

Garmin PeerPoint Messaging System

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Introduction

The Garmin PeerPoint Messaging System is an SMS-based messaging system that can be used to transmit position information to supported devices. Messages sent via the Garmin PeerPoint Messaging System can be read on any SMS-capable device, but devices running compatible Garmin software can take advantage of extra functionality such as navigating to the associated position or displaying it on a map.

The following Garmin products currently support the PeerPoints Messaging System via SMS:

- Garmin Mobile XT for Symbian Smartphones (Nokia S60 2nd & 3rd Ed. and Sony Ericsson UIQ 3)
- Garmin Mobile XT for Palm OS Treos (all Treo models with Bluetooth)
- Garmin Mobile XT for Windows Mobile phones (WM 2003 and newer)

The Garmin PeerPoint Messaging System utilizes two message types: PeerPoint messages and Garmin Location messages which are described below.

PeerPoint Messages

PeerPoint messages are used to transmit the current or last-known position of the sending device to a recipient. PeerPoint messages can be sent by Garmin navigation software, and can also be requested by sending a PeerPoint request SMS. When a PeerPoint message is received by compatible software, the PeerPoint is created and saved in an internal database by the Garmin software running on the receiving device. The user is then notified and can either view the details of the PeerPoint immediately or at a later time.

PeerPoint messages often include plain-text address information, but that is not required. PeerPoint messages must contain no more than 160 characters.

<PeerPoint>Text<C>Human-readable geocoded position <G>Symbol | Request | Version | Velocity | Heading | Last Known Fix | Position

- **<PeerPoint>** - Main tag designating this message as a PeerPoint message. This field is required.
- **Text** – Optional message text that could possibly include an address
- **<C>** - Human-readable geocoded position in the degrees format (N/S dd.dddddd E/Wddd.dddddd). Note that the degree symbol has been removed, and there are two spaces following each line of the position. Beginning with PeerPoint messaging version 2, this field is optional, but its use is still highly recommended due to backward compatibility and since non-Garmin devices may not attempt to parse out the non-human-readable geocoding and may only display the message in text form.
- **<G>** - Message attributes. This field is required. The attribute data is written as little-endian formatted hexadecimal numbers representing:
 - **Symbol** – An IOP_sym_t16 symbol representing the person who sent the PeerPoint (4-digits)
 - **Request** – A boolean representing whether the sender of this PeerPoint requests a PeerPoint from the recipient (2-digits)
 - **Version** – An unsigned 8-bit integer representing the version of this message. (2-digits)
 - **Version 1:** Initial version
 - **Version 2:** Added semi-circle position attribute

- **Velocity** – An unsigned 16-bit integer representing the velocity, in meters per second, at which the sender was traveling when the PeerPoint was sent. (*4-digits*)
- **Heading** – An unsigned 16-bit integer representing the heading, in radians, the sender was traveling when the PeerPoint was sent. (*4-digits*)
- **Last Known Fix** – An unsigned 32-bit integer representing the time of the last known valid fix as of when the PeerPoint was sent. Formatted as UTC time in seconds since 1990. (*8-digits*)
- **Position** – The position associated with the PeerPoint, in 32-bit integer semicircles, where 2^{31} semicircles are equal to 180 degrees. (*16-digits*) (**Version 2**)
 - The first 32-bit value represents the latitude while the second 32-bit value represents the longitude.
 - North latitudes and East longitudes are indicated with positive numbers, while South latitudes and West longitudes are indicated with negative numbers.
 - Semicircles = Degrees * ($2^{31} / 180$)
 - Degrees = Semicircles * ($180 / 2^{31}$)

PeerPoint examples (where \n represents a one-character new-line character):

- **Version 1:**
 - **<PeerPoint>**I am near 0001 S Ridgeview Rd Olathe, KS 66062**<C>**N 38.85661 W094.79921 \n**<G>**204e0001000000001f2bf1ac
 - **<PeerPoint><C>** N 38.85661 W094.79921 **<G>**204e0001000000001f2bf1ac
- **Version 2:**
 - **<PeerPoint>**I am near 0001 S Ridgeview Rd Olathe, KS 66062**<C>**N 38.85661 W094.79921 \n**<G>**20410002000000001f99604f1ba16fe0bc965d9e
 - **<PeerPoint><C>** N 38.85661 W094.79921 \n**<G>**20410002000000001f99604f1ba16fe0bc965d9e
 - **<PeerPoint><G>**20410002000000001f99604f1ba16fe0bc965d9e (*Not backward compatible with version 1*)

Garmin Location Messages

Garmin Location messages are used to transmit the position of some fixed point, such as a POI, city, or waypoint. The Garmin Location does not represent the current location of the sender, but instead represents the location of some point of which the sender wants to inform the recipient. Garmin Location messages often contain plain text intended to add context to the position being sent, such as “Meet me at...” or “I am at...”.

When a Garmin Location message is received by compatible software, the user is notified and allowed to either save the referenced position as a My Location or to delete the message. The position referred to by the Garmin Location message is not automatically saved due to the often time-critical nature of Garmin Location messages.

<GarminLoc>Text<N>Name'\n'<A>Address'\n'<T>Tel number'\n'<C> *Human-readable geocoded position <G>Symbol | Request | Version | Position*

- **<GarminLoc>** - Main tag designating this message as a Garmin Location message. This field is required.
- **Text** - Optional message text, usually followed by a new-line character
- **<N>** - Optional name of the location, usually followed by a new-line character
- **<A>** - Optional address of the location, usually followed by a new-line character
- **<T>** - Optional telephone number of the location, usually followed by a new-line character
- **<C>** - Human-readable geocoded position in the degrees format (N/S dd.dddddd E/Wddd.dddddd). Note that the degree symbol has been removed, and there are two spaces following each line of the position. Beginning with PeerPoint messaging version

2, this field is optional, but its use is still highly recommended due to backward compatibility and since non-Garmin devices may not attempt to parse out the non-human-readable geocoding and may only display the message in text form.

- **<G>** - Message attributes. This field is required. The attribute data is written as little-endian formatted hexadecimal numbers representing:
 - **Symbol** – An IOP_sym_t16 symbol representing the location being referenced. (4-digits)
 - **Request** – A boolean representing whether the sender of this Garmin Location requests a PeerPoint from the recipient. (2-digits)
 - **Version** – An unsigned 8-bit integer representing the version of this message. (2-digits)
 - **Version 1**: Initial version
 - **Version 2**: Added semi-circle position attribute
 - **Position** – The position associated with the PeerPoint, in 32-bit integer semicircles, where 2^{31} semicircles are equal to 180 degrees. (16-digits) (**Version 2**)

Garmin Location examples (where \n represents a one-character new-line character):

- **Version 1:**
 - **<GarminLoc>**Meet me at \n<N>Taco Bell\n<A>14880 S Harrison St\nOlathe, KS 66061\n<T>913-764-3674\n<C>N 38.85847 W094.81600 \n<G>20100002
 - **<GarminLoc><C>**N 38.85847 W094.81600 <G>20100002
- **Version 2:**
 - **<GarminLoc>**Meet me at \n<N>Taco Bell\n<A>14880 S Harrison St\nOlathe, KS 66061\n<T>913-764-3674\n<C>N 38.85847 W094.81600 \n<G>201000021ba1f800bc934600
 - **<GarminLoc><C>**N 38.85847 W094.81600 <G>201000021ba1f800bc934600
 - **<GarminLoc><G>**201000021ba1f800bc934600 (*Not backward compatible with version 1*)