

This is a synchronization token between the M68k and the microcontroller.

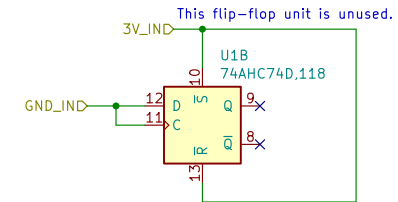
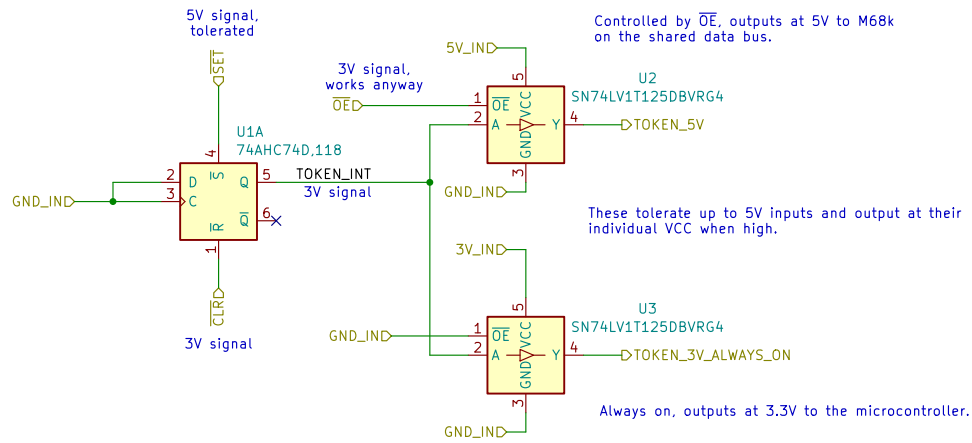
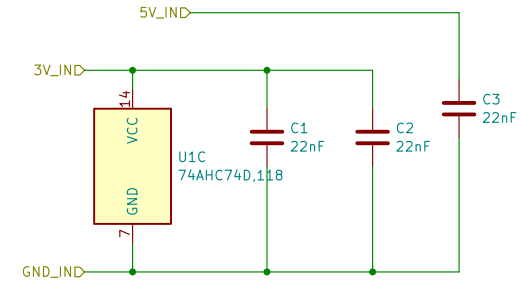
The token will be cleared on boot/reset.

The M68k will be able to set the token (\overline{SET}), indicating to the microcontroller that a command is ready to be executed.

The microcontroller will be able to clear the token (\overline{CLR}), indicating to the M68k that the command has been executed.

The M68k and microcontroller both will be able to read the current state of the token. The M68k reads a 5V version of the signal, and the microcontroller reads a 3.3V version of the signal.

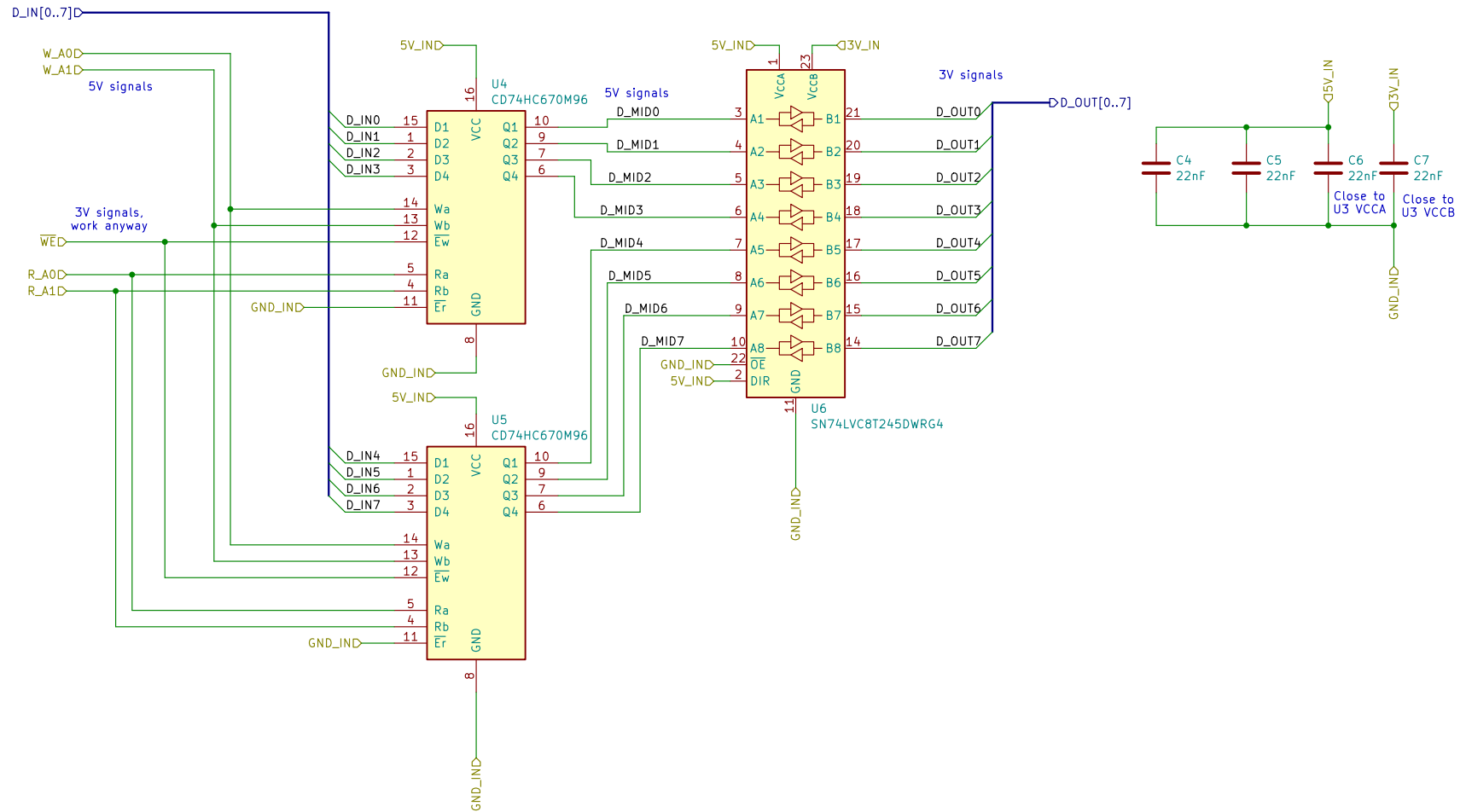
Command codes and arguments are passed through a separate register file.

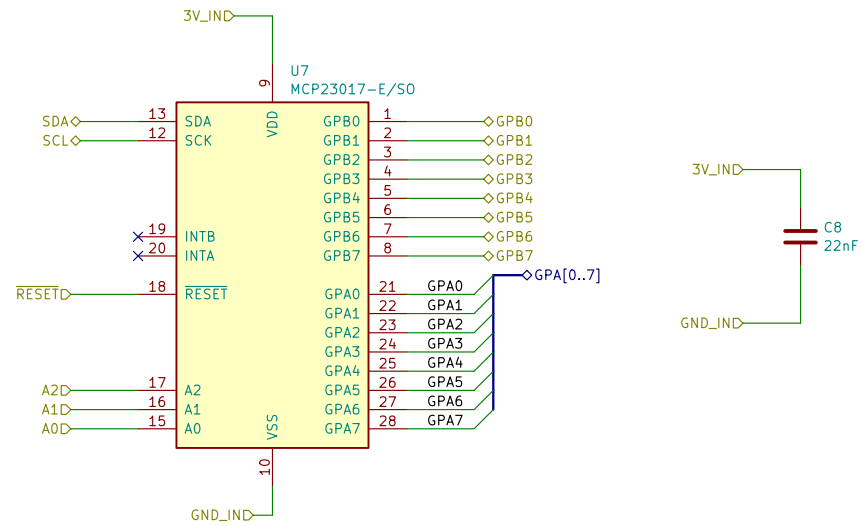


This is a set of four 8-bit registers that can be independently read and written by the two controllers (one reads, one writes).

The registers are assumed to be written by a device with a shared data bus (Sega Genesis) and read by a device with dedicated pins (microcontroller). The read output is always enabled.

Everything runs on +5V, but must be compatible with 3.3V inputs. If using a slightly different part number, please check input voltages in the data sheet. The data outputs are 3.3V.

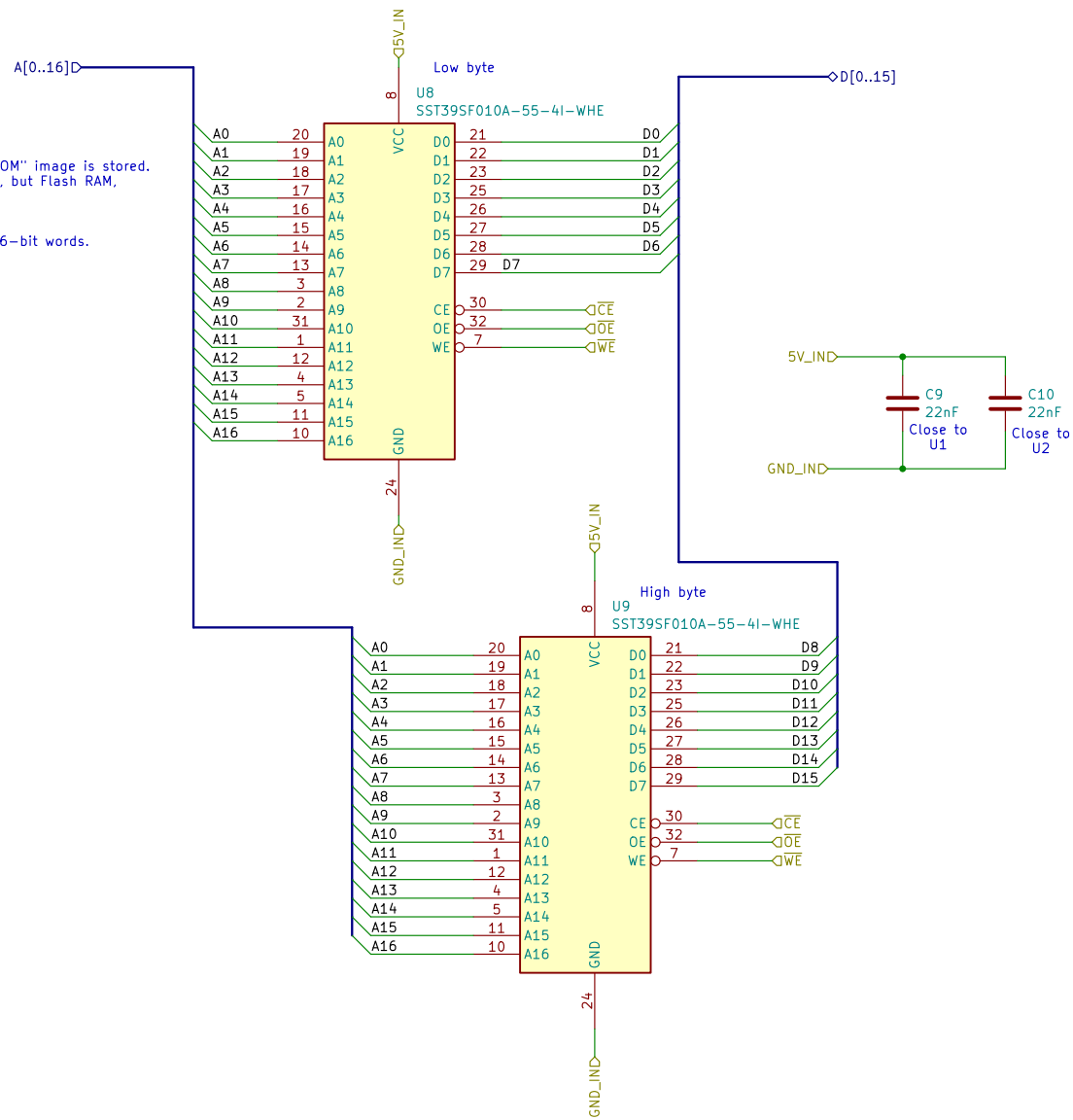


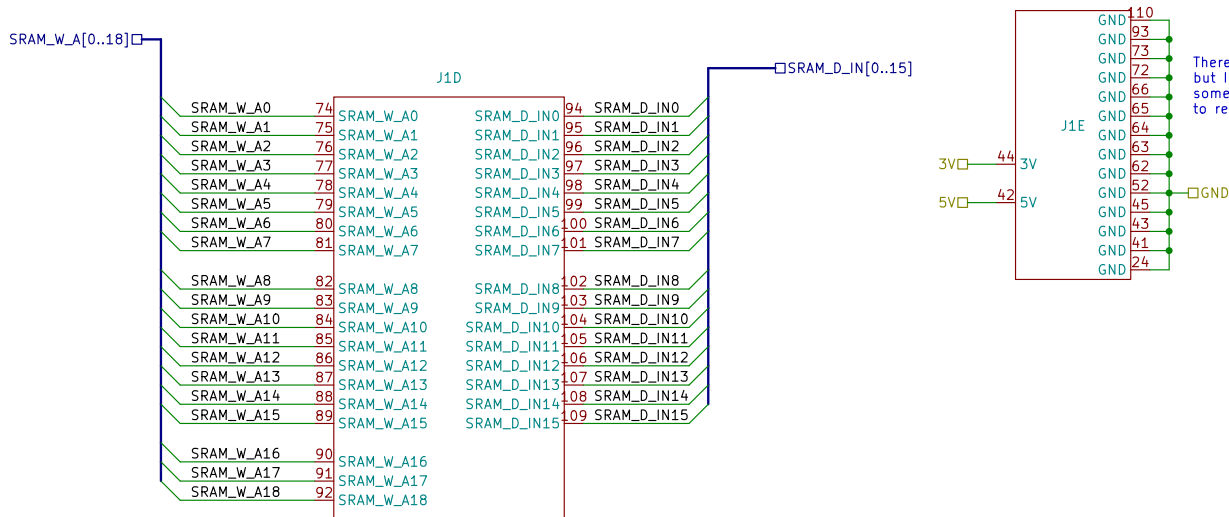
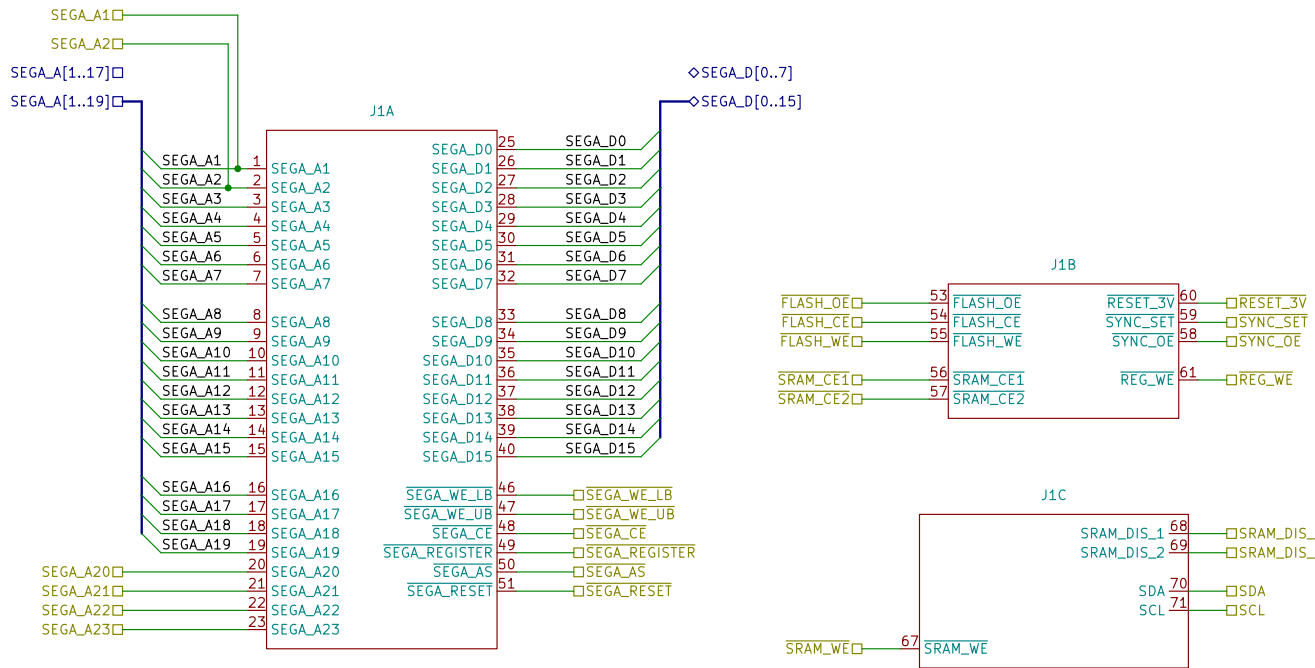


This is where the cartridge "ROM" image is stored.
Not an actual ROM, or EPROM, but Flash RAM,
which is way cheaper.

Each chip is 8-bits x 128k.
Together, they make 128k x 16-bit words.

Maximum ROM size is 256kB.





There are more ground pins here than maybe make sense, but I changed the design late in the process to remove some unnecessary inter-board signals, and I didn't want to redo the completed footprint and PCB layouts.