

1. MTBF

Piano:

1 year, I feel like 1 failure per year can be achieved with a slow clock and no extra synchronizer hardware easily

Arm:

10^{10} years, this MTBF can be reached with slower clocks and a few synchronizers mitigating injury from an accident with the machine

Driving

10^{10} years, Since there are many drivers on the road, the MTBF must be high to mitigate collisions but not too high to sacrifice sampling speeds

2. Piano

A clock speed of about 3.1×10^8 Hz would be required