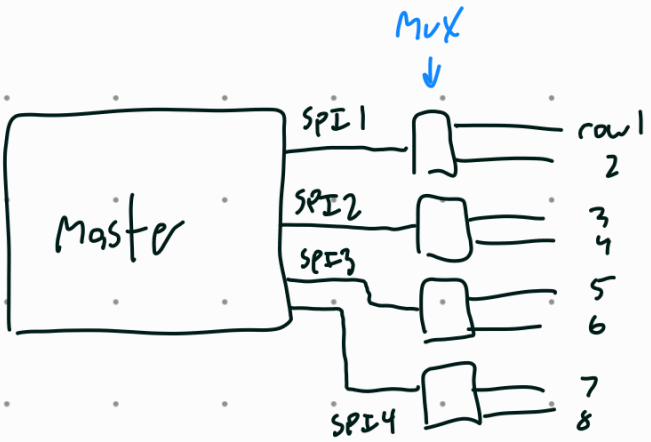
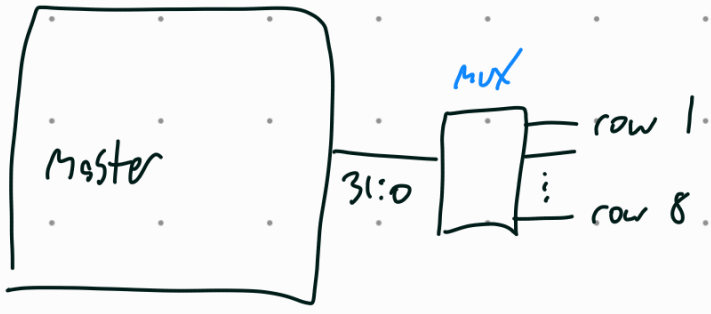
Quad SPI to 8 rows



pros
- low I/O
- unlimited data
- simple

cons
- mux
- latency
- 2-way comm.

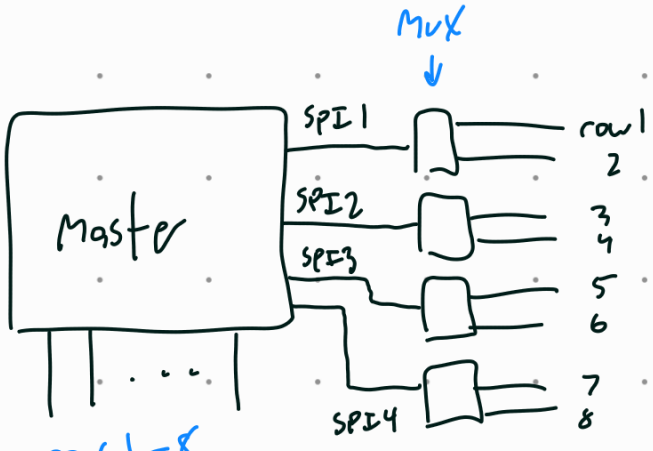
Direct mux to rows



pros
- no comm. protocol
- very simple

cons
- lots of mux
- still latency

Individual interrupt + SPI



explanation: same as first, but use interrupt from rows to know when to grab data instead of polling

pro: less latency

Decided method: multiplexed SPI

pros

- design allows for virtually unlimited data to be sent between uC, allowing us to change data in future
- allows for unlimited expansion since we can simply use encoder/decoders to address lots of rows
- simple implementation

cons

- requires multiplexing
- need to poll each row to get all data (can be mitigated with small data size)

Required testing:

- multiplex SPI lines
- test communication speed (22.5 Mbps advertised)
  - ensure data reliability at high speed