

GPS Surveying



*Equipment List: SR399, SR9500, CR333, CR344,
Accessories and Software*

Leica

GPS Sensors and Controllers

Memory Cards, Batteries and Chargers

Stock No. **SR399 GPS Sensor with Integrated Antenna**

664 898 SR399 GPS Sensor.

SR 9500 GPS Sensor with External Antenna

664 825 SR9500 GPS Sensor with AT302 Antenna, comprising:

664 824 SR9500 GPS Sensor.

639 916 AT302 external antenna.

636 959 2.8m antenna cable.

Choke Ring Antenna and Antenna Accessories

632 372 10m antenna cable

632 390 30m antenna cable.

664 813 50m antenna cable

664 717 AT303 Choke Ring Antenna in case.

664 807 Weather-protection radome for AT303 Antenna.

Mounting Adapters for SR399 and External Antennas

560 118 Adapter for fitting SR399, AT302 or AT303 Antenna on stop/go kinematic pole (560 134/560 135) or GRT44 (560 112).

560 119 Adapter with 5/8 inch thread for fitting Sensor or AT302/AT201 External Antenna on non-Leica accessories.

(Note: An Adapter **has** to be fitted to the SR399 Sensor or AT302 Antenna. The AT303 antenna has a 5/8 inch thread in it's base. Adapter 560 119 is not needed for the AT303.)

Time-mark output and Event Input

560 120 Time-mark output, fitted to new SR399 Sensor at factory before delivery to customer.

560 121 Time-mark output, fitted subsequently to SR399 Sensor in a service workshop. (Fitting time not included).

664 616 Time-mark output, fitted to new SR9500 Sensor at factory before delivery to customer.

403 448 2.0m cable for connecting GPS Sensor time-mark output to another device.

664 618 Two event inputs, fitted to new SR9500 at factory before delivery to customer.

CR333 GPS Controller

639 940 CR333 GPS Controller without 1MB internal memory.

639 941 CR333 GPS Controller with 1MB internal memory.

CR344 GPS Controller

Connects to data link. Supports RTCM SC104 v.2.0 and NMEA 0183 v.2.0. Runs optional RT-SKI centimetric real time software.

639 942 CR344 GPS Controller without 1MB internal memory.

639 943 CR344 GPS Controller with 1MB internal memory.

1MB Internal Memory for GPS Controller. For subsequent fitting in a workshop

560 126 1MB internal memory for GPS Controllers CR333 or CR344. For subsequent fitting in a service workshop. (Fitting time not included).

Stock No. **PCMCIA Cards for CR333 or CR344 GPS Controllers, PCMCIA Cardreader**

639 948 PCMCIA Memory Card, 512KB.

639 949 PCMCIA Memory Card, 2MB.

639 950 PCMCIA Memory Card, 4MB.

563 814 PCMCIA Card Reader, 230V (Europe).

639 993 PCMCIA Card Reader, 110V (USA, Japan).

Hard Containers

560 117 Hard container for SR399 and accessories.

Essential item, must be ordered in conjunction with SR399 GPS Sensor.

664 622 Hard Container for SR9500 and accessories.

Essential item, must be ordered in conjunction with SR9500 GPS Sensor

Batteries for GPS equipment

Recommended Battery:

409 667 Large 12V 7Ah NiCd battery GEB71. Powers GPS Sensor and Controller for about 5 to 6 hours continuously.

Can also be used:

402 210 Small 12V 2Ah battery GEB70. Powers GPS Sensor and Controller for about 1.5 hours continuously.

560 122 Integral NiCd battery, 8V 0.6Ah for GPS Controller **only**. Powers Controller for about 1 hour. Will **not** power GPS Sensor.

Chargers for GPS Batteries

GKL 23 recommended charger. Can be used for all batteries. Intelligent, microprocessor controlled. Two batteries can be simultaneously connected.

636 984 Charger GKL23, 230V (Europe).

639 961 Charger GKL23-1, 115V (Japan, USA).

GKL 22 simple charger for batteries 402 210 and 560 122. One battery can be connected.

636 983 Charger GKL22, 230V (Europe).

639 959 Charger GKL22-1, 115V (USA).

639 960 Charger GKL22-2, 100V (Japan).

Note: In early 1995, the GKL22 and GKL23 chargers replaced the former GKL12 and GKL14 chargers.

From this date, all batteries have a 5 pin charging socket for the GKL22 and GKL23 chargers. New GEB70 or integrated Controller batteries with 5 pin charging sockets cannot be charged by the GKL12 charger without an adapter cable. Similarly, old style batteries cannot be charged by the GKL22 or GKL23 charger without the correct adapter cable or conversion kit. New GEB71 batteries with 5 pole charging sockets can be charged by the old GKL14 charger via the LEMO connections as previously.

Please contact your local Leica representative for further information on adapter cables and conversion kits.

636 985 Adapter B for old 2 pole battery (old GEB70 or old integrated Controller battery) to GKL22/GKL23 charger.

636 986 Adapter A for new 5 pole battery to old GKL12 charger. Connects new GEB70/Integrated Controller battery to old GKL12 charger.

636 987 Modification kit for old GEB71 battery to new GKL23 charger.

Cables, Accessories and Software

Stock No. **Cables**

- 560 130 1.8m cable for connecting 12V NiCd batteries GEB70 (402 210) or GEB71 (409 667) to Controller/Sensor. Alternatively, can be used for connecting Sensor to Controller.
- 560 131 2.8m cable. For connecting 12V NiCd batteries GEB70 (402 210) or GEB71 (409 667) to Controller/Sensor. Alternatively, can be used for connecting Sensor to Controller.
- 560 132 10m extension cable. Use for extending cables 560 130, 560 131 or 560 254.
- 563 758 30m extension cable. Use for extending cables 560 130 and 560 131 or 560 254. Will only provide communication between Sensor and Controller. Power cannot be transmitted along this cable.
- 439 038 4m car battery cable. Connects to 12V car battery or other 12V DC power source for supplying power to Sensor and/or Controller via cable 560 130 or 560 131.
- 560 254 2.8m cable, LEMO1 to 9 pin RS232. Connects PC to Controller or Sensor for data download, firmware updates, running SPCS or Multistation Software. **Essential cable, should be ordered.**
- 563 809 Cable for connecting CR344 Controller to a radio modem for Real time operations. Lemo 8 pin to 9 pin RS232.

Tripods, Poles, Height hook etc.

- 296 632 Tripod GST20, heavy duty, wooden, telescopic.
- 399 244 Tripod GST05, lightweight, wooden, telescopic
- 563 630 Tripod GST05L, lightweight, aluminium, telescopic. With carrying strap.
- 563 766 Aluminium hook for hanging Controller on tripod leg.
- 664 675 Holder for hanging SR9500 on tripod leg.
- 506 299** Tribach GDF22 with optical plummet.
- 664 828 Tribach GDF12 with optical plummet
- 560 112 Carrier GRT44 for mounting GPS Sensor or external antenna on tribach. Accepts height hook (455 291). (Can also be used with EDM reflectors and targets).
- 455 291 Height hook. Used when working with a tripod/tribrach/GRT44 carrier combination. Reading in millimetres.
- 560 134 Stop/go kinematic pole, aluminium, 1.50m section
- 560 135 0.40m extension for stop/go kinematic pole (560 134).
- 560 137 Holder for attaching Controller to stop/go kinematic pole (560 134).
- 560 138 Quick-stand for stop/go kinematic pole (560 134).
- 663 235 Adapter for fitting AT201/202/302 GPS Antenna on vehicle roof rack.

Stock No. **Backpack**

- 563 807 Carrying frame for large softbags (639 971/664 623)
- 639 971 Large softbag with foam insert for fitting on carrying frame (563 807). For use with SR399 Sensor and accompanying equipment. Can also be used as a general carrying bag without the frame (563 807).
- 664 623 Large softbag with foam insert for fitting on carrying frame (563 807). For use with SR9500 Sensor and accompanying equipment. Can also be used as a general carrying bag without the frame (563 807).

Computer based Software

All software is supplied on 3.5 inch diskettes.

SKI Software and SKI software options

- 639 918 SKI Static Kinematic Software for L1 and L2. Contains 1 manual, 1 set of disks, 1 software protection key. Comprises of Configuration, Preparation, Project, Import/Export, Data processing and View/Edit components.
- 560 141 Datum and Map option for SKI software.
- 560 142 Network Adjustment option for SKI software.
- 664 657 Design and Adjustment option for SKI software.
- 560 143 RINEX import option for SKI software.
- 636 897 AROF Ambiguity resolution on the fly option for SKI software.
- 639 955 Auto program and export to GIS software option for SKI software.

On special request:-Network SKI. For up to 10 users running SKI on a Novell Network.

Multistation II reference station software

- 639 911 Multistation II reference station software, for use with SR399 and SR299 GPS Sensors. Contains 1 manual, 1 diskette, 1 software protection key.
- 663 210 RTCM V2.1 and Leica proprietary (RT-SKI) output option for Multistation software.

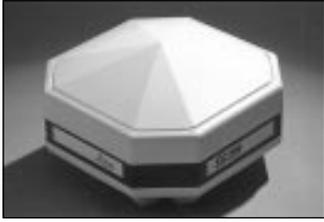
SPCS Software

- 560 146 SPCS Sensor PC-Control Software, for controlling GPS Sensor from a PC. Contains 1 manual, 1 set of diskettes, 1 software protection key.
- 636 836 SPCS Sensor PC-Control Software as above but also supporting RTCM SC104 v.2.0 output and NMEA 0183 v.2.00 message output.
- 636 837 Upgrade from 560 146 SPCS to 636 836 SPCS.

Bernese Software

- 639 990 Bernese software. PC version with 1 manual and 1 software protection key.
- 639 991 Bernese software. UNIX version with site license for a cluster of workstations and user manual.
- 639 992 Bernese software. VMS version with site license for a cluster of workstations and user manual.

Illustrations - GPS Surveying



SR399 Sensor (664 898)



Integral NiCd battery for GPS Controller. 8V 0.6Ah (560 122)



SR9500 Sensor (664 824)



GKL23 Battery charger (636 984)
GKL 23-1 Battery Charger (639 961)



AT302 External Antenna (639 916)



PCMCIA Memory Card
(639 948/639 949)



Adapter for stop/go kinematic pole and GRT44 carrier (560 118)



PCMCIA Card Reader
(563 814/639 993)



Adapter with 5/8 inch thread for non WILD accessories (560 119)



4m Car Battery cable (439 038)



CR333 GPS Controller
(639 940/639 941)
or
CR344 GPS Controller
(639 942/639 943) for Real-Time
applications



2.8m cable Lemo1 to 9 pin RS232.
Connects Controller or Sensor to
PC. (560 254)



1. GEB71 12V 7Ah NiCd battery
(409667)
2. GEB70 12V 2 Ah NiCd battery
(402 210)



Aluminium hook for hanging
Controller on Tripod leg (563 766)

Illustrations - GPS Surveying



Height Hook (455 291)



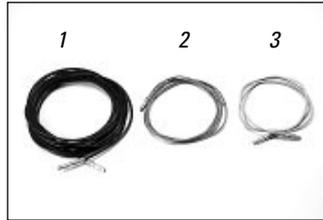
GRT44 Carrier (560 112)



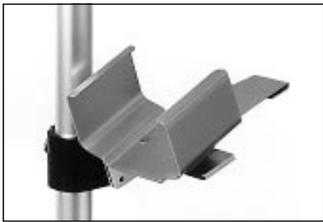
*1. Stop/go pole 1.50m section. Aluminium (560 134)
2. Stop/go pole 0.40m section. Aluminium (560 135)*



Tribach GDF12 (664 828)



*Cables
1. 10m extension cable (560 132)
2. 2.8m cable Controller to Sensor (560 131)
3. 1.8m cable battery to Controller or Sensor (560 130)*



Aluminium holder for Controller on stop/go pole (560 137)



Tripods GST05 (399 244) and GST05L (563 630)



*1. Quickstand for stop/go kinematic pole (560 138)
2. Stop/go pole, 1.50m section (560 134)*

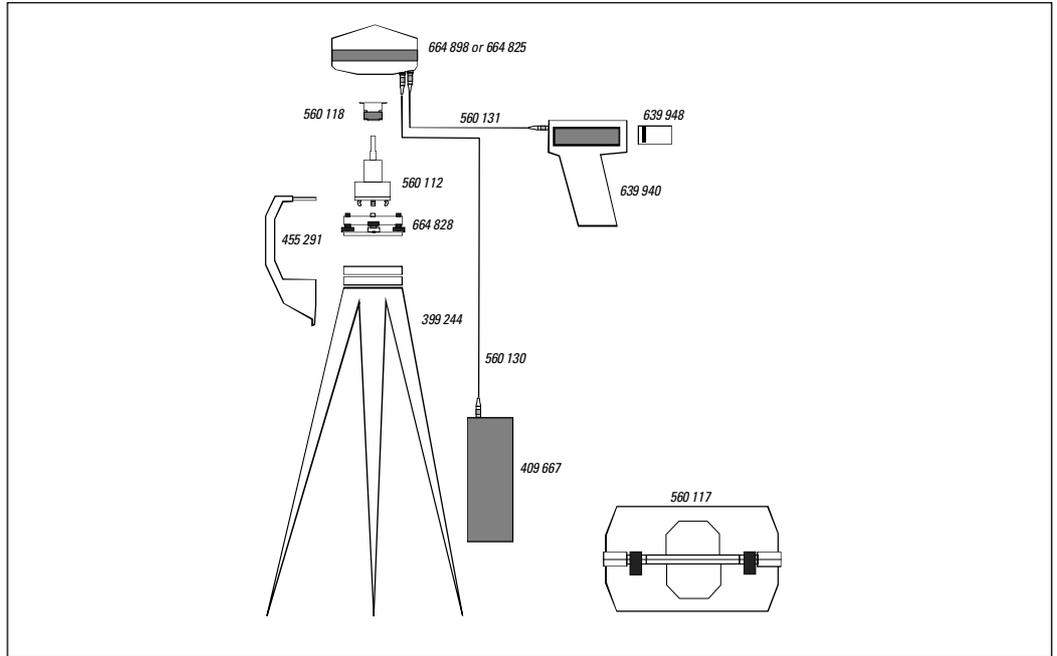


Hard Container for 1 complete set of GPS equipment (560 117/664 622)

Suggested Equipment Sets

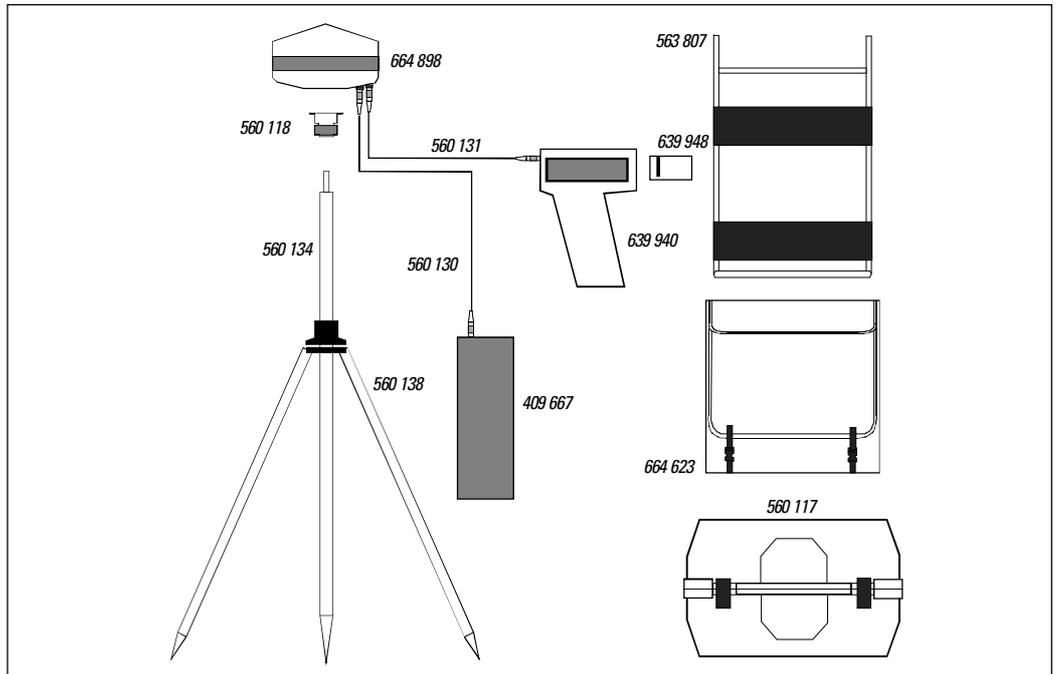
Minimum equipment for setting up on a tripod as a reference or as a rover in Static or Rapid Static mode.

- 664 898 SR399 GPS Sensor or
- 664 825 SR9500 GPS Sensor with External Antenna
- 560 118 Adapter for fitting Sensor or External Antenna on GRT44 Carrier.
- 560 112 Carrier GRT44 for mounting GPS Sensor on WILD tribrach.
- 664 828 Tribrach GDF12 with optical plummet.
- 399 244 Tripod GST05.
- 455 291 Height hook.
- 639 940 CR333 GPS Controller without 1MB internal memory.
- 639 948 PCMCIA memory card, 512KB.
- 560 130 1.8m cable for connecting battery to Controller or Sensor.
- 560 131 2.8m cable for connecting Controller to Sensor.
- 409 667 Large 12V 7Ah NiCd battery GEB71.
- 560 117 Hard container.



Minimum equipment for setting up with a quick stand as a reference or as a rover in Static or Rapid Static mode.

- 664 898 SR399 GPS Sensor or
- 664 825 SR9500 GPS Sensor with External Antenna.
- 560 118 Adapter for fitting Sensor or External Antenna on Stop/go kinematic pole.
- 560 134 Stop/go kinematic pole, 1.50m section.
- 560 138 Quick-stand for stop/go kinematic pole.
- 639 940 CR333 GPS Controller without 1MB internal memory.
- 639 948 PCMCIA memory card, 512KB.
- 560 130 1.8m cable for connecting battery to Controller or Sensor.
- 560 131 2.8m cable for connecting Controller to Sensor.
- 409 667 Large 12V 7Ah NiCd battery GEB71.
- 560 117 Hard container.
- 664 623 Large Softbag for SR9500
- 563 807 Carrying Frame for large softbag.



Miscellaneous equipment

- 636 984 Charger GKL23 230V. (Europe). or
- 636 961 Charger GKL23-1 115V (Japan, USA)
- 563 814 PCMCIA Card Reader 230V (Europe). or
- 639 993 PCMCIA Card Reader 110V (Japan, USA).
- 560 254 2.8m cable. LEMO1 to 9 pin RS232. Connects PC to Controller or Sensor.

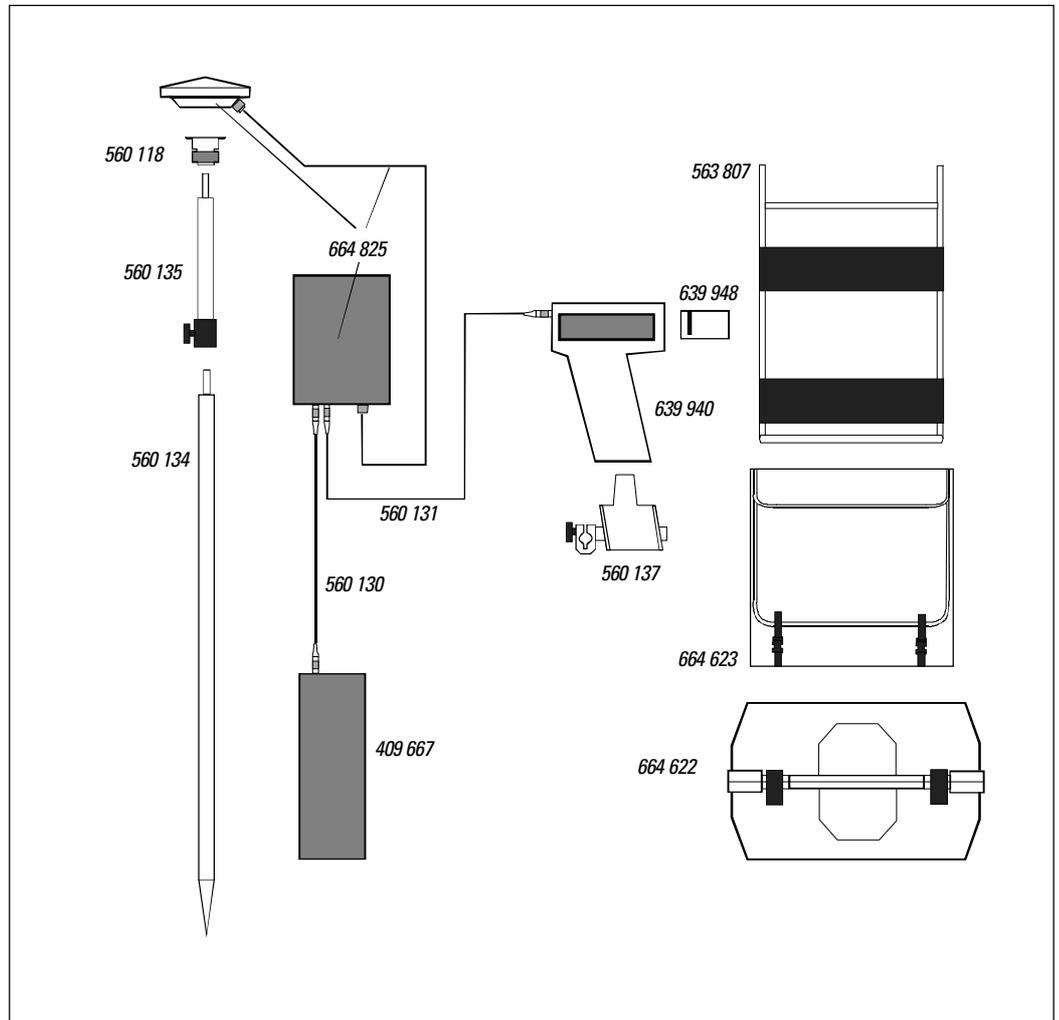
Suggested Equipment Sets

Minimum equipment for setting up on a hand held pole for Stop and Go or Kinematic surveys.

- 664 625 SR9500 GPS Sensor with External Antenna.
- 560 118 Adapter for fitting Sensor or External Antenna on stop/go kinematic pole
- 560 134 Stop/go kinematic pole, 1.50m section.
- 560 135 Stop/go kinematic pole, 0.40m section.
- 560 137 Holder for attaching GPS Controller to stop/go kinematic pole.
- 639 940 CR333 GPS Controller without 1MB internal memory.
- 639 948 PCMCIA memory card, 512KB.
- 560 130 1.8m cable for connecting battery to Controller or Sensor.
- 560 131 2.8m cable for connecting Controller to Sensor.
- 409 667 Large 12V 7Ah NiCd battery GEB71.
- 664 622 Hard container.
- 664 623 Large Softbag for SR9500
- 563 807 Carrying Frame for large softbag.

Miscellaneous equipment

- 636 984 Charger GKL23 230V. (Europe). or
- 636 961 Charger GKL23-1 115V (Japan, USA)
- 563 814 PCMCIA Card Reader 230V (Europe). or
- 639 993 PCMCIA Card Reader 110V (Japan, USA).
- 560 254 2.8m cable. LEMO1 to 9 pin RS232. Connects PC to Controller or Sensor.



GPS Surveying in Real Time

This section covers only the software and accessories that are related specifically to GPS surveying in real time.

Real Time software

663122 RT SKI Real Time Static Kinematic software for CR244 or CR344 Controller. For Real Time Differential GPS - gives centimetric co-ordinates in real time. Each set of software is protected and will run on ONE Controller only. ie. For a system comprising of two Controllers, you need to order two sets of RT-SKI.

CR344 GPS Controllers with RT-SKI

- 663 149 CR344 GPS Controller without 1MB internal memory, with RT-SKI Real Time Static Kinematic software, comprising:
- 639 942 CR344 GPS Controller without 1MB internal memory.
- 663 122 RT-SKI Real Time Static Kinematic software for CR344.
- 663 150 CR344 GPS Controller with 1MB internal memory, with RT-SKI Real Time Static Kinematic software, comprising:
- 639 943 CR344 GPS Controller with 1MB internal memory.
- 663 122 RT-SKI Real Time Static Kinematic software for CR344.

Accessories for Real Time GPS Surveying

- 639 962 Sateline 1AS Radio Modem
- 639 963 Sateline 2AS Radio Modem
- 639 964 Gainflex Radio Antenna for use with Sateline 1AS and 2AS Radio Modems
- 639 966 Weather Protection Box for Sateline 1AS and 2AS Radio Modems
- 563 808 Interface Box GEV112 for connecting Sensor, Battery, Controller and Radio Modem
- 636 972 0.5m Cable 5pin LEMO to 5pin LEMO for connecting Battery, Sensor, Interface Box
- 636 805 1.8m Cable 8pin LEMO to 8pin LEMO for connecting CR344 Controller to Interface Box
- 639 968 1.8m Cable 15pin RS232 to 8pin LEMO for connecting Sateline 1AS and 2AS Radio Modems to CR344 Controller or to Interface Box
- 639 967 Adapter with Cable for fitting Gainflex Radio Antenna on Carrying Frame or on Weather Protection Box
- 563 807 Carrying frame for large softbag (639 971)
- 664 623 Large softbag with foam insert for fitting on carrying frame (563 807). For use with SR9500 Sensor and accompanying equipment. Particularly useful in real time rover applications. Can also be used as a general carrying bag without the frame (563 807) for all combinations of equipment with SR9500.

Data link

Any radio modem with an RS232 interface and a data-transmission rate of at least 4800 baud that operates in transparent mode without handshake can normally be used.

The following Radio Modems are available from Leica AG, Heerbrugg:

Sateline 1AS, frequency 433.425 MHz, radiated power 0.5 W.

Sateline 2AS, frequency 433.425 MHz, radiated power 0.5 W.

(Other frequencies available on request.)

Gainflex Antenna for Sateline 1AS or 2AS

You should select either TWO Sateline 1AS or TWO Sateline 2AS. (Do not order ONE 1AS and ONE 2AS.)

Note on licensing for Radio Modems

Many countries have strict licensing arrangements for radio equipment. Before purchasing a Sateline or any other radio modem, you should ensure that it is licensed for use in the area in which you will work.

Connecting Real-Time Equipment

Weather Protection Box

An optional protection box is available for the Sateline 1AS or 2AS. The Sateline fits inside and is fully protected from the weather.

The Adapter with integral cable (639967) and Gainflex Antenna will fit onto the Weather Protection box. The Weather Protection Box can be clipped onto the Tripod.

Connecting the equipment without using the Interface Box

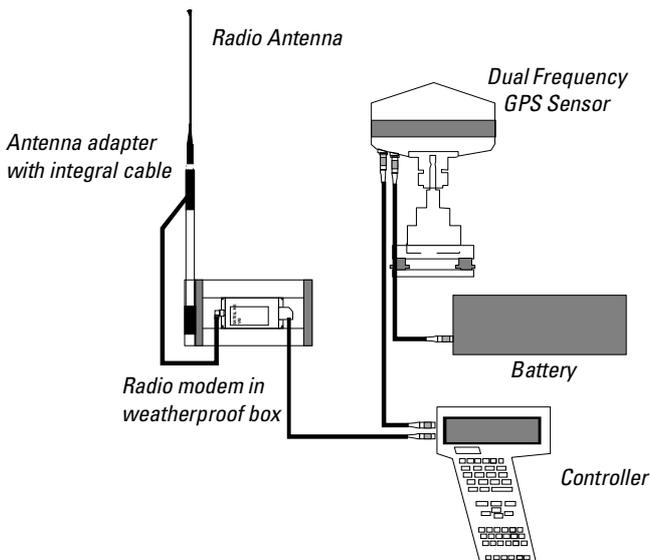
Connect the equipment in the normal way, i.e.

Battery to Sensor or Controller

Sensor to Controller

Then connect the Sateline to the Controller using cable 639 968. 12V power is supplied to the Sateline via the Controller.

The equipment will normally be connected in this way at the reference station. Note that the Weather Protection Box is not necessary.



Connecting the equipment via the Interface Box when the equipment is in the back pack (carrying frame plus softbag)

When using the back pack (carrying frame plus softbag) for the rover unit, it is advantageous to connect the equipment together via the Interface Box as there is then only ONE cable from the back pack to the Controller.

Connect as follows:

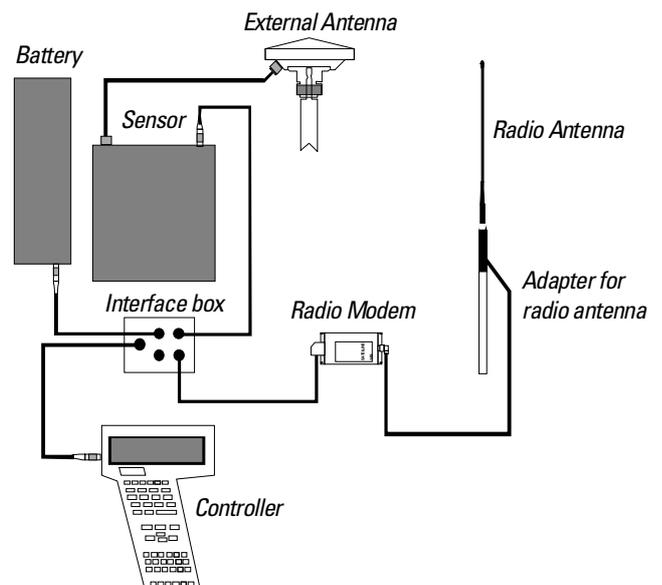
Battery to Interface Box using 0.5m cable 636972

Sensor to Interface Box using 0.5m cable 636972

Sateline to Interface Box using 1.8m cable 639968

Controller to Interface Box using 1.8m cable 636805

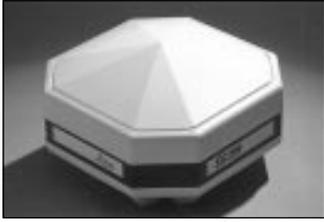
Note that the Weather Protection Box is not necessary with the Sateline in the Backpack.



Note on Connections:

It is also possible to replace either Sensor in the Configuration above with a different Leica Dual frequency GPS Sensor. E.g. In the first diagram, a SR9500 or SR299 may be used. In the second diagram, an SR399 or SR299 may be used. Best performance is obtained with SR399 or SR9500. For ease of carrying, it is advised to use a SR9500 at the Rover. All SR299s, SR399s and SR9500s can be operated in Real Time with either CR244 or CR344 Controllers.

Illustrations - Real Time GPS



SR399 Sensor (664 898)



SR9500 Sensor (664 824)



AT302 External Antenna (639 916)



CR344 GPS Controller (639 942/639 943)



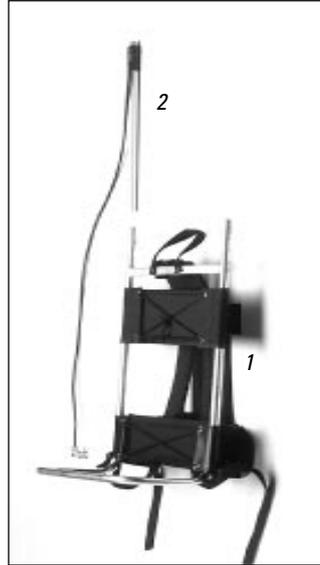
Satellite 1AS/2AS Radio modem (639 962/639 963) and Gainflex Antenna (639 964)



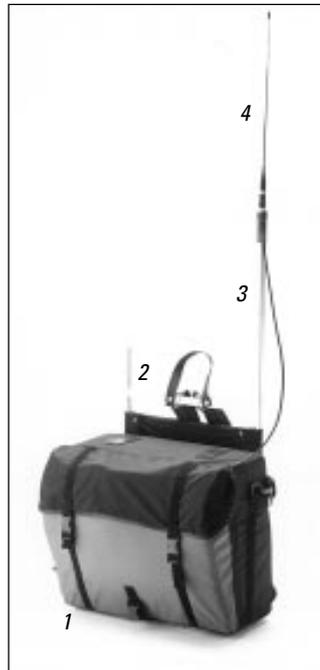
Weather protection box (639 966) for Satellite radio modems



GEV 112 Interface box (563 808)

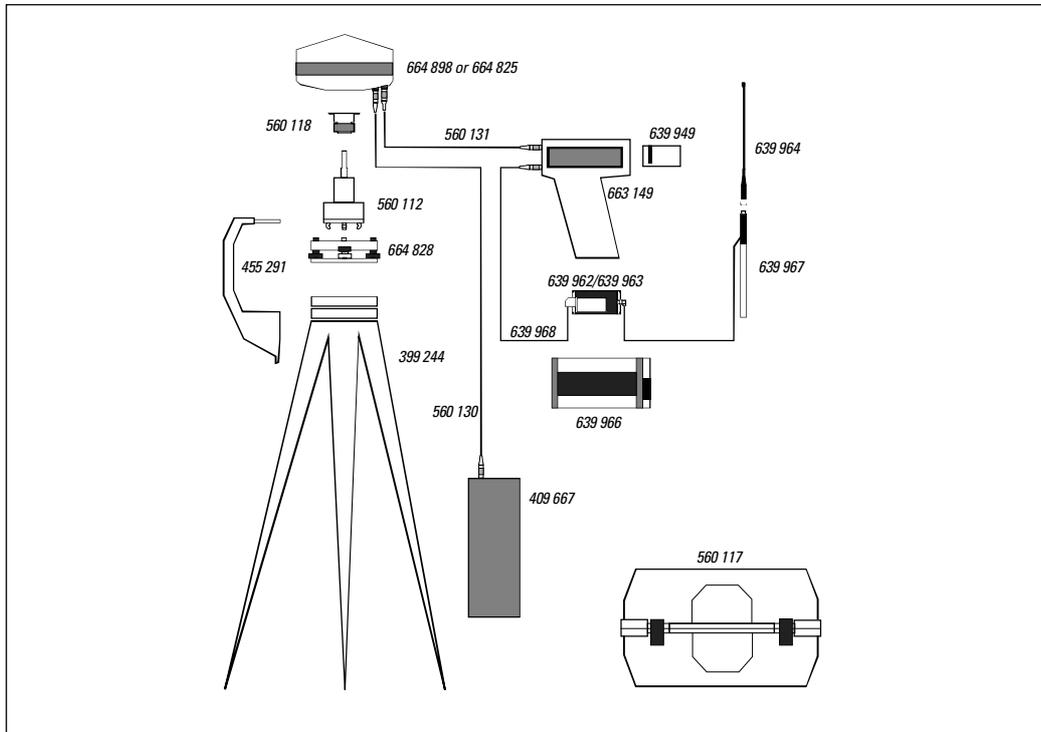


1. Carrying frame (563 807)
2. Adapter with integrated cable (639 967) for fitting Gainflex Antenna on Weather protection box or carrying frame



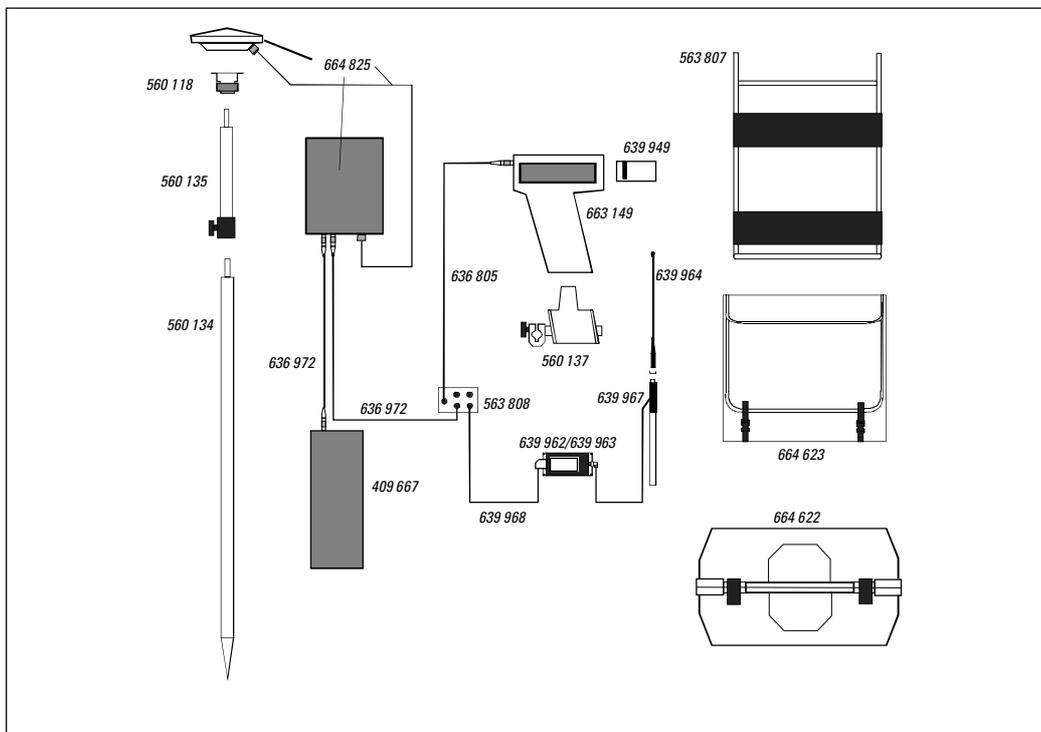
Assembled Backpack.
1. Large Softbag (639 971/664 623)
2. Carrying frame (563 807)
3. Adapter with cable (563 807) for fitting Gainflex radio antenna on carrying frame or weather protection box
4. Gainflex radio antenna (639 964)

Illustrations - Real Time GPS



Typical setup at real time reference station

- 664 898 SR399 GPS Sensor or 664 825 SR9500 GPS Sensor with External Antenna and Cable.
- 560 118 Adapter
- 560 112 GRT44 Carrier
- 664 828 GDF12 Tribrach
- 455 291 Height Hook
- 399 244 GST05 Tripod
- 663 149 CR344 Controller with RT-SKI software.
- 639 949 2MB PCMCIA card
- 409 667 GEB71 Battery
- 560 130 1.8m cable, 5 pin Lemo to 5 pin Lemo
- 560 131 2.8m cable, 5 pin Lemo to 5 pin Lemo
- 639 962/639 963 Satellite radio modem
- 639 966 Weather protection box for Satellite radio modem
- 639 968 1.8m cable, 8 pin Lemo to 15 pin RS232
- 639 967 Adapter for radio antenna with cable.
- 639 964 Gainflex radio antenna
- 560 117 Hard Container for SR399 and accessories



Typical real time Rover setup

- 664 825 SR9500 GPS Sensor with AT302 Antenna and cable
- 560 118 Adapter
- 560 135 0.4m extension pole
- 560 134 1.5m Stop/Go kinematic pole
- 409 667 GEB71 Battery
- 663 149 CR344 Controller with RT-SKI software.
- 639 949 2 MB PCMCIA card
- 560 137 Holder for attaching Controller to Stop/Go kinematic pole
- 636 972 0.5m cable, 5 pin Lemo to 5 pin Lemo
- 636 972 0.5m cable, 5 pin Lemo to 5 pin Lemo
- 636 805 1.8m cable, 8 pin Lemo to 8 pin Lemo
- 563 808 GEV112 Interface Box
- 639 968 1.8m cable, 8 pin Lemo to 15 pin RS232
- 639 962/639 963 Satellite radio modem
- 639 967 Adapter for radio antenna with cable
- 639 964 Gainflex radio antenna
- 664 623 Large Softbag for SR9500 and accessories.
- 563 807 Carrying Frame for Large Softbag
- 664 622 Hard container for SR9500 and accessories

Suggested Equipment Sets - Real Time GPS

Minimum equipment for Real Time reference station.

(Assumes Sateline 1AS or 2AS radio modem purchased locally.)

- 664 898 SR399 GPS Sensor **or**
- 664 825 SR9500 GPS Sensor with External Antenna
- 560 118 Adapter for fitting Sensor or External Antenna on GRT44 Carrier.
- 560 112 Carrier GRT44 for mounting GPS Sensor on WILD tribrach.
- 664 828 GDF12 Tribrach with optical plummet.
- 399 244 Tripod GST05
- 455 291 Height hook.
- 639 942 CR344 GPS Controller without 1MB internal memory.
- 663 122 RT-SKI Software for ONE GPS Controller.
- 639 949 PCMCIA memory card, 2MB.
- 560 130 1.8m cable for connecting battery to Controller or Sensor.
- 560 131 2.8m cable for connecting Controller to Sensor.
- 409 667 Large 12V 7Ah NiCd battery GEB71.
- 560 117 Hard container for SR399 **or**
- 664 622 Hard container for SR9500
- 639 964 Gainflex radio antenna.
- 639 966 Weather protection box for Sateline 1AS or 2AS.
- 639 967 Adapter for fitting gainflex radio antenna on weather protection box. Includes cable for connecting radio antenna to radio modem.
- 639 968 1.8m cable. 8 pin LEMO to 15 pin RS232. Connects Sateline radio modem to CR344 Controller.

Miscellaneous

- 636 984 Charger GKL23 230V. (Europe). **or**
- 636 961 Charger GKL23-1 115V (Japan, USA)
- 563 814 PCMCIA Card Reader 230V (Europe). **or**
- 639 993 PCMCIA Card Reader 110V (Japan, USA).
- 560 254 2.8m cable. LEMO1 to 9 pin RS232. Connects PC to Controller or Sensor.

Optional at reference station

- 563 766 Hook for hanging Controller on Tripod Leg
- 664 675 Holder for hanging SR9500 on tripod leg.

Minimum equipment for a real time Rover setup.

(Assumes Sateline 1AS or 2AS radio modem purchased locally.)

- 664 614 SR9500 GPS Sensor with external antenna.
- 560 118 Adapter for fitting Sensor or External Antenna on stop/go kinematic pole.
- 560 134 Stop/go kinematic pole, 1.50m section.
- 560 135 0.40m extension for stop/go kinematic pole.
- 560 137 Holder for attaching Controller to stop/go kinematic pole.
- 639 942 CR344 GPS Controller without 1MB internal memory.
- 663 122 RT-SKI Software for ONE GPS Controller.
- 639 949 PCMCIA memory card, 2MB.
- 563 808 GEV112 Interface box.
- 409 667 Large 12V 7Ah NiCd battery GEB71.
- 636 972 0.5m cable. Connects battery to interface box.
- 636 972 0.5m cable. Connects SR399E GPS Sensor to interface box.
- 636 805 1.8m cable. Connects interface box to CR344 Controller.
- 639 968 1.8m cable. Connects radio modem to interface box.
- 639 964 Gainflex radio antenna
- 639 967 Adapter for fitting gainflex radio antenna on carrying frame. Includes cable for connecting radio antenna to radio modem.
- 563 807 Carrying frame for large softbag.
- 664 623 Large softbag for SR9500, for fitting on carrying frame.
- 664 622 Hard container for SR9500



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