

Task

You need to modify the program that continuously generates a sinusoidal waveform. The modification involves introducing a regulated limit on the output waveform.

Task conditions

1. the function to adjust the frequency of the output waveform must be retained
2. a *limit* must be introduced on the value of the sinusoidal output waveform
 - (a) the limit is symmetrical with respect to the center value of the sinusoidal waveform
 - (b) the limit value is adjusted using two buttons – up/down
 - (c) changing the limit value must not affect the frequency
3. the program is supposed to be implemented using interrupts (without using the resources of the main program)

