GPSComm Message Format

Trigger Message (TGR)

Message format is in fixed length 1024 bytes with these following fields:

Field Name	Length	Description
Header	2 bytes	Message header, this is a fixed 2 bytes value 0xA0F9
Checksum	2 bytes	Standard CRC-16 checksum value, calculated from timestamp field to the end of message
Timestamp	4 bytes	Standard UNIX localtime timestamp of sender
Unused Data	1016 bytes	Currently unused or reserved for future use

The above format can be represented into a C structure as follow:

```
struct tgr_msg {
      unsigned short hdr;     /* header */
      unsigned short crc;     /* crc16 */
      unsigned int tsp;       /* timestamp */
      char __reserved[1016];  /* reserved */
};
```

This data type can be found in gpscomm source as **msg.h** file

Control Message (CTL)

The control message is operated in TCP mode thus checksum is not mandatory, message format is in fixed length 28 bytes with these following fields:

Field Name	Length	Description
Header	2 bytes	Message header, this is a fixed 2 bytes value 0xA1F9
Status	2 bytes	Control status: CTL_CLIENT_ONLINE or CTL_CLIENT_OFFLINE
Unicast port	2 bytes	Client unicast port
Multicast port	2 bytes	Client multicast port
Broadcast port	2 bytes	Client broadcast port
Pad	2 bytes	Unused
Client name	16 bytes	Client name as null terminated string

C structure:

```
struct ctl_msg {
      unsigned short hdr;     /* Header */
      unsigned short ctl;     /* Control code */
      unsigned short uport;   /* Unicast port */
      unsigned short mport;   /* Multicast port */
      unsigned short bport;   /* Broadcast port */
      unsigned short __pad1;  /* Unused */
      char name[16];          /* Client name */
};
```

Acknowledgement Message (ACK)

Message format is in fixed length 56 bytes with these following fields:

Field Name	Length	Description
Header	2 bytes	Message header, this is a fixed 2 bytes value 0xA2F9
Checksum	2 bytes	Standard CRC-16 checksum value, calculated from client name to timestamp
Name	16 bytes	Client name
Latitude	16 bytes	GPS latitude
Longitude	16 bytes	GPS longitude
Timestamp	4 bytes	GPS timestamp

C structure:

```
struct ack_msg {
      unsigned short hdr;     /* Header */
      unsigned short crc;     /* CRC16 */
      char name[16];          /* Sender name */
      char latitude[16];      /* GPS Latitude */
      char longitude[16];     /* GPS Longitude */
      long tsp;               /* GPS timestamp */
};
```