

## Model 622 Survey Cart Assembly Guide

Mobilizing your SIR<sup>®</sup>-20 system on the GSSI Model 622 survey cart allows you to cover ground much more easily and conveniently than with the conventional system configuration. The 623 cart incorporates a survey wheel for high-precision distance measurements. The cart can accommodate the 400 MHz, 900 MHz, 1.0 GHz, 1.5/1.6 GHz and the 2.6 GHz antennas. For the 1.0, 1.6, and 2.6 GHz antenna, you will need a survey wheel adaptor cable. It is GSSI part number FG62X/5100B CBL.

Contact your GSSI sales representative for more details.

GSSI can be reached at (603) 893-1109 Monday-Friday, 8:30 AM – 5:00 PM EST.

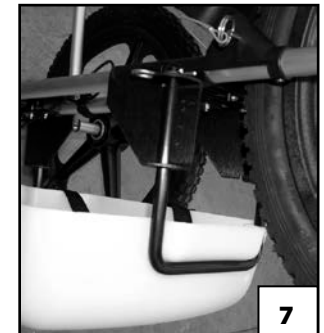
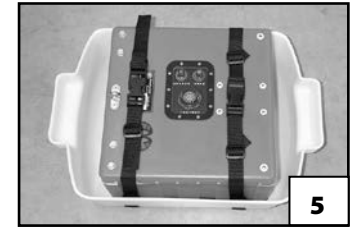
### Unfold Cart and Attach the Wheels

- 1** Unfold the cart frame and insert the black tips of the top assembly into the receivers on the front wheel fork. Secure with the attached pin.
- 2** Squeeze the wheel-lock clamps, and insert the wheel shaft into the axle. It will slide all the way in and lock securely. To remove wheels, squeeze the wheel-lock clamp again and pull the wheel straight out. Note: The wheels are foam filled and do not require inflation.
- 3** Slide the front wheel onto the front wheel fork and tighten clamp. When the clamp is slightly tight, turn the handle to the locked position (shown). This will further tighten the clamp. Exercise care not to over-tighten the front wheel as this may result in damage to the front fork.
- 4** Ensure that the survey wheel encoder is correctly positioned on the inside of rear right wheel and that the survey wheel is making contact with the tire's rim.



### Mount the Antenna

- 5** Place the antenna into the white plastic tub and secure with the attached straps. If you are using the cart system with the 1.5 GHz (Mod 5100) antenna, place Velcro tape on the top of the antenna. Next place the antenna in the bottom of the tub and stick the white plastic plate to the top of the antenna. Secure the assembly with straps.
- 6** With the arrows on the top of the antenna housing pointing toward the front of the cart, place the tub under the cart so that the tub handles face the front and the back of the cart.
- 7** Lift the tub to fit the white fiberglass brackets under the handle and insert them through the 2 double holes on the frame.
- 8** Secure with the metal pins.



The antenna tub should just touch the ground surface. It is intended to be loose because it needs to be able to float over small obstacles. If you are using a small, higher frequency antenna, be sure that the antenna is centered in the tub.

- 9** Connect the female end of the control cable to port that is labeled CONTROL, connect the lead from the survey wheel (4 pin) to the SURVEY port. These leads should only be hand tightened.

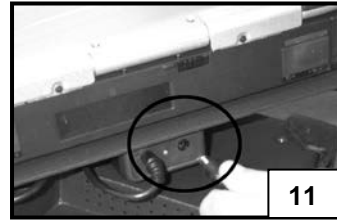


## Prepare the SIR-20

- 10** Remove the black plastic cover over the Ethernet connection and unplug the power from the laptop. Do not unscrew the two knobs that tighten the clamps over the laptop handle.



- 11** At the rear of the SIR-20, unplug the lead connecting the power transformer to the laptop.



- 12** Unscrew the four screws holding the laptop and the mounting plate to the blue box of the SIR-20. Lift the mounting plate with the attached laptop off, and set aside.

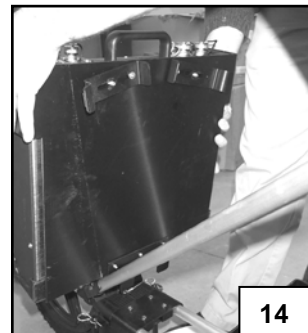
- 13** Slide the blue box of the SIR-20 control unit into the black metal casing as shown.



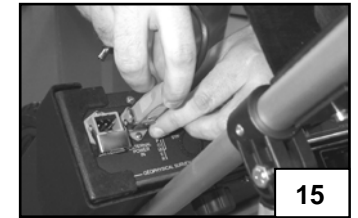
## Attach the SIR-20 to the Cart

- 14** Place the control unit on the front fork of the cart, and pivot it to the back of the cart so that it lies against the diagonal brace of the cart.

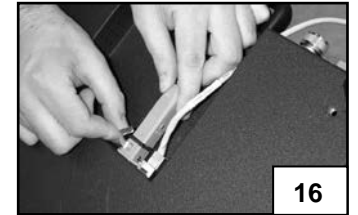
Slide the two brackets to the outside of the cart and tighten using the large nuts.



- 15** Lay the laptop and mounting plate on the platform at the cart handle so that all four holes line up. Secure the mounting plate to the cart with the four screws that held the plate to the blue box of the SIR-20.



- 16** Attach the long system-to-laptop power cord and the long Ethernet cord to the control unit and run them to the laptop.

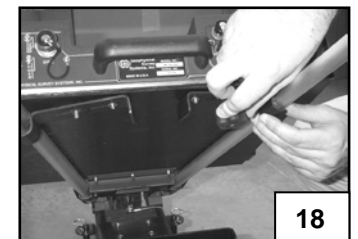


## Attach Battery and Make Connections

- 17** Insert the battery pack into the mount. Be careful not to crimp the power cable coming out of the battery case. It may be necessary to unsnap the nylon straps on the rear of the battery case.



- 18** Connect the battery to the external power port on the back of the SIR-20, and connect the antenna control cable as normal.



**Note:** Your survey wheel is only as accurate as your calibration, so be sure to calibrate your wheel often. Survey wheel calibration instructions can be found in your SIR-Systems manual.