

Leica Viva GNSS Equipment List



- when it has to be **right**

Leica
Geosystems

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GS14 GNSS Receiver

1 GS14 GNSS Receiver



843 498	GS14	GS14 3.75G Basic SmartAntenna *
843 499	GS14	GS14 3.75G Performance SmartAntenna
843 500	GS14	GS14 3.75G Professional SmartAntenna
843 504	GS14	GS14 3.75G & UHF Basic SmartAntenna *
843 505	GS14	GS14 3.75G & UHF Performance SmartAntenna
843 507	GS14	GS14 3.75G & UHF Performance SmartAntenna (NAFTA)
843 508	GS14	GS14 3.75G & UHF Professional SmartAntenna

* Available in selected countries only.

	Leica GS14 Basic *	Leica GS14 Performance	Leica GS14 Professional
Supported GNSS Systems			
GPS L2	○	●	●
GLONASS	○	○	●
Galileo	○	○	●
BeiDou	○	○	●
RTK performance			
DGPS	○	●	●
RTK unlimited	○	●	●
Network RTK	○	●	●
Position update & data recording			
5 Hz positioning	●	●	●
20 Hz positioning	○	●	●
Raw data logging	●	●	●
RINEX logging	○	○	●
NMEA out	○	○	●
Additional features			
RTK Reference Station functionality	○	●	●

● Standard

○ Optional

2 Additional GS14 Receiver Options

GNSS software options		
805 197	LOP35	GS14 GPS L2 option, enables GPS L2 and GPS L2C tracking on a GS14 receiver.
795 981	LOP29	GS14 GLONASS option, enables GLONASS on a GS14 receiver.
795 982	LOP30	GS14 Galileo option, enables Galileo on a GS14 receiver.
807 863	LOP39	GS14 BeiDou option, enables BeiDou on a GS14 receiver.
Position rate and data recording options		
795 983	LOP31	GS14 20Hz option, enables to compute positions with an update rate up to 20Hz on a GS14.
767 810	LOP7	Raw data option, allows logging of GNSS raw data on GS10, GS14, GS15 or GS25 receiver or on a CS10/CS15 field controller.
767 811	LOP8	RINEX option, allows logging of RINEX data on GS10, GS14, GS15 or GS25 receiver.
767 818	LOP15	NMEA out option, enables NMEA to be streamed from GS10, GS14, GS15 or GS25 receivers.
RTK related options		
771 497	LOP16	DGPS option for GS10, GS14, GS15 or GS25 receivers, enables the receiver to compute a DGPS position.
767 813	LOP10	Unlimited RTK option, enables RTK positions to be computed from a single base station with no limit of distance.
767 815	LOP12	Unlimited RTK and Network RTK, enables RTK position to be computed from a single base station and within a RTK network.
767 817	LOP14	Upgrade option for GS10, GS14, GS15 or GS25 receivers from RTK unlimited only to RTK unlimited including RTK Network. (LOP10 to LOP12)
Other options		
767 816	LOP13	RTK Reference station option, allows a GS10, GS14, GS15 or GS25 receiver to transmit RTK data.

3 RTK Modems

The GS14 3.75G models are equipped with an internal modem and integrated antenna for RTK Rover and RTK Base usage. For UHF RTK Rover or Base usage external radio modems can be connected. The GS14 UHF models are equipped with internal modem and internal UHF radio for RTK Rover and RTK Base usage. The UHF modem requires an external RTK antenna.

3.1 Satellite Radio Modem



Satellite modem		
828 005	GFU30	Satellite M3-TR4 403-470 MHz RX/TX radio in GFU housing. Transceiver UHF radio module. User manual and CE Declaration of Conformity included.
Cables for Satellite modem		
733 297	GEV171	1.8m Y-cable to program the Satellite radio modem inside the GFU housing.

3.2 Satellite High Power Radio

789 636	HPR2	Satellite Easy Pro 35W high power radio, 403-473 MHz RX/TX radio. Includes power cable for connecting to 12V battery and programming cable.
844 965	HPR3	Satellite-4Pro 35W high power radio, 403-473 MHz RX/TX radio. Includes power cable for connecting to 12V battery and programming cable.
799 776	GEV266	Data cable to connect Satel HPR radio to GS14 GNSS receiver.
806 097	GVP712	Container for Satel HPR High Power Radio.

4 External RTK Antennas

4.1 External RTK Antennas



RTK antenna arm

767 790	GAD108	Arm to mount external UHF antenna to GS14 SmartAntenna.
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Gainflex radio antennas

639 964	GAT1	Gainflex radio antenna (frequency range 400-435 MHz).
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667 243	GAT2	Gainflex radio antenna (frequency range 435-470 MHz).
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4.2 Accessories for Mounting External RTK Antenna on Second Tripod (Base)



Adapter

767 791	GAD109	Transition adapter from external UHF antenna connector of a GS14 SmartAntenna to standard TNC connector. Allows to connect an external UHF antenna directly or via gainflex cable.
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RTK antenna cables

636 959	GEV120	2.8m antenna cable.
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667 201	GEV142	1.6m extension antenna cable.
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Telescopic rod, antenna arm and base for telescopic rod

667 228	GAD32	Telescopic rod with 5/8" screw. Fits in base 667 236.
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667 220	GAD34	Arm 3cm long, screws on telescopic rod. Gainflex antenna fits on arm. Antenna cable connects to arm.
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667 236	GHT36	Base with 5/8" screw, for setting up telescopic rod on tripod.
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5 Accessories for Using External Radios with GS14 Receiver



Brackets and holders for GFU radios

748 417	GHT58	Bracket to mount a radio built into the Leica GFU radio housing on a tripod.
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767 896	GHT64	Holder for GFU radios. Attaches to all GPS poles.
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Cables for external radios

733 297	GEV171	1.8m Y-cable to program the Sateline radio modem inside the GFU27 housing.
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796 492	GEV264	1.8m Y-cable for RTK reference setup, connects GS14 receiver to a GEB171 external battery and a Leica GFU radio.
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811 818	GEV274	Y-cable for RTK reference setup, connects GS receiver to a power source (SAE plug) and a Satel HPR radio.
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6 Additional Accessories for GS14 Pole Setups - GNSS Rover


6.1 Survey Poles



Poles with 5/8" screw

768 226	GLS13	Telescopic aluminium GNSS pole with 5/8" screw. Snap locks at 1.80m and 2.00m. Includes circular bubble.
752 292	GLS30	Telescopic carbon GNSS pole with 5/8" screw. Snap locks at 1.80m and 2.00m. Includes circular bubble.

Poles with stub

 Requires GAD31 screw to stub adapter for GS14 receiver to be mounted on these poles.

766 359	GLS31	Telescopic carbon Total Station reflector pole with stub. Snap locks at 2.00m for GNSS antennas.
667 217	GAD31	Screw to stub adapter.

6.2 Holder and Clamp for Poles




767 879	GHT62	Pole holder base plate for CS10 and CS15 field controller.
767 880	GHT63	Clamp arrangement for attaching the GHT62 to all poles.

6.3 QuickStand




560 138	GST6	Quickstand with 3 telescopic legs, for aluminium poles.
667 319	GSR111	Dual-strut support, for all GLS poles.

7 Additional Accessories using the GS14 Receiver in a SmartPole Setup

 Please refer to the Leica Viva TPS and Leica Nova TPS Equipment lists for additional accessories using the GS14 receiver in a SmartPole setup.

8 Additional Accessories using the GS14 Receiver in a SmartStation Setup

 Please refer to the Leica Viva TPS and Leica Nova TPS Equipment lists for additional accessories using the GS14 receiver in a SmartStation setup.

9 Additional Accessories for GS14 Tripod Setups - GNSS Base

9.1 Tribachs



777 508	GDF321	Tribrach, without optical plummet.
777 509	GDF322	Tribrach, with optical plummet.
798 181	GDF112-1	Tribrach, with optical plummet.

9.2 Tripods



399 244	GST05	Wooden tripod with polymer coating, with accessories.
563 630	GST05L	Aluminium tripod, telescopic, with accessories.
667 301	GST120-9	Tripod, telescopic, selfclosing, with accessories, without pouch.

9.3 Carriers



Carriers with 5/8" screw

667 216	GRT146	Carrier with 5/8" screw, GNSS antenna screws on directly.
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Carriers with stub

667 313	GRT144	Carrier with stub, pale green.
667 217	GAD31	Screw-to-stub adapter for fitting GPS antenna on carriers with stub and poles with stub.

9.4 Height Hook



667 244	GZS4-1	Height hook with integrated tape measure. Supplied with additional tape graduated in feet and inches.
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10 Containers for GS14 Receiver



833 516	GVP716	Backpack carrying systems for all large TPS and GNSS containers.
833 517	GVP717	Sidebag for large GNSS container (current version).
833 518	GVP718	Basic backstrap for large GNSS container (current version).
833 519	GVP719	Shoulderstrap for large GNSS container (current version).
855 306	GVP734	Hard container for SmartAntenna, CS field controller and accessories for a Rover setup.
855 307	GVP735	Hard container for 2 SmartAntennas, CS field controller and accessories for a Base and Rover setup.
817 055	GVP722	Hard container for SmartAntenna, CS field controller and accessories for a SmartPole and SmartStation setup.

GS10 GNSS Receiver

11 GS10 GNSS Receiver



838 029	GS10	Leica GS10 Basic receiver *
838 030	GS10	Leica GS10 Performance receiver
838 032	GS10	Leica GS10 Unlimited receiver

* Available in selected countries only.

	Leica GS10 Basic *	Leica GS10 Performance	Leica GS10 Unlimited
Supported GNSS Systems			
Multi-frequency (L2, L5, L-band)	○	●	●
GLONASS	○	○	●
Galileo	○	○	●
BeiDou	○	○	●
RTK performance			
DGPS	○	●	●
RTK unlimited	○	●	●
Network RTK	○	●	●
SmartLink fill	○	○	●
Position update & data recording			
5 Hz positioning	●	●	●
20 Hz positioning	○	●	●
Raw data logging	●	●	●
RINEX logging	○	○	●
NMEA out	○	○	●
Additional features			
RTK Reference Station functionality	○	●	●

● Standard

○ Optional

GS25 GNSS Receiver

12 GS25 GNSS Receiver



843 494	GS25	Leica GS25 Basic receiver *
843 495	GS25	Leica GS25 Performance receiver
838 043	GS25	Leica GS25 Unlimited receiver

* Available in selected countries only.

	Leica GS25 Basic *	Leica GS25 Performance	Leica GS25 Unlimited
Supported GNSS Systems			
Multi-frequency (L2, L5, L-band)	○	●	●
GLONASS	○	○	●
Galileo	○	○	●
BeiDou	○	○	●
RTK performance			
DGPS	○	●	●
RTK unlimited	○	●	●
Network RTK	○	●	●
SmartLink fill	○	○	●
Position update & data recording			
5 Hz positioning	●	●	●
20 Hz positioning	○	●	●
Raw data logging	●	●	●
RINEX logging	○	○	●
NMEA out	○	○	●
Additional features			
RTK Reference Station functionality	○	●	●
Event & PPS Output ports	●	●	●

- Standard
- Optional

13 Additional GS10/GS25 Receiver Options

GNSS software options		
843 510	LOP53	Multi-frequency option, enables L2, L5 and L-band tracking on a GS10, GS15, GS16 or GS25 receiver.
843 513	LOP54	GLONASS option, enables GLONASS tracking on a GS10, GS15, GS16 or GS25 receiver.
843 514	LOP55	Galileo option, enables Galileo tracking on GS10, GS15, GS16 or GS25 receiver.
843 515	LOP56	BeiDou option, enables BeiDou tracking on GS10, GS15, GS16 or GS25 receiver.
Position rate and data recording options		
767 808	LOP5	20Hz option, enables to compute positions with an update rate up to 20Hz on GS10, GS15, GS16 or GS25 receiver.
767 811	LOP8	RINEX option, allows logging of RINEX data on GS10, GS15, GS16 or GS25 receiver.
767 818	LOP15	NMEA out option, enables NMEA to be streamed from GS10, GS15, GS16 or GS25 receivers.
RTK related options		
771 497	LOP16	DGPS option for GS10, GS15, GS16 or GS25 receivers, enables the receiver to compute a DGPS position.
767 813	LOP10	Unlimited RTK option, enables RTK positions to be computed from a single base station with no limit of distance.
767 815	LOP12	Unlimited RTK and Network RTK, enables RTK position to be computed from a single base station and within a RTK network.
767 817	LOP14	Upgrade option for GS10, GS15, GS16 or GS25 receivers from RTK unlimited only to RTK unlimited including RTK Network. (LOP10 to LOP12)
5307068		SmartLink fill option, enables SmartLink fill on GS10, GS15, GS16 or GS25 receivers for 1 year.
5306241		SmartLink fill option, enables SmartLink fill on GS10, GS15, GS16 or GS25 receivers for 2 years.
Other options		
767 816	LOP13	RTK Reference station option, allows a GS10, GS15 or GS25 receiver to transmit RTK data.

14 GNSS Antennas



Select the antenna for GS10/GS25 receiver.

Choke ring antennas are only required for special applications such as when using a GS10/GS25 receiver as a permanent reference station receiver.

14.1 GNSS Single and Triple Frequency Antennas



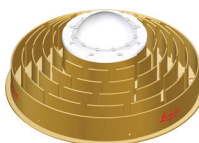
770 708	AS05	GPS/GLONASS single frequency antenna.
770 701	AS10	GPS/GLONASS/Galileo/BeiDou triple frequency antenna, includes L-Band signals.

14.2 Field Base GNSS Antennas



773 758	AR10	GPS/GLONASS/Galileo/BeiDou triple frequency reference station antenna, includes L-Band signals. With integrated radome.
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14.3 Choke Ring Antennas



794 207	AR20	GNSS choke ring antenna for GPS/GLONASS/Galileo/BeiDou/QZSS receivers. Includes Galileo E6 and L-Band signals. Planar structure element.
794 208	GVP705	Weather protection radome for AR20 antenna.
765 733	AR25	GNSS choke ring antenna for GPS/GLONASS/Galileo/BeiDou receivers. Includes Galileo E6 and L-Band signals. Dorne-Margolin antenna element.
765 734	GVP653	Weather protection radome for AR25 antenna.

15 GNSS Antenna Cables for GS10/GS25 Receiver

15.1 GNSS Antenna Cables for GS10/GS25 using as Rover



667 200	GEV141	1.2m antenna cable.
667 201	GEV142	1.6m extension for antenna cable.
724 969	GEV194	1.8m antenna cable.

15.2 GNSS Antenna Cables for GS10/GS25 Base Setup



Short cables		
667 200	GEV141	1.2m antenna cable.
724 969	GEV194	1.8m antenna cable.
Medium cables		
636 959	GEV120	2.8m antenna cable.
632 372	GEV119	10m antenna cable.
Extra long cables		
632 390	GEV108	30m antenna cable.
664 813	GEV134	50m antenna cable.

15.3 PPS/Event Cables for GS25

667 744	GEV150	PPS output cable for GS25 (port PPS) with BNC connector.
403 448	GEV42	Event input cable for GS25 (port E1) with BNC connector.
789 061	GEV262	Event input cable for GS25 (port E2) with BNC connector.

16 RTK Modems

16.1 Satellite Radio Modems for GS10 Receiver



Satellite modems		
828 005	GFU30	Satellite M3-TR4 403-470 MHz RX/TX radio in GFU housing. Transceiver UHF radio module. User manual and CE Declaration of Conformity included.
Cables for Satellite modems		
733 297	GEV171	1.8m Y-cable to program the Satellite radio modem inside the GFU27 housing.
639 968	GEV125	Cable for Satellite radios without GFU housing to be connected to GS10/GS15.

16.2 Satellite Radio Modems for GS25 Receiver



Satellite modems		
828 007	SLR6-1	Satellite M3-TR4 403-470 MHz RX/TX radio for GS25. Transceiver UHF radio module. User manual and CE Declaration of Conformity included.
Cables for Satellite modems		
639 968	GEV125	Cable for Satellite radios without GFU housing to be connected to GS10/GS15/GS25.

16.3 Satellite High Power Radios

789 636	HPR2	Satellite Easy Pro 35W high power radio, 403-473 MHz RX/TX radio. Includes power cable for connecting to 12V battery and programming cable.
844 965	HPR3	Satellite-4Pro 35W high power radio, 403-473 MHz RX/TX radio. Includes power cable for connecting to 12V battery and programming cable.
817 713	GEV275	Data cable to connect Satel HPR radio to GS GNSS receiver.
806 097	GVP712	Container for Satel HPR High Power Radio.

16.4 Mobile Phones for GS10



767 861	GFU29	GFU29, 5 band UMTS module for global use in GFU housing. Compatible with GSM, GPRS, EDGE, HSDPA networks.
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16.5 Mobile Phones for GS25



776 236	SLG1-2	SLG1-2, 5-Band (850/900/1800/1900/2100 MHz) Telit 3G GSM/GPRS/UMTS module. Provides full flexibility due to 5 -band technology, supports all GSM, GPRS, EDGE and UMTS network providers.
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17 RTK Antennas

17.1 External RTK Antennas



Gainflex radio antennas

639 964	GAT1	Gainflex radio antenna (frequency range 400-435 MHz).
667 243	GAT2	Gainflex radio antenna (frequency range 435-470 MHz).

Antennas for mobile phones

782 500	GAT18	Multiband GSM/UMTS Antenna for 850/1900 MHz, for 900/1800 MHz and for 2100 MHz mobile networks.
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17.2 Accessories for Mounting RTK Antenna on the AS05/AS10 Antenna



Antenna cables

667 200	GEV141	1.2m antenna cable.
667 201	GEV142	1.6m extension for antenna cable.
724 969	GEV194	1.8m antenna cable.
636 959	GEV120	2.8m antenna cable.



RTK antenna arm

667 219	GAD33	15cm, attaches to GNSS antenna. Gainflex antenna fits on arm. Antenna cable connects to arm.
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17.3 Accessories for Mounting RTK Antenna on Second Tripod (Base)



RTK antenna cables

636 959	GEV120	2.8m antenna cable.
667 201	GEV142	1.6m extension for antenna cable.

Telescopic rod, antenna arm and base for telescopic rod

667 228	GAD32	Telescopic rod with 5/8" screw. Fits in base 667 236.
667 220	GAD34	Arm 3cm long, screws on telescopic rod. Gainflex antenna fits on arm. Antenna cable connects to arm.
667 236	GHT36	Base with 5/8" screw, for setting up telescopic rod on tripod.

18 Additional Accessories for GS10/GS25 Pole Setups - GNSS Rover


18.1 Survey Poles



Poles with 5/8" screw

768 226	GLS13	Telescopic aluminium GNSS pole with 5/8" screw. Snap locks at 1.80m and 2.00m. Includes circular bubble.
752 292	GLS30	Telescopic carbon GNSS pole with 5/8" screw. Snap locks at 1.80m and 2.00m. Includes circular bubble.

Poles with stub

 Requires GAD31 screw to stub adapter for AS10 antenna to be mounted on these poles.

754 391	GLS12	Telescopic aluminium Total Station reflector pole with stub. Snap locks at 2.00m for GNSS antennas.
766 359	GLS31	Telescopic carbon Total Station reflector pole with stub. Snap locks at 2.00m for GNSS antennas.

667 217	GAD31	Screw to stub adapter.
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18.2 Minipack Setup



Backpack

770 707	GVP647	Minipack, holds GS10 GNSS Receiver.
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Holders

767 879	GHT62	Pole holder base plate for CS10 and CS15 field controller.
767 880	GHT63	Clamp arrangement for attaching the GHT62 to all poles (except mini reflector poles).


Antenna cables

667 200	GEV141	1.2m antenna cable.
667 201	GEV142	1.6m extension antenna cable.
636 959	GEV120	2.8m antenna cable.

Telescopic rod and RTK antenna arm

667 228	GAD32	Telescopic rod with 5/8" screw. Fits in Minipack 667 137. Fits in base 667 236.
667 220	GAD34	Arm 3cm long, screws on telescopic rod. Gainflex antenna fits on arm. Antenna cable connects to arm.
734 388	GAD46	Double arm adapter, screws on telescopic rod. Allows to connect up to 2 mobile phone/radio antennas and up to 2 antenna cables on arm.

18.3 All on the Pole Setup

 Only possible when using GLS12/GLS13 poles.



Holders

733 265	GHT40	Holder for all variants of GS10 for balanced all-on-the-pole setup.
767 879	GHT62	Pole holder base plate for CS10 and CS15 field controller.
767 880	GHT63	Clamp arrangement for attaching the GHT62 to all poles (except mini reflector poles).

Antenna cable for GNSS antenna and RTK antenna

724 969	GEV194	1.8m antenna cable.
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RTK antenna arm

667 219	GAD33	15cm, attaches to GNSS antenna. Gainflex antenna fits on arm. Antenna cable connects to arm.
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18.4 QuickStand



560 138	GST6	Quickstand with 3 telescopic legs, for aluminium poles.
667 319	GSR111	Dual-strut support, for all GLS poles.

19 Additional Accessories for GS10/GS25 Tripod Setups - GNSS Base

19.1 Tribachs



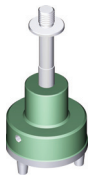
777 508	GDF321	Tribrach, without optical plummet.
777 509	GDF322	Tribrach, with optical plummet.
798 181	GDF112-1	Tribrach, with optical plummet.

19.2 Tripods



667 301	GST120-9	Tripod, telescopic, selfclosing, with accessories, without pouch.
399 244	GST05	Wooden tripod with polymer coating, with accessories.
563 630	GST05L	Aluminium tripod, telescopic, with accessories.

20 Carriers



Carriers with 5/8" screw

667 216	GRT146	Carrier with 5/8" screw, GNSS antenna screws on directly.
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Carriers with stub

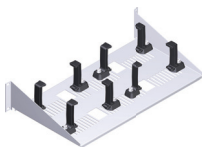
667 313	GRT144	Carrier with stub, pale green.
667 217	GAD31	Screw-to-stub adapter for fitting GPS antenna on carriers with stub and poles with stub.

20.1 Height Hook



667 244	GZS4-1	Height hook with integrated tape measure. Supplied with additional tape graduated in feet and inches.
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21 Mounting Kits for GS25




Mounting kits for GS25 receiver

774 439	GEV249	Rack Mount Kit for GS25 receiver. For fitting the receiver to standard IT rack (requires 2 U in the rack).
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22 Container for GS10/GS25 Receiver



 All GS10/GS25 need to be ordered with at least one container.

833 516	GVP716	Backpack carrying systems for all large TPS and GNSS containers.
833 517	GVP717	Sidebag for large GNSS container (current version).
833 518	GVP718	Basic backstrap for large GNSS container (current version).
833 519	GVP719	Shoulderstrap for large GNSS container (current version).
817 056	GVP723	Hard container for GNSS Receiver, CS field controller and accessories for a Base setup.

Additional Accessories for GS Receivers

23 Power Supply

23.1 Internal Batteries for GS14 and GS08plus Receiver



772 806	GEB212	Lithium-Ion battery, 7.4V/2.6Ah, rechargeable. To be used with CS10/CS15 field controller and GS14, GS15 or GS08plus receiver.
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23.2 Internal Batteries for GS10 Receiver



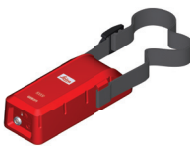
733 270	GEB221	Lithium-Ion battery, 7.4V/4.4Ah, rechargeable. To be used with GS10 receiver.
793 973	GEB222	Lithium-Ion battery, 7.4V/6Ah, rechargeable. To be used with GS10 receiver.

23.3 Internal Batteries for GS25 Receiver



793 975	GEB242	Lithium-Ion battery, 14.8V/5.8Ah, rechargeable, for GS25 receiver.
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23.4 External Power Supply



Battery for GS10		
818 916	GEB371	External universal battery, Li-Ion, 13 V, 250 Wh, rechargeable.
Power cables for GS10		
758 469	GEV219	Power cable, 1.8m, connects GS10 receiver to external GEB171 battery.
439 038	GEV71	4m car battery cable, connects all battery cables to 12V car battery.
Power cables for GS10		
560 130	GEV97	Power cable, 1.8m, connects GS10 receiver to external GEB171 battery.
733 298	GEV172	Power cable, 2.8m, connects GS10 receiver to 2 external GEB171 batteries.
Power cables for GS08plus		
748 418	GEV205	Y-Cable for RTK Reference setup. Connects a GS08plus with a GEB171 battery and a radio in a Leica GFU housing.
Power supply unit		
807 696	GEV270	Power supply unit for TPS/GPS/DNA, for indoor use only. Input 90-264 VAC to output 13.2VDC 40W, with Lemo connection for power cables.

23.5 Battery Chargers



799 185	GKL311	Single-bay Charger Professional 3000. Charger for one Li-Ion battery (GEB211, GEB212, GEB221, GEB222, GEB241 and GEB242), including AC/DC adaptor and cigarette lighter cable.
799 187	GKL341	Multi-bay Charger Professional 5000. Charges up to 4 batteries (GEB211, GEB212, GEB221, GEB222, GEB241 and GEB242), including power cable.
734 389	GDC221	Car adapter for the GKL341 charger. Allows the use of the GKL341 with a cigarette lighter; 12V/24V DC/DC converter. Can also be used to power CS10/CS15 field controller directly from a cigarette lighter.
774 437	GEV242	Charger for GEB371 external battery.

24 Data Storage and Data Transfer

24.1 Memory Devices for GS10 and GS25 Receiver



767 856	MSD1000	SD memory card 1GB for GS10 and GS15 receiver and CS10 and CS15 field controller.
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24.2 Memory Devices for GS14 Receiver

795 993	MMSD01	microSD card 1GB for GS14 receiver, includes SD card adapter.
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24.3 Card Reader



767 895	MCR7	Card reader for SD/CF cards.
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24.4 Data Transfer Cables



Serial cables

733 280	GEV160	Serial data transfer cable, 2.8m, connects GS10 receiver (port 2) to PC. (Lemo to 9pin RS232)
733 282	GEV162	Serial data transfer cable, 2.8m, connects GS10 receiver (port 1) or CS10/CS15 controller to PC. (Lemo to 9pin RS232)
806 094	GEV268	Serial data transfer cable, converter cable USB to serial (Lemo to USB connector), 2.0m, connects GS10 receiver (port 2) to PC. PC driver included on CD.
806 095	GEV269	Serial data transfer cable, converter cable USB to serial (Lemo to USB connector), 2.0m, connects GS10/GS14 receiver (port 1) or CS10/CS15 controller to PC. PC driver included on CD.



USB cable

767 899	GEV234	USB cable, 1.65m, connects GS08plus/GS10/GS14 receiver or CS10/CS15 controller to USB port of a PC or connects GS08plus/GS10 receiver to CS10/CS15 controller. (Lemo to USB)
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25 Cables to connect GS08plus/GS10/GS14/GS25 to CS Controller



In cases where high data speed communication is required between GS08plus/GS10/GS14 and CS controller, cables should be used instead of a Bluetooth connection.



USB cables

767 899	GEV234	USB cable, 1.65m, connects GS08plus/GS10/GS14 receiver or CS10/CS15 controller to USB port of a PC or connects GS08plus/GS10/GS15 receiver to CS10/CS15 controller. (Lemo to USB)
772 807	GEV237	USB cable, 1.65m, connects GS08plus/GS10/GS14 receiver to CS10/CS15 controller. (Lemo to Lemo)

26 Radio Accessories


806 098	GST74	Antenna mast including tripod, extendable up to 5m.
806 096	GVP711	Soft bag for car battery, including 2 cables with SAE adapter.
806 101	GAD117	Adapter antenna to mast, required for GAT23/GAT24 UHF antenna, includes 5m antenna cable with TNC connector.
806 099	GAT23	UHF radio antenna (frequency range 430-450 MHz, 5.5dBi gain).
806 100	GAT24	UHF radio antenna (frequency range 450-470 MHz, 5.5dBi gain).
811 818	GEV274	Y-cable for RTK reference setup, connects GS receiver to a power source (SAE plug) and a Satel HPR2 radio.
817 713	GEV275	Data cable to connect Satel HPR radio to GS GNSS receiver.
806 097	GVP712	Container for Satel HPR High Power Radio.

Field Controller

27 CS10/CS15 Field Controller


27.1 CS10 Field Controller



846 633	CS10 3.5G Field Controller	<p>CS10 3.5G Field Controller. Ruggedized WinCE field controller with full VGA touch display, 1GB NAND Flash memory, 512MB SDRAM and SD card slot. Includes Bluetooth, 3.5G GSM/UMTS module, numeric keypad, stylus. Available with either Lemo connector (CBC01) or DSUB connector module (CBC02).</p> <p> This article is available for all countries except US and Canada.</p>
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27.2 CS15 Field Controller



846 630	CS15 3.5G Field Controller	<p>CS15 3.5G Field Controller. Ruggedized WinCE field controller with full VGA touch display, 1GB NAND Flash Memory, 512MB SDRAM and SD card slot. Includes Bluetooth, 3.5G GSM/UMTS module, QWERTY keypad, stylus. Available with either Lemo connector (CBC01) or DSUB connector module (CBC02).</p> <p> This article is available for all countries except US and Canada.</p>
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27.3 CS15 Field Controller



848 515	CS15 3.5G Field Controller	<p>CS15 3.5G Field Controller. Ruggedized WinCE field controller with full VGA touch display, 1GB NAND Flash Memory, 512MB SDRAM and SD card slot. Includes Bluetooth, internal WLAN module, 3.5G GSM/UMTS module, QWERTY keypad, stylus. Available with either Lemo connector (CBC01) or DSUB connector module (CBC02).</p> <p> This article is only available for US and Canada</p>
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28 Connector Modules for CS10/CS15 Field Controller



767 874	CBC01	<p>Lemo connector module with power jack, Lemo (USB and Serial) and USB A host for CS10 and CS15 field controller.</p> <p> Can only be ordered with CS10/CS15 field controller.</p>
767 875	CBC02	<p>DSUB connector module with power jack, DSUB 9-pin, USB A host and USB mini AB for CS10 and CS15 field controller.</p> <p> Can only be ordered with CS10/CS15 field controller.</p>

29 Accessories for Field Controller

29.1 Miscellaneous Accessory

781 521	GDZ69	Extra pen with screw driver for CS10 and CS15 field controller.
767 907	SPF01	Anti-glare display foils for CS10 and CS15 field controller.

29.2 Internal Batteries



772 806	GEB212	Lithium-Ion battery, 7.4V/2.6Ah, rechargeable. To be used with CS10/CS15 field controller or GS15 receiver.
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29.3 Docking Station



767 906	CCS01	Docking station for CS10 and CS15 field controller for charging and data transfer to PC, includes: GEV223 (USB A to USB mini data transfer cable).
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29.4 Additional Power Accessories

767 900	GEV235	1.5m power cable. Allows CS10/CS15 controller to be externally powered via the power jack. Usable in the EU.
773 753	GEV235-1	1.5m power cable. Allows CS10/CS15 controller to be externally powered via the power jack. Usable in the US.
773 754	GEV235-2	1.5m power cable. Allows CS10/CS15 controller to be externally powered via the power jack. Usable in Japan.
773 755	GEV235-3	1.5m power cable. Allows CS10/CS15 controller to be externally powered via the power jack. Usable in the UK.
773 756	GEV235-4	1.5m power cable. Allows CS10/CS15 controller to be externally powered via the power jack. Usable in Australia.
734 389	GDC221	Car adapter for the GKL341 charger. Allows the use of the GKL341 with a cigarette lighter; 12V/24V DC/DC converter. Can also be used to power CS10/CS15 field controller directly from a cigarette lighter.

29.5 Memory Devices



767 856	MSD1000	SD memory card 1GB for GS10/GS15 receiver and CS10/CS15 field controller.
789 139	MSD08	SD memory card 8GB for GS10/GS15 receiver and CS10/CS15 field controller.
765 199	MS1	USB memory stick, 1GB, industrial grade.

29.6 Card Reader & Adapter



767 895	MCR7	Card reader for SD/CF cards.
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29.7 Pole Accessories for CS10/CS15 Field Controller



767 879	GHT62	Pole holder base plate for CS10 and CS15 field controller.
767 880	GHT63	Clamp arrangement for attaching the GHT62 to all poles.

29.8 Softbags and Hand Strap for CS10/CS15 Field Controller



Soft bags		
767 904	GVP643	Soft bag for CS10 field controller for transportation and protection against dirt. Including belt loop.
767 905	GVP644	Soft bag for CS15 field controller for transportation and protection against dirt. Including belt loop.
Hand strap		
767 877	GHT61	Hand strap for CS10 and CS15 field controller with utility hook for attaching to belt or tripod.


SmartWorx Viva

30 SmartWorx Viva Software and Application Programs

30.1 SmartWorx Viva Software for CS10/CS15 Field Controller

807 728	Leica Nova & Leica Viva Documentation USB card.
767 909	CS SmartWorx Viva licence key.




30.2 Applications Included with SmartWorx Viva

	Survey includes: <ul style="list-style-type: none">• Survey• Code Points• Auto points recording• Hidden Points
	RTK Base Setup includes: <ul style="list-style-type: none">• Over known point• Over last setup• Over any point  Requires RTK Reference option 767 816 LOP13 on GS10, GS14 or GS15.
	Stakeout includes: <ul style="list-style-type: none">• Navigate to point using various methods: North, sun, point and line• Quality control - checking of coordinate differences before storing• Automatic selection of next closest point to stake• Graphical selection of point from map• Edit heights and offset heights of points• Acoustic "reversing beep" when getting closer to point
	COGO includes: <ul style="list-style-type: none">• Inverse• Traverse• Intersections• Line calculations• Arc calculations• Angle and curve calculator• Shift, Rotate & Scale (manual)• Shift, Rotate & Scale (match Points)
	Determine coordinate system: <ul style="list-style-type: none">• 1 step, 2 step, 3D Transformation• All common projections
	Alignment Tool Kit: <ul style="list-style-type: none">• Horizontal alignments• Vertical alignments• Cross sections• Chainage equations
	Data import: ASCII, DXF, DTM
	Data export: Simple ASCII, Custom ASCII, DXF, LandXML, FBK, RW5, RAW, RWD

30.3 Additional SmartWorx Viva Software Packages for CS Field Controller

767 913	CS Worksite+ includes: <ul style="list-style-type: none">• CS DTM Stakeout application (767 919)• CS Reference Line application (767 915)• CS Survey Surface & Volumes application (767 920)
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30.4 Optional SmartWorx Viva Applications for CS Field Controller

767 917	CS COGO Area Division  Requires COGO application.
767 919	CS DTM Stakeout  Requires Stakeout application.
767 915	CS Reference Line  Requires Stakeout application.
767 916	CS Reference Plane and Grid Scanning
767 921	CS RoadRunner
767 923	CS RoadRunner Rail
777 645	CS RoadRunner Importer
767 918	CS Survey Cross Section
767 920	CS Surface and Volumes
807 770	CS QuickVolume
779 472	DGPS option for Leica Viva Uno

30.5 SmartWorx Viva PC Software

773 894	SmartWorx Viva PC Software. Licence Key to run the SmartWorx Viva software on a PC.
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Care Packages

31 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.

Trademarks

32 Trademarks

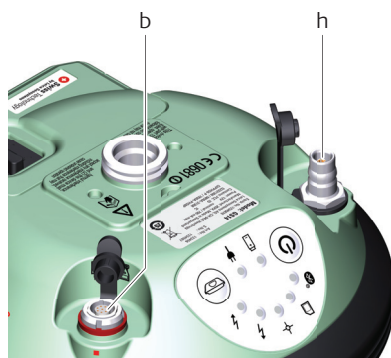
The *Bluetooth*® word mark and logos are owned by Bluetooth SIG, Inc. and any use of such marks by Leica Geosystems AG is under license.

SD and microSD are trademarks of the SD-3C, LLC.

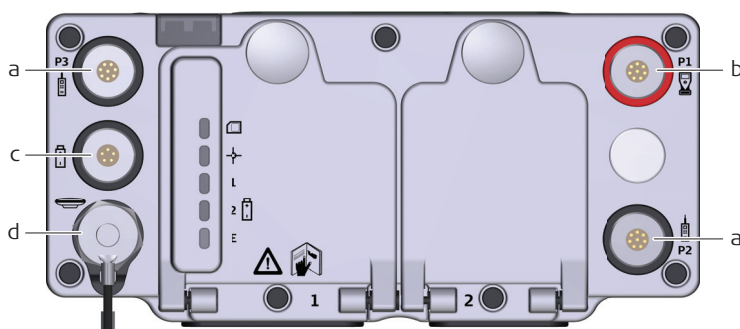
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System Viva GNSS Cables Overview

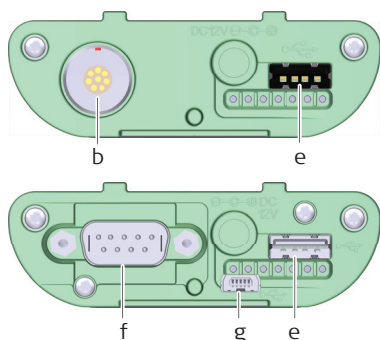
GS14 receiver



GS10 receiver

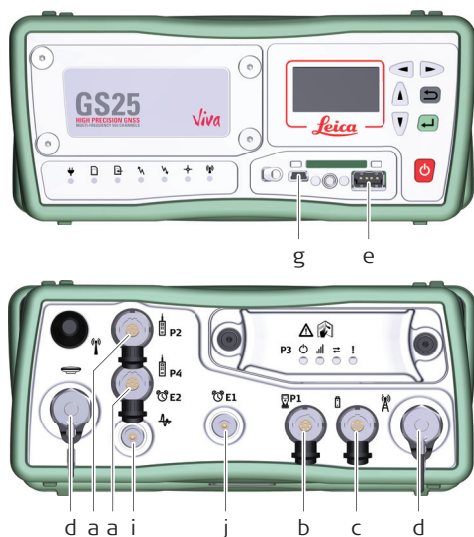


CS10/CS15 controller



- a) Lemo1, 8pin, 30°
- b) Lemo1, 8pin, 135°
- c) Lemo1, 5pin, 0°
- d) TNC connector
- e) USB type A
- f) RS232 serial, 9pin
- g) Mini USB AB
- h) QN connector
- i) Lemo FFA
- j) H&S QLA connector

GS25 receiver



Power cables

Art. no	Name	Connector 1	Connector 2	Description
560 130	GEV97	Lemo1, 5pin, 0°	Lemo1, 5pin, 0°	Length 1.8 m Allows GS10 (power port) to be externally powered.
758 469	GEV219	Lemo1, 8pin, 135°	Lemo1, 5pin, 0°	Length 1.8 m 1. Allows CS10/CS15 (with Lemo CBC01 connector module) to be externally powered via the Lemo port. 2. Allows GS10/GS14/GS15 (port 1) to be externally powered.
767 900	GEV235	Wall adapter	3mm barrel connector	Length 1.5 m Allows CS10/CS15 (with either connector modules) to be externally powered via the power jack. AC/DC wall adapter type is country specific.
439 038	GEV71	Crocodile clips	Lemo1, 5pin, 0° (female)	Length 4.0 m Allows powering of any device from car battery.
809 028	GEV272	Lemo1, 8pin, 30°	SAE	Length 2.0 m Power cable for GVP711 battery soft bag.
807 696	GEV270	Lemo1, 5pin, 0° (female)	Mains plug	Length 0.8 + 1.5 m Allows powering of any GS from standard mains socket (country specific).

Y - power cables

Art. no	Name	Connector 1	Connector 2	Connector 3	Description
733 298	GEV172	Lemo1, 5pin, 0°	Lemo1, 5pin, 0°	Lemo1, 5pin, 0°	Length 2.8 m Allows GS10 (power port) to be externally powered by 2 external batteries.
756 365	GEV215	Lemo1, 8pin, 135°	Lemo1, 8pin, 135°	Lemo1, 5pin, 0°	Length 2.0 m Allows connection between CS10/CS15 (with Lemo CBC01 connector module) and GS10/GS14/GS15 (port 1) while being powered from the GEB371.
748 418	GEV205	Lemo1, 8pin, 30°	Lemo1, 8pin, 135° (female)	Lemo1, 5pin, 0°	Length 1.8 m Allows connection between GS08plus or GS10/GS15 (port 1), external radio in GFU housing and GEB371 with GS and radio being externally powered.
796 492	GEV264	Lemo1, 8pin, 135°	Lemo1, 8pin, 30° (female)	Lemo1, 5pin, 0°	Length 1.8 m Allows connection between GS14, external radio in GFU housing and GEB371 with GS and radio being externally powered.
811 818	GEV274	Lemo1, 8pin, 135°	Lemo1, 8pin, 30°	SAE	Length 2.8 m Allows connection between GS10/GS14/GS15 (port1), Satel HPR radio with GS being externally powered.

Radio programming cables

Art. no	Name	Connector 1	Connector 2	Connector 3/4	Description
767 803	GEV231	15pin (GS15 slot-in port) (female)	RS232 serial, 9pin	Lemo1, 5pin, 0°	Length 1.8 m Allows an SLR radio device to be externally powered and programmed by a PC.
733 297	GEV171	Lemo1, 8pin, 30° (female)	RS232 serial, 9pin	Lemo1, 5pin, 0°	Length 1.8 m Allows a radio within a GFU device to be externally powered and programmed by a PC.
793 364	GEV261	Lemo1, 8pin, 135°	RS232 serial, 9pin	Lemo1, 5pin, 0° and USB type A	Length 1.8 m Allows a GS14 radio to be programmed by a PC.
809 029	GEV273	Lemo2, 8pin, 30°	RS232 serial, 9pin		Length 2.0 m Allows a Satel HPR radio to be programmed by a PC.

Radio cables

Art. no	Name	Connector 1	Connector 2	Description
767 897	GEV232	Lemo1, 8pin, 30°	Lemo1, 8pin, 30° (female)	Length 2.8 m Allows GFU devices to be connected to a GS10 (port 2 and 3), or GS15 (port 2).
767 898	GEV233	Lemo1, 8pin, 30°	Lemo1, 8pin, 30° (female)	Length 0.8 m Allows GFU devices to be connected to a GS10 (port 2 and 3), or GS15 (port 2).
639 968	GEV125	Lemo1, 8pin, 30°	15pin, RS232 serial	Length 1.8 m Allows a Sateline modem (not inside housing) to be connected to a GS10 (port 2 and 3), or GS15 (port 2).
817 713	GEV275	Lemo1, 8pin, 30°	Lemo2, 8pin, 30°	Length 1.8 m Data cable to connect Satel HPR (35W) high power radio to GS10/GS15 GNSS receiver.
799 776	GEV266	Lemo1, 8pin, 135°	Lemo2, 8pin, 30°	Length 1.8 m Data cable to connect Satel HPR (35W) high power radio to GS14 GNSS receiver.

Serial data transfer cables

Art. no	Name	Connector 1	Connector 2	Description
733 280	GEV160	Lemo1, 8pin, 30°	RS232 serial, 9pin	Length 2.8 m Allows serial connection between GS10 (port 2 and 3), or GS15 (port 2) to PC to stream NMEA or RTK data.
733 282	GEV162	Lemo1, 8pin, 135°	RS232 serial, 9pin	Length 2.8 m 1. Allows serial connection between GS10/GS14/GS15 (port 1) to PC to stream NMEA or RTK data. 2. Allows serial connection between CS10/CS15 (with Lemo CBC01 connector module) and hidden point device, ASCII input device, PC etc.
733 283	GEV163	Lemo1, 8pin, 135°	Lemo1, 8pin, 135°	Length 1.8 m Allows serial connection between CS10/CS15 (with Lemo CBC01 connector module) and GS10/GS15 port 1.

USB to serial converter cables

Art. no	Name	Connector 1	Connector 2	Description
806 094	GEV268	Lemo1, 8pin, 30°	USB type A	Length 2.0 m Allows GS10 (port 2 and 3) or GS15 (port 2) to be connected to a PC where a serial connection is required, but no 9pin RS232 port physically exists on the PC. This cable allows a serial connection through the USB port of the PC to the CS or GS hardware.
806 095	GEV269	Lemo1, 8pin, 135°	USB type A	Length 2.0 m Allows CS10/CS15 (with Lemo CBC01 connector module) and GS10/GS14/GS15 port 1 to be connected to a PC where a serial connection is required, but no 9pin RS232 port physically exists on the PC. This cable allows a serial connection through the USB port of the PC to the GS hardware.

USB data transfer cables

Art. no	Name	Connector 1	Connector 2	Description
767 899	GEV234	Lemo1, 8pin, 135°	USB type A	Length 1.65 m 1. Allows a CS10/CS15 (with 9pin serial CBC02 connector module) to connect to a GS08plus or GS10/GS14/GS15 (port 1). This is the cable needed for a cable connection needed between CS and GS when the CS is using the CBC02 connector module. 2. Allows a USB connection between the USB port of a PC to a GS08plus or GS10/GS14/GS15 (port 1). 3. Allows a USB connection between the USB port of a PC to a CS10/CS15 (with Lemo CBC01 connector module).
764 700	GEV223	USB type A	Mini USB type B	Length 1.8 m Allows USB data transfer between CS10/CS15 (CBC02 connector module) and a PC.
772 807	GEV237	Lemo1, 8pin, 135°	Lemo1, 8pin, 135°	Length 1.65 m Allows a CS10/CS15 (with Lemo CBC01 connector module) to connect to a GS08plus or GS10/GS14/GS15 (port 1). This is the cable needed for a cable connection between CS and GS when the CS is using the CBC01 connector module.

PPS/Event cables

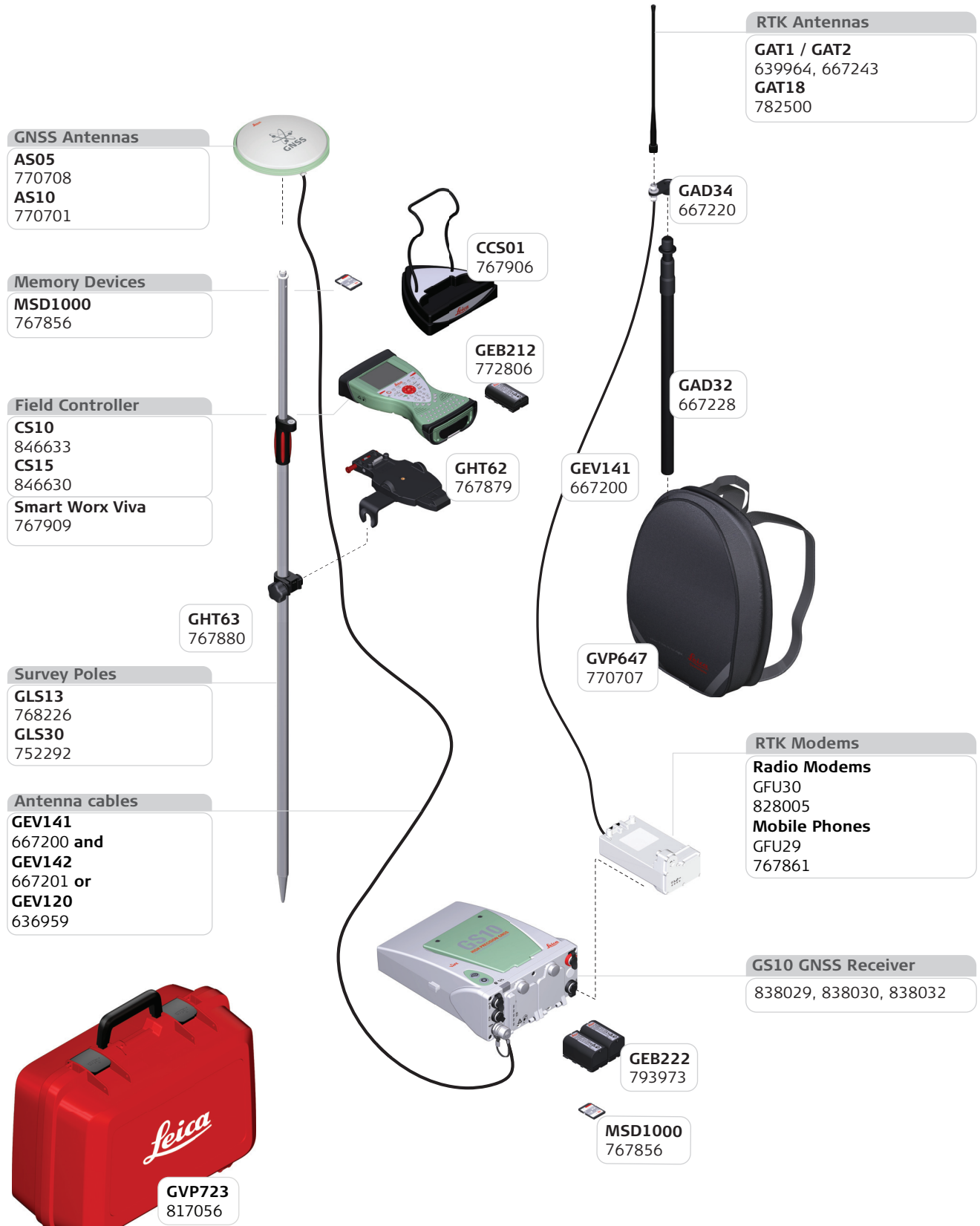
Art. no	Name	Connector 1	Connector 2	Description
667 744	GEV150	Lemo FFA	BNC	Length 2.0 m PPS output cable for GS25 (port PPS) with BNC connector.
403 448	GEV42	H&S QLA	BNC	Length 2.0 m Event input cable for GS25 (port E1) with BNC connector.
789 061	GEV262	Lemo1, 8pin, 30°	BNC	Length 2.0 m Event input cable for GS25 (port E2) with BNC connector.

Antenna cables for connecting GNSS antennas or RTK antennas

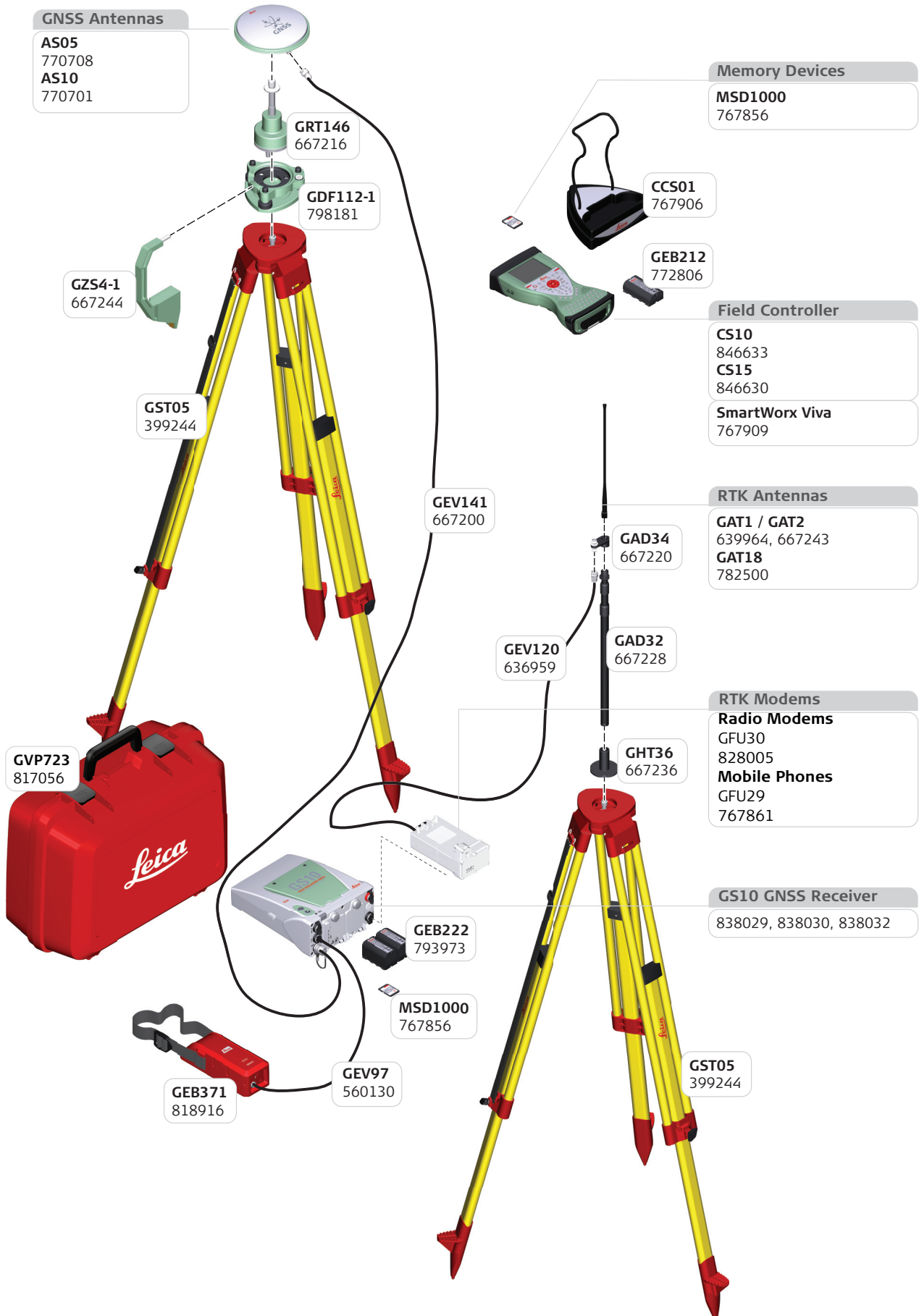
Art. no	Name	Connector 1	Connector 2	Description
667 200	GEV141	TNC connector	TNC connector	Length 1.2 m
772 002	GEV238	TNC connector	SMB connector	Length 1.2 m
667 201	GEV142	TNC connector	TNC connector (male)	Length 1.6 m Extension cable.
636 959	GEV120	TNC connector	TNC connector	Length 2.8 m
632 372	GEV119	TNC connector	TNC connector	Length 10 m
632 390	GEV108	TNC connector	TNC connector	Length 30 m
664 813	GEV134	TNC connector	TNC connector	Length 50 m

Suggested GNSS Setups

33 GS10 Real Time Rover - Pole plus Minipack

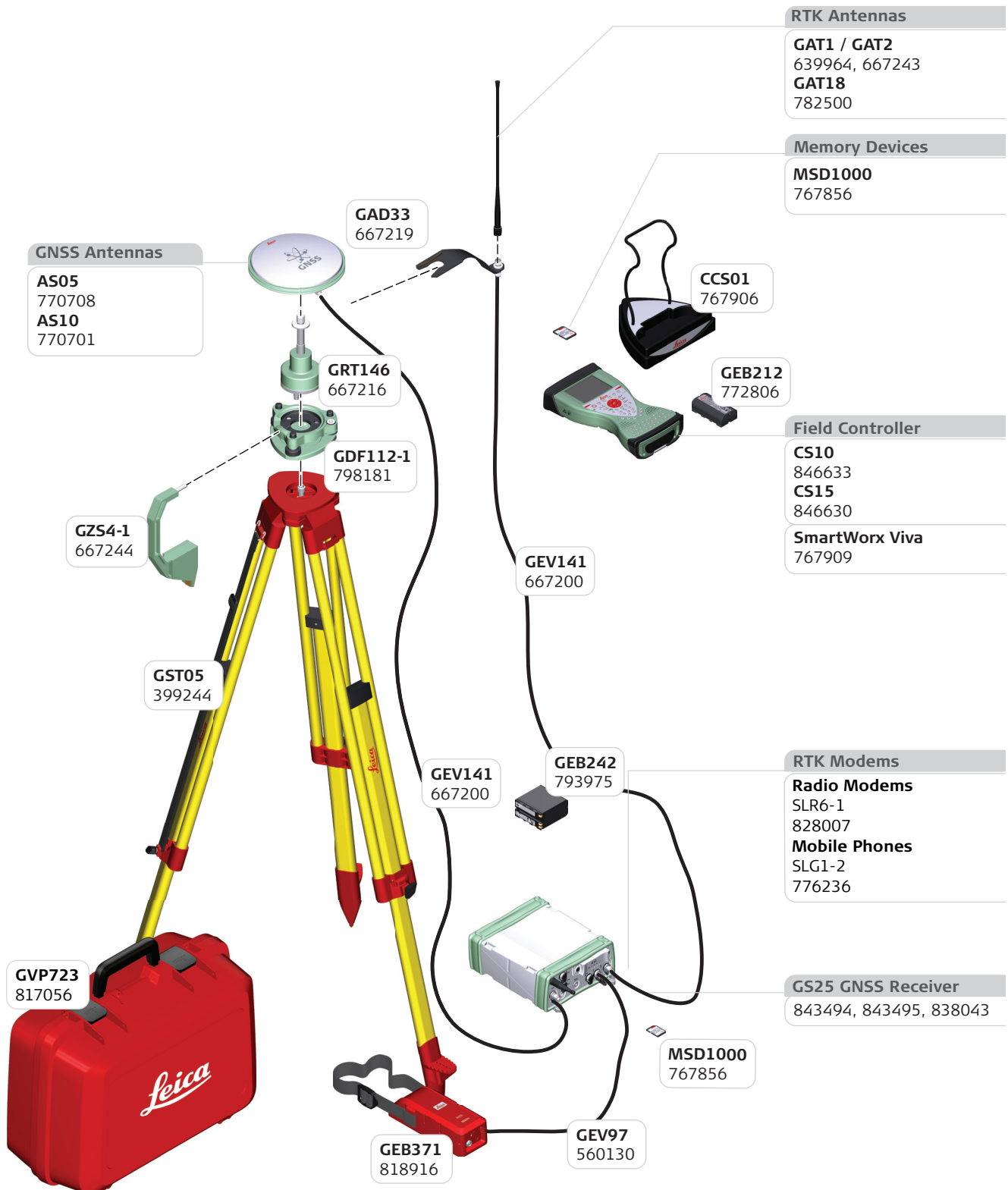


34.2 Using Two Tripods

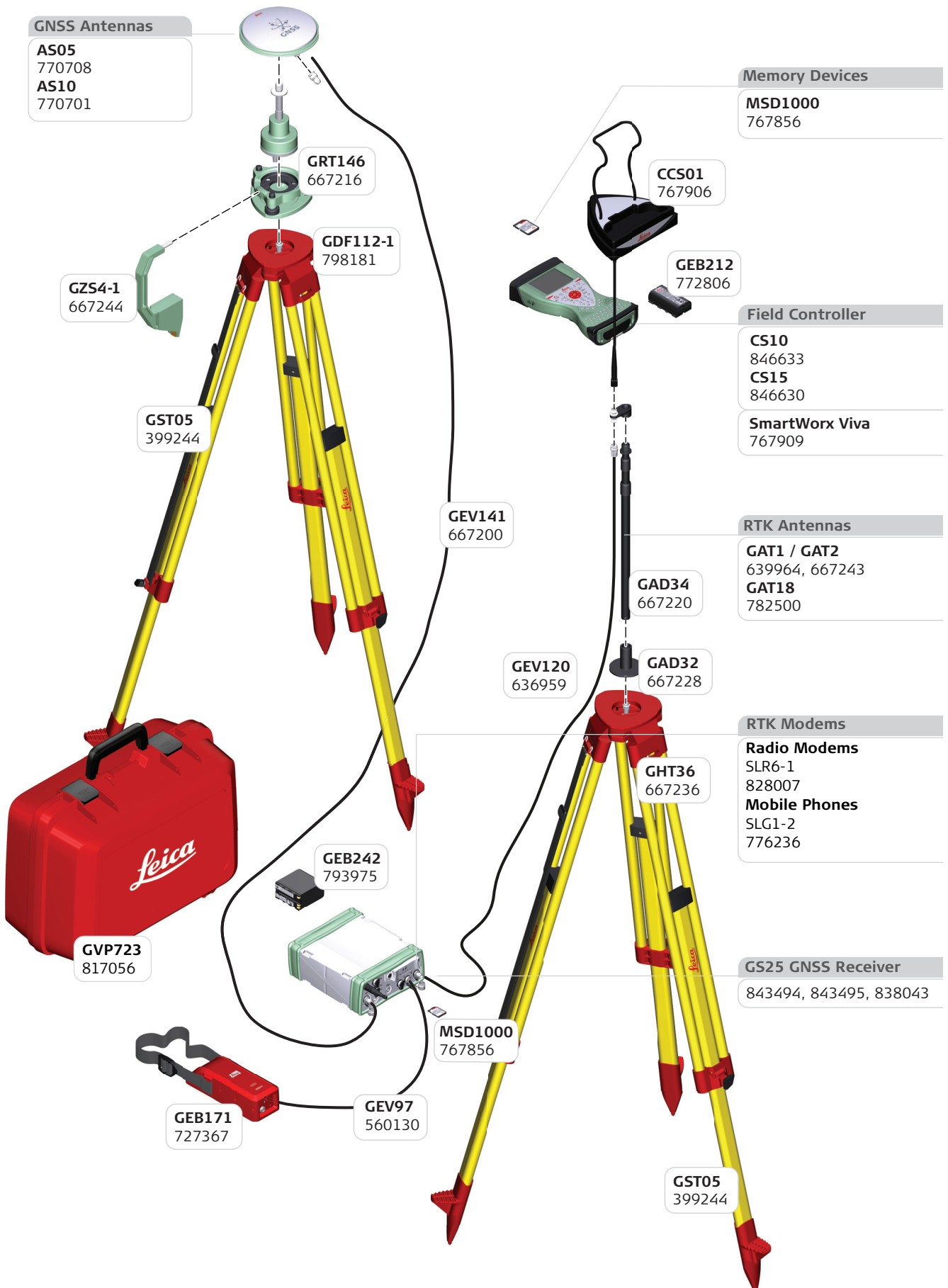


35 GS25 Real Time Reference - Tripod Setup

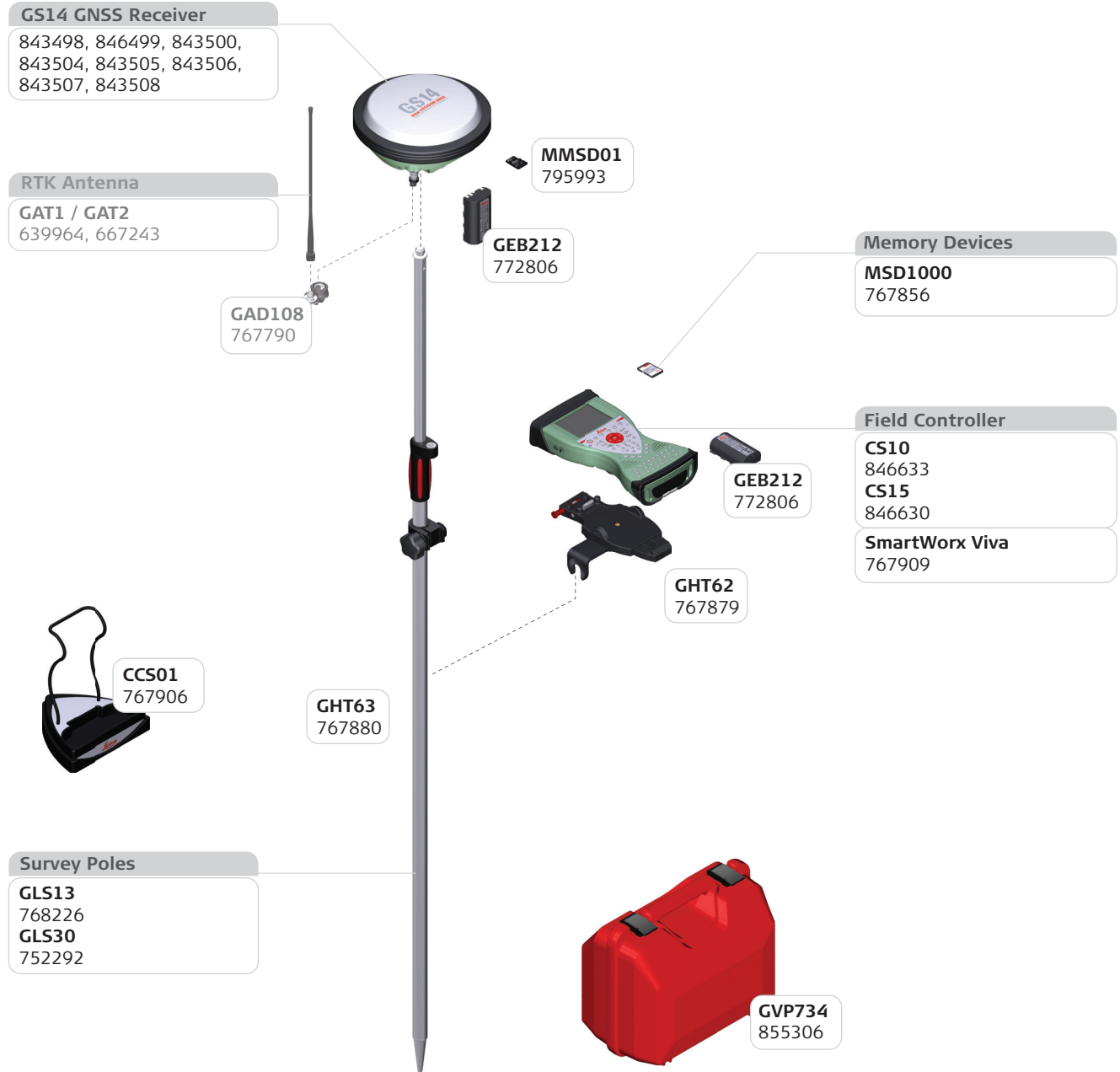
35.1 Using One Tripod




35.2 Using Two Tripods



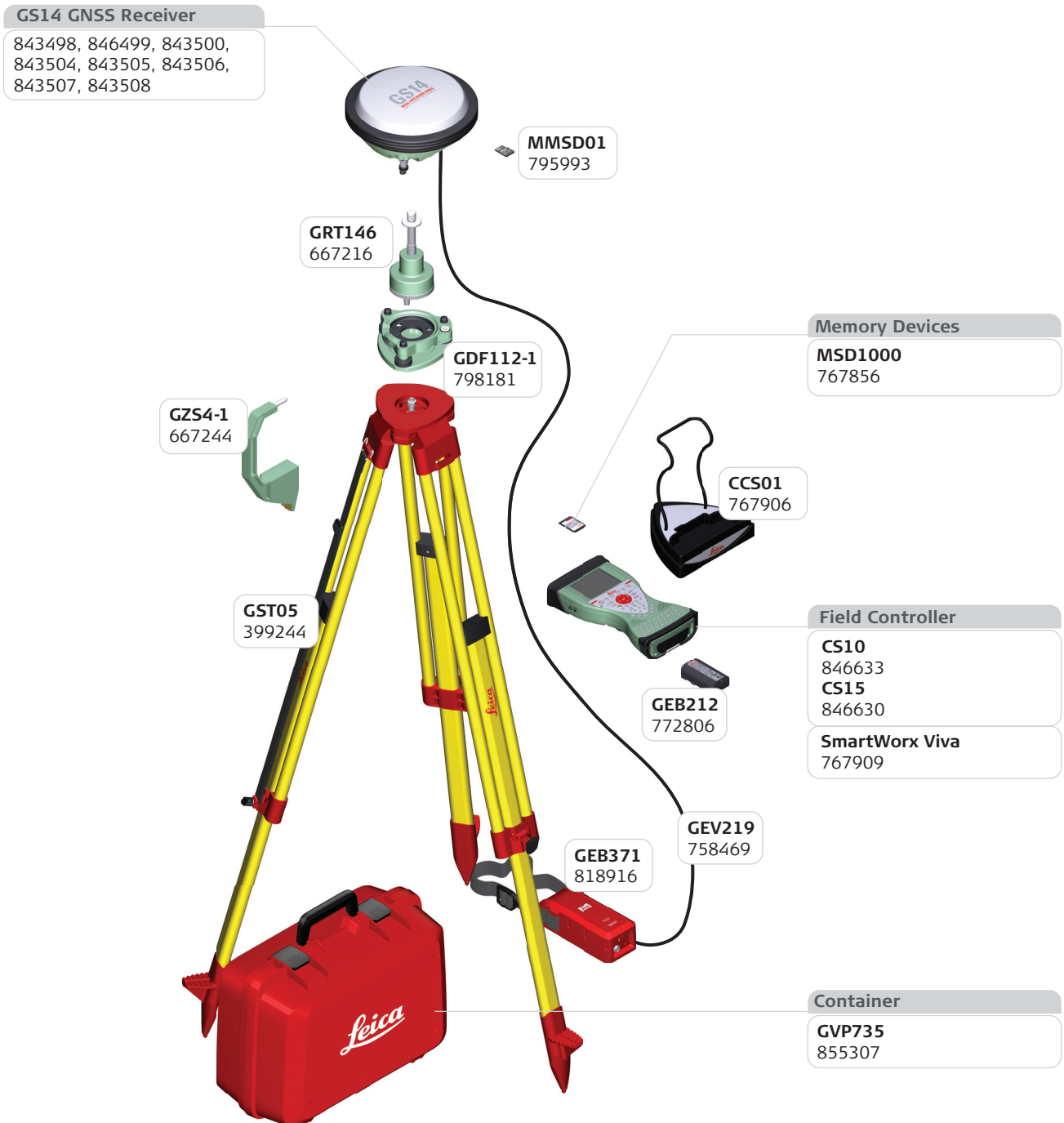
36 GS14 Pole Setup



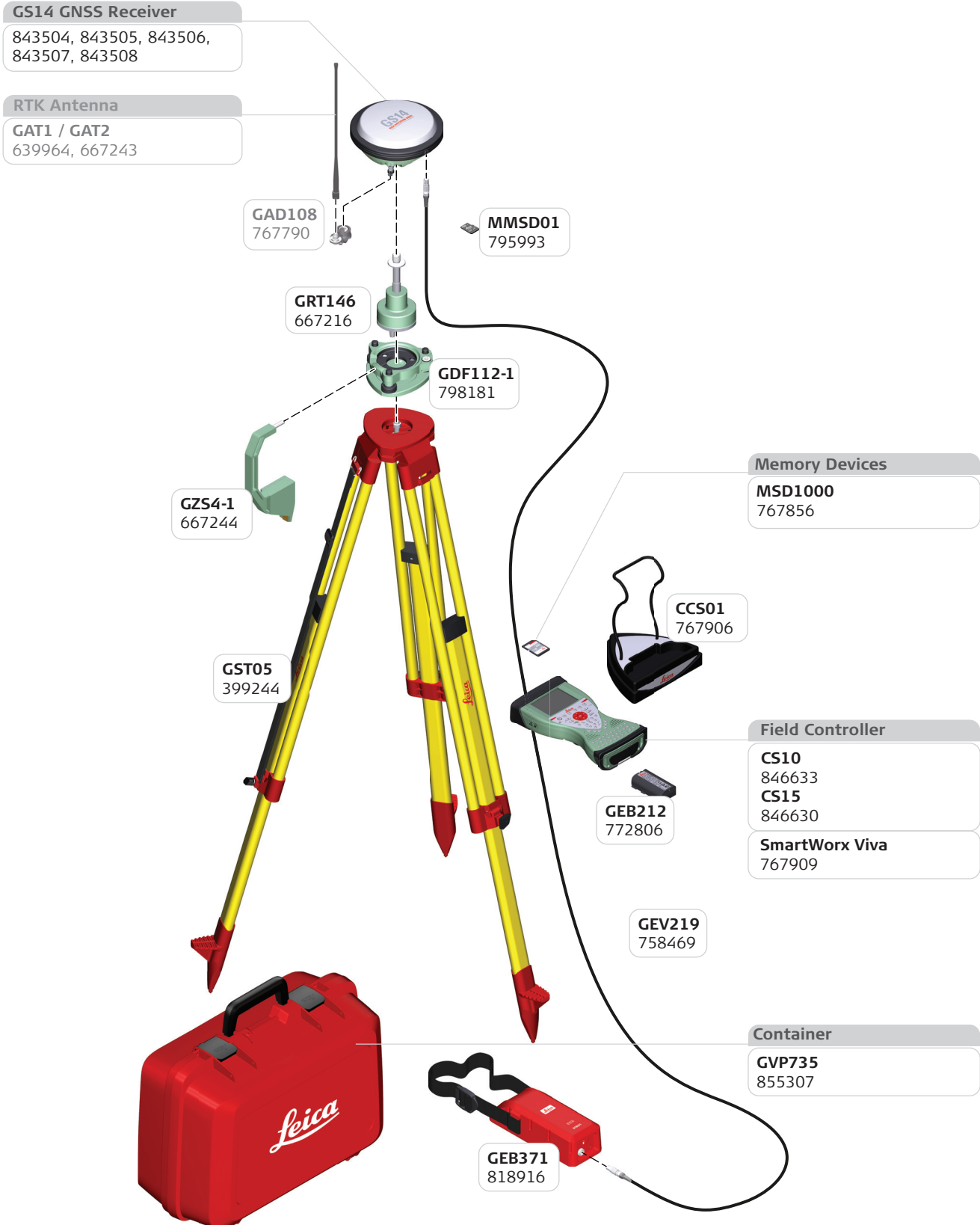
 Please refer to the Leica Viva TPS or Leica Nova TPS Equipment lists for the usage of a GS14 receiver in a SmartPole or SmartStation setup.

37 GS14 Reference setup

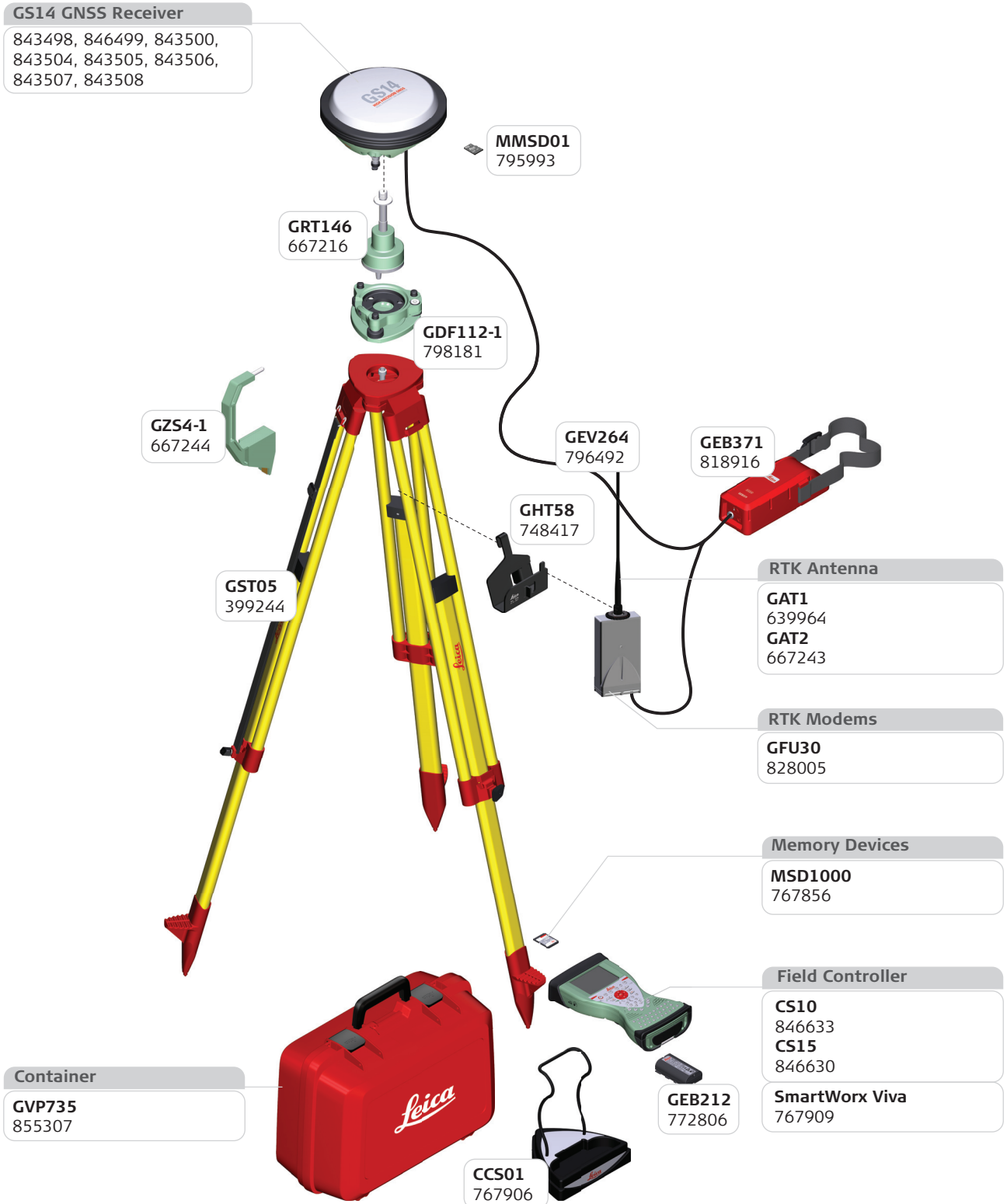
37.1 Using GS14 phone modem



37.2 Using GS14 radio modem



37.3 Using external RTK module



38 Satellite High Power Radio (HPR)

38.1 Satellite High Power Radio Setup with GS14

GS14 GNSS Receiver

843498, 846499, 843500,
843504, 843505, 843506,
843507, 843508

Antennas

GAT23 / GAT24
806099, 806100

Antenna Mast

GST74
806098

GVP712
806097

MMSD01
795993

GEB212
772806

GRT146
667216

GDF112-1
798181

GAD117
806101

GZS4-1
667244

GST05
399244

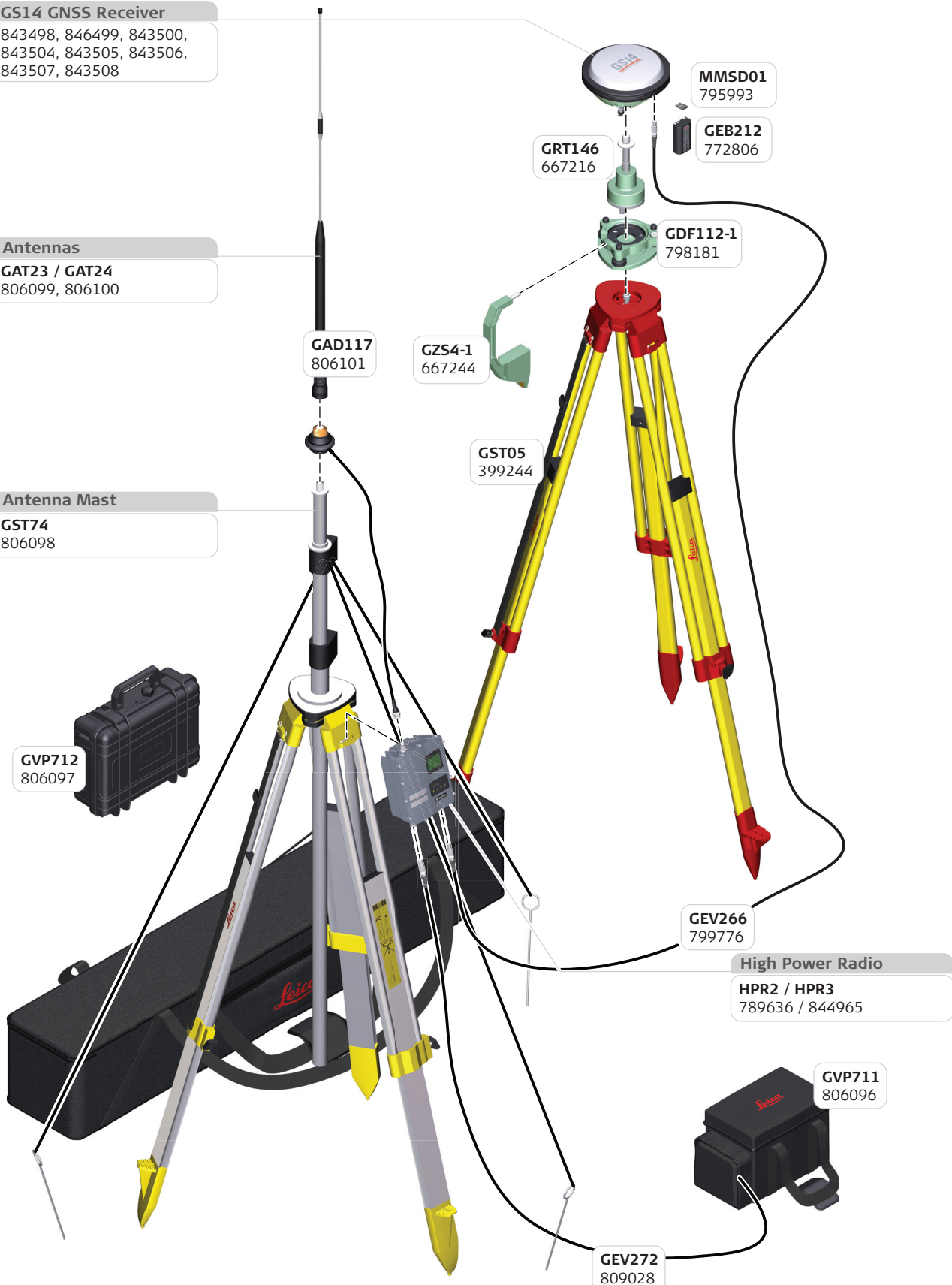
GEV266
799776


High Power Radio

HPR2 / HPR3
789636 / 844965

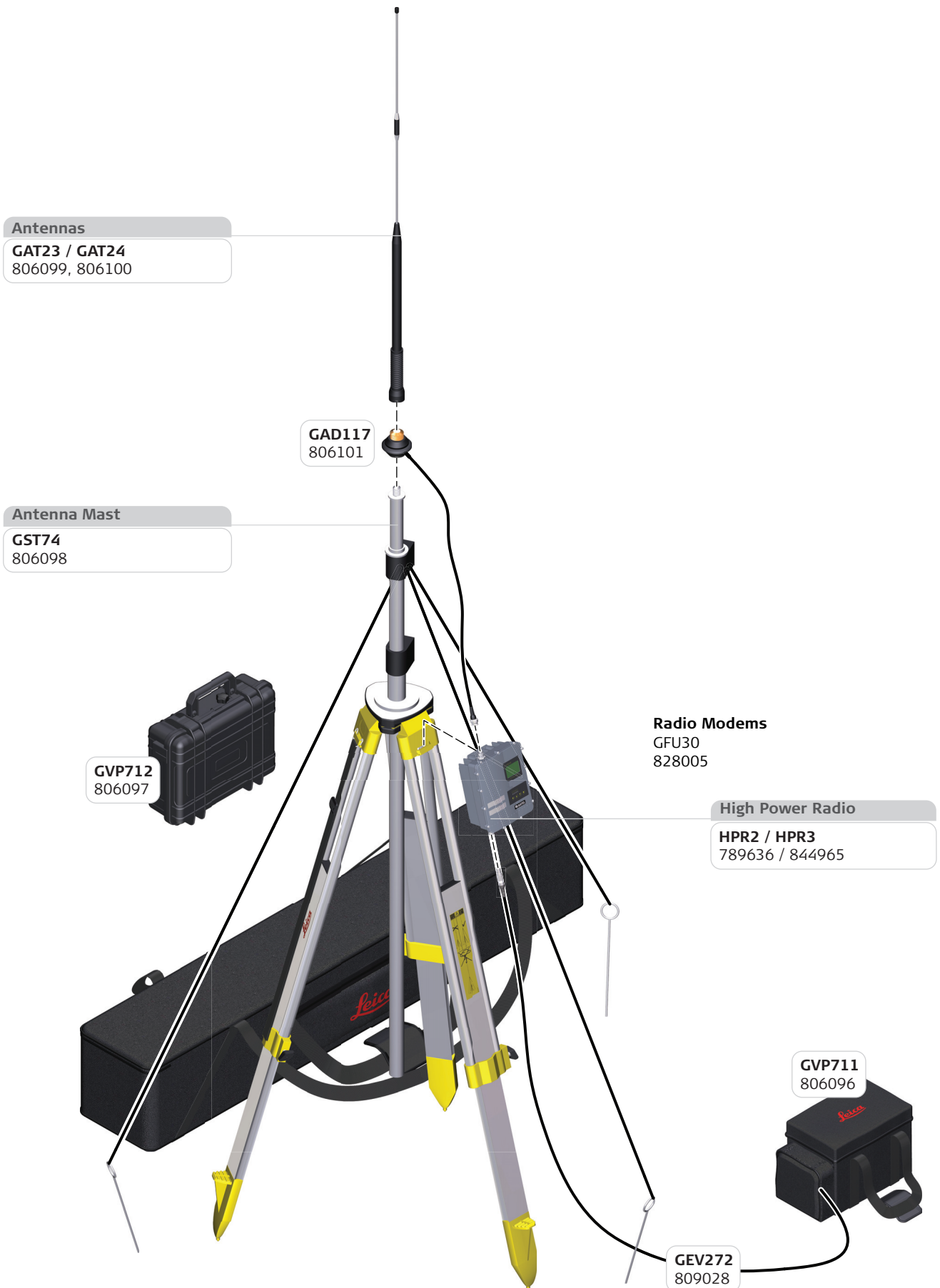
GVP711
806096

GEV272
809028



 To power the GS14 externally from the car battery (GVP711 soft bag) the GEV274 can be used instead of the GEV266.

38.2 Satellite High Power Radio Setup - Standalone



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