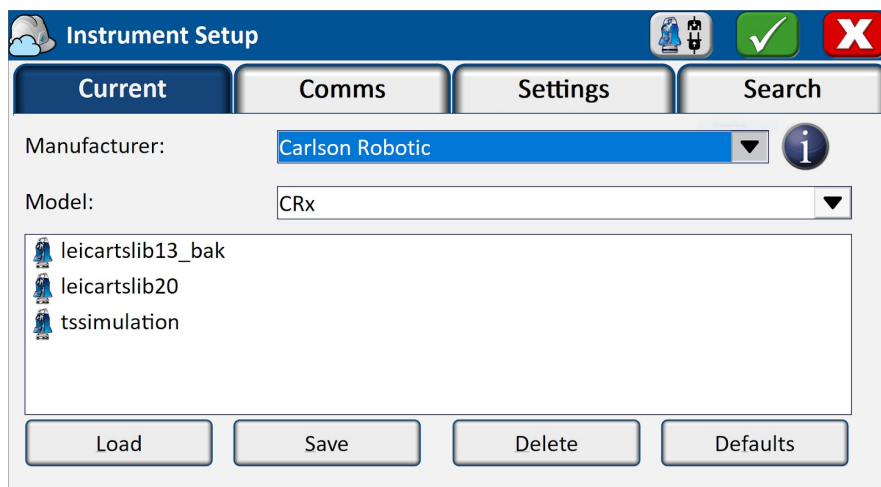


Carlson CRx Quick Start Guide

Connecting to the total station

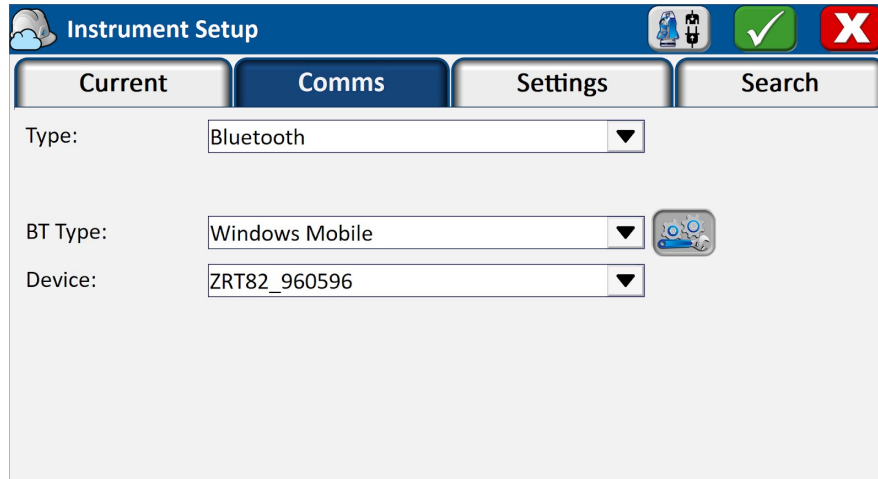
Launch SurvPC 6.17 or higher then tap the Equip Tab, then tap the Total Station button.

On the current tab, set it to Manufacturer: **Carlson Robotic** and Model: **CRx**.



The Carlson CRx total station includes two Bluetooth modules. A standard Bluetooth module is built into the total station, and long-range Bluetooth is available in the ZRT82 radio handle. The long range (handle) Bluetooth is selected by default on the total station. To confirm this setting on the total station, see section 5.3 of the Carlson CRx user manual. When the radio handle is ready to use, the left light on the handle, the power light, will be solid yellow.

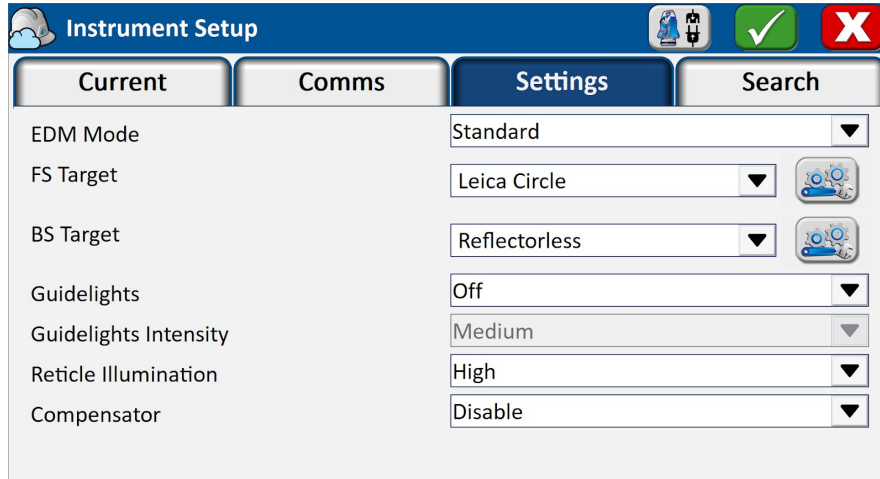
Tap the Comms tab and choose Type: **Bluetooth** and BT Type: **Windows Mobile**, then tap the gear icon to search and find the Bluetooth handle of the CRx. The radio handle will have a Bluetooth name beginning with **ZRT82** as depicted in the screenshot below.



Press the Bluetooth icon to the left of the green check in the top bar to test the Bluetooth connection. When connected, the middle light of the total station will glow red. The yellow light on the far right will flash when data is sent or received by the handle. You will see a “Successful Connection” message on the screen to indicate that the software is communicating with the total station.

Configuring the total station

The settings for the total station are on the Settings and Search tabs.



EDM Mode: EDM modes are defined as follows:

EDM measuring mode	std. dev. ISO 17123-4, standard prism	std. dev. ISO 17123-4, tape	Measurement time, typical [s]
Standard	1 mm + 1.5 ppm	3 mm + 2 ppm	2.4
Single(fast)	2 mm + 1.5 ppm	3 mm + 2 ppm	0.8
Continuous	3 mm + 1.5 ppm	3 mm + 2 ppm	< 0.15

Options in SurvPC are standardized to allow easy software use regardless of the total station in use, so the continuous EDM mode is called “Tracking” in the software. Selecting “User Defined” will use the currently configured EDM mode on the instrument without changing the setting from the software.

The EDM mode selected in this dialog represents non-tracking measurements only. When in tracking mode, and the store button is pressed, the continuous EDM mode will always be used. If instead the read button is pressed, the software will stop tracking and configure the EDM mode selected here for the measurement. This allows for very quick measurements in tracking mode while also allowing for configured higher accuracy measurements.

FS Target/ BS Target: Target selection for foresight and backsight measurements respectively.

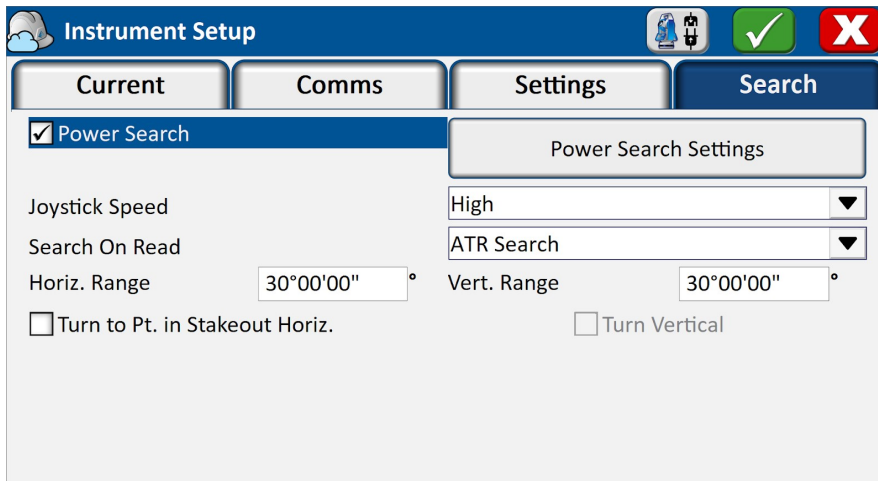
Guidelights: On/Off/Auto. In Auto mode, the software will enable the guidelights only in the joystick screen.

Guidelight Intensity: Low/Medium/High

Reticle Illumination: Controls the intensity of the cross hairs when looking through the viewfinder. Off/Low/Medium/High.

Compensator: Enabled/Disable. It is NOT recommended to disable the compensator, this option can be useful in some extreme situations.

The Search tab controls how the total station searches and tracks the prism:



Power Search: Power search is enabled by default. PowerSearch is a feature which enables a robotic total station to quickly locate a reflective target, such as a prism, in any direction. By sending out a vertical laser fan, the instrument rapidly turns through 360°, scanning for a target. Upon locating the target horizontally, the ATR Search is used to lock onto the target.

For busy work environment with distracting reflective material or unused targets, a power search window can be used to reduce the search window of the power search. Configure a search window under Power Search Settings.

Joystick Speed: Speed of the manual joystick. Low/Medium/High

Search On Read: Allows configuration of the behavior when the read or store button is pressed and the total station is not already locked on a target. None, Power Search, ATR Search, GPS Search.

GPS Search will use the location of a GPS attached or near to the prism pole to guide the total station to the location of the target. Selecting GPS Search requires hybrid configuration when the hybrid module is enabled. When the Hybrid module is not available, GPS Search can still be configured

via a settings button that will appear on the search dialog. In that scenario, GPS Search requires a NMEA GPS Stream connected via cable or Bluetooth.

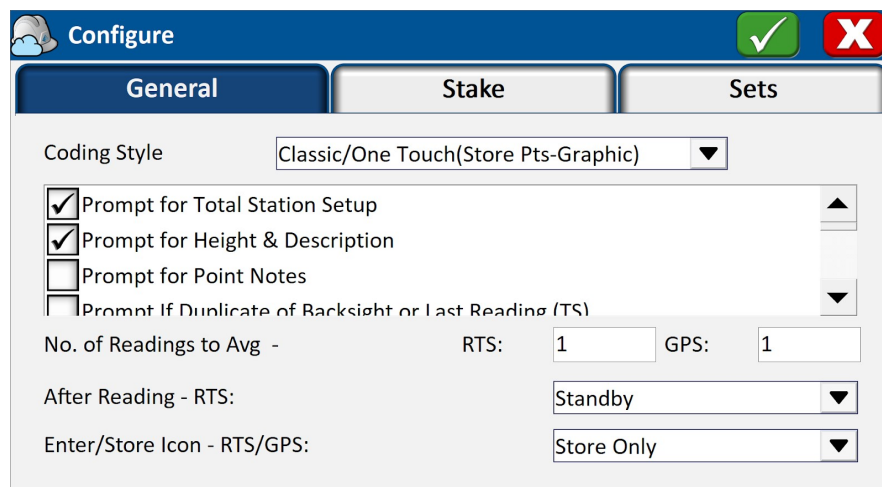
Horizontal Range/Vertical Range: Defines the horizontal and vertical range for ATR Search when ATR Search is the configured search option.

Turn To Pt In Stakeout Horiz. / Turn Vertical: When enabled, the total station will automatically turn to the stakeout point when the user stakes a point.

When all settings are as desired, press the green check to finalize instrument configuration.

Other useful settings

Other useful settings for the total station can be found in the main menu using Equip->Configure.



Prompt For Total Station Setup: When enabled, the software will prompt to review the occupation and backsight setup upon entering any live survey screen.

Prompt for height & description: When enabled, the software will show a height/description screen after measuring each point. Otherwise, the height and description must be set in the bottom bar prior to measuring.

No. Readings To Avg: Users who wish to average total station measurements automatically with each measurement (this is not common), can set the number of readings to average here.

The After Reading - RTS Defines the behavior of the total station after any measurement. Available options are Standby/Lock/Track, or previous state. The previous state option will return the total station to the state the instrument was in prior to measuring.