@Track Air Interface for Garmin-FMI Protocol

Application Notes: **TRACGarminAN002**

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0. Revision history

Revision	Date	Author	Description of change
V1.00	2011-06-27	Hendry PAN	Initial
V1.01	2012-09-06	Hendry PAN	Add <*Ping Interval*> field within **AT+GTFMI=<pw>,0** command to realize sending PING notification to the Garmin PND automatically from the terminal periodically.
	2012-09-17	Hendry PAN	Add 0811 and 0821 message type for driver information report according to A604 and D604 FMI protocol.
V1.02	2013-09-22	Felix Jiang	Add <*Auto Enable*> field wihin AT+GTFMI=<pw>,0 command to enable Garmin FMI feature when the device lost the connection with Garmin PND automatically.
	2013-10-22	Joseph.Tang	Add <*Command Store Mask*> field within AT+GTFMI=<pw>,0 command to control which commands should store in buffer when lost connection and resend them after reconnect

1. Overview

1.1. Scope of This Document

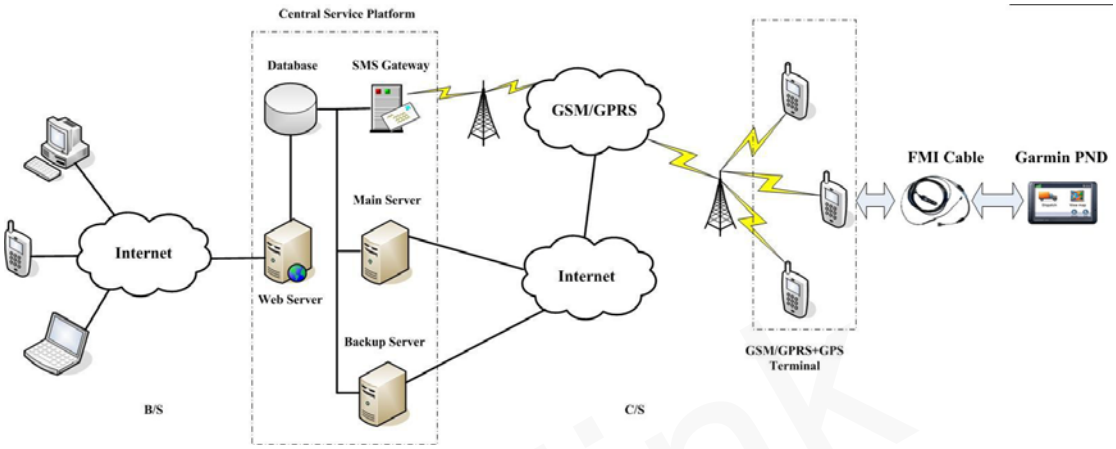
The @Track Air Interface for Garmin-FMI Protocol is a digital communication interface based on printable ASCII characters over SMS or GPRS which is used for communicating from a backend server to a terminal supporting FMI protocol. The backend server sends a command to the terminal and then the terminal parses the command and communicates with the Garmin PND by using the FMI protocol which is embedded inside the terminal. When receiving the first acknowledgement message from the Garmin PND according to FMI protocol, the terminal will respond to the backend server with an acknowledgement message according to this document. After communication between the terminal and the Garmin PND accomplishing, the terminal will send relative messages or GPS data which got from the Garmin PND to the backend server.

The purpose of this document is to describe how to build up the backend server based on the @Track Air Interface for Garmin-FMI Protocol.

1.2. Terms and Abbreviation

Abbreviation	Description
ASCII	American National Standard Code for Information Interchange
SMS	Short Message Service
TCP	Transmission Control Protocol
UDP	User Datagram Protocol
UTC	Coordinated Universal Time
FMI	Fleet Management Interface
PND	Portable Navigation Device
ETA	Estimated Time of Arrival
GPI	Garmin Points of Interest
PVT	Position, Velocity and Time
ESN	Electronic Serial Number

2. System Architecture



The backend server can be accessed by many terminals and should have the following abilities:

- ✧ The backend server should be able to access the internet and listen to the connection originating from the terminal.
- ✧ The backend server should be able to support a TCP or UDP connection with the terminal. It should be able to receive data from the terminal and send data to the terminal.
- ✧ The backend server should be able to receive and send SMS.

3. Message Description

3.1. Message Format

All messages of the @Track Air Interface for Garmin-FMI Protocol are composed of printable ASCII characters. Each message has the following format:

Message format	Message type
AT+GTFMI=<parameter1>,<parameter2>,…$	Command
+ACK:GTFMI,<parameter1>,<parameter2>,…$	Acknowledgement
+RESP:GTFMI,<parameter1>,<parameter2>,…$	Relate data of the command or GPS data

The entire message string ends with character '$'.
The "<parameter1>,<parameter2>,…" carry the message's parameters. The number of parameters is different in different messages. The ASCII character ',' is used to separate the neighboring parameter characters. The parameter string may contain the ASCII characters: '0'–'9', 'a'–'z', 'A'–'Z'.
Detailed descriptions of each message format are located in the specific message sections.

By sending Commands to the terminal, the terminal parsing Commands and then sending relative messages to the Garmin PND, reading messages or GPS data back, sending relative messages to the backend server, the backend server can access the Garmin PND indirectly via the terminal. Please see the following figure:

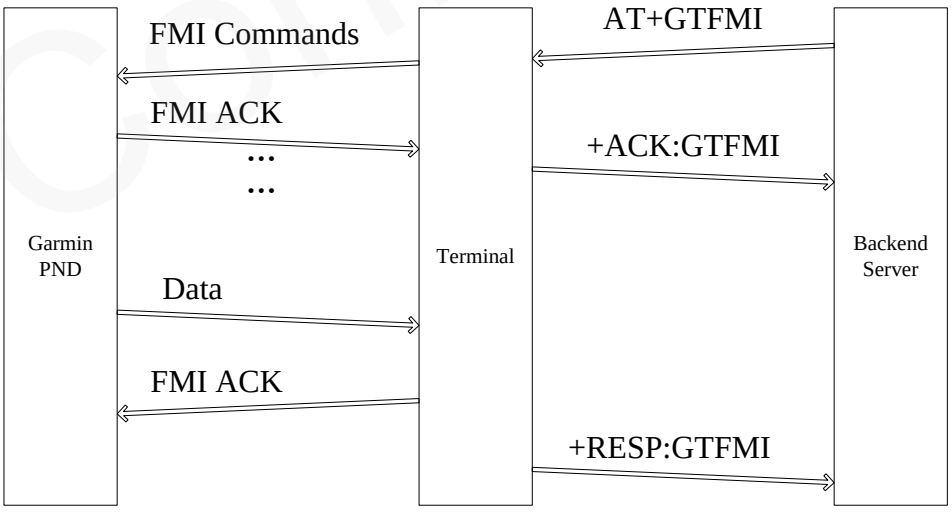


Figure **1**: @Tracker for Garmin-FMI Protocol messages flow

3.2. Command

3.2.1. AT+GTFMI=<pw>,0 – Garmin FMI Feature Enable

The command **AT+GTFMI=<pw>,0** is used to enable or disable Garmin FMI feature inside the terminal.

➢ **AT+GTFMI=<pw>,0**

Example: **AT+GTFMI=<pw>,0,1,FFFFFFFF,1,5,,,,,,,,0000$**			
Parameter	**Length(byte)**	**Range/Format**	**Default**
Password	4 – 6	'0' – '9' 'a' – 'z' 'A' – 'Z'	
FMI Command Index	1 – 2	'0' – '9'	0
FMI Feature Enable	1	0|1	0
FMI Report Mask	<=16	0 – FFFFFFFFFFFFFFFF	FFFFFFFF
Fixed Time Report Interval	<=2	0 – 30 min	1
Ping Interval	<=3	0 – 240 min	5
Auto Enable	1	0|1	1
Command Buffer Mask	<= 16	0 – FFFFFFFFFFFFFFFF	00000000
Reserved	0		
Reserved	0		
Reserved	0		
Reserved	0		
Reserved	0		
Serial Number	4	0000 – FFFF	
Tail Character	1	$	$

✧ <*Password*>: The valid character of password is '0' – 9', 'a' –'z', 'A' –'Z'. The default value is the lower case of the device type. I.e, for GV200, the default value is gv200.

✧ <*FMI Command Index*>: Used for the terminal to parse and perform relative actions.

✧ <*FMI Feature Enable*>: Enable/Disable Garmin FMI feature.

- 0: Disable Garmin FMI feature.
- 1: Enable Garmin FMI feature.

- <*FMI Report Mask*>*:* Bitwise mask in hex format to configure which report should be sent to the backend server.
  - Bit 0 for **Text Message Acknowledgement Report.**
  - Bit 1 for **A603 Open Text Message Report**
  - Bit 2 for **A607 Open Text Message Report**
  - Bit 3 for **Canned Response List Receipt Report.**
  - Bit 4 for **A604 Text Message Receipt Report.**
  - Bit 5 for **Set Canned Response Receipt Report.**
  - Bit 6 for **Delete Canned Response Receipt Report.**
  - Bit 7 for **Refresh Canned Response List Text Report.**
  - Bit 8 for **Text Message Status Report.**
  - Bit 9 for **Set Canned Message Text Receipt Report.**
  - Bit 10 for **Delete Canned Message Text Receipt Report.**
  - Bit 11 for **Refresh Canned Message List Report.**
  - Bit 12 for **Sort Stop List Acknowledgement Report.**
  - Bit 13 for **ETA Information Report.**
  - Bit 14 for **Stop Status Report.**
  - Bit 15 for **User Interface Text Receipt Report.**
  - Bit 16 for **Set Message Throttling Response Report.**
  - Bit 17 for **Request Message Throttling Status Report.**
  - Bit 18 for **Ping Packet Report**
  - Bit 19 for **Communication Link Status Report.**
  - Bit 20 for **Set Driver Status List Text Receipt Report.**
  - Bit 21 for **Delete Driver Status List Text Receipt Report.**
  - Bit 22 for **Refresh Driver Status List Report.**
  - Bit 23 for **Set Driver ID Receipt Report.**
  - Bit 24 for **Driver ID Information Report.**
  - Bit 25 for **Set Driver Status Receipt Report**
  - Bit 26 for **Driver Status Information Report.**
  - Bit 27 for **Set Speed Limit Alert Receipt Report.**
  - Bit 28 for **Speed Limit Alert Information Report.**

- <*Fixed Time Report Interval*>: The interval for reporting PVT, ETA, Driver related information periodically. The value range is 0-30 and its unit is minute. 0 means disable reporting.
- <*Ping Interval*>: The interval for sending a PING notification to the Garmin PND automatically from the terminal periodically. The value range is 0-240 and its unit is minute. 0 means disable sending.
- <*Auto Enable*>: Auto enable Garmin FMI feature when the device lost the connection with Garmin PND. The status of the connection based on the result of sending a PING notification to the Garmin PND automatically from the terminal periodically which set by < *Ping Interval* >.
- <*Command Buffer Mask*>: Mask to control which commands should be stored in buffer when lost connection, and resend them after reconnect.

- Bit 0 ~ Bit 2: Reserved
- Bit 3: Non-acknowledgeable Text Message
- Bit 4 ~ Bit 5: Reserved
- Bit 6 : New Stop To the Garmin
- Bit 7 ~ Bit 14: Reserved
- Bit 15 : Canned Response Text Message
- Bit 16 ~ Bit 63: Reserved

✧ <*Reserved*>: Not used at present. Please keep empty.

✧ <*Serial Number*>: the serial number for the command. It will be invoked in the ACK message of the command.

✧ <*Tail Character*>: a character to indicate the end of the command. And it must be "$".

The acknowledgment message of **AT+GTFMI=<pw>,0** command:

➢ **+ACK:GTFMI,**

Example: **+ACK:GTFMI,040100,135790246811220,,0,0000,20110214093254,11F0$**			
Parameter	**Length(byte)**	**Range/Format**	**Default**
Protocol Version	6	XX0000 – XXFFFF, X∈{'A' – 'Z', '0' – '9'}	
Unique ID	15	IMEI	
Device Name	<=10	'0' – '9' 'a' – 'z' 'A' – 'Z'	
FMI Command Index	1 – 2	'0' – '9'	0
Serial Number	4	0000 – FFFF	
Send Time	14	YYYYMMDDHHMMSS	
Count Number	4	0000 – FFFF	
Tail Character	1	$	$

✧ <*Protocol Version*>: The protocol version that the terminal conforms to. The first two characters XX point out the device type. 04 means GV200. The middle two characters point out the main version number of protocol and the last two characters point out the sub version number of protocol. And both of the main version and the minimum version are hex digital. For example, **020A** means version 2.10.

✧ <*Unique ID*>: The IMEI of the terminal.

✧ <*Device Name*>*:* The specified name of the device.

✧ <*Serial Number*>: A serial number which is equal to the <*Serial Number*> in the corresponding command to distinguish which command the ACK message is for.

✧ <*Send Time*>: The local time to send the ACK message.

✧ <*Count Number*>: A self-increasing count number in each acknowledgment message and report message. It begins from 0000 and increases by 1 for each message. And it rolls back

after “FFFF”.

✧ <*Tail Character*>: a character to indicate the end of the command. Must be “$”.

Note: Only after both the command AT+GTBSI and AT+GTSRI described in @Track Air Interface Protocol are properly set, the ACK messages and other report messages can be sent to the backend server.

3.2.2. AT+GTFMI=<pw>,2 – Query Information about the Garmin PND

The command **AT+GTFMI=<pw>,2** is used to query information about the Garmin PDN. After information is got from the Garmin PND, the terminal will send **+RESP:GTFMI** message which contains the information to the backend server.

- **AT+GTFMI=<pw>,2**

Example: **AT+GTFMI=<pw>,2,,,,,0002$**			
Parameter	**Length(byte)**	**Range/Format**	**Default**
Password	4 – 6	'0' – '9' 'a' – 'z' 'A' – 'Z'	
FMI Command Index	1 – 2	'0' – '9'	2
Reserved	0		
Reserved	0		
Reserved	0		
Reserved	0		
Serial Number	4	0000 – FFFF	
Tail Character	1	$	$

The acknowledgment message of **AT+GTFMI=<pw>,2** command:

- **+ACK:GTFMI,**

Example: **+ACK:GTFMI,040100,135790246811220,,2,0002,20110214093254,11F0$**			
Parameter	**Length(byte)**	**Range/Format**	**Default**
Protocol Version	6	XX0000 – XXFFFF, X∈{'A' – 'Z', '0' – '9'}	
Unique ID	15	IMEI	
Device Name	<=10	'0' – '9' 'a' – 'z' 'A' – 'Z'	
FMI Command Index	1 – 2	'0' – '9'	2
Serial Number	4	0000 – FFFF	
Send Time	14	YYYYMMDDHHMMSS	
Count Number	4	0000 – FFFF	
Tail Character	1	$	$

3.2.3. AT+GTFMI=<pw>,3 – Send Non-acknowledgeable Text Message

The command **AT+GTFMI=<pw>,3** is used to send a non-acknowledgeable text message to the Garmin PND.

➢ **AT+GTFMI=<pw>,3**

Example: **AT+GTFMI=<pw>,3,hello,0,1, ,,,,0003$**			
Parameter	**Length(byte)**	**Range/Format**	**Default**
Password	4 – 6	'0' – '9' 'a' – 'z' 'A' – 'Z'	
FMI Command Index	1 – 2	'0' – '9'	3
Message Content	1 – 199	ASCII Code	
Message Type	<=1	0|1 (FMI V2) | NULL (FMI V1)	
Message ID	<=16	ASCII Code (FMI V2) | NULL(FMI V1)	
Reserved	0		
Reserved	0		
Reserved	0		
Reserved	0		
Serial Number	4	0000 – FFFF	
Tail Character	1	$	$

✧ <*Message Content*>: This is an ASCII string up to 199 characters in length, and will be delivered to the Garmin PND's inbox.

✧ <*Message Type*>: Indicates how the message should be handled on the Garmin PND. This parameter may be empty together with empty <*Message ID*> as a FMI V1 command.

- 0: Add message to Garmin PND's inbox.
- 1: Display message on Garmin PND immediately.

✧ <*Message ID*>: This is an ASCII string up to 16 characters in length that uniquely identifies the text message. This id will be used to check "read" status when using status command. If leaving it empty, the "read" status of the text message will not be checked out. This parameter may be empty together with empty <*Message Type*> as a FMI V1 command.

Note: <*Message type*> *and* <*Message ID*> are Garmin FMI V2 parameters (A604 protocol) only and ignored on Garmin FMI V1 PNDs.

The acknowledgment message of **AT+GTFMI=<pw>,3** command:

➢ **+ACK:GTFMI,**

Example: **+ACK:GTFMI,040100,135790246811220,,3,0003,20110214093254,11F0$**			
Parameter	**Length(byte)**	**Range/Format**	**Default**
Protocol Version	6	XX0000 – XXFFFF, X∈{'A' – 'Z', '0' – '9'}	
Unique ID	15	IMEI	
Device Name	<=10	'0' – '9' 'a' – 'z' 'A' – 'Z'	
FMI Command Index	1 – 2	'0' – '9'	3
Serial Number	4	0000 – FFFF	
Send Time	14	YYYYMMDDHHMMSS	
Count Number	4	0000 – FFFF	
Tail Character	1	$	$

3.2.4. AT+GTFMI=<pw>,4 – Send Acknowledgeable Text Message (FMI V1 Only)

The command **AT+GTFMI=<pw>,4** is used to send an acknowledgeable text message to the Garmin PND which the PND may acknowledge the terminal.

➢ **AT+GTFMI=<pw>,4**

Example: **AT+GTFMI=<pw>,4,hello,2,,,,,0004$**			
Parameter	**Length(byte)**	**Range/Format**	**Default**
Password	4 – 6	'0' – '9' 'a' – 'z' 'A' – 'Z'	
FMI Command Index	1 – 2	'0' – '9'	4
Message Content	1 – 199	ASCII Code	
Message ID	<=16	ASCII Code	
Reserved	0		
Reserved	0		
Reserved	0		
Reserved	0		
Serial Number	4	0000 – FFFF	
Tail Character	1	$	$

✧ <*Message ID*>: This is an ASCII string up to 16 characters in length that uniquely identifies the text message. This id will be sent back to the terminal when the Garmin PND acknowledges this message.

Note: This is a Garmin FMI V1 command (A602 protocol) and will return error (not supported) if attached to a Garmin PND which supports FMI V2.

The acknowledgment message of **AT+GTFMI=<pw>,4** command:

➢ **+ACK:GTFMI,**

Example: **+ACK:GTFMI,040100,135790246811220,,4,0004,20110214093254,11F0$**			
Parameter	**Length(byte)**	**Range/Format**	**Default**
Protocol Version	6	XX0000 – XXFFFF, X∈{'A' – 'Z', '0' – '9'}	
Unique ID	15	IMEI	

Device Name	<=10	'0' – '9' 'a' – 'z' 'A' – 'Z'	
FMI Command Index	1 – 2	'0' – '9'	4
Serial Number	4	0000 – FFFF	
Send Time	14	YYYYMMDDHHMMSS	
Count Number	4	0000 – FFFF	
Tail Character	1	$	$

3.2.5. AT+GTFMI=<pw>,5 – Send Answerable Text Message (FMI V1 Only)

The command **AT+GTFMI=<pw>,5** is used to send an answerable text message to the Garmin PND to which the PND may answer yes or no. The answer will be sent to the backend server via a **+RESP:GTFMI** message.

➢ **AT+GTFMI=<pw>,5**

Example: **AT+GTFMI=<pw>,5,hello,3,,,,,0005$**			
Parameter	**Length(byte)**	**Range/Format**	**Default**
Password	4 – 6	'0' – '9' 'a' – 'z' 'A' – 'Z'	
FMI Command Index	1 – 2	'0' – '9'	5
Message Content	1 – 199	ASCII Code	
Message ID	<=16	ASCII Code	
Reserved	0		
Reserved	0		
Reserved	0		
Reserved	0		
Serial Number	4	0000 – FFFF	
Tail Character	1	$	$

✧ <*Message ID*>: This is an ASCII string up to 16 characters in length that uniquely identifies the text message. This id will be sent back to the terminal when the Garmin PND acknowledges this message.

Note: This is a Garmin FMI V1 command (A602 protocol) and will return error (not supported) if attached to a Garmin PND which supports FMI V2.

The acknowledgment message of **AT+GTFMI=<pw>,5** command:

➢ **+ACK:GTFMI,**

Example: **+ACK:GTFMI,040100,135790246811220,,5,0005,20110214093254,11F0$**			
Parameter	**Length(byte)**	**Range/Format**	**Default**
Protocol Version	6	XX0000 – XXFFFF, X∈{'A' – 'Z', '0' – '9'}	

Unique ID	15	IMEI	
Device Name	<=10	'0' – '9' 'a' – 'z' 'A' – 'Z'	
FMI Command Index	1 – 2	'0' – '9'	5
Serial Number	4	0000 – FFFF	
Send Time	14	YYYYMMDDHHMMSS	
Count Number	4	0000 – FFFF	
Tail Character	1	$	$

3.2.6. AT+GTFMI=<pw>,6 – Send New Stop to the Garmin PND

The command **AT+GTFMI=<pw>,6** is used to send a new stop to the Garmin PND. When the Garmin PND receives a stop, it displays the stop to the user and gives the user the ability to start navigation to the stop location.

➢ **AT+GTFMI=<pw>,6**

Example: **AT+GTFMI=<pw>,6,0,121.390927,31.164577,www.queclink.com,,,,,0006$**			
Parameter	**Length(byte)**	**Range/Format**	**Default**
Password	4 – 6	'0' – '9' 'a' – 'z' 'A' – 'Z'	
FMI Command Index	1 – 2	'0' – '9'	6
Stop ID	1 – 8	0 – FFFFFFFF	
Longitude	1 – 11	(–)xxx.xxxxxx	
Latitude	1 – 10	(–)xx.xxxxxx	
ASCII ID	1 – 199	ASCII Code	
Reserved	0		
Reserved	0		
Reserved	0		
Reserved	0		
Serial Number	4	0000 – FFFF	
Tail Character	1	$	$

✧ <*Stop ID*>: This value uniquely identifies this stop in hex format. The value is sent back to the terminal when the status of the stop changes on the Garmin PND. As such, the <*Stop ID*> should be unique for ervery stop sent to the Garmin PND. The Garmin PND will ignore the command if this value is “FFFFFFFF”.<*Longitude*>: Longitude in degrees of this stop. The format is “(–)xxx.xxxxxx” and the value range is from “–180.000000” to “180.000000”. West longitude is defined as negative starting with minus “ - ” and east longitude is defined as positive without “+”.

✧ <*Latitude*>: Latitude in degrees of this stop. The format is “(–)xx.xxxxxx” and the value range is from “–90.000000” to “90.000000”. South latitude is defined as negative starting with minus “ - ” and north latitude is defined as positive without “+”.

✧ <*ASCII ID*>: This is an ASCII string up to 199 characters in length that appears as descriptive text in the Garmin PND’s stop list.

The acknowledgment message of **AT+GTFMI=<pw>,6** command:

➢ **+ACK:GTFMI,**

Example: **+ACK:GTFMI,040100,135790246811220,,6,0006,20110214093254,11F0$**			
Parameter	**Length(byte)**	**Range/Format**	**Default**
Protocol Version	6	XX0000 – XXFFFF, X∈{'A' – 'Z', '0' – '9'}	
Unique ID	15	IMEI	
Device Name	<=10	'0' – '9' 'a' – 'z' 'A' – 'Z'	
FMI Command Index	1 – 2	'0' – '9'	6
Serial Number	4	0000 – FFFF	
Send Time	14	YYYYMMDDHHMMSS	
Count Number	4	0000 – FFFF	
Tail Character	1	$	$

3.2.7. AT+GTFMI=<pw>,7 – Manage Stops on the Garmin PND

The command **AT+GTFMI=<pw>,7** is used to delete, change the status and rearrange stops on the Garmin PND. The result will be sent to the backend server via a **+RESP:GTFMI** message.

➢ **AT+GTFMI=<pw>,7**

Example:
AT+GTFMI=<pw>,7,0,0,,,,,,0007$

AT+GTFMI=<pw>,7,0,4,1,,,,,0007$

Parameter	Length(byte)	Range/Format	Default
Password	4 – 6	'0' – '9' 'a' – 'z' 'A' – 'Z'	
FMI Command Index	1 – 2	'0' – '9'	7
Stop ID	1 – 8	0 – FFFFFFFF	
Command	1	0 – 4	
Index	1 – 4	0 – FFFF	
Reserved	0		
Reserved	0		
Reserved	0		
Reserved	0		
Serial Number	4	0000 – FFFF	
Tail Character	1	$	$

✧ <*Command*>: Request or change status of the stop, delete or sort stop in stop list.
- 0: Request status of the stop.
- 1: Mark the stop as done.
- 2: Mark the stop as active.
- 3: Delete the stop.
- 4: Move stop to <*Index*> position in stop list.

✧ <*Index*>: This parameter is specified only when <*Command*> is 4. This parameter specifies the index in the Garmin PND's stop list to which this stop is to be moved. The Garmin PND moves all other stops up or down to accommodate the new position.

The acknowledgment message of **AT+GTFMI=<pw>,7** command:

➢ **+ACK:GTFMI,**

Example:
+ACK:GTFMI,040100,135790246811220,,7,0007,20110214093254,11F0$

Parameter	Length(byte)	Range/Format	Default
Protocol Version	6	XX0000 – XXFFFF, X∈{'A' – 'Z', '0' – '9'}	
Unique ID	15	IMEI	
Device Name	<=10	'0' – '9' 'a' – 'z' 'A' – 'Z'	
FMI Command Index	1 – 2	'0' – '9'	7
Serial Number	4	0000 – FFFF	
Send Time	14	YYYYMMDDHHMMSS	
Count Number	4	0000 – FFFF	
Tail Character	1	$	$

3.2.8. AT+GTFMI=<pw>,8 – Request ETA of Active Stop from the Garmin PND

The command **AT+GTFMI=<pw>,8** is used to request the estimated time of arrival information of the currently active stop. ETA will be reported to the backend server via a **+RESP:GTFMI** Message.

- **AT+GTFMI=<pw>,8**

Example: **AT+GTFMI=<pw>,8,,,,,0008$**			
Parameter	**Length(byte)**	**Range/Format**	**Default**
Password	4 – 6	'0' – '9' 'a' – 'z' 'A' – 'Z'	
FMI Command Index	1 – 2	'0' – '9'	8
Reserved	0		
Reserved	0		
Reserved	0		
Reserved	0		
Serial Number	4	0000 – FFFF	
Tail Character	1	$	$

The acknowledgment message of **AT+GTFMI=<pw>,8** command:

- **+ACK:GTFMI,**

Example: **+ACK:GTFMI,040100,135790246811220,,8,0008,20110214093254,11F0$**			
Parameter	**Length(byte)**	**Range/Format**	**Default**
Protocol Version	6	XX0000 – XXFFFF, X∈{'A' – 'Z', '0' – '9'}	
Unique ID	15	IMEI	
Device Name	<=10	'0' – '9' 'a' – 'z' 'A' – 'Z'	
FMI Command Index	1 – 2	'0' – '9'	8
Serial Number	4	0000 – FFFF	
Send Time	14	YYYYMMDDHHMMSS	
Count Number	4	0000 – FFFF	
Tail Character	1	$	$

3.2.9. AT+GTFMI=<pw>,9 – Set Auto Arrival Criteria on the Garmin PND

The command **AT+GTFMI=<pw>,9** is used to disable, enable and change the auto arrival criteria on the Garmin PND. The auto-arrival feature is used on the Garmin PND to automatically detect that the user has arrived at a stop and then to prompt the user if they would like to mark the stop as done and start navigation to the next stop in the stop list.

➢ **AT+GTFMI=<pw>,9**

Example: **AT+GTFMI=<pw>,9,3600,10000,,,,,0009$**			
Parameter	**Length(byte)**	**Range/Format**	**Default**
Password	4 – 6	'0' – '9' 'a' – 'z' 'A' – 'Z'	
FMI Command Index	1 – 2	'0' – '9'	9
Stop Time	1 – 8	0 – FFFFFFFF (sec)	30
Stop Distance	1 – 8	0 – FFFFFFFF (m)	100
Reserved	0		
Reserved	0		
Reserved	0		
Reserved	0		
Serial Number	4	0000 – FFFF	
Tail Character			

✧ <*Stop Time*>: Number of seconds the Garmin PND must be within <*Stop Distance*> meters of the stop for the Garmin PND to automatically mark the current stop as done and then activate the stop at the next index. When <*Stop Time*> is set to 0, the auto arrival stop time feature is disabled.

✧ <Stop Distance>: Number of meters the Garmin PND must be within <*Stop Time*> seconds of the stop for the Garmin PND to automatically mark the current stop as done and then activate the stop at the next index. When <*Stop Distance*> is set to 0, the auto arrival stop distance feature is disabled.

The acknowledgment message of **AT+GTFMI=<pw>,9** command:

➢ **+ACK:GTFMI,**

Example: **+ACK:GTFMI,040100,135790246811220,,9,0009,20110214093254,11F0$**			
Parameter	**Length(byte)**	**Range/Format**	**Default**

Protocol Version	6	XX0000 – XXFFFF, X∈{'A' – 'Z', '0' – '9'}	
Unique ID	15	IMEI	
Device Name	<=10	'0' – '9' 'a' – 'z' 'A' – 'Z'	
FMI Command Index	1 – 2	'0' – '9'	9
Serial Number	4	0000 – FFFF	
Send Time	14	YYYYMMDDHHMMSS	
Count Number	4	0000 – FFFF	
Tail Character	1	$	$

3.2.10. AT+GTFMI=<pw>,10 – Delete Data on the Garmin PND

The command **AT+GTFMI=<pw>,10** is used to delete data on the Garmin PND.

➢ **AT+GTFMI=<pw>,10**

Example: **AT+GTFMI=<pw>,10,0,,,,,000A$**			
Parameter	**Length(byte)**	**Range/Format**	**Default**
Password	4 – 6	'0' – '9' 'a' – 'z' 'A' – 'Z'	
FMI Command Index	1 – 2	'0' – '9'	10
Data Type	1	0 – 7	
Reserved	0		
Reserved	0		
Reserved	0		
Reserved	0		
Serial Number	4	0000 – FFFF	
Tail Character	1	$	$

✧ <*Data Type*>: The value of this field corresponds to the type of data to be manipulated on the Garmin PND.

- 0: Delete all stops. (For Garmin FMI V1/V2)
- 1: Delete all messages. (For Garmin FMI V1/V2)
- 2: Delete the active navigation route. (For Garmin FMI V2)
- 3: Delete all canned messages. (For Garmin FMI V2)
- 4: Delete all canned replies. (For Garmin FMI V2)
- 5: Delete the Fleet Management GPI file. (For Garmin FMI V2)
- 6: Delete all driver ID and status information. (For Garmin FMI V2)
- 7: Delete all data relating to FMI, disable FMI on the Garmin PND. (For Garmin FMI V2)

Note: <*Data Type*> IDs 0-1 are Garmin FMI V1/V2 commands (A603/A604 protocols) and IDs 2-7 are Garmin FMI V2 commands (A604) and will return ERROR (not supported) if attached to appropriate Garmin PND.

The acknowledgment message of **AT+GTFMI=<pw>,10** command:

➢ **+ACK:GTFMI,**

Example:

+ACK:GTFMI,040100,135790246811220,,10,000A,20110214093254,11F0$			
Parameter	**Length(byte)**	**Range/Format**	**Default**
Protocol Version	6	XX0000 – XXFFFF, X∈{'A' – 'Z', '0' – '9'}	
Unique ID	15	IMEI	
Device Name	<=10	'0' – '9' 'a' – 'z' 'A' – 'Z'	
FMI Command Index	1 – 2	'0' – '9'	10
Serial Number	4	0000 – FFFF	
Send Time	14	YYYYMMDDHHMMSS	
Count Number	4	0000 – FFFF	
Tail Character	1	$	$

3.2.11. AT+GTFMI=<pw>,13 – Enable/Disable PVT Reporting

The command **AT+GTFMI=<pw>,13** is used to enable or disable the Garmin PND reporting once a second its position, velocity and time. The terminal will send PVT data in fixed timer report which interval is set by **AT+GTFMI=<pw>,0**.

➢ **AT+GTFMI=<pw>,13**

Example: **AT+GTFMI=<pw>,13,1,,,,,000D$**			
Parameter	**Length(byte)**	**Range/Format**	**Default**
Password	4 – 6	'0' – '9' 'a' – 'z' 'A' – 'Z'	
FMI Command Index	1 – 2	'0' – '9'	13
PVT Enable	1	0|1	0
Reserved	0		
Reserved	0		
Reserved	0		
Reserved	0		
Serial Number	4	0000 – FFFF	
Tail Character	1	$	$

✧ <*PVT Enable*>: Enable/Disable PVT reporting.

- 0: Disable reporting of PVT every second.
- 1: Enable reporting of PVT.

The acknowledgment message of **AT+GTFMI=<pw>,13** command:

➢ **+ACK:GTFMI,**

Example: **+ACK:GTFMI,040100,135790246811220,,13,000D,20110214093254,11F0$**			
Parameter	**Length(byte)**	**Range/Format**	**Default**
Protocol Version	6	XX0000 – XXFFFF, X∈{'A' – 'Z', '0' – '9'}	
Unique ID	15	IMEI	
Device Name	<=10	'0' – '9' 'a' – 'z' 'A' – 'Z'	
FMI Command Index	1 – 2	'0' – '9'	13
Serial Number	4	0000 – FFFF	

Send Time	14	YYYYMMDDHHMMSS	
Count Number	4	0000 – FFFF	
Tail Character	1	$	$

3.2.12. AT+GTFMI=<pw>,15 – Send Canned Response Text Message (FMI V2 Only)

The command **AT+GTFMI=<pw>,15** is used to send a canned text acknowledgeable text message to the Garmin PND. This message requires a response to be selected from a list set by **AT+GTFMI=<pw>,16**. When the message is displayed, the Garmin PND will also display a Reply button. When the Reply is pressed, the Garmin PND will display a list of the allowed responses. Once the user selects one of the responses, the Garmin PND will send an acknowledgement message to indicate which response was selected.

➢ **AT+GTFMI=<pw>,15**

Example: **AT+GTFMI=<pw>,15,hello,0,1,5024361879ACDEBF,,,,,000F$**			
Parameter	**Length(byte)**	**Range/Format**	**Default**
Password	4 – 6	'0' – '9' 'a' – 'z' 'A' – 'Z'	
FMI Command Index	1 – 2	'0' – '9'	15
Message Content	1 – 199	ASCII Code	
Message Type	1	0|1	
Message ID	1 – 16	ASCII Code	
Bit-mask	1 – 52	0 – FFFF (*13)	
Reserved	0		
Reserved	0		
Reserved	0		
Reserved	0		
Serial Number	4	0000 – FFFF	
Tail Character	1	$	$

✧ <*Message ID*>: This is an ASCII string up to 16 characters in length that uniquely identifies the text message. This id will be sent back to the terminal when the Garmin PND acknowledges this message.

✧ <*Bit-mask*>: Little-endian bitmask representation of canned response indexes to allow as possible acknowledgement messages. For example, “5024361879ACDEBF” would mean to allow indexes 5, 7, 11, 14, 18, 19, 21, 22, 28, 29, 33, 36, 37, 38, 39, 43, 44, 46, 48, 50, 51, 52, 53, 55, 56, 57, 58, 59, 60, 61, 62 and 64 by assuming that **AT+GTFMI=<pw>,16** was used to set each index. To cover maximum 200 Canned Responses, the maximum length of <*Bit-mask*> should be 52 because each ‘F’ represents 4 canned responses. Please note that the total of all bits with value ‘1’ within <*Bit-mask*> counts up should not be more than 50 according to Garmin FMI V2. If the value of this field is 0, the text message will be a normal non-acknowledgeable text message.

Note: This is a Garmin FMI V2 command (A604 protocol) and will return error (not supported) if attached to a Garmin FMI V1 PND.

The acknowledgment message of **AT+GTFMI=<pw>,15** command:

- **+ACK:GTFMI,**

Example: **+ACK:GTFMI,040100,135790246811220,,15,000F,20110214093254,11F0$**			
Parameter	**Length(byte)**	**Range/Format**	**Default**
Protocol Version	6	XX0000 – XXFFFF, X∈{'A' – 'Z', '0' – '9'}	
Unique ID	15	IMEI	
Device Name	<=10	'0' – '9' 'a' – 'z' 'A' – 'Z'	
FMI Command Index	1 – 2	'0' – '9'	15
Serial Number	4	0000 – FFFF	
Send Time	14	YYYYMMDDHHMMSS	
Count Number	4	0000 – FFFF	
Tail Character	1	$	$

3.2.13. AT+GTFMI=<pw>,16 – Set Canned Response List Text (FMI V2 Only)

The command **AT+GTFMI=<pw>,16** is used to set (add or update) a canned response message in the canned response list in the Garmin PND.

➢ **AT+GTFMI=<pw>,16**

Example: **AT+GTFMI=<pw>,16,hello,1,,,,,0010$**			
Parameter	**Length(byte**	**Range/Format**	**Default**
Password	4 – 6	'0' – '9' 'a' – 'z' 'A' – 'Z'	
FMI Command Index	1 – 2	'0' – '9'	16
Message Content	1 – 49	ASCII Code	
Message ID	1 – 3	1 – 200	
Reserved	0		
Reserved	0		
Reserved	0		
Reserved	0		
Serial Number	4	0000 – FFFF	
Tail Character	1	$	$

✧ <*Message Content*>: This is an ASCII string up to 49 characters in length, and will be delivered to the Garmin PND's inbox.

✧ <*Message ID*>: Response ID ranging from 1-200, that represents the canned response list index to add/update.

Note 1: Up to 200 canned responses may be stored on the Garmin PND, and up to 50 of these responses may be specified as allowed for each text message set by AT+GTFMI=<pw>,15. Canned responses are stored permanently across power cycles;
Note 2: This is a Garmin FMI V2 command (A604 protocol) and will return error (not supported) if attached to a Garmin FMI V1 PND.

The acknowledgment message of **AT+GTFMI=<pw>,16** command:

➢ **+ACK:GTFMI,**

Example: **+ACK:GTFMI,040100,135790246811220,,16,0010,20110214093254,11F0$**			
Parameter	**Length(byte)**	**Range/Format**	**Default**

Protocol Version	6	XX0000 – XXFFFF, X∈{'A' – 'Z', '0' – '9'}	
Unique ID	15	IMEI	
Device Name	<=10	'0' – '9' 'a' – 'z' 'A' – 'Z'	
FMI Command Index	1 – 2	'0' – '9'	16
Serial Number	4	0000 – FFFF	
Send Time	14	YYYYMMDDHHMMSS	
Count Number	4	0000 – FFFF	
Tail Character	1	$	$

3.2.14. AT+GTFMI=<pw>,17 – Delete Canned Response List Text (FMI V2 Only)

The command **AT+GTFMI=<pw>,17** is used to remove a canned response message in the canned response list In the Garmin PND.

➢ **AT+GTFMI=<pw>,17**

Example: **AT+GTFMI=<pw>,17,1,,,,,0011$**			
Parameter	**Length(byte)**	**Range/Format**	**Default**
Password	4 – 6	'0' – '9' 'a' – 'z' 'A' – 'Z'	
FMI Command Index	1 – 2	'0' – '9'	17
Message ID	1 – 3	1 – 200	
Reserved	0		
Reserved	0		
Reserved	0		
Reserved	0		
Serial Number	4	0000 – FFFF	
Tail Character	1	$	$

✧ <*Message ID*>: Response ID ranging from 1-200, that represents the canned response list index to remove.

Note: This is a Garmin FMI V2 command (A604 protocol) and will return error (not supported) if attached to a Garmin FMI V1 PND.

The acknowledgment message of **AT+GTFMI=<pw>,17** command:

➢ **+ACK:GTFMI,**

Example: **+ACK:GTFMI,040100,135790246811220,,17,0011,20110214093254,11F0$**			
Parameter	**Length(byte)**	**Range/Format**	**Default**
Protocol Version	6	XX0000 – XXFFFF, X∈{'A' – 'Z', '0' – '9'}	
Unique ID	15	IMEI	
Device Name	<=10	'0' – '9' 'a' – 'z' 'A' – 'Z'	
FMI Command Index	1 – 2	'0' – '9'	17

Serial Number	4	0000 – FFFF	
Send Time	14	YYYYMMDDHHMMSS	
Count Number	4	0000 – FFFF	
Tail Character	1	$	$

3.2.15. AT+GTFMI=<pw>,18 – Set Canned Message List Text (FMI V2 Only)

The command **AT+GTFMI=<pw>,18** is used to set (add or update) a canned text message in the canned text list In the Garmin PND. The canned message list is used to maintain the list of canned (predefined) text messages that the Garmin PND may send to the backend server via the terminal by using canned message feature. When sending a canned message, the user of the Garmin PND has the option to modify the text before sending it.

➢ **AT+GTFMI=<pw>,18**

Example: **AT+GTFMI=<pw>,18,hello,1,,,,,0012$**			
Parameter	**Length(byte)**	**Range/Format**	**Default**
Password	4 – 6	'0' – '9' 'a' – 'z' 'A' – 'Z'	
FMI Command Index	1 – 2	'0' – '9'	18
Message Content	1 – 49	ASCII Code	
Message ID	1 – 3	1 – 120	
Reserved	0		
Reserved	0		
Reserved	0		
Reserved	0		
Serial Number	4	0000 – FFFF	
Tail Character	1	$	$

✧ <*Message ID*>: Response ID ranging from 1-120, that represents the canned response list index to add/update.

Note 1: Up to 120 canned messages may be stored on the Garmin PND and they are stored permanently across power cycles;
Note 2: This is a Garmin FMI V2 command (A604 protocol) and will return error (not supported) if attached to a Garmin FMI V1 PND.

The acknowledgment message of **AT+GTFMI=<pw>,18** command:

➢ **+ACK:GTFMI,**

Example: **+ACK:GTFMI,040100,135790246811220,,18,0012,20110214093254,11F0$**			
Parameter	**Length(byte)**	**Range/Format**	**Default**

Protocol Version	6	XX0000 – XXFFFF, X∈{'A' – 'Z', '0' – '9'}	
Unique ID	15	IMEI	
Device Name	<=10	'0' – '9' 'a' – 'z' 'A' – 'Z'	
FMI Command Index	1 – 2	'0' – '9'	18
Serial Number	4	0000 – FFFF	
Send Time	14	YYYYMMDDHHMMSS	
Count Number	4	0000 – FFFF	
Tail Character	1	$	$

3.2.16. AT+GTFMI=<pw>,19 – Delete Canned Message List Text (FMI V2 Only)

The command **AT+GTFMI=<pw>,19** is used to remove a canned text message in the canned text list In the Garmin PND.

➢ **AT+GTFMI=<pw>,19**

Example: **AT+GTFMI=<pw>,19,1,,,,,0013$**			
Parameter	**Length(byte)**	**Range/Format**	**Default**
Password	4 – 6	'0' – '9' 'a' – 'z' 'A' – 'Z'	
FMI Command Index	1 – 2	'0' – '9'	19
Message ID	1 – 3	1 – 120	
Reserved	0		
Reserved	0		
Reserved	0		
Reserved	0		
Serial Number	4	0000 – FFFF	
Tail Character	1	$	$

✧ <*Message ID*>: Response ID ranging from 1-120, that represents the canned text list index to remove.

Note: This is a Garmin FMI V2 command (A604 protocol) and will return error (not supported) if attached to a Garmin FMI V1 PND.

The acknowledgment message of **AT+GTFMI=<pw>,19** command:

➢ **+ACK:GTFMI,**

Example: **+ACK:GTFMI,040100,135790246811220,,19,0013,20110214093254,11F0$**			
Parameter	**Length(byte)**	**Range/Format**	**Default**
Protocol Version	6	XX0000 – XXFFFF, X∈{'A' – 'Z', '0' – '9'}	
Unique ID	15	IMEI	
Device Name	<=10	'0' – '9' 'a' – 'z' 'A' – 'Z'	
FMI Command Index	1 – 2	'0' – '9'	19

Serial Number	4	0000 – FFFF	
Send Time	14	YYYYMMDDHHMMSS	
Count Number	4	0000 – FFFF	
Tail Character	1	$	$

3.2.17. AT+GTFMI=<pw>,20 – Request Message Status (FMI V2 Only)

The command **AT+GTFMI=<pw>,20** is used to receive the status of a text message previously sent to the Garmin PND. The terminal will send a **+RESP:GTFMI** message to the backend server to indicate the status.

➢ **AT+GTFMI=<pw>,20**

Example: **AT+GTFMI=<pw>,20,1,,,,,0014$**			
Parameter	**Length(byte)**	**Range/Format**	**Default**
Password	4 – 6	'0' – '9' 'a' – 'z' 'A' – 'Z'	
FMI Command Index	1 – 2	'0' – '9'	20
Message ID	1 – 16	ASCII code	
Reserved	0		
Reserved	0		
Reserved	0		
Reserved	0		
Serial Number	4	0000 – FFFF	
Tail Character	1	$	$

✧ <*Message ID*>: This is an ASCII string up to 16 characters in length that uniquely identifies the text message.

Note: This is a Garmin FMI V2 command (A604 protocol) and will return error (not supported) if attached to a Garmin FMI V1 PND.

The acknowledgment message of **AT+GTFMI=<pw>,20** command:

➢ **+ACK:GTFMI,**

Example: **+ACK:GTFMI,040100,135790246811220,,20,0014,20110214093254,11F0$**			
Parameter	**Length(byte)**	**Range/Format**	**Default**
Protocol Version	6	XX0000 – XXFFFF, X∈{'A' – 'Z', '0' – '9'}	
Unique ID	15	IMEI	
Device Name	<=10	'0' – '9' 'a' – 'z' 'A' – 'Z'	

FMI Command Index	1 – 2	'0' – '9'	20
Serial Number	4	0000 – FFFF	
Send Time	14	YYYYMMDDHHMMSS	
Count Number	4	0000 – FFFF	
Tail Character	1	$	$

3.2.18. AT+GTFMI=<pw>,21 – Sort Stop List (FMI V2 Only)

The command **AT+GTFMI=<pw>,21** is used to sort all Stops by shortest total distance possible starting from the Garmin PND's current position.

- **AT+GTFMI=<pw>,21**

Example: **AT+GTFMI=<pw>,21,,,,,0015$**			
Parameter	**Length(byte)**	**Range/Format**	**Default**
Password	4 – 6	'0' – '9' 'a' – 'z' 'A' – 'Z'	
FMI Command Index	1 – 2	'0' – '9'	21
Reserved	0		
Reserved	0		
Reserved	0		
Reserved	0		
Serial Number	4	0000 – FFFF	
Tail Character	1	$	$

Note: This is a Garmin FMI V2 command (A604 protocol) and will return error (not supported) if attached to a Garmin FMI V1 PND.

The acknowledgment message of **AT+GTFMI=<pw>,21** command:

- **+ACK:GTFMI,**

Example: **+ACK:GTFMI,040100,135790246811220,,21,0015,20110214093254,11F0$**			
Parameter	**Length(byte)**	**Range/Format**	**Default**
Protocol Version	6	XX0000 – XXFFFF, X∈{'A' – 'Z', '0' – '9'}	
Unique ID	15	IMEI	
Device Name	<=10	'0' – '9' 'a' – 'z' 'A' – 'Z'	
FMI Command Index	1 – 2	'0' – '9'	21
Serial Number	4	0000 – FFFF	
Send Time	14	YYYYMMDDHHMMSS	
Count Number	4	0000 – FFFF	

Tail Character	1	$	$

3.2.19. AT+GTFMI=<pw>,22 – Set Driver ID In the Garmin PND (FMI V2 Only)

The command **AT+GTFMI=<pw>,22** is used to set the Garmin PND's Driver ID.

➢ **AT+GTFMI=<pw>,22**

Example: **AT+GTFMI=<pw>,22,driver1,,,,,0016$**			
Parameter	**Length(byte)**	**Range/Format**	**Default**
Password	4 – 6	'0' – '9' 'a' – 'z' 'A' – 'Z'	
FMI Command Index	1 – 2	'0' – '9'	22
Driver ID	1 – 49	ASCII code	
Reserved	0		
Reserved	0		
Reserved	0		
Reserved	0		
Serial Number	4	0000 – FFFF	
Tail Character	1	$	$

✧ <*Driver ID*>: This is an ASCII string up to 49 characters in length.

Note: This is a Garmin FMI V2 command (A604 protocol) and will return error (not supported) if attached to a Garmin FMI V1 PND.

The acknowledgment message of **AT+GTFMI=<pw>,22** command:

➢ **+ACK:GTFMI,**

Example: **+ACK:GTFMI,040100,135790246811220,,22,0016,20110214093254,11F0$**			
Parameter	**Length(byte)**	**Range/Format**	**Default**
Protocol Version	6	XX0000 – XXFFFF, X∈{'A' – 'Z', '0' – '9'}	
Unique ID	15	IMEI	
Device Name	<=10	'0' – '9' 'a' – 'z' 'A' – 'Z'	
FMI Command Index	1 – 2	'0' – '9'	22
Serial Number	4	0000 – FFFF	

Send Time	14	YYYYMMDDHHMMSS	
Count Number	4	0000 – FFFF	
Tail Character	1	$	$

3.2.20. AT+GTFMI=<pw>,23 – Request Driver ID from the Garmin PND (FMI V2 Only)

The command **AT+GTFMI=<pw>,23** is used to receive the Garmin PND's Driver ID text. The terminal will send a **+RESP:GTFMI** message including the text to the backend server.

- **AT+GTFMI=<pw>,23**

Example: **AT+GTFMI=<pw>,23,,,,,0017$**			
Parameter	**Length(byte)**	**Range/Format**	**Default**
Password	4 – 6	'0' – '9' 'a' – 'z' 'A' – 'Z'	
FMI Command Index	1 – 2	'0' – '9'	23
Reserved	0		
Reserved	0		
Reserved	0		
Reserved	0		
Serial Number	4	0000 – FFFF	
Tail Character	1	$	$

Note: This is a Garmin FMI V2 command (A604 protocol) and will return error (not supported) if attached to a Garmin FMI V1 PND.

The acknowledgment message of **AT+GTFMI=<pw>,23** command:

- **+ACK:GTFMI,**

Example: **+ACK:GTFMI,040100,135790246811220,,23,0017,20110214093254,11F0$**			
Parameter	**Length(byte)**	**Range/Format**	**Default**
Protocol Version	6	XX0000 – XXFFFF, X∈{'A' – 'Z', '0' – '9'}	
Unique ID	15	IMEI	
Device Name	<=10	'0' – '9' 'a' – 'z' 'A' – 'Z'	
FMI Command Index	1 – 2	'0' – '9'	23
Serial Number	4	0000 – FFFF	
Send Time	14	YYYYMMDDHHMMSS	
Count Number	4	0000 – FFFF	

Tail Character	1	$	$

3.2.21. AT+GTFMI=<pw>,24 – Set Driver Status List Text (FMI V2 Only)

The command **AT+GTFMI=<pw>,24** is used to set (add or update) a driver status text in the driver status list In the Garmin PND.

➢ **AT+GTFMI=<pw>,24**

Example: **AT+GTFMI=<pw>,24,driving,1,,,,,0018$**			
Parameter	**Length(byte)**	**Range/Format**	**Default**
Password	4 – 6	'0' – '9' 'a' – 'z' 'A' – 'Z'	
FMI Command Index	1 – 2	'0' – '9'	24
Driver Status Text	1 – 49	ASCII code	
Driver Status ID	1 – 2	1 – 16	
Reserved	0		
Reserved	0		
Reserved	0		
Reserved	0		
Serial Number	4	0000 – FFFF	
Tail Character	1	$	$

✧ <*Driver Status Text*>: This is an ASCII string up to 49 characters in length, and will be delivered to the Garmin PND's driver status list.

✧ <*Driver Status ID*>: Status id, ranging from 1-16, that represents the driver status list index to add/update.

Note: This is a Garmin FMI V2 command (A604 protocol) and will return error (not supported) if attached to a Garmin FMI V1 PND.

The acknowledgment message of **AT+GTFMI=<pw>,24** command:

➢ **+ACK:GTFMI,**

Example: **+ACK:GTFMI,040100,135790246811220,,24,0018,20110214093254,11F0$**			
Parameter	**Length(byte)**	**Range/Format**	**Default**
Protocol Version	6	XX0000 – XXFFFF, X∈{'A' – 'Z', '0' – '9'}	

Unique ID	15	IMEI	
Device Name	<=10	'0' – '9' 'a' – 'z' 'A' – 'Z'	
FMI Command Index	1 – 2	'0' – '9'	24
Serial Number	4	0000 – FFFF	
Send Time	14	YYYYMMDDHHMMSS	
Count Number	4	0000 – FFFF	
Tail Character	1	$	$

3.2.22. AT+GTFMI=<pw>,25 – Delete Driver Status List Text (FMI V2 Only)

The command **AT+GTFMI=<pw>,25** is used to remove a driver status text in the driver status list In the Garmin PND.

➢ **AT+GTFMI=<pw>,25**

Example: **AT+GTFMI=<pw>,25,1,,,,,0019$**			
Parameter	**Length(byte)**	**Range/Format**	**Default**
Password	4 – 6	'0' – '9' 'a' – 'z' 'A' – 'Z'	
FMI Command Index	1 – 2	'0' – '9'	25
Driver Status ID	1 – 2	1 – 16	
Reserved	0		
Reserved	0		
Reserved	0		
Reserved	0		
Serial Number	4	0000 – FFFF	
Tail Character	1	$	$

✧ <*Driver Status ID*>: Status id, ranging from 1-16, that represents the driver status list index to remove.

Note: This is a Garmin FMI V2 command (A604 protocol) and will return error (not supported) if attached to a Garmin FMI V1 PND.

The acknowledgment message of **AT+GTFMI=<pw>,25** command:

➢ **+ACK:GTFMI,**

Example: **+ACK:GTFMI,040100,135790246811220,,25,0019,20110214093254,11F0$**			
Parameter	**Length(byte)**	**Range/Format**	**Default**
Protocol Version	6	XX0000 – XXFFFF, X∈{'A' – 'Z', '0' – '9'}	
Unique ID	15	IMEI	
Device Name	<=10	'0' – '9' 'a' – 'z' 'A' – 'Z'	
FMI Command Index	1 – 2	'0' – '9'	25

Serial Number	4	0000 – FFFF	
Send Time	14	YYYYMMDDHHMMSS	
Count Number	4	0000 – FFFF	
Tail Character	1	$	$

3.2.23. AT+GTFMI=<pw>,26 – Set Driver Status (FMI V2 Only)

The command **AT+GTFMI=<pw>,26** is used to set driver status In the Garmin PND.

➢ **AT+GTFMI=<pw>,26**

Example: **AT+GTFMI=<pw>,26,1,,,,,001A$**			
Parameter	**Length(byte)**	**Range/Format**	**Default**
Password	4 – 6	'0' – '9' 'a' – 'z' 'A' – 'Z'	
FMI Command Index	1 – 2	'0' – '9'	26
Driver Status ID	1 – 2	1 – 16	
Reserved	0		
Reserved	0		
Reserved	0		
Reserved	0		
Serial Number	4	0000 – FFFF	
Tail Character	1	$	$

✧ <*Driver Status ID*>: Status id, ranging from 1-16, that represents the driver status list index to use.

Note: This is a Garmin FMI V2 command (A604 protocol) and will return error (not supported) if attached to a Garmin FMI V1 PND.

The acknowledgment message of **AT+GTFMI=<pw>,26** command:

➢ **+ACK:GTFMI,**

Example: **+ACK:GTFMI,040100,135790246811220,,26,001A,20110214093254,11F0$**			
Parameter	**Length(byte)**	**Range/Format**	**Default**
Protocol Version	6	XX0000 – XXFFFF, X∈{'A' – 'Z', '0' – '9'}	
Unique ID	15	IMEI	
Device Name	<=10	'0' – '9' 'a' – 'z' 'A' – 'Z'	
FMI Command Index	1 – 2	'0' – '9'	26
Serial Number	4	0000 – FFFF	

Send Time	14	YYYYMMDDHHMMSS	
Count Number	4	0000 – FFFF	
Tail Character	1	$	$

3.2.24. AT+GTFMI=<pw>,27 – Request Driver Status (FMI V2 Only)

The command **AT+GTFMI=<pw>,27** is used to receive the driver status in the Garmin PND. The terminal will send a **+RESP:GTFMI** message including the status to the backend server.

➢ **AT+GTFMI=<pw>,27**

Example: **AT+GTFMI=<pw>,27,,,,,001B$**			
Parameter	**Length(byte)**	**Range/Format**	**Default**
Password	4 – 6	'0' – '9' 'a' – 'z' 'A' – 'Z'	
FMI Command Index	1 – 2	'0' – '9'	27
Reserved	0		
Reserved	0		
Reserved	0		
Reserved	0		
Serial Number	4	0000 – FFFF	
Tail Character	1	$	$

Note: This is a Garmin FMI V2 command (A604 protocol) and will return error (not supported) if attached to a Garmin FMI V1 PND.

The acknowledgment message of **AT+GTFMI=<pw>,27** command:

➢ **+ACK:GTFMI,**

Example: **+ACK:GTFMI,040100,135790246811220,,27,001B,20110214093254,11F0$**			
Parameter	**Length(byte)**	**Range/Format**	**Default**
Protocol Version	6	XX0000 – XXFFFF, X∈{'A' – 'Z', '0' – '9'}	
Unique ID	15	IMEI	
Device Name	<=10	'0' – '9' 'a' – 'z' 'A' – 'Z'	
FMI Command Index	1 – 2	'0' – '9'	27
Serial Number	4	0000 – FFFF	
Send Time	14	YYYYMMDDHHMMSS	
Count Number	4	0000 – FFFF	

Tail Character	1	$	$

3.2.25. AT+GTFMI=<pw>,28 – Set User Interface Text (FMI V2 Only)

The command **AT+GTFMI=<pw>,28** is used to set the user interface text of a particular interface In the Garmin PND. Currently, only the "Dispatch" text on the Garmin PND main menu can be changed.

➢ **AT+GTFMI=<pw>,28**

Example: **AT+GTFMI=<pw>,28,QUECLINK_Garmin,0,,,,,001C$**			
Parameter	**Length(byte)**	**Range/Format**	**Default**
Password	4 – 6	'0' – '9' 'a' – 'z' 'A' – 'Z'	
FMI Command Index	1 – 2	'0' – '9'	28
Interface Text	1 – 49	ASCII code	
Interface ID	1	0	0
Reserved	0		
Reserved	0		
Reserved	0		
Reserved	0		
Serial Number	4	0000 – FFFF	
Tail Character	1	$	$

✧ <*Interface Text*>: This is an ASCII string up to 49 characters in length.
✧ <*Interface ID*>: Interface id, currently only 0 (Dispatch Interface) is supported.

Note: This is a Garmin FMI V2 command (A604 protocol) and will return error (not supported) if attached to a Garmin FMI V1 PND.

The acknowledgment message of **AT+GTFMI=<pw>,28** command:

➢ **+ACK:GTFMI,**

Example: **+ACK:GTFMI,040100,135790246811220,,28,001C,20110214093254,11F0$**			
Parameter	**Length(byte)**	**Range/Format**	**Default**
Protocol Version	6	XX0000 – XXFFFF, X∈{'A' – 'Z', '0' – '9'}	
Unique ID	15	IMEI	

Device Name	<=10	'0' – '9' 'a' – 'z' 'A' – 'Z'	
FMI Command Index	1 – 2	'0' – '9'	28
Serial Number	4	0000 – FFFF	
Send Time	14	YYYYMMDDHHMMSS	
Count Number	4	0000 – FFFF	
Tail Character	1	$	$

3.2.26. AT+GTFMI=<pw>,29 – Send Ping to the Garmin PND (FMI V2 Only)

The command **AT+GTFMI=<pw>,29** is used to send a PING notification to the Garmin PND. The terminal will send a **+RESP:GTFMI** message including response with PING from the Garmin PND to the backend server.

- **AT+GTFMI=<pw>,29**

Example: **AT+GTFMI=<pw>,29,,,,,001D$**			
Parameter	**Length(byte)**	**Range/Format**	**Default**
Password	4 – 6	'0' – '9' 'a' – 'z' 'A' – 'Z'	
FMI Command Index	1 – 2	'0' – '9'	29
Reserved	0		
Reserved	0		
Reserved	0		
Reserved	0		
Serial Number	4	0000 – FFFF	
Tail Character	1	$	$

Note: This is a Garmin FMI V2 command (A604 protocol) and will return error (not supported) if attached to a Garmin FMI V1 PND.

The acknowledgment message of **AT+GTFMI=<pw>,29** command:

- **+ACK:GTFMI,**

Example: **+ACK:GTFMI,040100,135790246811220,,29,001D,20110214093254,11F0$**			
Parameter	**Length(byte)**	**Range/Format**	**Default**
Protocol Version	6	XX0000 – XXFFFF, X∈{'A' – 'Z', '0' – '9'}	
Unique ID	15	IMEI	
Device Name	<=10	'0' – '9' 'a' – 'z' 'A' – 'Z'	
FMI Command Index	1 – 2	'0' – '9'	29
Serial Number	4	0000 – FFFF	
Send Time	14	YYYYMMDDHHMMSS	

Count Number	4	0000 – FFFF	
Tail Character	1	$	$

3.2.27. AT+GTFMI=<pw>,30 – Set Message Throttling (FMI V2 Only)

The command **AT+GTFMI=<pw>,30** is used to enable or disable unsolicited message protocols in the Garmin PND. The terminal will send a **+RESP:GTFMI** message to the backend server to indicate the execution result.

➢ **AT+GTFMI=<pw>,30**

Example: **AT+GTFMI=<pw>,30,0024,1,,,,,001E$**			
Parameter	**Length(byte)**	**Range/Format**	**Default**
Password	4 – 6	'0' – '9' 'a' – 'z' 'A' – 'Z'	
FMI Command Index	1 – 2	'0' – '9'	30
Protocol ID	4	0000 – FFFF	
New State	1	0|1	
Reserved	0		
Reserved	0		
Reserved	0		
Reserved	0		
Serial Number	4	0000 – FFFF	
Tail Character	1	$	$

✧ <*Protocol ID*>: Message protocol identifier in hex format.
- 0024: Client to Server Open Text Message.
- 0034: Refresh Canned Response Text.
- 0041: Message Status.
- 0054: Refresh Canned Message Text.
- 0201: ETA.
- 0211: Stop Status.
- 0260: PING.
- 0804: Refresh Driver Status List.
- 0811: Driver ID Update.
- 0821: Driver Status Update.

✧ <*New State*>: New state of specified protocol.
- 0: Disable (Throttled).
- 1: Enable (Not Throttled).

Note 1: This is a Garmin FMI V2 command (A604 protocol) and will return error (not supported) if attached to a Garmin FMI V1 PND;

Note 2: Garmin PNDs that report A605 as part of their protocol support data will have certain protocols throttled by default. Garmin PNDs that report A604 but not A605 will have all protocols enabled by default;

Note 3: The message Throttling Query Protocol is only supported on Gamin PNDs that report A605 as part of their protocol support data (AT+GTFMI=<pw>,2) and will return ERROR (not supported) if attached to a Garmin PND that does not support A605.

The acknowledgment message of **AT+GTFMI=<pw>,30** command:

- **+ACK:GTFMI,**

Example: **+ACK:GTFMI,040100,135790246811220,,30,001E,20110214093254,11F0$**			
Parameter	**Length(byte)**	**Range/Format**	**Default**
Protocol Version	6	XX0000 – XXFFFF, X∈{'A' – 'Z', '0' – '9'}	
Unique ID	15	IMEI	
Device Name	<=10	'0' – '9' 'a' – 'z' 'A' – 'Z'	
FMI Command Index	1 – 2	'0' – '9'	30
Serial Number	4	0000 – FFFF	
Send Time	14	YYYYMMDDHHMMSS	
Count Number	4	0000 – FFFF	
Tail Character	1	$	$

3.2.28. AT+GTFMI=<pw>,31 – Request Message Throttling Status (FMI V2 Only)

The command **AT+GTFMI=<pw>,31** is used to receive the message throttling statuses in the Garmin PND. The terminal will send a **+RESP:GTFMI** message to the backend server to indicate the message throttling statuses.

- **AT+GTFMI=<pw>,31**

Example: **AT+GTFMI=<pw>,31,,,,,001F$**			
Parameter	**Length(byte)**	**Range/Format**	**Default**
Password	4 – 6	'0' – '9' 'a' – 'z' 'A' – 'Z'	
FMI Command Index	1 – 2	'0' – '9'	31
Reserved	0		
Reserved	0		
Reserved	0		
Reserved	0		
Serial Number	4	0000 – FFFF	
Tail Character	1	$	$

Note 1: This is a Garmin FMI V2 command (A605 protocol) and will return error (not supported) if attached to a Garmin FMI V1 PND;
Note 2: The message Throttling Query Protocol is only supported on Gamin PNDs that report A605 as part of their protocol support data (AT+GTFMI=<pw>,2) and will return ERROR (not supported) if attached to a Garmin PND that does not support A605.

The acknowledgment message of **AT+GTFMI=<pw>,31** command:

- **+ACK:GTFMI,**

Example: **+ACK:GTFMI,040100,135790246811220,,31,001F,20110214093254,11F0$**			
Parameter	**Length(byte)**	**Range/Format**	**Default**
Protocol Version	6	XX0000 – XXFFFF, X∈{'A' – 'Z', '0' – '9'}	
Unique ID	15	IMEI	
Device Name	<=10	'0' – '9' 'a' – 'z' 'A' – 'Z'	
FMI Command Index	1 – 2	'0' – '9'	31

Serial Number	4	0000 – FFFF	
Send Time	14	YYYYMMDDHHMMSS	
Count Number	4	0000 – FFFF	
Tail Character	1	$	$

3.2.29. AT+GTFMI=<pw>,32 – Set Speed Limit Alert (FMI V2 Only)

The command **AT+GTFMI=<pw>,32** is used to set speed limit alert parameters in the Garmin PND. Once enabled, the Garmin PND will begin monitoring vehicle speed, speed limits and send alerts during speeding events. After receiving a speed alert, the terminal will send a **+RESP:GTFMI** message to the backend server to indicate the alert.

➢ **AT+GTFMI=<pw>,32**

Example: **AT+GTFMI=<pw>,32,0,10,10,1,+,120,,,,,001F$**			
Parameter	**Length(byte)**	**Range/Format**	**Default**
Password	4 – 6	'0' – '9' 'a' – 'z' 'A' – 'Z'	
FMI Command Index	1 – 2	'0' – '9'	32
Mode	1	0 – 2	
Time Over	<=3	0 – 255s	
Time Under	<=3	0 – 255s	
Alert User	1	0 – 1	
Sigh of Threshold	1	+|–	
Threshold	1 – 5	0 – 400.0km/h	
Reserved	0		
Reserved	0		
Reserved	0		
Reserved	0		
Serial Number	4	0000 – FFFF	
Tail Character	1	$	$

✧ <*Mode*>: Enable or disable speed limit alert. Car and truck speed limits can be different, therefore an option to specify either one is provided.
- 0: Car
- 1: Off
- 2: Truck

✧ <*Time Over*>: This is the time in seconds since <*Threshold*> is exceeded after which speeding events starts.

✧ <*Time Under*>: This is the time in seconds since <*Threshold*> is decreased after which speeding events starts.

✧ <*Alert User*>: This field denotes whether the driver is to be notified with audible tone when

the speeding event starts.

- 0: Do not notify.
- 1: Notify.

✧ <*Sigh of Threshold*>: This field uses to define how to judge speeding according to <*Threshold*>.

- -: The speed below <*Threshold*> is considered speeding.
- +: The speed above <*Threshold*> is considered speeding.

Note: Negative sigh use is recommended for testing purpose only.

✧ < *Threshold*>: This is the speed limit in kilometers per hour for judging whether speeding.

Note: This is a Garmin FMI V2 command (A608 protocol) and will return error (not supported) if attached to a Garmin FMI V1 PND;

The acknowledgment message of **AT+GTFMI=<pw>,32** command:

➢ **+ACK:GTFMI,**

Example: **+ACK:GTFMI,040100,135790246811220,,32,0020,20110214093254,11F0$**			
Parameter	**Length(byte)**	**Range/Format**	**Default**
Protocol Version	6	XX0000 – XXFFFF, X∈{'A' – 'Z', '0' – '9'}	
Unique ID	15	IMEI	
Device Name	<=10	'0' – '9' 'a' – 'z' 'A' – 'Z'	
FMI Command Index	1 – 2	'0' – '9'	32
Serial Number	4	0000 – FFFF	
Send Time	14	YYYYMMDDHHMMSS	
Count Number	4	0000 – FFFF	
Tail Character	1	$	$

3.3. Report

This section defines the formats of the report messages. Due to the max length of SMS message (160 bytes), the report will be truncated to fit the length of SMS message if choosing SMS as the transmission method.

3.3.1. Status/Result Report

- **Text Message Acknowledgement Report**

When an acknowledgeable or answerable text message in the Garmin PND is acknowledged, it will present an acknowledgement to the terminal. The terminal will ignore the acknowledgement or report it to the backend server according to <*FMI Event Mask*> set by **AT+GTFMI=<pw>,0**.

- **Canned Response List Receipt Report**

After setting canned response list text in the Garmin PND by **AT+GTFMI=<pw>,16**, the backend server must send a canned response list bit-mask together with sending a canned response text message to the Garmin PND by **AT+GTFMI=<pw>,15**. When the Garmin PND receives the canned response list bit-mask, it will present a notification whether the canned response list was set successfully for the canned response text message. The terminal will ignore the receipt or report it to the backend server according to <*FMI Event Mask*> set by **AT+GTFMI=<pw>,0**.

- **A604 Text Message Receipt Report**

When the Garmin PND receives an A604 open text message, it will present a receipt that the message was received. The receipt indicates whether the message was accepted by itself; it does not imply that the message has been displayed. The terminal will ignore the receipt or report it to the backend server according to <*FMI Event Mask*> set by **AT+GTFMI=<pw>,0**.

- **Set Canned Response Receipt Report**

If the backend server want to add/update a canned response list text in the Garmin PND by **AT+GTFRM=<pw>,16**, the Garmin PND will present a receipt that indicates whether the text was added/updated successfully. The terminal will ignore the receipt or report it to the backend server according to <*FMI Event Mask*> set by **AT+GTFMI=<pw>,0**.

- **Delete Canned Response Receipt Report**

If the backend server want to delete a canned response list text in the Garmin PND by **AT+GTFRM=<pw>,17**, the Garmin PND will present a receipt that indicates whether the text was deleted successfully. The terminal will ignore the receipt or report it to the backend server according to <*FMI Event Mask*> set by **AT+GTFMI=<pw>,0**. When a canned response list text is deleted, it is also removed from the list of allowed response for any canned response text messages that the Garmin PND has not replied to. If all allowed responses are removed from a canned response text message, the message is treated as a normal A604 text message.

- **Refresh Canned Response List Text Report**

The refresh canned response list text request is initiated by the Garmin PND to request update response list text for a particular message, or for all messages. The terminal will ignore this request or report it to the backend server according to <*FMI Event Mask*> set by **AT+GTFMI=<pw>,0**.

Note: The refresh canned response list request is only supported on the Garmin PND that reports A604 as part of result in AT+GTFMI=<pw>,2, and is throttled by default on the Garmin PND that reports A605 as part of result in AT+GTFMI=<pw>,2. Use AT+GTFMI=<pw>,31 to enable the request.

- **Text Message Status Report**

If the status of a message stored on the Garmin PND changes, it will present an acknowledgement to indicate the new status. The terminal will ignore the new status or report it to the backend server according to <*FMI Event Mask*> set by **AT+GTFMI=<pw>,0**. If the terminal receives an **AT+GTFMI=<pw>,20** command, the terminal will report the status of the message specified by the <*Message ID*> field to the backend server after obtaining it from the Garmin PND.

- **Set Canned Message Text Receipt Report**

If the backend server want to add/update a canned message list text in the Garmin PND by **AT+GTFRM=<pw>,18**, the Garmin PND will present a receipt that indicates whether the text was added/updated successfully. The terminal will ignore the receipt or report it to the backend server according to <*FMI Event Mask*> set by **AT+GTFMI=<pw>,0**.

- **Delete Canned Message Text Receipt Report**

If the backend server want to delete a canned message list text in the Garmin PND by **AT+GTFRM=<pw>,19**, the Garmin PND will present a receipt that indicates whether the text was deleted successfully. The terminal will ignore the receipt or report it to the backend server according to <*FMI Event Mask*> set by **AT+GTFMI=<pw>,0**.

- **Refresh Canned Message List Report**

The refresh canned message list request is initiated by the Garmin PND when it requires an updated list of canned message. After receiving this request, the terminal will ignore or report it to the backend server according to <*FMI Event Mask*> set by **AT+GTFMI=<pw>,0**. In response to this request, the backend server shall send **AT+GTFMI=<pw>,18** to set canned message list text.

Note: The refresh canned message request is only supported on the Garmin PND that report A604 as part of result in AT+GTFMI=<pw>,2, and is throttled by default on the Garmin PND that report A605 as part of result in AT+GTFMI=<pw>,2. Use AT+GTFMI=<pw>,31 to enable the request.

- **Sort Stop List Acknowledgement Report**

When the Garmin PND receives a sort stop list request, it will present an acknowledgement to the

terminal. The terminal will ignore the acknowledgement or report it to the backend server according to <*FMI Event Mask*> set by **AT+GTFMI=<pw>,0**.

- **Stop Status Report**

If the status of a stop in the Garmin PND changes, it will present an acknowledgement to indicate the new status. The terminal will ignore the new status or report it to the backend server according to <*FMI Event Mask*> set by **AT+GTFMI=<pw>,0**. If the terminal receives an **AT+GTFMI=<pw>,7** command to query the status of a stop in the Garmin PND, the terminal will report the status of the stop specified by the <*Stop ID*> field to the backend server after obtaining the status of the stop.

- **User Interface Text Receipt Report**

If the backend server want to update the user interface text in the Garmin PND by **AT+GTFMI=<pw>28**, the Garmin PND will present a receipt that indicates whether the text was updated successfully. The terminal will ignore the receipt or report it to the backend server according to <*FMI Event Mask*> set by **AT+GTFMI=<pw>,0**.

- **Set Message Throttling Response Report**

If the backend server want to enable/disable an unsolicited message protocol in the Garmin PND by **AT+GTFMI=<pw>,30**, the Garmin PND will present a response that indicates whether the protocol was enabled/disabled successfully. The terminal will ignore the response or report it to the backend server according to <*FMI Event Mask*> set by **AT+GTFMI=<pw>,0**.

- **Request Message Throttling Status Report**

If the backend server want to request an unsolicited message protocol status in the Garmin PND by **AT+GTFMI=<pw>,31**, the Garmin PND will present a response that indicates the status of the protocol. The terminal will report it to the backend server.

- **Ping Packet Report**

If the PING message protocol on the Garmin PND is enabled by **AT+GTFMI=<pw>,30** command, the Garmin PND will send PING packet to the terminal every minute. The terminal will ignore the PING packet or report it to the backend server according to <*FMI Event Mask*> set by **AT+GTFMI=<pw>,0** and send PING response to the Garmin PND automatically to maintain the communication link.

- **Communication Link Status Report**

If the terminal detects that the communication link between the terminal and the Garmin PND changes from active to inactive or vice versa, the terminal will ignore the status change or report it to the backend server according to <*FMI Event Mask*> set by **AT+GTFMI=<pw>,0**. If the terminal receives an **AT+GTFMI=<pw>,29** command, the terminal will report the status to the backend server after obtaining PING response from the Garmin PND. Or if <*Ping Interval*> within **AT+GTFMI=<pw>,0** command is set to non zero value, the terminal will send PING command to the Garmin PND periodically and report the status if it changed from previous status to the backend server after obtaining PING response from the Garmin PND.

- **Set Driver Status List Text Receipt Report**

If the backend server want to add/update driver status list text in the Garmin PND by **AT+GTFMI=<pw>,24**, the Garmin PND will present a receipt that indicates whether the text was added/updated successfully. The terminal will ignore the receipt or report it to the backend server according to <*FMI Event Mask*> set by **AT+GTFMI=<pw>,0**.

- **Delete Driver Status List Text Receipt Report**

If the backend server want to delete driver status list text in the Garmin PND by **AT+GTFMI=<pw>,25**, the Garmin PND will present a receipt that indicates whether the text was delete successfully. The terminal will ignore the receipt or report it to the backend server according to <*FMI Event Mask*> set by **AT+GTFMI=<pw>,0**..

- **Refresh Driver Status List Report**

The refresh driver status list request is initiated by the Garmin PND to request the complete list of driver statuses. The terminal will ignore this request or report it to the backend server according to <*FMI Event Mask*> set by **AT+GTFMI=<pw>,0**. In response to this request, the backend server shall send **AT+GTFMI=<pw>,24** to set driver status list text.

Note: The refresh driver status list request is only supported on the Garmin PND that report A604 as part of result in AT+GTFMI=<pw>,2, and is throttled by default on the Garmin PND that report A605 as part of result in AT+GTFMI=<pw>,2. Use AT+GTFMI=<pw>,31 to enable the request.

- **Set Driver ID Receipt Report**

If the backend server want to add/update driver ID in the Garmin PND by **AT+GTFMI=<pw>,22**, the Garmin PND will present a receipt that indicates whether the driver ID was added/updated successfully. The terminal will ignore the receipt or report it to the backend server according to <*FMI Event Mask*> set by **AT+GTFMI=<pw>,0**.

- **Set Driver Status Receipt Report**

If the backend server want to add/update driver status in the Garmin PND by **AT+GTFMI=<pw>,26**, the Garmin PND will present a receipt that indicates whether the driver status was added/updated successfully. The terminal will ignore the receipt or report it to the backend server according to <*FMI Event Mask*> set by **AT+GTFMI=<pw>,0**.

- **Set Speed Limit Alert Receipt Report**

If the backend server want to set speed limit alert parameters in the Garmin PND by **AT+GTFMI=<pw>,32**, the Garmin PND will present a receipt that indicates whether parameters were set successfully. The terminal will ignore the receipt or report it to the backend server according to <*FMI Event Mask*> set by **AT+GTFMI=<pw>,0**.

All of the above report messages have the same format as shown below.

Example:
Text Message Acknowledgement Report:

+RESP:GTFMI,040100,135790246811220,,0020,111,1,,0460,0000,18d8,6141,00,,,,,20110214093254,11F0$
+RESP:GTFMI,040100,135790246811220,,0020,,1,,0460,0000,18d8,6141,00,,,,,20110214093254,11F0$

Canned Response List Receipt Report:
+RESP:GTFMI,040100,135790246811220,,0029,111,0,,0460,0000,18d8,6141,00,,,,,20110214093254,11F0$

A604 Text Message Receipt Report:
+RESP:GTFMI,040100,135790246811220,,002B,111,1,,0460,0000,18d8,6141,00,,,,,20110214093254,11F0$
+RESP:GTFMI,040100,135790246811220,,002B,,1,,0460,0000,18d8,6141,00,,,,,20110214093254,11F0$

Set Canned Response Receipt Report:
+RESP:GTFMI,040100,135790246811220,,0032,1,1,,0460,0000,18d8,6141,00,,,,,20110214093254,11F0$

Delete Canned Response Receipt Report:
+RESP:GTFMI,040100,135790246811220,,0033,1,1,,0460,0000,18d8,6141,00,,,,,20110214093254,11F0$

Refresh Canned Response List Text Report:
+RESP:GTFMI,040100,135790246811220,,0034,5024361879ACDEBF,,,0460,0000,18d8,6141,00,,,,,20110214093254,11F0$

Text Message Status Report:
+RESP:GTFMI,040100,135790246811220,,0041,111,1,,0460,0000,18d8,6141,00,,,,,20110214093254,11F0$

Set Canned Message Text Receipt Report:
+RESP:GTFMI,040100,135790246811220,,0051,1,1,,0460,0000,18d8,6141,00,,,,,20110214093254,11F0$

Delete Canned Message Text Receipt Report:
+RESP:GTFMI,040100,135790246811220,,0053,1,1,,0460,0000,18d8,6141,00,,,,,20110214093254,11F0$

Refresh Canned Message List Report:
+RESP:GTFMI,040100,135790246811220,,0054,,,,0460,0000,18d8,6141,00,,,,,20110214093254,11F0$

Sort Stop List Acknowledgement Report:

+RESP:GTFMI,040100,135790246811220,,0111,,,,0460,0000,18d8,6141,00,,,,,20110214093254,11F0$

Stop Status Report:
+RESP:GTFMI,040100,135790246811220,,0211,1,100,1,0460,0000,18d8,6141,00,,,,,20110214093254,11F0$

User Interface Text Receipt Report:
+RESP:GTFMI,040100,135790246811220,,0241,0,1,,0460,0000,18d8,6141,00,,,,,20110214093254,11F0$

Set Message Throttling Response Report:
+RESP:GTFMI,040100,135790246811220,,0251,0024,1,,0460,0000,18d8,6141,00,,,,,20110214093254,11F0$

Request Message Throttling Status Report:
+RESP:GTFMI,040100,135790246811220,,0253,0024,1,,0460,0000,18d8,6141,00,,,,,20110214093254,11F0$

Ping Packet Report:
+RESP:GTFMI,040100,135790246811220,,0260,,1,,0460,0000,18d8,6141,00,,,,,20110214093254,11F0$

Communication Link Status Report:
+RESP:GTFMI,040100,135790246811220,,0261,,1,,0460,0000,18d8,6141,00,,,,,20110214093254,11F0$

Set Driver Status List Text Receipt Report:
+RESP:GTFMI,040100,135790246811220,,0802,1,1,,0460,0000,18d8,6141,00,,,,,20110214093254,11F0$

Delete Driver Status List Text Receipt Report:
+RESP:GTFMI,040100,135790246811220,,0803,1,1,,0460,0000,18d8,6141,00,,,,,20110214093254,11F0$

Refresh Driver Status List Report:
+RESP:GTFMI,040100,135790246811220,,0804,,,,0460,0000,18d8,6141,00,,,,,20110214093254,11F0$

Set Driver ID Receipt Report:
+RESP:GTFMI,040100,135790246811220,,0812,0,1,,0460,0000,18d8,6141,00,,,,,20110214093254,11F0$

Set Driver Status Receipt Report:

+RESP:GTFMI,040100,135790246811220,,0822,0,1,,0460,0000,18d8,6141,00,,,,,20110214093254,11F0$

Set Speed Limit Alert Receipt Report:
+RESP:GTFMI,040100,135790246811220,,1001,,0,,0460,0000,18d8,6141,00,,,,,20110214093254,11F0$

Parameter	Length(byte)	Range/Format	Default
Protocol Version	6	XX0000 – XXFFFF, X∈{'A' – 'Z','0' – '9'}	
Unique ID	15	IMEI	
Device Name	<=10	'0' – '9' 'a' – 'z' 'A' – 'Z'	
Report Type	4	0000 – FFFF	
Report ID	<=49	'0' – '9' 'a' – 'z' 'A' – 'Z'	
Status/Result	<=4	'0' – '9'	
Index in List	<=4	0 – FFFF	
MCC	4	0XXX	
MNC	4	0XXX	
LAC	4	XXXX	
Cell ID	4	XXXX	
Reserved	2	00	
Reserved	0		
Reserved	0		
Reserved	0		
Reserved	0		
Send Time	14	YYYYMMDDHHMMSS	
Count Number	4	0000 – FFFF	
Tail Character	1	$	$

✧ <*Report Type*>: Indicates current report type.

- 0020: Text message acknowledgement report.
- 0029: Canned response list receipt report.
- 002B: A604 text message receipt report.
- 0032: Set canned response receipt report.
- 0033: Delete canned response receipt report.

- 0034: Refresh canned response list text report.
- 0041: Text message status report.
- 0051: Set canned message receipt report.
- 0053: Delete canned message receipt report.
- 0054: Refresh canned message list report.
- 0111: Sort stop list acknowledgement report.
- 0211: Stop status report.
- 0241: User interface text receipt report.
- 0251: Set message throttling response report.
- 0253: Request message throttling status report.
- 0260: Ping packet report.
- 0261: Communication link status report.
- 0802: Set driver status list text receipt report.
- 0803: Delete driver status list text receipt report.
- 0804: Refresh driver status list report.
- 0812: Set driver ID receipt report.
- 0822: Set driver Status receipt report.
- 1001: Set speed limit alert receipt report.

✧ <*Report ID*>: This field may be empty or not empty. It is used to uniquely identify the message/stop/driver/ETA if not empty. <*Report ID*> has different meanings for different <*Report Type*> as below.

- <*Report Type*> = 0020:
  This field may be empty or an ASCII string up to 16 characters in length as a <*Message ID*>. If it is empty, the acknowledgement may be come from any one of acknowledgeable or answerable text messages in the Garmin PND.
- <*Report Type*> = 0029:
  This is an ASCII string up to 16 characters in length as a <*Message ID*> that uniquely indentifies the canned response text message.
- <*Report Type*> = 002B:
  This field may be empty or an ASCII string up to 16 characters in length as a <*Message ID*>. If it is empty, the message accepted by the Garmin PND has no message ID and its status could not be read.
- <*Report Type*> = 0032:
  The value range of the field is 1-200. This field as a <*Message ID*> represents the canned response list index to add/update.
- <*Report Type*> = 0033:
  The value range of the field is 1-200. This field as a <*Message ID*> represents the canned response list index to remove.
- <*Report Type*> = 0034:
  This field is mostly like <*Bit-mask*> in **AT+GTFMI=<pw>,15**. If its value is '0', the backend server shall send **AT+GTFMI=<pw>,16** to set canned response list text for all valid canned response list index from 1 to 200. If its value is not '0', the backend server shall send **AT+GTFMI=<pw>,16** to set canned response list text for each canned response list index which masked as '1' in this field. For example,

"5024361879ACDEBF" would mean that the backend server shall send **AT+GTFMI=<pw>,16** to set canned response list text with <*Message ID*> 5, 7, 11, 14, 18, 19, 21, 22, 28, 29, 33, 36, 37, 38, 39, 43, 44, 46, 48, 50, 51, 52, 53, 55, 56, 57, 58, 59, 60, 61, 62 and 64.

- <*Report Type*> = 0041:
  This is an ASCII string up to 16 characters in length as a <*Message ID*> that uniquely identifies the text message which status will be report. In this case, <*Message ID*> should not be empty.
- <*Report Type*> = 0051:
  The value range of the field is 1-120. This field as a <*Message ID*> represents the canned message list index to add/update.
- <*Report Type*> = 0053:
  The value range of the field is 1-120. This field as a <*Message ID*> represents the canned message list index to remove.
- <*Report Type*> = 0054:
  This field is empty.
- <*Report Type*> = 0111:
  This field is empty.
- <*Report Type*> = 0211:
  The value range of the field is 0-FFFFFFFF. This field as a <*Stop ID*> uniquely identifies the stop.
- <*Report Type*> = 0241:
  This field is the element ID of the user interface text. By now it is always 0 that means 'Dispatch' text on the Garmin PND's main menu.
- <*Report Type*> = 0251:
- <*Report Type*> = 0253:
  This field is same with <*Protocol ID*> in **AT+GTFMI=<pw>,30**.
- <*Report Type*> = 0260:
- <*Report Type*> = 0261:
  This field is empty.
- <*Report Type*> = 0802:
  The value range of the field is 1-16. This field as a <*Driver Status ID*> represents the driver status list index to add/update.
- <*Report Type*> = 0803:
  The value range of the field is 1-16. This field as a <*Driver Status ID*> represents the driver status list index to delete.
- <*Report Type*> = 0804:
  This field is empty.
- <*Report Type*> = 0812:
  This field may be driver index in future. Currently it is always 0.
- <*Report Type*> = 0822:
  This field may be driver index in future. Currently it is always 0.
- <*Report Type*> = 1001:
  This field is empty.

✧ <*Status/Result*>: This may be the status requested by the backend server or reported by the Garmin PND or be the execution result of an AT command from the backend or be some actions on the Garmin PND. It has different meanings for different <*Report Type*> as below.

- <*Report Type*> = 0020:
  There are two meanings for this field. If the message is an acknowledgeable or answerable text message which initiated this report, it has following three meanings:
  0: Simple okay acknowledgement.
  1: Yes acknowledgement.
  2: No acknowledgement.
  If the message is a canned response text message which initiated this report, this field identifies the <*Response ID*> (1 – 200) corresponding to the response selected by the user.
- <*Report Type*> = 0029:
  0: The canned response list for the canned response text message set successfully.
  1: Invalid response count. A canned response list should contain 1-50 entries.
  2: Invalid response id. One or more canned responses specified by the bit-mask were not set by **AT+GTFMI=<pw>,16**.
  3: Invalid or duplicate <*Message ID*>. <*Message ID*> of the canned response text message should use one that is not on the Garmin PND.
  4: Canned response list database full. The number of the canned response list is too large to set a new one. After receiving a text message acknowledgement from the Garmin PND, a new canned response list can be set again.
- <*Report Type*> = 002B:
  0: Error occurred (e.g. there is already a message with the same <*Message ID*>).
  1: The message was accepted.
- <*Report Type*> = 0032:
- <*Report Type*> = 0051:
  0: Add/update operation is not successful.
  1: Add/update operation is successful.
- <*Report Type*> = 0033:
- <*Report Type*> = 0053:
  0: Delete operation is not successful.
  1: Delete operation is successful.
- <*Report Type*> = 0034:
  This field is empty.
- <*Report Type*> = 0041:
  0: Message is unread.
  1: Message is read.
  2: Message is not found (e.g. delete).
- <*Report Type*> = 0054:
  This field is empty.
- <*Report Type*> = 0111:
  This field is empty.
- <*Report Type*> = 0211:

0: This is the terminal requesting the status of a stop from the Garmin PND.
1: This is the terminal telling the Garmin PND to mark a stop as done.
2: This is the terminal telling the Garmin PND to start navigating to a stop.
3: This is the terminal telling the Garmin PND to delete a stop from the stop list.
4: This is the terminal telling the Garmin PND to move a stop to a new position in the stop list.
100: This is the Garmin PND reporting the current status of a stop as active.
101: This is the Garmin PND reporting the current status of a stop as done.
102: This is the Garmin PND reporting the current status of a stop as unread and inactive.
103: This is the Garmin PND reporting the current status of a stop as read and inactive.
104: This is the Garmin PND reporting the current status of a stop as deleted.

- <*Report Type*> = 0241:
  0: The user interface text was not updated successfully.
  1: The user interface text was updated successfully.
- <*Report Type*> = 0251:
  0: The specified protocol was disabled.
  1: The specified protocol was enabled.
  4095: Error occurred because of invalid <*Protocol ID*> or invalid <*New State*> specified in **AT+GTFMI=<pw>,30**.
- <*Report Type*> = 0253:
  0: The specified protocol is disabled.
  1: The specified protocol is enabled.
  4095: Error occurred because of invalid <*Protocol ID*>.
- <*Report Type*> = 0260:
  This field is always 1. It means that the communication link between the terminal and the Garmin PND is active.
- <*Report Type*> = 0261:
  0: Communication link between the terminal and the Garmin PND has been lost.
  1: Communication link between the terminal and the Garmin PND has been achieved.
- <*Report Type*> = 0802:
  0: Driver status list text was not added/updated successfully.
  1: Driver status list text was added/updated successfully.
- <*Report Type*> = 0803:
  0: Driver status list text was not deleted successfully.
  1: Driver status list text was deleted successfully.
- <*Report Type*> = 0804:
  This field is empty.
- <*Report Type*> = 0812:
  0: Driver ID was not updated successfully.
  1: Driver ID was updated successfully.
- <*Report Type*> = 0822:
  0: Driver status was not updated successfully.
  1: Driver status was updated successfully.

- <*Report Type*> = 1001:
  0: Speed limit alert parameters were set successfully.
  1: Speed limit alert parameters were not set successfully.
  2: Speed limit alert was not supported.

✧ <*Index in List*>: When <*Report Type*> = 0211 and <*Report Type*> is 100-103, this field will respond to the current position of the stop in list and its value range is 0-FFFF. For other <*Report Type*>, it is empty.

✧ <*MCC*>: Mobile country code. It is 3 digits in length and ranges from 000–999.

✧ <*MNC*>: Mobile network code. It is 3 digits in length and ranges from 000–999.

✧ <*LAC*>: Location area code in hex format.

✧ <*Cell ID*>: Cell ID in hex format.

3.3.2. Text Message Report

- **A603 Open Text Message Report**

When a simple text message sent by the Garmin PND and received by the terminal, the terminal will report it to the backend server.

Note: This report is only supported on the Garmin PND that report A603 as part of result in AT+GTFMI=<pw>,2.

- **A607 Open Text Message Report**

When a simple text message sent by the Garmin PND and received by the terminal, the terminal will report it to the backend server.

Note: This report is only supported on the Garmin PND that report A607 as part of result in AT+GTFMI=<pw>,2.

Example:
A603 Open Text Message Report:
+RESP:GTFMI,040100,135790246811220,,0024,1,hello,,,,0460,0000,18d8,6141,00,,,,,20110214093254,11F0$

A607 Open Text Message Report:
+RESP:GTFMI,040100,135790246811220,,0026,2,hello,111,121.354335,31.222073,0460,0000,18d8,6141,00,,,,,20110214093254,11F0$

Parameter	Length(byte)	Range/Format	Default
Protocol Version	6	XX0000 – XXFFFF, X∈{'A' – 'Z','0' – '9'}	
Unique ID	15	IMEI	
Device Name	<=10	'0' – '9' 'a' – 'z' 'A' – 'Z'	
Report Type	4	0024|0026	
Message Unique ID	<=8	0 – FFFFFFFF	
Message Content	<=199	ASCII Code	
Response ID	<=16	ASCII Code	
Longitude	<=11	(–)xxx.xxxxxx	
Latitude	<=10	(–)xx.xxxxxx	
MCC	4	0XXX	
MNC	4	0XXX	
LAC	4	XXXX	

Cell ID	4	XXXX	
Reserved	2	00	
Reserved			
Reserved			
Reserved			
Reserved			
Send Time	14	YYYYMMDDHHMMSS	
Count Number	4	0000 – FFFF	
Tail Character	1	$	$

- <*Message Unique ID*>: This field is the unsigned 32-bit unique identifier for the message.
- <*Response ID*>: This field is only used in **A607 Open Text Message Report**. This id is the ID of a text message sent from the backend server to the Garmin PND before that this text message is responding to. If the text message is not in response to any text message or ID of a text message that this message is responding to is not available, this field will be empty.
- <*Longitude*>: The longitude at the time the message was created. This field is only used in **A607 Open Text Message Report**.
- <*Latitude*>: The latitude at the time the message was created. This field is only used in **A607 Open Text Message Report**.

3.3.3. Information Report

3.3.3.1. Device Information Report

If receiving an **AT+GTFMI=<pw>,2** command, the terminal will query the information from the Garmin PND and report the information to the backend server.

Example:
+RESP:GTFMI,040100,135790246811220,,0001,3823664039,1269,2.50,P000:L001:A010:A500:D501:A600:D600:A601:D601:A602:D602:A603:D603:A604:D604:A605:D605:A606:D606:A607:D607:A700:D700:A900:A902:A903:A904:A905:D900:A907:D907:D908:D909:D910:A908:D911:A912:D912:A913:D913:A916:A917:D917:A919:A918,,,,,20110214093254,11F0$

Parameter	Length(byte)	Range/Format	Default
Protocol Version	6	XX0000 – XXFFFF, X∈{'A' – 'Z','0' – '9'}	
Unique ID	15	IMEI	
Device Name	<=10	'0' – '9' 'a' – 'z' 'A' – 'Z'	
Report Type	4	0000 – FFFF	0001
ESN	<=10	'0' – '9'	
Product ID	<=5	'0' – '9'	
Software Version	<=5	'0' – '9'	
Support Protocols	<=400	'A' | 'D' XXX:X∈{'0' – '9'}	
Reserved			
Reserved			
Reserved			
Reserved			
Send Time	14	YYYYMMDDHHMMSS	
Count Number	4	0000 – FFFF	
Tail Character	1	$	$

- <*ESN*>: This field is an ASCII number string up to 10 characters in length that uniquely identifies each Garmin device regardless of type.
- <*Product ID*>: This field is an ASCII number string up to 5 characters in length that uniquely given to each type of the Garmin device. Please see the relationship between product ids and produce names as following.

Product ID	Product Name	Product ID	Product Name
404	StreetPilot 2720	870	nuvi 705 Series
412	StreetPilot 7000 Series	905	nuvi 700 Series Sing/Malay
481	StreetPilot c340	906	nuvi 700 Series Thai
520	StreetPilot 2820	925	nuvi 700 Series Indonesian
539	StreetPilot c500 Series	926	nuvi 205 Series Indonesian
566	nuvi 310/360/370	927	nuvi 205 Series Sing/Malay
580	zumo 500 Series	928	nuvi 205 Series Chinese
596	nuvi 600 Series	929	nuvi 205W Series Indonesian
640	nuvi 300/350 Chinese	930	nuvi 205W Series Sing/Malay
641	nuvi 300/350 Japanese	931	nuvi 205W Series Chinese
642	nuvi 300/350 Thai	932	nuvi 205W Series Taiwanese
643	nuvi 310/360 Chinese	933	nuvi 205W Series Japanese
644	nuvi 310/360 Japanese	943	nuvi 465T
645	nuvi 310/360 Thai	958	nuvi 5000Taiwanese
655	nuvi 310/360 Taiwanese	959	nuvi 5000 Chinese
656	nuvi 310/360 Russian	971	nuvi 1200 Series
657	nuvi 310/360 Arabic	972	nuvi 1300/1400 Series
706	zumo 500 Series Taiwanese	1001	nuvi 205W Series Thai
722	zumo 500 Series Japanese	1002	nuvi 205 Series India
723	nuvi 500 Series	1007	nuvi 705 Series Taiwanese
726	nuvi 800 Series	1074	nuvi 205 Series MT
743	nuvi 5000 Series	1077	nuvi 1480 Series Japanese
754	nuvi 700 Series	1091	nuvi 205W Series MT
827	nuvi 205W Series	1104	nuvi 1300 Series MT
836	nuvi 700 Series Taiwanese	1106	nuvi 1100/1200 Series MT
844	nuvi 700 Series Chinese	1186	nuvi 2200 Series
851	nuvi 205 Series	1187	nuvi 2300 Series
855	nuvi 300/350	1269	dezl 560 Series
856	nuvi 310/360/370	1273	nuvi 2400 Series

- <*Software Version*>: This field is ASCII number string up 5 characters multiplied by 100 from the software version number (e.g. version 3.11 will be indicated by 311 decimal).
- <*Support Protocols*>: This field will list all protocols supported by the Garmin PND. Each Protocol is separated by a character ':'. The maximum length is 400.

3.3.3.2. ETA Information Report

If the ETA of active stop on the Garmin PND changes, it will send new ETA information to the terminal. The terminal will ignore the information or report it to the backend server according to *<FMI Event Mask>* set by **AT+GTFMI=<pw>,0**. If the terminal receives an **AT+GTFMI=<pw>,8** command, the terminal will report ETA information to the backend server after obtaining it from the Garmin PND.

Example:
+RESP:GTFMI,040100,135790246811220,,0201,1,20110701155605,18850,121.354335,31.222073,0460,0000,18d8,6141,00,,,,,20110214093254,11F0$

+RESP:GTFMI,040100,135790246811220,,0201,1,,,,,0460,0000,18d8,6141,00,,,,,20110214093254,11F0$

Parameter	Length(byte)	Range/Format	Default
Protocol Version	6	XX0000 – XXFFFF, X∈{'A' – 'Z','0' – '9'}	
Unique ID	15	IMEI	
Device Name	<=10	'0' – '9' 'a' – 'z' 'A' – 'Z'	
Report Type	4	0000 – FFFF	0201
ETA ID	<=8	0 – FFFFFFFF	
ETA Time	14	YYYYMMDDHHMMSS	
Distance to Destination	<=10	0 – 4294967295 m	
Longitude of Destination	<=11	(–)xxx.xxxxxx	
Latitude of Destination	<=10	(–)xx.xxxxxx	
MCC	4	0XXX	
MNC	4	0XXX	
LAC	4	XXXX	
Cell ID	4	XXXX	
Reserved	2	00	
Reserved			
Reserved			
Reserved			
Reserved			

Send Time	14	YYYYMMDDHHMMSS	
Count Number	4	0000 – FFFF	
Tail Character	1	$	$

- <*ETA ID*>: This field is a 32-bit unsigned value in hex format that uniquely identifies the ETA.
- <*ETA Time*>: This time is the time that the Garmin PND expects to arrive at the currently active destination. If the Garmin PND does not have a destination active, this field will be empty.
- <*Distance to Destination*>: This is the distance in meters from the Garmin PND's current position to the currently active destination. If the Garmin PND does not have a destination active, this field will be empty.
- <*Longitude of Destination*>: This is longitude of the currently active destination on the Garmin PND. If the Garmin PND does not have a destination active, this field will be empty.
- <*Latitude of Destination*>: This is latitude of the currently active destination on the Garmin PND. If the Garmin PND does not have a destination active, this field will be empty.

3.3.3.3. Driver Related Information Report

➢ **Driver ID Information Report**

If driver ID information on the Garmin PND changes, it will send the new information to the terminal. The terminal will ignore the new information or report it to the backend server according to *<FMI Event Mask>* set by **AT+GTFMI=<pw>,0**. If the terminal receives an **AT+GTFMI=<pw>,23** command, the terminal will report the driver ID information to the backend server after obtaining it from the Garmin PND.

➢ **Driver Status Information Report**

If driver status information on the Garmin PND changes, it will send the new information to the terminal. The terminal will ignore the new information or report it to the backend server according to *<FMI Event Mask>* set by **AT+GTFMI=<pw>,0**. If the terminal receives an **AT+GTFMI=<pw>,27** command, the terminal will report the driver status information to the backend server after obtaining it from the Garmin PND.

Example:
Driver ID Information Report:
For A604/D604 protocol:
+RESP:GTFMI,040100,135790246811220,,0811,driver1,20110701155605,0,0460,0000,18d8,6141,00,,,,,20110214093254,11F0$
For A607/D607 protocol:
+RESP:GTFMI,040100,135790246811220,,0813,driver1,20110701155605,0,0460,0000,18d8,6141,00,,,,,20110214093254,11F0$

Driver Status Information Report:
For A604/D604 protocol:
+RESP:GTFMI,040100,135790246811220,,0821,1,20110701155605,0,0460,0000,18d8,6141,00,,,,,20110214093254,11F0$
For A607/D607 protocol:
+RESP:GTFMI,040100,135790246811220,,0823,1,20110701155605,0,0460,0000,18d8,6141,00,,,,,20110214093254,11F0$

Parameter	Length(byte)	Range/Format	Default
Protocol Version	6	XX0000 – XXFFFF, X∈{'A' – 'Z','0' – '9'}	
Unique ID	15	IMEI	
Device Name	<=10	'0' – '9' 'a' – 'z' 'A' – 'Z'	
Report Type	4	0000 – FFFF	
Report ID	<=49	'0' – '9' 'a' – 'z' 'A' – 'Z'	
Change Time	14	YYYYMMDDHHMMSS	

Driver Index	1	0	0
MCC	4	0XXX	
MNC	4	0XXX	
LAC	4	XXXX	
Cell ID	4	XXXX	
Reserved	2	00	
Reserved			
Reserved			
Reserved			
Reserved			
Send Time	14	YYYYMMDDHHMMSS	
Count Number	4	0000 – FFFF	
Tail Character	1	$	$

- <*Report Type*>: Indicates current report type.
  - 0813: Driver ID information report.
  - 0823: Driver status information report.
- <*Report ID*>: It is used to uniquely identify the driver/driver status. <*Report ID*> has different meanings for different <*Report Type*> as below.
  - <*Report Type*> = 0813:
    This field is the same with <*Driver ID*> in **AT+GTFMI=<pw>,22**.
  - <*Report Type*> = 0823:
    This field is the same with <*Driver Status ID*> in **AT+GTFMI=<pw>,26**.
- <*Change Time*>: This time is the time that the driver ID/status was changed on the Garmin PND. If no valid driver ID or status information available, this field will be empty.
- <*Driver Index*>: This field may be driver index in future. Currently it is always 0.

3.3.4. Fixed Time Report

If <*Fixed Time Report Interval*> is set to a non zero value by **AT+GTFMI=<pw>,0** command, the terminal will query PVT, ETA and driver related information from the Garmin PND and report these information to the backend server periodically.

Example:
+RESP:GTFMI,040100,135790246811220,,0000,3823664039,3,80.2,72.456,31.255,121.354335,31.222073,20090214013254,1,20110701155605,18850,121.354335,31.222073,driver1,20110701155605,0,1,20110701155605,0460,0000,18d8,6141,00,,,,,,,,20110214093254,11F0$

Parameter	Length(byte)	Range/Format	Default
Protocol Version	6	XX0000 – XXFFFF, X∈{'A' – 'Z','0' – '9'}	
Unique ID	15	IMEI	
Device Name	<=10	'0' – '9' 'a' – 'z' 'A' – 'Z'	
Report Type	4	0000 – FFFF	0000
ESN	<=10	'0' – '9'	
GPS Fix Type	1	0 – 5	
Speed	<=5	0.0 – 999.9 km /h	
Azimuth	<=7	0 – 359.999	
Altitude	<=10	(–)xxxxx.xxx m	
Longitude	<=11	(–)xxx.xxxxxx	
Latitude	<=10	(–)xx.xxxxxx	
GPS UTC Time	14	YYYYMMDDHHMMSS	
ETA ID	<=8	0 – FFFFFFFF	
ETA Time	14	YYYYMMDDHHMMSS	
Distance to Destination	<=10	0 – 4294967295 m	
Longitude of Destination	<=11	(–)xxx.xxxxxx	
Latitude of Destination	<=10	(–)xx.xxxxxx	
Driver ID	<=49	'0' – '9' 'a' – 'z' 'A' – 'Z'	
Change Time	14	YYYYMMDDHHMMSS	
Driver Index	1	0	0
Driver Status ID	<=2	1 – 16	
Change Time	14	YYYYMMDDHHMMSS	
MCC	4	0XXX	
MNC	4	0XXX	
LAC	4	XXXX	
Cell ID	4	XXXX	
Reserved	2	00	
Reserved			
Reserved			

Reserved			
Reserved			
Reserved			
Reserved			
Reserved			
Reserved			
Send Time	14	YYYYMMDDHHMMSS	
Count Number	4	0000 – FFFF	
Tail Character	1	$	$

- ✧ <*GPS Fix Type*>: This value is very important for the backend server to inspect it to ensure that other PVT data members are valid.
  - 0: Integrity check is failed.
  - 1: The PVT data is invalid or unavailable.
  - 2: The PVT data is two dimensional fixed.
  - 3: The PVT data is three dimensional fixed.
  - 4: The PVT data is two dimensional differential fixed.
  - 5: The PVT data is three dimensional differential fixed.
- ✧ <*Speed*>: The current speed. Unit: km/h
- ✧ <*Azimuth*>: The azimuth of the GPS fixing.
- ✧ <*Altitude*>: The height above the sea level.
- ✧ <*Longitude*>: The longitude of the current position.
- ✧ <*Latitude*>: The latitude of the current position.
- ✧ <*GPS UTC Time*>: The UTC time from the GPS chip.

Note: If PVT reporting is disabled by AT+GTFMI=<pw>,13, fields from <*GPS Fix Type*> to <*GPS UTC Time*> will remain blank.

3.3.5. Speed Limit Alert Report

If the parameters of speed limit alert in the Garmin PND were set by **AT+GTFMI=<pw>,32** command and speeding event occurs, the Gamin PND will send an alert to the terminal and the terminal will report this alert to the backend server.

Example: **+RESP:GTFMI,040100,135790246811220,,1002,0,121.354335,31.222073,20090214013254,120.5,100.0,132.5,0460,0000,18d8,6141,00,,,,,20110214093254,11F0$**			
Parameter	**Length(byte)**	**Range/Format**	**Default**
Protocol Version	6	XX0000 – XXFFFF, X∈{'A' – 'Z','0' – '9'}	
Unique ID	15	IMEI	
Device Name	<=10	'0' – '9' 'a' – 'z' 'A' – 'Z'	
Report Type	4	0000 – FFFF	1002
Category	1	0 – 4	
Longitude	<=11	(–)xxx.xxxxxx	
Latitude	<=10	(–)xx.xxxxxx	
GPS UTC Time	14	YYYYMMDDHHMMSS	
Speed	<=5	0.0 – 999.9 km /h	
Speed Limit	<=6	-400.0 – 400.0km/h	
Max Speed	<=5	0.0 – 999.9 km /h	
MCC	4	0XXX	
MNC	4	0XXX	
LAC	4	XXXX	
Cell ID	4	XXXX	
Reserved	2	00	
Reserved			
Reserved			
Reserved			
Reserved			
Send Time	14	YYYYMMDDHHMMSS	
Count Number	4	0000 – FFFF	

Tail Character	1	$	$

- ✧ <*Category*>: Current speeding alert category. If speed limit alert is turned off, or any of the settings is changed during a speeding event, the alert category will be 'Invalid'. For alerts of 'Error' and 'Invalid' categories, all alerts with significant category value since last 'Begin' should be deemed invalid. All of the possible values of category are as follows:
  - 0: Begin – Speeding event began.
  - 1: Change – Speed limit changed.
  - 2: End – Speeding event ended.
  - 3: Error – Internal error.
  - 4: Invalid – Invalidate speeding event.
- ✧ <*Speed*>: The current speed in kilometer per hour at the time of the alert.
- ✧ <*Speed Limit*>: The speed limit at the time of the alert. It's the combination of <*Sigh of Threshold*> and <*Threshold*> set by **AT+GTFMI=<pw>,32**.
- ✧ <*Max Speed*>: The maximum speed in kilometer per hour achieved since last alert. In the case of an alert of 'Begin' category, <*Max Speed*> is the maximum speed achieved since the threshold was broken.

Appendix: Message Index

- Command and ACK