

Leica TS30 and TM30 Equipment List



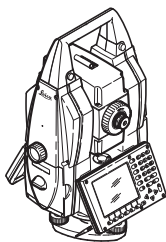
- when it has to be right

Leica
Geosystems

TS30 and TM30 Equipment List

1 Total stations

1.1 Models



Angle measurement
Distance measurement (IR-Mode)
Dist. meas. without reflector (RL-Mode)
Motorised
Automatic Target Recognition (ATR)
PowerSearch (PS)
Guide Light (EGL)
Remote Control (RX1250Tc)
SmartStation (ATX1230+ GNSS)

TS30	TM30
●	●
●	●
●	●
●	●
●	●
●	●
●	●
○	○
○	○

● Standard
 ○ Optional

1.2 Angular Accuracies

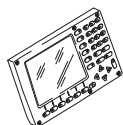
	TS30	TM30
0,5" (0,15mgon)	757 130	757 129
1" (0,3mgon)	-	764 824

TS30 total stations are delivered with two keyboards with touch screen, Communication side cover, internal memory 256 MB, standard applications, user manual and upright container GVP648.

TM30 total stations are delivered with one keyboard with touch screen, Communication side cover, internal memory 256 MB, standard applications, user manual and upright container GVP648.

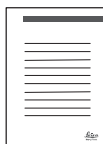
2 Additional Options

2.1 Touch Screen / Second Keyboard



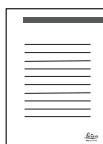
769 992 GTS23, 2nd keyboard with touch screen and colour display, for TPS1200+/TM30 instruments, for telescope position 2, fitted.

2.2 Producer Certificates



366 358 Producer Certificate O
 559 655 Producer Inspection Certificate M, angle
 663 177 Producer Inspection Certificate M, distance with reflector EDM.
 366 359 Producer Inspection Certificate M, angle and distance with reflector EDM.
 723 945 Producer Inspection Certificate M, distances with both reflector and reflectorless EDM.
 723 946 Producer Inspection Certificate M, angle and distances with both reflector and reflectorless EDM.

2.3 Calibration Certificates



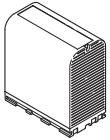
757 424 Calibration Certificate - nat. accredited Calibration Laboratory, total stations, angle, TPS400/800/FlexLine/TPS1200+/TPS2000/TM30/TS30.
 757 425 Calibration Certificate - nat. accredited Calibration Laboratory, total stations, angle and distance IR, TPS400/800/FlexLine/TPS1200+/TPS2000/TM30/TS30.

3 TS30 Accessory Set

6003186 TS30 Accessory Set, consisting of: GDF121 tribrach, 2 GEB241 Batteries, GKL221 Charger with 2 GDI221 charging adapters, MCF256 CompactFlash card 256MB, GEV218 Data transfer cable Lemo1 / USB.

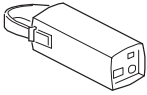
4 Power Supply

4.1 Internal Battery



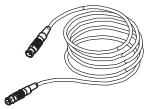
754 834 GEB241, Lithium-Ion battery, 4.8Ah, rechargeable, for TM30/TS30.

4.2 External Batteries



727 367 GEB171, External universal battery, NiMH, 12V/9Ah, rechargeable.
749 279 GEV208 External power supply unit

4.3 Battery Cables



758 469 GEV219, 1.8m power cable, connects external battery GEB171 to TM30/TS30 instrument.
439 038 GEV71, Car battery cable 4m, to connect 12V car battery.
759 257 GEV220, Y-cable, connects TM30/TS30 to PC (9-pin RS232 serial) and external battery, 2m.

4.4 Battery Chargers



733 271 GKL221, Charger PRO. To be used with up to two charging adapters GDI221 or GDI222, Charger cable and net adapter included.
733 323 GDI221, Adapter for GKL221 for charging 2 Li-Ion batteries GEB241, GEB221, GEB211.
734 389 GDC221, Car adapter for the GKL221 charger. Allows the use of the GKL221 with a cigarette lighter; 12V24V DC/DC Converter.

5 Data Storage and Data Transfer

5.1 CompactFlash Card



733 257 MCF256, CompactFlash card 256MB
745 995 MCF1000, CompactFlash card 1GB

5.2 Card reader / Adapter



733 259 MCR5, Card reader for CompactFlash card
733 258 MCFAD1, CompactFlash PC Card adapter

5.3 Data Transfer Cables



758 468 GEV218, Data transfer cable, Lemo to USB connector (incl. USB electronics), 2.0m. Connects TM30/TS30 to PC for data transfer. PC driver and user manual included on CD.
733 282 GEV162, 2.8m Data transfer cable. Connects GPS1200+ Receiver RX Controller Port or TM30/TS30 to PC for data transfer, firmware upload etc. Lemo to 9 pin RS232 serial connector.
759 257 GEV220, Y-cable, connects TM30/TS30 to PC (9-pin RS232 serial) and external battery, 2m.
771 057 GEV236, Y-cable, connects TM30/TS30 to TCPS radio and external battery, 2m.

6 Application Programs & Software Options

6.1 Standard Applications

Setup includes

- Get station coordinates from GPS, from job or enter manually
- Orientation by Known Azimuth
- Orientation by Known Backsight
- Orientation & Height Transfer to up to 10 target points
- Resection to up to 10 target points
- Resection Helmert
- Local Resection

Survey includes

- AutoPoint recording
- Remote Heights
- Target Offset calculations

Stakeout

COGO includes

- Inverse
- Traverse
- Intersections
- Line Calculations
- Arc Calculations
- Shift, Rotate & Scale (Manual)
- Shift, Rotate & Scale (Match Pts)
- Area Division (option)

Determine Coordinate System

GPS Survey

6.2 Optional Applications

for TS30/TM30	for RX1250	
734 167	745 592	Reference Line
734 181	745 597	Reference Plane
742 442	754 745	Hidden Point
734 168	754 742	Sets of Angles
744 701	754 743	Monitoring (requires Sets of Angles)
734 170	754 744	Traverse
765 559	765 560	Traverse Adjustment (requires Traverse)
734 169	745 596	DTM Stakeout (requires Stakeout)
748 188	748 838	Area Division (requires COGO)
748 187	748 837	Volume Calculation
748 186	748 836	Cross Section
734 182	745 598	RoadRunner
746 388	753 663	RoadRunner Rail
744 866	757 295	Athletics
742 591	-	Road Runner Tunnel
752 691	752 732	DXF Import (free)
737 844	745 599	Alignment Tool Kit (free)
760 346	760 366	DXF Exporter
763 403	763 405	Land XML

6.3 Software Options

734 754	GeoCOM Robotics License
765 231	GeoCOM Imaging License for TM30/TS30
754 746	Smart Pole License
752 656	GPS Raw Data logging License
752 873	GLONASS Option for SmartWorx TPS
766 717	Galileo option for SmartWorx TPS total stations (SmartStation).
768 424	GPS L5 for SmartWorx TPS series total stations (SmartStation).
6002648	Pre-Signal Bundle for SmartWorx TPS total stations (SmartStation), consists of GLONASS option, GPS L5 option and Galileo option.

6.4 Software Options for RX1250

747 322	RX1250 GPS Survey functionality
756 625	RX1250 extended OWI/LB2 remote control
754 746	RX1250 "SmartPole" Licence
757 641	RX1250 GPS RTK RX1250 GPS RTK Software upgrade from SmartPole Licence functionality (754 746) to GPS Survey functionality (747 322).
751 186	GLONASS option for GX1230 GG, GX1220 GG, GX1230+ GNSS, GX1220+ GNSS and RX1250 Controllers. Without GLONASS option, GLONASS is only enabled each Wednesday.
766 716	Galileo option for GX1220+ GNSS, GX1230+ GNSS and RX1250 Controllers.
768 423	GPS L5 option for GX1220+ GNSS, GX1230+ GNSS and RX1250 Controllers.
6002647	Pre-Signal Bundle for GX1220+ GNSS, GX1230+ GNSS and RX1250 Controllers, consists of GLONASS option, GPS L5 option and Galileo option.

7 Optical Accessories

7.1 Eyepiece



- | | |
|---------|--|
| 377 802 | Eyepiece FOK53, additional eyepiece (modification in a workshop necessary). |
| 734 514 | GFZ3 Diagonal eyepiece for telescope |
| 376 236 | Eyepiece for steep sights GOK6, with joint allowing variable sighting angle. |

7.2 Autocollimation Set

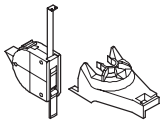
- | | |
|---------|--|
| 199 899 | GOA2, Autocollimation eyepiece |
| 394 787 | GEB62, Plug-in lamp, with cable for Autocollimation eyepiece. |
| 394 792 | GEB63, Battery box for autocollimation eyepiece and eyepiece lamp. |

7.3 Objective



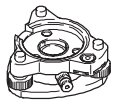
- | | |
|---------|--------------------------------------|
| 743 504 | GVO13 Objective solar filter for TPS |
|---------|--------------------------------------|

8 Instrument Height Meter



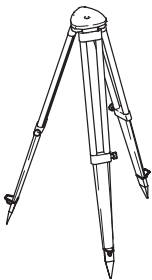
- | | |
|---------|---|
| 667 718 | GHM007 Instrument height meter |
| 722 045 | GHT196 Distance holder for height meter |

9 Tribrachs



- | | |
|---------|---|
| 667 304 | GDF121 Tribrach, without optical plummet, pale green. |
| 667 307 | GDF122 Tribrach, with optical plummet, pale green. |

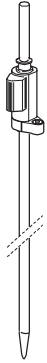
10 Tripods



- | | |
|---------|--|
| 296 632 | Tripod GST20, telescopic, with accessories |
| 394 752 | Tripod GST20-9, telescopic, with accessories, without pouch. |
| 667 301 | Tripod GST120-9, telescopic, selfclosing, with accessories, without pouch. |
| 332 200 | Tripod-star GST4, for setting up tripods on hard and slippery surfaces. |

11 Reflector Poles

11.1 Standard poles

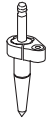


385 500	Reflector pole GLS11, telescopic, with circular bubble, cm and ft graduation, extends to 2,15m.
555 720	Dual strut support GSR2 for GLS11/GLS11K plumbing pole.
403 428	GZW412 Extension 1m long, for reflector pole GLS11 and carriers.
667 309	GLS111 Reflector pole, with bull's-eye bubble, cm/ft graduation, extends to 2.60m, with red/white 0.20m graduations.
667 310	GLS112 Reflector pole, with bull's-eye bubble, cm/ft graduation, extends to 3.65m, with red/white 0.20m graduations.
667 319	Dual-strut support GSR111, for all GLS
754 391	GLS12, Reflector pole, telescopic to 2.00m with circular bubble, cm graduations.
754 389	GLS12F, Reflector pole, telescopic to 2.00m with circular bubble, ft graduations.

11.2 Hidden Point Pole

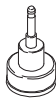
742 329	GMP112, Hidden Point pole extension for GMP111. Includes miniprism with holder and 30cm adapter pole.
744 495	GMP112-0, Hidden Point pole extension for GMP111-0. Includes one miniprism and one 30cm adapter pole.

11.3 Mini pole



403 427	Mini reflector pole GLS14, (prism/target 20cm over point), with circular bubble.
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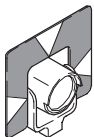
12 Reflector Carriers



667 313	GRT144 Carrier with stub, pale green
667 316	SNLL121 Precision carrier, with plate level and zenith-nadir laser plummet.
428 340	GZR3 Precision carrier, with plate level and optical plummet.

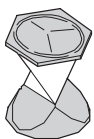
13 Reflectors

13.1 Circular Reflectors



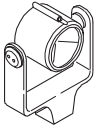
641 617	Circular prism GPR121 PRO, with holder and target plate
362 830	Circular prism GPR1, in container
362 820	Single-prism holder GPH1
362 823	Target plate GZT4, for GPH1
400 080	Three-prism holder GPH3

13.2 360° Reflectors



639 985	GRZ4 360° Reflector
754 384	GRZ122 360° Reflector with 5/8" thread adapter for mounting of GPS antenna
644 327	GRZ101, 360° Mini Prism with 1/4" thread fitting
742 006	GAD103, Adapter for attaching GRZ101 to all poles

13.3 Precision Reflectors



555 631 Single-prism precision reflector GPH1P

13.4 Mini Reflectors



641 662 Mini prism GMP101, incl. bubble, target plate and spike, in bag, also suitable for GLS11 and GRT44 (same height as GPH1, additive constant +17.5mm).

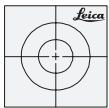
641 762 Mini prism GMP104, with L-bar, for fixed installations.

641 615 Mini prism GMP111 BASIC, incl. bubble, with GLS115 pole set.

642 534 Mini prism 0-Constant GMP111-0 BASIC, incl. bubble, with GLS115 pole set.

743 503 GAD105 Adapter for GMP111 to all poles

13.5 Reflector Tapes



733 327 GZM28, Reflective tape for EDM measurements only, 60x60mm.

763 532 GZM29, Reflective Tape, 20x20mm for short range, pack of 20 pieces.

763 533 GZM30, Reflective Tape, 40x40mm for medium range, pack of 20 pieces.

763 534 GZM31, Reflective Tape, 60x60mm for long range, pack of 20 pieces.

14 Additional Containers

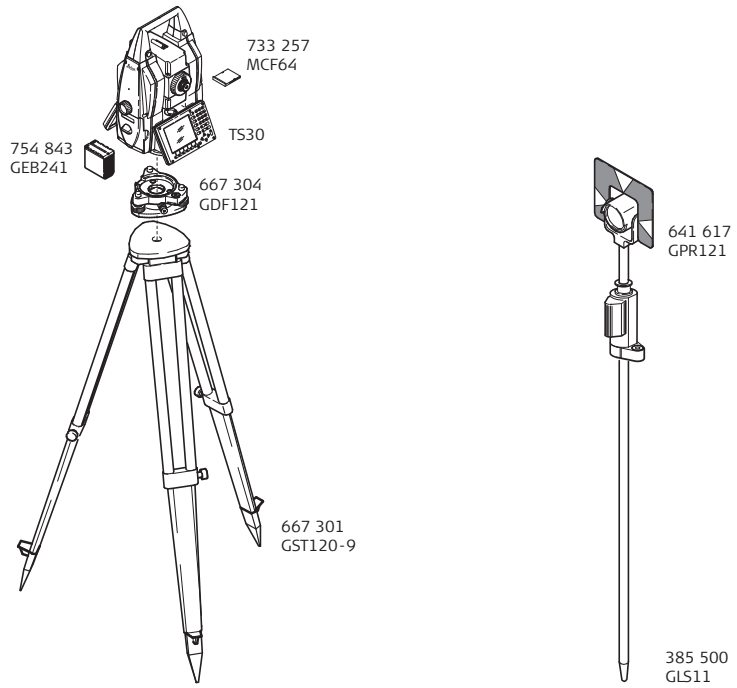
754 598 GVP640, Hard container for System1200 SmartRover, SmartPole, RX1250 and SmartStation.

744 501 GDZ66 Backstraps (2) for container.

667 451 Container GVP609, for 2 Circular prisms GPH111/ 121, 2 Laser plummet and 2 tribrachs.

727 589 CTC102, Soft bag with shoulder strap, for prism station, consist of tribrach, prism carrier or laser plummet and prism.

14.1 Conventional Surveying - Suggested Equipment



15 Remote Control RX1250Tc

15.1 Remote Control Sets

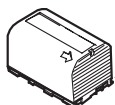
6000495 Advanced RX1250Tc Set for TPS1200+ and TS30, consisting of: RX1250Tc Controller with integrated radio modem, GHT39 pole holder with GHT52 clamp, RH1200 RadioHandle, 2 GEB211 Batteries.

15.2 RX1250Tc Controller



752 848 RX1250 Tc, WinCE System 1200 Controller with integrated radio modem, battery compartment, CF card slot, touch screen, colour display, alpha keyboard, 2 x stylus for touch screen, user manual and container. Can be used as TPS1200+ / TS30 remote control.

15.3 Internal Battery



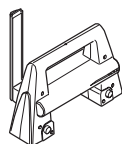
733 269 GEB211, Lithium-Ion battery, 7.4V/2.2Ah, rechargeable. To be used with RX1250Tc.
733 270 GEB221, Lithium-Ion battery, 7.4V/4.4Ah, rechargeable

15.4 RX1200 Accessories



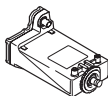
733 264 GHT39, Holder for attaching RX1200 Series Controller
742 007 GHT52, Clamp arrangement for attaching the GHT39 to all poles (except mini poles).
733 266 GHT41, Hand strap for RX1200 Series Controller with utility hook for attaching to belt or tripod.
747 096 GHT56, Holder for attaching RX Controller Series and GFU modem housing to all poles (except minipoles).

15.5 RH1200 RadioHandle



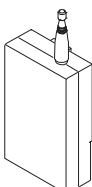
741 964 RH1200, RadioHandle with integrated radio modem, with antenna, user manual. Used as radio modem for TPS1200+ and TS30 / TM30 together with RX1250Tc or TCPS27 (frequency range 2400-2483 MHz).

15.6 GFU23 Radio Modem



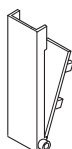
747 097 GFU23, TPS1200+ Radio modem for GHT56 (frequency range 2400 - 2483 MHz).
747 815 GAT15, Radio antenna for GFU23, (frequency range 2400 - 2483 MHz).

15.7 TCPS27 Radio Modem



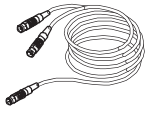
734 161 TCPS27 B, radio modem (base), with antenna, user manual. Used as radio modem for TPS1200+ / TS30 / TM30 (frequency range 2400 - 2483 Mhz).
734 162 TCPS27 R, radio modem (remote), with antenna, user manual. Used as external radio for RX1210 controller (frequency range 2400 - 2483 MHz).

15.8 TCPS27 Accessories



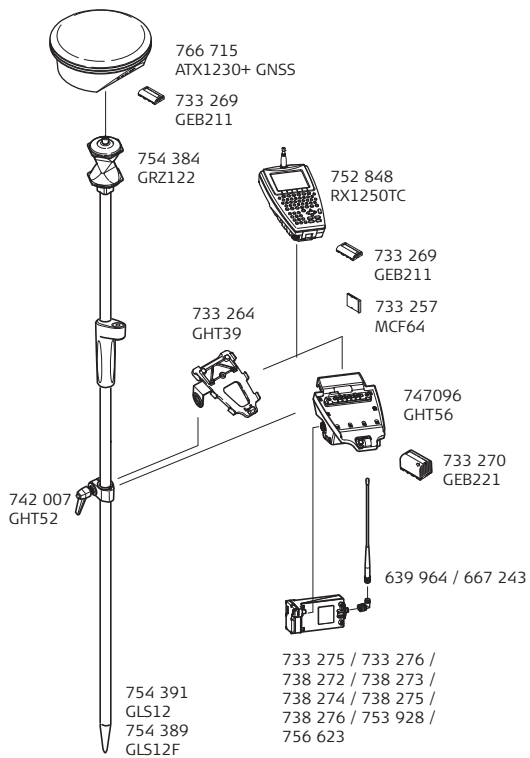
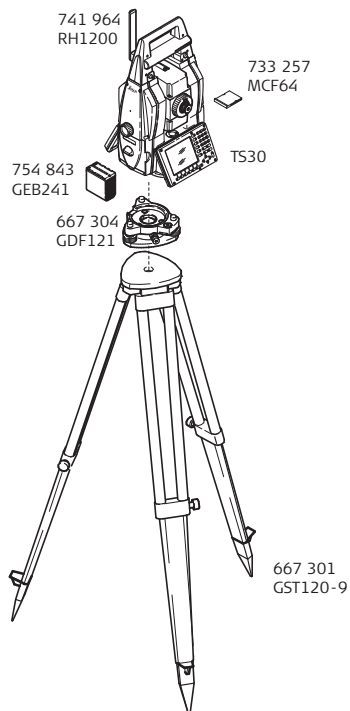
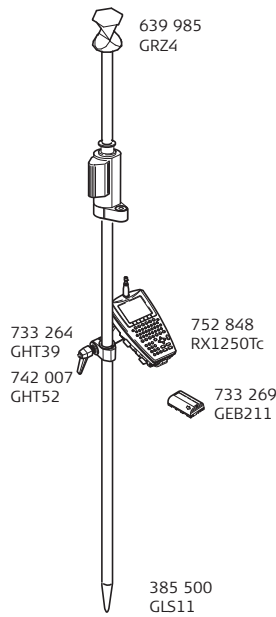
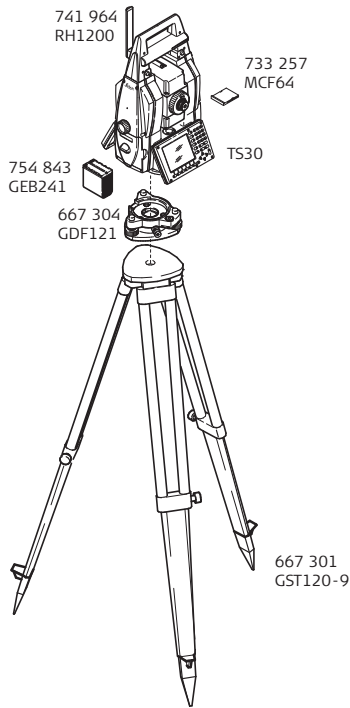
734 163 GHT43, Adapter for mounting TCPS26/27 on GST20/GST120 tripod.

15.9 TCPS27 Cables



771 057 GEV236, Y-cable, connects TM30/TS30 to TCPS radio and external battery, 2m.

15.10 Robotic Surveying - Suggested Equipment



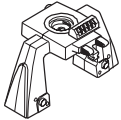
16 SmartStation (ATX1230+ GNSS)

16.1 ATX1230+ GNSS SmartAntenna



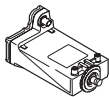
- 766 715 ATX1230+ GNSS, GPS/ GLONASS/Galileo Triple Frequency Antenna for RX1250. Can also be used with TPS1200+/TS30/TM30 instruments for SmartStation and SmartPole setup. Bluetooth capable. Note: For full GLONASS use, GPS L5 functionality or Galileo functionality, the respective software options need to be ordered accordingly.

16.2 SmartAntenna Adapter



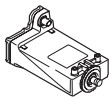
- 741 965 GAD104, SmartAntenna Adapter. Required to attach SmartAntenna and/or radio modem in GFU14 housing onto TPS1200+. Requires communication side cover.

16.3 Satellite Radio Modems



- 733 275 GFU14-0, Sateline 3AS radio modem (433.525 MHz, 25.0 kHz channel spacing, 0.5 W) already intergrated into housing, fits on side of GPS Receiver. (User manual and CE-Declaration of Conformity included).
- 733 276 GFU14-1, Sateline 3AS radio modem (406.425 MHz, 25.0 kHz channel spacing, 1.0 W) already intergrated into housing, fits on side of GPS Receiver. (User manual and CE-Declaration of Conformity included).
- 738 272 GFU14-2, Sateline 3AS radio modem (445.000 MHz, 12.5 kHz channel spacing, 1.0 W) already intergrated into housing, fits on side of GPS Receiver. (User manual and CE-Declaration of Conformity included).
- 738 273 GFU14-3, Sateline 3AS radio modem (443.000 MHz, 12.5 kHz channel spacing, 1.0 W) already intergrated into housing, fits on side of GPS Receiver. (User manual and CE-Declaration of Conformity included).
- 738 274 GFU14-4, Sateline 3AS radio modem (440.550 MHz, 25.0 kHz channel spacing, 0.5 W) already intergrated into housing, fits on side of GPS Receiver. (User manual and CE-Declaration of Conformity included).
- 738 275 GFU14-5, Sateline 3AS radio modem (458.150 MHz, 12.5 kHz channel spacing, 1.0 W) already intergrated into housing, fits on side of GPS Receiver. (User manual and CE-Declaration of Conformity included).
- 738 276 GFU14-6, Sateline 3AS radio modem (439.8625 MHz, 12.5 kHz channel spacing, 1.0 W) already intergrated into housing, fits on side of GPS Receiver. (User manual and CE-Declaration of Conformity included).
- 753 928 GFU14-7, Sateline 3AS radio modem (464.5000 MHz, 25.0 kHz channel spacing, 1.0 W) already intergrated into housing, fits on side of GPS Receiver.
- 756 623 GFU14-8, Sateline 3AS radio modem (458.6000 MHz, 25.0 kHz channel spacing, 0.5 W) already intergrated into housing, fits on side of GPS Receiver.
- 733 297 GEV171, 1.8m cable to program the Sateline 3AS radio modem inside the GFU14 housing.

16.4 Pacific Crest Radio Modems

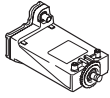


Pacific Crest Radio Modems must be ordered directly from your local Pacific Crest Office or Representative.

PDL receive only modems built into the Leica GFU radio housing with 12.5 or 25kHz channel spacing within the following frequency bands are available:

- 410 - 430MHz
- 430 - 450MHz
- 450 - 470MHz
- 223 - 235MHz

16.5 Mobile Phones



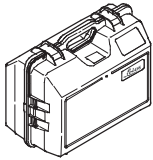
- 750 242 GFU24, Housing with Siemens MC75 GSM/GPRS Module (Quad-Band GSM 850/900/1800/1900 MHz), fits on side of GX1200 Receiver or GHT56 for the SmartRover.
- 750 243 GFU25, CDMA cellular phone for Canada, Multitech MTMMC-C-N12 for Bell Mobility network, integrated into housing, fits on side of GX1200 Receiver or GHT56 for the SmartRover.
- 744 754 GFU19, US CDMA cellular phone Multitech MTMMC-C; integrated into housing, fits on side of GPS1200 receiver.
- 760 557 GFU26, US CDMA cellular phone Multitech MTMMC-C-N14 for Alltel network, integrated into housing, fits on side of GX1200 receiver or GHT56 for the SmartRover.

16.6 Antennas für Radios and Mobile Phones



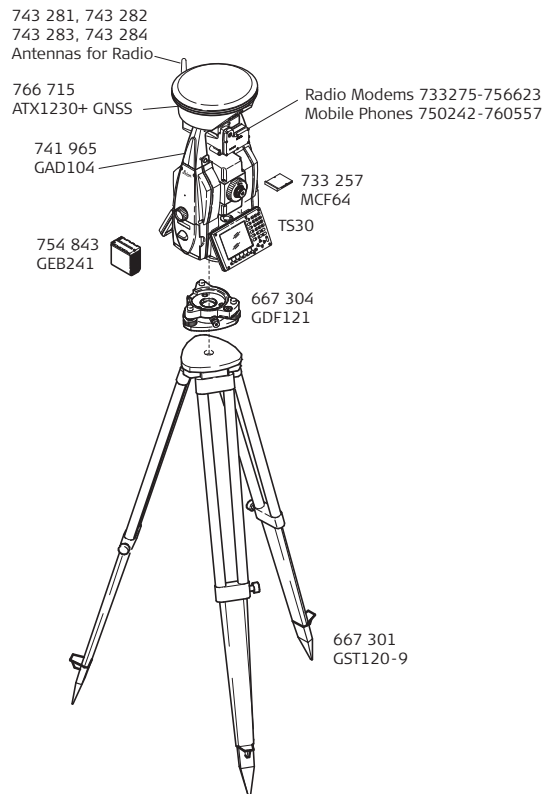
- 743 281 GAT1201, Antenna for Radio Modem for use with SmartStation (400-435MHz).
- 743 282 GAT1202, Antenna for Radio Modem for use with SmartStation (435-470MHz).
- 743 283 GAT1203, Antenna for 900/1800MHz mobile network for use with SmartStation.
- 743 284 GAT1204, Antenna for US mobile network (800/1900MHz) for use with SmartStation.

16.7 Container for ATX1230+ GNSS SmartAntenna and SmartStation Accessories



- 754 598 GVP640, Hard container for System1200 SmartRover, SmartPole, RX1250 and SmartStation.

16.8 SmartStation - Suggested Equipment



17 Leica Geo Office

17.1 Leica Geo Office Software

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

17.2 Software Protection Keys for additional options

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

17.3 GPS Options

734 718 L1 data-processing for GPS, for code and phase, protected option.
734 719 L1/L2 data-processing for GPS, for code and phase, protected option.
752 697 GLONASS data-processing for LGO, protected option.
Can only be ordered in addition to L1/L2 data-processing for GPS (734719).
734 720 RINEX Import for GPS, protected option
734 721 Upgrade from GPS L1 to GPS L1/L2 data-processing.

17.4 Level Options

734 722 Level data processing and analysis, protected option.
734 723 Design & Adjustment 1D for level data, protected option.

17.5 General Options

734 724 Datum & Map transformation, protected option.
734 725 Design & Adjustment 3D, protected option.
734 726 GIS/CAD Export, protected option
734 727 Upgrade from Design & Adjustment 1D to 3D
756 941 Surfaces & Volumes, protected option

17.6 Upgrades to Leica Geo Office

734 728 Upgrade from LevelPak-Pro to Leica Geo Office.
734 729 Upgrade from SKI-Pro including protected options to Leica Geo Office.

18 Customer Care Packages



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

Whether you want to survey a skyscraper or a tunnel, monitor the movements of a volcano or objects on a construction site – you need reliable data. Leica Geosystems offers a complete portfolio of innovative solutions for precise surveying that deliver unprecedented accuracy, quality and performance. With Leica Geosystems no task is too challenging, leverage your professional imagination to success.

Leica Geosystems' customers benefit from service and support that spans time zones and geography. With true partnerships – it's our commitment to continue to provide the level of support and collaboration you have come to expect when you put your trust in Leica Geosystems.

When it has to be right.

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Total Quality Management – our commitment to total customer satisfaction.

Ask your local Leica Geosystems dealer for more information about our TQM program.

Distance meter (Prism), ATR and PowerSearch:

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



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