## **Upgrade Options for BD970 Board**

## Notice:

- a) This document is about upgrading firmware for BD970 board in a TKO receiver
- b) For software downloading, please visit the website below, https://oemgnss.trimble.com/support/#all\_0-258-wpfd-bd970\_v5\_48 to install v5.48
- c) If the battery is from 2021 or newer, and fully charged, it should be sufficient to use for updating. Please see our Lithium-Ion Battery pamphlet for more details.
- 1. Preparation:
  - a. Hardware: Computer with Serial port or USB port adapter, Receiver's 'Y' data cable, GC-3

Software: sscom32E and WinFlash

- b. Codes: Options key for the board (only necessary when upgrading board options)
- 2. Operation:
  - a. Install "BD9xx" software on your PC.
  - b. Switch on receiver; connect to computer through serial port. Serial port will vary per PC or laptop, change until connection is established.
  - c. Run "sscom32E" software, click Open Con to connect to your receiver; Mark "Send HEX", Input command "24 24 56 53 01 00 55 51 0d 0a" as figure1, Baud rate a 19200, then click SERE to send information to receiver. After sending this order, receiver will say: Update OEM.

🅕 SSCOM3.2 (Author: NieXiaoMeng . http://www.mcu51.com, Email: 🔳					
33VSerit check register!¬ (*?32441838D9T D8W主視哲号:D2M1 COMILLNK GPS OK 19200! 0 0044400444004428 E000D5032444183 Unknown External ? 00792 ↓ (*?32441838D970 00444004428 External 22_1 External 22_1 External 22_1 External 1000	SEMD 1 2 3 4 5 6 7 8 9 10 ns				
OpenFile FileFn SendFile SaveData Clear He	mDate				
ConStan COV4 💌 🍘 CloseCon Help WWW. MCU51.COM H	fide				
BandRat 19200 ▼ DTR BIS DataBi 8 ▼ Send eve 1000 ms/Time StepBi 1 ▼ SendBEX ▼ SendNew Verify None ▼ Data input: □ISBRUIT PloyCei None ▼ 24 24 55 53 DL 00 55 51 04 Da					
www.mcu51.com 5:10 R:405 COM4 opened 19200bps 8-1 CTS=0 DSR=0 RL5	0-0 🦯				

Figure 1

Then Click **CloseCon** otherwise this serial port will be occupied.

d. Run WinFlash software, Select the right serial port and click was as figure 2.

VinFlash   Trimble The devices which WinFlash can communicate with an istad below. Select a device and PC serial port to use, and press Next to continue. Device Contiguration Device type: PD9::: Receiver PC serial port: Imma

Figure 2

e. Select "**Update receiver options**", input license code as figure 3 (this operation is only necessary when upgrading board options). Should be able to copy and paste directly from email. If the code is not accepted, then try Legacy password option.

WinFLASH - Upgrade Option	Password Entry	×		
WinFlash	WinFLASH needs to know the password provided to you by Trimble in order to perform the option upgrade on the BDBks. Enter the password exactly as provided by Trimble, and press Next to continue.			
K Back Next > Cancel Help				

Figure 3

Click on "Next" to apply the license code.

f. Go back to main interface, select "load GPS Software", click as figure 4.

WinFLASH - GPS Software S	election 🔀		
WinFlash	WinFLASH needs to know which software should be used to update the GPS receiver. The software versions isted below are currently installed on the system. Select a software version and press Next to continue. Available Software BD950 FW V2.34 May 19 2010 BD960 FW V2.34 May 19 2010 BD960 FW V4.44 Dec 20 2011 BD960 FW V4.44 Dec 20 2011 BD982 FW V4.44 Dec 20 2011 Turn off outputs before updating firmware		
∠Back Next> Cancel Heiv			
Trimble.	Select a software version and press Next to continue.         Available Software         BDS50 FW V2.34 May 19 2010         BDS60 FW V4.44 Dec 20 2011         SDS70 FW V4.44 Dec 20 2011         BDS82 FW V4.44 Dec 20 2011		

Figure 4



Chose "BD970 FW", also click figure 5.

Figure 5

g. Click Finish then wait for updating to finish as figure 6 & 7.



Figure 6

Software Upgrade	×
Status Updating the software of the BD9w	
37%	
Cancel	



The update process can take 20 minutes or longer. Be patient.

## Notice: After finished updating firmware, Please restart the receiver.

Once the receiver is restarted, for best results, perform a motherboard reset by pressing the F1 key two times; you should hear a dingdong for each push.

Depending on how old the OEM board is, you may get the message OEM failure. Ignore the message at this point and connect to the TKO using the WR1 GNSS Receiver Manager v1.05 to find the Trimble board serial number and version. If the version is correct, the system should be good at this point.

Sometimes, you have to use the refresh option in the receiver manager software to get the information to come up. If you do not see the firmware information and version, redo the process - please note the second update is not as long as the first.