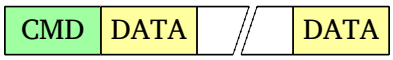
OSKAR III Packet structure description

Rando Hinn – rando.hinn@ahhaa.ee – Version 0.1, March 2021

This document serves as the packet structure documentation for Oskar III. The documentation presented here describes the packets as they are structured before the escaping and encapsulation process that takes place at the moment of transmission.

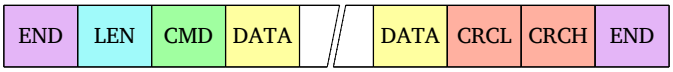
Each packet implemented shares the same generic structure before escaping and encapsulation.



where

CMD	The command opcode
DATA	The data to go along with the command

The generic structure applied to packets during transmission (after escaping and encapsulation) is



where

END	0xC0
LEN	Lenght of the escaped data + 1 (for the command)
CMD	The command opcode
DATA	The data to go along with the command, escaped using SLIP protocol values
CRCL & CRCH	The low and high bytes of the CRC16 calculated over the escaped data

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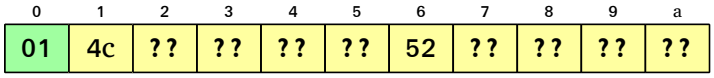
1. Commands from Host to OSKAR

1.1. Drivespeed command



where

0x01	Opcode 0x01
0x4c	ASCII for the letter L - signifies start of left motor speed
??	`left_speed & 0xFF`
??	`(left_speed >> 8) & 0xFF`
??	`(left_speed >> 16) & 0xFF`
??	`(left_speed >> 24) & 0xFF`
0x52	ASCII for the letter R - signifies start of right motor speed
??	`right_speed & 0xFF`
??	`(right_speed >> 8) & 0xFF`
??	`(right_speed >> 16) & 0xFF`
??	`(right_speed >> 24) & 0xFF`

`left_speed` and `right_speed` are of type `int32_t` in correspondance to the GYEMS motor protocol for speed control.

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