Topcon 900/9000 Robot Including FC200 SS Radio
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Abstract: The following document details the steps necessary to use Carlson SurvCE 2.0 with the Topcon 900/9000 Series instrument including the FC200 built in spread spectrum (SS) radio.

REMOTE OPERATION:

Instrument Configuration:
1. Start the Standard Measure program from the desktop of the Topcon 900/9000.
2. Select PROG
3. Select Ext. Link
4. Select Settings
5. Select the desired communication method: RS-232C, RC, SS Wireless, or Bluetooth.
    a. Cable: Set com parameters (9600, 8, None, 1 are default), consult user manual for REC setting (either will work), select ETX for terminate, and RTS set high.
    b. RC: Verify RC is enabled, consult user manual for REC setting (either will work), choose ETX for termination.
    c. SS Wireless: Verify that SS Wireless is enabled and that Terminate is set to ETX. Consult your user manual for you preference between REC-A and REC-B. SurvCE will work with either.
    d. Bluetooth: Verify Bluetooth is enabled, consult user manual for REC setting (either will work), and choose ETX for termination.
6. Select Exit and then ESC.
7. Select Execute.
8. The instrument will display "Remote control is being done from the controller."

Data Collector Configuration:
Note: For SS Wireless on FC200 configuration see next section
1. Start SurvCE by clicking desktop icon.
2. On the Equip tab choose Total Station Setup.
3. Choose Current tab:
    a. Manufacturer: Topcon Robotic
    b. Model: GTS 900 Remote or GPT 9000 Remote.
4. Choose Comms Tab:
    a. Cable: Set to COM1 (unless your data collector uses a different port number). Com parameters must match instrument (see Instrument Configuration section above), press defaults to select default parameters.
        – Default Com Parameters: 9600,8,None,1
    b. Bluetooth:
        – Device: choose driver your data collector uses and select appropriate com port number if it is not automatically selected.

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- – FC200 choose Other for the Device and set the Port to COM6.
- – Press Configure to search and connect to your Bluetooth device.
- – Bluetooth pin of 1111 may be required.

c. Radio:
- – Choose the radio you are using.
- – Configure you com settings.
- – "Configure" button will display if additional configuration is needed
- – For FC200 choose "Data Collector Radio" and press configure to turn radio on and configure channel (channel must match channel set in instrument).
- – For 600+ w/ Topcon Radio choose "Internal Carlson FT2400 (Topcon)" and press configure to turn radio on and configure channel (channel must match channel set in instrument).

d. RC Only (Bluetooth):
- – Use RC tab to configure additional parameters
- – Bluetooth pin 1111 may be required.

e. RC Only (Cable):
- – Use RC tab to configure additional parameters

f. Bluetooth: Com parameters should be 9600, None, 8, 1. Toggle "this is a Bluetooth port", pick the correct Bluetooth driver for your data collector, press "Find Bluetooth port" or select the Bluetooth COM port per you data collector manufacturer's documentation.

5. Use Settings, Search, and RC tab to configure remaining settings.
6. Press check box.
7. SurvCE will now initialize the instrument.

DIRECT OPERATION:

Instrument Configuration:
1. Start the Standard Measure program from the desktop of the Topcon 900/9000.
2. Choose Setup.
3. Choose Communication
4. Choose RS-232C if you are using a cable or Bluetooth for Bluetooth.
   a. RS-232C: Select 1200, 7, Even, 1. Choose Next. CR,LF should be OFF an ACK mode on.
   b. Bluetooth: Set CR,LF off. Pin should be set to 1111. Set Pin code check to off.
5. Press Set twice, then Exit twice.
6. Press Measure.

Data Collector Configuration:
1. Start SurvCE by clicking on desktop icon.
2. On the Equip tab choose Total Station Setup.
3. Choose Current tab:

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    a. Manufacturer: Topcon Direct
    b. Model: GTS 900 Remote or GPT 9000 Remote.
4. Choose Com Setup:
    a. Cable: Set to COM1 (unless your data collector uses a different port number). Com parameters must match instrument (see Instrument Configuration section above), press defaults to select default parameters.
        i. Default Com Parameters: 1200,7,Even,1
    b. Bluetooth:
        i. Device: choose driver your data collector uses and select appropriate com port number if it is not automatically selected.
        ii. FC200 choose Other for the Device and set the Port to COM6.
        iii. Press Configure to search and connect to your Bluetooth device.
        iv. Bluetooth pin of 1111 may be required.
    c. Radio (usually not used for direct configuration):
        i. Choose the radio you are using.
        ii. Configure your com settings.
        iii. "Configure" button will display if additional configuration is needed
5. Select Settings to configure settings.
6. You are ready to begin working.