

HAYES INSTRUMENT Co.

502 S CANNON BLVD
SHELBYVILLE, TN 37160

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Topcon Robotic Series with RC2II and Radios Complete Setup Guide for the TDS Recon

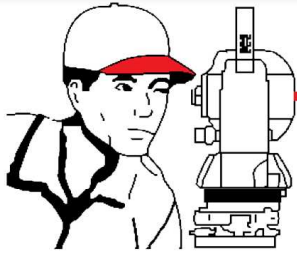
December 05

Concepts— When using RC2II and Radios, the majority of communication is handled by the radio link. The RC2II is used only for the quick-lock function. When the user activates the quick-lock function, the RC-2II transmitter sends an Infrared Single that is picked up by the RC2 Handle on the total station. The gun then turns to the source of the infrared beacon (RC-2II) and performs an Autolock

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

1. Connect the radio to the total station via the 9-pin to 6-pin Hirose radio cable and turn the radio on.
2. 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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3. 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 **RADIO MODEM SATEL 3ASd.**
 - Press **SET [F1]**
 - At the Setting menu, Select **4.PARAMETER (RADIO MODEM) [F4]**
 - Select **1.SELECT PARAMETERS [F1]**
 - Using the Up/Down arrow keys, select **<REC-B>**. Press **SET [F1]**
 - Select **4.PARAMETER (RADIO MODEM) [F4]**
 - Select **2. SET FREQUENCY (3ASd) [F2]**
 - If the Frequency needs to be changed, press **INP [F1]** and type in the desired Frequency. Else press **OK [F6]**.
 - Press **[ESC]**
 - Select 1. Execute **[F1]**

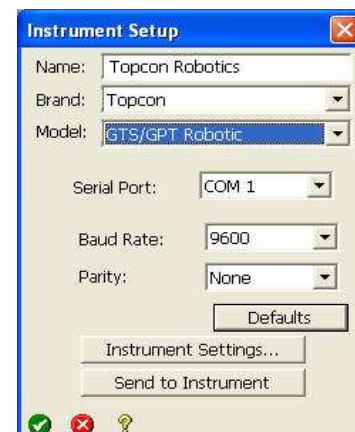
RC-2II

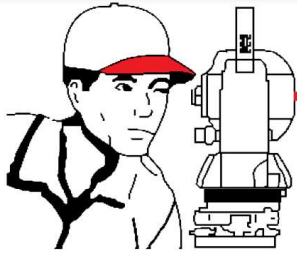
1. Open the battery chamber and remove the batteries. Locate the dip-switch block at the bottom of the battery chamber and verify that dip-switch 3 is to the right. The other switches should be set to the left.
2. Put in fresh batteries if unsure about their age (typical battery life is 40 hrs).
3. Connect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



Ranger/Recon 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 Radio**
 - 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]**





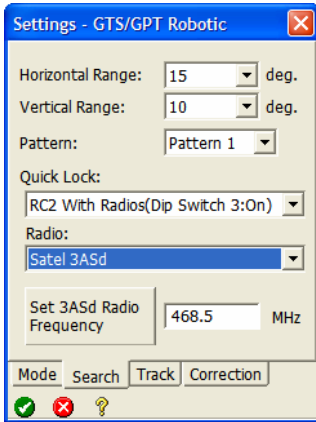
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6. Set the EDM Mode: to the desired resolutions (Coarse/Track 10mm)
7. Track Light: **Auto**
8. Check the **Remote Control** option.
9. Press the **{Search}** tab at the bottom of the display.



10. Set the desired Horizontal and Vertical Range (15 Hor and 10 Vert are good).

11. Set Pattern to **<Pattern 1>**.

12. Set the Quick Lock: **<RC2 With Radios (Dip Switch 3:On)>**

13. Set the Radio to **<Satel 3ASd>** (or 2ASd if that is what you are using).

14. Enter the desired Frequency and press the **[Set 3ASd Radio Frequency]** button.

15. Press the **{Track}** index tab at the bottom of the display.



16. Set the desired search delay value in the Start Searching After: Field. (3 is a typical value).

17. 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>**.

18. Set the Sensitivity to reflect the average distance that you will be shooting. **<Low>** (0-300ft), **<Medium>** (300-600ft), **<High>** (600+ft)

19. Set the Turn Speed to **<High>**.

20. Press the **{Correction}** index tab at the bottom of the display.

21. Verify that all the correction values are set to: **0**

22. Press the **[green check]** button to return back to the Instrument Setup Page.

23. Press the **[Defaults]** button to default the computed Baud Rate and Parity values. Verify that the Baud Rate is set to **9600** and the Parity to **None**.

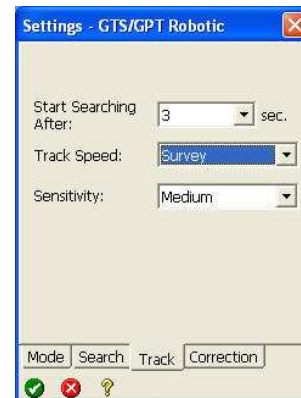
24. Press the **[Send to Instrument]** button. Survey Pro should return a "Happy" sound.

25. Press the **[green check]** Button to exit out to the Instrument Profile page.

26. Press the **[green check]** again to exit back to the Main Survey Pro Menu.

27. Select **[Survey] - [Remote Control]**.

28. Verify active Angles are updating on the display.



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

