



GS14 Base and Rover Set Up

First, turn on and set up the Base receiver BEFORE you turn on the controller. Once the Base is running, start Smartworx.

Once Smartworx starts, from the Main Menu, select GO TO WORK, and then GO TO BASE MENU to enter the Base Menu



From the Base Menu, select INSTRUMENT, then BASE CONNECTIONS, and then CONNECT TO BASE. In the Connect to Base Sensor menu you should see the ID of your other base. To find the new base tap SEARCH.

| Instrument | Base Connections | Connect to Base Sensor > Sensor: GS14 • Connection using: Bluetooth • Last used base: GS2804775 Bluetooth ID: 13430a434a |
|---|--|--|
| 3DCQ:-,m 2DCQ:-,m 1DCQ:-,m OK Fn ABC 14:41 | 3DCQ:m 2DCQ:m 1DCQ:m OK Fn ABC 14:41 14:41 | 3DCQ:m 1DCQ:m OK Fn ABC 14:41 |





The controller should find your new base. NAME: GS2804775. Highlight it and tap OK. The controller should now connect to the Base and return you to the Base Menu. Tap Instrument, then Base Connections, then ALL OTHER CONNECTIONS to set RTK Base Connection Settings.

| | | | | | O C |
|-------------------------------------|---|---|--------------------|------------------------------------|--------------------------------------|
| Found Bluetooth D | evices 🤇 ⊃ | Base Menu | C | Instrument | 5 |
| Name SPATIALVANPC01 GS2804775 | ID Address a4db30f46a7e 13430a434a | Go to Work! Start base Go to rover menu | liva | Base settings Base connection | Base status |
| | | Instrument Base settings Connections & status | SmartWork | | |
| 3DCO:m 2DCQ: OK | m 1DCQ: m Fn ABC 14:43 | Connected to GS sensor OK | Fn ABC 14:44 | 3DCQ:m 2DCQ:m OK | 1DCQ: m Fn ABC 14:41 |







Highlight BASE RTK1 and tap EDIT. Set the Base to transmit RTK Base information using the GS Radio (device = Satel OEM22). In the DATA RATES tab, set the RTK Base ID to 0. Tap OK to continue.

| Base Connec | tion Settin | gs 🛛 🔿 | RTK base settings (RTK1) | RTK base settings (RTK1) ↓ ⊃ |
|--------------------|--------------|--------------|-------------------------------------|--|
| Connection | Port | Device | General Data rates Time slicing | General Data rates Time slicing |
| Base Sensor | Bluetooth | GS14 | ☑ Transmit RTK base info | Leica |
| GS Internet | - | - | Connect using: | Data: |
| Base RTK 1 | GS radio | Satel OEM2 | GS radio 🔹 | 1.0s |
| Base RTK 2 | - | - | Device: | Coords: |
| | | | Satel OFM22 | 10s 🔹 |
| | | | RTK data format: | Info: |
| | | | Leica | 60s 💌 💻 |
| | | | | End of message: |
| | | | | Nothing |
| | | | | RTK base ID: |
| | | | | 0 |
| 3DCQ:4.015m 2 | DCQ:1.961m 1 | DCQ: 3.504m | 3DCQ:3.987m 2DCQ:1.946m 1DCQ:3.480m | зиси:э.900m zисų:1.955m тисų:з. 1 02m |
| ОК | Edi | it Fn | OK Fn | OK Fn |
| Cntrl | | ABC 14:55 | Devce., Page ABC | Page ABC |
| | | 14.55 | 14.55 | |

You should be back at the Base Connection Settings Menu. Make sure that BASE RTK1 is highlighted and tap "CNTRL..." to configure the radio settings for the base to broadcast the RTK data. <u>Make sure that you set the Base and</u> <u>the Rover to the same channel.</u> (The frequencies should match now). Tap OK to return to the Base Menu.

| Base Connec | tion Settin | gs 「つ | Radio Configuration |
|---------------|--------------|-------------|-------------------------------------|
| Connection | Port | Device | Radio type: |
| Base Sensor | Bluetooth | GS14 | Catal M2 TD2 |
| GS Internet | - | - | Saler M3-TR3 |
| Base RTK 1 | GS radio | Satel OEM2 | Channel: |
| Base RTK 2 | - | - | 2 |
| | | | Actual frequency: |
| | | | |
| | | | |
| 3DCQ:4.015m 2 | DCQ:1.961m 1 | DCQ: 3.504m | 3DC0:3,931m 2DCQ:1.917m 1DCQ:3.432m |
| ОК | Edi | t Fn | OK Fn |
| Control | | ABC | ABC |
| Chtri | | 14:55 | Scan 14:56 |





From the Base Menu tap GO TO WORK! And setup the receiver over your point. Once the point is set, the controller will ask you to switch to the Rover menu. Tap ROVER to configure the Rover settings, and <u>turn on your GS14 Rover</u>.

| Base Menu | | GO tO WOFK! | | Base Over Any Point | |
|---|-----------|----------------------------------|-----------------------|---|----------|
| | | | X ⁵ | Base setup complete. | 14 |
| Start base | | A | \bigcirc | Base setup complete. | |
| Go to rover menu | S | Over known point Over last setup | Over any point | Press Rover to return to the | |
| ² Instrument Base settings Connections & status | SmartWork | Go to Rover menu | | rover survey menu (first disconnect the cable from the controller to the GS if using a cable). Press Base to return to the B menu. | e ase |
| 3DCQ:m 2DCQ:m 1D | CQ:m | 3DCQ:m 2DCQ:m 1 | DCQ:m | 3DCQ:4.888m 2DCQ:2.413m 1DCQ:4.2 | 250m |
| ОК | Fn | ОК | Fn | | Fn |
| | ABC | | ABC | | ABC |
| in the second second second second second | 14:45 | | 14:45 | Rover Base | 14:49 |

From the main menu, tap INSTRUMENT, then CONNECTIONS, then ALL OTHER CONNECTIONS to get to the CS Connections settings.

| | | | | ο Σ Ο Ο Ο Ο | | |
|--|---------|-----------------|-----------------|----------------|----------------------|--------------|
| Job: Default | 5 | Instrument | 15 | Connection | S | 5 |
| Go to Work! Survey & stake pts Start base station | Ċ | GPS settings | 3 Instrument | GS connection | 2 Internet wizard | All other |
| 2 Jobs & Data Point management Import & export | JorxViv | | 5 | Willing . | | |
| Settings & status Connections | martW | | | | | |
| Software settings Screen & audio | S) | | | | | |
| 3DCQ:m 2DCQ:m 1DCQ | m | 3DCQ:m 2DCQ:m 1 | DCQ:m | 3DCQ:m | 2DCQ:m 1D | CQ: m |
| ОК | Fn | ОК | Fn | ОК | | Fn |
| Map | ABC | Ma | ABC 14:50 | | Mai | ABC |
| пар | 14:49 | | 14:50 | | 116 | 14:50 |





Highlight GPS ROVER and tap EDIT. Then SEARCH to find your new Rover. Highlight GS2811198 and tap OK. The controller should then connect to your Rover. Once connected, tap OK to continue. Your controller should now know which unit is the Base and which is the Rover.

| 0 Σ 0 G 0 | | | | | | |
|---------------------|--------------|---------------|-----------------------------|--------------|---------------------|--------------|
| Connection S | ettings | 5 | GPS Rover Connection | 5 | Found Bluetooth Dev | vices ∣ ⊅ |
| CS connections | GS connectio | ns | Sensor: | | Name | ID Address |
| Connection | Port | Device | GS14 | • | SPATIALVANPC01 | a4db30f46a7e |
| CS Internet | - | - | Connection using: | | GS2804775 | 13430a434a |
| GPS Rover | Bluetooth | GS14 | Bluetooth | • | #025 BT Loopback | 12f30c1a23 |
| ASCII Input | - | - | Last used rover: | | GS2811198 | 134306d310 |
| GPS Hidden Pt | - | | GS2811198 | | | |
| Export Job | - | - | Bluetooth ID: 134306d310 | | | |
| 3DCQ:m 2D | CQ:m 1 | DCQ: m | 3DCQ:m 2DCQ:m | 1DCQ:m | 3DCO:m 2DCQ:m | 1DCQ:m |
| ОК | Edit | Fn | ОК | Fn | ОК | Fn |
| | Pag | ABC 14:50 | Search | ABC 14:51 | | ABC 14:52 |

| | _ |
|------------------------|----|
| | |
| GPS Rover Connection | 5 |
| Sensor: | |
| GS14 | • |
| Connection using: | _ |
| Bluetooth | • |
| Last used rover: | |
| GS2811198 | |
| Bluetooth ID: | |
| 134306d310 | |
| | |
| | |
| | |
| | |
| Connected to GS sensor | |
| ОК | Fn |

Search

ABC

14:52





Now, we need the Rover to receive the RTK corrections from the Base. From the Connection Settings menu, tap GS CONNECTIONS and highlight RTK ROVER. Tap CNTRL to set the channel. <u>Remember, the channel must match the Base</u> <u>channel.</u> Tap OK to return to Connection Settings. Tap EDIT to enter the RTK Rover settings.

| Connection S | ettings | 5 | Radio Configuration 5 Connection Settings | 5 |
|---------------------|--------------|-------------------|--|-------------------|
| CS connections | GS connectio | ons | Radio turnou CS connections GS connectio | ns |
| Connection | Port | Device | Connection Port | Device |
| RTK Rover | GS radio | Satel OEM2 | Sater MS-RS RTK Rover GS radio | Satel OEM2 |
| GS Internet | - | - | Channel: GS Internet - | - |
| NMEA 1 | | - | 2 NMEA 1 - | - |
| NMEA 2 | - | - | Actual frequency: NMEA 2 - | |
| Remote (OWI) | - | | 440.3125MHz Remote (OWI) - | - |
| | | | Use different protocol | |
| 3DCQ:0.010m 2D | CQ:0.006m 1 | CQ: 0.009m | 3DC0:0.010m 2DCQ:0.005m 1DCQ:0.008m 3DCQ:0.010m 2DCQ:0.006m 1D | CQ: 0.009m |
| OK | Edi | t Fn | OK Fn OK Edit | Fn |
| Cntrl | Pag | авс 14:52 | Scan ABC 14:53 Cntrl Pag | ABC 14:52 |

Check the RTK Rover Settings.

| RTK Rover Settings General RTK base RTK network Advanced Receive RTK data Connect using: GS radio RTK device: Satel OEM20 RTK data format: Leica | Image: Constraint of the second s | Image: Constraint of the second s |
|--|---|---|
| 3DCQ:0.010m 2DCQ:0.005m 1DCQ:0.008m OK Fn ABC Devce Page 14:52 | 3DCQ:0.010m 2DCQ:0.006m 1DCQ:0.009m OK Fn ABC 14:53 14:53 | 3DCQ:0.009m 2DCQ:0.005m 1DCQ:0.008m OK Fn ABC GGA Page 14:53 |



- when it has to be **right**



| RTK Rover Settings つ | Job: Default り |
|--|---|
| General RTK base RTK network Advanced | Go to Work! Survey & stake pts Start base station |
| □ Use height filter ☑ Compute xRTK positions Glonass mode: | Jobs & Data Point management Import & export |
| Automatic•SBAS tracking:Automatic SBAS• | Instrument Settings & status Connections |
| 3DCO: 0.016m 2DCQ: 0.008m 1DCQ: 0.014m | Screen & audio 3DCQ:0.016m 2DCQ:0.008m 1DCQ:0.014m |
| OK ABC Page 14:53 | OK ABC Map 14:57 |

RTK Data link should now be initialized. To verify the RTK settings, check the position icon at the upper left corner. From the main menu, press the Star key, then RTK DATA LINK STATUS to verify the RTK corrections are being received.

| · ↓· ↓12 Σ12 ↓ / • ↓ ↓ €12 + ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ | Leica GPS Favourites | Image: State |
|---|---|--|
| Go to Work! Survey & stake pts Start base station | Current GPS position | General Device RTK base Connectivity RTK data format: Leica |
| Jobs & Data Point management Import & export | | 12/12 1 Osec |
| Settings & status Connections | Change radio chan. | In last minute: 82% RTK network: |
| Software settings Screen & audio | Start RTK stream Quality control Page | None |
| OK Fn ABC 14:57 | OK Fn ABC 14:57 | OK Fn Data Page |





| RTK Data Link Status | RTK Data Link Status りつ | RTK Data Link Status つ |
|--------------------------------------|--------------------------------------|--------------------------------------|
| General Device RTK base Connectivity | General Device RTK base Connectivity | General Device RTK base Connectivity |
| Name: | Point ID: | GS sensor detected |
| Satel OEM20 | 1001 | RTK device auto detected |
| Туре: | RTK base ID: | RTK corrections being |
| Satel M3-R3 | 0 | received |
| Port: | ARP to marker ht: | |
| GS radio | 0.000m | |
| Channel: | Coords of: Marker | |
| Frequency: | Northing: | |
| 440.3125MHz | 5448261.478m | |
| Channel spacing: | Easting: | |
| 3DCQ:0.010m 2DCQ:0.005m 1DCQ:0.008m | 3DCQ:0.016m 2DCQ:0.008m 1DCQ:0.014m | 3DCQ:0.012m 2DCQ:0.006m 1DCQ:0.010m |
| OK Fn | OK Coord Fn | OK Fn |
| Page 14:58 | Page 14:58 | Page ABC 14:58 |

You should now be ready to begin working.