

Introduction

The GMS-2Pro receiver is a single-frequency, GPS+GLONASS L1 receiver and hand-held controller built to be the most advanced, compact, and portable receiver for the GIS surveying market. An integrated electronic compass and digital camera make the GMS-2Pro an all-purpose, GIS field mapping unit.

The GMS-2Pro receiver is a multi-function, multi-purpose receiver intended for precision markets. Precision markets means markets for equipment, subsystems, components and software for surveying, construction, commercial mapping, civil engineering, precision agriculture and land-based construction and agriculture machine control, photogrammetry mapping, hydrographic and any use reasonably related to the foregoing.

The GMS-2Pro provides the functionality, accuracy, availability, and integrity needed for fast and easy data collection.

Principles of Operation

Surveying with the right GPS receiver can provide users accurate and precise positioning, a requirement for any surveying project.

This section gives an overview of existing and proposed Global Navigation Satellite Systems (GNSS) and receiver functions to help you understand and apply basic operating principles, allowing you to get the most out of your receiver.

GNSS Overview

Currently, the following three global navigation satellite systems (GNSS) offer line-of-site radio navigation and positioning, velocity,

and time services on a global, all-weather, 24-hour scale to any user equipped with a GNSS tracking receiver on or near the Earth's surface:

- GPS – the Global Positioning System maintained and operated by the United States Department of Defense. For information on the status of this system, visit the US Naval Observatory website (<http://tycho.usno.navy.mil/>) or the US Coast Guard website (<http://www.navcen.uscg.gov/>).
- GLONASS – the Global Navigation Satellite System maintained and operated by the Russian Federation Ministry of Defense. For information on the status of this system, visit the Ministry of Defense website (http://www.glonass-center.ru/frame_e.html).
- GALILEO – an upcoming global positioning system maintained and operated by Galileo Industries, a joint venture of several European space agencies working closely with the European Space Agency. Unlike GPS and GLONASS, this is a civil endeavor and is currently in the development and validation stage. For information on the status of this system, visit the Galileo Industries website (<http://www.galileo-industries.net>).

Despite numerous technical differences in the implementation of these systems, satellite positioning systems have three essential components:

- Space – GPS, GLONASS, and GALILEO satellites orbit approximately 12,000 nautical miles above Earth and are equipped with a clock and radio. These satellites broadcast digital information (ephemerides, almanacs, time&frequency corrections, etc.).
- Control – Ground stations located around the Earth that monitor the satellites and upload data, including clock corrections and new

ephemerides (satellite positions as a function of time), to ensure the satellites transmit data properly.

- User – The community and military that use GNSS receivers and the corresponding satellites to calculate positions.

Calculating Absolute Positions

When calculating an absolute position, a stationary or moving receiver determines its three-dimensional position with respect to the origin of an Earth-Center Earth-Fixed coordinate system. To calculate this position, the receiver measures the distance (called pseudo-ranges) between it and at least four satellites. The measured pseudo-ranges are corrected for clock differences (receiver and satellites) and signal propagation delays due to atmospheric effects. The positions of the satellites are computed from the ephemeris data transmitted to the receiver in navigation messages. When using a single satellite system, the minimum number of satellites needed to compute a position is four. In a mixed satellite scenario (GPS, GLONASS, GALILEO), the receiver must lock onto at least five satellites to obtain an absolute position.

To provide fault tolerance using only GPS or only GLONASS, the receiver must lock onto a fifth satellite. Six satellites will provide fault tolerance in mixed scenarios.

Calculating Differential Positions

DGPS, or Differential GPS, typically uses the measurements from two or more remote receivers to calculate the difference (corrections) between measurements, thus providing more accurate position solutions.

With DGPS, one receiver is placed at a known, surveyed location and is referred to as the reference receiver or base station. Another receiver is placed at an unknown, location and is referred to as the remote receiver or rover. The reference station collects the range

measurements from each GPS satellite in view and forms the differences (corrections) between the calculated distance to the satellites and the measured pseudo-ranges to the satellites.

These corrections are then built up to the industry standard (RTCM or various proprietary standards) established for transmitting differential corrections and broadcast to the remote receiver(s) using a data communication link. The remote receiver applies the transmitted DGPS corrections to its range measurements of the same satellites.

Using this technique, the spatially correlated errors—such as satellite orbital errors, ionospheric errors, and tropospheric errors—can be significantly reduced, thus improving the position solution accuracy of the GPS.

A number of differential positioning implementations exist, including post-processing surveying, real-time kinematic surveying, maritime radio beacons, geostationary satellites (as with the OmniSTAR service), and the wide area augmentation system (WAAS) service.

The real-time kinematic (RTK) method is the most precise method of real-time surveying. RTK requires at least two receivers collecting navigation data and communication data link between the receivers. One of the receivers is usually at a known location (Base) and the other is at an unknown location (Rover). The Base receiver collects carrier phase measurements, generates RTK corrections, and sends this data to the Rover receiver. The Rover processes this transmitted data with its own carrier phase observations to compute its relative position with high accuracy, achieving an RTK accuracy of up to 1 cm horizontal and 1.5 cm vertical.

Essential Components for Quality Surveying

Achieving quality position results requires the following elements:

- Accuracy – The accuracy of a position primarily depends upon the satellite geometry (Geometric Dilution of Precision, or GDOP) and the measurement (ranging) errors.

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- Differential positioning (DGPS and RTK) strongly mitigates atmospheric and orbital errors, and counteracts Selective Availability (SA) signals the US Department of Defense transmits with GPS signals.
 - The more satellites in view, the stronger the signal, the lower the DOP number, the higher positioning accuracy.
 - Availability – The availability of satellites affects the calculation of valid positions. The more visible satellites available, the more valid and accurate the position. Natural and man-made objects can block, interrupt, and distort signals, lowering the number of available satellites and adversely affecting signal reception.
 - Integrity – Fault tolerance allows a position to have greater integrity, increasing accuracy. Several factors combine to provide fault tolerance, including:
 - Receiver Autonomous Integrity Monitoring (RAIM) detects faulty GPS and GLONASS satellites and removes them from the position calculation.
 - Five or more visible satellites for only GPS or only GLONASS; six or more satellites for mixed scenarios.
 - Wide Area Augmentation Systems (WAAS, EGNOS, etc.) creates and transmit, along with DGPS corrections, data integrity information (for example, satellite health warnings).
 - Current ephemerides and almanacs.

Conclusion

This overview simply outlines the basics of satellite positioning. For more detailed information, visit the TPS website.

GMS-2Pro Overview

The GMS-2 is a fully integrated hand-held controller and GPS+ receiver. Included in the system is an electronic compass and digital camera.

The hand-held controller component of the GMS-2Pro

includes the Windows® CE operating system and color LCD touch screen. Integrated Bluetooth® wireless technology allows this system to be a cable-free controller/receiver for maximum portability. The rugged casing is durable and built for rugged use.

As a field controller, the GMS-2Pro can run a full suite of field software for working with total stations and RTK GPS systems.

The GPS+ receiver component of the GMS-2

can receive and process GPS+GLONASS L1 signals improving the accuracy of your survey points and positions. The GPS+ features of the receiver combine to provide a positioning system accurate for any survey. Several other features, including multipath mitigation, provide under-canopy and low signal strength reception.

When power is turned on and the receiver self-test completes, the receiver's 50 channels initialize and begin tracking visible satellites. Each of the receiver's channels can be used to track any one of the GPS or GLONASS signals. The number of channels available allows the receiver to track all visible GPS satellites at any time and location.

An internal GPS antenna equipped with a low noise amplifier (LNA) and the receiver's radio frequency (RF) device are connected with a coaxial cable. The wide-band signal received is down-converted, filtered, digitized, and assigned to different channels. The receiver processor controls the process of signal tracking.

Once the signal is locked in the channel, it is demodulated and necessary signal parameters (carrier and code phases) are measured. Also, broadcast navigation data are retrieved from the navigation frame.

After the receiver locks on to four or more satellites, it is possible to solve the so-called "absolute positioning problem" and compute the receiver's coordinates (in WGS-84) and the time offset between the

receiver clock and GPS time. All this information can be stored in the the optional SD card and internal flash memory, then processed using a post-processing software package.

Capabilities of the GMS-2Pro receiver include:

- Multipath reduction
- Wide area augmentation system (WAAS)
- Single-frequency static, kinematic, and differential GPS (DGPS) survey modes
- Setting different mask angles
- Setting different survey parameters

The integrated 1.3 megapixel camera

is used taking pictures of surveyed objects or survey sites.

Getting Acquainted with the GMS-2Pro

The GMS-2Pro is an integrated field controller and 50-channel GPS receiver with an internal electronic compass and digital camera. USB and serial ports, along with Bluetooth® wireless technology provide communication paths with other devices. An external GPS antenna connector allows an optional PG-A5 antenna to be connected for centimeter-level surveys.

The standard GMS-2Pro package contains the following items:

- GMS-2Pro integrated receiver/controller activated for GPS L1 signals
- Handstrap and soft case
- USB cable and power converter/adaptor cable
- BTManager and GMS Tools factory-installed software

For more details on accessories and options available for the GMS-2, contact your local Topcon dealer.

Rechargeable and Backup Batteries

The GMS-2 comes equipped with a rechargeable battery (GMS-2Pro Battery) for powering the unit. The battery can be charged in the unit or in an optional battery charger. A backup battery is also located in the battery pocket and the unit's serial number is located under the battery.

The battery provides seven hours of operation, depending on the mode of the receiver. Under normal conditions, the backup battery provides eight to ten years of power backup for data and system integrity.

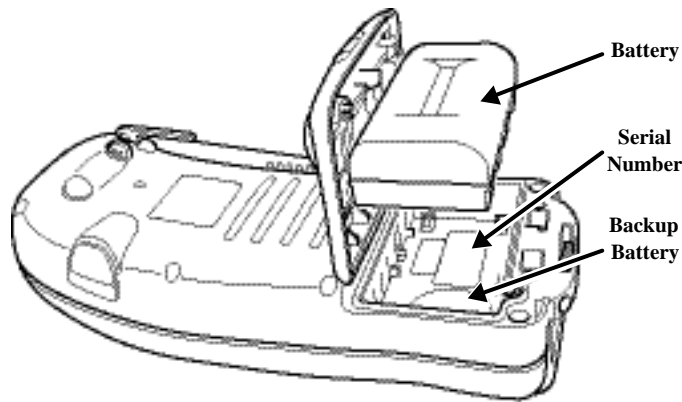


Figure 1-2. GMS-2Pro Battery

GMS-2Pro Front

The front of the GMS-2Pro is the primary interface with its components and installed software.

- The **internal GPS antenna** detects signals from GPS+ satellites and sends them to the GPS receiver board for processing.

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- The **display screen and touch panel** provides a graphical and tactile user interface for the unit.
 - The **power button** turns the receiver on and off.
 - The **ESC (escape) button** exits from the current screen or function.
 - The **ENT (enter) button** applies settings, numerical values, and records points (depending on the settings of internal software). Pressing this button for one second activates the controller's Windows Start menu.
 - The **Bluetooth LED** indicates the level of activity at the Bluetooth wireless technology module:
 - Solid blue light: the module is on and a connection has been established.
 - No light: the module is off.
 - The **charging LED** indicates the level of charge in the battery:
 - Green: battery has a full charge.
 - Red: battery is charging.

– Red blink: charging error.

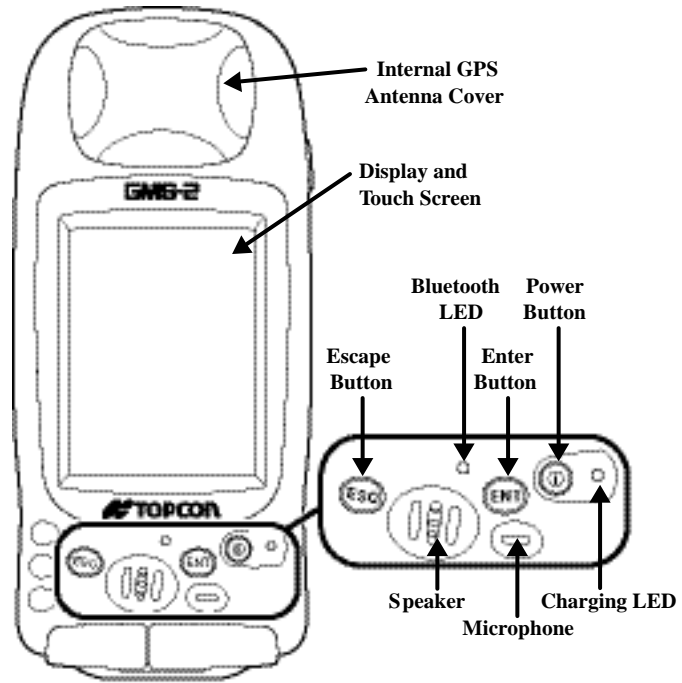


Figure 1-3. GMS-2 Front

GMS-2Pro Back

The back of the GMS-2Pro holds the stylus used for tapping on the display screen. An elastic strap provides comfortable security while using the GMS-2Pro. A cover accesses the rechargeable battery and



Figure 1-4. GMS-2 Back

GMS-2Pro Ports

The GMS-2 has the following three ports:

- USB – used for high-speed connection to a computer via ActiveSync.
- Serial – used for communication between the internal GPS module (port A of the module) and an external device.
- Power – used to connect the GMS-2Pro to an external power source. This port can also be used to charge the batteries.

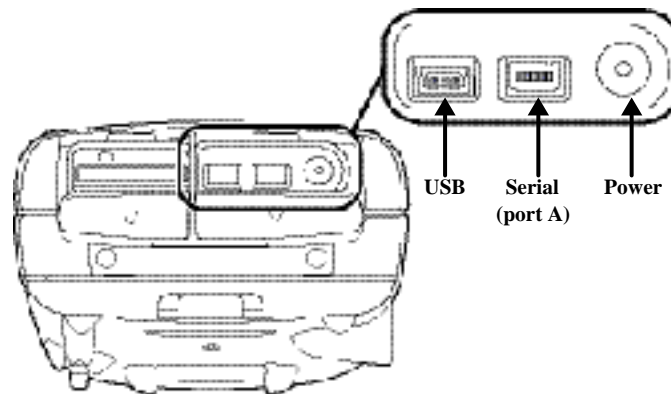


Figure 1-5. GMS-2 Ports

SD Card Slot

The SD (secure digital) slot provides extended memory for the controller (SD Card Slot). The data that resides on the SD card can be accessed via the USB or serial port, or Bluetooth wireless technology. A secure digital card can be purchased at your local computer supply store.

Located above the card slot is the software reset button for restarting the operating system if software is not responding.

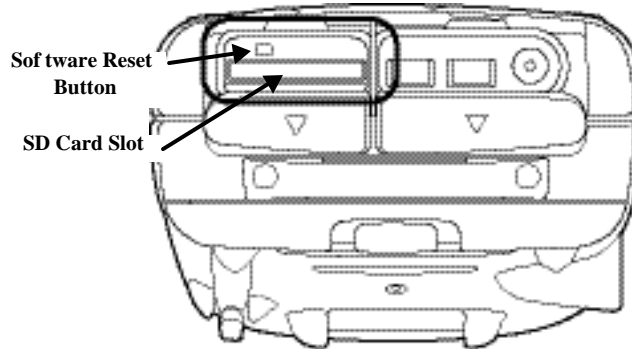


Figure 1-6. SD Card Slot

Integrated Camera

The integrated 1.3 megapixel camera can be used for taking pictures.

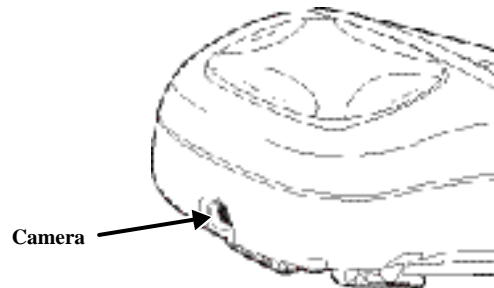


Figure 1-7. GMS-2 Camera

External GPS Antenna Connector

The external GPS antenna connector allows an optional external antenna to be connected to the controller for post-process survey applications.

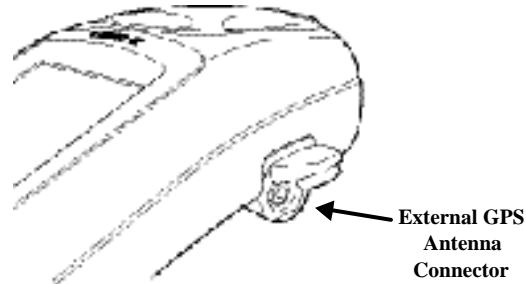


Figure 1-8. GMS-2 External GPS Antenna Connector

System Cables

The GMS-2 package includes standard communication and power cables for communicating with the GMS-2Pro and providing a power source. GMS-2 Package Cables lists the cables included in the standard GMS-2 package.

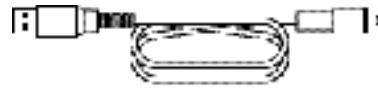
Table 1-1. GMS-2 Package Cables

Cable Description	Cable Illustration
<p>AC Power cable and adapter</p> <p>Connects the GMS-2Pro to a grounded outlet.</p> <p>Cable p/n 22-041002-01</p> <p>Adapter p/n 14-008078-01</p>	A line drawing of a power adapter. It consists of a rectangular box with a power cord on the left side and a longer, braided cable on the right side that ends in a connector.

USB cable

Connects the GMS-2 to an external device (controller or computer) for high-speed data transfer and receiver configuration.

p/n 14-008081-01



GMS-2Pro Software

The GMS-2 comes with the following factory-installed software:

- BTManager – a utility that manages and controls the Bluetooth module inside the GMS-2Pro. BTManager connects the GMS-2Pro and other Bluetooth-enabled devices.
- GMS Tools – a utility that manages and controls the camera, compass, and GNSS settings.

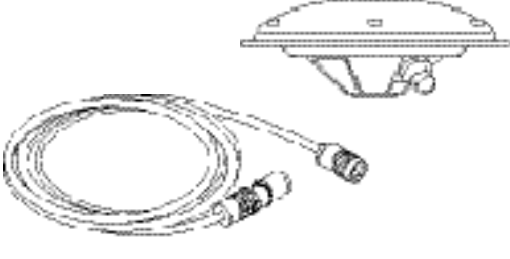
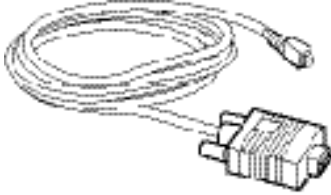



Figure 1-9. BT Manager and GMS Tools

Optional Accessories

GMS-2 Op gives a brief list of optional accessories that can be used with the GMS-2Pro. Contact your dealer to purchase optional accessories.

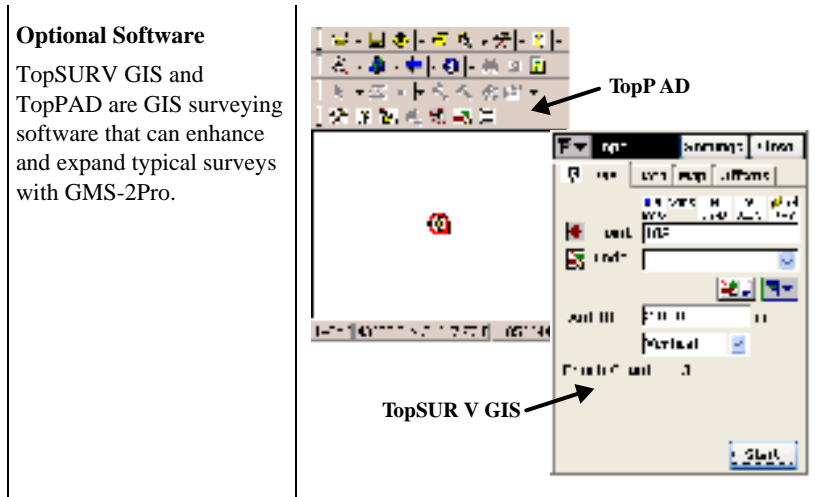
Table 1-2. GMS-2 Optional Accessories

Accessory	Illustration
<p>External GPS Antenna and Cable</p> <p>Connecting an external PG-A5 GPS antenna increases the range of the GMS-2Pro.</p> <p>PG-A5 p/n 01-844201-07 Cable p/n 14-008079-01</p>	
<p>Serial cable</p> <p>Connects the GMS-2Pro to an external device (controller or computer) for data transfer and receiver configuration.</p> <p>p/n 14-008080-01</p>	
<p>BR-1¹</p> <p>The BR-1 is a receiver that detect signals from local Beacon stations. When connected to the GMS-2Pro, it provides correction data.</p>	

¹As of the printing of this manual, the BR-1 is an upcoming Topcon product.

Optional Software

TopSURV GIS and TopPAD are GIS surveying software that can enhance and expand typical surveys with GMS-2Pro.



For more details on other accessories and package options available for the GMS-2Pro, contact your local Topcon dealer.

Option Authorization File (OAF)

Topcon Positioning Systems issues an Option Authorization File (OAF) to enable the specific options that customers purchase. An Option Authorization File allows customers to customize and configure the receiver according to particular needs, thus only purchasing those options needed.

Typically, all receivers ship with a temporary OAF that allows it to be used for a predetermined period of time. When the receiver is purchased, a new OAF permanently activates desired, purchased

options. Receiver options remain intact when clearing the NVRAM or resetting the receiver.

The OAF enables the following functions. For a complete list of available options and details, visit the TPS website or consult your TPS dealer.

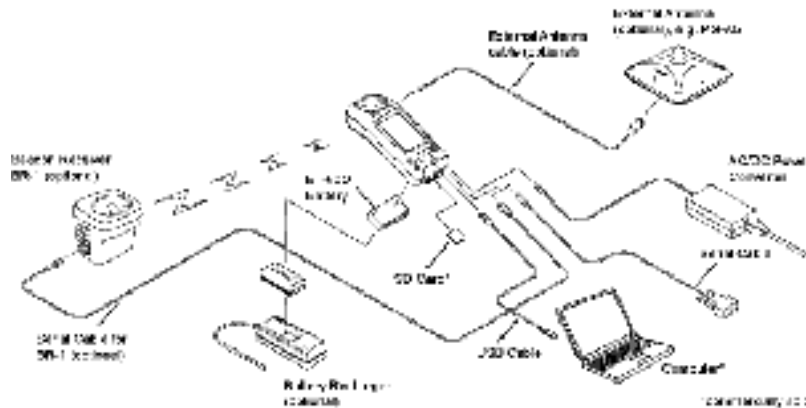
- Type of signal (standard GPS L1; optional GLONASS L1)
- Update rate 1Hz (standard) (optional 5 or 10Hz)
- RTCM Input/Output (standard)
- Advanced multipath reduction (standard)
- Wide Area Augmentation System (WAAS) (standard)

Using the GMS-2

The GMS-2 can be used as a stand-alone, L1 GPS+ receiver, or with other devices. When installing software or performing file transfers, the USB cable of Bluetooth module connects the GMS-2 to a computer for in-office processing. For increased surveying accuracy, a connected external GPS antenna or external receiver allows other signals (such as L2 or Beacon) to be recorded.

Connecting the GMS-2 with Other Devices

The GMS-2 provides direct connection to devices with serial or USB port, devices that support Bluetooth wireless technology, an external GPS antenna (PG-A5), and receivers that provide correction information. The various devices are optional and can be purchased from your local Topcon dealer, or at a commercial retail store for commercially sold products (such as the SD card).



Connecting the GMS-2 and a Computer

Connecting the GMS-2 and a computer allows software to be installed onto the controller and data to be uploaded from the controller to a computer.

When connecting the GMS-2 and a computer, Microsoft ActiveSync must be installed on the computer. See “Installing Microsoft ActiveSync” on page 2-7 for details.

For a Bluetooth connection, see Connecting the GMS-2 and a BI for details.

1. Connect the GMS-2 and the computer using the USB or serial cable, or Bluetooth wireless technology.



Figure 3-2. Connect GMS-2 and Computer (USB) Using Cable

2. When ActiveSync on the computer prompts to set up a partnership, select “No” and click **Next**.

3. Once the connection has been established, click the “Explorer” icon on the ActiveSync screen to view data on the GMS-2 compact flash card.

Connecting the GMS-2 and a Bluetooth Device

BTManager is a utility that connects the GMS-2 with available Bluetooth devices for communication purposes. BTManager manages and controls the Bluetooth module inside the GMS-2.

1. If needed, check the device to ensure Bluetooth communication is supported.
2. On the GMS-2 control panel, double-tap the BTManager icon.

When BTManager starts, it immediately begins scanning GMS-2 ports to use for establishing a connection with the internal Bluetooth module (the Bluetooth indicator will be red).

Once a connection has been established, the Bluetooth indicator will turn white (BTManager Connected with GMS-2 Port).

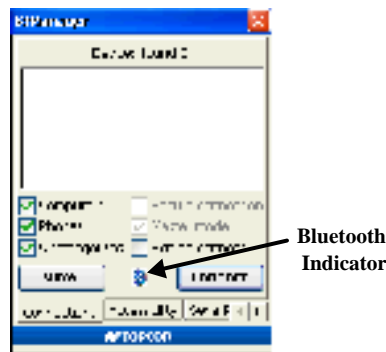


Figure 3-3. BTManager Connected with GMS-2 Port

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3. Tap the *Accessibility* tab to check the current state of the Bluetooth module (Check Bluetooth Module Accessibility Settings). For most applications, the following parameters should be enabled:

- Allow other device to connect
- All devices
- Other devices can discover me

Note that at first-time use and after a reset, these parameters will be disabled.



Figure 3-4. Check Bluetooth Module Accessibility Settings

4. If using a Phone device (*Serial Port* tab) or Dial-up network service (*Dial-Up* tab), select “Enable Service” and the port to use for communication (typically COM1).

Selecting one device/service disables the parameters for the other.

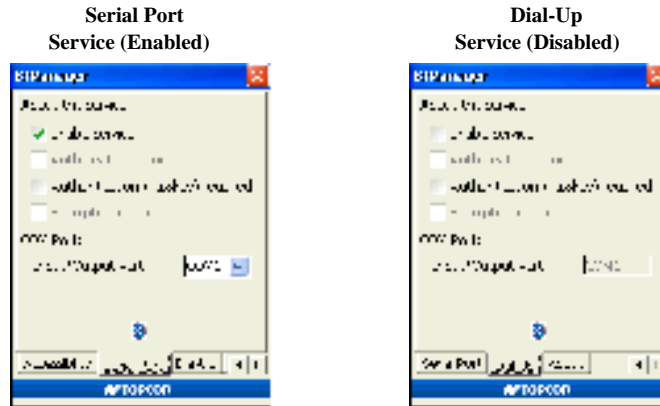


Figure 3-5. If Needed, Enable Serial Port or Dial-Up Parameters

5. Tap the *Connections* tab and tap **View** to detect Bluetooth devices in range (View Devices and Connect).

To only search for desired devices (and decrease the search time), select/deselect “Computers”, “Phones” or “Uncategorized”, then tap **View**.

- 5.
6. To close BTManager but remain connected to the internal GMS-2 Bluetooth module, select “Exit on connect”.

This allows other programs to open and use the port for communicating with other Bluetooth-enabled devices.

If “Exit on connect” is unchecked and BTManager is closed, BTManager and the Bluetooth module will remain connected, but the port used for communication will be disconnected from the module.

Other programs will not be able to use this port for communicating with Bluetooth-enable devices.

7. Once the Devices list has been populated, select the device to connect to and tap **Connect** (View Devices and Connect).

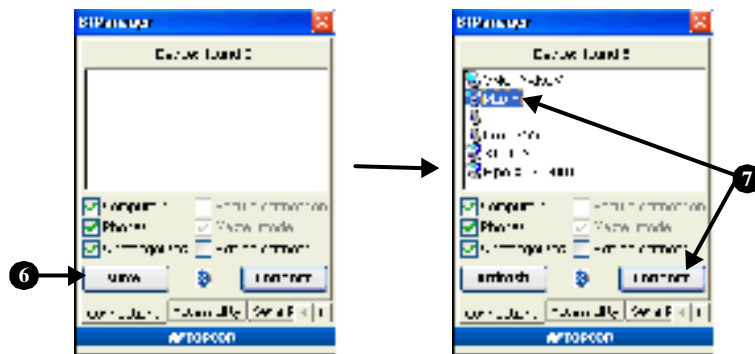


Figure 3-6. View Devices and Connect

Once a connection has been established, the Bluetooth Indicator turns green (Connected to Device and Device Properties).

- If a connection takes more than two minutes, tap **Reset** on the *Accessibility* tab. Then try connecting to the device again.
- To view information on the connected device, double-tap the device (Connected to Device and Device Properties).
- Selecting/deselecting “Master mode” will switch between Master mode and Slave mode while connected.
- To disconnect from the device, tap **Disconnect**.



Figure 3-7. Connected to Device and Device Properties

Surveying with the GMS-2

The GMS-2 can be used in many surveying situations. From GIS surveying to data collection on a construction jobsite, the GMS-2 provides an integrated solution for all your needs.

Simple surveying (data collection) with the GMS-2 can be handled with the on-board GMS Tools software. Other surveys may require an external GPS antenna and/or a Beacon receiver to acquire GPS signals or correction data for better position accuracy.

Surveying with the GMS-2

1. Complete any required pre-survey steps as described in Chapter 2.
2. Configure the GMS-2 receiver for data collection as described in the corresponding software manual.

For example, if using TopPAD as the data collection software, refer to the TopPAD Reference Manual.

3. Via the data collection software, begin logging data.

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4. When you reach a location to record a point, pause and press the Enter button on the GMS-2. Wait until the point is recorded before moving to the next location.

Surveying with the GMS-2 and an External Antenna

1. Complete any required pre-survey steps as described in Chapter 2.
2. Setup the external antenna according to it's documentation.
3. Using the external antenna cable, connect the GMS-2 and external antenna.

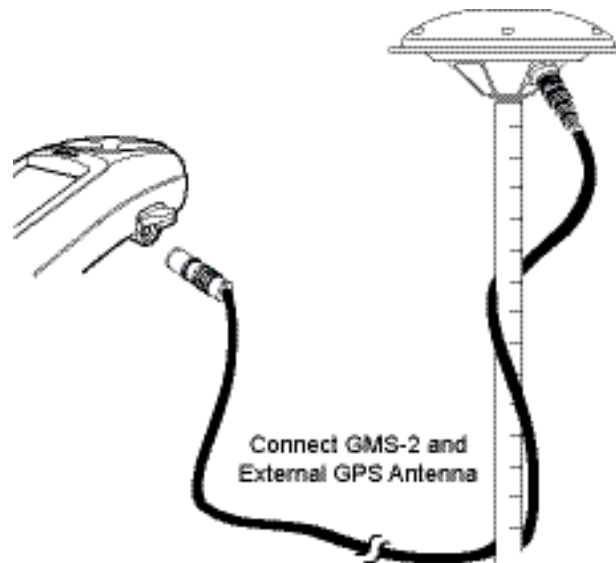


Figure 3-8. GMS-2 and PG-A5 Antenna Setup

4. Configure the GMS-2 receiver for data collection as described in the corresponding software manual.

For example, if using TopPAD as the data collection software, refer to the TopPAD Reference Manual.

5. Via the data collection software, begin logging data.

6. When you reach a location to record a point, pause and press the Enter button on the GMS-2. Wait until the point is recorded before moving to the next location.

Surveying with the GMS-2 and a Beacon Receiver

1. Complete any required pre-survey steps as described in Chapter 2.
2. Setup the Beacon receiver according to it's documentation.
3. Using BTManager, connect the GMS-2 and GPS receiver as described in Connecting the GMS-2 and a BI. In BTManager, the BR-1 would be considered an "Uncategorized" device.

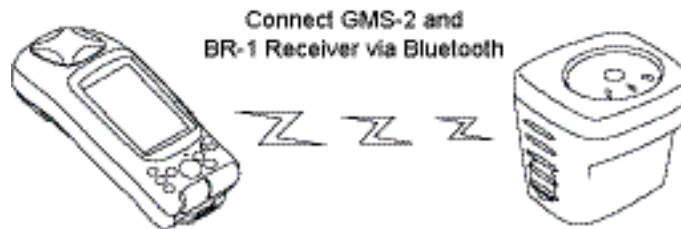


Figure 3-9. GMS-2 and BR-1 Setup

4. Configure the GMS-2 for data collection as described in the corresponding software manual.

Ensure the survey configuration is for an external receiver.

4. For example, if using TopPAD as the data collection software, refer to the *TopPAD Reference Manual*.
5. Via the data collection software, begin logging data.

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6. When you reach a location to record a point, pause and press the **Enter** button on the GMS-2. Wait until the point is recorded before moving to the next location.

Surveying with the GMS-2 and an External GPS Receiver

This setup uses Bluetooth wireless technology for communication between the GMS-2 and a GPS receiver.

1. Complete any required pre-survey steps as described in Chapter 2.
2. Setup 1.
3. Using
descri 1e
BR-1

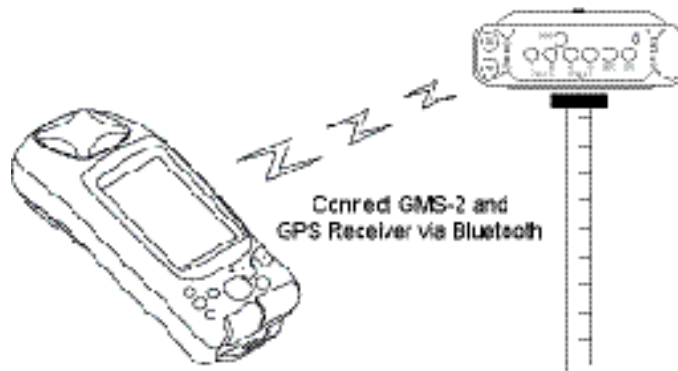


Figure 3-10. GMS-2 and HiPer Series Receiver Setup (Using Bluetooth)

4. Configure the GMS-2 for data collection as described in the corresponding software manual.

Ensure the survey configuration is for an external receiver.

4.
For example, if using TopSURV as the data collection software, refer to the *TopSURV Reference Manual*.
5. Via the data collection software, begin logging data.
6. When you reach a location to record a point, pause and press the **Enter** button on the GMS-2. Wait until the point is recorded before moving to the next location.

Backing up Windows CE RAM Data

The Windows CE RAM data stores such items as collected/saved data, registry information, and installed programs. Performing a regular backup of this data will ensure efficient and continued use of the GMS-2. RAM data will be lost in the following situations:

- Losing battery power through draining the battery or removing the battery.

The Windows CE RAM has a separate backup, rechargeable battery. This battery will power the RAM for five minutes after removing the primary battery.

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- Performing a hardware reset.
- Upgrading the operating system.

When backing up RAM data, data is stored on the internal flash memory in a “Backup” directory.

1. On the main screen of the GMS-2, tap **Start ▶ Control Panel ▶ System ▶ Backup**.

2. On the RAM Backup screen, tap **RAM data backup**. The backup to the Flash memory will begin.

- If desired, turn on “Ram data will be backed up...” to automatically back up RAM data as the GMS-2 shuts down.
- Leave “Data restoration after hard reset” on to recover data after a hardware reset. Data will be restored after a hard reset and power cycle.

If desired, turn it off (data will not be restored).

3. When the backup completes, tap **OK**.

Note the following conditions of a backup and restoration cycle:

- If the Flash memory does not have enough space to store a RAM backup, the backup will be incomplete.
- After upgrading the OS, some items may not be fully restored.

Regulatory Information

The following sections provide information on this product's compliance with government regulations for use.

FCC Compliance

This device complies with Part 15 of the FCC rules. Operation is subject to the following two conditions:

- (1) this device may not cause interference, and
- (2) this device must accept any interference, including interference that may cause undesired operation of this device.

This equipment complies with FCC radiation exposure limits set forth for uncontrolled equipment and meets the FCC radio frequency (RF) Exposure Guidelines in Supplement C to OET65. This equipment has very low levels of RF energy that it deemed to comply without maximum permissive exposure evaluation (MPE). But it is desirable that it should be installed and operated with at least 20cm and more between the radiator and person's body (excluding extremities: hands, wrists, feet and legs).

This transmitter must not be co-located or operated in conjunction with any other antenna or transmitter.

FCC WARNING

Any changes or modifications to the equipment not expressly approved by the party responsible for compliance could void your authority to operate such equipment.

Canadian Emission Labeling Requirements

1. This device complies with Part 15 of FCC Rules and RSS-Gen of IC Rules.) Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of this device.
2. This equipment complies with IC radiation exposure limits set forth for uncontrolled equipment and meets RSS-102 of the IC radio frequency (RF) Exposure rules. This equipment has very low levels of RF energy that it deemed to comply without maximum permissive exposure evaluation (MPE). But it is desirable that it should be installed and operated with at least 20cm and more between the radiator and person's body (excluding extremities: hands, wrists, feet and legs).
3. This Class B digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.

Cet appareil numérique de la classe B respecte conform a la norme NMB-003 du Canada.

Community of Europe Compliance

The product described in this manual is in compliance with the R&TTE and EMC directives from the European Community.

WEEE Directive

Following information is for EU-member states only:

The use of the symbol indicates that this product may not be treated as household waste. By ensuring this product is disposed of correctly, you will help prevent potential negative consequences for the environment and human health, which could otherwise be caused by inappropriate waste handling of this product. For more detailed information about the take-back and recycling of this product, please contact your supplier where you purchased the product or consult.

