			
	\bigcirc			
	U			
	More Info.	Start		
PPK Base		~		
Rover	Base	Utility		
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Stop

ositioning	mormation
Status	Fixed RTK
RTK Ratio	10.0
RTK Age	3.0 s
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If Base position is set by Automatic Survey, one can check coordinates on the S100 Rover on the Rover page

	0.0 km/h
Base Lat.	24.784770110
Base Lon.	121.008704860
Base Alt.	113.682 m



Radio Configuration (Advanced)



The shipped base radio and rover radio pair is plug-and-play, no need for any radio configuration.

This radio configuration information is provided only for situation such as if another user has a pair of radio operating nearby causing interference, and needing to change to a different radio channel (net ID) from default.

Connect to Windows PC

1. Jumper to Radio Configuration Mode (Connect Left 2 Pins)

- 2. Connect to Windows PC
- 3. Go to Radio Configuration Tool (see next page)

Radio Configuration (Advanced)

Download Link:

https://www.ebyte.com/en/pdf-down.aspx?id=201

Connect Radio to Windows PC then Open the Configuration Tool:



🔜 EBYTE Customer Configure and Evalue Kit	– 🗆 X
Port COM8 ~ Open	Close
Config and Control Change net ID if need	ed
E61-TTL-1W	V2.5
ID 0 Set to 12	15200
Verify 00: 8N1 (default)	IO Driving 1:Push-Pull 🗸
Interface Rating 111: Bit Rating 115200	Working Mode 010:Continuous Mode ~
Air Rating	Tx Power 00: 30dBm 🗸
Carrier 433.000 MHz	FEC Enable Encryption
Frequency	Encryption Code[0,65535]
Read Write Setting	Increase dBm for Base Radio
Write Get Code	For longer range
Feetenr	Default 21dBm
Pacificity	

Multiple Rover Application

In this case, **Only** needs **One Base** to broadcast RTCM data, sending RTCM data to **One** or **More** Rover.

- 1. Setup all S100 Radio with same net ID (see page-5 & 6)
- 2. Setup Base (see page-3 & 4)
- 3. Setup Rover (see page-3 & 4)



Logging Base RTCM Data



To Download file, see page-9.

Download RTCM Data



Correction Data Logs in S100	Correction Data Logs in S100
	Download Selected Logs 2021/05/04 07:45:47 (UTC)
Downloading Log File(s)	Base 202105rtcm 528.384 KB
Base-2021-05-04-07_45_47-202105rtcm.rtcm	2021/05/04 05:50:56 (UTC)
	Base 2021050404 3.971 MB
	2021/05/04 05:48:44 (UTC)
When Wi-Fi connection made, Polaris Connect App will download the	Base 2021050403 67.584 KB
	2021/05/04 05:48:09 (UTC)
	Base 2021050403 8.192 KB
	2021/05/04 04:01:36 (UTC)
og file from S100	Base 2021050402 2.048 KB
automatically.	2021/05/04 03:58:50 (UTC)
	Base 2021050402 90.112 KB
	Einished downloading log file(s).
	Base 2021050402 36.864 KB

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/storage/emulated/0/PolarisGNSS		
Base Logs	Rover Logs	
Base-2021-05-04-07_ tcm	_45_47-202105rtcm.r	
Base-2020-12-24-03	_52_02-project1.rtcm	
Base-2020-12-22-06	_33_08-project1.rtcm	
Base-2020-12-22-06	_03_29-project1.rtcm	
Base-2020-12-22-03	_56_23-project1.rtcm	
Base-2020-11-19-02	59 38-1120 rtcm	

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When download completed, log file will be saved to /storage/emulated/0/PolarisGNSS on the phone.