

1. 2 selector channels @ max 700 KB/s = max 1400 KB/s
 1 multiplexor channel (combined) = $(2 \times 6.6) + (2 \times 1.2) + (5 \times 1) = 13.2 + 2.4 + 5 = 20.6 \text{ KB/s}$
 Max Aggregate I/O Trans. Rate = 1420.6 KB/s

2. 0-10ns: Start Main Program

10-25ns: IRQ1 (15ns)

25-40ns: IRQ4 (15ns); Hold IRQ1 Hold IRQ3

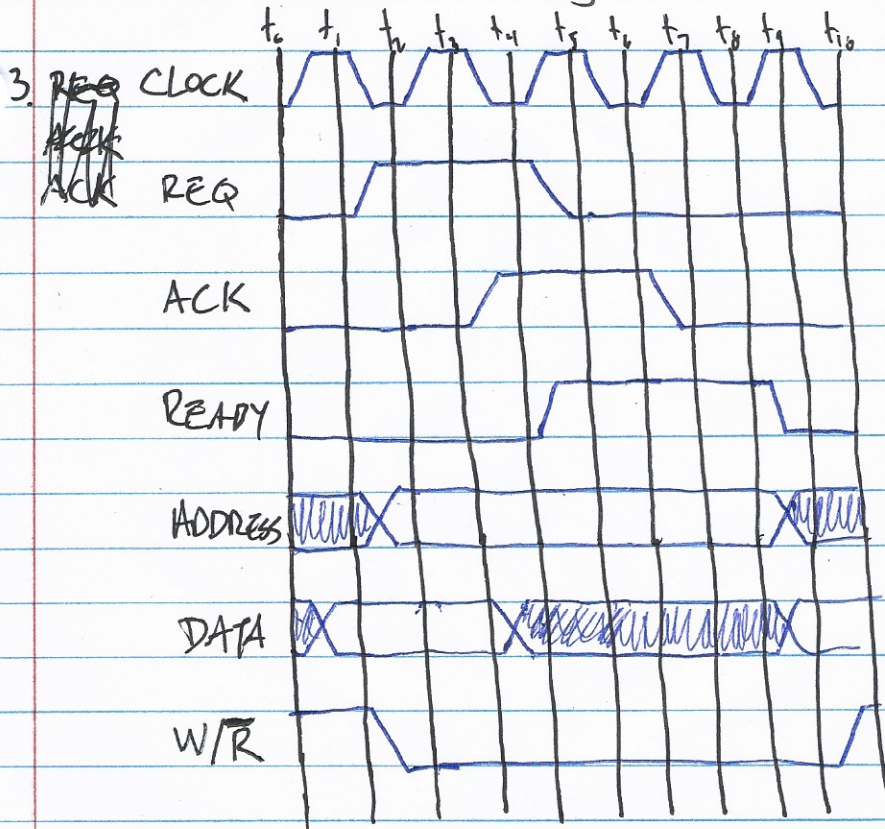
40-60ns: IRQ6 (20ns); Hold IRQ4; Hold IRQ1

60-65ns: IRQ4 (remaining 5ns); Hold IRQ3, Hold IRQ1

65-85ns: IRQ3 (20ns); Hold IRQ1

85-90ns: IRQ1 (remaining 5ns)

90-100ns: Resume Main Program



4. I think the term "random access" device is a misnomer for much the same reason as RAM, which is really read-write memory. As such, "Read-Write device" is probably more accurate. Also, since data is not accessed from a random location, the term could be misleading. I may be wrong, but I believe the term comes from the fact that there is no time difference when **accessing** data from any **random** locations; a specific location is still requested.

5. The advantages of having a small number of sectors per disk cluster is a smaller allocation ~~table~~^{block}, and faster tracking. Also, there isn't as much space used if a file doesn't use the entire block. If allocation blocks ~~are~~ are small (i.e. small number of sectors per cluster), then you will have a larger allocation table. ~~due~~ This is due to having more clusters/allocation blocks, resulting in slower access times.