

Sharkoon Skiller MECH SGK3 USB control protocol

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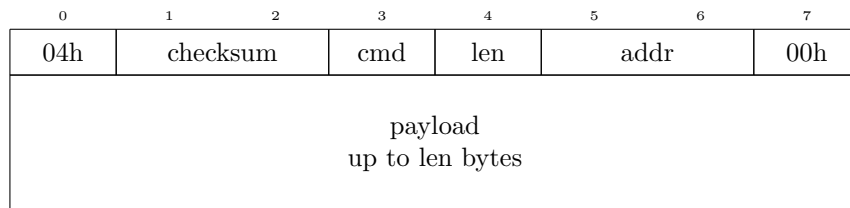
1 Basic info

Property	Value
VendorID	0c45
ProductID	8513
Control Interface Index	1
Endianness	Big Endian

2 Protocol

Commands are submitted to keyboard via USB control transfer, state updates are send by keyboard via USB interrupts. After every command, keyboard should send state update.

Every packet has length of 64 bytes, and consist of 8 bytes header followed by payload, which can be up to 56 bytes long. It's not possible to split packet into two, instead we should use addressing feature described later.



2.1 Header

Every packet starts with magic byte **04h**, probably used to determine control packets. Every value is written in Big Endian manner, ie. LOW byte comes first. Header is ended with one null byte used for padding.

2.1.1 checksum

Magic value is followed by 2-byte long checksum. Checksum calculation method is really trivial - it's just a sum of all bytes after checksum.

$$\text{checksum} = \sum_{i=3}^{64} \text{Byte}_i \quad (1)$$

2.1.2 command

Command is 1-byte long identifier, which determines payload kind and action taken by keyboard. Commands can be used to update keyboard state, or to read state.