

Note: STS Gold User Guide is available for download at: <http://www.solinst.com/Downloads/>

Why Use Telemetry?

Telemetry provides an economical and efficient method to access remote data instantly, saving time and costs by eliminating manual data collection and time spent traveling. It provides two-way communication between field located data loggers and a Home Station computer. Added features such as alarm notification, remote diagnostic reporting and firmware updating make it easy to maintain your system, while simplifying data collection.

1) Assess the Site(s) to be Telemetered

How many telemetered sites will there be?

How far apart are the telemetered sites?

Sample Rate Needed?

Report Rate Needed?

Note: Sample Rate is the frequency data is collected from the Levelloggers and Report Rate is how often the data is sent from the Remote Station to the Home Station. More frequent Report and Sample Rates will use up more power, therefore an extra power source may be required. See Section 6 in the STS Gold User Guide for information on power sources.

2) Determine Your Communication Method

The following is a list of questions that should be considered when deciding on your communication method.

Is your Home Station computer close to the Remote Station(s)? i.e. within 20 miles (30 km)	<input type="checkbox"/> Yes <input type="checkbox"/> No
- If Yes, do you have line-of-sight from the Remote Station to the Home Station?	<input type="checkbox"/> Yes <input type="checkbox"/> No
- If Yes, radio may be your best communication option.	Contact Solinst
Is there cellular coverage in the area of the Remote Station(s)?	<input type="checkbox"/> Yes <input type="checkbox"/> No
- If Yes, CDMA/GSM/Both?	<input type="checkbox"/> Yes <input type="checkbox"/> No
- If Yes, select a Cellular Service Provider for your area. See Section 5. in this guide for more details required by service providers to set up STS Gold Systems.	Contact Solinst
If No, Satellite may be your best communication option. If you are considering a Satellite STS installation, please contact a Satellite Service Provider for data plan availability and costing information in your area.	Contact Solinst



Remote Station Setup using GSM (Part#108846)

3) Decide on Data Logger Requirements

Specify the number of data loggers required at each remote station (maximum quantity of 4 data loggers per station)

- Select Levellogger ranges based on maximum expected water level fluctuations. (e.g. the F15/M5 Model can handle approximately 15 feet or 5 meters of change in water level, at its deployed depth)
- Select Barologgers (1 Barologger suggested for 30 km (20 mile) radius and 500 m (1600 ft) elevation difference between sites).

4) Order the Appropriate STS System

- 1) GSM, CDMA, or Radio Telemetry System
 - Includes: STS Controller, Distribution Box, 12V Battery, Modem, Antenna, Connection Cables

Note: Radio Telemetry Systems require a Radio Home Station

- 2) Up to 4 Solinst Levelloggers for each Remote Station
 - Direct Read Cable and Reader Cable for each data logger
- 3) Optional Antenna for Radio or Modems
- 4) Optional Solar Power Connection Assembly
- 5) Optional Battery Charger Assembly
- 6) STS Gold Software
- 7) Direct Read Communication Package

5) Contact Your Cellular Service Provider

Notes: 1) If using Radio, you do not need a Service Provider.
2) For Cellular STS Systems, the Home Station requires a static IP address. If one is not already in place, please ask your IT department or Cellular Service Provider to arrange an address for the computer you will be using.

Service plan information that you are required to give to the Cellular Service Provider:

For **CDMA**: request Packet Data Service Option 1XRTP Rev. A
For **GSM**: request Data Usage Service Plan for GPRS/EDGE/HSDPA

- Monthly data throughput of 4M bits per month maximum
- No voice access or voice features
- A dynamic IP address is required for each Remote Station

Bill to: _____

Billing Contact Person: _____

Billing Address: _____

Modem information that you are required to give to the Cellular Service Provider:

_____ ESN# (located on a label on the modem)

CDMA:

Modem Description: Blue Tree BT-6600 (CDMA EVDO Rev. A)
Model #: BT 6600

GSM:

Modem Description: Digi Connect WAN IA GSM Modem

Information your Cellular Service Provider will give to you:

CDMA:

- Telephone Number (a separate number is required for each modem)
- Master Lock Code (used to activate your modem after you receive it)
- Some service providers also require a user ID, user name and password to activate the modem
- A dynamic IP address is required for each Remote Station.

GSM:

- A dynamic IP address assigned to each Remote Station
- APN (Access Point Name), account type, user name, password

Note: See Chapter 5 in the STS Gold Telemetry System User Guide for details regarding activation and configuration of CDMA, GSM and radio modems.

6) Receive Your STS System

- Check to ensure you have all the components required

7) Set Up Your Home Station

- Download STS Gold Software on the Home Station Computer
- Ensure your Home Station Computer has been assigned a static IP address
- If using radio, connect the Home Station Radio to the Home Station Computer and a power outlet using the AC Adaptor.

8) Use the Software to Program Your STS System

- Create new Remote Station set ups
- Program the Report and Sample Rates
- Program the Levelloggers
- Set up alarms

Note: See Chapter 3 in the STS Gold Telemetry System User Guide for details on configuring your telemetry system using STS Gold Software.

9) Set Up Your Remote Station(s) in the Office

- It is recommended you set up your Remote Station(s) in the office and use the STS Controller to test the system, before installing in the field

Note: See Chapter 5 in the STS Gold Telemetry System User Guide for full details on setting up your Remote Station Hardware.

10) Test the System in the Office

- Perform a Station Test and Initialize in the office, to ensure your system is working, before installing in the field.

Note: Your Home Station computer must be on and not in sleep mode during the initialization process. See Chapter 5 in the STS Gold Telemetry System User Guide for initialization instructions.

11) Install Remote Station(s) in the Field

- See Chapter 6 in the STS Gold Telemetry System Guide for installation instructions

12) Test and Initialize in the Field

- See Chapter 5 in the STS Gold Telemetry System Guide for initialization instructions

13) Collect Your Data

- Your data will be stored on the Home Station computer and accessed using the STS Gold Software
- Data can be exported for use in the Levellogger Gold Software, to perform barometric and other compensations, or it can be exported for use in other programs

Note: See Chapter 7 in the STS Gold Telemetry System User Guide for details on accessing your data.