

# Leica Captivate GNSS Equipment List



- when it has to be **right**

**Leica**  
Geosystems

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# GS15 GNSS Receiver

## 1 GS15 GNSS Receiver



838 040	<b>GS15</b>	Leica <b>GS15 Basic SmartAntenna</b>
838 041	<b>GS15</b>	Leica <b>GS15 Performance SmartAntenna</b>
838 042	<b>GS15</b>	Leica <b>GS15 Unlimited SmartAntenna</b>

	Leica GS15 Basic	Leica GS15 Performance	Leica GS15 Unlimited
<b>Supported GNSS Systems</b>			
Multi-frequency (L2, L5, L-band)	○	●	●
GLONASS	○	○	●
Galileo	○	○	●
BeiDou	○	○	●
<b>RTK performance</b>			
DGPS	○	●	●
RTK unlimited	○	●	●
Network RTK	○	●	●
SmartLink fill	○	○	●
SmartLink	○	○	○
<b>Position update &amp; data recording</b>			
5 Hz positioning	●	●	●
20 Hz positioning	○	●	●
Raw data logging	●	●	●
RINEX logging	○	○	●
NMEA out	○	○	●
<b>Additional features</b>			
RTK Reference Station functionality	○	●	●

● Standard  
○ Optional

## 2 Additional GS15 Receiver Options

<b>GNSS software options</b>		
843 510	<b>LOP53</b>	Multi-frequency option, enables L2, L5 and L-band tracking on a GS10, GS15, GS16 or GS25 receiver.
843 513	<b>LOP54</b>	GLONASS option, enables GLONASS tracking on a GS10, GS15, GS16 or GS25 receiver.
843 514	<b>LOP55</b>	Galileo option, enables Galileo tracking on GS10, GS15, GS16 or GS25 receiver.
843 515	<b>LOP56</b>	BeiDou option, enables BeiDou tracking on GS10, GS15, GS16 or GS25 receiver.
<b>Position rate and data recording options</b>		
767 808	<b>LOP5</b>	20Hz option, enables to compute positions with an update rate up to 20Hz on GS10, GS15, GS16 or GS25 receiver.
767 809	<b>LOP6</b>	Upgrade option from 5Hz to 20Hz. (LOP4 to LOP5)
767 811	<b>LOP8</b>	RINEX option, allows logging of RINEX data on GS10, GS15, GS16 or GS25 receiver.
767 818	<b>LOP15</b>	NMEA out option, enables NMEA to be streamed from GS10, GS15, GS16 or GS25 receivers.

### RTK related options

771 497	<b>LOP16</b>	DGPS option for GS10, GS15, GS16 or GS25 receivers, enables the receiver to compute a DGPS position.
767 813	<b>LOP10</b>	Unlimited RTK option, enables RTK positions to be computed from a single base station with no limit of distance.
767 815	<b>LOP12</b>	Unlimited RTK and Network RTK, enables RTK position to be computed from a single base station and within a RTK network.
767 817	<b>LOP14</b>	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.
5307067		SmartLink option, enables SmartLink (including SmartLink fill) on GS10, GS15, GS16 or GS25 receivers for 1 year.
5307118		SmartLink option, enables SmartLink (including SmartLink fill) on GS10, GS15, GS16 or GS25 receivers for 2 years.
<b>Other options</b>		
767 816	<b>LOP13</b>	RTK Reference station option, allows a GS10, GS15, GS16 or GS25 receiver to transmit RTK data.

## 3 RTK Modems




### Satellite radio modules

828 006	<b>SLR6</b>	Satellite M3-TR4 403-470 MHz RX/TX radio. RTK receive and transmit UHF radio module to be easily plugged into the GS15 GNSS receiver.
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### Radio programming tool kit

6002544		Configuration tool kit for programming Sateline and Pacific Crest SLR RTK radio modules; includes programming cable GEV231 and configuration software CD ROM.
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 SLR radios will be delivered pre-configured according to country-specific radio regulations. In countries where radios need to be configured locally, the configuration tool kit is to be used.



External high power radios such as Sateline HPR3 (35W), Pacific Crest (2, 35W) or GFU radios can be used for RTK communication instead of the slot-in RTK modems.

### Mobile phone modules

767 823	<b>SLG1</b>	5-Band (850/900/1800/1900/2100 MHz) Telit 3.5G GSM/GPRS/UMTS module. Provides full flexibility due to 5-band technology and is globally compatible to all GSM, GPRS, EDGE and UMTS network providers. Can be easily plugged into the GS15 GNSS receiver.
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### Satellite High Power radios

789 636	<b>HPR2</b>	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	<b>HPR3</b>	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	<b>GEV275</b>	Data cable to connect Satel HPR radio to GS GNSS receiver.
806 097	<b>GVP712</b>	Container for Satel HPR High Power Radio.



## 4 External RTK Antennas

### 4.1 External RTK Antennas



The GS15 receiver is equipped with internal GSM/GPRS/UMTS antenna and internal UHF antenna as standard. In areas of poor GSM/GPRS/UMTS or UHF reception, the use of an external RTK antenna may improve reception.



#### RTK antenna arm

767 790	<b>GAD108</b>	Arm to mount external UHF/GSM antenna to GS15 SmartAntenna, useful in areas of poor radio or GSM network reception.
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#### Gainflex radio antennas

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

#### Antennas for mobiles phones

782 500	<b>GAT18</b>	Multiband GSM/UMTS Antenna for 850/1900 MHz, for 900/1800 MHz and for 2100 MHz mobile networks.
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### 4.2 Accessories for Mounting External RTK Antenna on Second Tripod (Base)



#### Adapter

767 791	<b>GAD109</b>	Transition adapter from external UHF/GSM antenna connector of a GS15 Smart-Antenna to standard TNC connector. Allows to connect an external GSM/UHF antenna via gainflex cable to the GS15 SmartAntenna using the receiver as a Reference Station.
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#### RTK antenna cables

636 959	<b>GEV120</b>	2.8m antenna cable.
667 201	<b>GEV142</b>	1.6m extension antenna cable.

#### Telescopic rod, antenna arm and base for telescopic rod

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

## 5 Accessories for Using External Radios with GS15 Receiver



#### Radio cables to GFU radios

767 897	<b>GEV232</b>	Radio cable, 2.8m, connects GS15 receiver to GFU devices.
767 898	<b>GEV233</b>	Radio cable, 0.8m, connects GS15 receiver to GFU devices.

#### Brackets and holders for GFU radios

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

#### Cables for external radios

733 297	<b>GEV171</b>	1.8m Y-cable to program the Sateline radio modem inside the GFU housing.
639 968	<b>GEV125</b>	Cable for Sateline radios without GFU housing to be connected to GS10/GS15 receivers.
748 418	<b>GEV205</b>	Y-cable for RTK reference setup, connects GS15 receiver to a GEB371 external battery and a Leica GFU radio.
811 818	<b>GEV274</b>	Y-cable for RTK reference setup, connects GS receiver to a power source (SAE plug) and a Satel HPR radio.

## 6 Additional Accessories for GS15 Pole Setups - GNSS Rover


### 6.1 Survey Poles



#### Poles with 5/8" screw

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

#### Pole with stub

 Requires GAD31 screw to stub adapter for GS15 receiver to be mounted on these poles.

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

### 6.2 Holder and Clamp for Poles




767 880	<b>GHT63</b>	Clamp arrangement for attaching the GHT62 or GHT66 to all poles (except mini reflector poles).
807 157	<b>GHT66</b>	Pole holder base plate for CS20 field controller.

### 6.3 QuickStand



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

## 7 Additional Accessories using the GS15 Receiver in a SmartPole Setup

 Please refer to the Leica Viva TPS and Leica Nova TPS Equipment lists for additional accessories using the GS15 receiver in a SmartPole setup.

## 8 Additional Accessories using the GS15 Receiver in a SmartStation Setup

 Please refer to the Leica Viva TPS and Leica Nova TPS Equipment lists for additional accessories using the GS15 receiver in a SmartStation setup.

## 9 Additional Accessories for GS15 Tripod Setups - GNSS Base

### 9.1 Tribrachs



777 508	<b>GDF321</b>	Tribrachs Series 5000, without optical plummet.
777 509	<b>GDF322</b>	Tribrachs Series 5000, with optical plummet.
798 181	<b>GDF112-1</b>	Tribrachs Series 3000, with optical plummet.

### 9.2 Tripods



399 244	<b>GST05</b>	Wooden tripod with polymer coating, with accessories.
563 630	<b>GST05L</b>	Aluminium tripod, telescopic, with accessories.
667 301	<b>GST120-9</b>	Heavy duty tripod, self-closing, with side clamp screws and carrying strap.

### 9.3 Carriers



770 715	<b>GRT247</b>	Carrier with 5/8" screw for GS15 SmartAntenna.
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### 9.4 Height Hook



667 244	<b>GZS4-1</b>	Height hook with integrated tape measure. Supplied with additional tape graduated in feet and inches.
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## 10 Containers for GS15 Receiver



 All GS15 need to be ordered with at least one container.

833 516	<b>GVP716</b>	Backpack carrying systems for all large TPS and GNSS containers.
833 517	<b>GVP717</b>	Sidebag for container GVP721/722/723/725.
833 518	<b>GVP718</b>	Basic backstrap for container GVP721/722/723/725.
833 519	<b>GVP719</b>	Shoulderstrap for container GVP721/722/723/725.
817 053	<b>GVP721</b>	Hard container for 2 SmartAntennas, CS field controller and accessories for a Base and Rover setup.
817 055	<b>GVP722</b>	Hard container for SmartAntenna, CS field controller and accessories for a SmartPole and SmartStation setup.

# GS16 GNSS Receiver

## 11 GS16 GNSS Receiver



843 496	GS16	3.75G Basic SmartAntenna
838 033	GS16	3.75G Performance SmartAntenna
838 037	GS16	3.75G Unlimited SmartAntenna
843 497	GS16	3.75G & UHF Basic SmartAntenna
838 034	GS16	3.75G & UHF Performance SmartAntenna
838 035	GS16	3.75G & UHF Performance SmartAntenna (JP)
838 036	GS16	3.75G & UHF Performance SmartAntenna (NAFTA)
838 039	GS16	3.75G & UHF Unlimited SmartAntenna

	Leica GS16 Basic	Leica GS16 Performance	Leica GS16 Unlimited
<b>Supported GNSS Systems</b>			
Multi-frequency (L2, L5, L-band)	○	●	●
GLONASS	○	○	●
Galileo	○	○	●
BeiDou	○	○	●
<b>RTK performance</b>			
DGPS	○	●	●
RTK unlimited	○	●	●
Network RTK	○	●	●
SmartLink fill	○	○	●
SmartLink	○	○	○
<b>Position update &amp; data recording</b>			
5 Hz positioning	●	●	●
20 Hz positioning	○	●	●
Raw data logging	●	●	●
RINEX logging	○	○	●
NMEA out	○	○	●
<b>Additional features</b>			
RTK Reference Station functionality	○	●	●

● Standard  
○ Optional

## 12 Additional GS16 Receiver Options

<b>GNSS software options</b>		
843 510	<b>LOP53</b>	Multi-frequency option, enables L2, L5 and L-band tracking on a GS10, GS15, GS16 or GS25 receiver.
843 513	<b>LOP54</b>	GLONASS option, enables GLONASS tracking on a GS10, GS15, GS16 or GS25 receiver.
843 514	<b>LOP55</b>	Galileo option, enables Galileo tracking on GS10, GS15, GS16 or GS25 receiver.
843 515	<b>LOP56</b>	BeiDou option, enables BeiDou tracking on GS10, GS15, GS16 or GS25 receiver.
<b>Position rate and data recording options</b>		
767 808	<b>LOP5</b>	20Hz option, enables to compute positions with an update rate up to 20Hz on GS10, GS15, GS16 or GS25 receiver.
767 811	<b>LOP8</b>	RINEX option, allows logging of RINEX data on GS10, GS15, GS16 or GS25 receiver.
767 818	<b>LOP15</b>	NMEA out option, enables NMEA to be streamed from GS10, GS15, GS16 or GS25 receivers.
<b>RTK related options</b>		
771 497	<b>LOP16</b>	DGPS option for GS10, GS15, GS16 or GS25 receivers, enables the receiver to compute a DGPS position.
767 813	<b>LOP10</b>	Unlimited RTK option, enables RTK positions to be computed from a single base station with no limit of distance.
767 815	<b>LOP12</b>	Unlimited RTK and Network RTK, enables RTK position to be computed from a single base station and within a RTK network.
767 817	<b>LOP14</b>	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.
5307067		SmartLink option, enables SmartLink (including SmartLink fill) on GS10, GS15, GS16 or GS25 receivers for 1 year.
5307118		SmartLink option, enables SmartLink (including SmartLink fill) on GS10, GS15, GS16 or GS25 receivers for 2 years.
<b>Other options</b>		
767 816	<b>LOP13</b>	RTK Reference station option, allows a GS10, GS15, GS16 or GS25 receiver to transmit RTK data.

## 13 RTK Modems

The GS16 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 GS16 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.

### 13.1 Satellite Radio Modem



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

## 13.2 Sateline High Power Radio



789 636	<b>HPR2</b>	Sateline 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	<b>HPR3</b>	Sateline-4Pro 35W high power radio, 403-473 MHz RX/TX radio. Includes power cable for connecting to 12V battery and programming cable.
799 776	<b>GEV266</b>	Data cable to connect Satel HPR radio to GS14/GS16 GNSS receiver.
806 097	<b>GVP712</b>	Container for Satel HPR High Power Radio.

## 14 External RTK Antennas

### 14.1 External RTK Antennas



#### RTK antenna arm

767 790	<b>GAD108</b>	Arm to mount external UHF antenna to GS14/GS16 SmartAntenna.
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#### Gainflex radio antennas

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

### 14.2 Accessories for Mounting External RTK Antenna on Second Tripod (Base)



#### Adapter

767 791	<b>GAD109</b>	Transition adapter from external UHF antenna connector of a GS14/GS16 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	<b>GEV120</b>	2.8m antenna cable.
667 201	<b>GEV142</b>	1.6m extension antenna cable.

#### Telescopic rod, antenna arm and base for telescopic rod

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

## 15 Accessories for Using External Radios with GS16 Receiver



#### Brackets and holders for GFU radios

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

#### Cables for external radios

733 297	<b>GEV171</b>	1.8m Y-cable to program the Sateline radio modem inside the GFU housing.
796 492	<b>GEV264</b>	1.8m Y-cable for RTK reference setup, connects GS14/GS16 receiver to a GEB371 external battery and a Leica GFU radio.
811 818	<b>GEV274</b>	Y-cable for RTK reference setup, connects GS receiver to a power source (SAE plug) and a Satel HPR radio.

## 16 Additional Accessories for GS16 Pole Setups - GNSS Rover


### 16.1 Survey Poles



#### Poles with 5/8" screw

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

#### Pole with stub

 Requires GAD31 screw to stub adapter for GS16 receiver to be mounted on these poles.

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

### 16.2 Holder and Clamp for Poles




767 880	<b>GHT63</b>	Clamp arrangement for attaching the GHT62 or GHT66 to all poles (except mini reflector poles).
807 157	<b>GHT66</b>	Pole holder base plate for CS20 field controller.

### 16.3 QuickStand




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

## 17 Additional Accessories using the GS16 Receiver in a SmartPole Setup

 Please refer to the Leica Viva TPS and Leica Nova TPS Equipment lists for additional accessories using the GS16 receiver in a SmartPole setup.

## 18 Additional Accessories using the GS16 Receiver in a SmartStation Setup

 Please refer to the Leica Viva TPS and Leica Nova TPS Equipment lists for additional accessories using the GS16 receiver in a SmartStation setup.

## 19 Additional Accessories for GS16 Tripod Setups - GNSS Base

### 19.1 Tribachs



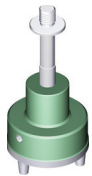
777 508	<b>GDF321</b>	Tribachs Series 5000, without optical plummet.
777 509	<b>GDF322</b>	Tribachs Series 5000, with optical plummet.
798 181	<b>GDF112-1</b>	Tribachs Series 3000, with optical plummet.

### 19.2 Tripods



399 244	<b>GST05</b>	Wooden tripod with polymer coating, with accessories.
563 630	<b>GST05L</b>	Aluminium tripod, telescopic, with accessories.
667 301	<b>GST120-9</b>	Heavy duty tripod, self-closing, with side clamp screws and carrying strap.

### 19.3 Carriers



<b>Carrier with 5/8" screw</b>		
667 216	<b>GRT146</b>	Carrier with 5/8" screw, GNSS antenna screws on directly.
<b>Carriers with stub</b>		
667 313	<b>GRT144</b>	Carrier with stub.
667 217	<b>GAD31</b>	Screw-to-stub adapter for fitting GPS antenna on carriers with stub and poles with stub.

### 19.4 Height Hook



667 244	<b>GZS4-1</b>	Height hook with integrated tape measure. Supplied with additional tape graduated in feet and inches.
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## 20 Containers for GS16 Receiver



833 516	<b>GVP716</b>	Backpack carrying systems for all large TPS and GNSS containers.
833 517	<b>GVP717</b>	Sidebag for container GVP721/722/723/725.
833 518	<b>GVP718</b>	Basic backstrap for container GVP721/722/723/725.
833 519	<b>GVP719</b>	Shoulderstrap for container GVP721/722/723/725.
817 052	<b>GVP720</b>	Hard container for SmartAntenna, CS field controller and accessories for a Rover setup.
817 053	<b>GVP721</b>	Hard container for 2 SmartAntennas, CS field controller and accessories for a Base and Rover setup.
817 055	<b>GVP722</b>	Hard container for SmartAntenna, CS field controller and accessories for a SmartPole and SmartStation setup.



# GS10 GNSS Receiver

## 21 GS10 GNSS Receiver



838 029	<b>GS10</b>	<b>Leica GS10 Basic receiver</b>
838 030	<b>GS10</b>	<b>Leica GS10 Performance receiver</b>
838 032	<b>GS10</b>	<b>Leica GS10 Unlimited receiver</b>

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

- Standard
- Optional

# GS25 GNSS Receiver

## 22 GS25 GNSS Receiver



843 494	<b>GS25</b>	<b>Leica GS25 Basic receiver</b>
843 495	<b>GS25</b>	<b>Leica GS25 Performance receiver</b>
838 043	<b>GS25</b>	<b>Leica GS25 Unlimited receiver</b>

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


● Standard  
 ○ Optional

## 23 Additional GS10/GS25 Receiver Options

<b>GNSS software options</b>		
843 510	<b>LOP53</b>	Multi-frequency option, enables L2, L5 and L-band tracking on a GS10, GS15, GS16 or GS25 receiver.
843 513	<b>LOP54</b>	GLONASS option, enables GLONASS tracking on a GS10, GS15, GS16 or GS25 receiver.
843 514	<b>LOP55</b>	Galileo option, enables Galileo tracking on GS10, GS15, GS16 or GS25 receiver.
843 515	<b>LOP56</b>	BeiDou option, enables BeiDou tracking on GS10, GS15, GS16 or GS25 receiver.
<b>Position rate and data recording options</b>		
767 808	<b>LOP5</b>	20Hz option, enables to compute positions with an update rate up to 20Hz on GS10, GS15, GS16 or GS25 receiver.
767 809	<b>LOP6</b>	Upgrade option from 5Hz to 20Hz. (LOP4 to LOP5)
767 811	<b>LOP8</b>	RINEX option, allows logging of RINEX data on GS10, GS15, GS16 or GS25 receiver.
767 818	<b>LOP15</b>	NMEA out option, enables NMEA to be streamed from GS10, GS15, GS16 or GS25 receivers.

RTK related options		
771 497	<b>LOP16</b>	DGPS option for GS10, GS15, GS16 or GS25 receivers, enables the receiver to compute a DGPS position.
767 813	<b>LOP10</b>	Unlimited RTK option, enables RTK positions to be computed from a single base station with no limit of distance.
767 815	<b>LOP12</b>	Unlimited RTK and Network RTK, enables RTK position to be computed from a single base station and within a RTK network.
767 817	<b>LOP14</b>	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.
5307067		SmartLink option, enables SmartLink (including SmartLink fill) on GS10, GS15, GS16 or GS25 receivers for 1 year.
5307118		SmartLink option, enables SmartLink (including SmartLink fill) on GS10, GS15, GS16 or GS25 receivers for 2 years.
Other options		
767 816	<b>LOP13</b>	RTK Reference station option, allows a GS10, GS15 or GS25 receiver to transmit RTK data.

## 24 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.

### 24.1 GNSS Single and Triple Frequency Antennas



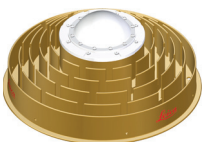
770 708	<b>AS05</b>	GPS/GLONASS single frequency antenna.
770 701	<b>AS10</b>	GPS/GLONASS/Galileo/BeiDou triple frequency antenna, includes L-Band signals.

### 24.2 Field Base GNSS Antennas



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



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

## 25 GNSS Antenna Cables for GS10/GS25 Receiver

### 25.1 GNSS Antenna Cables for GS10/GS25 using as Rover



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

## 25.2 GNSS Antenna Cables for GS10/GS25 Base Setup



### Short cables

667 200	<b>GEV141</b>	1.2m antenna cable.
724 969	<b>GEV194</b>	1.8m antenna cable.

### Medium cables

636 959	<b>GEV120</b>	2.8m antenna cable.
632 372	<b>GEV119</b>	10m antenna cable.

### Extra long cables

632 390	<b>GEV108</b>	30m antenna cable.
664 813	<b>GEV134</b>	50m antenna cable.

## 25.3 PPS/Event Cables for GS25



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

## 26 RTK Modems

### 26.1 Satellite Radio Modems for GS10 Receiver



#### Satellite modems

828 005	<b>GFU30</b>	Satellite M3-TR4 403-470 MHz RX/TX radio in GFU housing. Transceiver UHF radio module. User manual and CE Declaration of Conformity included.
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#### Cables for Satellite modems

733 297	<b>GEV171</b>	1.8m Y-cable to program the Satellite radio modem inside the GFU27 housing.
639 968	<b>GEV125</b>	Cable for Satellite radios without GFU housing to be connected to GS10/GS15.

### 26.2 Satellite Radio Modems for GS25 Receiver



#### Satellite modems

828 007	<b>SLR6-1</b>	Satellite M3-TR4 403-470 MHz RX/TX radio for GS25. Transceiver UHF radio module. User manual and CE Declaration of Conformity included.
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#### Cables for Satellite modems

639 968	<b>GEV125</b>	Cable for Satellite radios without GFU housing to be connected to GS10/GS15/GS25.
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### 26.3 Satellite High Power Radios



789 636	<b>HPR2</b>	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	<b>HPR3</b>	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	<b>GEV275</b>	Data cable to connect Satel HPR radio to GS GNSS receiver.
806 097	<b>GVP712</b>	Container for Satel HPR High Power Radio.

### 26.4 Mobile Phones for GS10



767 861	<b>GFU29</b>	GFU29, 5 band UMTS module for global use in GFU housing. Compatible with GSM, GPRS, EDGE, HSDPA networks.
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### 26.5 Mobile Phones for GS25



776 236	<b>SLG1-2</b>	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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## 27 RTK Antennas

### 27.1 External RTK Antennas



#### Gainflex radio antennas

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

#### Antennas for mobile phones

782 500	<b>GAT18</b>	Multiband GSM/UMTS Antenna for 850/1900 MHz, for 900/1800 MHz and for 2100 MHz mobile networks
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### 27.2 Accessories for Mounting RTK Antenna on the AS05/AS10 Antenna



#### Antenna cables

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

#### RTK antenna arm

667 219	<b>GAD33</b>	15cm, attaches to GNSS antenna. Gainflex antenna fits on arm. Antenna cable connects to arm.
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### 27.3 Accessories for Mounting RTK Antenna on Second Tripod (Base)



#### RTK antenna cables

636 959	<b>GEV120</b>	2.8m antenna cable.
667 201	<b>GEV142</b>	1.6m extension for antenna cable.

#### Telescopic rod, antenna arm and base for telescopic rod

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

## 28 Additional Accessories for GS10/GS25 Pole Setups - GNSS Rover


### 28.1 Survey Poles



#### Poles with 5/8" screw

768 226	<b>GLS13</b>	Telescopic aluminium GNSS pole with 5/8" screw. Snap locks at 1.80m and 2.00m. Includes circular bubble.
752 292	<b>GLS30</b>	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	<b>GLS12</b>	Telescopic aluminium Total Station reflector pole with stub. Snap locks at 2.00m for GNSS antennas.
766 359	<b>GLS31</b>	Telescopic carbon Total Station reflector pole with stub. Snap locks at 2.00m for GNSS antennas.
667 217	<b>GAD31</b>	Screw to stub adapter.

## 28.2 Minipack Setup



### Backpack

770 707	<b>GVP647</b>	Minipack, holds GS10 GNSS Receiver.
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### Holders

767 880	<b>GHT63</b>	Clamp arrangement for attaching the GHT62 or GHT66 to all poles (except mini reflector poles).
807 157	<b>GHT66</b>	Pole holder base plate for CS20 field controller.

### Antenna cables


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

### Telescopic rod and RTK antenna arm

667 228	<b>GAD32</b>	Telescopic rod with 5/8" screw. Fits in Minipack 667 137. Fits in base 667 236.
667 220	<b>GAD34</b>	Arm 3cm long, screws on telescopic rod. Gainflex antenna fits on arm. Antenna cable connects to arm.
734 388	<b>GAD46</b>	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.



## 28.3 All on the Pole Setup

 Only possible when using GLS12/GLS13 poles.

### Holders

733 265	<b>GHT40</b>	Holder for all variants of GS10 for balanced all-on-the-pole setup.
767 879	<b>GHT62</b>	Pole holder base plate for CS15 field controller.
767 880	<b>GHT63</b>	Clamp arrangement for attaching the GHT62 or GHT66 to all poles (except mini reflector poles).
807 157	<b>GHT66</b>	Pole holder base plate for CS20 field controller.

### Antenna cable for GNSS antenna and RTK antenna

724 969	<b>GEV194</b>	1.8m antenna cable.
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### RTK antenna arm

667 219	<b>GAD33</b>	15cm, attaches to GNSS antenna. Gainflex antenna fits on arm. Antenna cable connects to arm.
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## 28.4 QuickStand



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

## 29 Additional Accessories for GS10/GS25 Tripod Setups - GNSS Base

### 29.1 Tribrachs



777 508	<b>GDF321</b>	Tribrachs Series 5000, without optical plummet.
777 509	<b>GDF322</b>	Tribrachs Series 5000, with optical plummet.
798 181	<b>GDF112-1</b>	Tribrachs Series 3000, with optical plummet.

## 29.2 Tripods



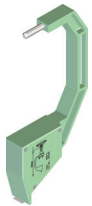
667 301	<b>GST120-9</b>	Heavy duty tripod, self-closing, with side clamp screws and carrying strap.
399 244	<b>GST05</b>	Wooden tripod with polymer coating, with accessories.
563 630	<b>GST05L</b>	Aluminium tripod, telescopic, with accessories.

## 29.3 Carriers



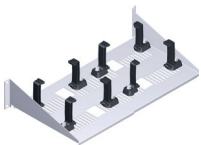
<b>Carrier with 5/8" screw</b>		
667 216	<b>GRT146</b>	Carrier with 5/8" screw, GNSS antenna screws on directly.
<b>Carriers with stub</b>		
667 313	<b>GRT144</b>	Carrier with stub.
667 217	<b>GAD31</b>	Screw-to-stub adapter for fitting GPS antenna on carriers with stub and poles with stub.

## 29.4 Height Hook



667 244	<b>GZS4-1</b>	Height hook with integrated tape measure. Supplied with additional tape graduated in feet and inches.
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## 30 Mounting Kits for GS25



<b>Mounting kits for GS25 receiver</b>		
774 439	<b>GEV249</b>	Rack Mount Kit for GS25 receiver. For fitting the receiver to standard IT rack (requires 2 U in the rack).

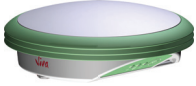
## 31 Container for GS10/GS25 Receiver



 All GS10/GS25 need to be ordered with at least one container.		
833 516	<b>GVP716</b>	Backpack carrying systems for all large TPS and GNSS containers.
833 517	<b>GVP717</b>	Sidebag for container GVP721/722/723/725.
833 518	<b>GVP718</b>	Basic backstrap for container GVP721/722/723/725.
833 519	<b>GVP719</b>	Shoulderstrap for container GVP721/722/723/725.
817 056	<b>GVP723</b>	Hard container for GNSS Receiver, CS field controller and accessories for a Base setup.

# GS08plus GNSS Receiver

## 32 GS08plus GNSS Receiver




798 257	<b>GS08plus</b>	GS08plus GPS/GLONASS Dual Frequency SmartAntenna for the CS Field Controller.
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## 33 Additional GS08plus Receiver Software Options

### GNSS Software options (to be loaded on GS08plus)

791 827	<b>LOP27</b>	GS08plus GLONASS option.
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 The following options are license keys to be set on CS field controller.

### Position update and data recording options

842 742	<b>GSW943</b>	CS20/GS08plus 5Hz option, enables 0.2sec (5Hz) position update rate.
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842 745	<b>GSW944</b>	CS20/GS08plus MDB raw data logging option.
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842 746	<b>GSW945</b>	CS20/GS08plus RINEX raw data logging option.
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### RTK related options

842 743	<b>GSW946</b>	CS20/GS08plus RTK Rover option, includes unlimited baseline and reference network access.
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## 34 Additional Accessories for GS08plus Pole Setups - GNSS Rover

### 34.1 Survey Poles



#### Poles with 5/8" screw

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

 Requires GAD31 screw to stub adapter for GS08plus receiver to be mounted on these poles.

766 359	<b>GLS31</b>	Telescopic carbon Total Station reflector pole with stub. Snap locks at 2.00m for GNSS antennas.
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667 217	<b>GAD31</b>	Screw to stub adapter.
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### 34.2 Holder and Clamp for Poles



767 880	<b>GHT63</b>	Clamp arrangement for attaching the GHT62 or GHT66 to all poles (except mini reflector poles).
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807 157	<b>GHT66</b>	Pole holder base plate for CS20 field controller.
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### 34.3 QuickStand



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

### 35 Containers for GS08plus Receiver



833 516	<b>GVP716</b>	Backpack carrying systems for all large TPS and GNSS containers.
833 517	<b>GVP717</b>	Sidebag for container GVP721/722/723/725.
833 518	<b>GVP718</b>	Basic backstrap for container GVP721/722/723/725.
833 519	<b>GVP719</b>	Shoulderstrap for container GVP721/722/723/725.
817 052	<b>GVP720</b>	Hard container for SmartAntenna, CS field controller and accessories for a Rover setup.
817 053	<b>GVP721</b>	Hard container for 2 SmartAntennas, CS field controller and accessories for a Base and Rover setup.
817 055	<b>GVP722</b>	Hard container for SmartAntenna, CS field controller and accessories for a SmartPole and SmartStation setup.

# Additional Accessories for GS Receivers

## 36 Power Supply

### 36.1 Internal Batteries for GS14 and GS15 Receiver



772 806	<b>GEB212</b>	Lithium-Ion battery, 7.4V/2.6Ah, rechargeable. To be used with GS14 or GS15 receiver.
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### 36.2 Internal Batteries for GS10 Receiver



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

### 36.3 Internal Batteries for GS25 Receiver



793 975	<b>GEB242</b>	Lithium-Ion battery, 14.8V/5.8Ah, rechargeable, for GS25 receiver.
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### 36.4 External Power Supply



#### Battery for GS10/GS15

818 916	<b>GEB371</b>	External universal battery, Li-Ion, 13 V, 250 Wh, rechargeable.
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#### Power cables for GS10/GS15

758 469	<b>GEV219</b>	Power cable, 1.8m, connects GS10/GS15 receiver to external GEB371 battery.
439 038	<b>GEV71</b>	4m car battery cable, connects all battery cables to 12V car battery.

#### Power cables for GS10

560 130	<b>GEV97</b>	Power cable, 1.8m, connects GS10 receiver to external GEB371 battery.
733 298	<b>GEV172</b>	Power cable, 2.8m, connects GS10 receiver to 2 external GEB371 batteries.

#### Power supply unit

807 696	<b>GEV270</b>	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.
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### 36.5 Battery Chargers



799 185	<b>GKL311</b>	Single-bay Charger Professional 3000. Charger for one Li-Ion battery (GEB211, GEB212, GEB221, GEB222, GEB241, GEB242 and GEB331), including AC/DC adaptor and cigarette lighter cable.
799 187	<b>GKL341</b>	Multi-bay Charger Professional 5000. Charges up to 4 batteries (GEB211, GEB212, GEB221, GEB222, GEB241, GEB242 and GEB331), including power cable.
734 389	<b>GDC221</b>	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 CS15 field controller directly from a cigarette lighter.
774 437	<b>GEV242</b>	Charger for GEB371 external battery.

## 37 Data Storage and Data Transfer

### 37.1 Memory Devices for GS10, GS15 and GS25 Receiver



767 856	<b>MSD1000</b>	SD memory card 1 GB for GS10/GS15 receiver and CS15/CS20 field controller, industrial grade.
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### 37.2 Memory Devices for GS14 Receiver



795 993	<b>MMSD01</b>	microSD card 1 GB for GS14 receiver, includes SD card adapter.
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### 37.3 Card Reader



767 895	<b>MCR7</b>	Card reader for SD/CF cards.
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### 37.4 Data Transfer Cables



#### Serial cables

733 280	<b>GEV160</b>	Serial data transfer cable, 2.8m, connects GS10/GS15 receiver (port 2) to PC. (Lemo to 9pin RS232)
733 282	<b>GEV162</b>	Serial data transfer cable, 2.8m, connects GS10/GS15 receiver (port 1) or CS field controller to PC. (Lemo to 9pin RS232)
806 094	<b>GEV268</b>	Serial data transfer cable, converter cable USB to serial (Lemo to USB connector), 2.0m, connects GS10/GS15 receiver (port 2) to PC. PC driver included on CD.
806 095	<b>GEV269</b>	Serial data transfer cable, converter cable USB to serial (Lemo to USB connector), 2.0m, connects GS10/GS14/GS15 receiver (port 1) or CS field controller to PC. PC driver included on CD.



#### USB cable

767 899	<b>GEV234</b>	USB cable, 1.65m, connects GS10/GS14/GS15 receiver or CS field controller to USB port of a PC or connects GS10/GS15 receiver to CS field controller. (Lemo to USB)
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## 38 Cables to connect GS10/GS14/GS15/GS25 to CS Field Controller



In cases where high data speed communication is required between GS10/GS14/GS15 and CS field controller, cables should be used instead of a Bluetooth connection.



#### USB cables

767 899	<b>GEV234</b>	USB cable, 1.65m, connects GS10/GS14/GS15 receiver or CS field controller to USB port of a PC or connects GS10/GS15 receiver to CS field controller. (Lemo to USB)
772 807	<b>GEV237</b>	USB cable, 1.65m, connects GS10/GS14/GS15 receiver to CS field controller. (Lemo to Lemo)

## 39 Radio Accessories

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

# Field Controller

## 40 CS20 Field Controller

### 40.1 CS20 Field Controller



823 164	<b>CS20</b>	<b>CS20 Field Controller</b> Ruggedized WinEC7 field controller with 5" WVGA touch display, 2 GB eMMC Flash Memory, 1 GB SDRAM, SD card slot, 5MP camera and LED flash. Includes internal Bluetooth/WLAN module, QWERTY keypad, stylus.
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823 165	<b>CS20 3.75G</b>	<b>CS20 3.75G Field Controller</b> Ruggedized WinEC7 field controller with 5" WVGA touch display, 2 GB eMMC Flash Memory, 1 GB SDRAM, SD card slot, 5MP camera and LED flash. Includes internal Bluetooth/WLAN module, 3.75G GSM/UMTS module, internal TS communication module, QWERTY keypad, stylus.
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823 169	<b>CS20 3.75G Disto</b>	<b>CS20 3.75G Disto Field Controller</b> Ruggedized WinEC7 field controller with 5" WVGA touch display, 2 GB eMMC Flash Memory, 1 GB SDRAM, SD card slot, 5MP camera and LED flash. Includes internal Bluetooth/WLAN module, 3.75G GSM/UMTS module, internal TS communication module, integrated Disto-Lasermeter, QWERTY keypad, stylus.
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823 167	<b>CS20 CDMA Disto</b>	<b>CS20 CDMA Disto Field Controller</b> Ruggedized WinEC7 field controller with 5" WVGA touch display, 2 GB eMMC Flash Memory, 1 GB SDRAM, SD card slot, 5MP camera and LED flash. Includes internal Bluetooth/WLAN module, 3.75G GSM/UMTS/CDMA module, internal TS communication module, integrated Disto-Lasermeter, QWERTY keypad, stylus.
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### 40.2 CTR20 TS Communication Expansion Pack



6010023	<b>CTR20 expansion pack set</b> TS communication expansion pack set including CTR20 module and GAT25 radio antenna.
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Not available in EU countries due to EN 300 328 V.1.8.1.

Recommended only for robotic applications systematically exceeding ranges beyond 400 m.

## 41 Leica Captivate Software and Apps - CS20 Field Controller

### 41.1 Leica Captivate Software for CS20 Field Controller

827 698	Leica Captivate - Measure and Stake for CS20.
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### 41.2 Apps included in Leica Captivate for CS20 Field Controller

The following apps are included in Leica Captivate for CS20 (827 698).

#### Measure includes:


- Measure
- Code points
- Automatically measure points
- Remote Heights
- Target Offset calculations

#### Setup includes:

- Get station coordinates from GNSS, from Job or enter manually
- Orientation by known Azimuth
- Orientation by known Backsight
- Orientation & Height transfer to up to 10 target points
- Resection up to 10 target points
- Resection Helmert
- Orientate to object

<p><b>Stake points includes:</b></p> <ul style="list-style-type: none"> <li>• Navigate to point using various methods: from and behind instrument, point, base line, arrow, North</li> <li>• Quality control - checking of coordinate differences before storing</li> <li>• Automatically select next closest point</li> <li>• Graphical selection of point from map</li> <li>• Edit heights and offset heights of points</li> <li>• Acoustic beep getting faster when getting closer to point</li> </ul>
<p><b>COGO includes:</b></p> <ul style="list-style-type: none"> <li>• Inverse</li> <li>• Traverse</li> <li>• Intersections</li> <li>• Angle calculations</li> <li>• Line &amp; arc calculations</li> <li>• Bearing &amp; distance calculations</li> <li>• Shift, Rotate, Scale (manual &amp; matching points)</li> <li>• Triangle calculations</li> </ul>
<p><b>Determine coordinate system:</b></p> <ul style="list-style-type: none"> <li>• 1 step, 2 step, 3D Transformation</li> <li>• All common projections</li> </ul>
<p><b>Alignment Editor:</b></p> <ul style="list-style-type: none"> <li>• Horizontal alignments</li> <li>• Vertical alignments</li> <li>• Cross sections</li> <li>• Chainage equations</li> </ul>
<p><b>Control data:</b> Create points and lines</p>
<p><b>Data import:</b> ASCII, XML, DXF, DTM, alignments</p>
<p><b>Data export:</b> ASCII, Custom, DXF, XML, Style Sheets, FBK, RW5, RAW and local formats</p>
<p><b>3rd party total station control:</b></p> <ul style="list-style-type: none"> <li>• Topcon total station control</li> <li>• Nikon total station control</li> <li>• SOKKIA total station control</li> </ul>

### 41.3 Optional Apps for Leica Captivate for CS20 Field Controller

 The following apps require a valid license key.

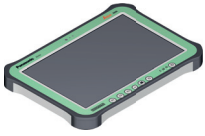
827 701	<b>Area Division</b>
827 702	<b>Stake DTM</b>
827 699	<b>Measure and Stake to Line</b>
827 700	<b>Measure to Plane / Grid</b>
827 704	<b>Check and Stake Road</b>
827 705	<b>Check and Stake Tunnel</b>
827 706	<b>Check and Stake Rail</b>
827 711	<b>Sets of Angles</b>
827 703	<b>Volume Calculation</b>
827 708	<b>Hidden Point</b>
827 709	<b>Traverse</b>
827 712	<b>QuickVolume</b>
839 679	<b>Inspect Surfaces</b>
836 670	<b>Tunnel Profile Generator</b>

### 41.4 Optional Licences for Leica Captivate for CS20 Field Controller


827 714	<b>Active Assist</b>
827 715	<b>Leica Exchange</b>

## 42 CS35 Tablet

### 42.1 CS35 Tablet



827 979	<b>CS35-1</b>	<b>CS35-1 10" Tablet, EU</b> Ruggedized Win8.1 Pro 64-bit tablet computer including: 10" touch-widescreen, 128 GB SSD hard drive, 4 GB SDRAM, WLAN 802.11 b/g/n, 3G integrated mobile broadband module, Bluetooth v4.0, stylus, tether, 1x battery (4.1 Ah), AC/DC adaptor and 5MP camera with flash.
833 131	<b>CS35-2</b>	<b>CS35-2 10" Tablet, US</b> Ruggedized Win8.1 Pro 64-bit tablet computer including: 10" touch-widescreen, 128 GB SSD hard drive, 4 GB SDRAM, WLAN 802.11 b/g/n, 4G integrated mobile broadband module, Bluetooth v4.0, stylus, tether, 1x battery (4.1 Ah), AC/DC adaptor and 5MP camera with flash.
833 132	<b>CS35-3</b>	<b>CS35-3 10" Tablet, CA</b> Ruggedized Win8.1 Pro 64-bit tablet computer including: 10" touch-widescreen, 128 GB SSD hard drive, 4 GB SDRAM, WLAN 802.11 b/g/n, 4G integrated mobile broadband module, Bluetooth v4.0, stylus, tether, 1x battery (4.1 Ah), AC/DC adaptor and 5MP camera with flash.
833 133	<b>CS35-11</b>	<b>CS35-11 10" Tablet, AUS</b> Ruggedized Win8.1 Pro 64-bit tablet computer including: 10" touch-widescreen, 128 GB SSD hard drive, 4 GB SDRAM, WLAN 802.11 b/g/n, 4G integrated mobile broadband module, Bluetooth v4.0, stylus, tether, 1x battery (4.1 Ah), AC/DC adaptor and 5MP camera with flash.
842 501	<b>CS35-12</b>	<b>CS35-12 10" Tablet, JP</b> Ruggedized Win8.1 Pro 64-bit tablet computer including: 10" touch-widescreen, 128 GB SSD hard drive, 4 GB SDRAM, WLAN 802.11 b/g/n, 4G integrated mobile broadband module, Bluetooth v4.0, stylus, tether, 1x battery (4.1 Ah), AC/DC adaptor and 5MP camera with flash.
842 502	<b>CS35-13</b>	<b>CS35-13 10" Tablet, RU</b> Ruggedized Win8.1 Pro 64-bit tablet computer including: 10" touch-widescreen, 128 GB SSD hard drive, 4 GB SDRAM, WLAN 802.11 b/g/n, 4G integrated mobile broadband module, Bluetooth v4.0, stylus, tether, 1x battery (4.1 Ah), AC/DC adaptor and 5MP camera with flash.

 All CS35 Tablets are delivered with stylus, tether, one GEB235 Lithium-Ion battery (10.8 V/4.1 Ah, rechargeable) and country specific AC/DC adaptor.

### 42.2 CTR35 Long-range Bluetooth Device

844 474	<b>CTR35</b>	Long-range Bluetooth device for CS35.
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 Recommended only for robotic applications requiring extended range.

## 43 Leica Captivate Software and Apps - CS35 Tablet

### 43.1 Leica Captivate Software for CS35 Tablet

827 719	Leica Captivate - Measure and Stake for CS35.
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### 43.2 Apps included in Leica Captivate for CS35 Tablet

 The following apps are included in Leica Captivate for CS35 (827 719).

**Measure includes:**

- Measure
- Code points
- Automatically measure points
- Remote Heights
- Target Offset calculations

<p><b>Setup includes:</b></p> <ul style="list-style-type: none"> <li>• Get station coordinates from GNSS, from Job or enter manually</li> <li>• Orientation by known Azimuth</li> <li>• Orientation by known Backsight</li> <li>• Orientation &amp; Height transfer to up to 10 target points</li> <li>• Resection up to 10 target points</li> <li>• Resection Helmert</li> <li>• Orientate to object</li> </ul>
<p><b>Stake points includes:</b></p> <ul style="list-style-type: none"> <li>• Navigate to point using various methods: from and behind instrument, point, base line, arrow, North</li> <li>• Quality control - checking of coordinate differences before storing</li> <li>• Automatically select next closest point</li> <li>• Graphical selection of point from map</li> <li>• Edit heights and offset heights of points</li> <li>• Acoustic beep getting faster when getting closer to point</li> </ul>
<p><b>COGO includes:</b></p> <ul style="list-style-type: none"> <li>• Inverse</li> <li>• Traverse</li> <li>• Intersections</li> <li>• Angle calculations</li> <li>• Line &amp; arc calculations</li> <li>• Bearing &amp; distance calculations</li> <li>• Shift, Rotate, Scale (manual &amp; matching points)</li> <li>• Triangle calculations</li> </ul>
<p><b>Determine coordinate system:</b></p> <ul style="list-style-type: none"> <li>• 1 step, 2 step, 3D Transformation</li> <li>• All common projections</li> </ul>
<p><b>Alignment Editor:</b></p> <ul style="list-style-type: none"> <li>• Horizontal alignments</li> <li>• Vertical alignments</li> <li>• Cross sections</li> <li>• Chainage equations</li> </ul>
<p><b>Control data:</b> Create points and lines</p>
<p><b>Data import:</b> ASCII, XML, DXF, DTM, alignments</p>
<p><b>Data export:</b> ASCII, Custom, DXF, XML, Style Sheets, FBK, RW5, RAW and local formats</p>
<p><b>3rd party total station control:</b></p> <ul style="list-style-type: none"> <li>• Topcon total station control</li> <li>• Nikon total station control</li> <li>• SOKKIA total station control</li> </ul>

### 43.3 Optional Applications for Leica Captivate for CS35 Tablet

 The following apps require a valid license key

827 722	<b>Area Division</b>
827 723	<b>Stake DTM</b>
827 720	<b>Measure and Stake to Line</b>
827 721	<b>Measure to Plane / Grid</b>
827 725	<b>Check and Stake Road</b>
827 726	<b>Check and Stake Tunnel</b>
827 727	<b>Check and Stake Rail</b>
827 730	<b>Sets of Angles</b>
827 724	<b>Volume Calculation</b>
827 728	<b>Hidden Point</b>
827 729	<b>Traverse</b>
827 731	<b>QuickVolume</b>
839 681	<b>Inspect Surfaces</b>
836 671	<b>Tunnel Profile Generator</b>

### 43.4 Optional Licences for Leica Captivate for CS35 Tablet

827 734	<b>Leica Exchange</b>
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# Accessories for Field Controller

## 44 Accessories for CS20 Field Controller

### 44.1 Internal Batteries



799 190	<b>GEB331</b>	Li-Ion battery, 11.1 V / 2.8 Ah, rechargeable, for CS20.
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### 44.2 Battery Chargers



799 185	<b>GKL311</b>	Single-bay Charger Professional 3000. Charger for one Li-Ion battery (GEB211, GEB212, GEB221, GEB222, GEB241, GEB242 and GEB331), including AC/DC adaptor and cigarette lighter cable.
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799 187	<b>GKL341</b>	Multi-bay Charger Professional 5000. Charges up to 4 batteries (GEB211, GEB212, GEB221, GEB222, GEB241, GEB242 and GEB331), including power cable.
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734 389	<b>GDC221</b>	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 CS15 field controller directly from a cigarette lighter.
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### 44.3 Memory Devices



767 856	<b>MSD1000</b>	SD memory card 1 GB for Leica Viva TPS and Leica Nova instruments and CS10/CS15 field controller, industrial grade.
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789 139	<b>MSD08</b>	SD memory card 8 GB for Leica Viva TPS and Leica Nova instruments and CS10/CS15 field controller, industrial grade.
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765 199	<b>MS1</b>	USB memory stick, 1 GB, for Leica Viva TPS and Leica Nova instruments and CS10/CS15 field controller, industrial grade.
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### 44.4 Card Reader & Adapter



767 895	<b>MCR7</b>	Card reader for SD/CF cards.
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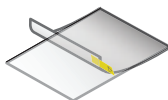
733 258	<b>MCFAD1</b>	CompactFlash PC card adapter.
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### 44.5 Pen and Screen Protections Foils

#### Pen



813 914	<b>GDZ71</b>	Pen with tether clip interface for CS20 field controller and TS16/MS60/TS60 instruments.
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813 582	<b>GHT76</b>	Tether to connect GDZ71 Pen to CS20 field controller.
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#### Screen Protection Foil set

813 781	<b>SPF05</b>	5" WVGA screen protection foils for CS20 field controller and TS16/MS60/TS60 instruments.
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### 44.6 Additional Power Accessories



822 787	<b>GEV276</b>	Power supply unit for CS20, for indoor use only. Input 100-240 VAC to output 15.0 VDC, 40 W.
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### 44.7 Pole Accessories



807 157	<b>GHT66</b>	Holder attaching a CS20 with a GHT63 clamp to a pole. GHT63 is not included.
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767 880	<b>GHT63</b>	Clamp arrangement for attaching the GHT66 and GHT78 to all poles.
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## 44.8 Utility Hook and Hand Strap



### Utility hook

807 245	<b>GHT68</b>	Utility hook for CS20 field controller for attaching to belt or tripod.
845 832	<b>GHT70</b>	Clamp arrangement for attaching the GHT66 and GHT78 to all tripods.

### Hand strap


807 158	<b>GHT67</b>	Hand strap for CS20 field controller.
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## 45 Accessories for CS35 Tablet

### 45.1 Internal Batteries




832 119	<b>GEB235</b>	Lithium-Ion battery, 10.8 V/4.1 Ah, rechargeable, for CS35 Tablet.
832 120	<b>GEB236</b>	Lithium-Ion battery, 10.8 V/8.7 Ah, rechargeable, for CS35 Tablet.

 All CS35 Tablets are delivered with one GEB235 Lithium-Ion battery (10.8 V/4.1 Ah, rechargeable).

### 45.2 Battery Chargers



832 118	<b>GKL235</b>	Charger for CS35 batteries GEB235 and GEB236. Country specific AC/DC adaptor (GEV280-x) not included.
832 113	<b>GEV280-1</b>	AC/DC adaptor, EU. Power Supply for CS35 Tablet.
8321 14	<b>GEV280-2</b>	AC/DC adaptor, UK. Power Supply for CS35 Tablet.
832 115	<b>GEV280-3</b>	AC/DC adaptor, US. Power Supply for CS35 Tablet.
832 116	<b>GEV280-4</b>	AC/DC adaptor, AUS. Power Supply for CS35 Tablet.
832 117	<b>GEV280-5</b>	AC/DC adaptor, CH. Power Supply for CS35 Tablet.
842 648	<b>GEV280-6</b>	AC/DC adaptor, JP, Power Supply for CS35 Tablet.

 Country specific AC/DC adaptor (GEV280-x) is delivered with CS35 Tablet.

### 45.3 Pen and Screen Protection Foils




#### Pen

832 121	<b>GDZ75</b>	Digitiser Pen for CS35 Tablet.
832 122	<b>GHT77</b>	Tether to tie GDZ75 Digitiser Pen to CS35 Tablet.

#### Screen Protection Foil set

832 126	<b>SPF06</b>	Screen protection foils for CS35 Tablet.
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 All CS35 Tablets are delivered with one GDZ75 Digitiser Pen and a GHT77 Tether.

### 45.4 Pole Accessories



832 127	<b>GHT78</b>	Tablet holder for attaching a CS35 Tablet with a GHT63 clamp to a pole. GHT63 is not included.
767 880	<b>GHT63</b>	Clamp arrangement for attaching the GHT66 and GHT78 to all poles.

### 45.5 Hand Strap



833 343	<b>GHT79</b>	Hand strap for CS35 Tablet. Including 4 high corner guards.
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# Care Packages

## 46 Customer Care Packages

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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.

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# Trademarks

## 47 Trademarks

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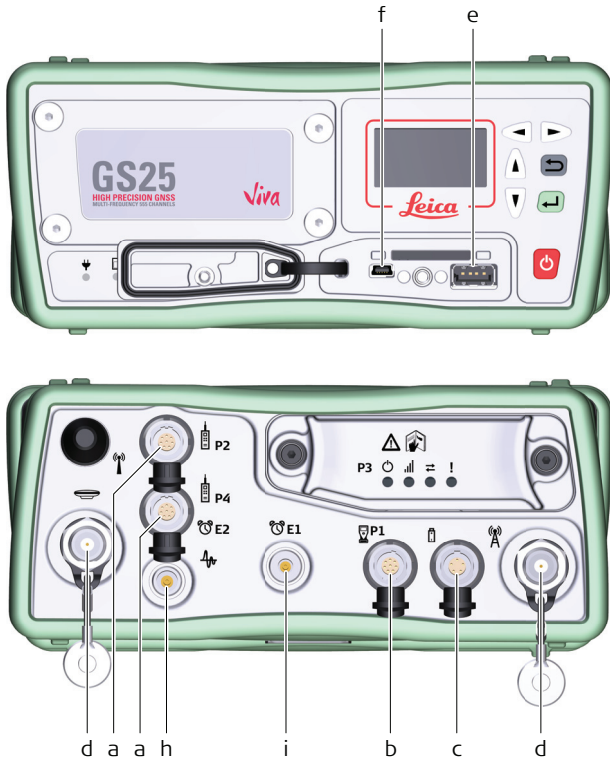
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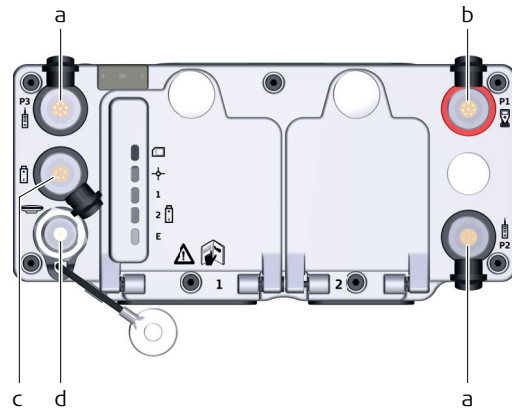
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# System Viva GNSS Cables Overview

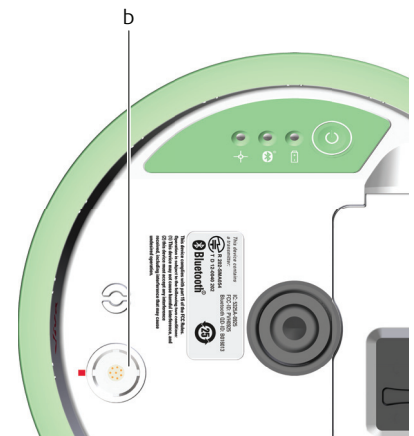
## GS25 Receiver



## GS10 Receiver



## GS08plus Receiver

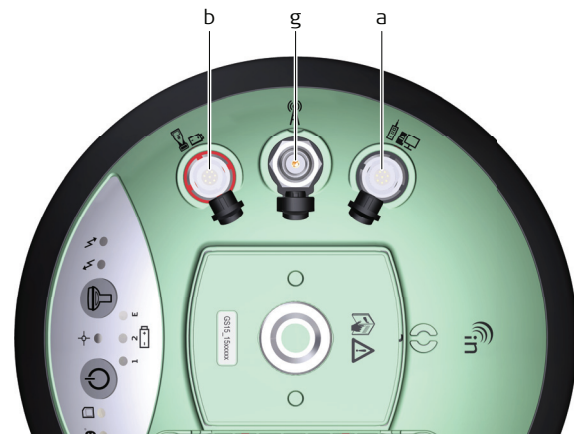


- a) Lemo1, 8pin, 30°
- b) Lemo1, 8pin, 135°
- c) Lemo1, 5pin, 0°
- d) TNC connector
- e) USB type A
- f) Mini USB AB
- g) QN connector
- h) Lemo FFA
- i) H&S QLA connector

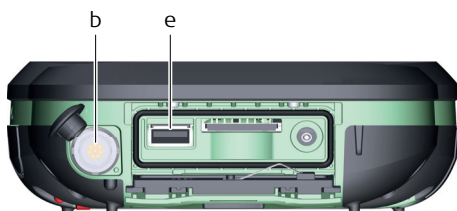
## GS16 Receiver



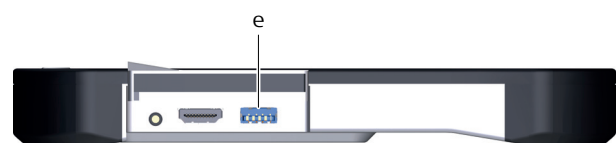
## GS15 Receiver



## CS20 Controller



## CS35 Tablet



## 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 Allows GS10/GS14/GS15/GS16 (port 1) to be externally powered.
822 787	GEV276	5.5 mm barrel connector	Mains plug	Length 1.2 m, + 1.5 m Allows CS20 to be externally powered via the power jack. AC/DC mains plug type is country specific.
439 038	GEV71	Lemo1, 5pin, 0° (female)	Crocodile clips	Length 4.0 m Allows powering of any device from car battery.
809 028	GEV272	Lemo, 4pin, 0°	SAE	Length 2.0 m Allows powering of Satel HPR from the GVP711 battery soft bag.
807 696	GEV270	Lemo1, 5pin, 0° (female)	Mains plug	Length 0.8 m + 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 CS20 and GS10/GS14/GS15/GS16 (port 1) while being powered from the GEB371.
796 492	GEV264	Lemo1, 8pin, 135°	Lemo1, 8pin, 30° (female)	Lemo1, 5pin, 0°	Length 1.8 m Allows connection between GS14/GS16, 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/GS16 (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/GS16 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/GS16 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/GS16 (port 1) to PC to stream NMEA or RTK data. 2. Allows serial connection between CS20 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 CS20 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 CS20 and GS10/GS14/GS15/GS16 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 CS20 to connect to a GS10/GS14/GS15/GS16 (port 1). 2. Allows a USB connection between the USB port of a PC to a GS10/GS14/GS15/GS16 (port 1). 3. Allows a USB connection between the USB port of a PC to a CS20.
764 700	GEV223	USB type A	Mini USB type B	Length 1.8 m Allows USB data transfer between CS20 and a PC.
772 807	GEV237	Lemo1, 8pin, 135°	Lemo1, 8pin, 135°	Length 1.65 m Allows a CS20 to connect to a GS10/GS14/GS15/GS16 (port 1).

## PPS/Event cables

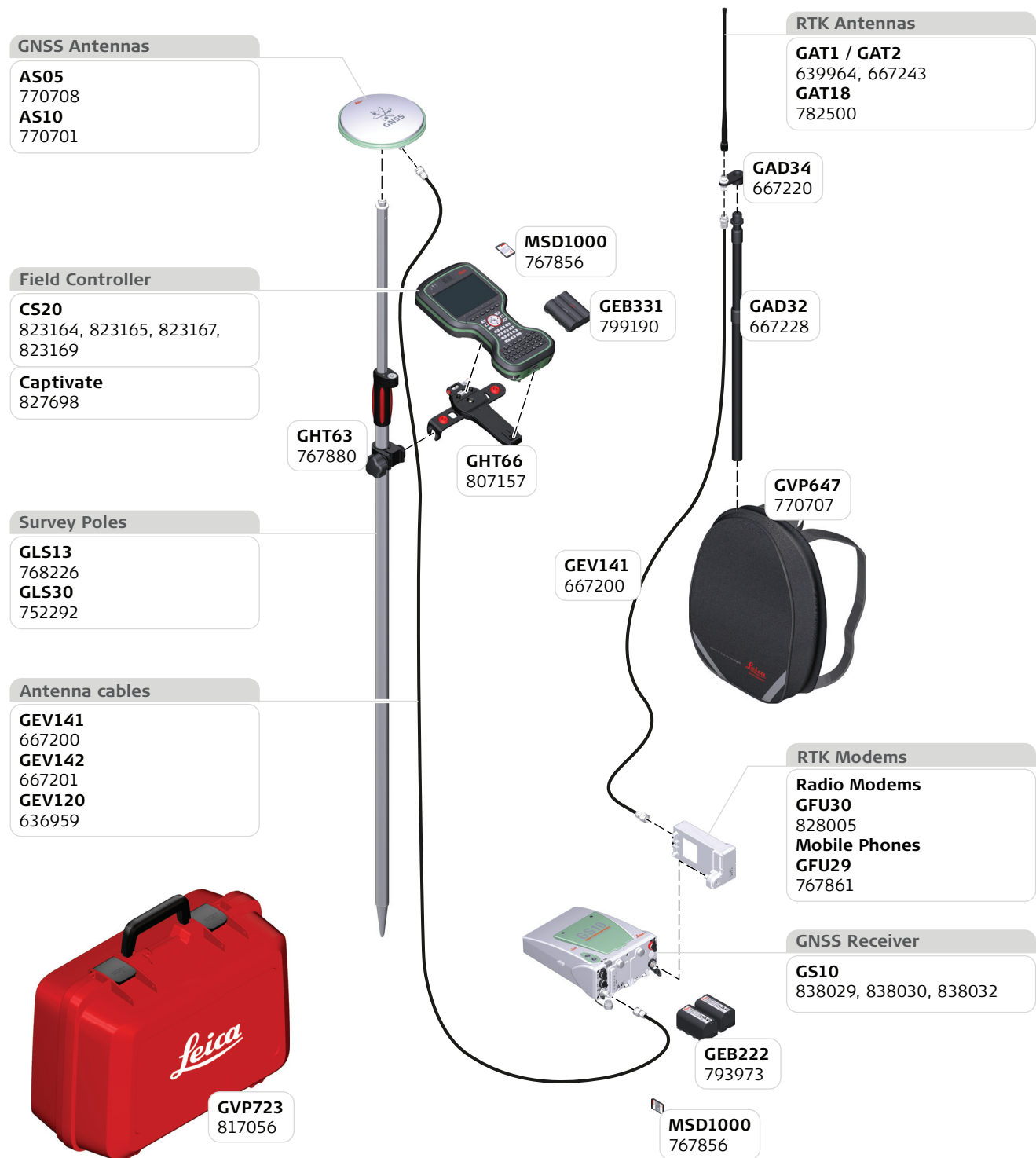
Art. no	Name	Connector 1	Connector 2	Description
667 744	GEV150	Lemo FFA	BNC	Length 2.0 m PPS output cable for GS25 (port PPS) with BNC connector.
403 448	GEV42	H&S QLA	BNC	Length 2.0 m Event input cable for GS25 (port E1) with BNC connector.
789 061	GEV262	Lemo1, 8pin, 30°	BNC	Length 2.0 m Event input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

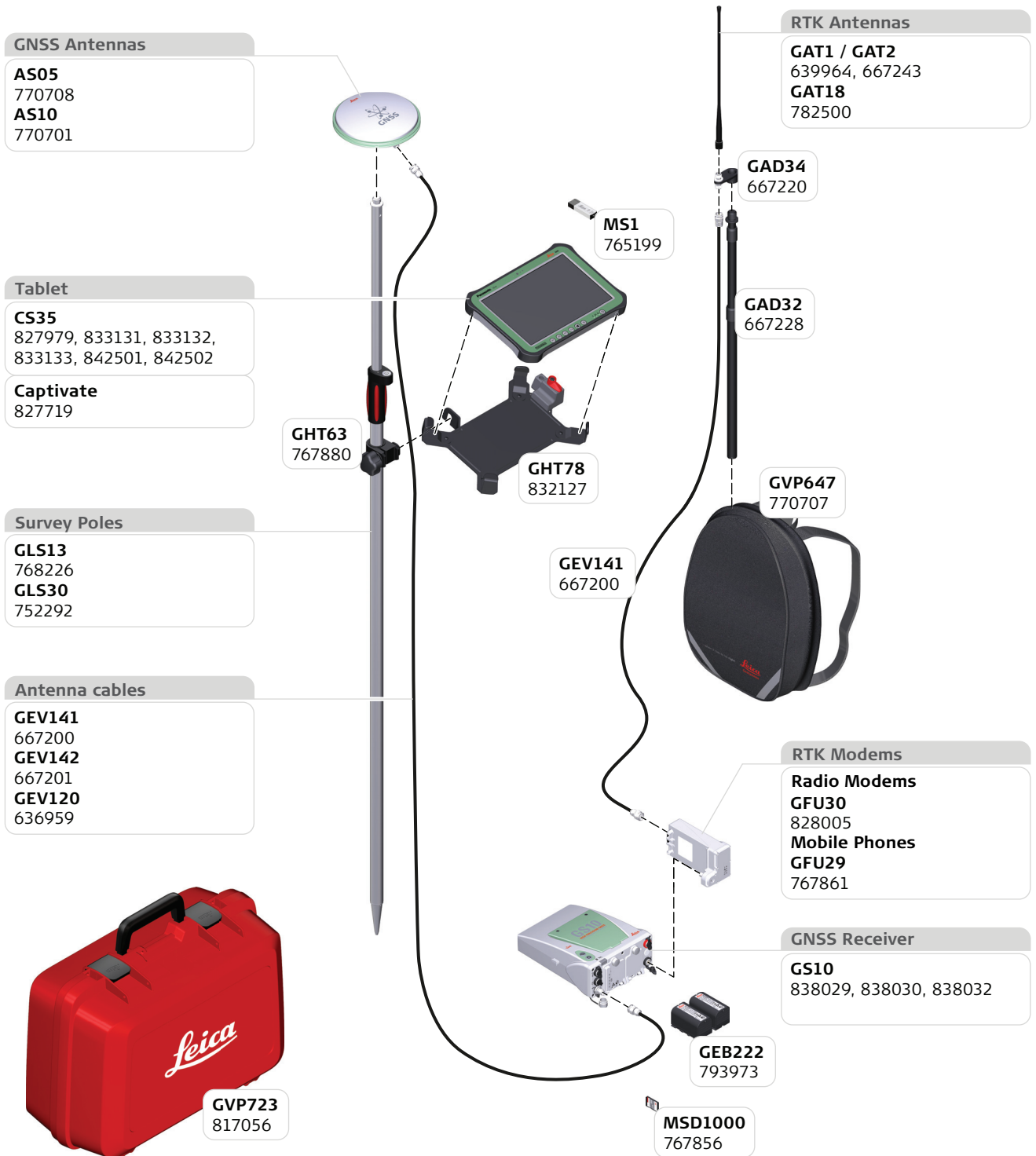
# Suggested GNSS Setups

## 48 GS10 Real Time Rover - Pole plus Minipack and CS20 Field Controller



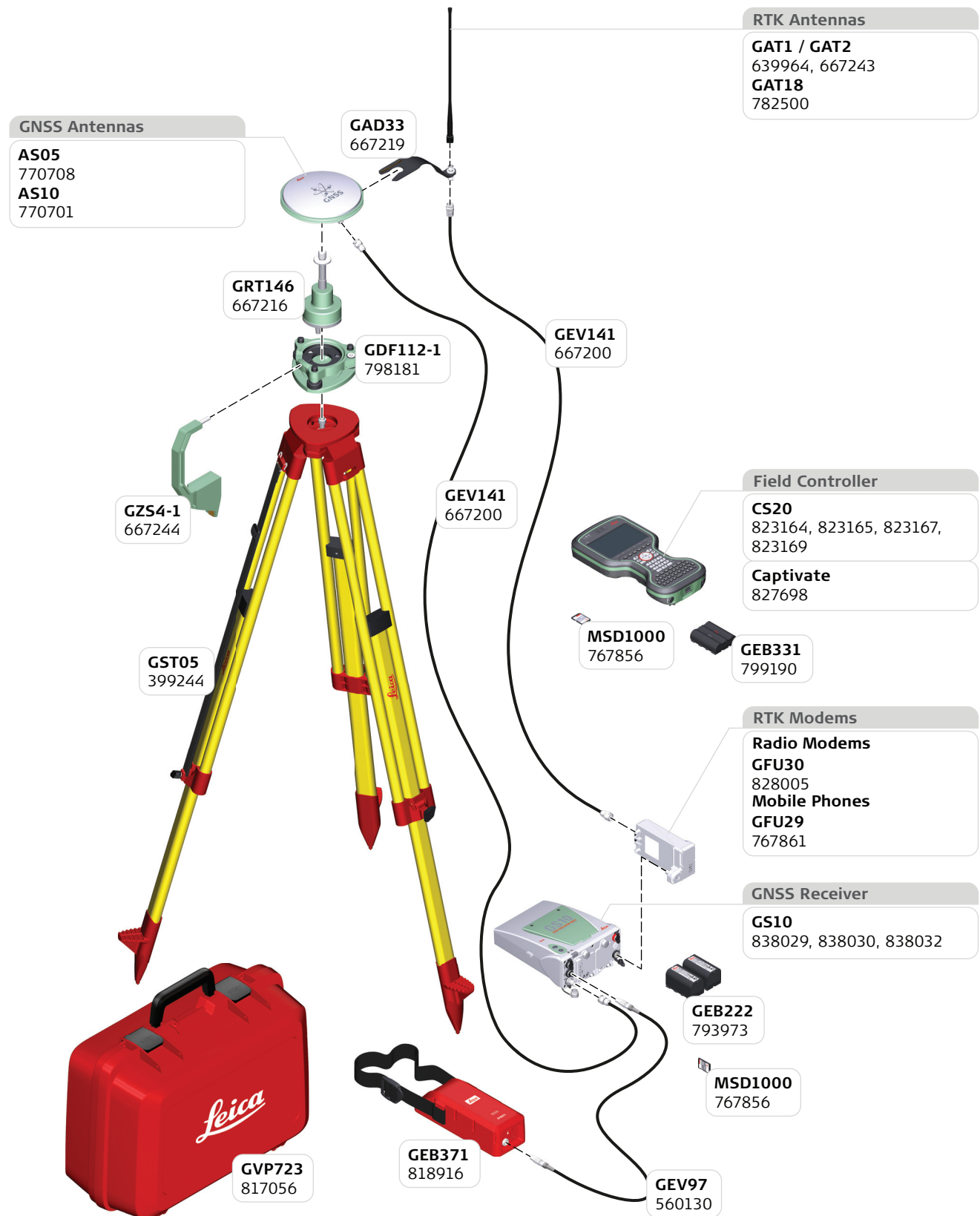


# 49 GS10 Real Time Rover - Pole plus Minipack and CS35 Tablet

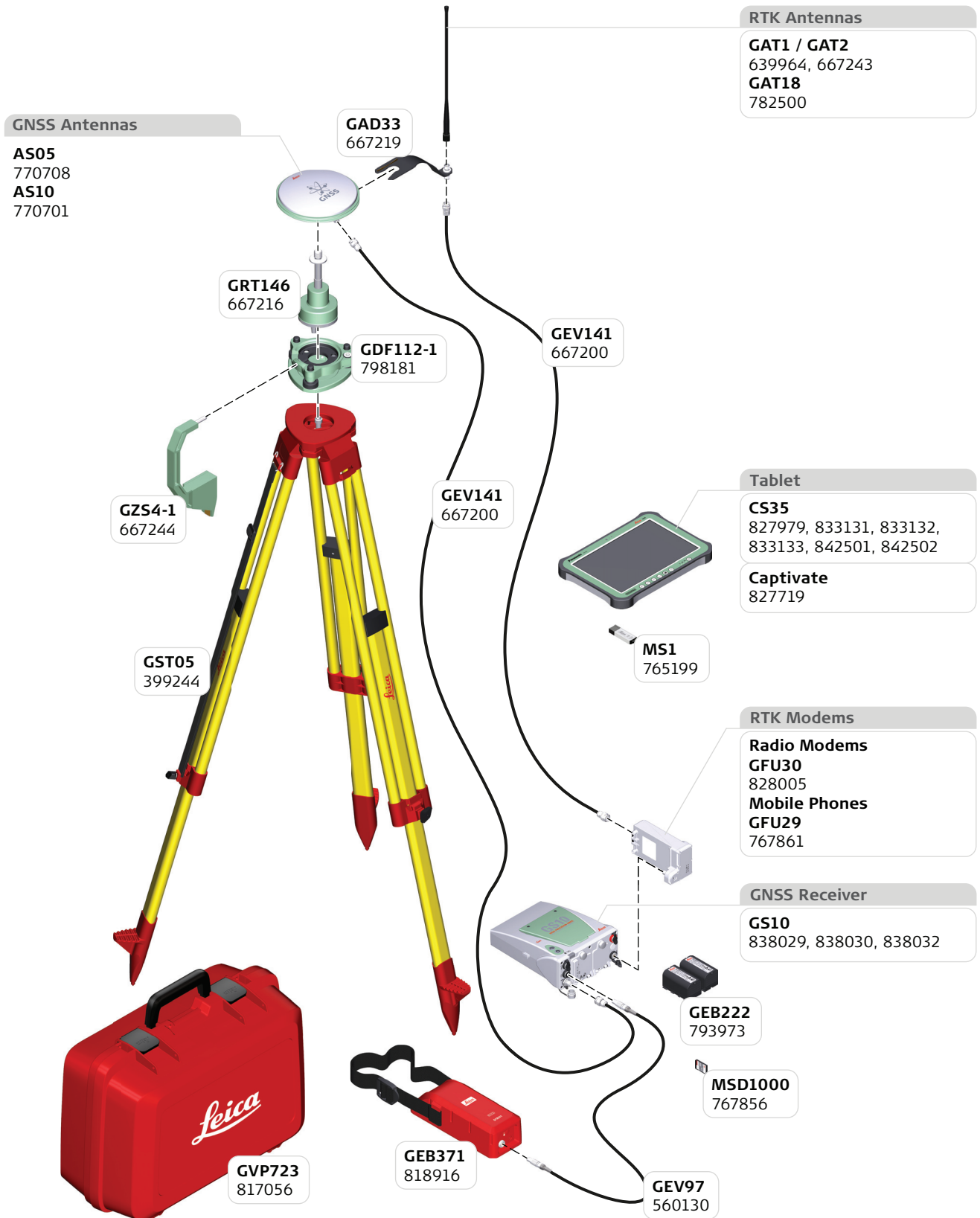


# 50 GS10 Real Time Reference - Tripod Setup

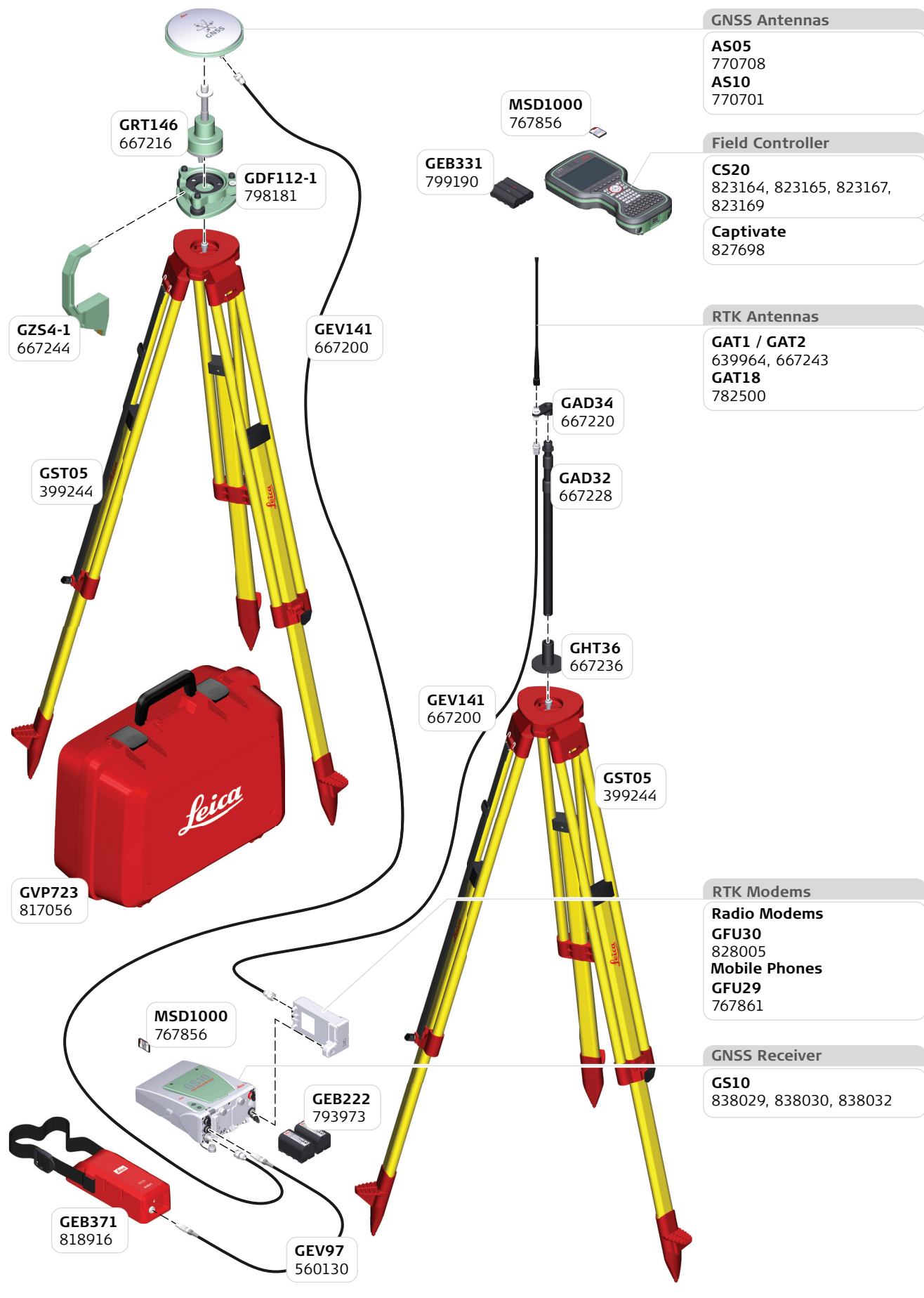
## 50.1 Using One Tripod and CS20 Field Controller



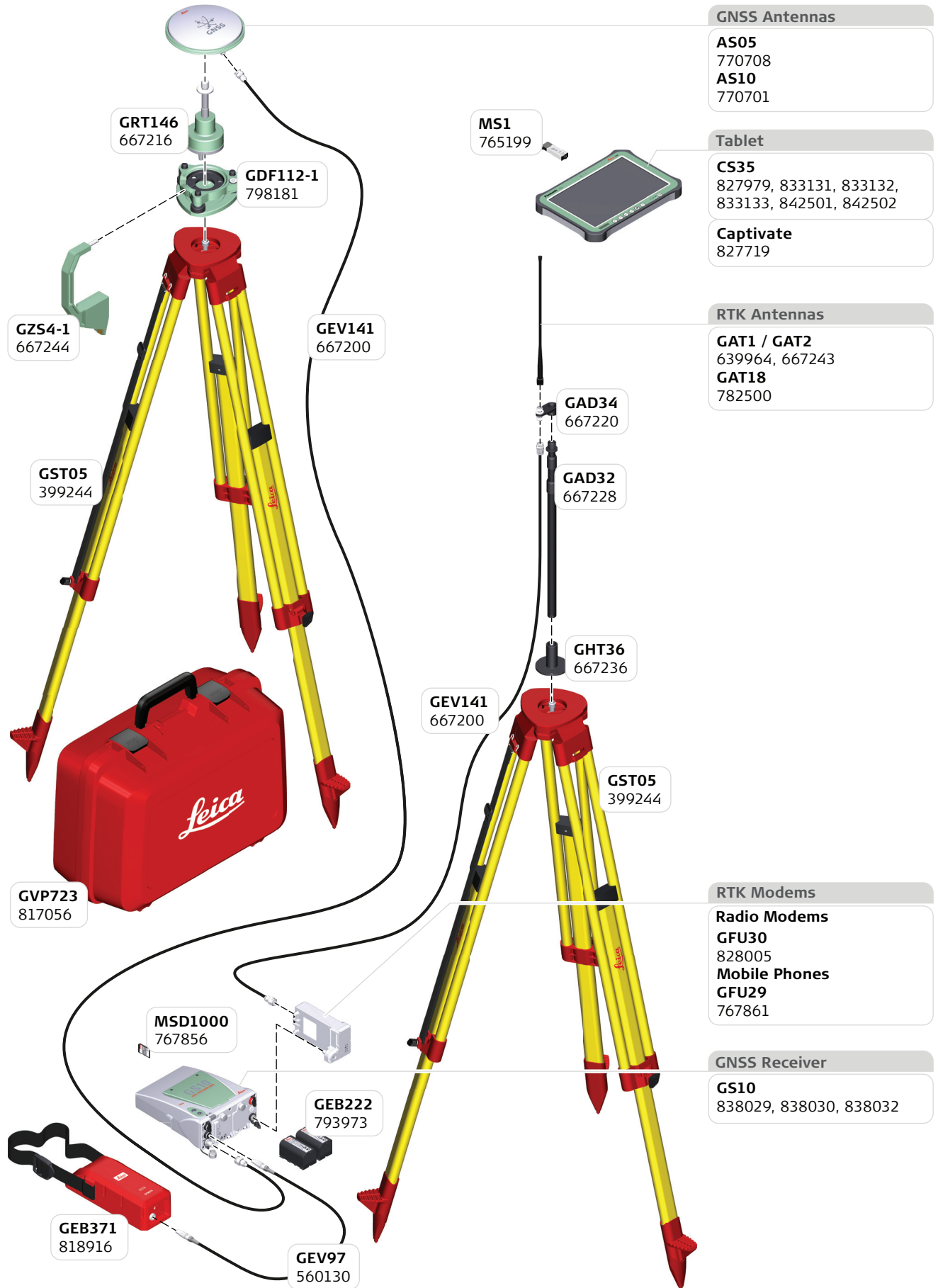
## 50.2 Using One Tripod and CS35 Tablet



### 50.3 Using Two Tripods and CS20 Field Controller



## 50.4 Using Two Tripods and CS35 Tablet



- GNSS Antennas**
- AS05**  
770708
  - AS10**  
770701

- Tablet**
- CS35**  
827979, 833131, 833132,  
833133, 842501, 842502
  - Captivate**  
827719

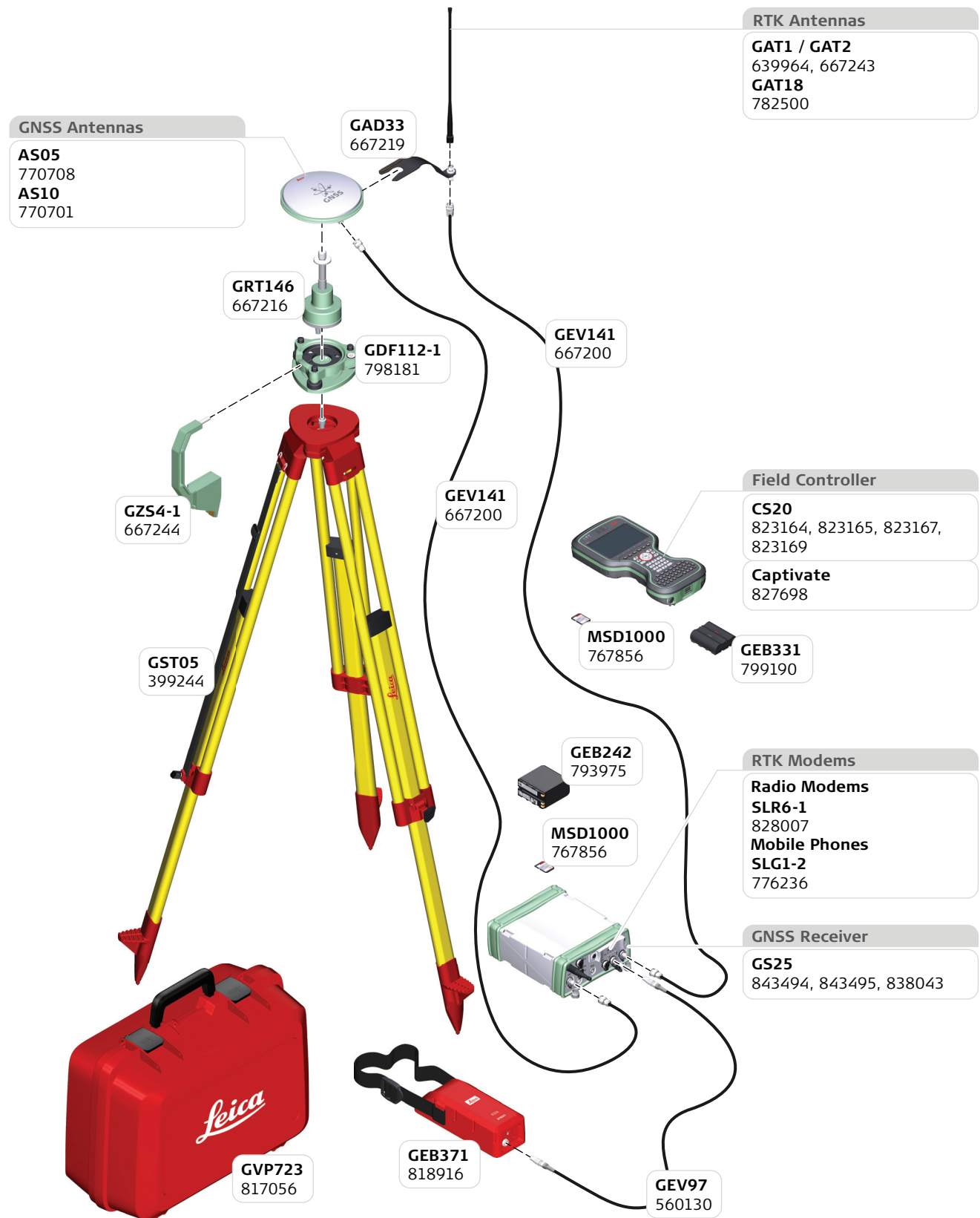
- RTK Antennas**
- GAT1 / GAT2**  
639964, 667243
  - GAT18**  
782500

- RTK Modems**
- Radio Modems**  
**GFU30**  
828005
  - Mobile Phones**  
**GFU29**  
767861

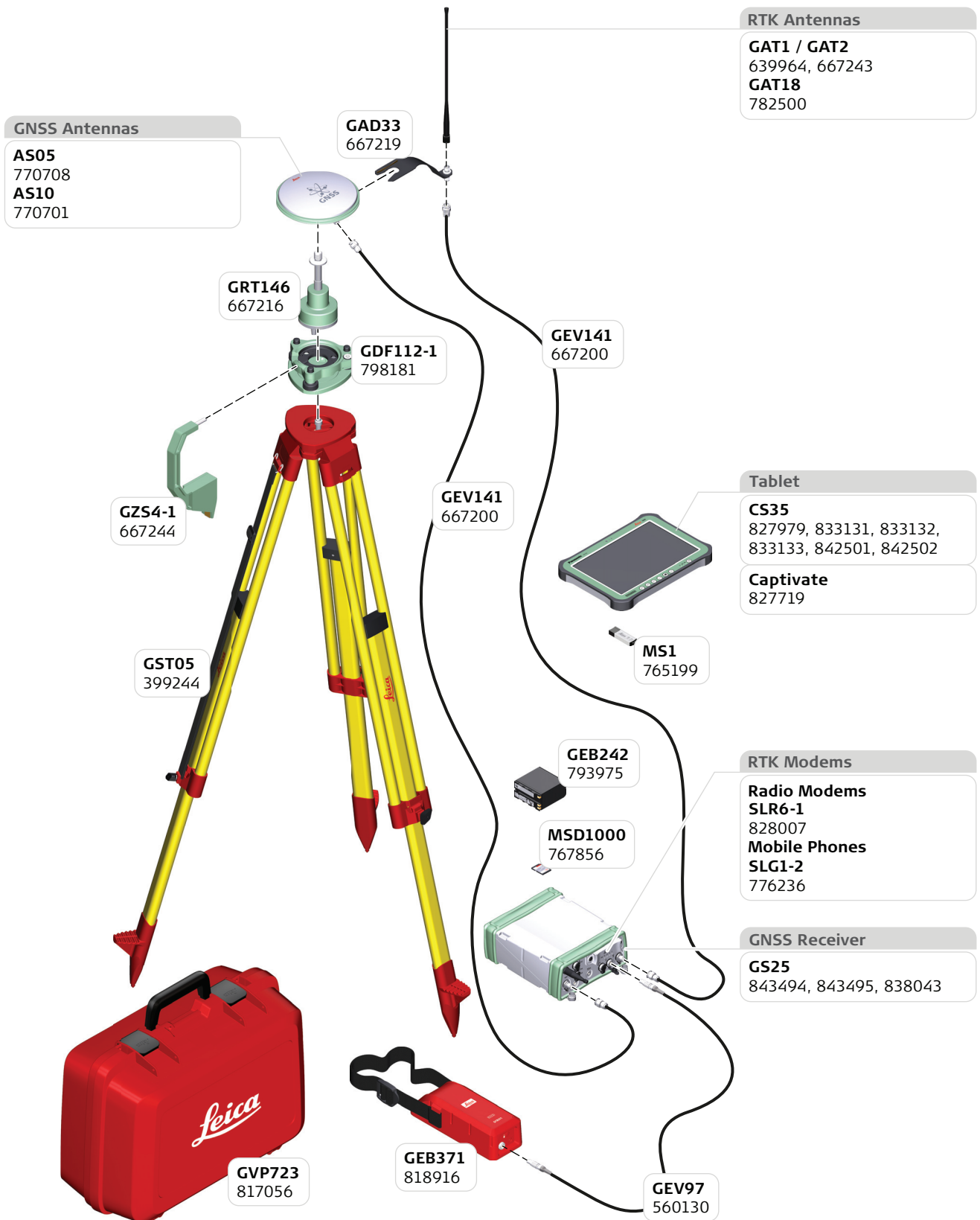
- GNSS Receiver**
- GS10**  
838029, 838030, 838032

# 51 GS25 Real Time Reference - Tripod Setup

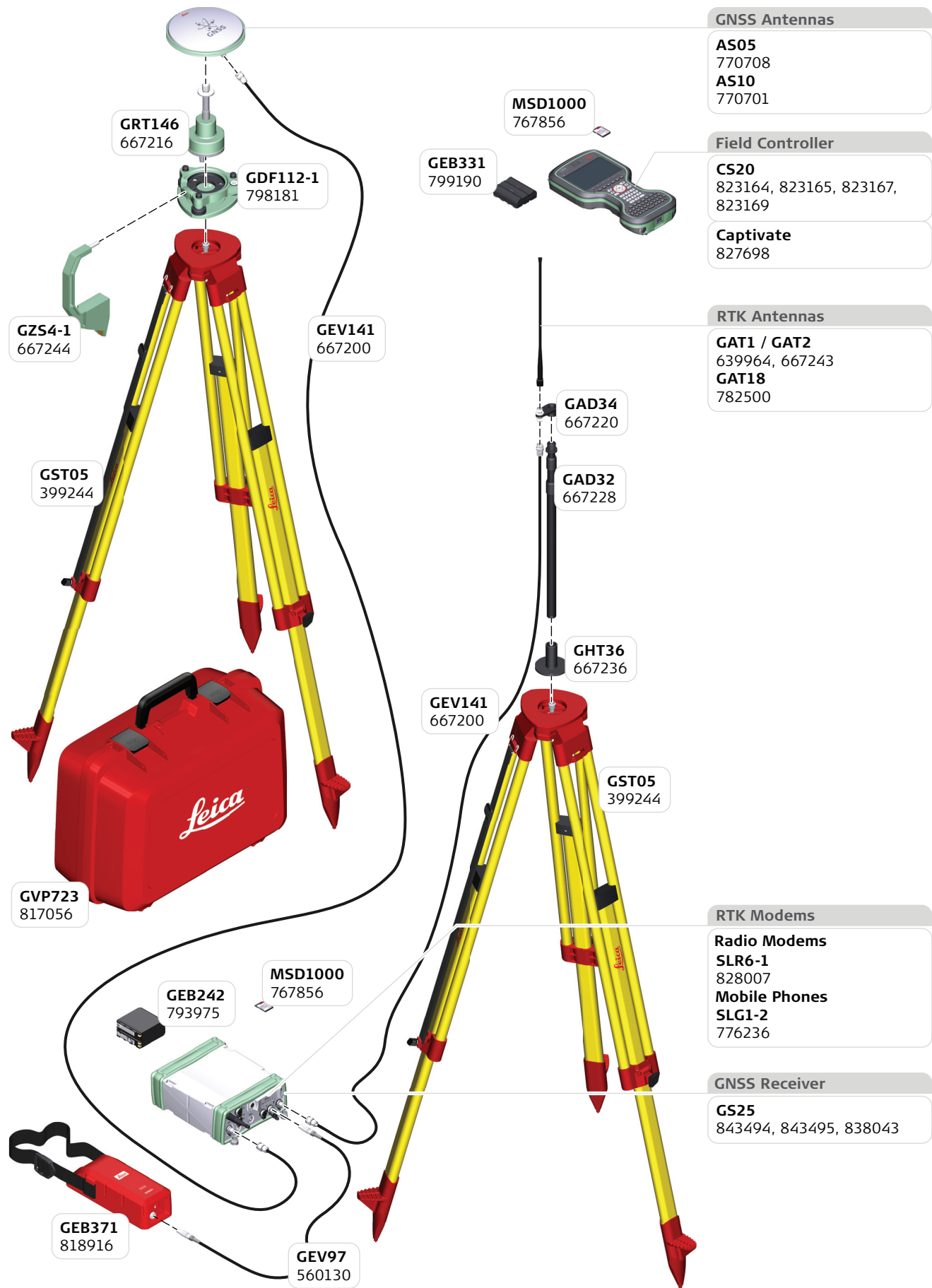
## 51.1 Using One Tripod and CS20 Field Controller



## 51.2 Using One Tripod and CS35 Tablet

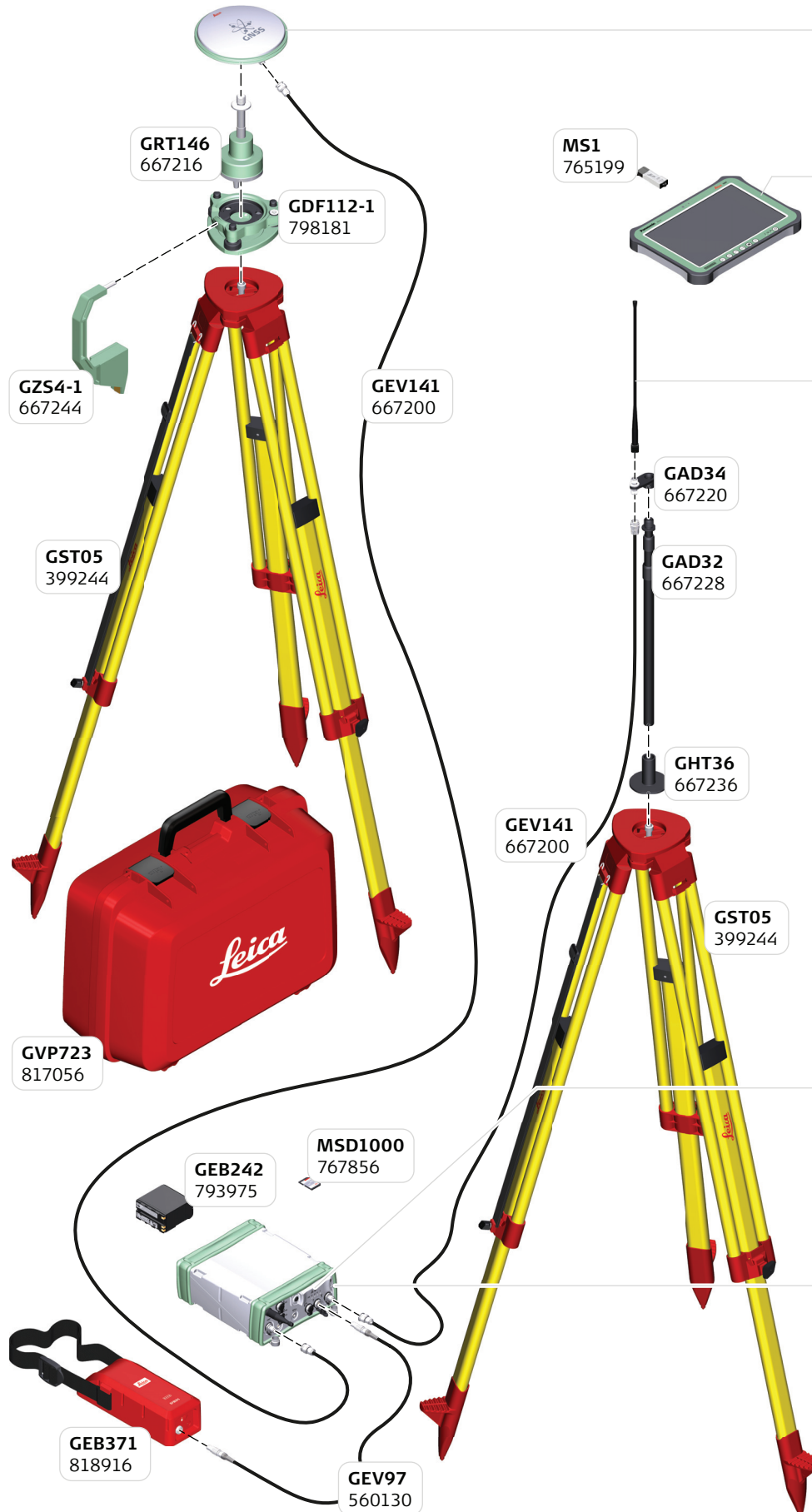


### 51.3 Using Two Tripods and CS20 Field Controller





## 51.4 Using Two Tripods and CS35 Tablet



### GNSS Antennas

**AS05**  
770708  
**AS10**  
770701

### Tablet

**CS35**  
827979, 833131, 833132,  
833133, 842501, 842502

**Captivate**  
827719

### RTK Antennas

**GAT1 / GAT2**  
639964, 667243  
**GAT18**  
782500

### RTK Modems

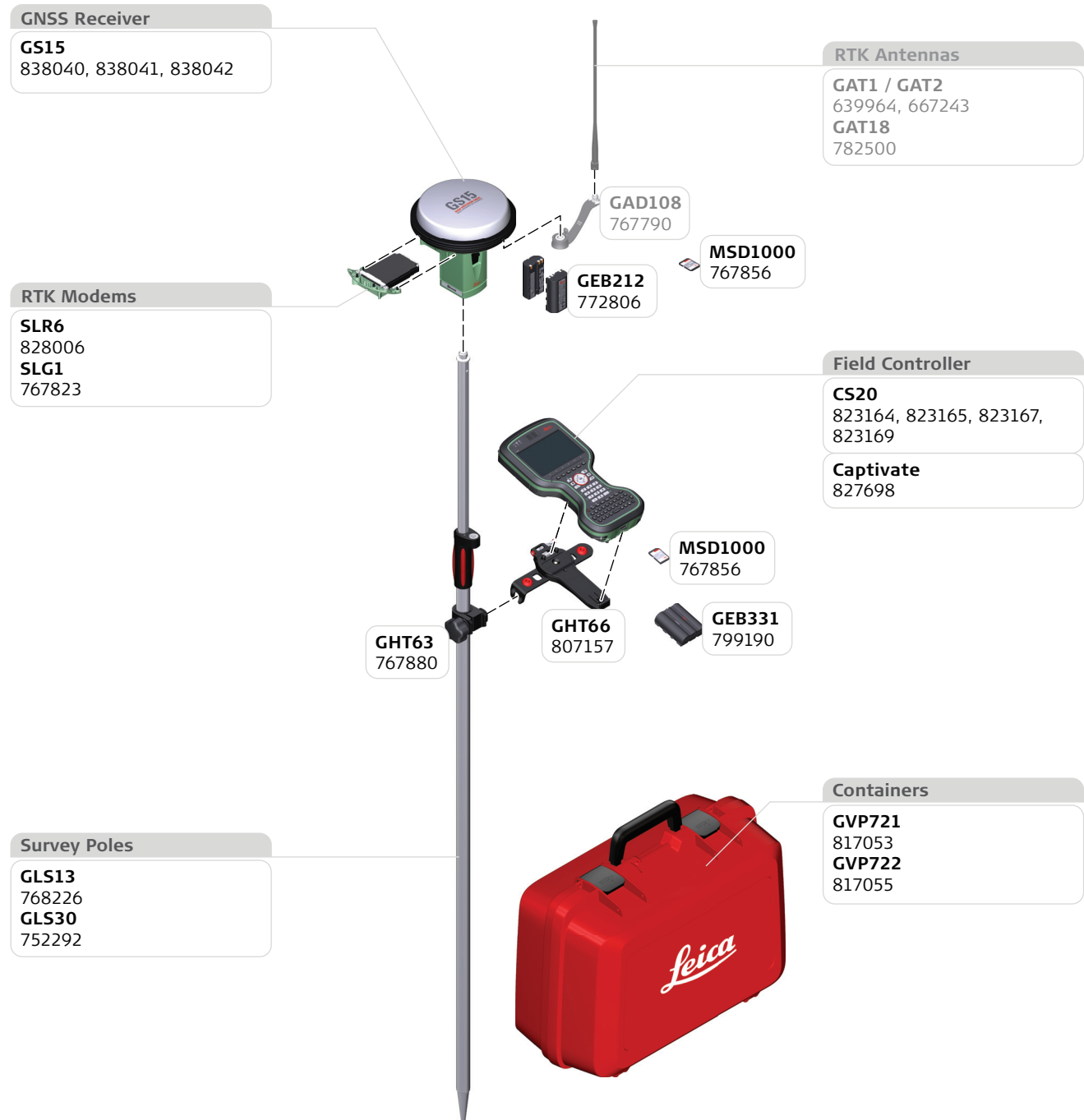
**Radio Modems**  
**SLR6-1**  
828007  
**Mobile Phones**  
**SLG1-2**  
776236


### GNSS Receiver

**GS25**  
843494, 843495, 838043

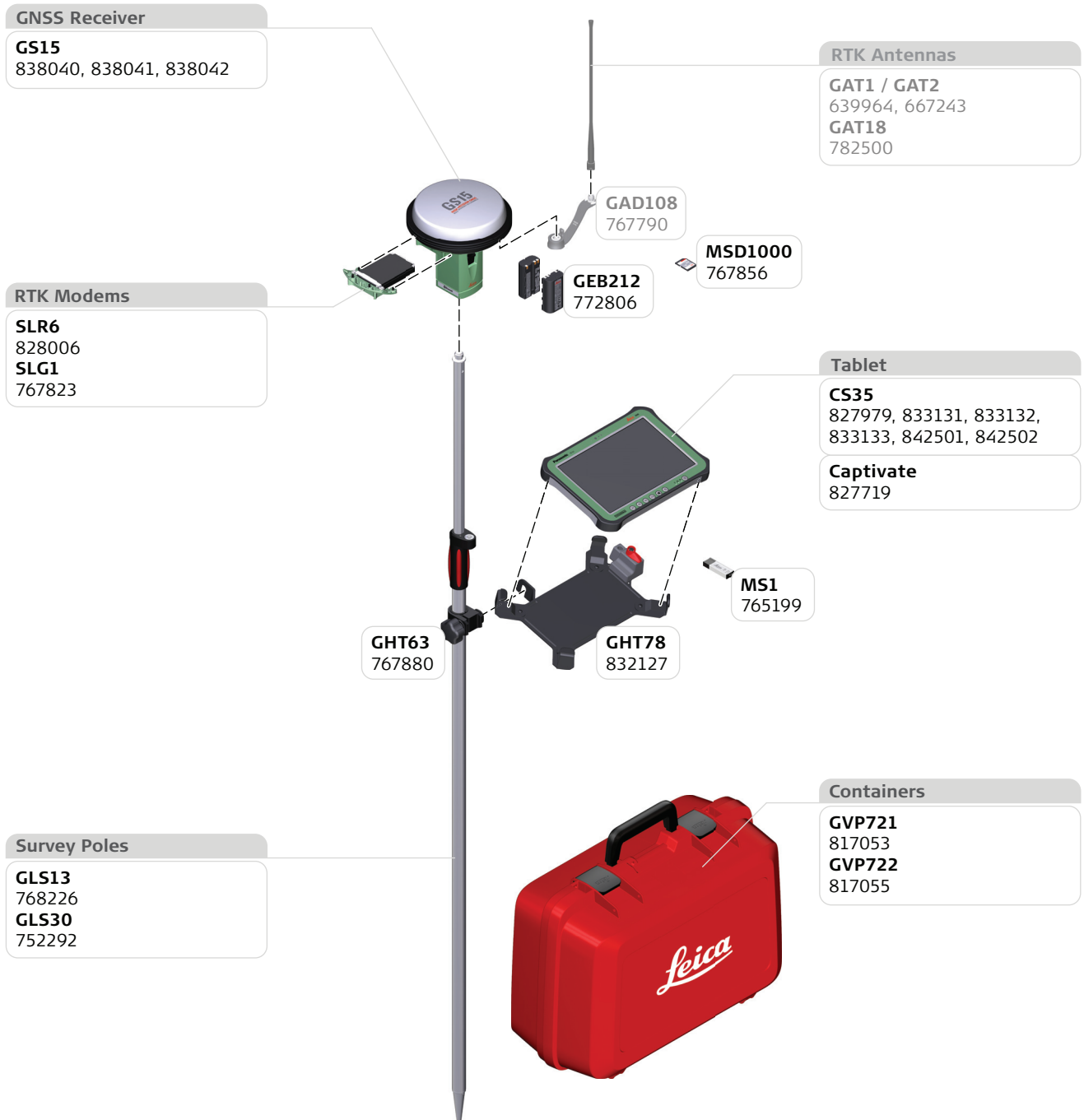
## 52 GS15 Real Time Rover


### 52.1 Using CS20 Field Controller



 Please refer to the Leica Viva TPS or Leica Nova TPS Equipment lists for the usage of a GS15 receiver in a SmartPole or SmartStation setup.

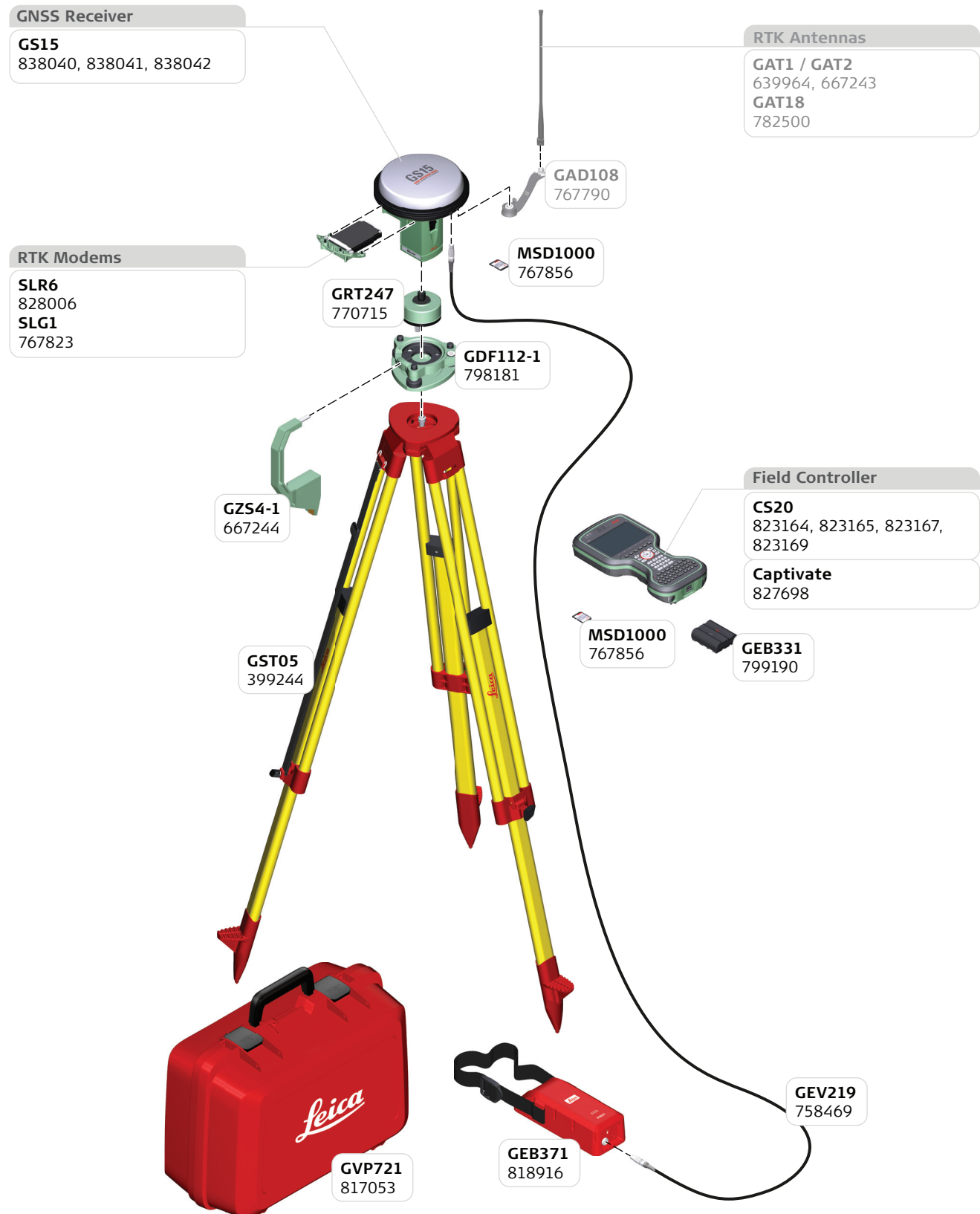
## 52.2 Using CS35 Tablet



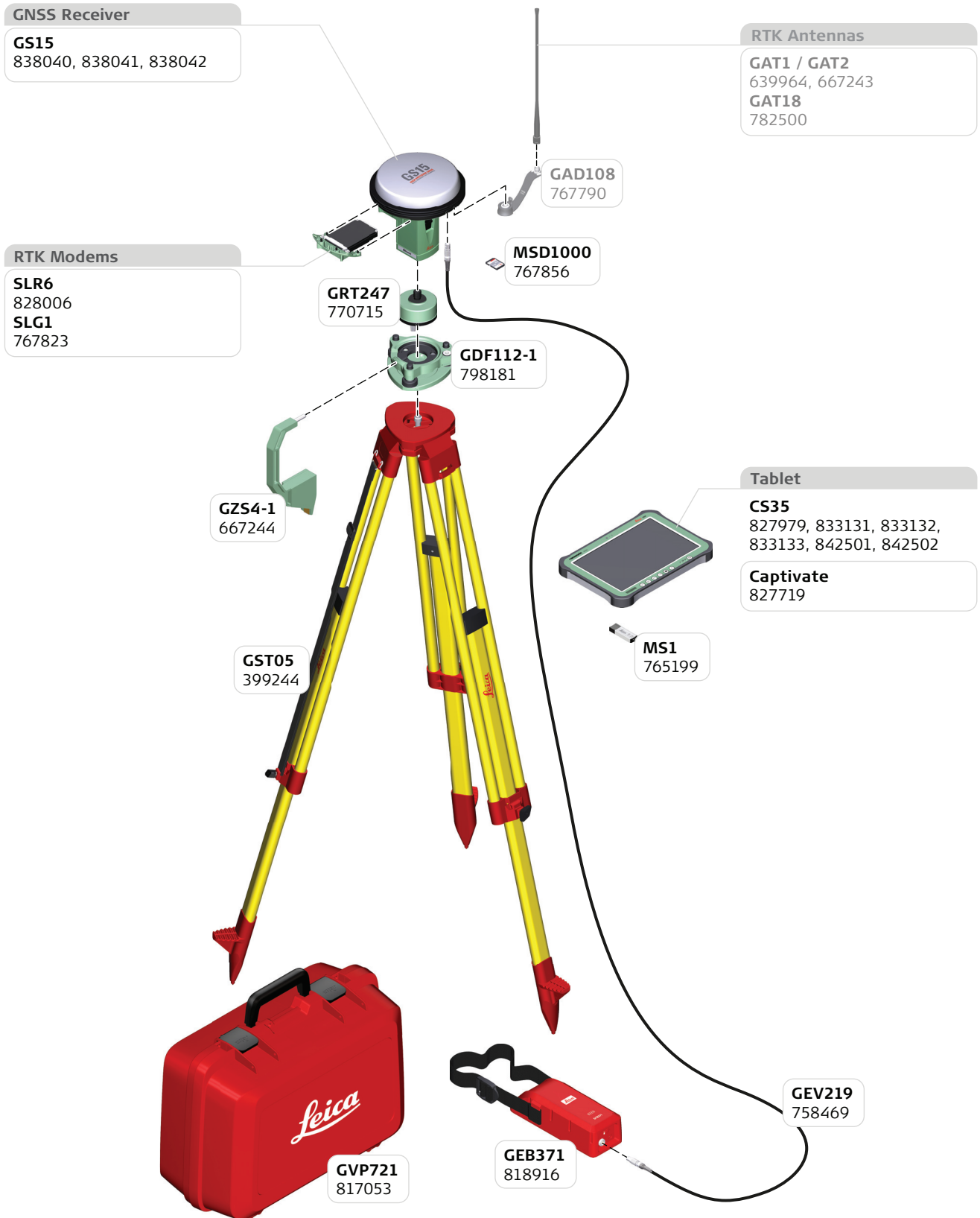
 Please refer to the Leica Viva TPS or Leica Nova TPS Equipment lists for the usage of a GS15 receiver in a SmartPole or SmartStation setup.

## 53 GS15 Real Time Reference - Tripod Setup

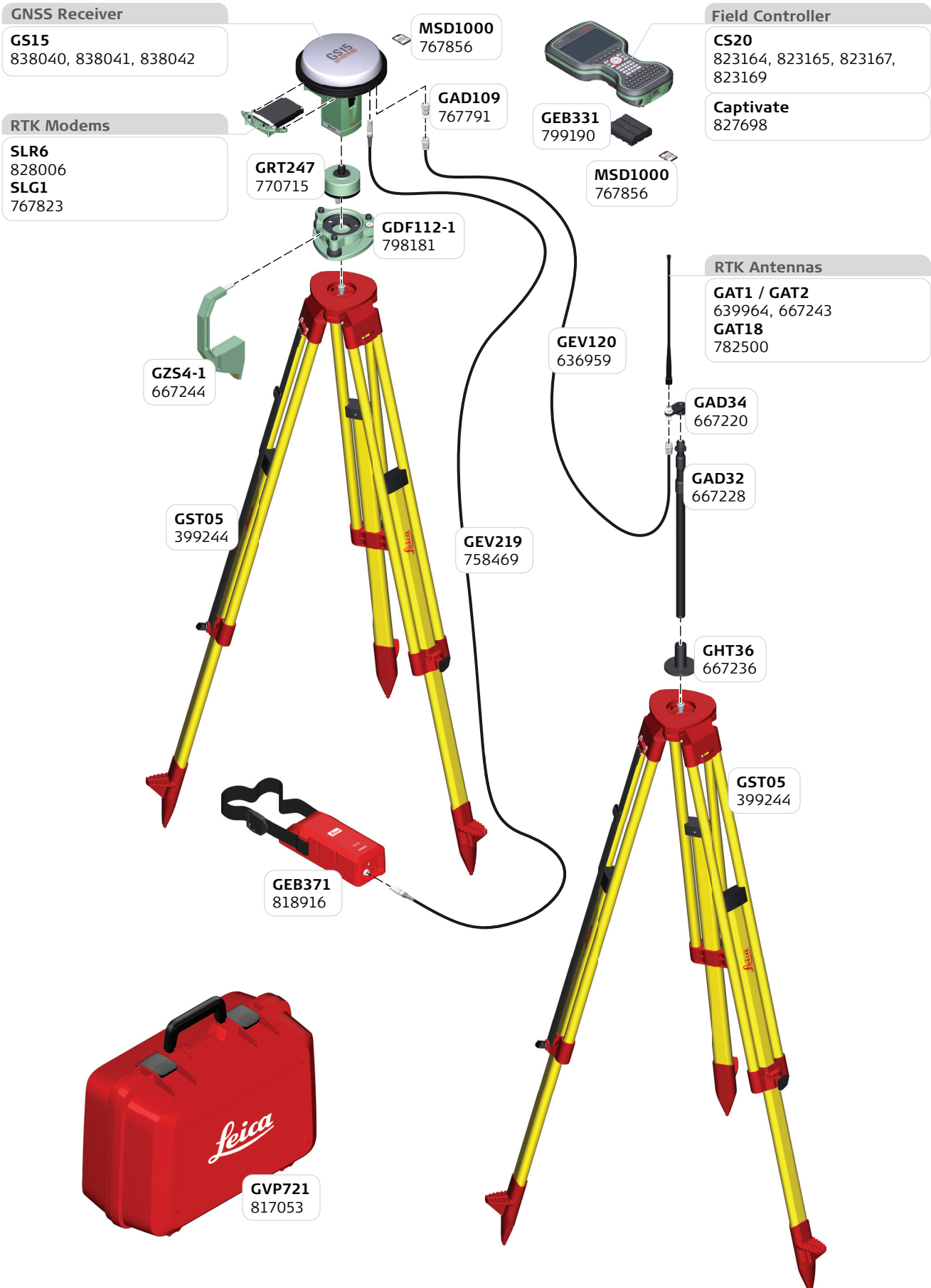
### 53.1 Using One Tripod and CS20 Field Controller



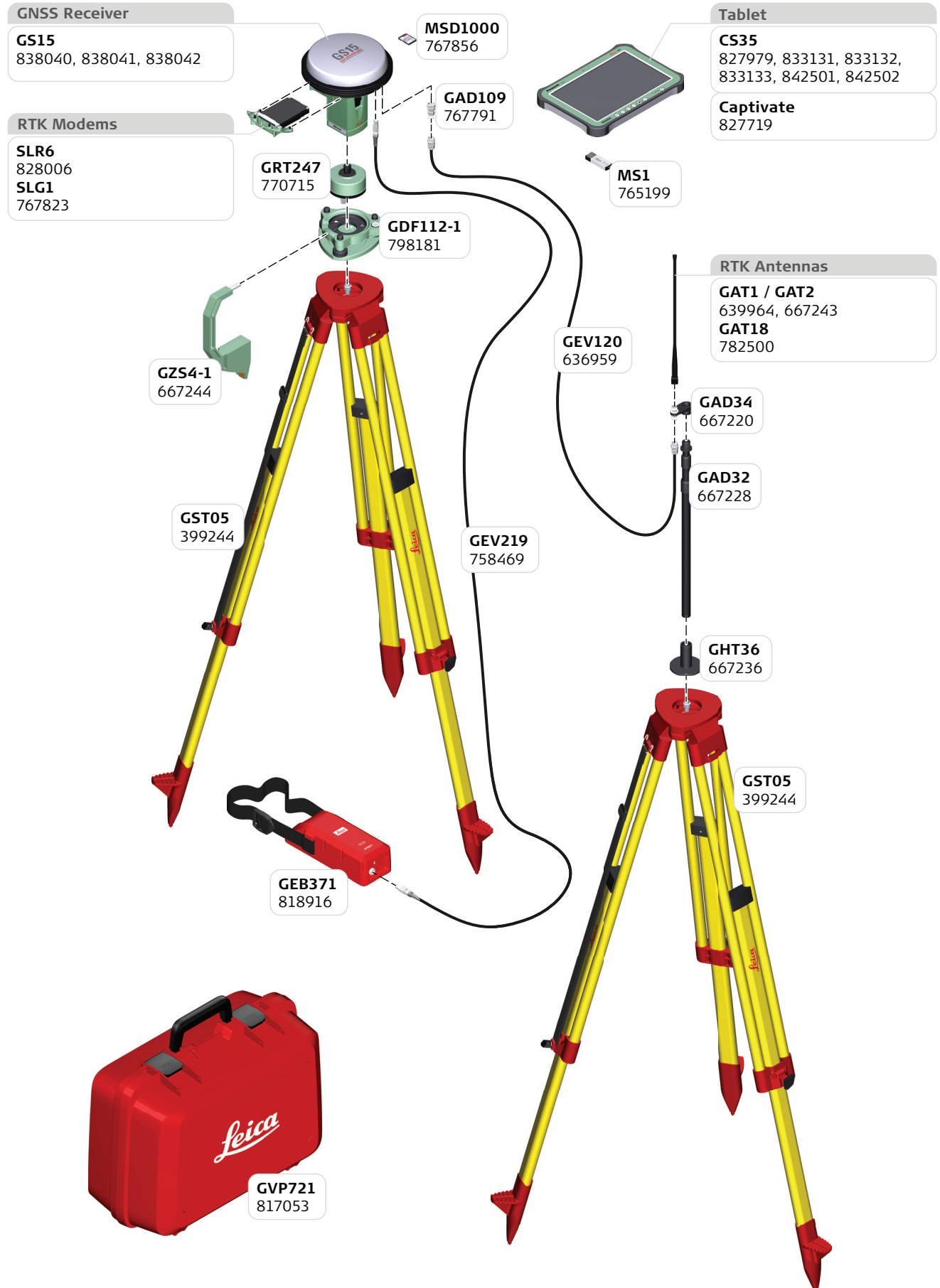
## 53.2 Using One Tripod and CS35 Tablet



### 53.3 Using Two Tripods and CS20 Field Controller

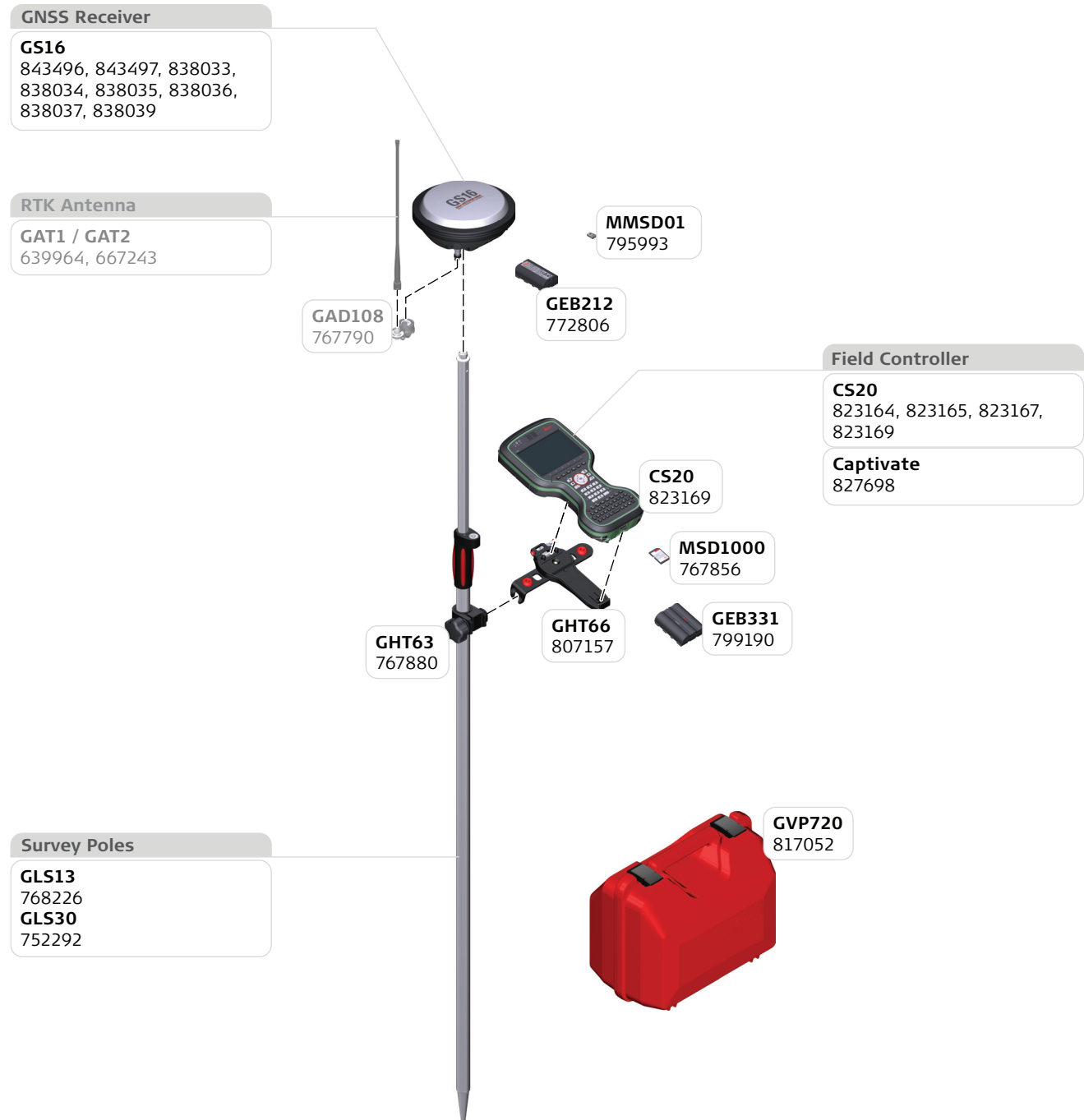



## 53.4 Using Two Tripods and CS35 Tablet



## 54 GS16 Real Time Rover

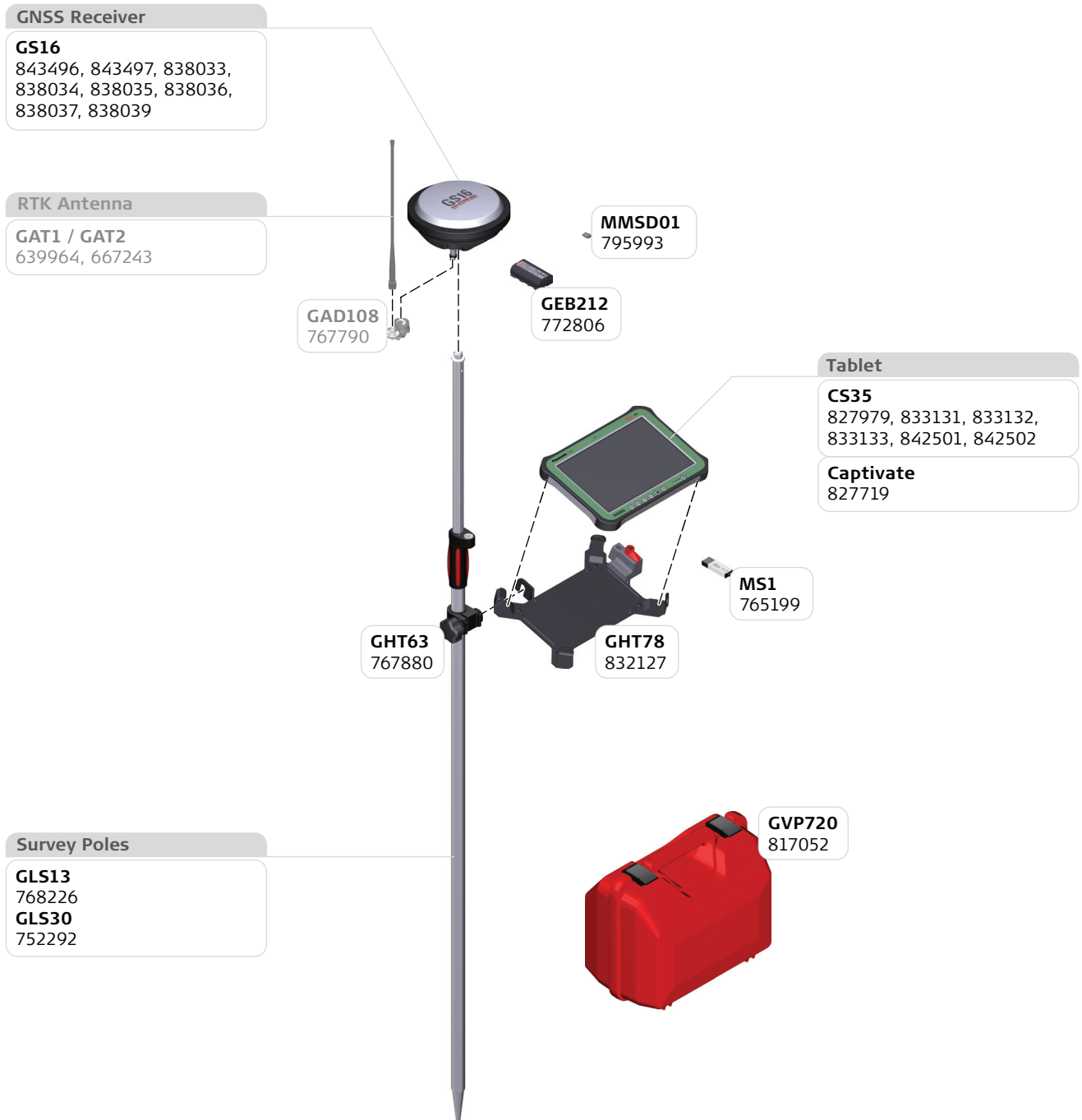
### 54.1 Using CS20 Field Controller




 Please refer to the Leica Viva TPS or Leica Nova TPS Equipment lists for the usage of a GS16 receiver in a SmartPole or SmartStation setup.



## 54.2 Using CS35 Tablet



 Please refer to the Leica Viva TPS or Leica Nova TPS Equipment lists for the usage of a GS16 receiver in a SmartPole or SmartStation setup.

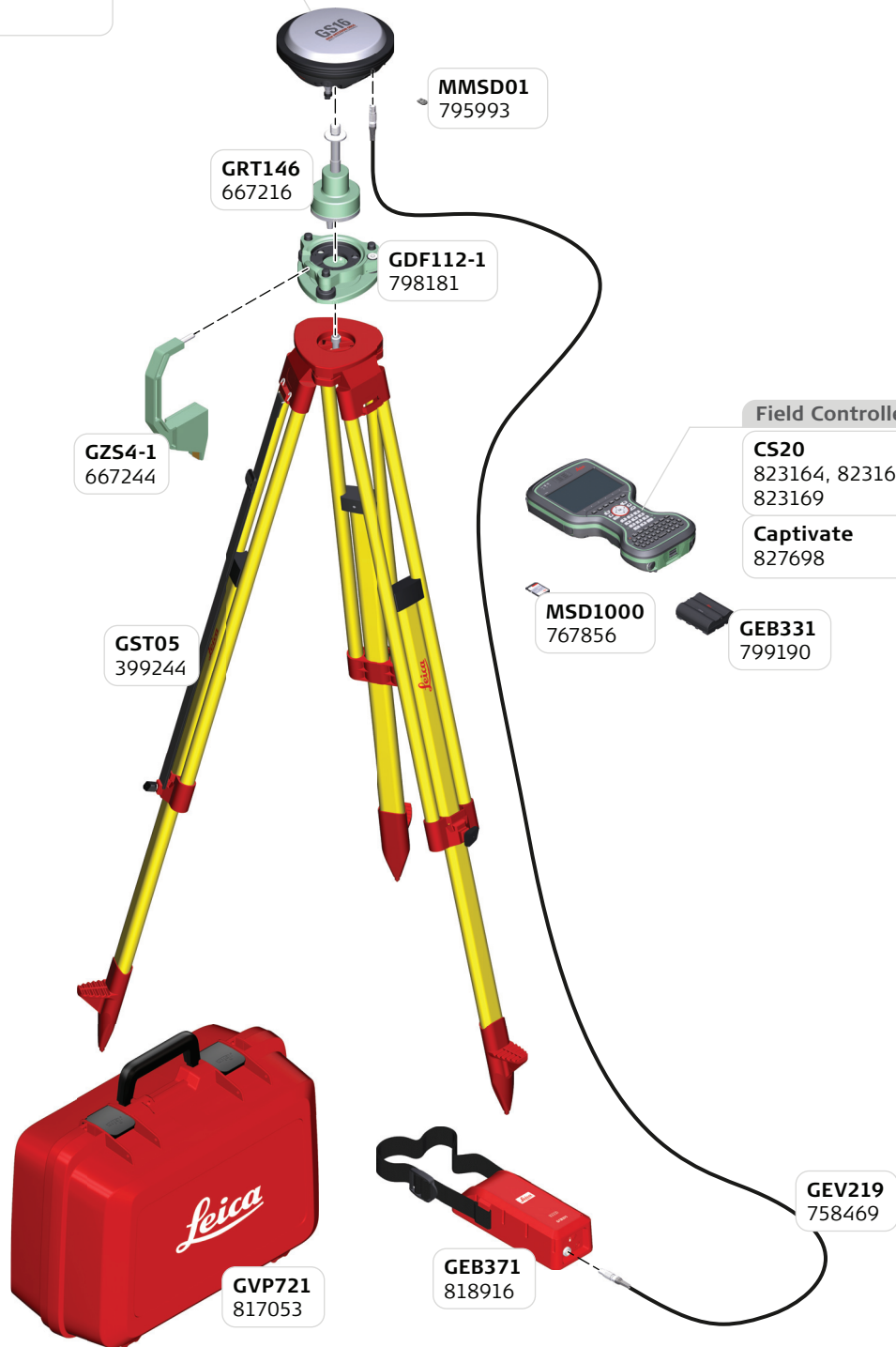
## 55 GS16 Real Time Reference - Tripod Setup

### 55.1 Using GS16 phone modem and CS20 Field Controller

#### GNSS Receiver

##### GS16

843496, 843497, 838033,  
838034, 838035, 838036,  
838037, 838039



**MMSD01**  
795993

**GRT146**  
667216

**GDF112-1**  
798181

**GZS4-1**  
667244

**GST05**  
399244

**GVP721**  
817053

**MSD1000**  
767856

**GEB331**  
799190

#### Field Controller

##### CS20

823164, 823165, 823167,  
823169

**Captivate**  
827698

**GEV219**  
758469

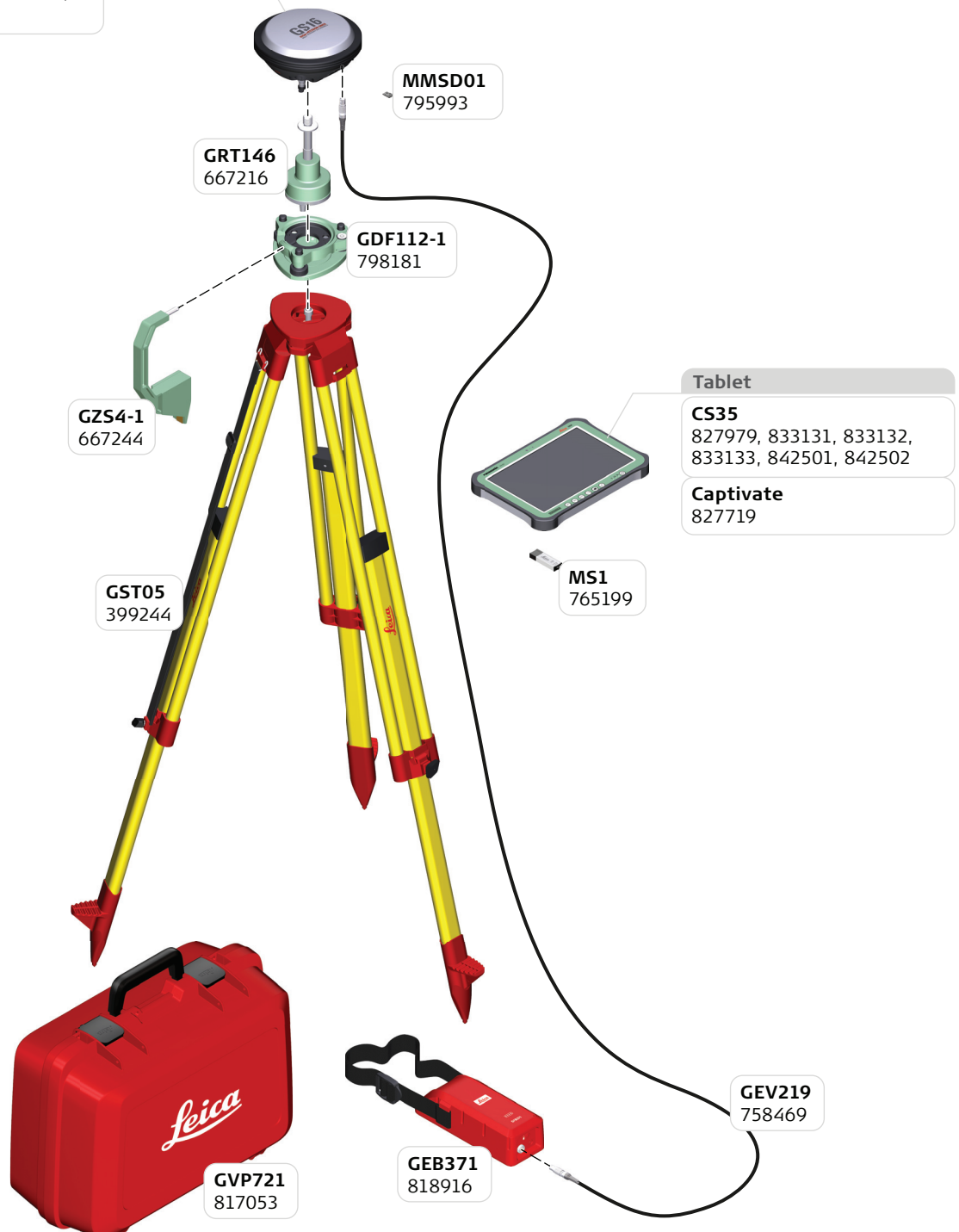
**GEB371**  
818916

## 55.2 Using GS16 phone modem and CS35 Tablet

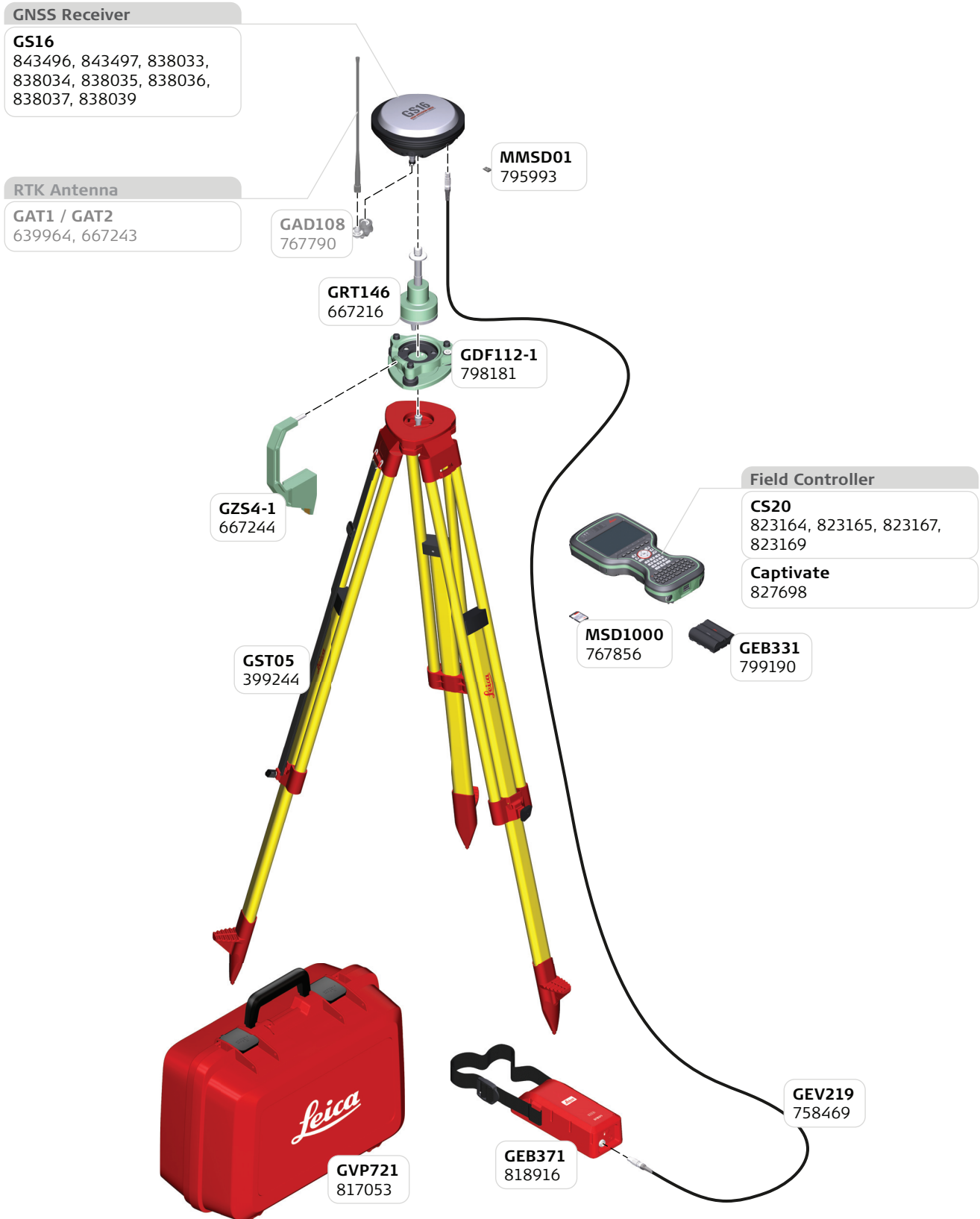
### GNSS Receiver

#### GS16

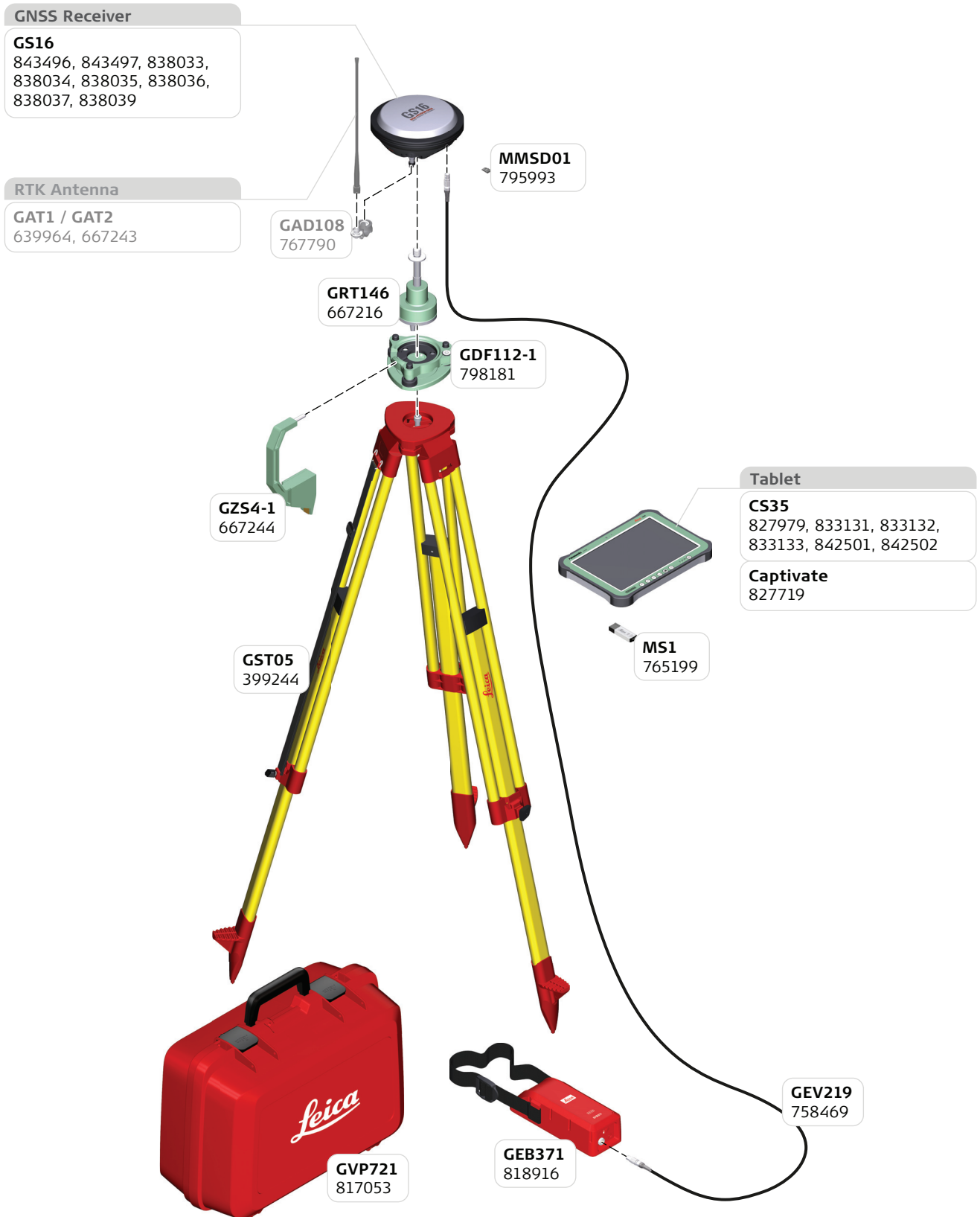
843496, 843497, 838033,  
838034, 838035, 838036,  
838037, 838039



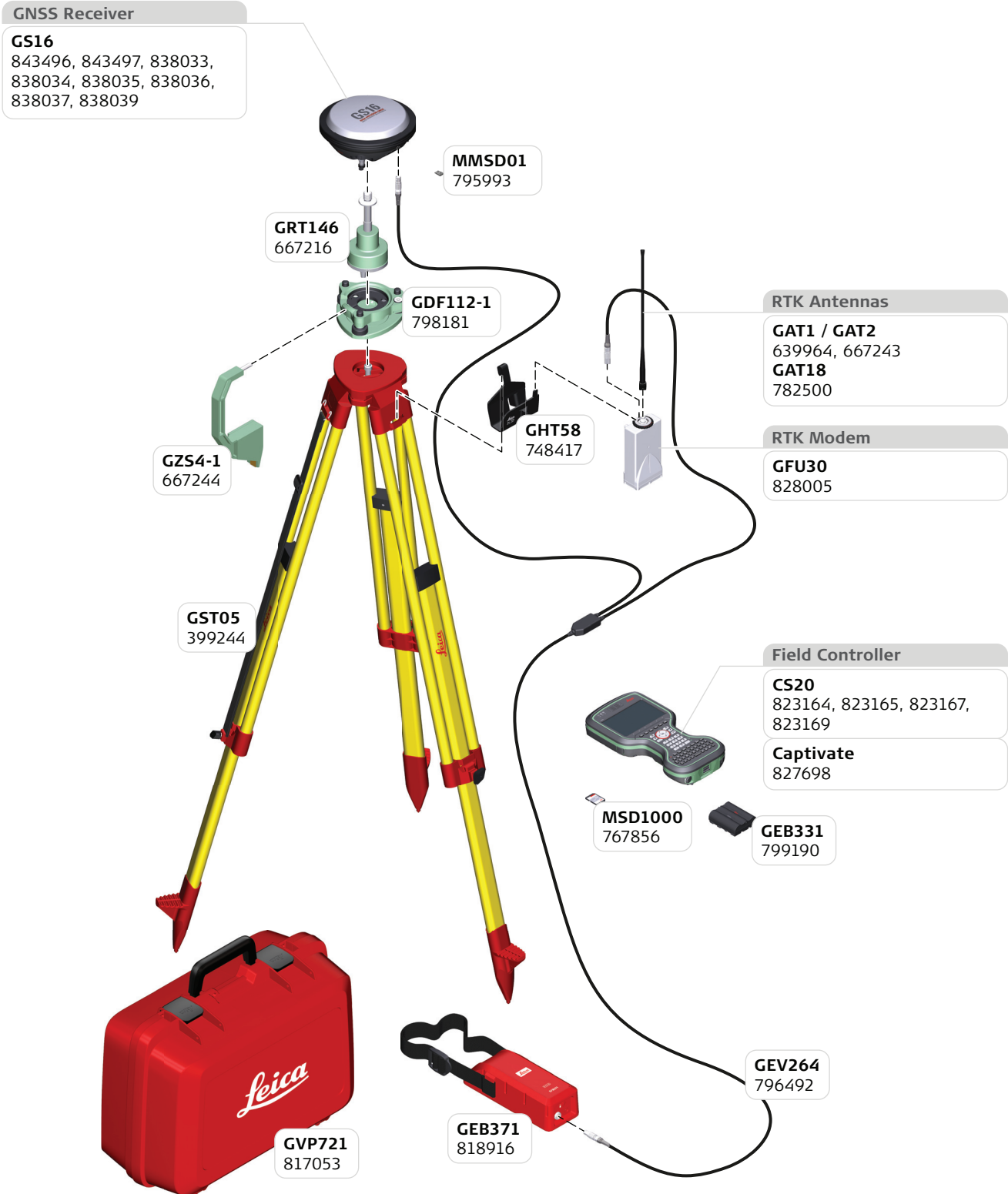
### 55.3 Using GS16 radio modem and CS20 Field Controller



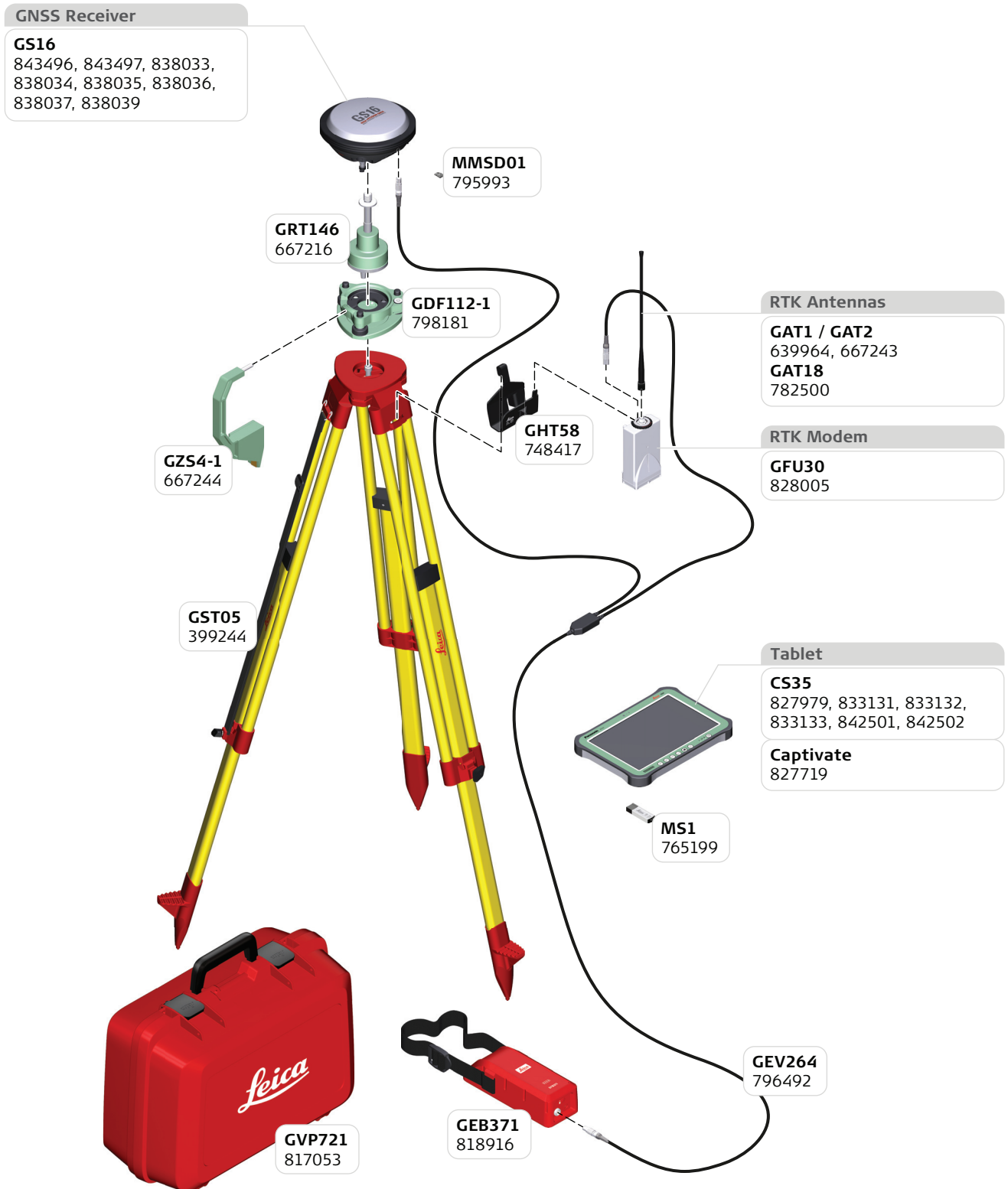
## 55.4 Using GS16 radio modem and CS35 Tablet



## 55.5 Using external RTK module and CS20 Field Controller

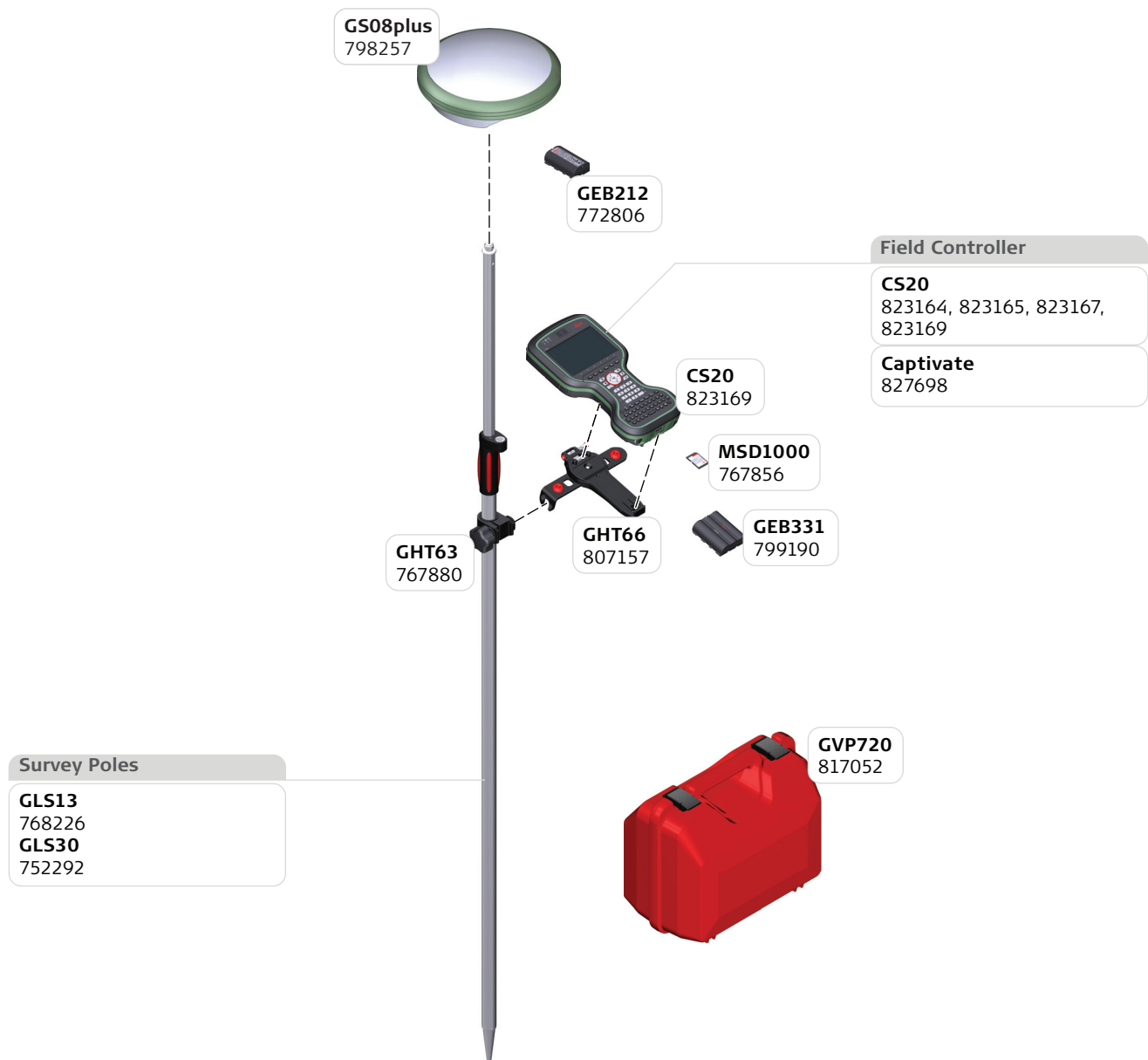


## 55.6 Using external RTK module and CS35 Tablet



# 56 GS08plus Real Time Rover

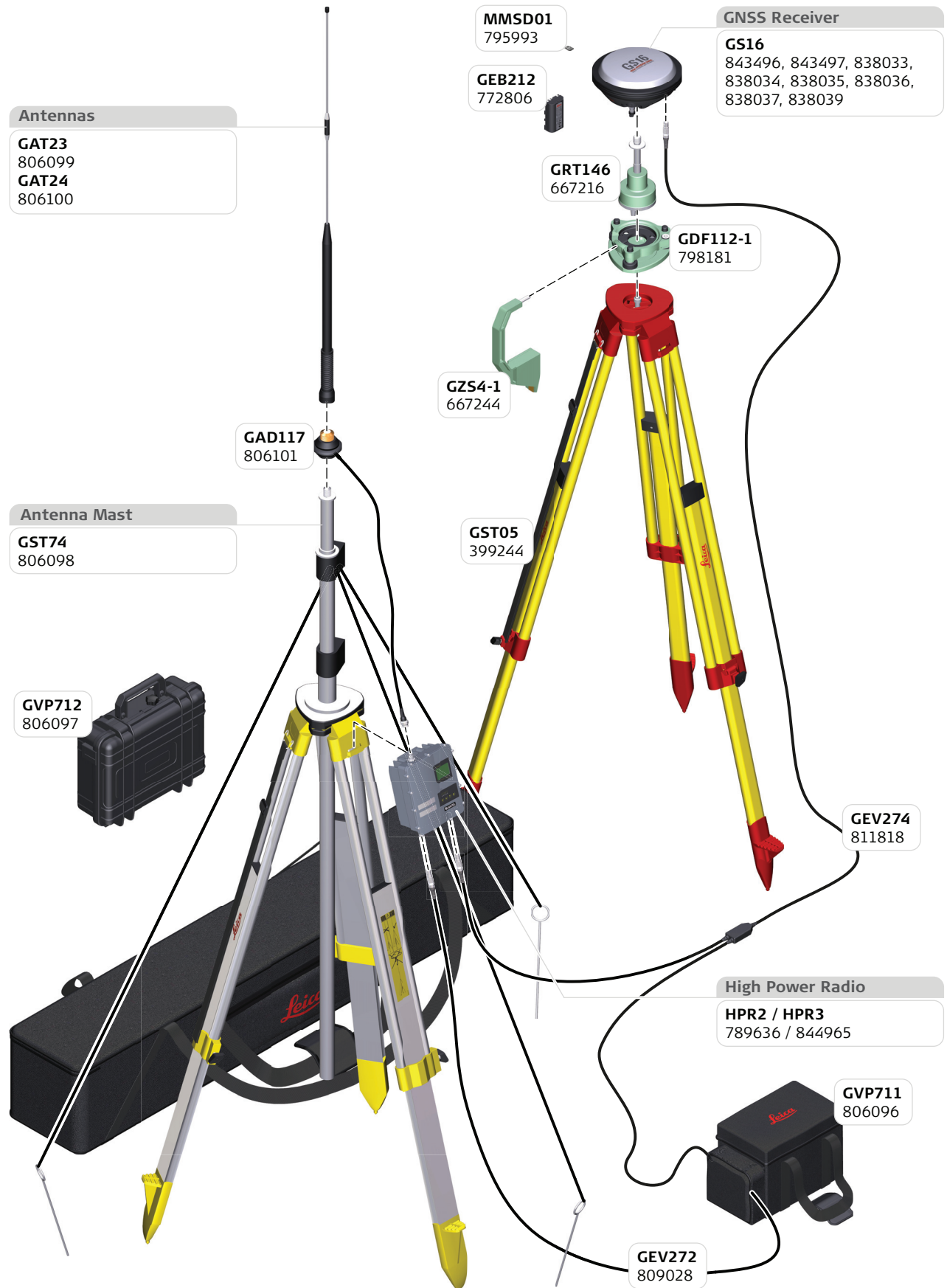
## 56.1 Using CS phone modem



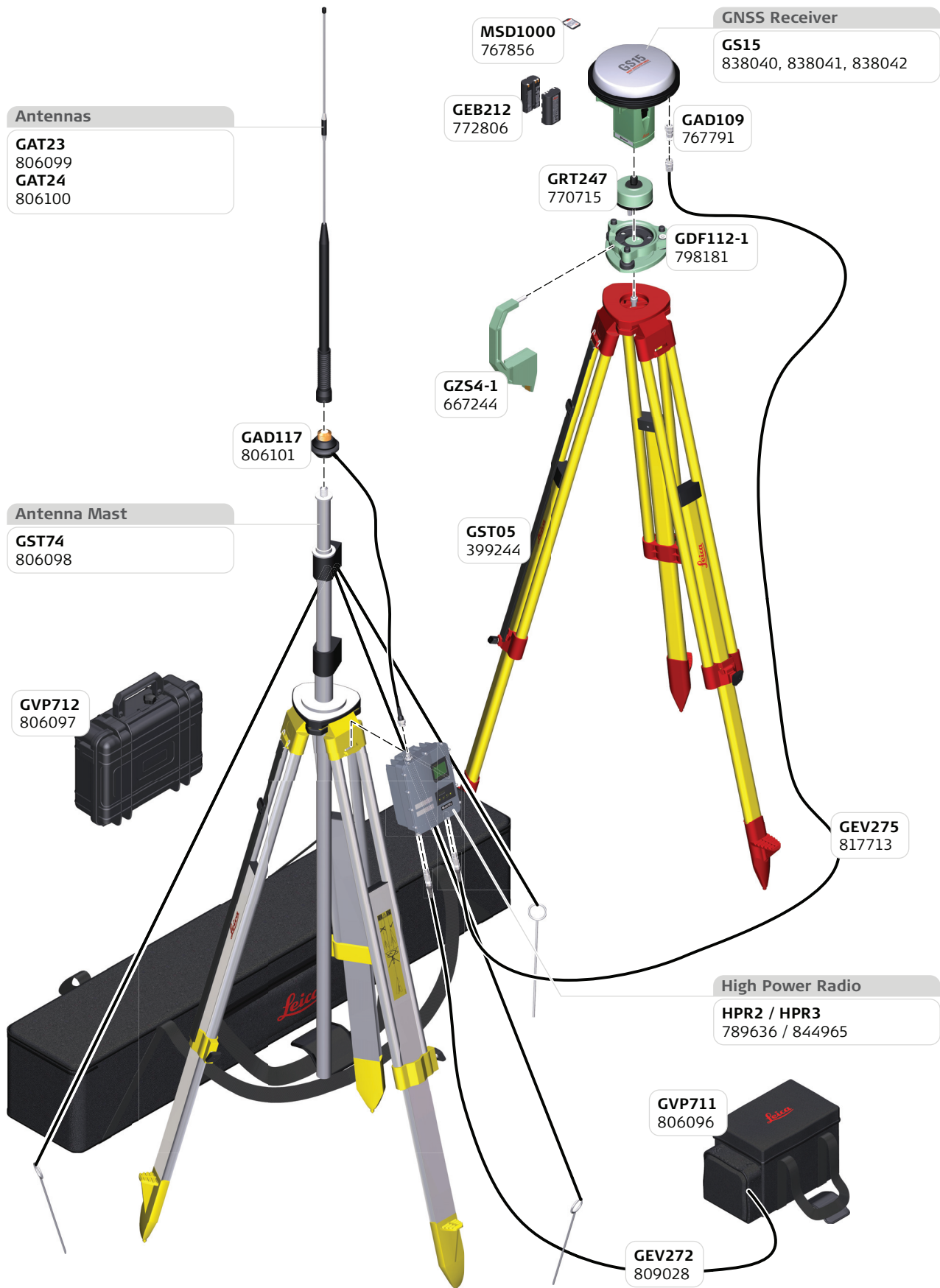



# 57 Satellite High Power Radio (HPR)

## 57.1 Satellite High Power Radio Setup with GS16

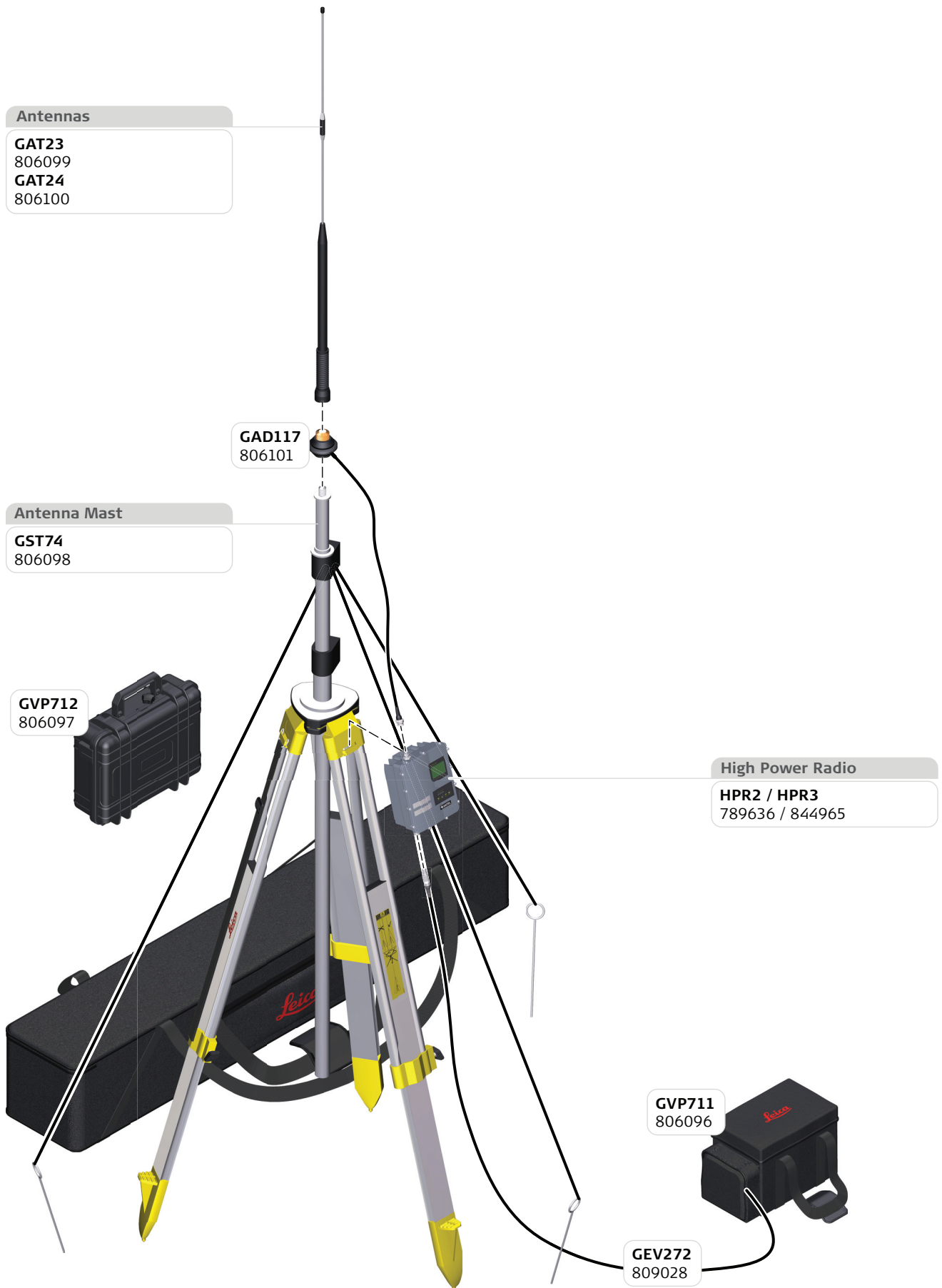


## 57.2 Satellite High Power Radio Setup with GS15



 To power the GS15 externally from the car battery (GVP711 soft bag) the GEV274 can be used instead of the GEV275.

### 57.3 Satellite High Power Radio Setup - Standalone



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**Leica Geosystems AG**  
Heinrich-Wild-Strasse  
CH-9435 Heerbrugg  
Switzerland  
Phone +41 71 727 31 31  
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