VME interface for ADFv2 board

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VME interface on ADF prototype

- VME interface A24 D16-D8 only; no DMA; no interrupt
- Provides 5V <-> 3.3V conversion; Virtex 2 I/O’s not 5V tolerant
- Download FPGA firmware via VME
  -> works fine but CY7C960A VME bridge is now obsolete

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ADFv2 VME interface

- CY7C960A + XC9572 + 74245 functions fit in XC95288 CPLD
- 4 DONE signals readable over VME: easier to spot faulty FPGA

Benefits of new design

- Simpler design
  Parts: CY7C960A, XC17S05, XC9572 (100 pins), 74LVC16245
  Replaced by: XC95288 (144 pins) and 74F38

- Easier to maintain
  - Does not depend on Cypress software anymore
  - No configuration PROM to program

- Cheaper
  - Cost of parts removed: ~55$
  - Cost of parts added: ~20$ -> ~35$ cheaper (only ~2% of board cost)

- More flexible
  - Programmable logic versus dedicated chip

-> Design validated by simulation; will be tested on ADFv2