Problem: Plot the voltage vs. time of the Tx line in Rs-232 for sending this text "Z#".
Assume +/- 12 V signal voltage, 53 kbaud, eight data bits, and one Stop bit.

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Solution:

Z = 01011010

= 00100011

The y-axis is the idle voltage from +/- 7 Volts on a scale of +/- 12 Volts.

The 56k baud relates to 56kHz → 17.85 µs. One bit per baud every 17.85 µs.

The graph was made in excel.

Rs-232 Timing for char "Z#"