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Series SRX

QUICK START GUIDE

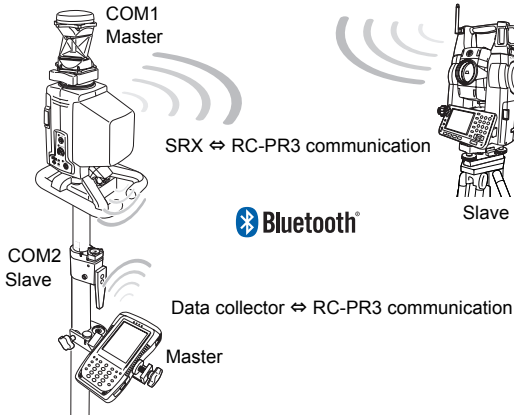
This guide explains settings and procedures for standard Auto Tracking measurement using the SRX as an element of the On-demand Remote Control System (RC-PR3). For other measurement methods and settings, see Series SRX Operator's Manual.

1. PREPARATION

Set up the SRX, RC-PR3 and prism. Make sure the beam emitter of the RC-PR3 and prism are facing one another.

☞ "9. SETTING UP THE INSTRUMENT", System configuration of the On-demand Remote Control System: On-demand Remote Control System Manual

● **Illustration: Auto Tracking measurement in progress**



2. MEASUREMENT SETTINGS

- Select target type and set Auto Tracking and guide light settings
- Press { } to power ON the SRX. Tap a status bar icon to select the next available option. Press and hold to open the relevant configuration screen.

	Remaining battery power (display only)	<input checked="" type="radio"/> Track	
	Target display	<input type="radio"/> Search	
	Auto Pointing/Auto Tracking status (1)	<input type="radio"/> None	
	Laser-pointer/ guide light status (3)	<input type="radio"/> AT On	
	Tilt angle compensation selection	<input type="radio"/> Go to Motor config.	
	Bluetooth/RS232C connection (2)		
	Character input mode		
	Input panel		









☞ Status bar: "5. BASIC OPERATION" Configuration screens: "21. , CHANGING THE SETTINGS"

Auto Tracking PROCEDURE







- PREPARATION ☞ P1
 - CONFIGURATION ☞ P1
 - Bluetooth SETTINGS ☞ P4
 - INITIATE CONNECTION ☞ P4
 - TURNING with RC-PR3 ☞ P5
- OR
- TURNING from SRX ☞ P6
 - TRUBLESHOOTING ☞ P8


AUTO TRACKING MEASUREMENT

(1) Icons indicating the current status of the SRX while the motor is in operation .

-  : Rotating
-  : Rotating at fixed velocity  "5.4  Fixed velocity rotation"
-  : Searching
-  : Auto Tracking in progress (when Auto Tracking set)
-  : Target "lost" (when Auto Tracking set)
-  : (Flashes) Waiting for prism (when Auto Tracking set)

(2) Icons indicating Bluetooth connection status.

Display		Status	
"Slave" setting	"Master" setting		
		Connecting	
		Canceling connection	
		Antenna moving	Inquiring about other Bluetooth devices
		Antenna stationary	Communication settings in progress/Preparing for communication (Instrument just powered ON or just switched to "Slave")
		Connection error	

Connection via RS232C cable is indicated by the  icon.

(3) The color and status of the guide light allows the poleman to ascertain the instrument status from the prism side.

● **Guide light status**

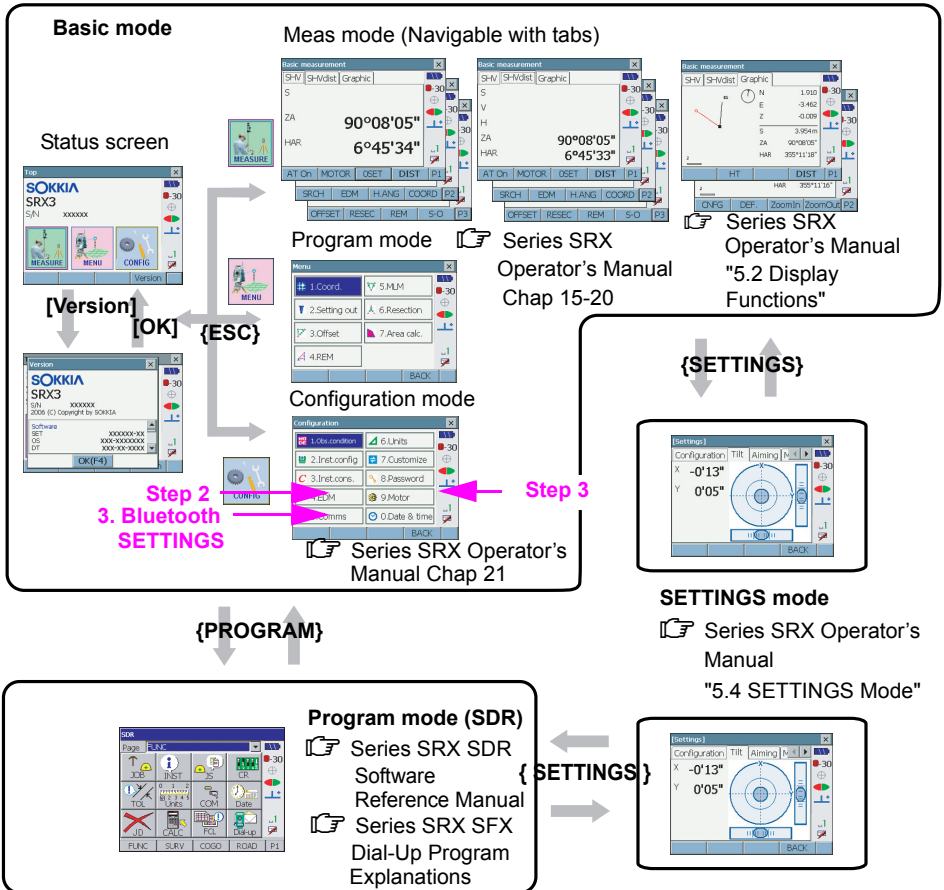
Status	Meaning
Slow flashing (Red and green simultaneously)	Waiting
Fast flashing (Red and green simultaneously)	Searching in progress
	Measuring (continuous measurement)
	Returned signal checking in progress
	Auto Tracking in progress
Green and red alternate flashing	Search error (error screen only)
	Distance measurement error (no signal, sighting error)
	Prism "wait"

Guide light



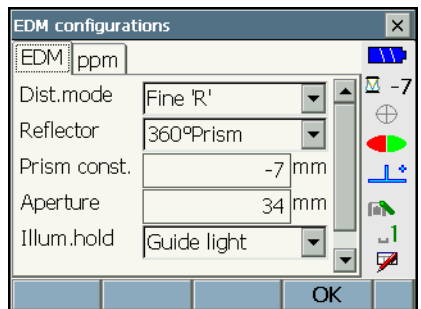
2. Selecting Distance Measurement Method

The diagram below describes the different modes of the SRX and key operations for navigating between them.



Select "EDM" in Configuration mode and select a distance measurement mode in "Dist.mode". Although prism type can be selected by tapping the -7 icon in the status bar, the EDM tab also allows the user to set reflector information such as prism constant.

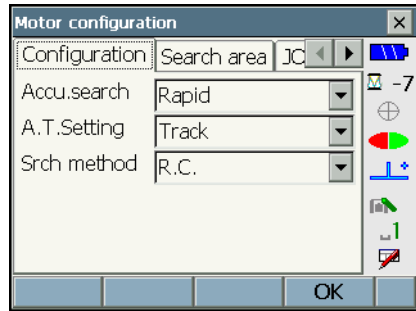
["21.3 EDM Settings"](#)



3. Select "Motor" in Configuration mode and set the following options as shown below.

Accu.search: Rapid
 A.T.Setting: Track
 Srch method: R.C.

"11.1 Auto Pointing Settings"

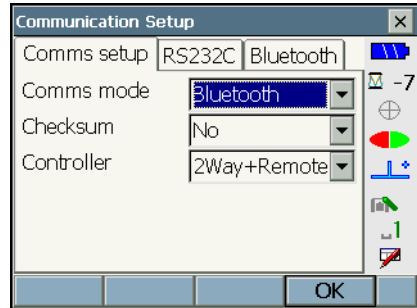


3. Bluetooth SETTINGS

Select "Comms" in Configuration mode and set "Comms mode" to "Bluetooth". When using Bluetooth communication with the On-demand Remote Control System, set "Mode" in the Bluetooth tab to "Slave".



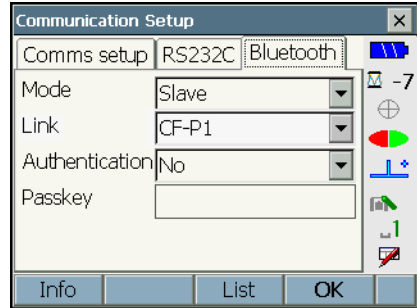
- Changing communication settings during Bluetooth communication will cancel the connection.
- The status bar icon cannot be tapped in <Communication Setup>.



Note

- When communicating between the SRX and RC-PR3 using Bluetooth technology, the RC-PR3 Bluetooth unit for the SRX will be set as the "Master" device". Set the SRX Bluetooth unit as the "Slave" device.

"8. CONNECTING TO EXTERNAL DEVICES", "Master"/"Slave": "8.1 Bluetooth connections"



4. INITIATING A Bluetooth CONNECTION

Press {ESC} to return to Meas mode. The SRX enters "Waiting" mode. Power ON the RC-PR3 by pressing to initiate a connection. When a connection has been successfully established is displayed in the status bar.

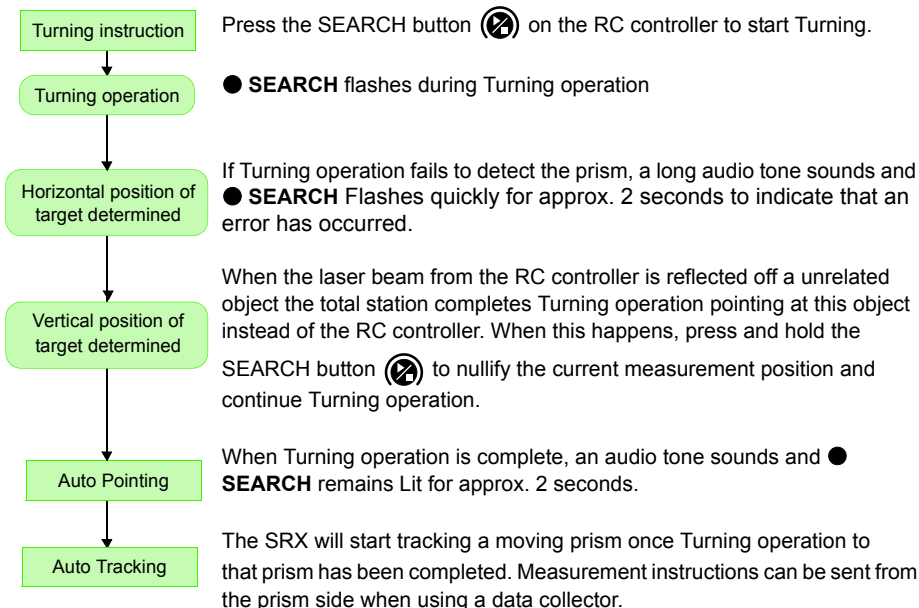
Port	RC Controller control panel status		
	Lit	Off	Flashing
COM1 (total station)	Comm OK	Serial communication setup/connection in progress	Searching for total station
COM2 (data collector)	Comm OK	Serial communication setup/connection in progress	Data collector is searching for RC controller

5. PERFORMING TURNING FROM THE RC-PR3

Follow the procedure below to perform Turning operation from the On-demand Remote Control System RC controller.

When performing Turning a laser is emitted from the laser projection port on the RC controller. The total station rotates until its beam detector receives this beam. In this way the total station is able to detect the position of the RC controller then automatically sight the center of the prism.

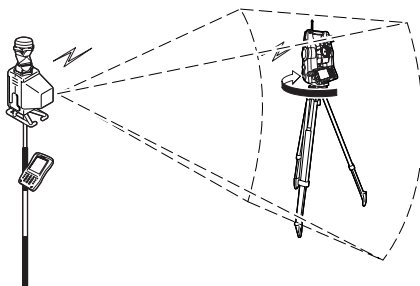
[📖 On-demand Remote Control System Manual](#)



● Search compensation during Auto Pointing

When the target enters the field-of-view within the set time limit for Auto Pointing completion, compensation is performed. Although this compensation reduces measurement time and increases search accuracy, there is a possibility that the target and telescope reticle appear to be misaligned. Compensated values are displayed in blue.

If the SRX is rotated (manually or using the jog dials) more than 10°, compensation will be canceled. Compensation is automatically performed when performing Auto Tracking. Terminating Auto Tracking or powering OFF the SRX will cancel the compensation function.



6. PERFORMING TURNING FROM THE SRX

The Turning instruction can be sent using softkey operations on the SRX. The functions of the following softkeys change according to the settings made in step 2.

 Auto Pointing: "11. TARGET SIGHTING", Auto Tracking: "12. MEASUREMENT WITH AUTO TRACKING"

Softkey	When "Track" set in "A.T. Setting"		When "None" set in "A.T. Setting"
	"Srch method" is R.C.	"Srch method" is G.S. (Global Search)	
[SRCH]	Performs Auto Pointing		
[DIST]	Performs Turning operation then angle/distance measurement	Performs Auto Pointing then angle/distance measurement	Performs angle and distance measurement
[H.ANG]	Sets current angle to a specified angle after Turning operation is complete	Sets current angle to a specified angle after Auto Pointing is complete	Sets current angle to a specified angle
[0 SET]	Sets current angle to 0 after Turning operation is complete then performs Auto Tracking	Sets current angle to 0 after Auto Pointing is complete then performs Auto Tracking	Sets current angle to 0
[RC]	Rotates directly in the direction of the RC controller then performs Auto Pointing		
[<-RC]	Rotates in a counterclockwise direction (from the point of view of the RC controller) then performs Auto Pointing		
[RC->]	Rotates in a clockwise direction (from the point of view of the RC controller) then performs Auto Pointing		
[RC Cont]	Nullifies the current measurement position then continues Turning operation		
[AT On]	Performs Turning operation then Auto Tracking	Performs Auto Pointing then Auto Tracking	Performs Auto Tracking *1
[ROTATE]	Automatically rotates the instrument to the specified vertical and horizontal angles then performs Turning operation	Automatically rotates the instrument to the specified vertical and horizontal angles then performs Auto Pointing	Automatically rotates the instrument to the specified vertical and horizontal angles
[TURN]	Automatically rotates the instrument 180° from the specified vertical and horizontal angles then performs Turning operation	Automatically rotates the instrument 180° from the specified vertical and horizontal angles then performs Auto Pointing	Automatically rotates the instrument 180° from the specified vertical and horizontal angles

*1: Pressing [AT On] when A.T. Setting is set to "None" will result in one of the following:
 When "R.C." selected: Performs Turning operation then Auto Tracking
 When "G.S." selected: Performs Auto Pointing then Auto Tracking

Power OFF the RC controller or select  or  in the SRX status bar to cancel the connection. When connected to other Bluetooth devices, disconnect from the device set as "Master".

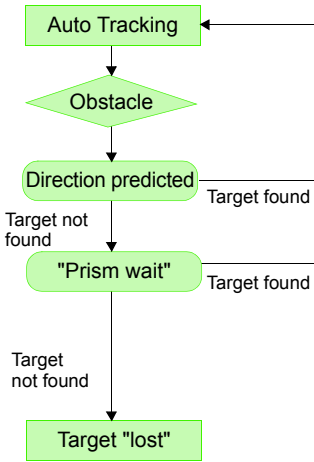
Softkey "Motor" setting	When "Track" set in "A.T. Setting"		When "None" set in "A.T. Setting"
	"Srch method" is R.C.	"Srch method" is G.S. (Global Search)	
[SRCH]	Performs Auto Pointing then Auto Tracking		Performs Auto Pointing
[DIST]	Performs Turning operation then distance measurement/ Auto Tracking	Performs Auto Pointing then distance measurement/ Auto Tracking	Performs angle and distance measurement
[H.ANG]	Sets current angle to specified angle after Turning operation complete, then performs Auto Tracking	Sets current angle to specified angle after Auto Pointing complete, then performs Auto Tracking	Sets current angle to a specified angle
[0 SET]	Sets current angle to 0 after Turning operation completed then performs Auto Tracking	Sets current angle to 0 after Auto Pointing completed then performs Auto Tracking	Sets current angle to 0
[RC]	Rotates directly in the direction of the RC controller then performs Auto Pointing		Rotates in direction specified by RC controller then performs Auto Pointing
[<-RC]	Rotates in counterclockwise direction (from point of view of RC controller) then performs Auto Pointing/ Auto Tracking		Rotates in counterclockwise direction (from point of view of RC controller) then performs Auto Pointing
[RC->]	Rotates in clockwise direction (from point of view of RC controller) then performs Auto Pointing/ Auto Tracking		Rotates in clockwise direction (from point of view of RC controller) then performs Auto Pointing
[RC Cont]	Nullifies the current measurement position then continues Turning operation/ Auto Tracking		Nullifies current measurement position then continues Turning operation
[AT On]	Performs Turning operation then Auto Tracking	Performs Auto Pointing then Auto Tracking	Performs Auto Tracking *1
[ROTATE]	Automatically rotates the instrument to specified vertical and horizontal angles then performs Turning operation/ Auto Tracking	Automatically rotates instrument to specified vertical and horizontal angles then performs Auto Pointing/ Auto Tracking	Automatically rotates SRX to the specified vertical and horizontal angles
[TURN]	Automatically rotates SRX 180° from specified vertical and horizontal angles then performs Turning operation/ Auto Tracking	Automatically rotates SRX 180° from specified vertical and horizontal angles then performs Auto Pointing/ Auto Tracking	Automatically rotates SRX 180° from specified vertical and horizontal angles

*1: Pressing [AT On] when A.T. Setting is set to "None" will result in one of the following:
 When "R.C." selected: Performs Turning operation then Auto Tracking
 When G.S." selected: Performs Auto Pointing then Auto Tracking



Lost Prism

In the event that an obstacle prevents the SRX sighting the target during Auto Tracking and the target is "lost", the instrument will predict the direction in which the target will travel and continue Auto Tracking according to the following procedure. I



Start Auto Tracking

Obstacle such as tree or building blocks line-of-sight.

When prism is re-acquired in the predicted direction Auto Tracking continues without change.

If the target is not re-acquired however, Auto Tracking will stop and the SRX will enter "prism wait" status for a period of 60 seconds. If the target enters the field of view or a Turning command is received from the RC controller during "prism wait", the SRX will search for the target, then resume Auto Tracking.

If the target is not re-acquired during the "prism wait" period, the target is considered "lost" and sighting terminates. Start Auto Tracking procedure again from step 1.

7. TROUBLESHOOTING

Problem	Potential cause and checks
Bluetooth connection cannot be established	Point the antennas of paired devices towards one another. ☞ "4.4 Bluetooth Wireless Technology"
	All SRX communication settings will be changed to factory settings when a cold boot is performed. Comms setup will need to be performed again. ☞ "8.1 Wireless Communication using Bluetooth Technology"
Turning operation from the RC-PR3/Auto Tracking measurement cannot be performed properly	Check the SRX beam detector cover is open/Check that the RC controller laser projection port is pointing in the direction of the SRX. ☞ "4.2 Parts of the Instrument"
	Check Auto Pointing/Auto Tracking settings for the SRX. ☞ "8.1 Wireless Communication using Bluetooth Technology"
Cannot read in JOB data before starting measurement with the SRX	Create JOB data in Program mode (SDR) before starting measurement. ☞ Series SRX SDR Software Reference Manual
Saving measurement data to the SRX	Data can be saved in Program mode (SDR) or using external memory devices. ☞ "8.3 Connecting to USB devices", Series SRX SDR Software Reference Manual

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