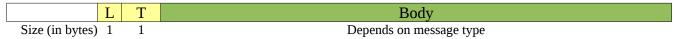
# gTracker protocol (ver. 1)

### **Table of Contents**

gTracker protocol (ver. 1)	1
Client messages	1
Authenticate message	
Coordinate message	
Heartbeat message	2
SOS message	2
Start new track	2
Rename track	2
Server messages	
Authenticate response from server	
Track status	
Error message	
Heartbeat message response	3
Reconnect demand	3
Appendix A	
Appendix B	3
- sppc.scar 2	

Each message consists from header and body:



L – message length. This field is not counted in length.

T – message type

# **Client messages**

### Authenticate message.

	L	T	V	DeviceID
Value		0x41	1	
Size (in bytes)	1	1	1	12 or 0

V – protocol version. Equal to 1.

If client connects first time DeviceID field shall have zero length. If client already has identity, it shall be passed in DeviceID field.

# Coordinate message

	L	Т	Latitude degree	Latitude exponent	Longitude degree	Longitude exponent	Speed	Time Stamp	
Value		0x43							

Size (in bytes) 1 1 2 4 2 4 2 4 Size (in bytes) 1 1 1 1 18 ...

Body can contain several coordinates. Each coordinate consists from four fields: Latitude degree, Latitude exponent, Longitude degree, Longitude exponent, Speed and Time Stamp. Latitude and longitude are floats calculated by algorithm (described in Appendix A). Mantissa is a Latitude(Longitude) degree and exponent is a Latitude(Longitude) exponent. Speed is measured in km/h. Time Stamp field is a UTC time presented as count of seconds since Epoc (1 -Jan-1970).

### Heartbeat message



Client shall send heartbeat message each minute. If both heartbeat and coordinate messages are absent within 2 minute interval, client will be dropped by server and track will be closed.

### SOS message



This message can be send in case of emergency situation. The server can react somehow(e. g. sending SMS message).

#### Start new track

	L	T	Track nam
Value		0x47	
Size (in bytes)	1	1	050

A new track with new name(if any) will be started right after this message arrival.

#### Rename track

L	T	Track name
Value	0x48	
Size (in bytes) 1	1	050

Renames current track. If track name is empty (zero length), current track name is dropped.

## Server messages

## Authenticate response from server

	L	T	DeviceID	Reference
Value		0x42		
Size (in bytes)	1	1	12	128

DeviceID field contains unique identity for connected client. The client shall store this identity and use it next time to connect (see Authenticate message). Reference is a null-terminated string Http reference to direct view of active track of the device. All trailing unused bytes are filled with zeros. This reference can be sent by eMail, SMS, etc.

#### Track status

	L	T	Track name
Value		0x49	
Size (in bytes)	1	1	50

Track new name.

#### Error message

I	L	T	Error code	Description
Value	(	0x44		
Size (in bytes)	1	1	1	0

Server may response with error. Possible error codes are described in Appendix B.

#### Heartbeat message response



The server response to client Heartbeat message.

#### Reconnect demand

	LT	Host	Port
Value	0x4b		
Size (in bytes)	1 1	32	4

The server demands client to reconnect to Host:Port, where Host is a null-terminated string and Port is a 4 byte integer. When client gets such message it MUST reconnects to given Host:Port.

# Appendix A

TBD. Latitude/Longitude calculation algo.

# **Appendix B**

- ERROR\_NOT\_AUTH (0x01) client not authenticated. Authenticate first.
- ERROR\_WRONG\_MSG (0x02) wrong message. Message has wrong format for declared protocol version. Description field of Error Message contains message, which client sent to server.
- ERROR\_FUCK\_OFF (0x03) client was disconnected after N attempts to send wrong data.

- ERROR\_SERVER\_UNAVAILABLE (0x04) server not in working mode.
- ERROR\_WRONG\_DID(0x05) wrong DeviceID
- ERROR\_ALREADY\_AUTH(0x06) client with such DeviceID has already authenticated
- ERROR\_TRACK\_RENAME(0x07) track rename failed
- ERROR\_START\_NEW\_TRACK(0x08) start new track failed
- ERROR\_TRACK\_NAME\_TOO\_LONG(0x09) track name too long
- ERROR\_TRACK\_NOT\_STARTED(0xA) track is not started yet