



ST7200 Command Set

ST7200 Command Set

Revision 0.2

06/20/2014

Confidential and Proprietary Information – © 2014 Skypatrol, LLC.
Do not duplicate without express permission from Skypatrol, LLC

Terms of Use

TERMS OF USE OF NEW MATERIALS - PLEASE READ CAREFULLY

From time to time, Skypatrol, in its sole discretion, may make available for download on its website (www.Skypatrol.com), or may transmit via mail or email, updates or upgrades to, or new releases of, the firmware, software or documentation for its products (collectively, 'New Materials'). Use of such New Materials is subject to the terms and conditions set forth below, and may be subject to additional terms and conditions as set forth in Skypatrol's Technical Support Policy (posted on its website) and/or any written agreement between the user and Skypatrol.

All New Materials are provided AS IS. Skypatrol makes no warranty or representation with respect to the merchantability, suitability, functionality, accuracy or completeness of any such New Materials. The user of such New Materials assumes all risk (known or unknown) of such use. Skypatrol reserves all rights in such New Materials. The user shall have only a revocable and limited license to use such New Materials in connection with the products for which they are intended. Distribution or modification of any New Materials without Skypatrol's consent is strictly prohibited.

IN NO EVENT WILL SKYPATROL BE RESPONSIBLE FOR ANY INCIDENTAL, INDIRECT, CONSEQUENTIAL OR SPECIAL DAMAGES AS A RESULT OF THE USE OF ANY NEW MATERIALS. SKYPATROL'S MAXIMUM LIABILITY FOR ANY CLAIM BASED ON THE NEW MATERIALS SHALL NOT EXCEED FIFTY U.S. DOLLARS (\$50).

Copyright

© 2014 Skypatrol, LLC. All rights reserved. Complying with all applicable copyright laws is the responsibility of the user. Without limiting the rights under copyright, no part of this document may be reproduced, stored in or introduced into a retrieval system, or transmitted in any form or by any means (electronic, mechanical, photocopying, recording or otherwise), or for any purpose, without the express written permission of Skypatrol, LLC.

Skypatrol and the Skypatrol logo are either registered trademarks or trademarks of Skypatrol, LLC. in the United States.

3055NW 84th Ave
Doral, Florida 33122
Email: info@Skypatrol.com
www.Skypatrol.com

Revision History

Version	Primary Author(s)	Description of Version	Date Completed
0.0	Renato Motta	Initial revision.	06/03/2014
0.1	Renato Motta	Changed the document name from "ST7200 Command Spec and Data Format" to "ST7200 Command Set and Response Format" Added logos and formatted the document	06/18/2014
0.2	Renato Motta	Changed the document name from "ST7200 Command Set and Response Format" to "ST7200 Command Set" Fix Table of context padding Change the operation description of some commands to query format instead of write format	06/20/2014

Table of Contents

Terms of Use.....	2
Copyright.....	2
Revision History.....	3
Table of Contents	4
Objective	7
Command Syntax.....	7
Server Configuration Commands.....	8
+XT:1001 – Sets port, IP address and TCP or UDP	8
+XT:1002 – Sets APN, username and password	8
+XT:1003 – Query Network Settings.....	9
+XT:1004 – Sets FTP Directory and Login Credentials for DOTA.....	9
+XT:1005 – Query FTP Settings.....	10
+XT:1006 – Update Firmware.....	10
+XT:1007 – Query Device Firmware Revision	11
+XT:1008 – Sets SMS Number	11
+XT:1010 – Sets Port, IP Address, Username, Password, APN, SMS Number and Protocol	12
Interval/Threshold Commands.....	13
+XT:3001 – Sets Ignition ON Reporting Interval and Alert	13
+XT:3002 – Sets Ignition OFF Reporting Interval and Alert	13
+XT:3003 – Sets Direction Change Threshold	14
+XT:3004 – Sets Speed Threshold.....	14
+XT:3006 – Sets Mileage Threshold.....	14

ST7200 Command Set

+XT:3008 – Sets Low Battery Threshold	15
+XT:3009 – Sets Main Battery Disconnect Reporting.....	16
+XT:3010 – Sets Heartbeat and Power Up/Reset Reporting	16
+XT:3012 – Select Wired or Virtual Ignition Type	17
+XT:3013 – Sets Idle Alert Period	17
+XT:3014 – Sets Tow Alert	17
+XT:3015 – Sets Input 2 Enable Settings.....	18
+XT:3016 - Sets Wake time, Sleep interval, Motion wake and alert reporting	18
+XT:3019 – Sets Movement Start/Stop Alert	19
+XT:3020 – Sets Park Time Threshold.....	20
+XT:3040 – Sets All in One Configurations of the +XT:30XX Commands.....	20
+XT:3050 – Query Configurations Settings of the +XT:30XX Commands	21
Geofence Commands	24
+XT:5001 – Adds Rectangular Geofence to Memory	24
+XT:5002 – Delete All Geofences	24
+XT:5003 – Adds Polygon Geofence to Memory.....	25
+XT:5050 – Query Geofence Settings	25
General Commands	27
+XT:7001 – Read and Report Vehicle Position Immediately.....	27
+XT:7003 – Reset the Entire Modem and Revert Back to All NV Parameters	28
+XT:7004 – Erase All Data and Configuration Settings and Reload Saved Profile	28
+XT:7005 – Sets Output Port	28
+XT:7006 – Initialize/Set Virtual Odometer	30
+XT:7007 – Reset the GPS	30
+XT:7008 – Save Profile to Memory	30

ST7200 Command Set

+XT:7009 – Clear Profile from Memory	31
+XT:7010 – Read Profile Saved in Memory	31
+XT:7050 – Query Diagnostics.....	31

Objective

The objective of this document is to provide the user with detailed information regarding the commands available for the ST7200; it includes the definition of the commands and its parameters to configure the device.

Command Syntax

The "+XT:" prefix is required prior to entering any command. All commands require a carriage return or <CR> following the entry of the desired command. All command responses are encapsulated by a carriage return and the line feed or <CR><LF>.

Reference and Use

In this document, we will be referencing the term EV#, which means the four digit event number code that triggered the report message.

Notes:

- The unit only responds to commands starting with "+XT:"
- The unit responds to any commands it does not understand or does not allow with \$\$<UID>, "XT_ERROR".
- Server commands are sent via SMS or UDPwCmd and responses are SMS or TCP/UDP based, as indicated
- All periodic reporting and alert messages are TCP/UDP based.

Server Configuration Commands

+XT:1001 – Sets port, IP address and TCP or UDP

+XT:1001	Sets port, IP address and TCP or UDP
Command Function	Command to set/change the IP address, port number and choose the communication protocol to be used with the backend server
Write Format	+XT:1001,<PP>,<IP>,<TU>
Response	\$\$<UID>,1001,<PP>,<IP>,<TU>##
Parameter Values	
<UID>	Unit ID – 15 digits IMEI
<PP>	Port number between 0 and 65,535
<IP>	IP address in the form YYY.YYY.YYY.YYY or a DNS name
<TU>	TCP or UDP protocol: <TU>=1 TCP, <TU>=2 UDP, <TU>=3 UDPwAck, <TU>=4 UDPC
Notes	<ul style="list-style-type: none"> • UDPwAck mode is described in the “ST7200Data Format and Decodification” documentation • UDPC is the same as UDP (w/o ACK) except allows server commands sent via UDP (SMS cmd still supported). • In UDPC mode the server must use the last known IP and port from the device based on most recently received message.

+XT:1002 – Sets APN, username and password

+XT:1002	Sets APN, username and password
Command Function	Command to set/change the APN name, APN username and APN password
Write Format	+XT:1002,<USN>,<PWD>,<NAME>
Response	\$\$<UID>,1002,<USN>,<PWD>,<NAME>##
Parameter Values	
<UID>	Unit ID – 15 digits IMEI
<USN>	APN user name, blank if not applicable
<PWD>	APN password, blank if not applicable
<NAME>	APN name

+XT:1003 – Query Network Settings

+XT:1003	Query Network Settings
Command Function	This command allows the user to query the current configuration of the +XT:1001,+XT:1002 and +XT:1008 commands
Query Format	+XT:1003
Response	\$\$<UID>,1003,<PP>,<IP>,<USN>,<PWD>,<NAME>,<SM>,<TU>##
Parameter Values	
<UID>	Unit ID – 15 digits IMEI
<PP>	Port number between 0 and 65,535
<IP>	IP address in the form YYY.YYY.YYY.YYY or a DNS name
<USN>	APN user name, blank if not applicable
<PWD>	APN password, blank if not applicable
<NAME>	APN name
<SM>	Server SMS number
<TU>	TCP or UDP protocol: <TU>=1 TCP, <TU>=2 UDP, <TU>=3 UDPwAck, <TU>=4 UDPC

+XT:1004 – Sets FTP Directory and Login Credentials for DOTA

+XT:1004	Sets FTP Directory and Login Credentials for DOTA
Command Function	Command to set/change the FTP address, directory, username and password credentials to download over the air
Write Format	+XT:1004,<DIR>,<FUSN>,<FPWD>,<FIP>
Response	\$\$<UID>,1004,<DIR>,<FUSN>,<FPWD>,<FIP>##
Parameter Values	
<UID>	Unit ID – 15 digits IMEI
<DIR>	The subdirectory under which the DOTA files are stored
<FUSN>	Username used for login into the FTP
<FPWD>	Password used for login into the FTP
<FIP>	IP address in the form YYY.YYY.YYY.YYY or a DNS name
Notes	<ul style="list-style-type: none"> The port number is assumed to be 21

+XT:1005 – Query FTP Settings

+XT:1005	Query FTP settings
Command Function	This command allows the user to query the current configuration of the +XT:1004 command
Query Format	+XT:1005
Response	\$\$<UID>,1005,<DIR>,<FUSN>,<FPWD>,<FIP>##
Parameter Values	
<UID>	Unit ID – 15 digits IMEI
<DIR>	The subdirectory under which the DOTA files are stored
<FUSN>	Username used for login into the FTP
<FPWD>	Password used for login into the FTP
<FIP>	IP address in the form YYY.YYY.YYY.YYY or a DNS name

+XT:1006 – Update Firmware

+XT:1006	Update Firmware
Command Function	Updates the firmware to a new version
Write Format	+XT:1006,<bb>, <filename>
Response (Confirm Command)	\$\$<UID>,<1006>, <msg#>,<bb>,<filename>##
Response (Confirm new version of FW after update)	\$\$<UID>,<1006>,<msg#>,<FWM>##
Parameter Values	
<UID>	Unit ID – 15 digits IMEI
<msg#>	<msg#> = 1 for initial request confirmation <msg#> = 2 for update completion
<bb>	Signifies what to update: <bb> = 1 for Main FW
<filename>	Firmware file name
<FWM>	Main Firmware Version
Notes	<ul style="list-style-type: none"> • Do not download older firmware into newer devices • Disable sleep mode prior to a download • 1000, 3000, 5000 and 7000 command series settings may be reset to default (reference release notes) • Reference release notes for hardware/firmware download compatibility

+XT:1007 – Query Device Firmware Revision

+XT:1007	Query Device Firmware Revision
Command Function	This command allows the user to query the current firmware version command
Query Format	+XT:1007
Response	\$\$<UID>,1007,<FWM>,<PF>,<GV>##
Parameter Values	
<UID>	Unit ID – 15 digits IMEI
<FWM>	Main Firmware Version
<PF>	Profile configuration
<GV>	Two digit parameter representing the GSM and GPS type respectively
Notes	<ul style="list-style-type: none"> Valid <GV> types are D2 and D3

+XT:1008 – Sets SMS Number

+XT:1008	Sets SMS Number
Command Function	Command to set/change the SMS number to receive command confirmation response
Write Format	+XT:1008,<SM>
Response	\$\$<UID>,<1008>,<SM>##
Parameter Values	
<UID>	Unit ID – 15 digits IMEI
<SM>	SMS number

+XT:1010 – Sets Port, IP Address, Username, Password, APN, SMS Number and Protocol

+XT:1010	Sets Port, IP Address, Username, Password, APN, SMS Number and Protocol
Command Function	This command sets the parameter for the +XT:1001, +XT:1002 and +XT:1008 commands all in one
Write Format	+XT:1010, <PP>,<IP>,<USN>,<PWD>,<NAME>,<SM>,<TU>
Response	\$\$<UID>,1010,<PP>,<IP>,<USN>,<PWD>,<NAME>,<SM>,<TU>##
Parameter Values	
<UID>	Unit ID – 15 digits IMEI
<PP>	Port number between 0 and 65,535
<IP>	IP address in the form YYY.YYY.YYY.YYY or a DNS name
<USN>	APN user name, blank if not applicable
<PWD>	APN password, blank if not applicable
<NAME>	APN name
<SM>	Server SMS number
<TU>	TCP or UDP protocol: <TU>=1 TCP, <TU>=2 UDP, <TU>=3 UDPwAck, <TU>=4 UDPC

Interval/Threshold Commands

+XT:3001 – Sets Ignition ON Reporting Interval and Alert

+XT:3001	Sets Ignition ON Reporting Interval and Alert
Command Function	Command to configure the device to report when the ignition is ON and by a time interval when the ignition is ON
Write Format	+XT:3001, <ONI>,<ONA>
Response	\$\$<UID>,3001,<ONI>,<ONA>##
Parameter Values	
<UID>	Unit ID – 15 digits IMEI
<ONI>	Periodic Ignition On interval in minutes: > 1 min, 1 min increments, 0 = disable, 43200 max
<ONA>	Ignition On alert enable/disable: 0 = disable alert message, 1 = enable alert message
Notes	<ul style="list-style-type: none"> • EV# 4001 is suppressed if idle (Ref: 3013) is enabled and detected • Periodic reporting event message for wired and virtual Ignition ON are EV# 4001and EV# 4003respectively • Alert message for wired and virtual Ignition ON are EV# 6011and EV# 6013 respectively

+XT:3002 – Sets Ignition OFF Reporting Interval and Alert

+XT:3002	Sets Ignition OFF Reporting Interval and Alert
Command Function	Command to configure the device to report when the ignition is OFF and by a time interval when the ignition is OFF
Write Format	+XT:3002, <OFI>,<OFA>
Response	\$\$<UID>,3002,<OFI>,<OFA>##
Parameter Values	
<UID>	Unit ID – 15 digits IMEI
<OFI>	Periodic Ignition Off interval in minutes:> 10 min, 5 min increments, 0 = disable, 43200 max
<OFA>	Ignition Off alert enable/disable: 0 = disable alert message, 1 = enable alert message
Notes	<ul style="list-style-type: none"> • Periodic reporting event message for wired and virtual Ignition OFF are EV# 4002and EV# 4004respectively

	<ul style="list-style-type: none"> Alert message for wired and virtual Ignition OFF are EV# 6012 and EV# 6014 respectively
--	---

+XT:3003 – Sets Direction Change Threshold

+XT:3003	Sets Direction Change Threshold
Command Function	Command to configure the device to report whenever it detects a change in direction greater than the threshold defined
Write Format	+XT:3003,<DCT>
Response	\$\$<UID>,<3003>,<DCT>##
Parameter Values	
<UID>	Unit ID – 15 digits IMEI
<DCT>	Change threshold in degrees: > 10 degrees, 5 degree increments, 0 = disable, 180max
Notes	<ul style="list-style-type: none"> Alert message when direction change exceeds threshold is EV# 6001

+XT:3004 – Sets Speed Threshold

+XT:3004	Sets Speed Threshold
Command Function	Command to configure the over speed threshold to report a over speed alert
Write Format	+XT:3004,<SPT>
Response	\$\$<UID>,3004,<SPT>##
Parameter Values	
<UID>	Unit ID – 15 digits IMEI
<SPT>	<SPT> is in mph: > 20 mph, 5 mph increments, 0 = disable, 150 max
Notes	Alert message when speed exceeds threshold is EV# 6002

+XT:3006 – Sets Mileage Threshold

+XT:3006	Sets Mileage Threshold
Command Function	Command to configure the device to report by a defined distance interval

ST7200 Command Set

Write Format	+XT:3006,<MT>
Response	\$\$<UID>,<3006>,<MT>##
Parameter Values	
<UID>	Unit ID – 15 digits IMEI
<MT>	<MT> is miles > 10 miles, 5 mile increments, 0 = disable, 65000 max
Notes	<ul style="list-style-type: none"> • An alert is sent on every multiple of the threshold mileage and accumulates to 65000 miles. An alert is sent when the mileage wraps from 65000 to zero miles. A power cycle or reset command will reset the miles to zero. • Alert message when mileage exceeds threshold is EV# 6005

+XT:3008 – Sets Low Battery Threshold

+XT:3008	Sets Low Battery Threshold
Command Function	Command to set the device to report when the external battery reaches a certain voltage level
Write Format	+XT:3008,<BT>,<PS>
Response	\$\$<UID>,3008,<BT>,<PS>##
Parameter Values	
<UID>	Unit ID – 15 digits IMEI
<BT>	<BT> is main battery voltage threshold (volts): > 6V and < 24V, 0.1 volt increments, 0 = disable
<PS>	Selection for GPS power saving mode 1= GPS is always ON (independent of battery voltage) 2= GPS power saving mode when battery voltage is below threshold
Notes	<ul style="list-style-type: none"> • If <BT> is set to 0 (disabled), GPS is always ON (independent of <PS>) • Alerts when voltage is below threshold for 10 minutes and resets when the voltage is 0.9V above the threshold. • Alert message when battery voltage is below threshold is EV# 6008

+XT:3009 – Sets Main Battery Disconnect Reporting

+XT:3009	Sets Main Battery Disconnect Reporting
Command Function	Configures the device to report when the external battery is disconnected and periodically when the external battery is disconnected
Write Format	+XT:3009,<DI>,<DA>
Response	\$\$<UID>,3009,<DI>,<DA>##
Parameter Values	
<UID>	Unit ID – 15 digits IMEI
<DI>	<DI> is periodic interval in minutes: > 10 minute, 5 minute increments, 0 = disable, 43200 max
<DA>	<DA> is battery disconnect alert enable/disable: 0 = disable, 1 = enable
Notes	<ul style="list-style-type: none"> • An alert is sent when the main battery is disconnected for 2 minutes • 4001, 4002, 4003, 4004, 4006 and 4050 are disabled if battery is connect periodic reporting is enabled • Periodic reporting message for Main Battery disconnect is EV# 4005. • Alert message for Main Battery disconnect and reconnect are EV# 6009 and EV# 6010 respectively

+XT:3010 – Sets Heartbeat and Power Up/Reset Reporting

+XT:3010	Sets Heartbeat and Power Up/Reset Reporting
Command Function	Command to setup a periodic report by time regardless of ignition state and to report when the device powers up or gets a GPS lock
Write Format	+XT:3010,<PI>,<PA>
Response	\$\$<UID>,3010,<PI>,<PA>##
Parameter Values	
<UID>	Unit ID – 15 digits IMEI
<PI>	Periodic interval in minutes: > 10 minute, 5 minute increments, 0 = disable, 43200 max
<PA>	Power Up/Reset and GPS lock alert enable/disable: 0 = disable, 1 = enable
Notes	<ul style="list-style-type: none"> • Periodic reporting message for Heartbeat is EV# 4006 and EV# 4050 • Alert message for Power Up/Reset and GPS lock is EV# 6015 and EV# 4050

+XT:3012 – Select Wired or Virtual Ignition Type

+XT:3012	Select Wired or Virtual Ignition Type
Command Function	This command tells the device what type of installation the user will use, if the ignition wire will be installed or not.
Write Format	+XT:3012,<IGT>
Response	\$\$<UID>,3012,<IGT>##
Parameter Values	
<UID>	Unit ID – 15 digits IMEI
<IGT>	Ignition type: 1 = wired, 2 = virtual based on battery, 3= virtual based on GPS movement
Notes	Virtual ignition is applicable to 12V automotive batteries only

+XT:3013 – Sets Idle Alert Period

+XT:3013	Sets Idle Alert Period
Command Function	Command to configure the device to report if it detects that it's not moving for a period of time with the ignition ON.
Write Format	+XT:3013,<IDT>
Response	\$\$<UID>,3013,<IDT>##
Parameter Values	
<UID>	Unit ID – 15 digits IMEI
<IDT>	Idle time in minutes, > 2 minute, 1 minute increments, 0 = disable, 43200 max
Notes	<ul style="list-style-type: none"> • This feature only works with ignition type 1 (wired ignition) • Periodic reporting message for Idle Time Alert is EV# 6016

+XT:3014 – Sets Tow Alert

+XT:3014	Sets Tow Alert
Command Function	Configures the device to report when it detects that it's moving with the ignition OFF and when it stops moving after a tow alert has been sent
Write Format	+XT:3014,<TW>
Response	\$\$<UID>,3014,<TW>##
Parameter Values	
<UID>	Unit ID – 15 digits IMEI

<TW>	<TW> = 0 is disable tow alert and <TW> = 1 is enable tow alert
Notes	<ul style="list-style-type: none"> This feature only works with ignition type 1 (wired ignition). Alert message for Tow Alert is EV# 6017 and Stop Tow is EV# 6018.

+XT:3015 – Sets Input 2 Enable Settings

+XT:3015	Sets Input 2 Enable Settings
Command Function	Configure the Input 2 to report when it detects transitions in the input
Write Format	+XT:3015,<IN2>
Response	\$\$<UID>,3015,<IN2>##
Parameter Values	
<UID>	Unit ID – 15 digits IMEI
<IN2>	<IN2> are the input port setting: IN2 = 0: Alert Disabled IN2 = 1: Low to High transition alert IN2 = 2: High to Low transition alert IN2 = 3: Transition alert
Notes	Alert message for auxiliary input going high is EV# 6019 and going low is EV# 6020

+XT:3016 - Sets Wake time, Sleep interval, Motion wake and alert reporting

+XT:3016	Sets Wake time, Sleep interval, Motion wake and alert reporting
Command Function	Command to configure the device to enter sleep mode after a period of time when the ignition is off and motion stops and configures when the device needs to wake from sleep mode
Write Format	+XT:3016,<WT>,<ST>,<MW>
Response	\$\$<UID>,3016,<WT>,<ST>,<MW>##
Parameter Values	
<UID>	Unit ID – 15 digits IMEI
<WT>	Wake time in minutes, > 5 min, 1 min increments, 0 = disable sleep mode, 1440 max
<ST>	Sleep time in hours, > 1 hr, 1 hr increments, 0 = disable sleep mode, 240 max
<MW>	Motion wake:

	<p>0 = disable sleep mode 1 = disable motion wake 2 = enable motion wake without 6026 alert 3 = enable motion wake with 6026 alert</p>
Notes	<ul style="list-style-type: none"> • Ignition ON and IN1 will prevent sleep while active and IN1 HIGH will wake the device if it was in sleep mode • Motion sense or a received SMS message will reset the wake time counter • The 6026 alert uses the last known location from the previous sleep time if GPS was previously locked • After sending a 6021 alert, the device monitors for a reset event for 3 minutes before initiating a shut down • Alert message when wake on motion sense is EV# 6026 • Alert messages when power shutdown is pending or when canceled are EV# 6021 and EV# 6022 respectively

+XT:3019 – Sets Movement Start/Stop Alert

+XT:3019	Sets Movement Start/Stop Alert
Command Function	Configures the device to report when it detects that it's moving with the ignition ON and when it stops moving after a moving alert has been sent
Write Format	+XT:3019,<MS>
Response	\$\$<UID>,3019,<MS>##
Parameter Values	
<UID>	Unit ID – 15 digits IMEI
<MS>	<MS> = 0 is disable movement alert and <MS> = 1 is enable movement alert
Notes	<ul style="list-style-type: none"> • This feature only works with ignition type 1 (wired ignition). • Alert message for Movement Start is EV# 6030 and Movement Stop is EV# 6031

+XT:3020 – Sets Park Time Threshold

+XT:3020	Sets Park Time Threshold
Command Function	Command to configure the device to report if it detects that it's not moving for a period of time with the ignition OFF.
Write Format	+XT:3020,<PT>
Response	\$\$<UID>,3020,<PT>##
Parameter Values	
<UID>	Unit ID – 15 digits IMEI
<PT>	Park time in minutes: > 10 minute, 1 minute increments, 0 = disable, 43200 max
Notes	<ul style="list-style-type: none"> • This feature only works with ignition type 1 (wired ignition) • Alert message when Park Time exceeds threshold is EV# 6032

+XT:3040 – Sets All in One Configurations of the +XT:30XX Commands

+XT:3040	All in One Configuration of the +XT:30XX Commands
Command Function	This commands sets the parameters of all the functions behavior commands mentioned above
Write Format	+XT:3040,<ONI>,<ONA>,<OFI>,<OFA>,<DCT>,<SPT>,<MT>,<BT>,<PS>,<DI>,<DA>,<PI>,<PA>,<BZ>,<IGT>,<IDT>,<TW>,<IN2>,<WT>,<ST>,<MW>,<MS>,<PT>,<PF>
Response	\$\$<UID>,3040,<ONI>,<ONA>,<OFI>,<OFA>,<DCT>,<SPT>,<MT>,<BT>,<PS>,<DI>,<DA>,<PI>,<PA>,<reserved>,<IGT>,<IDT>,<TW>,<IN2>,<WT>,<ST>,<MW>,<MS>,<PT>,<PF>##
Parameter Values	
<UID>	Unit ID – 15 digits IMEI
<ONI>	Periodic Ignition On interval in minutes: > 1 min, 1 min increments, 0 = disable, 43200 max
<ONA>	Ignition On alert enable/disable: 0 = disable alert message, 1 = enable alert message
<OFI>	Periodic Ignition Off interval in minutes:> 10 min, 5 min increments, 0 = disable, 43200 max
<OFA>	Ignition Off alert enable/disable: 0 = disable alert message, 1 = enable alert message
<DCT>	Change threshold in degrees: > 10 degrees, 5 degree increments, 0 = disable, 180max
<SPT>	<SPT> is in mph: > 20 mph, 5 mph increments, 0 = disable, 150 max
<MT>	<MT> is miles > 10 miles, 5 mile increments, 0 = disable, 65000 max
<BT>	<BT> is main battery voltage threshold (volts): > 6V and < 24V, 0.1 volt increments, 0 = disable
<PS>	Selection for GPS power saving mode

	1= GPS is always ON (independent of battery voltage) 2= GPS power saving mode when battery voltage is below threshold
<DI>	<DI> is periodic interval in minutes: > 10 minute, 5 minute increments, 0 = disable, 43200 max
<DA>	<DA> is battery disconnect alert enable/disable: 0 = disable, 1 = enable
<PI>	Periodic interval in minutes: > 10 minute, 5 minute increments, 0 = disable, 43200 max
<PA>	Power Up/Reset and GPS lock alert enable/disable: 0 = disable, 1 = enable
<reserved>	Should always be 0
<IGT>	Ignition type: 1 = wired, 2 = virtual based on battery, 3= virtual based on GPS movement
<IDT>	Idle time in minutes, > 2 minute, 1 minute increments, 0 = disable, 43200 max
<TW>	<TW> = 0 is disable tow alert and <TW> = 1 is enable tow alert
<IN2>	<IN2> are the input port setting: IN2 = 0: Alert Disabled IN2 = 1: Low to High transition alert IN2 = 2: High to Low transition alert IN2 = 3: Transition alert
<WT>	Wake time in minutes, > 5 min, 1 min increments, 0 = disable sleep mode, 1440 max
<ST>	Sleep time in hours, > 1 hr, 1 hr increments, 0 = disable sleep mode, 240 max
<MW>	Motion wake: 0 = disable sleep mode 1 = disable motion wake 2 = enable motion wake without 6026 alert 3 = enable motion wake with 6026 alert
<MS>	<MS> = 0 is disable movement alert and <MS> = 1 is enable movement alert
<PT>	Park time in minutes: > 10 minute, 1 minute increments, 0 = disable, 43200 max
<PF>	Profile name up to 7 characters, Unknown, Cleared and FacDflt are not valid entries

+XT:3050 – Query Configurations Settings of the +XT:30XX Commands

+XT:3050	
Command Function	This commands queries the parameters of all the function commands mentioned above
Query Format	+XT:3050
Response	\$\$<UID>,3050,<ONI>,<ONA>,<OFI>,<OFA>,<DCT>,<SPT>,<MT>,<BT>,<PS>,<DI>,<DA>,<PI>,<PA>,<reserved>,<IGT>,<IDT>,<TW>,<IN2>,<WT>,<ST>,<MW>,<MS>,<PT>,<PF>##
Parameter Values	
<UID>	Unit ID – 15 digits IMEI
<ONI>	Periodic Ignition On interval in minutes: > 1 min, 1 min increments, 0 = disable,

ST7200 Command Set

	43200 max
<ONA>	Ignition On alert enable/disable: 0 = disable alert message, 1 = enable alert message
<OFI>	Periodic Ignition Off interval in minutes: > 10 min, 5 min increments, 0 = disable, 43200 max
<OFA>	Ignition Off alert enable/disable: 0 = disable alert message, 1 = enable alert message
<DCT>	Change threshold in degrees: > 10 degrees, 5 degree increments, 0 = disable, 180max
<SPT>	<SPT> is in mph: > 20 mph, 5 mph increments, 0 = disable, 150 max
<MT>	<MT> is miles > 10 miles, 5 mile increments, 0 = disable, 65000 max
<BT>	<BT> is main battery voltage threshold (volts): > 6V and < 24V, 0.1 volt increments, 0 = disable
<PS>	Selection for GPS power saving mode 1= GPS is always ON (independent of battery voltage) 2= GPS power saving mode when battery voltage is below threshold
<DI>	<DI> is periodic interval in minutes: > 10 minute, 5 minute increments, 0 = disable, 43200 max
<DA>	<DA> is battery disconnect alert enable/disable: 0 = disable, 1 = enable
<PI>	Periodic interval in minutes: > 10 minute, 5 minute increments, 0 = disable, 43200 max
<PA>	Power Up/Reset and GPS lock alert enable/disable: 0 = disable, 1 = enable
<reserved>	-
<IGT>	Ignition type: 1 = wired, 2 = virtual based on battery, 3= virtual based on GPS movement
<IDT>	Idle time in minutes, > 2 minute, 1 minute increments, 0 = disable, 43200 max
<TW>	<TW> = 0 is disable tow alert and <TW> = 1 is enable tow alert
<IN2>	<IN2> are the input port setting: IN2 = 0: Alert Disabled IN2 = 1: Low to High transition alert IN2 = 2: High to Low transition alert IN2 = 3: Transition alert
<WT>	Wake time in minutes, > 5 min, 1 min increments, 0 = disable sleep mode, 1440 max
<ST>	Sleep time in hours, > 1 hr, 1 hr increments, 0 = disable sleep mode, 240 max
<MW>	Motion wake: 0 = disable sleep mode 1 = disable motion wake 2 = enable motion wake without 6026 alert 3 = enable motion wake with 6026 alert
<MS>	<MS> = 0 is disable movement alert and <MS> = 1 is enable movement alert

ST7200 Command Set

<PT>	Park time in minutes: > 10 minute, 1 minute increments, 0 = disable, 43200 max
<PF>	Profile name up to 7 characters, Unknown, Cleared and FacDflt are not valid entries

Geofence Commands

+XT:5001 – Adds Rectangular Geofence to Memory

+XT:5001	Adds Rectangular Geofence to Memory
Command Function	This command creates an rectangular geofence area
Write Format	+XT:5001,<ID>,<M>,<TLLAT>,<TLLON>,<BRLAT>,<BRLON>
Response	\$\$<UID>,5001,<ID>,<M>,<TLLAT>,<TLLON>,<TRLAT>,<TRLON>,<BRLAT>,<BRLON>,<BLLAT>,<BRLON>##
Parameter Values	
<UID>	Unit ID – 15 digits IMEI
<ID>	<ID> is 0 to 9 assigned to each geofence - 10 geofences max, including fences defined with +XT:5003.
<M>	Mode: 0 indicates disabling the geofence 1 indicates geofence event when the unit crosses out of the geofence 2 indicates geofence event when the unit crosses into the geofence 3 indicates geofence event when the unit crosses in or out of the geofence
<TLLAT>,<TLLON>	LAT and LON coordinates (5-digit decimal degrees) for top left corner of geofence
<TRLAT>,<TRLON>	LAT and LON coordinates (5-digit decimal degrees) for top right corner of geofence
<BRLAT>,<BRLON>	LAT and LON coordinates (5-digit decimal degrees) for bottom right corner of geofence
<BLLAT>,<BLLON>	LAT and LON coordinates (5-digit decimal degrees) for bottom left corner of geofence
Notes	<ul style="list-style-type: none"> The response includes only 3-digit decimal degree resolution A power up/reset with GPS lock and a location inside a mode 2 or 3 geofence will result in an alert message Alert message when Geofence crossing detected is EV# 6004

+XT:5002 – Delete All Geofences

+XT:5002	Delete All Geofences
Command Function	Command to remove all geofences from memory
Write Format	+XT:5002
Response	\$\$<UID>,5002##
Parameter Values	
<UID>	Unit ID – 15 digits IMEI

Notes	<ul style="list-style-type: none"> This command will set all geofences to mode 0 and coordinates to 0
-------	--

+XT:5003 – Adds Polygon Geofence to Memory

+XT:5003	Adds Polygon Geofence to Memory
Command Function	This command creates an polygonal geofence area
Write Format	+XT:5003,<ID>,<M>,<LT1>,<LN1>,<LT2>,<LN2>,...,<LTn>,<LNn>
Response	\$\$<UID>,5003,<ID>,<M>,<LT1>,<LN1>,<LT2>,...,<LTn>,<LNn>##
Parameter Values	
<UID>	Unit ID – 15 digits IMEI
<ID>	<ID> is 0 to 9 assigned to each geofence - 10 geofences max, including fences defined with +XT:5001
<M>	Mode: 0 indicates disabling the geofence 1 indicates geofence event when the unit crosses out of the geofence 2 indicates geofence event when the unit crosses into the geofence 3 indicates geofence event when the unit crosses in or out of the geofence
<LTn>,<LNn>	LAT and LON coordinates
Notes	<ul style="list-style-type: none"> 10 geofences max including 5001 fences Enter 3 to 6 geofence coordinates with 5-digit decimal degrees resolution max Enter 7 geofence coordinates with 4-digit decimal degrees resolution max The response includes only 4-digit decimal degree resolution A power up/reset with GPS lock and a location inside a mode 2 or 3 geofence will result in an alert message Alert message when Geofence crossing detected is EV# 6004

+XT:5050 – Query Geofence Settings

+XT:5050	Query Geofence Settings
Command Function	This command allows the user to query the current parameters of the geofence
Query Format	+XT:5050,<ID>
Response	\$\$<UID>,5050,<ID>,<M>,<LT1>,<LN1>,<LT2>,<LN2>,<LTn>,<LNn>##

ST7200 Command Set

Parameter Values	
<UID>	Unit ID – 15 digits IMEI
<ID>	<ID> is 0 to 9 assigned to each geofence - 10 geofences max.
<M>	Mode: 0 indicates disabling the geofence 1 indicates geofence event when the unit crosses out of the geofence 2 indicates geofence event when the unit crosses into the geofence 3 indicates geofence event when the unit crosses in or out of the geofence
<LTn>,<LNn>	LAT and LON coordinates
Notes	<ul style="list-style-type: none"> <li data-bbox="625 663 1461 697">• The response includes only 3-digit decimal degree resolution

General Commands

+XT:7001 – Read and Report Vehicle Position Immediately

+XT:7001	Read and Report Vehicle Position Immediately
Command Function	Command to make the device report its position
Write Format	+XT:7001,<X>
Response	\$\$<UID>,7001,<D>,<T>,<LT>,<LN>,<AL>,<SP>,<HD>,<SV>,<HP>,<BV>,<GS>,<OT>,<CQ>,<MI>,<IG>,<BB>,<PM>[,<SEQ>]##
Parameter Values	
<X>	1 will respond via UDP/TCP and <X> = 2 will respond via SMS
<UID>	Unit ID – 15 digits IMEI
<D>	UTC Date of trigger (10 characters – YYYY/MM/DD)
<T>	UTC Time of trigger (8 characters – HH:MM:SS)
<LT>,<LN>	Latitude (5 digits after decimal point) and Longitude (5 digits after decimal point)
<AL>	Altitude (meters)
<SP>	Speed (mph) read from GPS
<HD>	Heading (degrees)
<SV>	Number of satellites used for position fix
<HP>	HDOP (GPS accuracy figure of merit)
<BV>	Battery voltage
<GS>	GPS status where 0=not locked, 1=locked, 2= no com and 3=GPS OFF power saving mode
<OT>	Output status: 0 = Short circuit with GSM override enabled, 1 = Open Circuit, 2 = Short Circuit
<CQ>	GSM receive signal strength
<MI>	Miles driven since last reset or power cycle. If disabled, this value will remain at zero
<IG>	Ignition status: 0 = OFF, 1 = ON
<BB>	Back-up Battery voltage
<PM>	Last Power-up/Reset mode: 1=SW Reset, 2=DC Pwr-Up, 3= Motion Sense, 4= Interval Wake-up, 5= IN1
[<SEQ>]	If UDPwAck mode is selected, SEQ is a 3 digit decimal sequence number from 0 to 255 which increments on each successful UDP with Ack response from server. Field is always at end of string (prior to ##) for UDPwAck and is omitted for TCP and UDP (w/o Ack) modes.

+XT:7003 – Reset the Entire Modem and Revert Back to All NV Parameters

+XT:7003	Reset the Entire Modem and Revert Back to All NV Parameters
Command Function	This command will make the modem reset
Write Format	+XT:7003
Response	\$\$<UID>,7003##
Parameter Values	
<UID>	Unit ID – 15 digits IMEI

+XT:7004 – Erase All Data and Configuration Settings and Reload Saved Profile

+XT:7004	Erase All Data and Configuration Settings and Reload Saved Profile
Command Function	This commands resets all settings back to the saved profile
Write Format	+XT:7004
Response	\$\$<UID>,7004,<PF>##
Parameter Values	
<UID>	Unit ID – 15 digits IMEI
<PF>	Profile name
Notes	<ul style="list-style-type: none"> Erases its event logs, 5000 and 7000 settings and sets 1000 and 3000 series configurations to profile in saved memory If no profile was saved to memory (Ref 7008), the profile is set to factory defaults and the device responds with FacDflt

+XT:7005 – Sets Output Port

+XT:7005	Sets Output Port
Command Function	Command to activate o deactivate the output port
Write Format	+XT:7005,<OUT>,<X>
Response	\$\$<UID>,7005,<D>,<T>,<LT>,<LN>,<AL>,<SP>,<HD>,<SV>,<HP>,<BV>,<GS>,<OT>,<CQ>,<MI>,<IG>,<BB>,<PM>[,<SEQ>]##
Parameter Values	
<OUT>	<OUT> = 0 set to short circuit with GSM override enabled, <OUT> = 1 set to an open circuit, <OUT> = 2 set to short circuit
<X>	1 will respond via UDP/TCP and <X> = 2 will respond via SMS
<UID>	Unit ID – 15 digits IMEI
<D>	UTC Date of trigger (10 characters – YYYY/MM/DD)

ST7200 Command Set

<T>	UTC Time of trigger (8 characters – HH:MM:SS)
<LT>,<LN>	Latitude (5 digits after decimal point) and Longitude (5 digits after decimal point)
<AL>	Altitude (meters)
<SP>	Speed (mph) read from GPS
<HD>	Heading (degrees)
<SV>	Number of satellites used for position fix
<HP>	HDOP (GPS accuracy figure of merit)
<BV>	Battery voltage
<GS>	GPS status where 0=not locked, 1=locked, 2= no com and 3=GPS OFF power saving mode
<OT>	Output status: 0 = Short circuit with GSM override enabled, 1 = Open Circuit, 2 = Short Circuit
<CQ>	GSM receive signal strength
<MI>	Miles driven since last reset or power cycle.If disabled, this value will remain at zero
<IG>	Ignition status: 0 = OFF, 1 = ON
<BB>	Back-up Battery voltage
<PM>	Profile Name
[<SEQ>]	If UDPwAck mode is selected, SEQ is a 3 digit decimal sequence number from 0 to 255 which increments on each successful UDP with Ack response from server. Field is always at end of string (prior to ##) for UDPwAck and is omitted for TCP and UDP (w/o Ack) modes.
Notes	<ul style="list-style-type: none"> • If <OUT> = 0 and there is no GSM coverage for 10 minutes, the OUT port is set to an open circuit. The OUT port will revert back to a short circuit after 10 continuous minutes of GSM coverage • The output port is an open circuit when the device is in sleep mode

+XT:7006 – Initialize/Set Virtual Odometer

+XT:7006	Initialize/Set Virtual Odometer
Command Function	This commands sets the value of the virtual odometer
Write Format	+XT:7006,<VO>
Response	\$\$<UID>,7006,<VO>##
Parameter Values	
<UID>	Unit ID – 15 digits IMEI
<VO>	Virtual odometer value from 0 to 65,000 miles in increments of 1
Notes	<ul style="list-style-type: none"> Virtual odometer is reset to zero on a power cycle, reset or memory erase Virtual odometer is not reset to zero in sleep mode operation

+XT:7007 – Reset the GPS

+XT:7007	Reset the GPS
Command Function	This command resets the GPS module
Write Format	+XT:7007
Response	\$\$<UID>,<7007>##
Parameter Values	
<UID>	Unit ID – 15 digits IMEI

+XT:7008 – Save Profile to Memory

+XT:7008	Save Profile to Memory
Command Function	Saves the profile defined by the command +XT:3040 to memory
Write Format	+XT:7008
Response	\$\$<UID>,7008,<PF>##
Parameter Values	
<UID>	Unit ID – 15 digits IMEI
<PF>	Profile name
Notes	<ul style="list-style-type: none"> Saves current 1003, 1005, 3050 settings to memory If <PF> Profile name (created in 3040 and queried in 3050 cmd) is Unknown or FacDflt, the profile will not save to memory and the device will respond with XT_ERROR

+XT:7009 – Clear Profile from Memory

+XT:7009	Clear Profile from Memory
Command Function	This command erases the saved profile from memory
Write Format	+XT:7009
Response	\$\$<UID>,7009,Cleared##
Parameter Values	
<UID>	Unit ID – 15 digits IMEI

+XT:7010 – Read Profile Saved in Memory

+XT:7010	Read Profile Saved in Memory
Command Function	Queries the current profile name
Query Format	+XT:7010
Response	\$\$<UID>,7010,<PF>##
Parameter Values	
<UID>	Unit ID – 15 digits IMEI
<PF>	Profile Name
Notes	<ul style="list-style-type: none"> If no profile was saved to memory, the device responds with "Cleared"

+XT:7050 – Query Diagnostics

+XT:7050	Query Diagnostics
Command Function	Query device diagnostics information
Query Format	+XT:7050,<X>
Response	\$\$<UID>,7050,<GSM>,<GPR>,<PDP>,<HD>,<HO>,<PU>,<R>,<%GPS>,<%GPSQ>,<%GSM>,<%GPR>,<%PDP>,<LV>,<HV>,<CX>,<DBO>,<ABI>,<DBI>,<SO>,<SI>,<SS>##
Parameter Values	
<X>	1 is query without clear and <X>=2 is query and then clear all values
<UID>	Unit ID – 15 digits IMEI
<GSM>	GSM registration state: 0=Not Reg, 1=Home,2=Search, 3=Denied, 4=Unknown, 5=Roaming
<GPR>	GPRS registration state: 0=Not Reg, 1=Home, 2=Search, 3=Denied, 4=Unknown, 5=Roaming
<PDP>	GPRS PDP state, 0=Deactivated, 1=Activated
<HD>	Hours Disconnected counter, 1000 max

ST7200 Command Set

<HO>	Hours ON counter, 1000 max
<PU>	Power Up counter, 255 max
<R>	Reset counter, 255 max
<%GPS>	Percent lost GPS
<%GPSQ>	Percent lost GPS based on 5 Sat Quality Factor
<%GSM>	Percent lost GSM
<%GPR>	Percent lost GPRS
<%PDP>	Percent lost PDP context activation
<LV>	Low Voltage counter, # sec < 9 Volts, 60000 max
<HV>	High Voltage counter, # sec > 16 Volts 60000 max
<CX>	Context activation counter, 1000 max
<DBO>	Data Bytes Out, 10000000 max
<ABI>	ACK Bytes In, 10000000 max
<DBI>	DOTA Bytes In, 10000000 max
<SO>	SMS Msg Out counter, 1000 max
<SI>	SMS Msg In counter, 1000 max
<SS>	SMS Spam Msg In counter, 1000 max
Notes	Counter and Percent values are accumulated since last clear