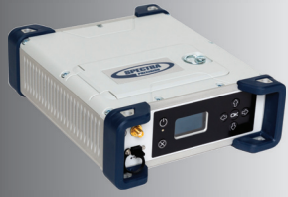
SP90m



Getting Started Guide

Four Simple Steps to Get Started

This guide provides an overview of the important features and instructions for how to set up and operate the Spectra SP90m GNSS receiver.

1. Unpack and check the contents.
2. Get the receiver ready for use.
3. Turn on the receiver.
4. Run the built-in Web Server or Spectra Survey Pro field software to use and control the receiver.

Additional Information

For further details regarding the features and operation of the receiver, and to access the latest information, including the Spectra SP90m GNSS Receiver User Guide and Release Notes, go to:

https://spectrageospatial.com/sp90m-gnss-receiver/

Spectra SP90m Support

For Spectra SP90m support, go to:

https://spectrageospatial.com/sp90m-gnss-receiver/

For safety information, refer to the SP90m GNSS Receiver User Guide.

P/N 113837, Rev B
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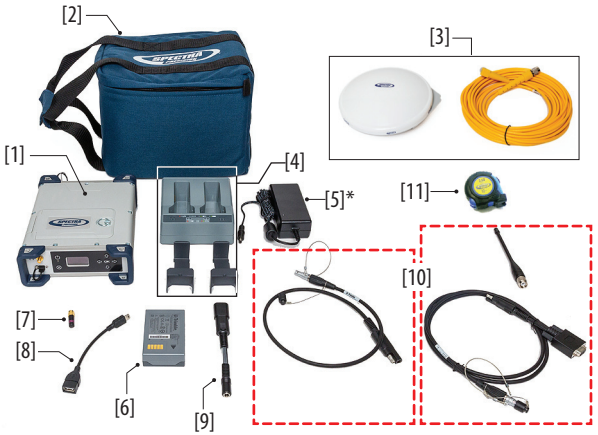
SPECTRA® GEOSPATIAL

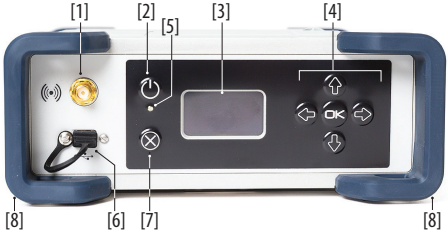
Step 1: Unpacking and Checking Contents



Number	Description	Number	Description
[1]	SP90m GNSS receiver	[6]	Li-Ion battery
[2]	Transport case	[7]	Helical SMA 2.4 Bluetooth/WiFi antenna
[3]	GNSS antenna+coaxial cable	[8]	OTG Cable, USB A to Mini USB B
[4]	Dual Li-Ion battery charger and two spacers	[9]	SAE-to-DC adapter cable, 0.15 m
[5]*	AC/DC power supply, 65 W, 19 V, 3.43 A, 100-240 V AC (without power cord)	[10]	7P Lemo-to-SAE power cable, 0.6 m, or Power/Data cable, 1.5 m, DB9-f to OS/ 7P/M to SAE + 5" whip antenna (TNC) for 410-470 MHz radio if receiver model includes internal radio.
		[11]	Tape measure, 3.6 m (12 feet)

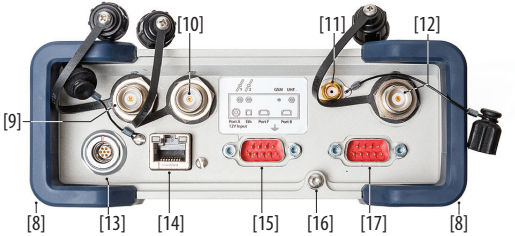
* Country specific power cord to be ordered separately.

Front Panel



Number	Description	Number	Description
[1]	External Bluetooth/WiFi antenna	[5]	Power LED
[2]	Power button	[6]	USB OTG mini connector
[3]	Display screen	[7]	Escape button
[4]	Keypad including four direction keys and a central OK key	[8]	Bumpers

Rear Panel



Number	Description	Number	Description
[8]	Bumpers	[13]	DC Power input and serial port A (RS232)
[9]	GNSS input #1	[14]	Ethernet connector
[10]	GNSS input #2	[15]	RS232 serial port F + PPS output
[11]	External GSM antenna (option)	[16]	Earth terminal
[12]	UHF radio connector	[17]	Switchable RS232/RS422 serial data port B (RS232 by default) + External Event input

Step 2: Get the Receiver Ready for Use

Charging the Lithium-Ion battery: The rechargeable Lithium-ion battery is supplied partially charged. Before using the battery for the first time, charge it completely using the dual-battery charger provided. The battery comes with charge battery indicator LEDs. Push the button on the battery to check the battery charge status.

Charging takes approximately 3 hours at room temperature.

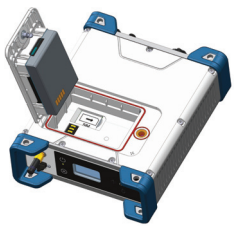
Warning: Ensure that nothing obstructs the vents in the back and bottom of the charger and that the charger is placed on a hard, flat and level surface, to ensure that there is airflow under the charger. Do not operate the battery charger while it is in the transport case.

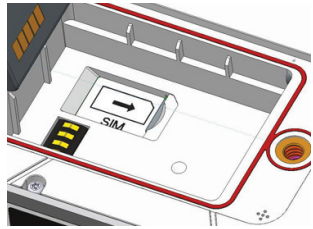
LED Status Indicator: Beside each slot are two LED indicators (red and green) to display the battery status:

Status	Red	Green
No battery detected (no battery present or battery defect)	On	Off
Battery detected (charging not started yet) - Conditioning not required - Conditioning required	 Off Blinking	 Off Off
Charging in progress - Conditioning not required - Conditioning required - Over/under temperature (charge is inhibited)	 Off Blinking One flash every 25 s	 Off Blinking Blinking
Conditioning in progress	On	Blinking
Conditioning done (battery fully charged)	On	On
Battery fully charged - Conditioning not required - Conditioning required	 Off Blinking	 On On
Power supply over/under voltage	Off	One flash every 25 s

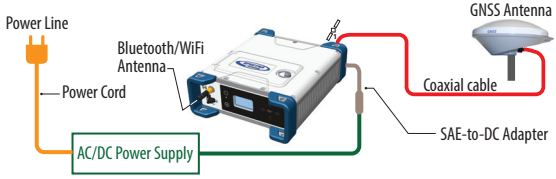
The battery may be used as power source when the receiver is used in field operations, or as backup to the external DC source when used indoors.

Inserting the SIM Card and Battery: Open the battery door by releasing the quarter-turn wing nut (turn anti-clockwise) and then by lifting the battery door. The SIM card should be inserted first before inserting the battery (see below). The battery should first be inserted into the back of the battery door. Then you can close and lock the battery door.





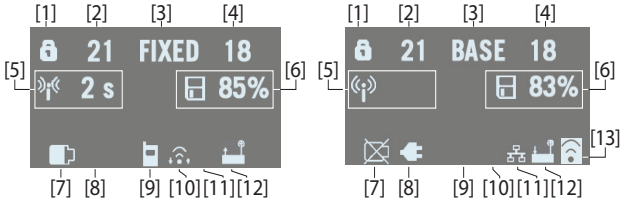
Connecting the GNSS Antenna, External Power Source and Bluetooth/WiFi Antenna: Connect the GNSS antenna to GNSS input #1 (item [9] on rear panel; see page 3). Use the coaxial cable provided to make this connection. Use the AC/DC power supply, the SAE-to-DC adapter and the power cord to apply external power to the receiver.



Step 3: Turning on the Receiver

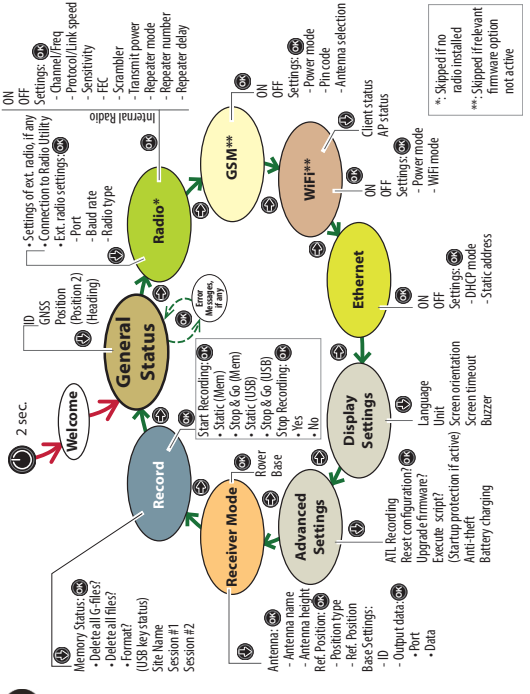
- To turn on the receiver, press the Power button for about two seconds until the power LED (item [5] on front panel; see page 3) turns solid green, then release the button. The receiver will automatically complete its initialization phase before it starts operating.
- To turn off the receiver, press the same Power button for about two seconds. The Power LED will blink green until the receiver turns off.

General Status Screen: This screen is displayed by default after the receiver has initialized.



Number	Description	Number	Description
[1]	Anti-theft and/or startup protection or alarms	[8]	External DC source being used
[2]	Number of satellites received	[9]	Modem status
[3]	Position solution status for antenna #1, or “BASE” if receiver used as a base	[10]	WiFi status
[4]	Number of satellites used	[11]	Ethernet status
[5]	Corrections being received (with age of corrections) or sent (if a base)	[12]	Bluetooth/Radio/WiFi status
[6]	Data recording indicator	[13]	WiFi access point status
[7]	Battery status		

Using the Front Panel Screen: See flowchart below.



: Used to scroll through the different screens. Also used to switch from a digit to another when you are editing a numerical value.

: When a function is displayed, used to scroll through the possible options, if any. Also used to enter numerical values.

: Used to enter the edit mode (for those functions that have one) or to validate a selected parameter.

: Used to go up to the "parent" screen, when applicable. A long press on this button will take you back to the General Status screen.

Step 4: Controlling and Using the Receiver

Using the Built-in Web Server

Use any WiFi-capable device (computer, field controller, smart phone) on which you can run a web browser.

- Browse through the different functions on the SP90m front panel until you access the WiFi screen.
- Turn on WiFi, choose Access Point as the operating mode. Back to the root WiFi screen, you will see the static (and fixed) IP address of the access point: **192.168.130.1**.
- On your computer, scan for WiFi and take all the steps to establish a WiFi connection with the SP90m (Default WiFi key= Receiver serial number).

- Run a web browser on your computer and type **192.168.130.1**. This starts the Web Server.

  Please refer to the Web Server's On-line context-sensitive Help to learn how to use the Web Server.

Using Spectra Survey Pro Field Software