BXB definition document

GGCommsDefinition version 1.0-1

Intoduction

This is the definiton of the message protocol used between the seat units and the master streamer. Messages and tags marked with "DevOnly" should be ignored and is purly for trouble shooting.

Enumerations

Enum cmd_t

A list of all the commands. Note that all commands are send to a spesific address except the broadcast command. Most commands have an acknowladge but note: * each command have a paired acknowldge (ACK) command id * there is only one not acknowladge (NAC) command shared by all commands * the debug command is not acknowladged * a broadcast command is only acknowladced by one address

Tag	Value	Comment
CMD_BROADCAST	0x0A	Broadcast
CMD_BROADCAST_ACK	0x03	An acknowladge if the broadcast command was sucessfull
CMD_READ	0x15	
CMD_READ_REPLY	0x16	
CMD_WRITE	0x29	
CMD_WRITE_ACK	0x30	Acknowladge send on a write
CMD_WR_SLAVE	0x3D	Not used: Reserved to be used to write to a single seat unit.
CMD_DEBUG	0x1A	DevOnly: Debug command only and should be ignored otherwise.
CMD_NACK	0x04	A negative ackowladge used if any command failed
CMD_ACK_HEADER	0x05	An acknowladge used if the header was recieved withhout error.

Enum SubCmdRead

Tag	Value	Comment
DINFO_STATUS	1	DevOnly
DINFO_VERSION	2	DevOnly
DINFO_NETSTATS	4	
DINFO_VERSION	5	
DINFO_LANG_STATS	6	
DINFO_HOPONOFF_STATS	7	
DINFO_EVENT_LOG	8	
DINFO_EVENT_LOG_WITH_DEL	9	
DINFO_DEBUG	100	DevOnly
### Enum Gender		

Tag	Value	Comment
UNKNOWN	0	
MALE	1	set as male
FEMLE	0x2	set as female
OTHER	0x3	if a person identifies with a different gender
### Enum ename		

Tag	Value	Comment
x1	1	
x2	2	
a1	3	
___		
## Structures		
___		
### MsgHeader		

This is the common header for all messages.

Structure locals constants * MSG_BASE = TRUE Fields in this structure

Field	Type	Array	Comment
magic	uint32	-	This is a magic number that indicates the start of the message. (This is 0x900DBEEF in bigendian format)
destAddr	uint8	-	The destination address is where the message should be send to. Devices are allocated a fixed address. The address for the master streamer is always 0. Seat units are each configured with ther own addresses. Messages can be either directed to a single device or broadcasted depending on the command. If it is a broadcast command the destination will still be for a spesific address and that address should send CMD_BROADCAST_ACK acknowladges or a CMD_ACK_HEADER on sucess or a CMD_NACK on an error. When broadcasted the broadcast address is 0xFF
sourceAddr	uint8	-	The source address.
cmd	enum8 cmd_t	-	This is the message identifier.
subCmd	uint8	-	
len	uint16	-	the lenghth of he data
seqNr	uint16	-	A sequence number send with the request
crc16	CRC16	-	crc use for integrity checking
Total	length	14	4+1+1+1+1+2+2+2
### ReadMsg			

The read command reads information from the seat units, normally statistics and state changes. The seat unit should respond with a CMD_READ_ACK or CMD_NAC on failure.

Annotations *C_PACK* =
C_UNPACK **=**
DD =
FF **=**

Structure locals constants *MSG_ID = CMD_READ* MSG_LEN **= 0 *** IS_MSG **= 0x55**

Structure inherits all fields from **MsgHeader** and add these

Field	Type	Array	Comment
Parent	MsgHeader		This data prepend this structure
subCmd	enum8 read_t	-	
len	uint16	-	no data send with this message
seqNr	uint16	-	A sequence number assosiated with this message and returned by the CMD_READ_ACK
crc16	CRC16	-	
Total	length	**21**	**4+1+1+1+1+2+2+2+ 1+2+2+2**
### ReadMsgReply			

Structure locals constants *CASE = 44* MSG_ID **=** CMD_READ_REPLY ***** MSG_COND **=** (subCmd **==** DINFO_EVENT_LOG)

Structure inherits all fields from **MsgHeader** and add these

Field	Type	Array	Comment
Parent	MsgHeader		This data prepend this structure
log	infoLog infoLog	**10**	normally
crc16	CRC16	-	crc use for integrity checking
Total	length	variable	**4+1+1+1+1+2+2+2+ (10)*-100000+2**
### infoLog			

Annotations * STRUCT **=**
Fields in this structure

Field	Type	Array	Comment
etype	enum8 SubCmdRead	-	
seatNr	uint8	-	
seatLeftAux1	uint8	-	
seatRightAux1	uint8	-	
res	uint32	-	
Total	length	**8**	**1+1+1+1+4**
### SetProfile			

This is the message to set the user profile**.** Line **2** of comment

Annotations *CC* =
CV **=**

Structure locals constants *MSG_ID = 0x1155* ARRLEN **= 10**

Structure inherits all fields from **MsgHeader** and add these

Field	Type	Array	Comment
Parent	MsgHeader		This data prepend this structure
id	int32	-	the user identificatin number
surname	char	**20**	the user surname
fieldvarname	enum8 ename	-	
gender	enum8 Gender	-	
dlen	int8	-	
hdrCrc2	CRC16	-	a message calculated crc
addit	char	dlen	
email	zstring	-	
Total	length	variable	**4+1+1+1+1+2+2+2+ 4+ (20)**$1+1+1+1+2+$ **(dlen)1+-100000**