

HAYES INSTRUMENT Co.

502 S CANNON BLVD
SHELBYVILLE, TN 37160

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Topcon Robotic Series with RC2II Only Complete Setup Guide for the TDS Ranger

December 05

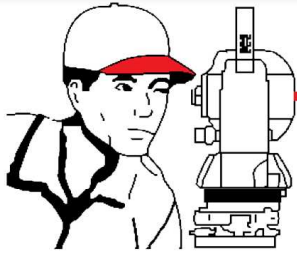
Concepts— When using the RC-2II stand-alone configuration, the RC-2II transmitter is responsible for the two way communication link and quick-lock function for the robotic system. It is also important to note that communication can only happen when the RC-2II unit and the total station are pointed at each other.

Total Station Setup— (note: many of the settings below are defaulted correctly)

1. From the main total station menu:

- Select the Para Menu **[F6]**
- Select the Communication Menu **[F2]**
- Select Serial Port RS232C/RC **[F1]**
- Select **<RC>** using the **[F3/F4]** keys
- Press Set **[F1]** then YES **[F5]**
- Select Set RC **[F3]**
- Verify the following settings:
 - * Channel **[1]**
 - * V.Search **[15]**
 - * RC **[S]**
 - * Retry **[Std]**
 - * Delimit **[ETX]**
 - * REC-A/B **[B]**
 - * NEZ-REC **[Std]**
 - * TrkState **[ON]**
 - * B.Rate **[4800]**
 - * Data.L **[8]**
 - * Parity **[None]**
 - * Stop Bit **[1]**
- Press SET **[F1]** then YES **[F5]**
- Press **[ESC]** back to the main total station menu.





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2. From the Main Total Station Menu:
 - Press **Prog [F1]** then **MORE [F6]**
 - Press **EXT.LINK [F3]**
 - Press **2. Setting [F2]**
 - Select **1. CABLE/RADIO MODEM/RC [F1]**
 - Using the Up/Down [**F3/F4**] arrow keys, select **RC**.
 - Press **SET [F1]**
 - At the Setting menu, Select **3. PARAMETER (RC) [F3]**.
 - Using the Up/Down arrow keys, set Channel **1**. Press **SET [F1]**
 - Set Terminate to **ETX**. Press **SET [F1]**
 - Set Retry to **Standard**. Press **SET [F1]**
 - Set REC TYPE to **REC-B**. Press **SET [F1]**
 - Press [**ESC**]
 - Select 1. Execute [**F1**]

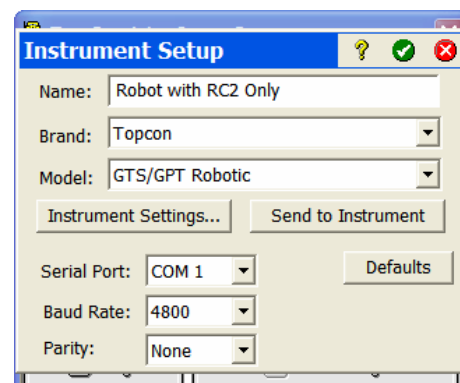
RC-2II

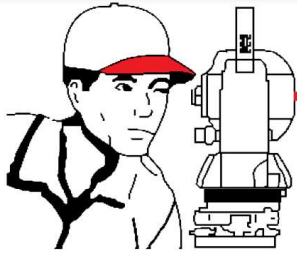
1. Open the battery chamber and remove the batteries. Locate the dip-switch block at the bottom of the battery chamber and verify that dip-switch 3 is to the left. The other switches should be set the to left as well.
2. Put in fresh batteries if unsure about their age (typical battery life is 40 hrs).
3. Connect the cable between data collector and RC-2II.



Ranger Setup

1. Run Survey Pro and Open a job for work.
2. Go to [**Job**] - [**Settings**]
3. Press [**Create New Instrument**]
4. Create an Instrument Profile with the following settings.
 - Name: **Robot with RC2 Only**
 - Set the Brand to **<Topcon>**
 - Set the Model to **<GTS/GPT Robotics>**
 - Ignore the Serial port and baud rate settings for now.
5. Press [**Instrument Settings**]





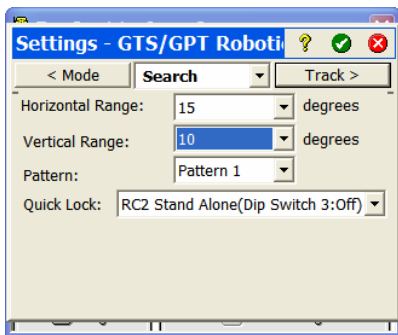
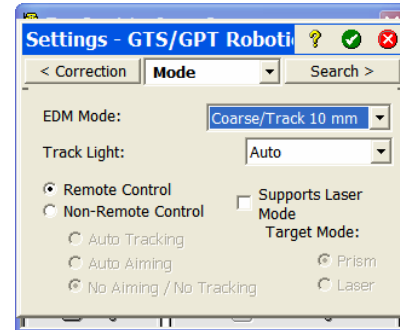
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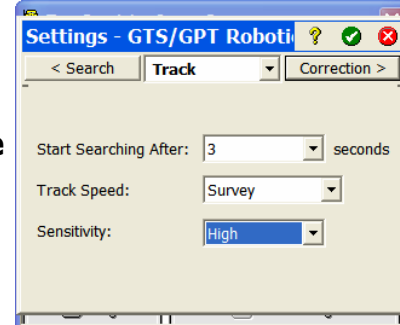


6. Set the EDM Mode: to the desired resolution.
7. Track Light: **Auto**
8. Check the **Remote Control** option.
9. Press the **{Search}** tab at the top of the display.



10. Set the desired Horizontal and Vertical Range.
11. Set Pattern to **<Pattern 1>**.
12. Set the Quick Lock: **<RC2 Stand Alone (Dip Switch 3:Off)>**
13. Press the **{Track}** index tab at the top of the display.

14. Set the desired search delay value in the Start Searching After: Field. (*3 is a typical value*).
15. Set the Track Speed value.
 - GTS 800/802/810/815 should be set to **<Machine Control>**.
 - GTS 820/GPT 8000/8200 should be set to **<Survey Control>**.



16. Set the Sensitivity to reflect the average distance that you will be shooting. **<Low>** (0-300ft), **<Medium>** (300-600ft), **<High>** (600+ft)
17. Set the Turn Speed to **<High>**.
18. Press the **{Correction}** index tab at the bottom of the display.
19. Verify that all the correction values are set to: **0**
20. Press the **[green check]** button to return back to the Instrument Setup Page.
21. Press the **[Defaults]** button to default the computed Baud Rate and Parity values. Verify that the Baud Rate is set to **4800** and the Parity to **None**.
22. Press the **[Send to Instrument]** button. Survey Pro should return a "Happy" sound.
23. Press the **[green check]** Button to exit out to the Instrument Profile page.
24. Press the **[green check]** again to exit back to the Main Survey Pro Menu.
25. Select **[Survey] - [Remote Control]**.
26. Press the **[Q-Lock]** button to activate the Quick-Lock function.
27. Verify active Angles are updating on the display.

You are now connected to your total station and ready to begin your survey.

