

AscenKorea Inc.

ASCEN^{GPS}

Last Position Retention Specification

CONFIDENTIAL

Revision : Version 1.0

2013.6.24

Revision History Table



Document	AscenKorea Last Position Retention Specification				
Author	Dennis Choi	Date	2013/06/24	Version	1.0

Revision history

Revision	Date	Author	Description
1.00	2013-06-24	Dennis Choi	First Release

CONFIDENTIAL

This document is the exclusive property of AscenKorea Inc. and should not be distributed, reproduced, into any other format without prior permission of AscenKorea Inc. Specifications subject to change without prior notice.



Document	AscenKorea Last Position Retention Specification				
Author	Dennis Choi	Date	2013/06/24	Version	1.0

1. Purpose

It support Last Position Retention function. It means the GPS module still can output last coordinates (latitude and longitude) when lost GPS signal.

2. Provide Function

2.1

It still can output the coordinate of latitude and longitude when lost GPS signal. Please refer to Table 1 and Table 2.

CONFIDENTIAL

This document is the exclusive property of AscenKorea Inc. and should not be distributed, reproduced, into any other format without prior permission of AscenKorea Inc. Specifications subject to change without prior notice.



Document	AscenKorea Last Position Retention Specification				
Author	Dennis Choi	Date	2013/06/24	Version	1.0

GGA -- Global Positioning System Fixed Data. Time, Position and fix related data

Table 1 GGA Data Format

Name	Example	Units	Description
Message ID	\$GPGGA		GGA protocol header
UTC Time	064951.00		hhmmss.ss
Latitude	2307.12562		ddmm.mmmmm
N/S Indicator	N		N=north or S=south
Longitude	12016.44382		dddmm.mmmmm
E/W Indicator	E		E=east or W=west
Position Fix Indicator	1		See Table 2
Satellites Used	8		Range 0 to 14
HDOP	0.95		Horizontal Dilution of Precision
MSL Altitude	39.9	meters	Antenna Altitude above/below mean-sea-level
Units	M	meters	Units of antenna altitude
Geoidal Separation	17.8	meters	
Units	M	meters	Units of geoid separation
Age of Diff. Corr.		second	Null
Checksum	*65		(Note 3.1)
<CR> <LF>			End of message termination

Example:

GPS Fix:

\$GPGGA,220508.000,5025.4016,N,00335.8328,W,1,5,1.86,-50.5,M,50.5,M,,*51

GPS NoFix:

\$GPGGA,220515.000,5025.4016,N,00335.8328,W,0,0,,,M,,M,,*65

This document is the exclusive property of AscenKorea Inc. and should not be distributed, reproduced, into any other format without prior permission of AscenKorea Inc. Specifications subject to change without prior notice.



Document	AscenKorea Last Position Retention Specification				
Author	Dennis Choi	Date	2013/06/24	Version	1.0

Table 2 Position Fix Indicator

Value	Description
0	Fix not available
1	GPS fix
2	Differential GPS fix

RMC—Recommended Minimum Navigation Information

Table 3 RMC Data Format

Name	Example	Units	Description
Message ID	\$GPRMC		RMC protocol header
UTC Time	064951.00		hhmmss.ss
Status	A		A=data valid or V=data not valid
Latitude	2307.12562		ddmm.mmmmm
N/S Indicator	N		N=north or S=south
Longitude	12016.44382		dddmm.mmmmm
E/W Indicator	E		E=east or W=west
Speed over Ground	0.034	knots	
Course over Ground			Null
Date	260406		ddmmyy
Magnetic Variation		degrees	Null
Mode	A		A= Autonomous mode D= Differential mode E= Estimated mode
Checksum	*55		(Note 3.1)
<CR> <LF>			End of message termination

This document is the exclusive property of AscenKorea Inc. and should not be distributed, reproduced, into any other format without prior permission of AscenKorea Inc. Specifications subject to change without prior notice.



Document	AscenKorea Last Position Retention Specification				
Author	Dennis Choi	Date	2013/06/24	Version	1.0

Example:

GPS Fix:

\$GPRMC,220508.000,A,5025.4016,N,00335.8328,W,0.00,229.08,140230,,,A*71

GPS NoFix:

\$GPRMC,220515.000,V,5025.4016,N,00335.8328,W,0.00,229.08,140230,,,N*65

CONFIDENTIAL

This document is the exclusive property of AscenKorea Inc. and should not be distributed, reproduced, into any other format without prior permission of AscenKorea Inc. Specifications subject to change without prior notice.



Document	AscenKorea Last Position Retention Specification				
Author	Dennis Choi	Date	2013/06/24	Version	1.0

3. Note

3.1

The checksum will be calculated by Xor all characters between \$ and *.

CONFIDENTIAL

This document is the exclusive property of AscenKorea Inc. and should not be distributed, reproduced, into any other format without prior permission of AscenKorea Inc. Specifications subject to change without prior notice.