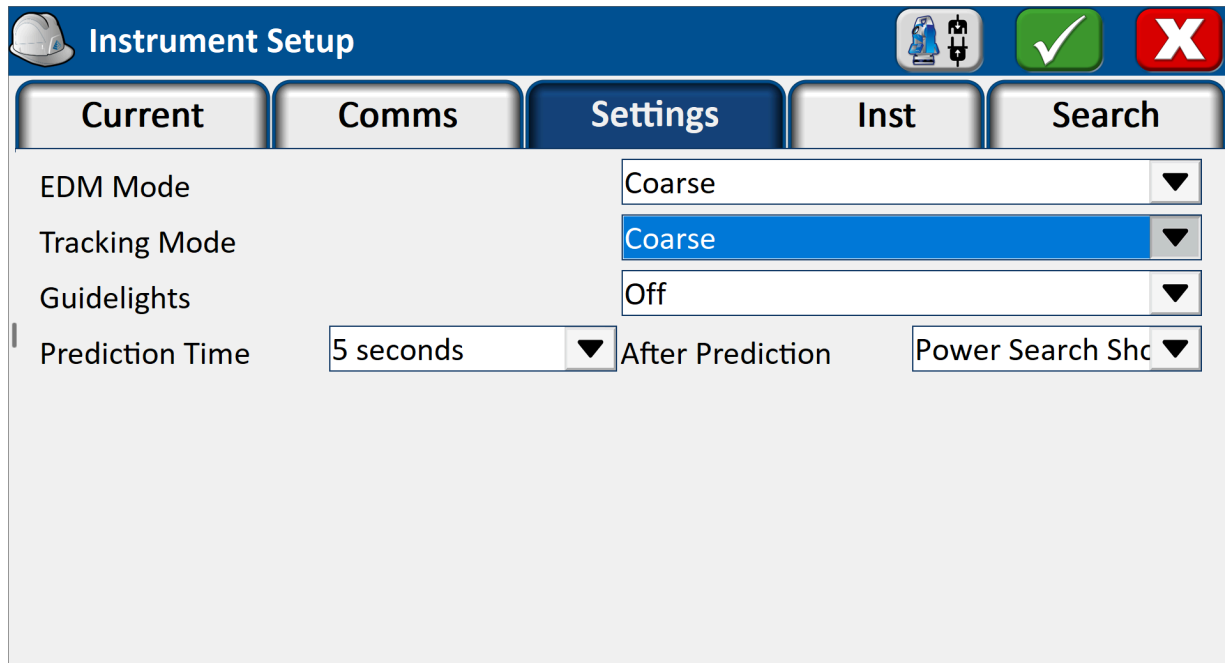


Understanding CRT Options in SurvPC

The CRT driver in SurvPC contains several new options to optimize the performance of the CRT robotic total station with SurvPC.

Settings Tab



The screenshot shows the 'Instrument Setup' dialog box with the 'Settings' tab selected. The dialog has a blue header bar with a hard hat icon and the title 'Instrument Setup'. To the right of the title are three icons: a blue robot icon, a green checkmark, and a red 'X'. Below the header are five tabs: 'Current', 'Comms', 'Settings' (selected), 'Inst', and 'Search'. The 'Settings' tab contains four rows of controls:

Control	Value
EDM Mode	Coarse
Tracking Mode	Coarse
Guidelights	Off
Prediction Time	5 seconds

Below the 'Prediction Time' control, there are two additional controls: 'After Prediction' and 'Power Search Shc'.

EDM Modes:

Coarse: Fastest EDM mode, for lowest accuracy. This is the same accuracy as tracking.

Fine: Higher accuracy EDM mode.

Super Fine: Highest Accuracy EDM mode, but can be quite slow. Use only for stationary targets where highest accuracy is needed.

Tracking Mode:

Coarse: Best tracking, slightly lower accuracy

Fine: Slightly weaker tracking, better accuracy.

Prediction Time:

When the prism is lost while tracking, the prediction time defines how long the total station will continue to turn in the in the last known direction and speed in an attempt to regain tracking. Options are NONE, 3s, 5s, 7s, and 10s.

After Prediction:

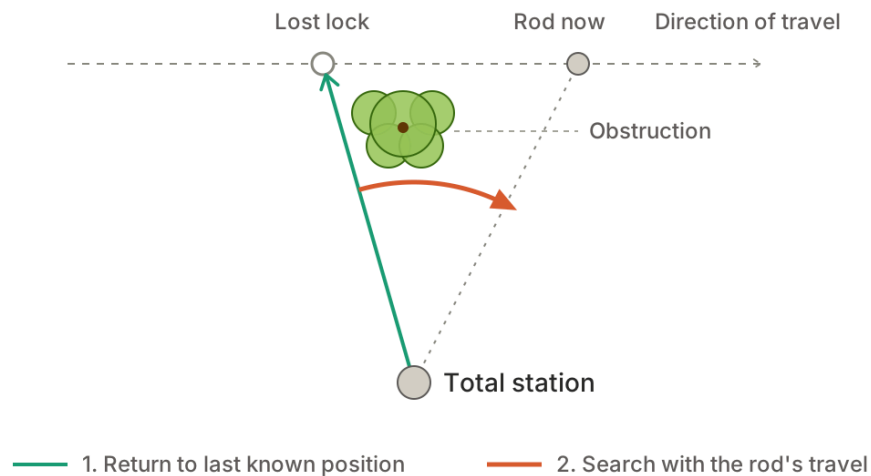
When prediction mode ends, the After Prediction setting determines the next action. Note that if prediction time is set to “None” the After Prediction action begins immediately upon lost lock.

Stop And Wait: The total station will stop where it was when prediction mode ended and enter a wait state. In the wait state, if the prism comes into view, the total station will relock automatically.

Return to last and Wait: The total station will return to the last known locked location and enter a wait state. In the wait state, if the prism comes into view, the total station will relock automatically.

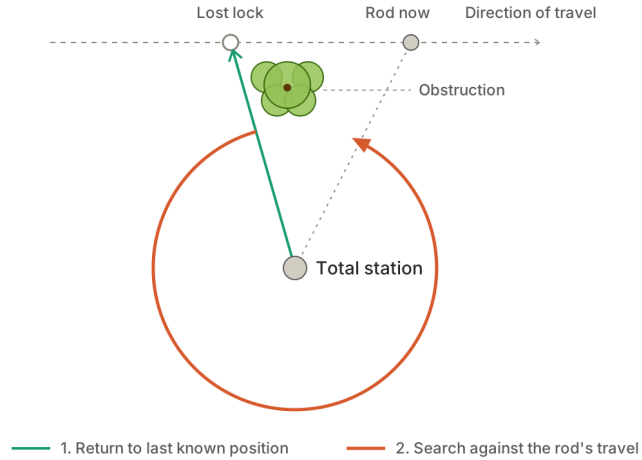
Power Search Short: The total station will return to the last known position (where it lost tracking) and then power search in direction of movement.

Power search short

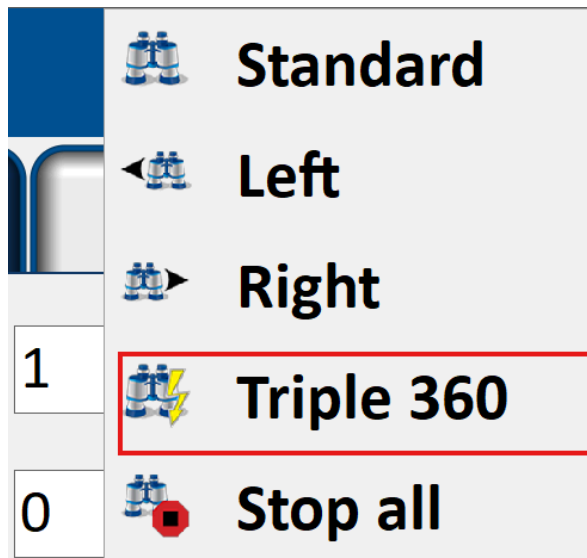


Power Search Long: The total station will return to the last known position (where it lost tracking) and then power searching in the opposite of the direction of movement, attempting to intersect with the user from the opposite direction and regain lock.

Power search long



Triple 360 Search



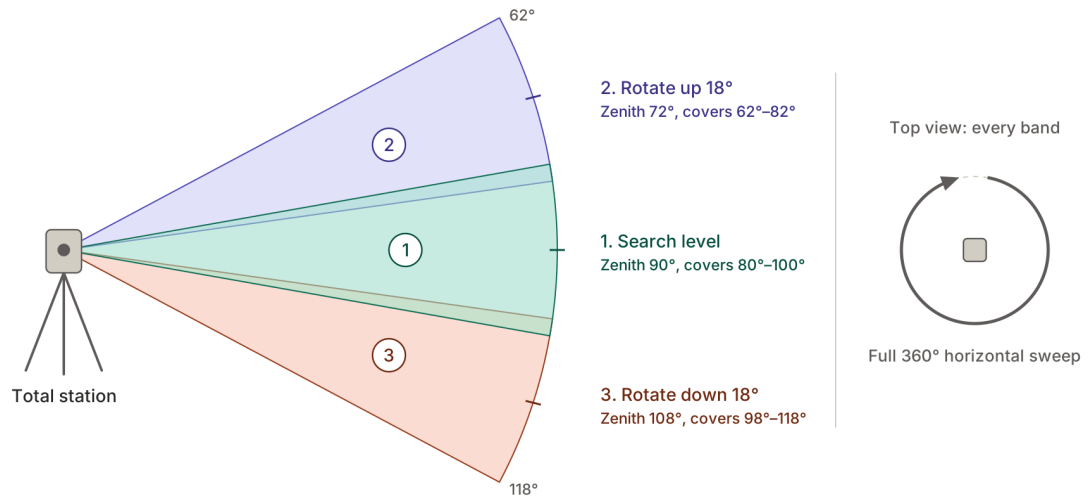
A standard power search covers a vertical band 20° high: 10° above and below the pointing angle. Triple 360 Search uses the total station's faster search speed to cover three bands in turn:

1. The total station points horizontally (zenith 90°) and performs a full 360° power search.
2. If the prism is not found, it rotates up 18° and searches again.
3. If the prism is still not found, it rotates down 18° below horizontal and searches a third time.

The bands overlap slightly, so together they cover zenith angles from roughly 60° to 120°. This allows the prism to be found even when it is well above or below the instrument.

Triple 360 search

Side view: three 20° bands, searched in order



Angles are zenith angles (90° = horizontal). Each band is 20° ($\pm 10^\circ$) and overlaps its neighbor by 2°. Combined coverage: 62° to 118°.