Leica GPS900
Equipment List

GNSS

- when it has to be **right**

Leica Geosystems

GPS900 Package

1. GPS900 RTK Rover

1.1 GPS900 Controller

The controller can be connected to the ATX900 with a Bluetooth connection or can be connected using a cable.

1.1.1 RX900 for GPS900

748 414 RX900, WinCE GPS900 Controller with battery compartment, touch screen, alpha keyboard, stylus for touch screen, user manual. Includes 256MB internal memory.

759 156 RX900c, WinCE GPS900 Controller with colour display, battery compartment, alpha Keyboard, stylus for touch screen, user manual.

1.1.2 CF Card for RX900c

733 257 MCF256, CompactFlash card 256MB.

745 995 MCF1000, CompactFlash card 1GB.

1.2 GPS900 Antenna

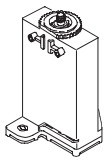
The ATX900 antenna has a 5/8" thread and screws directly onto the poles with 5/8" screw.

1.2.1 ATX900 GG for GPS900

759 161 ATX900 GG, GPS/Glonass Antenna for GPS900. To be used together with the RX900 controller.

1.3 Satelline Radio Modems

Select one for the RTK rover according to the required frequency



733 275 GFU14-0, Satelline 3AS radio modem (433.525 MHz, 25.0 kHz channel spacing, 0.5 W) already intergrated into housing, User Manual and CE-Declaration of Conformity included.

733 276 GFU14-1, Satelline 3AS radio modem (406.425 MHz, 25.0 kHz channel spacing, 1.0 W) already intergrated into housing, User Manual and CE-Declaration of Conformity included.

738 272 GFU14-2, Satelline 3AS radio modem (445.000 MHz, 12.5 kHz channel spacing, 1.0 W) already intergrated into housing, User Manual and CE-Declaration of Conformity included.

738 273 GFU14-3, Satelline 3AS radio modem (443.000 MHz, 12.5 kHz channel spacing, 1.0 W) already intergrated into housing, User Manual and CE-Declaration of Conformity included.

738 274 GFU14-4, Satelline 3AS radio modem (440.550 MHz, 25.0 kHz channel spacing, 0.5 W) already intergrated into housing, User Manual and CE-Declaration of Conformity included.

738 275 GFU14-5, Satelline 3AS radio modem (458.150 MHz, 12.5 kHz channel spacing, 0.5 W) already intergrated into housing, User Manual and CE-Declaration of Conformity included.

738 276 GFU14-6, Satelline 3AS radio modem (439.8625 MHz, 12.5 kHz channel spacing, 1.0 W) already intergrated into housing, User Manual and CE-Declaration of Conformity included.

753 928 GFU14-7, Satelline 3AS radio modem (465.500 MHz, 25.0 kHz channel spacing, 1.0 W) already intergrated into housing, User Manual and CE-Declaration of Conformity included.

756 623 GFU14-8, Satelline 3AS radio modem (458.6000 MHz, 25.0 kHz channel spacing, 0.5 W) already intergrated into housing, User Manual and CE-Declaration of Conformity included.

1.4 Gainflex Radio Antennas

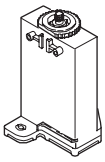
Select according to frequency of radio modem

639 964 Gainflex radio antenna, frequency range 400 – 435 MHz.

667 243 Gainflex radio antenna, frequency range 435 – 470 MHz.

Intuicom, PacificCrest and IFR radio modems can also be used together with GPS900.

1.5 Mobile Phones



750 242 GFU24, Housing with Siemens MC75 GSM/GPRS Module (Quad-Band GSM 850/900/1800/1900 MHz), fits on GHT56 for the SmartRover.

1.6 Antennas for Mobile Phones

667 237 GAT3, Antenna for 900/1800 MHz mobile network.

1.7 GPS900 Rover Setup on Pole

Recommended Pole:

752 292 GLS30 GPS telescopic carbon-fibre pole with circular bubble and 5/8" screw, snap-locks at 2,00m
742 007 GHT52, Clamp arrangement for attaching the GHT39 or GHT56 to the GPS carbon fibre telescopic pole 752 292.
747 096 GHT56, Holder for attaching RX900 Controller and GFU modem housing to pole.

Other available poles.

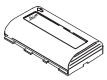
These poles must comprise 1 grip, 1 bottom section, 1 top section and one GHT56.

1.7.1 Aluminium Pole

667 223 Grip with circular bubble and fixing element.
667 221 Bottom section aluminium pole with steel tip.
667 222 Top section aluminium pole with 5/8" screw.
747 096 GHT56, Holder for attaching RX900 Controller and GFU modem housing to pole.

1.8 Batteries for ATX900 and RX900

One battery is required for the ATX900 and one for the RX900.



733 269 GEB211, Lithium-Ion battery, 2.2Ah, rechargeable. To be used with ATX900, RX900 and GHT56 holder.

1.9 GPS900 RTK Rover Antenna Cable

1.9.1 GPS900 RTK Rover Cable

733 299 GEV173, 1.2m cable to connect ATX antenna with RX900 series Controller.

1.10 RX900 Firmware

748 996 RX900 Firmware incl. Surveying and RTK Functionality, system language, standard applications and country configuration.

1.11 Receiver Options

1.11.1 Update rate options for GPS900

748 998 RX900 RTK position and display update rate 0.5sec (2Hz).
748 997 RX900 RTK position and display update rate 0.2sec (5Hz).

1.11.2 RTK baseline length option for GPS900

748 999 RX900 RTK baseline length 5km.

1.11.3 GLONASS option for GPS900

759 163 GLONASS option for GPS900. GLONASS functionality for GPS900 RTK rover and reference.

1.11.4 Raw Data Logging option for GPS900 (Available in certain countries only)

759 164 Raw data logging for RX900

1.12 Application Programs for GPS Receivers

1.12.1 GPS900 Application Programs

Standard Applications

Setup Reference
GPS Resection
Survey
Stakeout
CoGo
Determine Coordinate Systems
DXF Import

Optional Applications

754 871 RX900 Application Program "RoadRunner"
749 005 RX900 Application Program "Reference Line"
749 006 RX900 Application Program "DTM Stakeout"
754 872 RX900 Application Program "Volume Calculation"
760 367 RX900 Application Program "DXF Export"
756 656 RX900 Application extended OWI/LB2 remote control
749 623 RTCM RTK Data Input for GPS900
763 406 RX900 Application Program "Land XML Export"

1.13 Customer Care Packages

A wide selection of comprehensive Customer Care Packages (CCPs) is available bundling Hardware Maintenance, Software Maintenance, Customer Support and Extended Warranty.
For more information about the CCP offering in your country please contact your local Leica Geosystems organization or distribution partner.

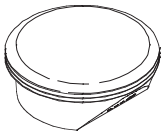
2. GPS900 RTK Reference Station Setup

A RX900 controller is required to setup the GPS900 RTK Reference Station

2.1 GPS900 Antennas

The ATX900 antenna has a 5/8" thread and screws directly onto the GRT246 carrier.

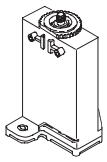
2.1.1 ATX900 GG for GPS900



759 161 ATX900 GG, GPS/GLONASS Antenna for GPS900. To be used together with the RX900 controller.

2.2 Satelline Radio Modems and Accessories

Select one for RTK reference station according to the required frequency



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753 928	GFU14-7, Satelline 3AS radio modem (465.500 MHz, 25.0 kHz channel spacing, 1.0 W) already intergrated into housing, User Manual and CE-Declaration of Conformity included.
756 623	GFU14-8, Satelline 3AS radio modem (458.6000 MHz, 25.0 kHz channel spacing, 0.5 W) already intergrated into housing, User Manual and CE-Declaration of Conformity included.

2.3 Gainflex Radio Antennas

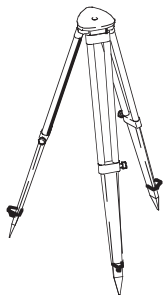
Select one according to frequency of radio modem

639 964	Gainflex radio antenna, frequency range 400 – 435 MHz.
667 243	Gainflex radio antenna, frequency range 435 – 470 MHz.

2.4 GPS900 RTK Reference Station Setup on Tripod

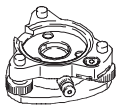
For GPS900 RTK reference station setup.
Select 1 tripod, 1 tribrach, 1 carrier, 1 height hook, 1 GFU bracket.

2.4.1 Tripods



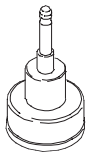
399 244	Wooden Tripod GST05, telescopic, with polymer coating.
563 630	Aluminium-Tripod GST05L, telescopic.

2.4.2 Tribrachs



726 840	CTB102, Tribrach with optical plumet, Leica system, color black.

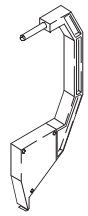
2.4.3 Carrier



762 322	GRT246 Carrier with 5/8 inch screw, GPS antenna screws on directly, black.

2.4.4 Height Hook

For measuring antenna heights.



667 244 Height hook with integrated tape measure in m/ft.

2.4.5 GFU Bracket

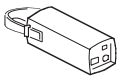
For mounting GFU housing on a tripod.

748 417 GHT58, Bracket to mount a radio built into the Leica GFU radio housing on a tripod.

2.4.6 GPS900 RTK Reference Setup Cable

748 418 GEV205, 1.8m Y-Cable for GPS900 reference setup. Connects ATX900 GPS antenna with a GEB171 external battery and a radio in a Leica GFU radio housing.

2.4.7 RTK Reference station battery



727 367 GEB171, External universal battery, NiMH, 12V/9Ah, rechargeable. For use with the GPS900 reference setup.

2.5 Extra GPS900 RTK Reference Station Setup Accessories

2.5.1 Power Cables

Connect external battery to GPS 900 RTK Reference Setup.

439 038 GEV71, 4m car battery cable connects GEV205 cable to 12V car battery.
733 298 GEV172, 2.8m Y-cable connects GEV205 cable with two external power supplies

3. Additional Accessories

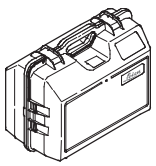
3.1 Data Recording and Data Transfer

3.1.1 Data Transfer Cable

Essential cable, at least one should be ordered for each RX900.

733 281 GEV161, 2.8m Data transfer cable. Connects RX900 Controller Lemo Port to PC for data transfer, firmware upload etc. Lemo to USB connector. Can also be used with RX1250.

3.2 Transport Container



753 895 GVP639, Hard container for two ATX900 GPS antennas, RX900 controller, GHT56 cables and accessories.

3.3 Battery Chargers

3.3.1 Professional Charger

Recommended model for all Leica batteries. Will charge 4 GEB211 or GEB221 plug-in batteries and 1 GEB171 external battery.

733 271 GKL221, Charger PRO. To be used with up to two charging adapters GDI221 or GDI222, Charger cable and net adapter included.
733 323 GDI221, Adapter for GKL221 for charging 2 Li-Ion batteries GEB221, GEB211.
734 389 GDC221, Car adapter cable for the GKL221 charger. Allows the use of the GKL221 with a cigarette lighter; 12V24V DC/DC Converter.

3.3.2 Basic Charger

734 752 GKL211, Charger BASIC, for Li-Ion batteries GEB221 and GEB211, car adapter cable and net adapter included. Does not charge GEB171.

4. Office software

4.1 Leica Geo Office

4.1.1 Leica Geo Office Software

734 711 Leica Geo Office Software on CD-ROM, not protected.

4.1.2 Software Protection Keys for additional options

734 712 Software protection key (parallel) for single user licence.
734 713 Software protection key (USB) for single user licence.
734 714 Software protection key for network licence for 5 users.
734 715 Software protection key for network licence for 10 users.
734 716 Software protection key for network licence for 25 users.
734 717 Software protection key for network licence for 50 users.

4.1.3 Leica Geo Office Protected Options

GPS Options

734 718 GPS L1 data-processing, for code and phase, protected option.
734 719 L1/L2 data-processing for GPS, for code and phase, protected option.
734 720 RINEX Import for GPS, protected option.
734 721 Upgrade from GPS L1 to GPS L1/L2 data-processing

General Options

734 724 Datum & Map transformation, protected option.
734 725 Design & Adjustment 3D, protected option.
734 726 GIS/CAD Export, protected option.
734 727 Upgrade from Design & Adjustment 1D to 3D.

GPS900 – Easy Rover and Reference Package

1. GPS900 – Easy Rover and Reference Package

The GPS900 Easy Reference and Rover comprises of the following:

Quantity	Article Number	Description
1	748 414	RX900, WinCE GPS900 Controller battery compartment, touch screen, alpha keyboard, stylus for touch screen, user manual. Controller for the ATX900.
2	759 161	ATX900 GG, GPS/GLONASS Antenna for GPS900. To be used together with the RX900 controller.
1	667 244	Height hook with integrated tape measure.
1	733 299	GEV173, 1.2m cable to connect ATX antenna with RX WinCE Controller.
2		GFU14-X, Satelline 3As radio, see above for required frequency range.
2		Gainflex radio antenna, see above for required frequency range.
1	667 223	Grip with circular bubble and fixing element.
1	667 221	Bottom section aluminium pole with steel tip.
1	667 222	Top section aluminium pole with 5/8" screw.
1	747 096	GHT56, Holder for attaching RX900 Controller and GFU modem housing to pole.
1	733 271	GKL221, Charger PRO. To be used with up to two charging adapters GDI221 or GDI222, Charger cable and net adapter included.
2	733 323	GDI221, Adapter for GKL221 for charging 2 Li-Ion batteries GEB221, GEB211.
1	753 895	GVP639, Hard container for two ATX900 GPS antennas, RX900 controller, GHT56 cables and accessories.
1	733 281	GEV161, 2.8m Data transfer cable. Connects RX900 Controller Lemo Port to PC for data transfer, firmware upload etc. Lemo to USB connector. Can also be used with RX1250.
1	727 367	GEB171, External universal battery, NiMH, 12V/9Ah, rechargeable. For use with the GPS900 reference setup. Fits into container 748 994.
1	748 418	GEV205, 1.8m Y-Cable for GPS900 reference setup. Connects ATX900 GPS antenna with a GEB171 external battery and a radio in a Leica GFU radio housing.
1	748 417	GHT58, Bracket to mount a radio built into the Leica GFU radio housing on a tripod.
1	762 322	GRT246 Carrier with 5/8 inch screw, GPS antenna screws on directly, black.
1	726 840	CTB102, Tribrach with optical plumet, Leica system, color black.
1	563 630	Aluminium-Tripod GST05L, telescopic, with accessories.
4	733 269	GEB211, Lithium-Ion battery, 2.2Ah, rechargeable. To be used with ATX900, RX900 and GHT56 holder. Can also be used with GPS1200 and TPS1200 instruments.

Standard Applications

Setup Reference
GPS Resection
Survey
Stakeout
CoGo
Determine Coordinate Systems
DXF Import

Optional Applications

754 871	RX900 Application Program "RoadRunner"
749 005	RX900 Application Program "Reference Line"
749 006	RX900 Application Program "DTM Stakeout"
754 872	RX900 Application Program "Volume Calculation"
760 367	RX900 Application Program "DXF Export"
756 656	RX900 Application extended OWI/LB2 remote control

Update rate options for GPS900

748 998	RX900 RTK position and display update rate 0.5sec (2Hz).
748 997	RX900 RTK position and display update rate 0.2sec (5Hz).

RTK baseline length option for GPS900

748 999	RX900 RTK baseline length 5km.

GLONASS option for GPS900

759 163	GLONASS option for GPS900. GLONASS functionality for GPS900 RTK rover and reference.

GPS900 – Professional Rover and Reference Package

1. GPS900 – Professional Rover and Reference Package

The GPS900 Professional Reference and Rover Package comprises of the following:

Quantity	Article Number	Description
1	759 156	RX900c, WinCE GPS900 Controller with colour display, battery compartment, alpha Keyboard, stylus for touch screen, user manual.
1	733 257	MCF256, CompactFlash card 256MB.
2	759 161	ATX900 GG, GPS/GLONASS Antenna for GPS900. To be used together with the RX900 controller.
1	667 244	Height hook with integrated tape measure.
1	733 299	GEV173, 1.2m cable to connect ATX antenna with RX WinCE Controller.
2		GFU14-X, Satelline 3As radio, see above for required frequency range.
2		Gainflex radio antenna, see above for required frequency range.
1	752 292	GLS30 GPS telescopic carbon-fibre pole with circular bubble and 5/8" screw, snap-locks at 2,00m.
1	742 007	GHT52, Clamp arrangement for attaching the GHT39 or GHT56 to the GPS carbon fibre telescopic pole 752 292.
1	747 096	GHT56, Holder for attaching RX900 Controller and GFU modem housing to pole.
1	733 271	GKL221, Charger PRO. To be used with up to two charging adapters GDI221 or GDI222, Charger cable and net adapter included.
2	733 323	GDI221, Adapter for GKL221 for charging 2 Li-Ion batteries GEB221, GEB211.
1	753 895	GVP639, Hard container for two ATX900 GPS antennas, RX900 controller, GHT56 cables and accessories.
1	733 281	GEV161, 2.8m Data transfer cable. Connects RX900 Controller Lemo Port to PC for data transfer, firmware upload etc. Lemo to USB connector. Can also be used with RX1250.
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1	748 417	GHT58, Bracket to mount a radio built into the Leica GFU radio housing on a tripod.
1	762 322	GRT246 Carrier with 5/8 inch screw, GPS antenna screws on directly, black.
1	726 840	CTB102, Tribrach with optical plumet, Leica system, color black.
1	399 244	Tripod GST05, telescopic, with polymer coating, with accessories.
4	733 269	GEB211, Lithium-Ion battery, 2.2Ah, rechargeable. To be used with ATX900, RX900 and GHT56 holder. Can also be used with GPS1200 and TPS1200 instruments.

Standard Applications

Setup Reference
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RTK baseline length option for GPS900

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GLONASS option for GPS900

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GPS900 – Professional Rover Package

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1	733 299	GEV173, 1.2m cable to connect ATX antenna with RX WinCE Controller.
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1	747 096	GHT56, Holder for attaching RX900 Controller and GFU modem housing to pole.
1	734 752	GKL211, Charger BASIC, for Li-Ion batteries GEB221 and GEB211, car adapter cable and net adapter included. Does not charge GEB171.
1	753 895	GVP639, Hard container for two ATX900 GPS antennas, RX900 controller, GHT56 cables and accessories.
1	733 281	GEV161, 2.8m Data transfer cable. Connects RX900 Controller Lemo Port to PC for data transfer, firmware upload etc. Lemo to USB connector. Can also be used with RX1250.
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RTK baseline length option for GPS900

748 999	RX900 RTK baseline length 5km.

GLONASS option for GPS900

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Whether you want to survey a parcel of land or objects on a construction site, determine measured points on facades or in rooms, gather the coordinates of a bridge or a tunnel – Leica Geosystems' surveying instruments provide the right solution for every application.

They unite reliable results with easy operation and user-friendly applications. They are designed to meet your specific requirements. Modern technology enables you to work fast and productively, thanks to the straightforward and clearly structured range of functions.

When it has to be right.

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Heerbrugg, Switzerland

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- when it has to be **right**

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