



9601-DGS-LP V1.1.0 Remote Update and Ping Format

Introduction

The following gives the format for the remote update messages that were added for the 9601-DGS-LP tracking unit version 1.1.0. The 9601-DGS-LP version 1.1.0 can also handle the same remote update formats that the 9601-DGS and 9601-DGS-LP Version 1.0.0 can and will send back the same remote update responses to them. See earlier documents for these formats. The Ping and Emergency response formats are the same as in the 9601-DGS-LP version 1.0.0 but are included in this document for completeness.

Remote Update Format

Introduction

The following gives the format for the remote update and ping messages that were added for the 9601-DGS-LP V 1.1.0 tracking unit. The 9601-DGS-LP can also handle the same remote update formats that the 9601-DGS and 9601-DGS-LP V1.0.0 can and will send back the same remote update responses to them. The Ping Requests and Emergency Alert Acknowledge messages are identical to those in version 1.0.0.

Remote Update:

This will arrive by SBD and will have the following format:

Name	Num bytes	Description
Header	1:1	Test “u” SBD Only Update. This is here to keep updates from happening accidentally.
Version	1:2	Version of update. Currently value is 2
Date Time Stamp	8:3-10	YY YY MM DD HH MM SS HH where every 2 characters are combined into a single byte.
Password	8:11-18	Safety mechanism
Tracking Mode Time between Reports	2:19,20	Binary number representing time between reports in minutes.
Tracking Mode Time to retry	1:21	Binary number representing time to keep on retrying in increments of 5 seconds. 0 means only try once and 255 means keep on trying until next report.
Test Mode Time between Reports	2:22,23	Binary number representing time between reports in minutes.
Test Mode Time to retry	1:24	Binary number representing time to keep on retrying in increments of 5 seconds. 0 means only try once and 255 means keep on trying until next report.
Emergency Mode Time between Reports	2:25,26	Binary number representing time between reports in minutes.
Emergency Mode Time to retry	1:27	Binary number representing time to keep on retrying in increments of 5 seconds. 0 means only try once and 255 means keep on trying until next report.
Emergency Report Flood	1:28	Binary number representing how many reports to send continuously before falling back to the value of ^TBRE A value of zero will use ^TBRE without sending any continuous reports.
Block Invalid GPS Reports and Test and Emergency	1:29	Bits 0-2 - Binary number, 0-4, representing the status of block invalid GPS reports. Modes indicated are those that will block reports with an

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mode Callable		invalid GPS fix.0: Don't block any reports 1: Block in all modes 2: Block in Tracking and Test modes 3: Block in Tracking and Emergency modes 4: Block only in Tracking Mode Bit 3 - TBR Half Minute Bit 4 – TBRT Half Minute Bit 5 – TBRE Half Minute Bit 6 – Test mode callable Bit 7 –Emergency mode callable
Motion Sensor Awake	1:30	MSA Bit 0 – Normal mode MSA Bit 1 – Test mode MSA Bit 2 – Emergency mode MSA
DSC	1:31	Delivery Short Code byte for use with the SBDDSC command.
Output Pins	1:32	Byte where every bit represents the level an output pin.
Motion Sensor Minutes for Awake from Sleep	1:33	The number of minutes to be looking for motion for once the unit is woken up. unsigned char
Motion Sensor Sensitivity for Awake from sleep	1:34	The sensitivity of the wakeup.
Motion Sensor Go Back to Sleep	1:35	The number of minutes to not see any motion before returning to sleep. (unsigned char)
Motion Sensor Wait Normal	2:36,37	Number minutes to wait after a motion sensor alert in sleep for normal mode. Corresponds to ^MSW
Motion Sensor Wait Test	2:38,39	Number of minutes to wait after a motion sensor alert in sleep for test mode. Corresponds to ^MSWT
Motion Sensor Wait Emergency	2:40,41	Number of minutes to wait after a motion sensor alert in sleep for emergency mode. Corresponds to ^MSWE
Tracking Mode TBR in awake state	2:42,43	Binary number representing time between reports in minutes.
Tracking Mode TTKT in awake state	1:44	Binary number representing time to keep on retrying in increments of 5 seconds. 0 means only try once and 255 means keep on trying until next report.
Test Mode TBR in awake state	2:45,46	Binary number representing time between reports in minutes.
Test Mode TTKT in awake state	1:47	Binary number representing time to keep on retrying in increments of 5 seconds. 0 means only try once and 255 means keep on trying until next report.
Emergency Mode TBR in awake state	2:48,49	Binary number representing time between reports in minutes.
Emergency Mode TTKT in awake state	1:50	Binary number representing time to keep on retrying in increments of 5 seconds. 0 means only try once and 255 means keep on trying until next report.
Awake Half Minutes	1:51	Bit 0 – Normal Awake Bit 1 – Test Awake Bit 2 – Emergency Awake
Pins for Signal Switches	1:52	A byte representing which pin values will be used as signal lines that will be searched during sleep. Each bit will correspond to the same pin as in the output pins byte. The bit 7 will be for the ^ITE value.
Callable Normal	1:53	The new value for normal callable '0', '1', or '2'. char
Callable Test	1:54	The new value for test callable '0', '1', or '2'. char
Callable Emergency	1:55	The new value for emergency callable '0', '1', or '2'. char
Signaling	1:56	The number of repetitions to use when signaling pins change.

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Repetitions		
SRSR Setting	1:57	Character '0', '1', or '2' for the different SPSR settings.
SPSR radius	2:58,59	An unsigned short containing the radius.
SPSR reports to send while stationary	2:60,61	The number of reports to send while stationary.
SPSR cycles to skip	2:62,63	The number of cycles to skip if the unit has not moved.
SRSRT Setting	1:64	Character '0', '1', or '2' for the different SPSR settings.
SPSRT radius	2:65,66	An unsigned short containing the radius.
SPSRT reports to send while stationary	2:67,68	The number of reports to send while stationary.
SPSRT cycles to skip	2:69,70	The number of cycles to skip if the unit has not moved.
SRSRE Setting	1:71	Character '0', '1', or '2' for the different SPSR settings.
SPSRE radius	2:72,73	An unsigned short containing the radius.
SPSRE reports to send while stationary	2:74,75	The number of reports to send while stationary.
SPSRE cycles to skip	2:76,77	The number of cycles to skip if the unit has not moved.
Indicators	1:78	This has different bits to indicate whether changes should be made. Bit 0 – Not Used. Bit 1 – Update Callable – whether to update the callable setting on the modem normal mode. Bit 2 – Update Time – whether to update time between reports and time to retry. Bit 3 – Delivery Short Code – whether to update the delivery short code on the machine. Bit 4 – Update Block Invalid GPS Reports – whether to update block invalid GPS reports. Bit 5 – Update Test Time – whether to update test mode time between reports and time to retry. Bit 6 – Update Emergency Time – whether to update emergency mode time between reports and time to retry. Bit 7 – Update Emergency Report Flood – whether to update the emergency report flood setting
Indicators 2	1:79	Bit 0 – Update MSA Bit 1 – Update test mode callable Bit 2 – Update emergency mode callable Bit 3 – Update output pins Bit4 – Update Motion Sensor Begin Bit5 – Update Motion Sensor End Bit6 – Update Motion Sensor Wait Normal Bit7 – Update Motion Sensor Wait Test
Indicators 3	1:80	Bit0 – Update Motion Sensor Wait Emergency Bit1 – Update time in awake state normal Bit2 – Update time in awake state test Bit3 – Update time in awake state emergency Bit4 – Update pins for signal switches Bit5 – Update Signaling Repetitions Bit6 – Update SPSR Bit7 – Update SPSR Test Mode
Indicators 4	1:81	Bit0 – Update SPSR Emergency Mode
Checksum	1:82	Binary checksum to make sure data is correct and to keep from

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		accidentally doing an update.
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Remote Update Response:

A modification will be done to the remote update response format that is detailed below. This will have a size of 76 bytes (80 encrypted). The new remote update response version will be 2.

Name	Num bytes	Description
Header	1:1	Test “v” SBD Remote Update Response.
Version	1:2	Version of response. Currently value is 2
Date Time Stamp	8:3-10	YY YY MM DD HH MM SS HH where every 2 characters are combined into a single byte.
Status	1:11	0 successfully updated 1 Invalid Password 2 Old Date Time Stamp 3 SBD reports that are the wrong length, have a bad header, or an invalid checksum will be ignored and no response will be returned.
Tracking Mode Time between Reports	2:12,13	Binary number representing time between reports in minutes.
Tracking Mode Time to retry	1:14	Binary number representing time to keep on retrying in increments of 5 seconds. 0 means only try once and 255 means keep on trying until next report.
Test Mode Time between Reports	2:15,16	Binary number representing time between reports in minutes.
Test Mode Time to retry	1:17	Binary number representing time to keep on retrying in increments of 5 seconds. 0 means only try once and 255 means keep on trying until next report.
Emergency Mode Time between Reports	2:18,19	Binary number representing time between reports in minutes.
Emergency Mode Time to retry	1:20	Binary number representing time to keep on retrying in increments of 5 seconds. 0 means only try once and 255 means keep on trying until next report.
Emergency Report Flood	1:21	Binary number representing how many reports to send continuously before falling back to the value of ^TBRE A value of zero will use ^TBRE without sending any continuous reports.
Block Invalid GPS Reports and Test and Emergency mode Callable	1:22	Bits 0-2 - Binary number, 0-4, representing the status of block invalid GPS reports. Modes indicated are those that will block reports with an invalid GPS fix. 0: Don’t block any reports 1: Block in all modes 2: Block in Tracking and Test modes 3: Block in Tracking and Emergency modes 4: Block only in Tracking Mode Bit 3 - TBR Half Minute Bit 4 – TBRT Half Minute Bit 5 – TBRE Half Minute Bit 6 – Test mode callable Bit 7 –Emergency mode callable
Motion Sensor	1:23	MSA

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Awake		Bit 0 – Normal mode MSA Bit 1 – Test mode MSA Bit 2 – Emergency mode MSA
DSC	1:24	Delivery Short Code byte for use with the SBDDSC command.
Input Pins	1:25	Input Pin Value
Output Pins	1:26	Byte where every bit represents the level of an output pin.
Motion Sensor Minutes for Awake from Sleep	1:27	The number of minutes to be looking for motion for once the unit is woken up. unsigned char
Motion Sensor Sensitivity for Awake from sleep	1:28	The sensitivity of the wakeup.
Motion Sensor Go Back to Sleep	1:29	The number of minutes to not see any motion before returning to sleep. (unsigned char)
Motion Sensor Wait Normal	2:30,31	Number minutes to wait after a motion sensor alert in sleep for normal mode. Corresponds to ^MSW
Motion Sensor Wait Test	2:32,33	Number of minutes to wait after a motion sensor alert in sleep for test mode. Corresponds to ^MSWT
Motion Sensor Wait Emergency	2:34,35	Number of minutes to wait after a motion sensor alert in sleep for emergency mode. Corresponds to ^MSWE
Tracking Mode TBR in awake state	2:36,37	Binary number representing time between reports in minutes.
Tracking Mode TTKT in awake state	1:38	Binary number representing time to keep on retrying in increments of 5 seconds. 0 means only try once and 255 means keep on trying until next report.
Test Mode TBR in awake state	2:39,40	Binary number representing time between reports in minutes.
Test Mode TTKT in awake state	1:41	Binary number representing time to keep on retrying in increments of 5 seconds. 0 means only try once and 255 means keep on trying until next report.
Emergency Mode TBR in awake state	2:42,43	Binary number representing time between reports in minutes.
Emergency Mode TTKT in awake state	1:44	Binary number representing time to keep on retrying in increments of 5 seconds. 0 means only try once and 255 means keep on trying until next report.
Awake Half Minutes	1:45	Bit 0 – Normal Awake Bit 1 – Test Awake Bit 2 – Emergency Awake
Pins for Signal Switches	1:46	A byte representing which pin values will be used as signal lines that will be searched during sleep. Each bit will correspond to the same pin as in the output pins byte. The bit 7 will be for the ^ITE value.
Callable Normal	1:47	The new value for normal callable '0', '1', or '2'. char
Callable Test	1:48	The new value for test callable '0', '1', or '2'. char
Callable Emergency	1:49	The new value for emergency callable '0', '1', or '2'. char
Signaling Repetitions	1:50	The number of repetitions to use when signaling pins change.
SRSR Setting	1:51	Character '0', '1', or '2' for the different SPSR settings.
SPSR radius	2:52,53	An unsigned short containing the radius.
SPSR reports to send while stationary	2:54,55	The number of reports to send while stationary.
SPSR cycles to skip	2:56,57	The number of cycles to skip if the unit has not moved.
SRSRT Setting	1:58	Character '0', '1', or '2' for the different SPSR settings.
SPSRT radius	2:59,60	An unsigned short containing the radius.

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SPSRT reports to send while stationary	2:61,62	The number of reports to send while stationary.
SPSRT cycles to skip	2:63,64	The number of cycles to skip if the unit has not moved.
SRSRE Setting	1:65	Character '0', '1', or '2' for the different SPSR settings.
SPSRE radius	2:66,67	An unsigned short containing the radius.
SPSRE reports to send while stationary	2:68,69	The number of reports to send while stationary.
SPSRE cycles to skip	2:70,71	The number of cycles to skip if the unit has not moved.
Indicators	1:72	This has different bits to indicate whether changes should be made. Bit 0 – Not Used. Bit 1 – Update Callable – whether to update the callable setting on the modem normal mode. Bit 2 – Update Time – whether to update time between reports and time to retry. Bit 3 – Delivery Short Code – whether to update the delivery short code on the machine. Bit 4 – Update Block Invalid GPS Reports – whether to update block invalid GPS reports. Bit 5 – Update Test Time – whether to update test mode time between reports and time to retry. Bit 6 – Update Emergency Time – whether to update emergency mode time between reports and time to retry. Bit 7 – Update Emergency Report Flood – whether to update the emergency report flood setting
Indicators 2	1:73	Bit 0 – Update MSA Bit 1 – Update test mode callable Bit 2 – Update emergency mode callable Bit 3 – Update output pins Bit4 – Update Motion Sensor Begin Bit5 – Update Motion Sensor End Bit6 – Update Motion Sensor Wait Normal Bit7 – Update Motion Sensor Wait Test
Indicators 3	1:74	Bit0 – Update Motion Sensor Wait Emergency Bit1 – Update time in awake state normal Bit2 – Update time in awake state test Bit3 – Update time in awake state emergency Bit4 – Update pins for signal switches Bit5 – Update Signaling Repetitions Bit6 – Update SPSR Bit7 – Update SPSR Test Mode
Indicators 4	1:75	Bit0 – Update SPSR Emergency Mode
Checksum	1:76	Binary checksum to make sure data is correct and to keep from accidentally doing an update.

Ping Requests

When the unit receives this it will automatically send out a GPS report because of the SBD RING message or accidentally. What the ping really does it just causes the unit to send over a GPS report and not send back a remote update response.

Name	Num bytes	Description
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Header	1	“p” SBD Only Ping. This is here to keep updates from happening accidentally.
version	1	Version of update. Currently value is 0
Password	8	Safety mechanism
Checksum	1	Binary checksum to make sure data is correct and to keep from accidentally doing a ping request.

Emergency Alert Acknowledge:

A new configuration was created to set the behavior of an active emergency mode. The message controls which interval to use (emergency or normal tracking) for the emergency state and whether the emergency flag should be set in the GPS reports. The following details the format of the SBD message

Name	Num bytes	Description
Header	1	“e” Emergency Alert Acknowledge.
Version	1	Version of update. Currently value is 0
Password	8	Safety mechanism (Remote Update Password)
Indicators	1	This has different bits to indicate whether changes should be made. Bit 0 – Override Emergency Interval – 0 indicates the emergency mode interval values ^TBRE and ^TTKTE will be used when sending reports. 1 indicates the standard tracking interval values ^TBR and ^TTKT will be used.
Checksum	1	Binary checksum to make sure data is correct and to keep from accidentally doing an update.