

VGM Communication Protocol

Com Channel Settings

- Baud rate: 115200
- Data Bits: 8
- Stop Bits: 1
- Parity: None

Communication with the meter follows a general rule: 6 bytes sent from the controlling device will initiate a command. To retrieve data:

Send 6 Bytes:

To get next sample: 6 x – 0x03

To set Time to zero (and get next sample): 6 x – 0x04

(Note: an extra ACK is sent before sample when time is reset - 32 bytes returned)

Receive 31 Bytes:

6 – bytes for Time

6 – bytes for X Axis

6 – bytes for Y Axis

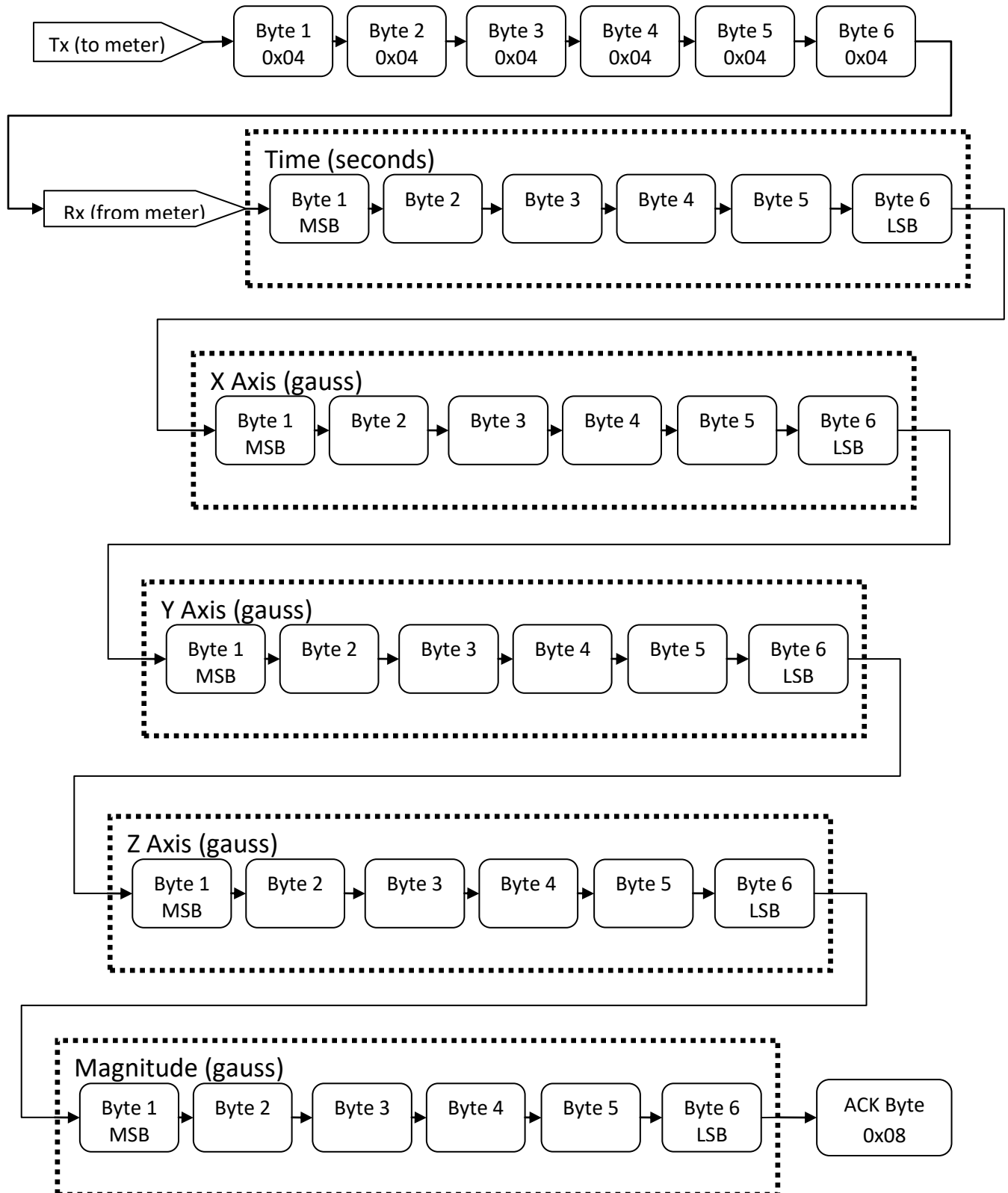
6 – bytes for Z Axis

6 – bytes for Magnitude

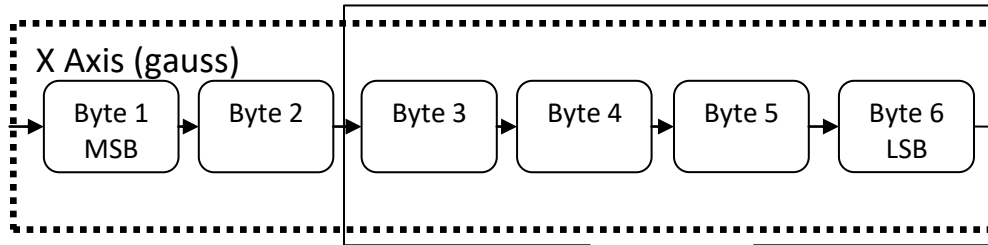
1 – byte for Acknowledgment (should be 0x08)

Data Stream Example

(streaming data from VGM - with time set to zero)

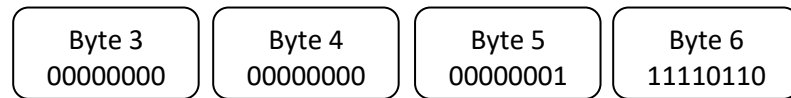


Data Stream Decomposition (convert a single axis)

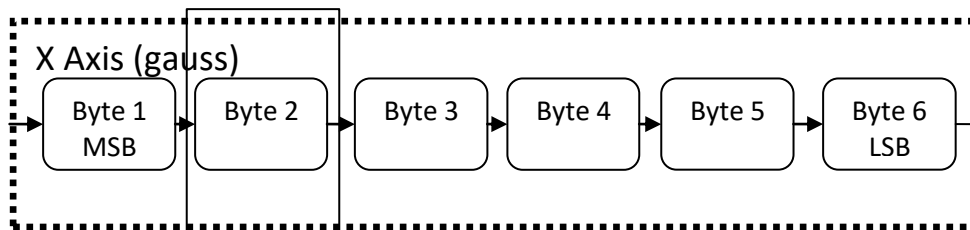


32 bit number (standard unsigned binary conversion)

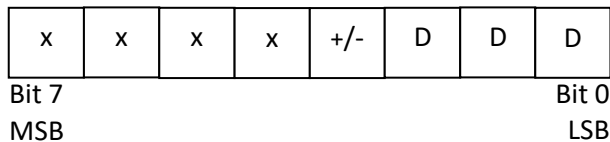
Example:



Becomes: 502

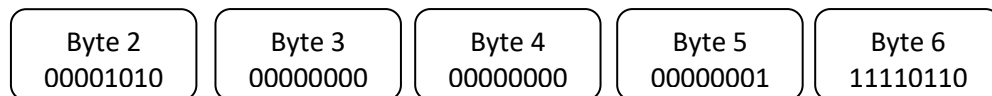


Holds sign and decimal information



Bit 3 - If 1 then number is negative
 - If 0 then number is positive
 Bit 2 - 0 - Decimal register; convert to number (0 - 7) - decimal is this many places from right

Example:



Becomes: -5.02