

# Leica TS13 Equipment List



- when it has to be **right**

**Leica**  
Geosystems

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GEOOPTIC

# Total Station

## 1 TS13

### 1.1 Models with 4 button keyboard unit



	TS13
Angle measurement	●
Distance measurement to prism	●
Distance measurement to any surface (reflectorless)	●
AutoHeight (automatic Instrument height)	●
Motorised	●
Automatic Target Aiming (ATR)	●
Lock mode	○
SpeedSearch	○
RS232, USB and SD card interface	●
WLAN	●
Bluetooth	●
Internal Flash Memory (4 GB)	●
Hotshoe interface for RadioHandle	○
Guide Light (EGL)	●
LOC8 or LOC8 LTE	○
AutoPole AP20 H	○
AutoPole AP20 ID	○
CS20 Field controller connection	○
CS30/CC180/CC200 Tablet connection	○

● Standard  
 ○ Optional

### 1.2 Angular Accuracies

		1" Accuracy	2" Accuracy	3" Accuracy	5" Accuracy
TS13	PinPoint R500	917475	917476	917477	917478
	PinPoint R1000	917479	917480	917481	917482



All TS13 models are delivered with Quick Guide, documentation USB card (833146) and container GVP725 (817058).

## 1.3 Models with display



	TS13
Angle measurement	●
Distance measurement to prism	●
Distance measurement to any surface (reflectorless)	●
AutoHeight (automatic Instrument height)	●
Motorised	●
Automatic Target Aiming (ATR)	●
Lock mode	○
SpeedSearch	○
RS232, USB and SD card interface	●
WLAN	●
Bluetooth	●
Internal Flash Memory (4 GB)	●
Hotshoe interface for RadioHandle	○
Keyboard w/o function keys with 5" WVGA colour touch screen	●
Guide Light (EGL)	●
LOC8 or LOC8 LTE	○
AutoPole AP20 H	○
AutoPole AP20 ID	○
CS20 Field controller connection	○
CS30/CC180/CC200 Tablet connection	○

- Standard
- Optional
- Not available

## 1.4 Angular Accuracies

		1" Accuracy	2" Accuracy	3" Accuracy	5" Accuracy
TS13	PinPoint R500	917483	917484	917485	917486
	PinPoint R1000	917487	917488	917489	917490





All TS13 models are delivered with Quick Guide, documentation USB card (833146) and container GVP725 (817058).

# Additional Options & Accessories

## 2 Additional Options for Total Station

### 2.1 Hardware Options





870391	<b>GTS45</b>	2nd keyboard with 5" WVGA colour touch screen, for TS13 instrument, for telescope position 2, fitted.  GTS45 2nd keyboard with 5" WVGA colour touch screen can only be ordered for instruments already equipped with such a colour display keyboard in the first face position.
874451	<b>GTS46</b>	LOC8 theft deterrence and location device for automated total stations, fitted. One year of subscription included.
989209	<b>GTS52</b>	LOC8 (2G/3G/4G) theft deterrence and location device for automated total stations with 2G, 3G and 4G network support, fitted. One year of subscription included.
870392	<b>TOP1</b>	TS13 option to enable prism lock
870393	<b>TOP2</b>	TS13 robotic option enabling SpeedSearch and Radio Handle interface
877586	<b>TOP3</b>	TS13 RadioHandle Option
308838	<b>FOK53</b>	Magnification eyepiece, additional eyepiece for increasing telescope magnification to 42x.  Modification ex factory. Can only be ordered with a new instrument.


### 2.2 Calibration and Producer Certificates



812535	Calibration Certificate "Gold", Angle
812536	Calibration Certificate "Gold", A + Dist IR
812539	Calibration Certificate "Gold", A + Dist, IR&RL
812542	Calibration Certificate "Silver", Angle
812543	Calibration Certificate "Silver", A + Dist, IR
812544	Calibration Certificate "Silver", A + Dist, IR&R

-  Calibration Certificate "Blue" (812541) is always included in initial order (myWorld download).
-  For Service Calibration Certificates see Standard Service Products (SSPs) document.

## 3 Leica Captivate Apps & Software Options

-  The following software articles can only be ordered, for TS13 instruments with display (1st face KDU, see chapter 1.3)

### 3.1 Leica Captivate Software for TS

827646	Leica Captivate Measure & Stakeout TS/MS.
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### 3.2 Apps included in Leica Captivate for TS

#### Measure includes:


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



	<b>Setup includes:</b> <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>• Orientation to Line</li> <li>• Orientate to Object</li> </ul>
	<b>Stake points includes:</b> <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>
	<b>COGO includes:</b> <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> <li>• Rectangle</li> </ul>
	<b>Determine coordinate system:</b> <ul style="list-style-type: none"> <li>• 1 step, 2 step, 3D Transformation</li> <li>• All common projections</li> </ul>
	<b>Alignment Editor:</b> <ul style="list-style-type: none"> <li>• Horizontal alignments</li> <li>• Vertical alignments</li> <li>• Cross sections</li> <li>• Chainage equations</li> </ul>
	<b>Data import:</b> ASCII, XML, DXF, DTM, alignments
	<b>Data export:</b> ASCII, Custom, DXF, XML, Style Sheets, FBK, RW5, RAW and local formats


### 3.3 Optional Leica Captivate Software and Apps for TS




 The following apps require a valid license key.

834221	<b>Athletics</b>
827650	<b>Area Division</b>
827651	<b>Stake DTM</b>
827648	<b>Measure and Stake to Line</b>
827649	<b>Measure to Plane / Grid</b>
827653	<b>Check and Stake Road</b>
827654	<b>Check and Stake Tunnel</b>
827655	<b>Check and Stake Rail</b>
827658	<b>Sets of Angles</b>
827652	<b>Volume Calculation</b>
827656	<b>Hidden Point</b>
827657	<b>Traverse</b>
827659	<b>QuickVolume</b>
985499	<b>AP20 H &amp; AP20 ID Support for TS13</b>  Licence needed for re-order only. For initial TS13 orders 985499 is added automatically.
903372	<b>ConX 1y</b>
903373	<b>ConX 2y</b>
903374	<b>ConX 3y</b>
923922	<b>BricSys 24/7 1y</b>
923925	<b>BricSys 24/7 2y</b>
923928	<b>BricSys 24/7 3y</b>



### 3.4 Loadable Leica Captivate applications for TS

 The following apps require a valid license key.

834218	<b>Offset+</b>
834224	<b>Zenith Line</b>
834227	<b>Quick Setup</b>
834229	<b>Auto Setup</b>
836522	<b>Machine Control Guidance</b>
839678	<b>Inspect Surfaces</b>
836669	<b>Tunnel Profile Generator</b>
846826	<b>TPS Survey Streaming</b>
850622	<b>ESRI Shapefile Exporter</b>
834226	<b>Set Orientation</b>
 Can be used without a valid license key.	
847944	<b>Inspect Road</b>
 Requires 839678 Inspect Surfaces.	
847945	<b>Inspect Tunnel</b>
 Requires 839678 Inspect Surfaces.	
847952	<b>Inventory</b>
865657	<b>Compaction Control</b>
867331	<b>Stakeout Auto Points</b>
869755	<b>Structural Steel</b>
944938	<b>Captivate Custom Field Data Export</b>



# Accessories for Total Station

## 4 Power Supply

### 4.1 Internal Batteries



733270	<b>GEB221</b>	Lithium-Ion battery, 7.4V/4.4Ah, rechargeable. To be used with TS13/TS16.
971702	<b>GEB223</b>	Lithium-Ion battery, 7.2V/6.4Ah, rechargeable. To be used with TS13/TS16.

### 4.2 External Batteries



905305	<b>GEB373</b>	External universal battery, Li Ion, 13V, 289 Wh, rechargeable.
807696	<b>GEV270</b>	Power supply unit for TPS/GNSS/DNA. For indoor use only. Input 100-240VAC to output 13.2VDC, with connection for power cables. 👉 Requires a GEV52 or GEV187 cable for Viva TS.

### 4.3 Battery Chargers



799185	<b>GKL311</b>	Single-bay Charger Professional 3000. Charger for one Li-Ion battery (GEB211, GEB212, GEB221, GEB222, GEB223, GEB241, GEB242, GEB243, GEB321, GEB331, GEB333, GEB334, GEB361, GEB363 and GEB364), including AC/DC adaptor and cigarette lighter cable.
799187	<b>GKL341</b>	Multi-bay Charger Professional 5000. Charges up to 4 batteries (GEB211, GEB212, GEB221, GEB222, GEB223, GEB241, GEB242, GEB243, GEB321, GEB331, GEB333, GEB334, GEB361, GEB363 and GEB364), including power cable.
774437	<b>GEV242</b>	Charger for GEB371 / GEB373 external battery.

## 5 Data Storage and Data Transfer

### 5.1 Memory Devices



767856	<b>MSD1000</b>	SD memory card 1GB for Leica Viva TPS and Leica Nova instruments and CS20 field controller, industrial grade.
789139	<b>MSD08</b>	SD memory card 8GB for Leica Viva TPS and Leica Nova instruments and CS20 field controller, industrial grade.
765199	<b>MS1</b>	USB memory stick, 1GB, for Leica Viva TPS and Leica Nova instruments and CS20 field controller, industrial grade.

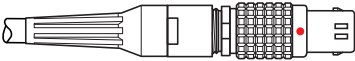

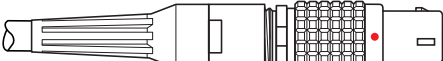

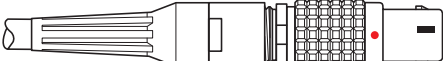

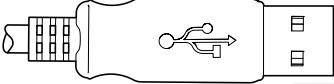

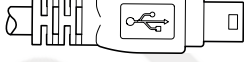

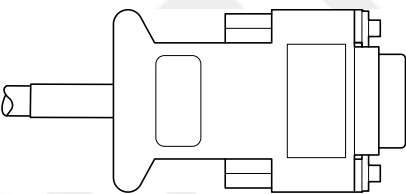
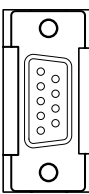
### 5.2 Card Reader



767895	<b>MCR7</b>	Card reader for SD/CF cards.
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## 6 Connectivity

### 6.1 Connector Types

Name	Used on		
Lemo0 5-pin	Leica Viva TPS		
Lemo1 5-pin	Battery / External power		
Lemo1 8-pin	Leica Viva field controllers / Leica Nova TPS		
USB A	PC / Laptop		
USB Mini	Leica Viva TPS		
9-pin RS232 serial	PC / Laptop		

### 6.2 Cables




409678	<b>GEV52</b>	Battery cable, connects Leica Viva Total Stations or DNA Lemo0 5-pin to external battery connector Lemo 1 5-pin.
439038	<b>GEV71</b>	Car battery cable, connects 12V car battery connector to Lemo1 5-pin female.
563625	<b>GEV102</b>	Serial data cable for communication to PC, connects Lemo0 5-pin (instrument) to PC (9-pin RS232 serial), 2m.
734698	<b>GEV187</b>	Serial data Y-cable, connects Lemo0 5-pin connector to PC (9-pin RS232 serial) and external battery (Lemo1 5pin), 2m.
756367	<b>GEV217</b>	Serial data cable for communication between Leica Viva Total Stations and CS10/CS15, connects Lemo0 5-pin to Lemo1 8-pin, 1.8m.
764700	<b>GEV223</b>	Data transfer cable connecting TS to PC, USB Mini connector to USB A.
806093	<b>GEV267</b>	Serial data transfer cable, converter cable USB A to Lemo0 5-pin, connects PC to Leica Viva Total Stations, PC driver included on CD.

## 7 Optical Accessories

### 7.1 Eyepiece



377802	<b>FOK53</b>	Magnification eyepiece, additional eyepiece for increasing telescope magnification to 42x.  Modification in a workshop necessary.
376236	<b>GOK6</b>	Eyepiece for steep sights, with joint allowing variable sighting angle.

### 7.2 Autocollimation Set



199899	<b>GOA2</b>	Autocollimation eyepiece.
394787	<b>GEB62</b>	Plug-in lamp, with cable for autocollimation eyepiece.
394792	<b>GEB63</b>	Battery box for autocollimation eyepiece and eyepiece lamp.

### 7.3 Objective



743504	<b>GVO13</b>	Objective solar filter for TPS instruments.
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## 8 Instrument Height Meter



667718	<b>GHM007</b>	Instrument height meter.
722045	<b>GHT196</b>	Distance holder for height meter.
6010179		Height Meter set including GHM007 Instrument height meter and GHT196 Distance holder for height meter.

## 9 Tribrachs



777508	<b>GDF321</b>	Tribrachs Series 5000, without optical plummet.
777509	<b>GDF322</b>	Tribrachs Series 5000, with optical plummet.
842061	<b>GDF311</b>	Tribrachs Series 3000, without optical plummet.
842062	<b>GDF312</b>	Tribrachs Series 3000, with optical plummet.

## 10 Tripods



296632	<b>GST20</b>	Heavy duty tripod, with side clamp screws, carrying strap and plumb bob.
394752	<b>GST20-9</b>	Heavy duty tripod, with side clamp screws and carrying strap.
667301	<b>GST120-9</b>	Heavy duty tripod, self-closing, with side clamp screws and carrying strap.
332200	<b>GST4</b>	Tripod-star, for setting up tripods on hard and slippery surfaces.

## 11 Reflector Poles

### 11.1 Standard Poles with stub



754391	<b>GLS12</b>	Reflector pole, telescopic to 2.00m with circular bubble, cm graduations.
754389	<b>GLS12F</b>	Reflector pole, telescopic to 2.00m with circular bubble, ft graduations.
766359	<b>GLS31</b>	Reflector carbon-fibre pole with circular bubble and twist lock. Snap-locks at 2.00m, 1.80m and 1.50m for GPS (GNSS) antennas with GAD31 adapter or GRZ122 reflector (SmartPole setup).
913901	<b>GLS51</b>	Telescopic carbon-fibre pole with stub interface, supports AP20 AutoPole product. With circular bubble, twist lock and dedicated snap-lock positions. Minimum length 1.34m, extendable to target height 2.20m, printed scale on extendable and lower tube, graduation in cm.
913902	<b>GLS51F</b>	Telescopic carbon-fibre pole with stub interface, supports AP20 AutoPole product. With circular bubble, twist lock and dedicated snap-lock positions. Minimum length 4.5 ft, extendable to target height 7.0 ft, printed scale on extendable and lower tube, graduation in ft.
385500	<b>GLS11</b>	Reflector pole, telescopic, with circular bubble, cm and ft graduation, extends to 2.15m.
667309	<b>GLS111</b>	Reflector pole, with bull's-eye bubble, cm/ft graduation, extends to 2.60m, with red/white 0.20m graduations.
667310	<b>GLS112</b>	Reflector pole, with bull's-eye bubble, cm/ft graduation, extends to 3.65m, with red/white 0.20m graduations.
555720	<b>GSR2</b>	Dual-strut support for GLS11 plumbing pole.
667319	<b>GSR111</b>	Dual-strut support for all GLS.
403428	<b>GZW12</b>	Extension 1m long, for reflector pole GLS11 and carriers.

### 11.2 Standard Poles with 5/8" screw




913899	<b>CRP4</b>	Telescopic carbon-fibre pole with 5/8" screw thread interface, supports AP20 AutoPole product. With upright circular bubble and upside-down circular bubble, twist lock and dedicated snap-lock positions. Minimum length 1.37m, extendable to target height 2.20m, printed scale both on extendable tube and lower tube, graduation in cm.
913900	<b>CRP5</b>	Telescopic carbon-fibre pole with 5/8" screw thread interface, supports AP20 AutoPole product. With upright circular bubble and upside-down circular bubble, twist lock and dedicated snap-lock positions. Minimum length 4.55 ft, extendable to target height 7.0 ft, printed scale both on extendable tube and lower tube, graduation in ft.



CRP4 and CRP5 only support MPR122 360° reflector with 5/8" screw adapter.

### 11.3 Hidden Point Pole



742329	<b>GMP112</b>	Hidden Point pole extension for GMP111 (mini prism pole set). Includes mini prism with holder and 30cm adapter pole.  Additional GMP111 Mini prim (641 615) required for complete Hidden Point pole set with two prisms.
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### 11.4 Mini Pole



403427	<b>GLS14</b>	Mini reflector pole, (prism/target 20cm over point), with circular bubble.
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## 12 Reflector Carriers



667313	<b>GRT144</b>	Carrier with stub.
874838	<b>SNLL321</b>	Precision carrier, with longitudinal bubble and zenith-nadir laser plummet.
428340	<b>GZR3</b>	Precision carrier, with longitudinal bubble and optical plummet.
725566	<b>GZR103</b>	Carrier, with longitudinal bubble and optical plummet, for reflectors and GPS antenna.
667217	<b>GAD31</b>	Screw-to-stub adapter for fitting GPS antenna on carriers with stub and poles with stub.

## 13 Reflectors

### 13.1 Circular Reflectors



641617	<b>GPR121</b>	Circular prism, with metal holder and target plate.
362830	<b>GPR1</b>	Circular prism, in black housing.
362820	<b>GPH1</b>	Single-prism holder.
400080	<b>GPH3</b>	Three-prism holder.
362823	<b>GZT4</b>	Target plate, for GPH1.

### 13.2 360° Reflectors with stub adapter



754384	<b>GRZ122</b>	360° reflector with 5/8" thread adapter for mounting of GNSS antenna.
639985	<b>GRZ4</b>	360° reflector.
644327	<b>GRZ101</b>	360° mini prism with 1/4" thread fitting. Not supported by PowerSearch.
742006	<b>GAD103</b>	Adapter for attaching GRZ101 to all poles with Leica Geosystems stub.

### 13.3 360° Reflectors with 5/8" screw adapter



756637	<b>MPR122</b>	360° reflector with 5/8" thread adapter for mounting of GNSS antenna and 5/8" screw nut.
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### 13.4 Precision Reflectors



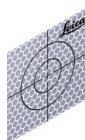
555631	<b>GPH1P</b>	Single-prism precision reflector.
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### 13.5 Mini Reflectors



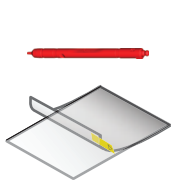
641662	<b>GMP101</b>	Mini prism, incl. bubble, target plate and spike, in bag, also suitable for GLS11/GLS12 and GRT144 (same height as GPH1, additive constant +17.5mm).
641762	<b>GMP104</b>	Mini prism, with L-bar, for fixed installations.

### 13.6 Reflector Tapes



763532	<b>GZM29</b>	Reflective tape, 20x20mm for short range, pack of 20 pieces.
763533	<b>GZM30</b>	Reflective tape, 40x40mm for medium range, pack of 20 pieces.
763534	<b>GZM31</b>	Reflective tape, 60x60mm for long range, pack of 20 pieces.

## 13.7 Pen and Screen Protection Foils



### Extra pen

813914	<b>GDZ71</b>	Pen with tether clip interface for CS20 field controller and TS16/MS60/TS60 instruments.
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### Screen Protection Foil set

813781	<b>SPF05</b>	5" WVGA screen protection foils for CS20 field controller and TS16/MS60/TS60 instruments.
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## 14 Additional Containers



727589	<b>GVP102</b>	Soft bag with shoulder strap, for prism station, consist of tribrach, prism carrier or laser plummet and prism.
833516	<b>GVP716</b>	Backpack carrying systems for all large TPS and GNSS containers.
833517	<b>GVP717</b>	Sidebag for container.
833518	<b>GVP718</b>	Basic backstrap for container.
833519	<b>GVP719</b>	Shoulderstrap for container.
980899	<b>GVP750</b>	Hard container for SmartAntenna, CS Field Controller and accessories for a SmartPole and SmartStation setup.
980900	<b>GVP751</b>	Small-sized hard container for 360° prism and controller for TS Robotic Pole setup.
948752	<b>GVP761</b>	Hard container, for CS20, CS30 and CC200 field controller/tablet including attached holders, 360° prisms and AP20.



# Remote Control

## 15 CS20 Field Controller



971176	<b>CS20</b>	<b>CS20 Basic Field Controller</b> Ruggedized field controller with 5" WVGA touch display, 4GB eMMC Flash Memory, 1GB SDRAM, SD card slot, 5MP rear camera and LED flash. Includes internal Bluetooth/WLAN module, internal TS communication module, QWERTY keypad, stylus.
971177	<b>CS20 LTE</b>	<b>CS20 LTE Field Controller</b> Ruggedized field controller with 5" WVGA touch display, 4GB eMMC Flash Memory, 1GB SDRAM, SD card slot, 5MP rear camera and LED flash. Includes internal Bluetooth/WLAN module, 4G GSM/UMTS/LTE module, internal TS communication module, QWERTY keypad, stylus.
971178	<b>CS20 LTE (US/CA)</b>	<b>CS20 LTE Field Controller (US, CA)</b> Ruggedized field controller with 5" WVGA touch display, 4GB eMMC Flash Memory, 1GB SDRAM, SD card slot, 5MP rear camera and LED flash. Includes internal Bluetooth/WLAN module, 4G GSM/UMTS/LTE module, internal TS communication module, QWERTY keypad, stylus.
876478	<b>CS20 LTE Disto</b>	<b>CS20 LTE Disto Field Controller</b> Ruggedized field controller with 5" WVGA touch display, 4GB eMMC Flash Memory, 2GB SDRAM, SD card slot, 5MP rear camera and LED flash. Includes internal Bluetooth/WLAN module, 4G GSM/UMTS/LTE module, internal TS communication module, integrated Disto-Lasermeter QWERTY keypad, stylus.
876480	<b>CS20 LTE Disto (US/CA)</b>	<b>CS20 LTE Disto Field Controller (US, CA)</b> Ruggedized field controller with 5" WVGA touch display, 4GB eMMC Flash Memory, 2GB SDRAM, SD card slot, 5MP rear camera and LED flash. Includes internal Bluetooth/WLAN module, 4G GSM/UMTS/LTE module, internal TS communication module, integrated Disto-Lasermeter QWERTY keypad, stylus.

### 15.1 CTR20 TS Communication Expansion Pack




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.



6010023		<b>CTR20 expansion pack set</b> TS communication expansion pack set including CTR20 module and GAT25 radio antenna.
808038	<b>CTR20</b>	<b>CTR20 TS communication expansion pack</b> CTR20 TS communication expansion pack with integrated radio module for CS20 3.75G field controller variants. Used to establish long range radio connection between CS20 3.75G field controller and TS Total Stations equipped with RH16. GAT25 radio antenna not included (frequency range 2402 - 2480 MHz).  Requires a GAT25 radio antenna.
812027	<b>GAT25</b>	<b>GAT25 radio antenna for CTR20 module</b> Radio antenna for CTR20 long range TS communication module (frequency range 2402 - 2480 MHz).

## 16 CC200 Tablet



996657	<b>CC200-0-Cap, Tablet, Win 10, EU</b>	<b>CC200-0-Cap Tablet</b> Ruggedized Win10 Tablet PC with 10" screen, EU version, 10-point capacitive multi-touch daylight-readable screen, Intel Core i5-10310U vPro 1.7 GHz with Turbo Boost up to 4.46Hz, 500 GB SSD hard drive, 16 GB SDRAM, Intel® Wi-Fi6 AX201, Bluetooth v5.1, integrated 4G module, Integrated L1 GPS, extended battery (6300 Ah), up to 8 MP camera with autofocus with LED flash, Stylus, AC/DC adaptor and pre-loaded with Captivate.
996658	<b>CC200-1-Cap, Tablet, Win 10, US/CA/MX</b>	<b>CC200-1-Cap Tablet</b> Ruggedized Win10 Tablet PC with 10" screen, US/CA/MX version, 10-point capacitive multi-touch daylight-readable screen, Intel Core i5-10310U vPro 1.7 GHz with Turbo Boost up to 4.46Hz, 500 GB SSD hard drive, 16 GB SDRAM, Intel® Wi-Fi6 AX201, Bluetooth v5.1, integrated 4G module, Integrated L1 GPS, extended battery (6300 Ah), up to 8 MP camera with autofocus with LED flash, Stylus, AC/DC adaptor and pre-loaded with Captivate.
996659	<b>CC200-2-Cap, Tablet, Win 10, JP</b>	<b>CC200-2-Cap Tablet</b> Ruggedized Win10 Tablet PC with 10" screen, JP version, 10-point capacitive multi-touch daylight-readable screen, Intel Core i5-10310U vPro 1.7 GHz with Turbo Boost up to 4.46Hz, 500 GB SSD hard drive, 16 GB SDRAM, Intel® Wi-Fi6 AX201, Bluetooth v5.1, Integrated L1 GPS, extended battery (6300 Ah), up to 8 MP camera with autofocus with LED flash, Stylus, AC/DC adaptor and pre-loaded with Captivate.
996660	<b>CC200-3-Cap, Tablet, Win 10, KR</b>	<b>CC200-3-Cap Tablet</b> Ruggedized Win10 Tablet PC with 10" screen, KR version, 10-point capacitive multi-touch daylight-readable screen, Intel Core i5-10310U vPro 1.7 GHz with Turbo Boost up to 4.46Hz, 500 GB SSD hard drive, 16 GB SDRAM, Intel® Wi-Fi6 AX201, Bluetooth v5.1, Integrated L1 GPS, extended battery (6300 Ah), up to 8 MP camera with autofocus with LED flash, Stylus, AC/DC adaptor and pre-loaded with Captivate.
996661	<b>CC200-4-Cap, Tablet, Win 10, CN</b>	<b>CC200-4-Cap Tablet</b> Ruggedized Win10 Tablet PC with 10" screen, China version, 10-point capacitive multi-touch daylight-readable screen, Intel Core i5-10310U vPro 1.7 GHz with Turbo Boost up to 4.46Hz, 500 GB SSD hard drive, 16 GB SDRAM, Intel® Wi-Fi6 AX201, Bluetooth v5.1, Integrated L1 GPS, extended battery (6300 Ah), up to 8 MP camera with autofocus with LED flash, Stylus, AC/DC adaptor and pre-loaded with Captivate.
996662	<b>CC200-5-Cap, Tablet, Win 10, AUS/NZ</b>	<b>CC200-5-Cap Tablet</b> Ruggedized Win10 Tablet PC with 10" screen, AUS/NZ version, 10-point capacitive multi-touch daylight-readable screen, Intel Core i5-10310U vPro 1.7 GHz with Turbo Boost up to 4.46Hz, 500 GB SSD hard drive, 16 GB SDRAM, Intel® Wi-Fi6 AX201, Bluetooth v5.1, integrated 4G module, Integrated L1 GPS, extended battery (6300 Ah), up to 8 MP camera with autofocus with LED flash, Stylus, AC/DC adaptor and pre-loaded with Captivate.

## 17 CC180 Tablet



1008047	<b>CC180-0 Capt, Tablet, Win 10, EU/AUS/NZ</b>	<b>CC180-0 Capt Tablet</b> Ruggedized Win10 Tablet PC with 8", daylight-readable screen, 800 nits, Intel(R) Pentium(R) Gold 8500 1.0 GHz, 128 GB NVMe PCIe SSD, 8 GB SDRAM, Intel® Wi-Fi 6 AX211, Bluetooth v5.3, USB Type C (Support DP), Multicarrier 4G LTE Mobile Broadband & GPS Combo, extended battery (7200 mAh), 2.0 MP front-facing camera & 8.0 MP auto-focus rear camera with flash, Stylus, AC/DC adaptor and pre-loaded with Captivate.
1008048	<b>CC180-1-Capt, Tablet, Win 10, US/CA</b>	<b>CC180-1 Capt Tablet</b> Ruggedized Win10 Tablet PC with 8", daylight-readable screen, 800 nits, Intel(R) Pentium(R) Gold 8500 1.0 GHz, 128 GB NVMe PCIe SSD, 8 GB SDRAM, Intel® Wi-Fi 6 AX211, Bluetooth v5.3, USB Type C (Support DP), Multicarrier 4G LTE Mobile Broadband & GPS Combo, extended battery (7200 mAh), 2.0 MP front-facing camera & 8.0 MP auto-focus rear camera with flash, Stylus, AC/DC adaptor and pre-loaded with Captivate.

## 18 CS30 Tablet

### 18.1 CS30 Tablet



925660 **CS30 LTE**

#### **CS30 LTE Tablet**

Ruggedized Win10 LTSC 64-bit Tablet Computer including: 7" touch-widescreen, 64 GB eMMC hard drive, 4 GB RAM, WLAN 802.11 b/g/n/a/ac, 3G/4G Integrated Mobile Broadband module, Bluetooth v4.2, 8MP rear camera with flash, 1x GEV228 Power Supply unit, 1x GDZ80 Capacitive Stylus. Captivate pre-loaded.



926415 **CS30 LTE LRBT**

#### **CS30 LTE LRBT Tablet**

Ruggedized Win10 LTSC 64-bit Tablet Computer including: 7" touch-widescreen, 64 GB eMMC hard drive, 4 GB RAM, WLAN 802.11 b/g/n/a/ac, 3G/4G Integrated Mobile Broadband module, Bluetooth v4.2, 8MP Rear camera with flash, CTR30 Long-Range Bluetooth Module, 1x GEV228 Power Supply unit, 1x GDZ80 Capacitive Stylus.

### 18.2 GKP100 Keypad



995129 **GKP100**

#### **GKP100 Keypad**

GKP100, Leica Captivate keypad.




Please refer to the Leica Captivate Controller Equipment list for CS20 / CS3x and CCx related options and accessories.

# Accessories for Remote Control

## 19 RadioHandle



922840	<b>RH18</b>	RadioHandle with two integrated Bluetooth modules and radio antenna. Supports Bluetooth low energy for AP20 AutoPole with Tilt Compensation. Used as radio modem for Leica total stations running Leica Captivate field software. Establishes communication to field controller CS20/30/35 or with/without CTR20/30/35 Bluetooth stick or external radio modem TCPS29/TCPS30. Frequency range 2402 - 2480 MHz.  fulfils EN 300 328 V.1.8.1.
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## 20 AP20 AutoPole

### 20.1 Models



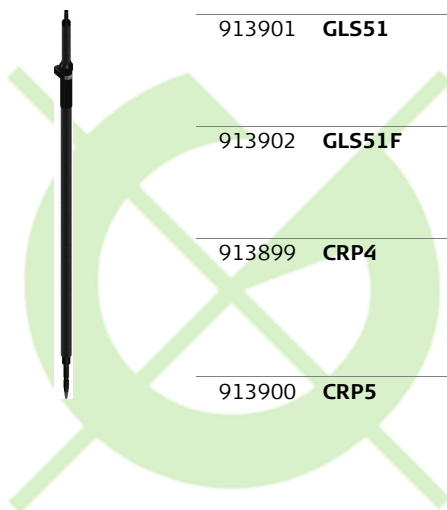
922835	<b>AP20 H</b>	AutoPole AP20 H with PoleHeight module ensures to automatically detect and apply target height to paired field SW.
922836	<b>AP20 ID</b>	AutoPole AP20 ID with TargetID module ensures to find and measure your target, wirelessly connected to your automated total station.

### 20.2 Internal Battery



898414	<b>GEB321</b>	Lithium-Ion battery, 7.2 V/3.35 Ah, rechargeable. To be used with AP20 AutoPole.
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### 20.3 Reflector poles for AP20



913901	<b>GLS51</b>	Telescopic carbon-fibre pole with stub interface, supports AP20 AutoPole. With circular bubble, twist lock and dedicated snap-lock positions. Minimum length 1.34 m, extendable to target height 2.20 m, printed scale on extendable and lower tube, graduation in cm.
913902	<b>GLS51F</b>	Telescopic carbon-fibre pole with stub interface, supports AP20 AutoPole. With circular bubble, twist lock and dedicated snap-lock positions. Minimum length 4.5 ft, extendable to target height 7.0 ft, printed scale on extendable and lower tube, graduation in ft.
913899	<b>CRP4</b>	Telescopic carbon-fibre pole with 5/8" screw thread interface, supports AP20 AutoPole. With upright circular bubble and upside-down circular bubble, twist lock and dedicated snap-lock positions. Minimum length 1.37 m, extendable to target height 2.20 m, printed scale both on extendable tube and lower tube, graduation in cm.
913900	<b>CRP5</b>	Telescopic carbon-fibre pole with 5/8" screw thread interface, supports AP20 AutoPole. With upright circular bubble and upside-down circular bubble, twist lock and dedicated snap-lock positions. Minimum length 4.55 ft, extendable to target height 7.0 ft, printed scale both on extendable tube and lower tube, graduation in ft.

## 20.4 AP20 Reflector poles accessories



806685	<b>CRP10</b>	Construction Pole Tip, hard metal, prism height 0.200 m with MPR122 and 0.228 m with GRZ122.
806687	<b>CRP11</b>	Construction Pole Plate, tiltable plate, prism height 0.200 m with MPR122 and 0.228 m with GRZ122.
817344	<b>CRP12</b>	Center Punch Tip for all CRP poles, hard metal tip. Works on concrete, metal, wood. Prism height 0.200 m with MPR122 and 0.228 m with GRZ122.
817345	<b>CRP13</b>	Adapter for fixing CRP10, CRP11, CRP12 to feet scale CRP and GLS poles.
820845	<b>CRP14</b>	Handle with circular bubble, fits all CRP / GLS poles with 5/8" thread interface. or MPR122 / GRZ122 prisms.
977379	<b>GLS52</b>	Carbon pole extension, length 1m, with 5/8" thread interface
964869	<b>GAD20</b>	Sleeve for AP20 to mount AP20 ID onto GLS12 / GLS12F reflector poles.

# HxGN GeoCloud

## 21 GeoCloud Drive



GeoCloud Drive is a data transfer and cloud storage service from the HxGN GeoCloud service suite. The GeoCloud Drive provides flexible access to your data from anywhere at any time.

979637	<b>GeoCloud Drive Trial 30d</b>	GeoCloud Drive Trial 30d. License to start a cloud storage Trial account within the HxGN GeoCloud portal. The Trial runs for 30 days and includes 25GB cloud storage and 5 users.
5311646	<b>GeoCloud Drive Subscription 1yr</b>	GeoCloud Drive Subscription 1yr. Yearly subscription for a cloud storage on the HxGN GeoCloud. The subscription includes 25GB storage and 1 user.
5311647	<b>GeoCloud Drive add User Subscription 1yr</b>	GeoCloud Drive add User Subscription 1yr. Yearly subscription to extend a cloud storage on the HxGN GeoCloud by 1 user and 25GB storage.
5311648	<b>GeoCloud Drive add Data Subscription 1yr</b>	GeoCloud Drive add Data Subscription 1yr Yearly subscription to extend a cloud storage on the HxGN GeoCloud by 100GB.



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# Care Packages

## 22 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 & Technical Data

## 23 Trademarks

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## 24 Technical Data

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**Guide light (EGL):**

LED class 1 in accordance with IEC 60825-1 resp. EN 60825-1

**Distance meter (Prism), ATR and SpeedSearch:**

Laser class 1 in accordance with IEC 60825-1 resp. EN 60825-1

**Laser plummet:**

Laser class 2 in accordance with IEC 60825-1 resp. EN 60825-1

**Distance meter (Non-Prism):**

Laser class 3R in accordance with IEC 60825-1 resp. EN 60825-1



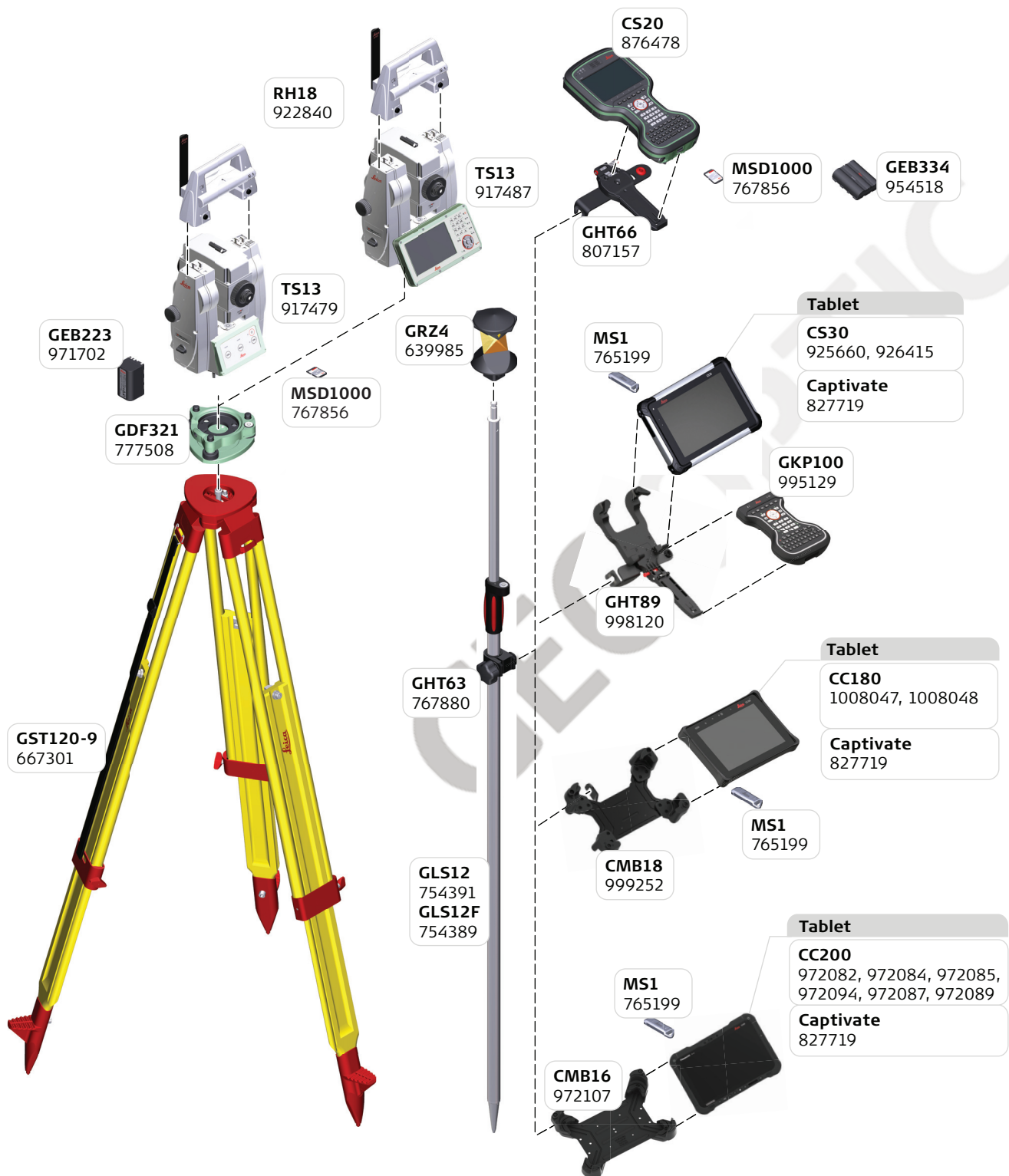
# Suggested Equipment Setups

## 25 Conventional Surveying

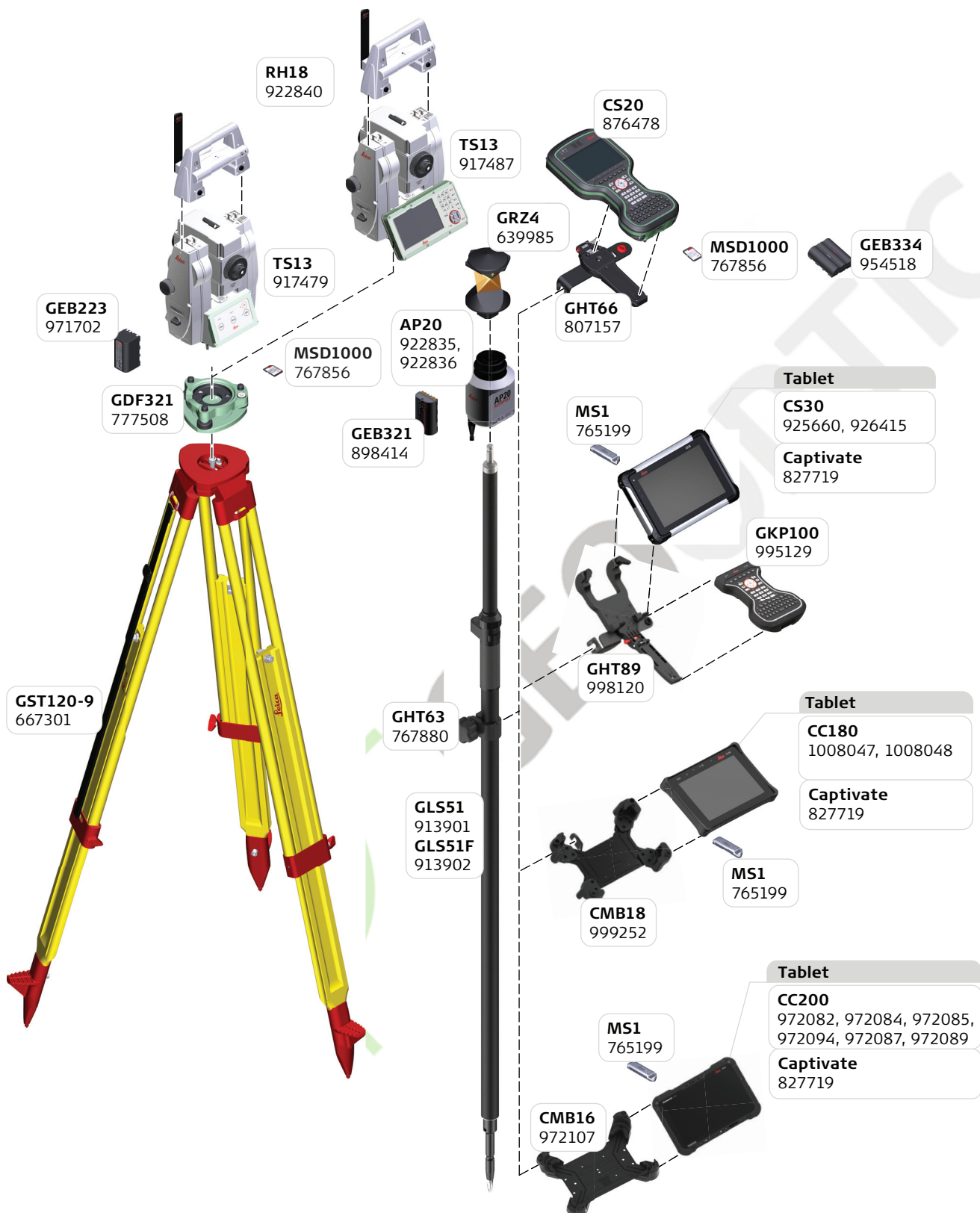
### 25.1 Two Person Surveying using a TS13 Total Station



## 25.2 Robotic Surveying using a TS13 Total Station and Field Controller/Tablet

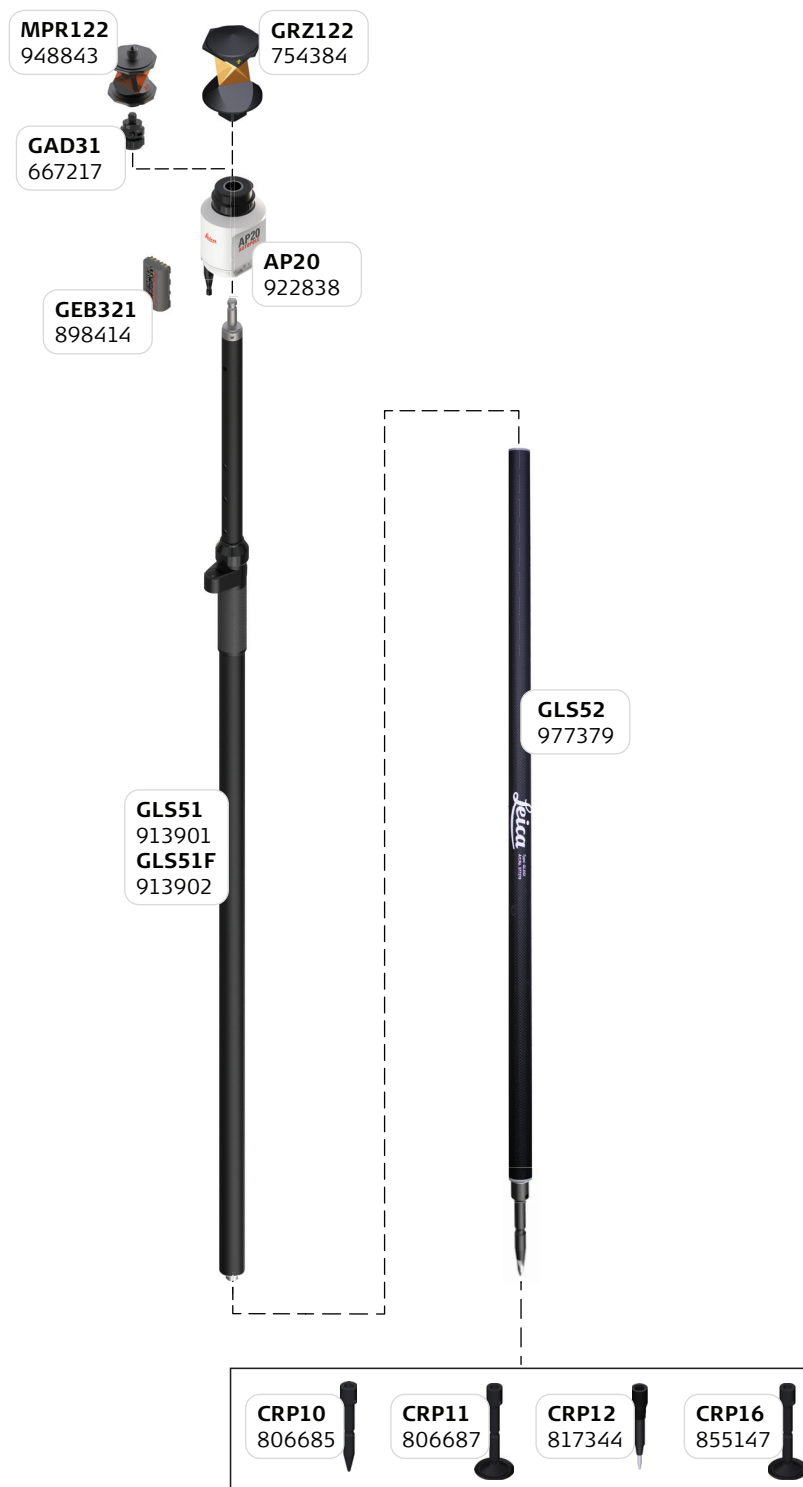


### 25.3 Robotic Surveying using a TS13, AP20 and Field Controller/Tablet



## 26 AP20 Pole configurations

### 26.1 GLS51/GLS51F Setup with 1m extension and various tips



Revolutionising the world of measurement and survey for nearly 200 years, Leica Geosystems is the industry leader in measurement and information technologies. We create complete solutions for professionals across the planet. Known for innovative product and solution development, professionals in a diverse mix of industries, such as surveying and engineering, building and heavy construction, safety and security, and power and plant trust Leica Geosystems for all their geospatial needs. With precise and accurate instruments, sophisticated software, and trusted services, Leica Geosystems delivers value every day to those shaping the future of our world.

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- when it has to be **right**

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