Instructions for Connecting the Leica SR530 GPS Rover to a SpiderNet, NTRIP or VRS Network with SurvCE and Carlson TCP Relay

For users of Carlson's SurvCE product wishing to connect to a reference network that requires a GGA position message sent from the rover to the network, an initial setup step must be taken with the Leica TR500 ('Red Tongue') controller. Once this configuration step is done, the TR500 may be removed and will not be needed again unless the system memory on the SR530 is cleared.

Step 1: Connect the TR500 to the SR530 and power on the system

Step 2: Press the "CONFIG" button on the keypad, followed by 4 for "Interfaces".

Step 3: Ensure that "1 Real-Time" is highlighted and press F3 for "Edit".

Step 4: Press F5 for "Device".

Step 5: Ensure that "*RS232" is highlighted and press F3 for "Edit". Note: You may receive a conflict warning that this device is used by another port. Press F5 for "OK".

Step 6: Note the baud rate, parity, data bits and stop bits in this screen. They will be the ones to enter in TCP Relay for sending corrections to the GPS receiver. Typical values are 9600, None, 8, 1.

Step 7: Press F1 for "CONT" and F1 for "CONT" again.

Step 8: Press F6 for "REF".

Step 9: Ensure that "Ref Service" is highlighted and use the Enter and arrow keys to set this option to "VRS". Ensure that "Send User ID" is set to "NO". TCP Relay will handle this and conflict will result if this is not set to "NO".

Step 10: Press F1 for "CONT" three (3) times to return to the Main Menu.

Step 11: Power off the SR530 with the On/Off key and remove the TR500 controller.

Step 12: Ensure that your WinCE data collector is connected to the Internet and has 2 viable RS232 ports. You will need a cable to connect your data collector to the Terminal port on the SR530 (cable 560254 is recommended) and a cable to connect Port 1 of the SR530 to your data collector (cable 563809, paired with a null-modem and gender changer may be used, or the cable 733280 – GEV 160 – sold as an accessory to the system 1200).

Step 13: Connect the cable from the Terminal port on the SR530 to COM1 on your CE device. Connect the cable from Port 1 on the SR530 to COM2 on your CE device.

Step 14: Ensure that SurvCE and TCP Relay are installed and registered on your CE device. Launch SurvCE.

Step 15: From the Equip tab, go to GPS Rover and select Manufacturer: Leica and Model: Leica SR530. Under the Comms tab select Type: Cable, Port: COM 1, Baud: 9600, Parity: None, Data Bits: 8, Stop Bits: 1.

Step 16: Press the green checkbox. This will start communication with the SR530 and cause the unit to power on.

Step 17: From the "Leica GPS Rover Setup" screen, go to the Utilities tab. Set your Radio Type to "GPRS/NTRIP Connection". Remaining parameters will gray out and are not used by SurvCE. Press the green checkbox to accept this setting.

Step 18: Go to Equip/Monitor/Skyplot. Ensure that SurvCE is communicating with the SR530 and there is a valid lat/lon position. This is required for the first GGA message that will be sent to the network.

Step 19: Press the SurvCE icon in the top left corner of the screen and select "Minimize".

Step 20: Start Carlson TCP Relay.

Step 21: Select your connection type and enter only the required parameters for your network. Not all networks require all parameters.

Step 22: Enter a Friendly Name and Save or press the green checkbox if your parameters are already saved. You will not need to enter any information under Info1 or Info2. These are for your own reference only and do not affect TCP Relay's performance. Press the green checkbox to continue until you have reached the screen with port settings and the "Start Relay" button.

Step 23: Set Port: COM2, Baud Rate: 9600, Parity: None, Data Bits: 8, Stop Bits: 1.

Step 24: Press "Start Relay". If you have chosen not to automatically minimize TCP Relay, you will see status messages showing you that the GPUID message and GGA messages have been sent, if applicable. You will be able to monitor your connection to the network here. Minimize TCP Relay and return to SurvCE. You should now be receiving corrections and monitor your status changing from Autonomous to Fixed.