Appendix D

Appendix D: QVGA Schematic

The QVGA Controller comprises two PC boards, designated the QED Board and the QVGA Board.

- ⇨ *The QED Board contains the processor, RAM and Flash memory, digital I/O, A/D and D/A.*
- ⇨ *The QVGA Board contains power conditioning,, display and touchscreen interface circuits, Wildcard module ports, and additional RAM and Flash memory.*
- ⇨ *This Appendix provides complete circuit schematics for each board.*

QED Board Schematic

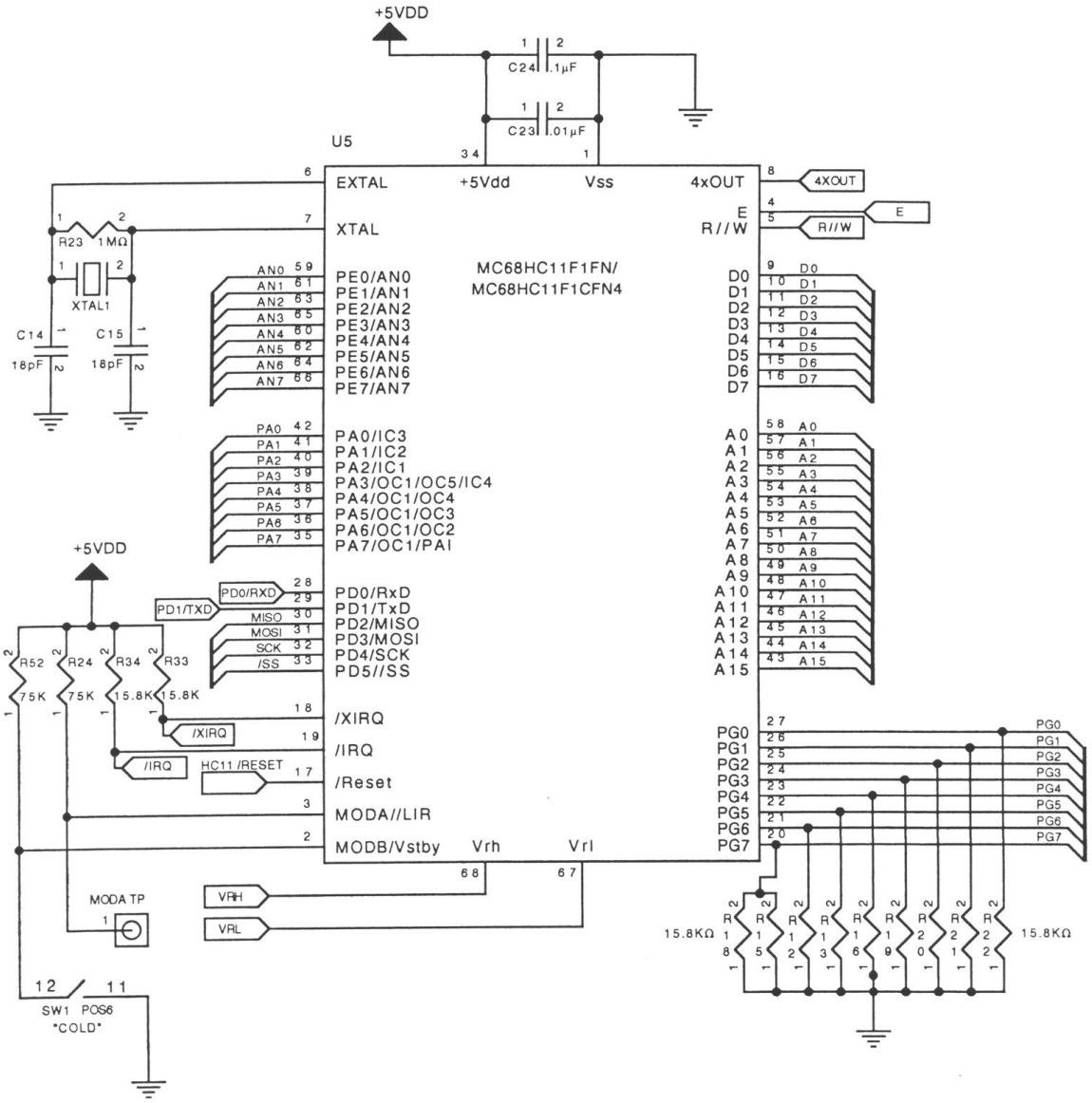

Figure D-1 QED Board (PN: QED-4-QVGA) Processor.

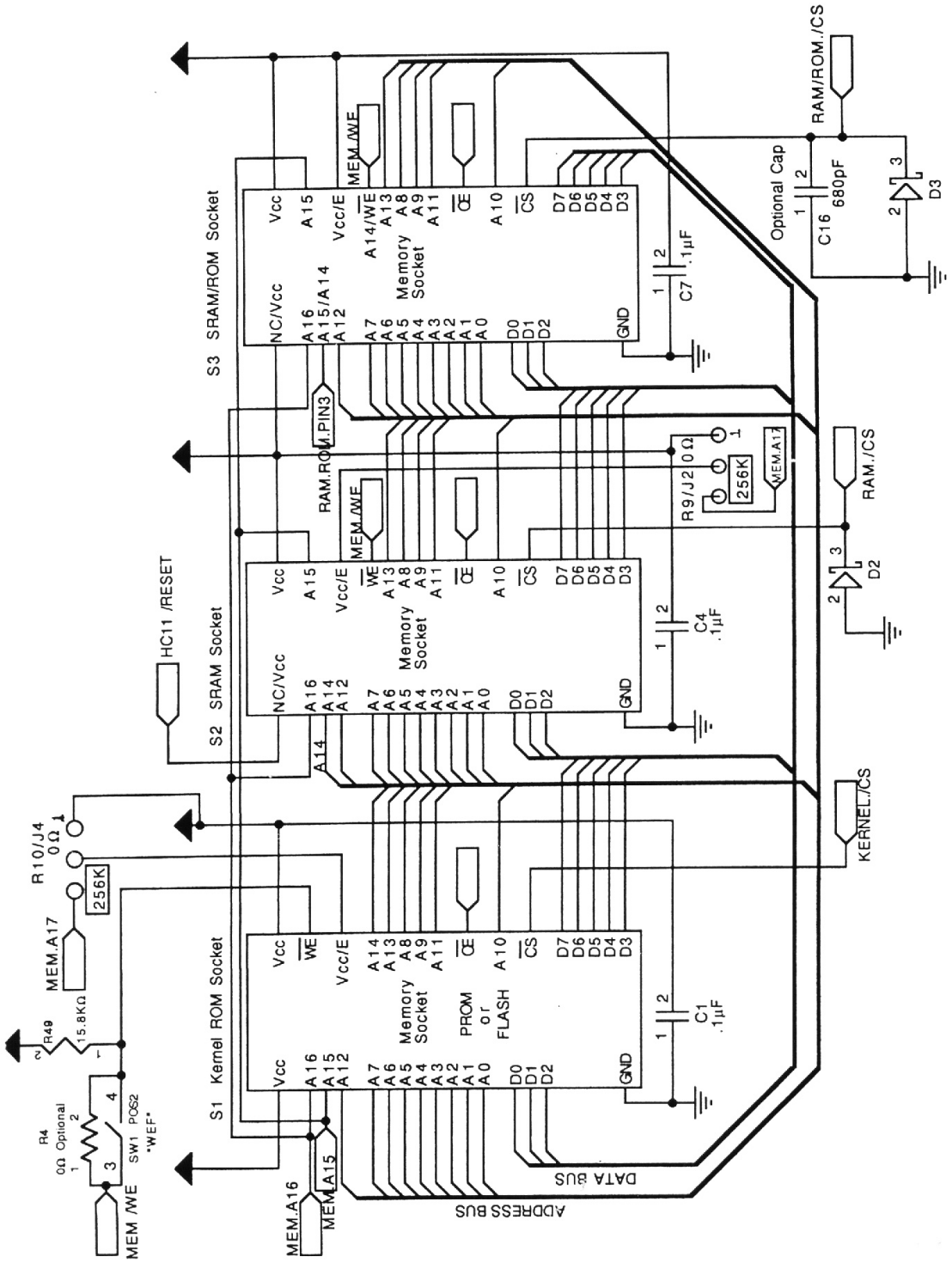

Figure D-2 QED Board Memory.

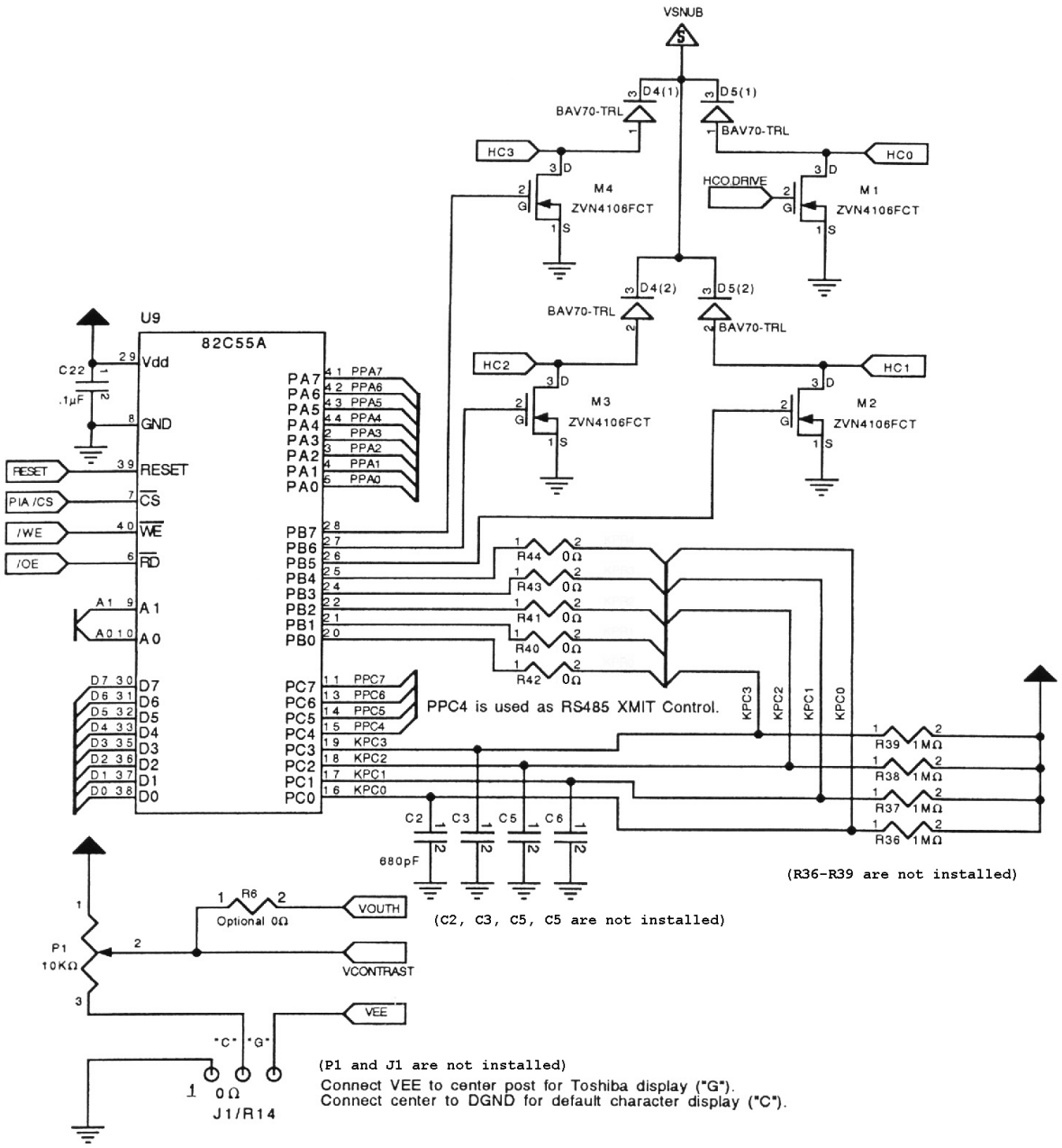

Figure D-3 QED Board PIA and High Current Drivers.

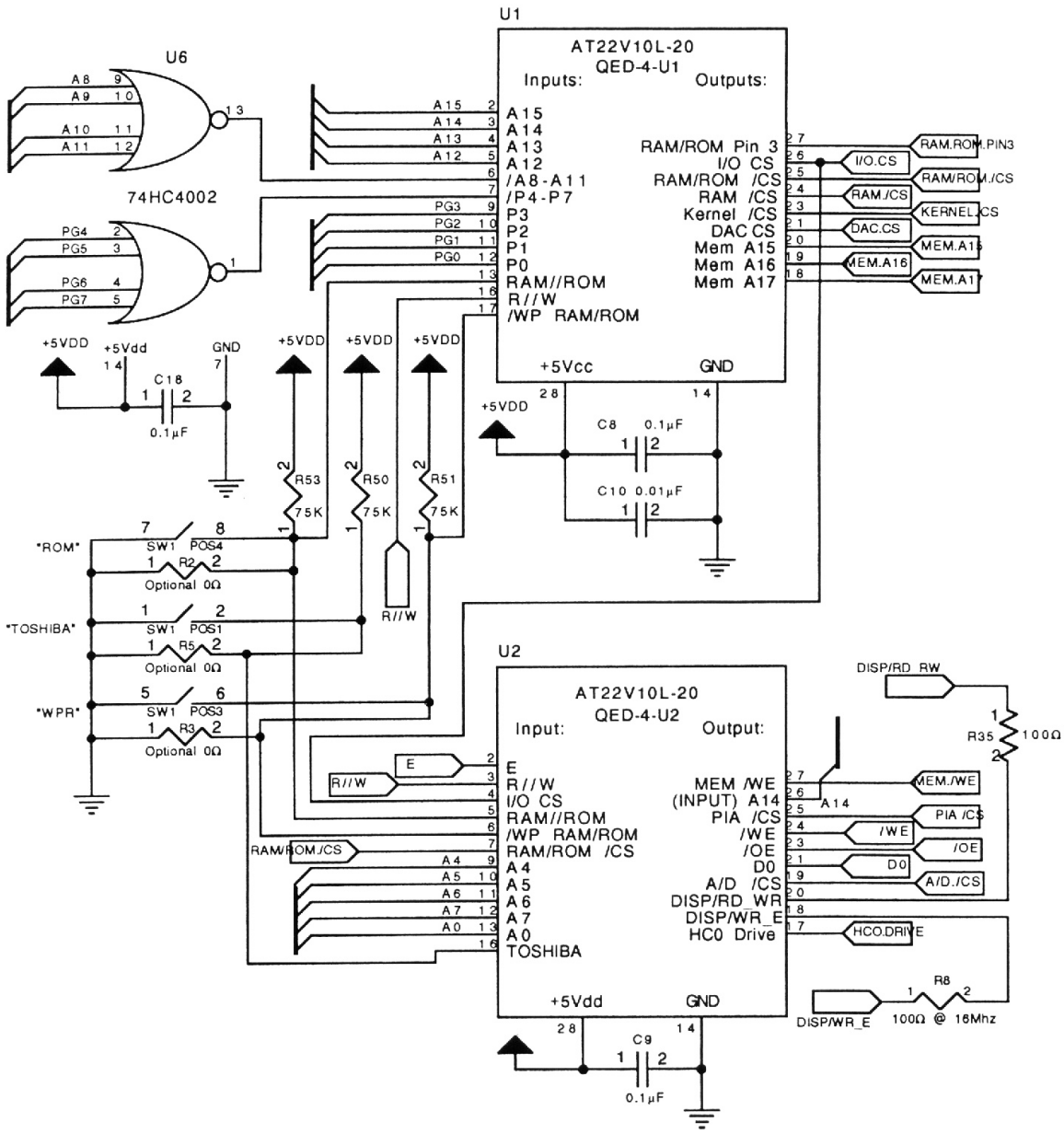

Figure D-4 QED Board PAL Glue Logic.

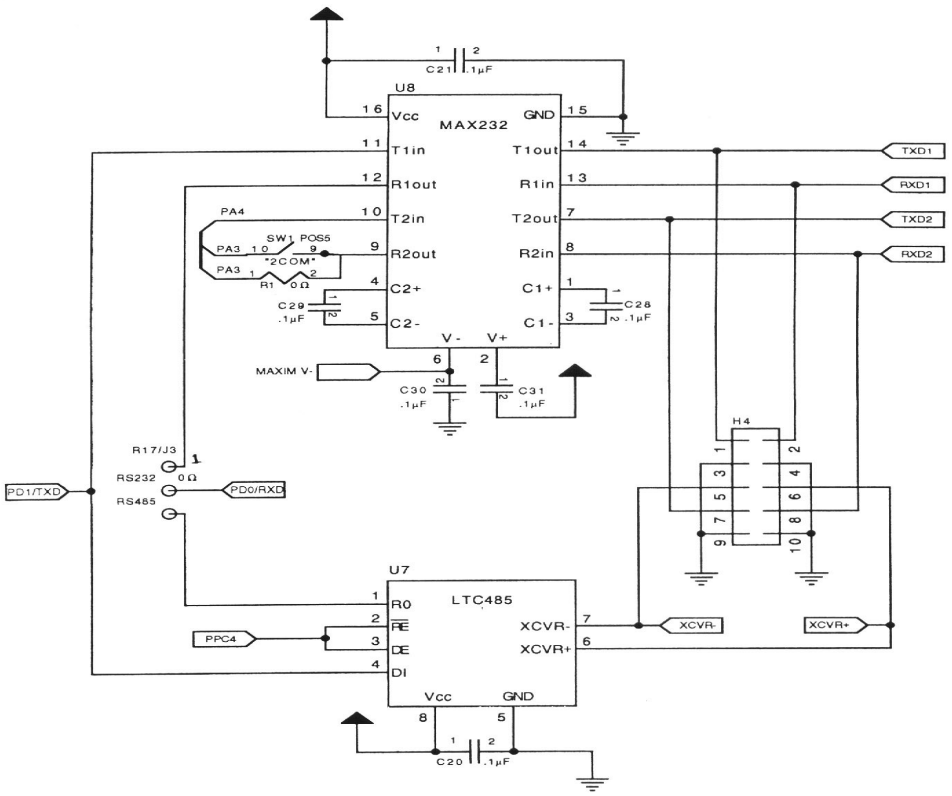

Figure D-5 QED Board Serial Communications Drivers.

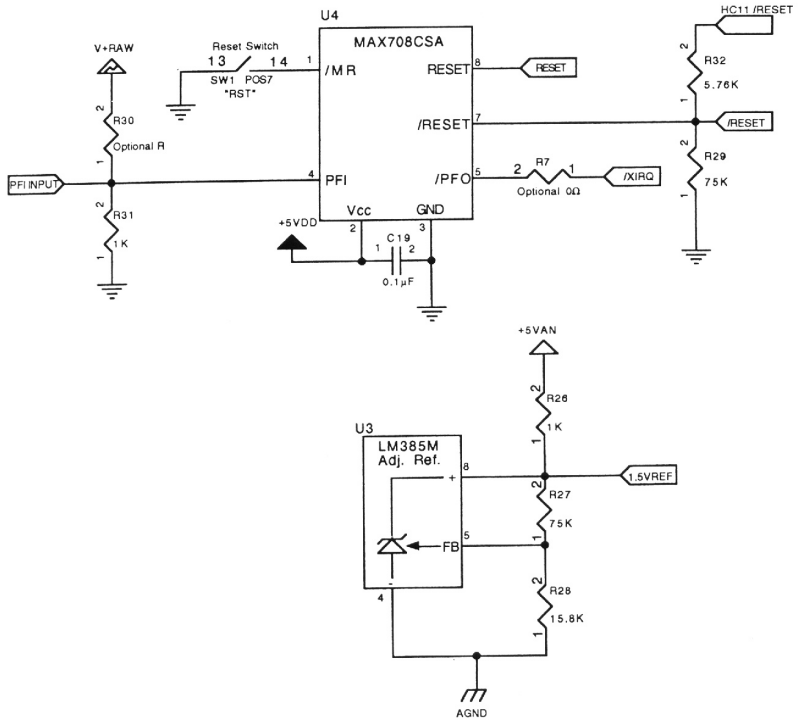

Figure D-6 QED Board Reset Circuitry.

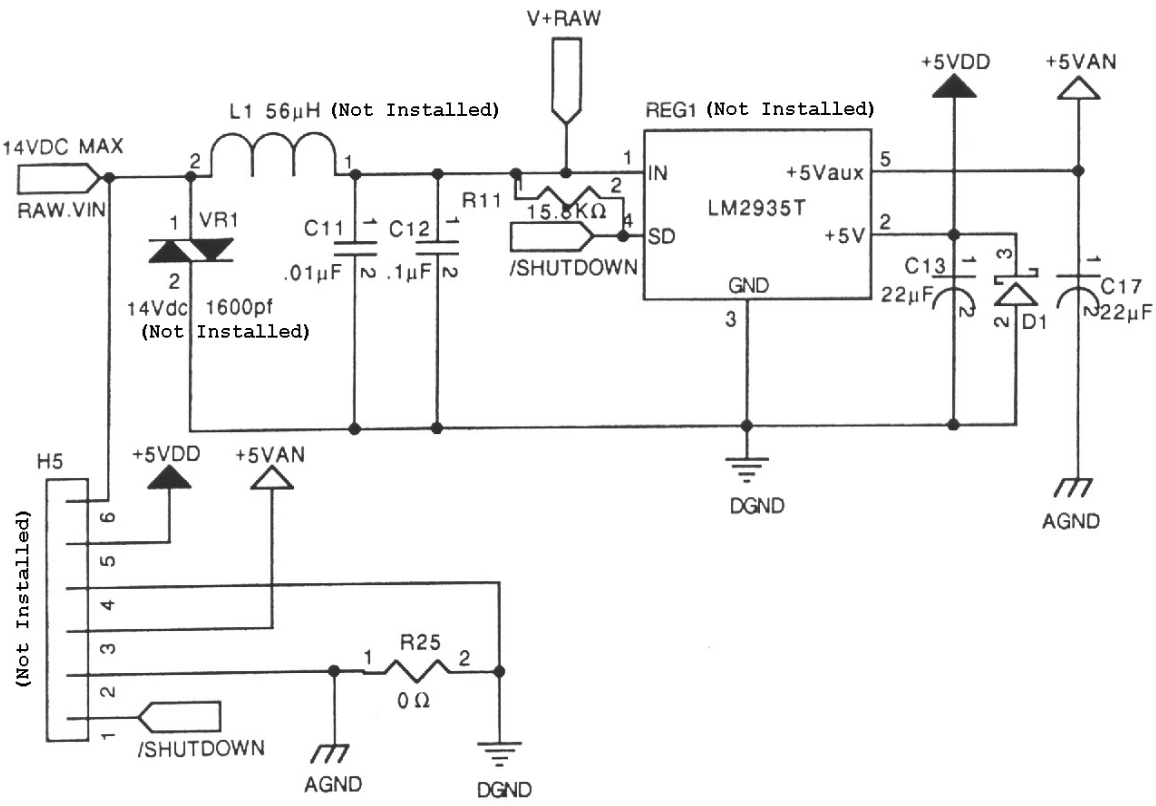

Figure D-7 QED Board Power Conditioning. (The regulator and input filter are not installed; the QED-4-QVGA Board receives filtered and regulated power from the QVGA Board).

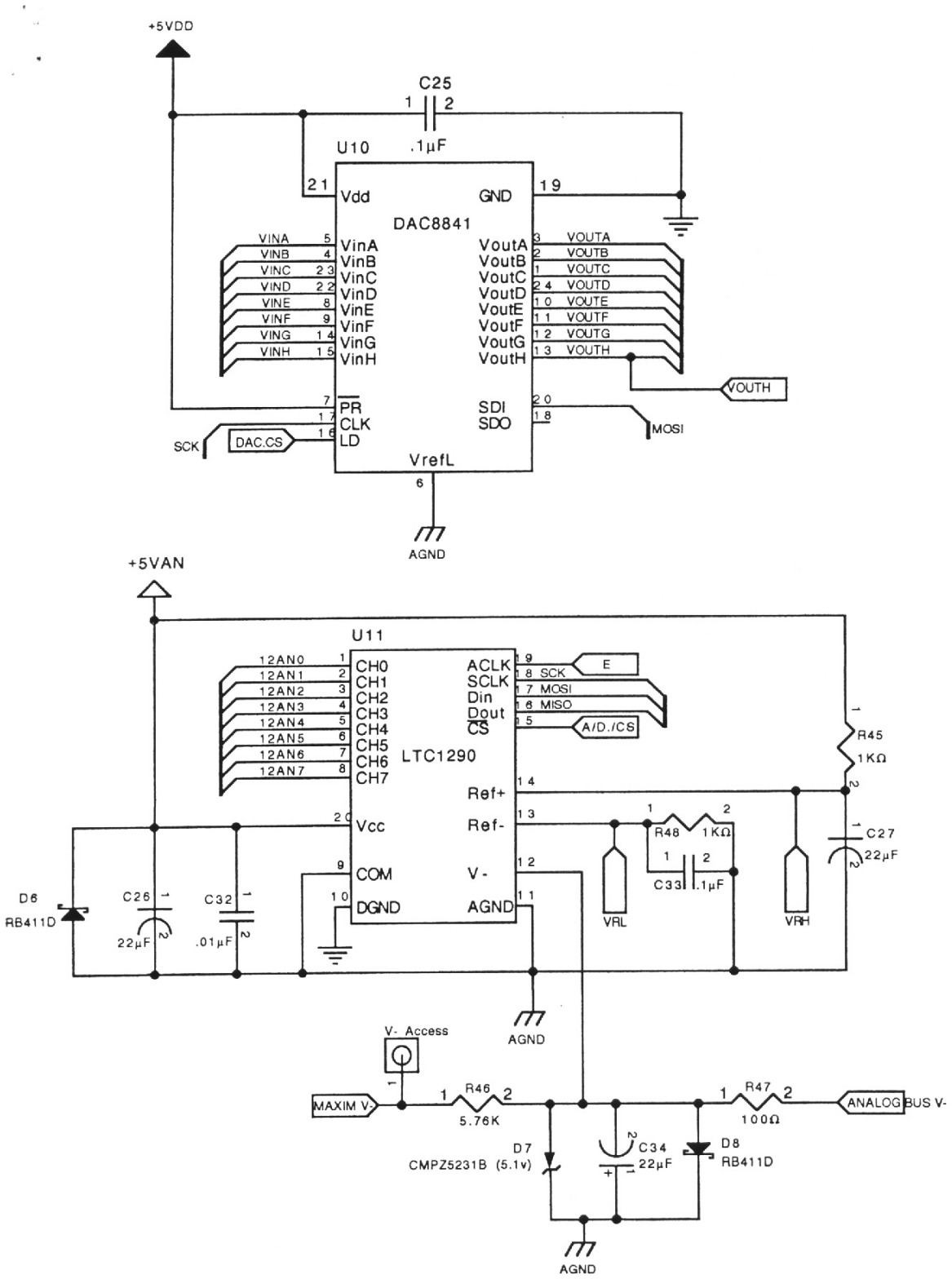

Figure D-8 QED Board 12-bit A/D and 8-bit DAC.

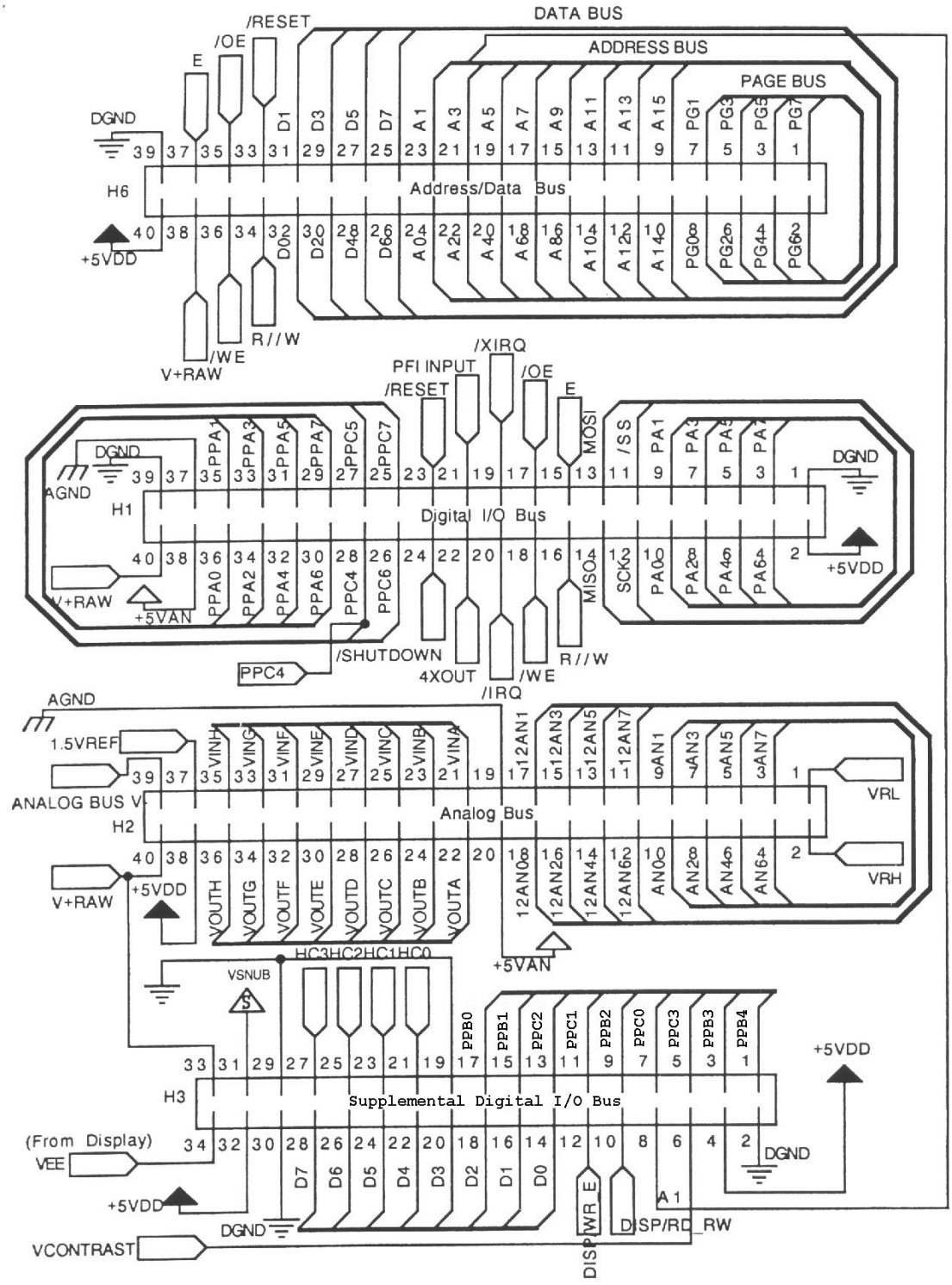

Figure D-9 QED Board Connector Pin-Outs.

QVGA Board Schematic

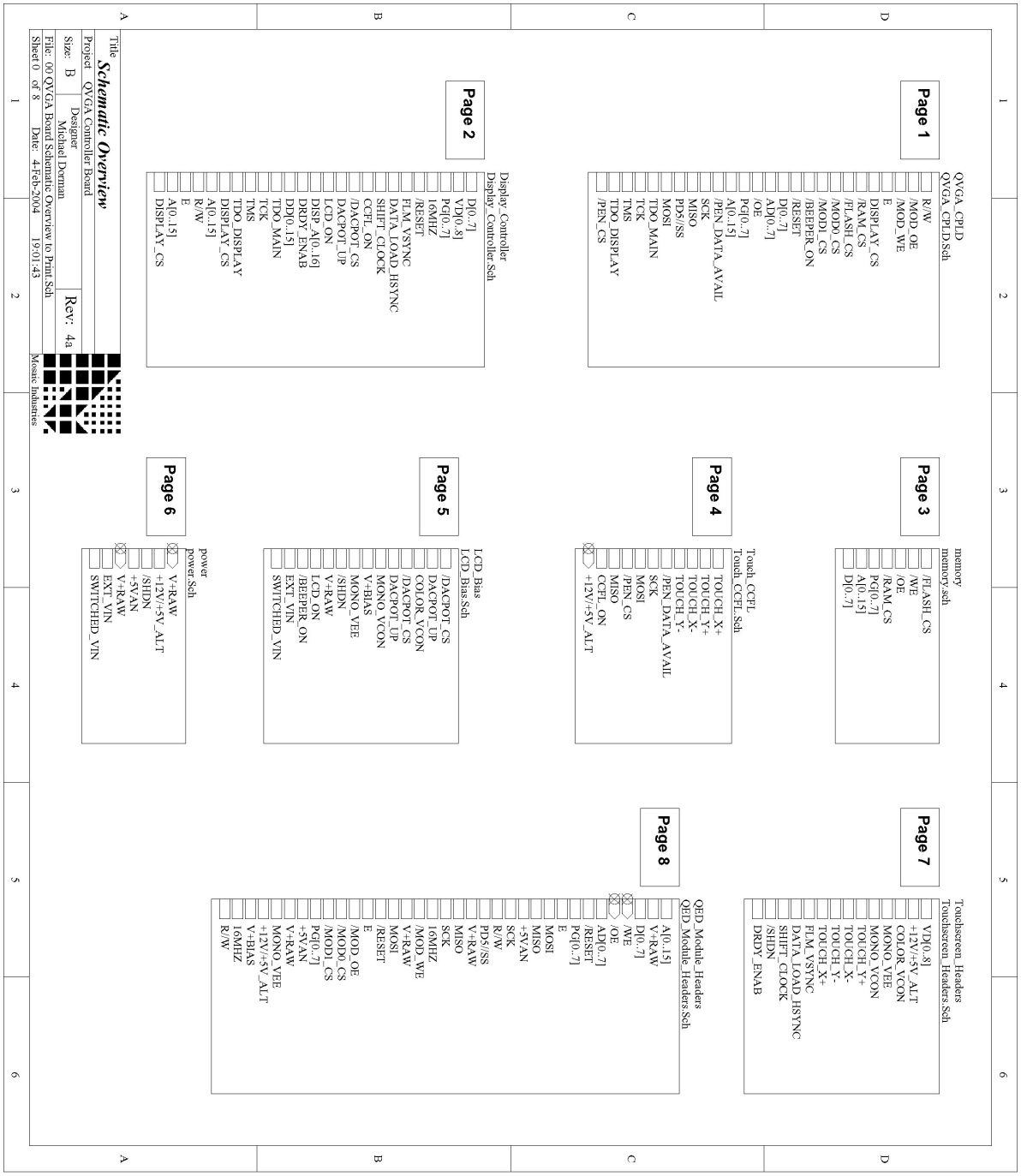

Figure D-10 QVGA Board Schematic Signal Directory.

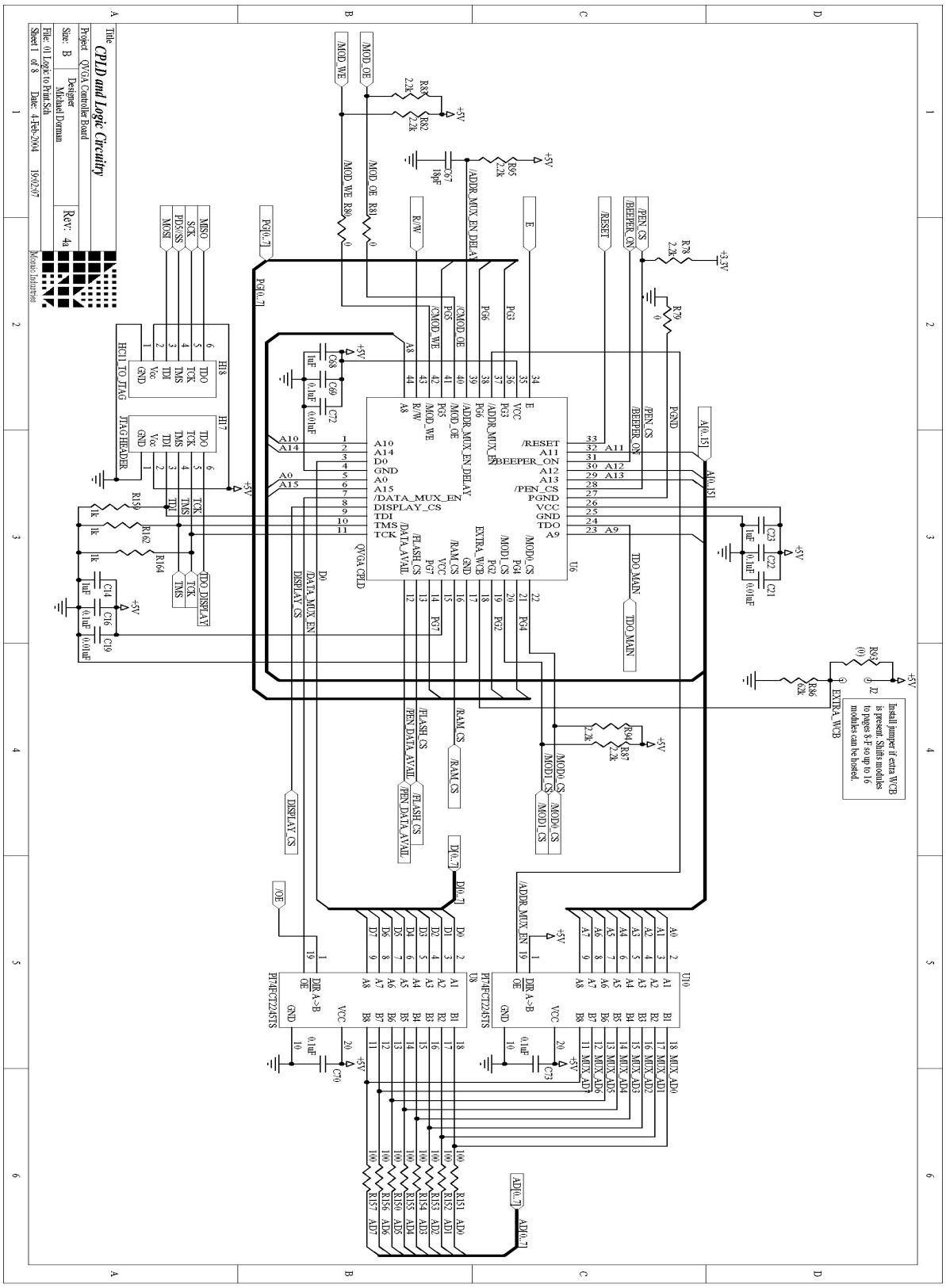

Figure D-11 QVGA Board CPLD and Bus Multiplexers.

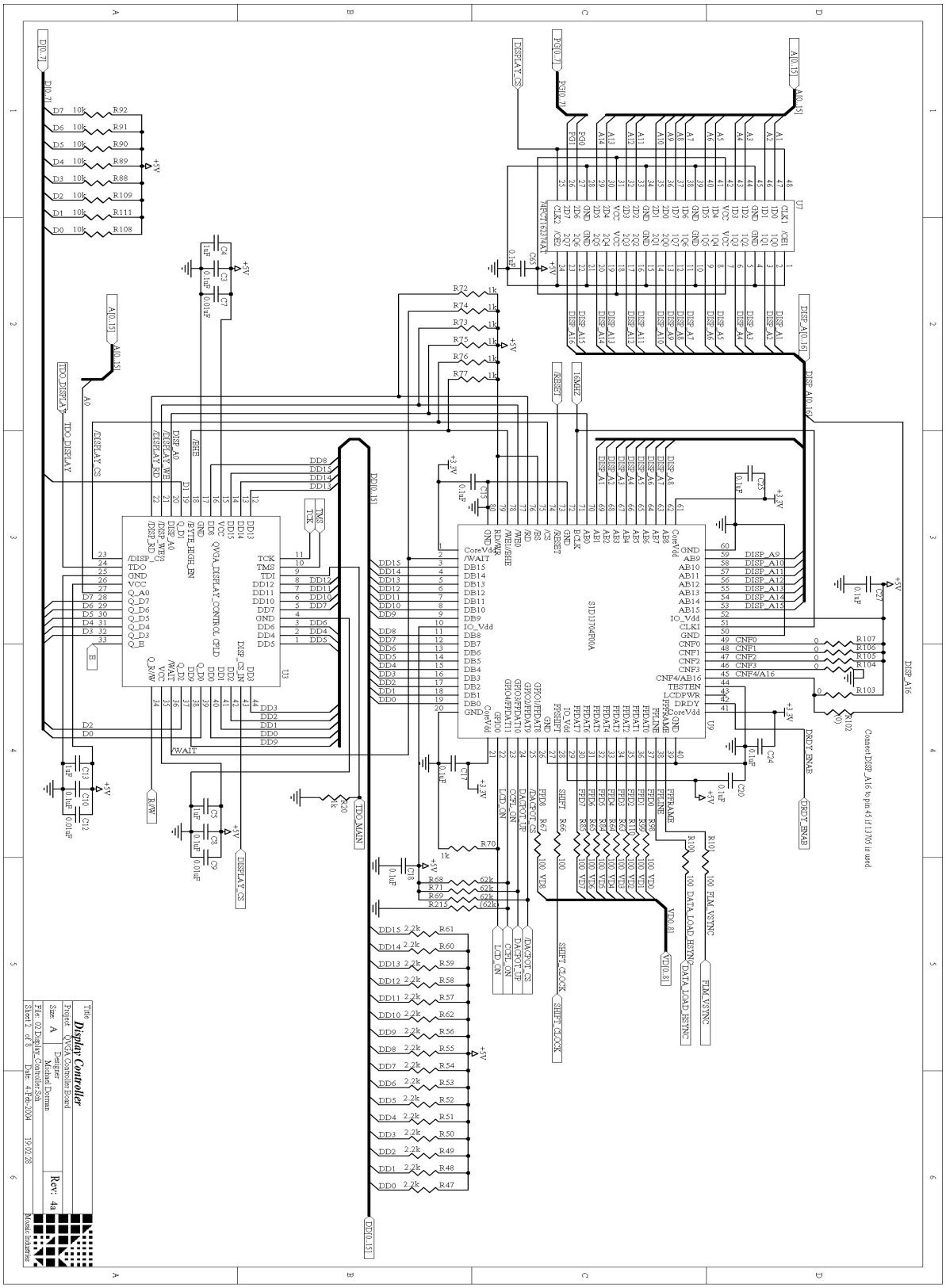

Figure D-12 QVGA Board Display Controller.

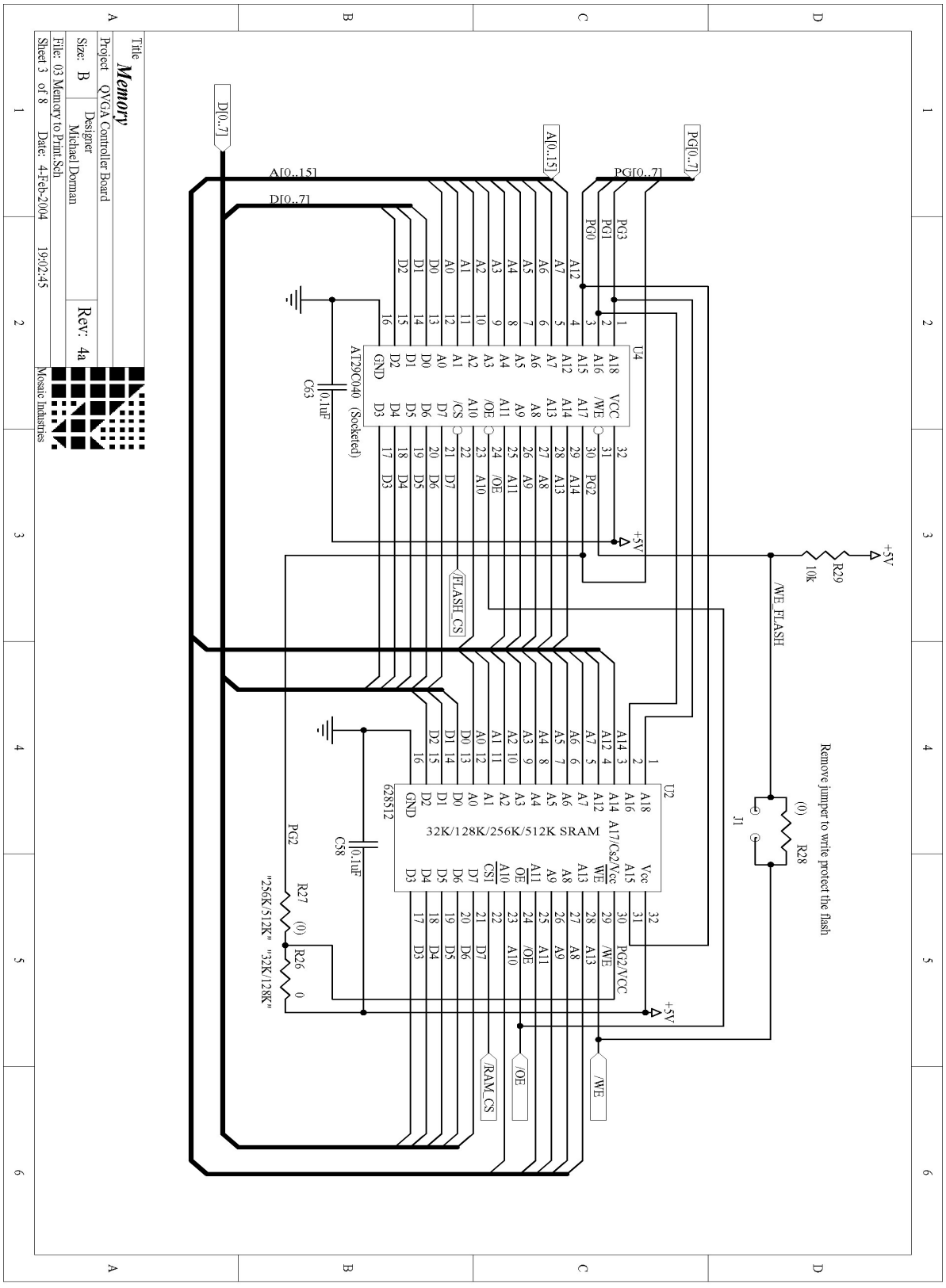

Figure D-13 QVGA Board Memory.

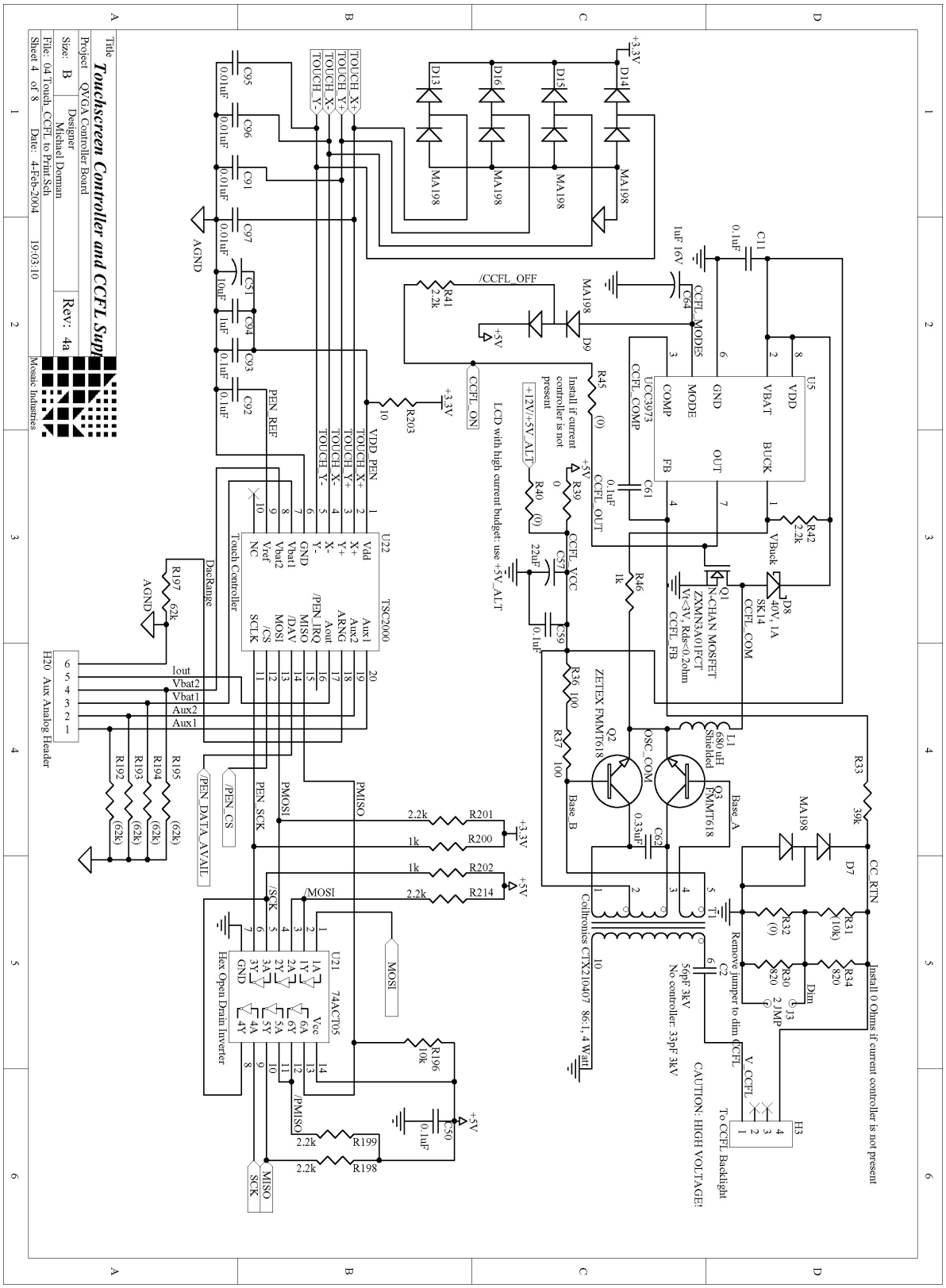

Figure D-14 QVGA Board Touchscreen Controller and Backlight Supply.

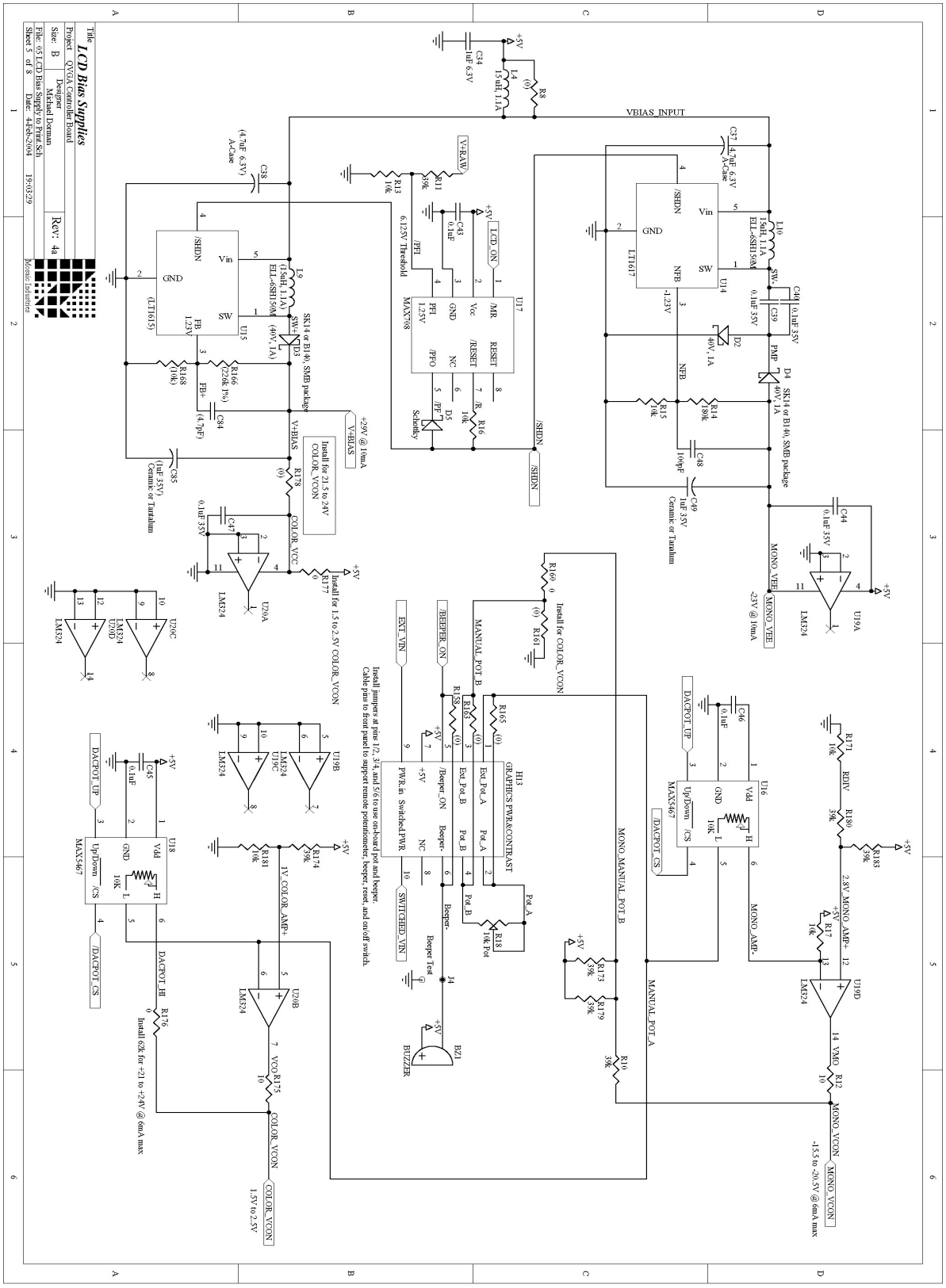

Figure D-15 QVGA Board LCD Bias/Contrast.

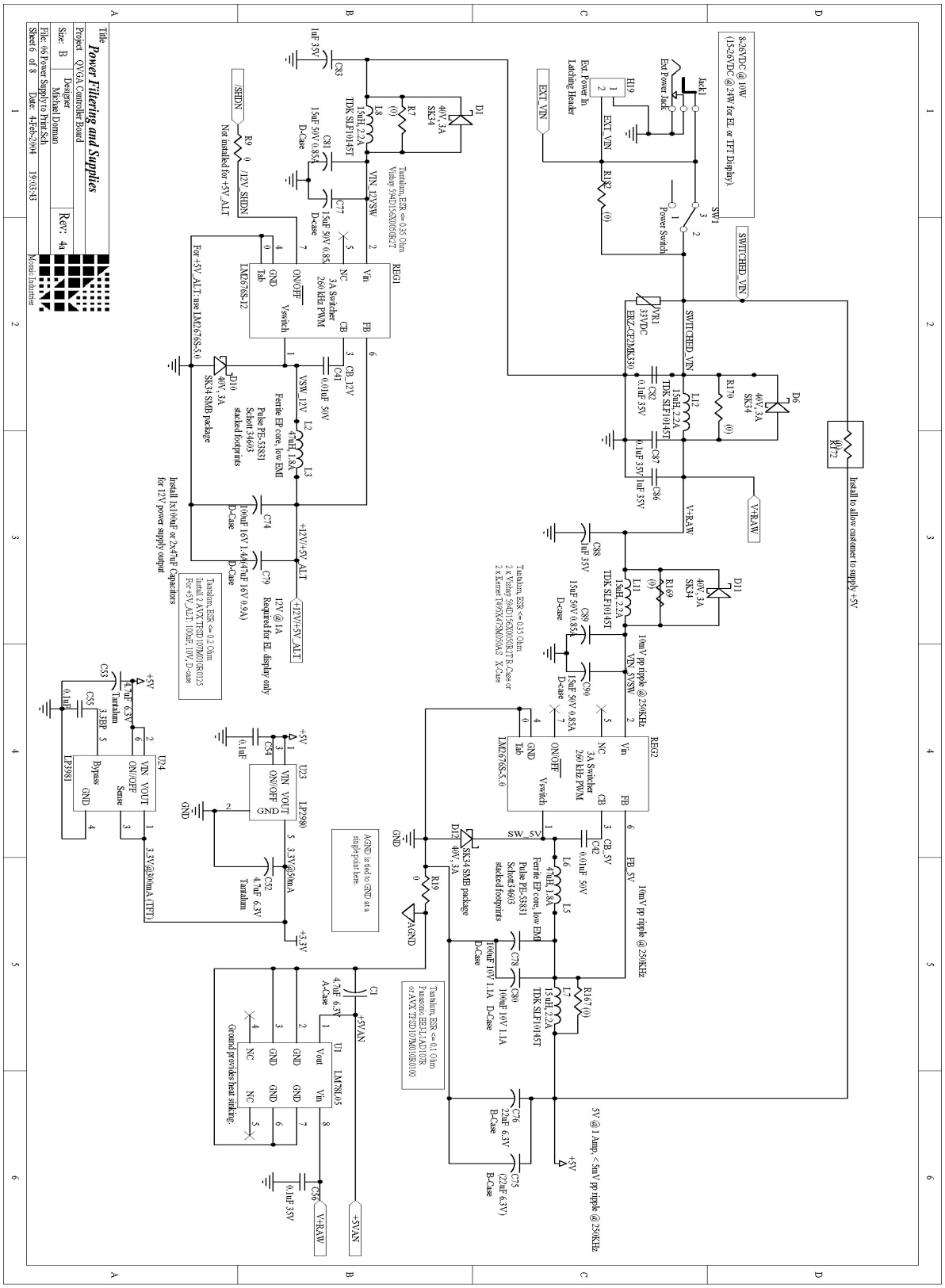

Figure D-16 QVGA Board Power.

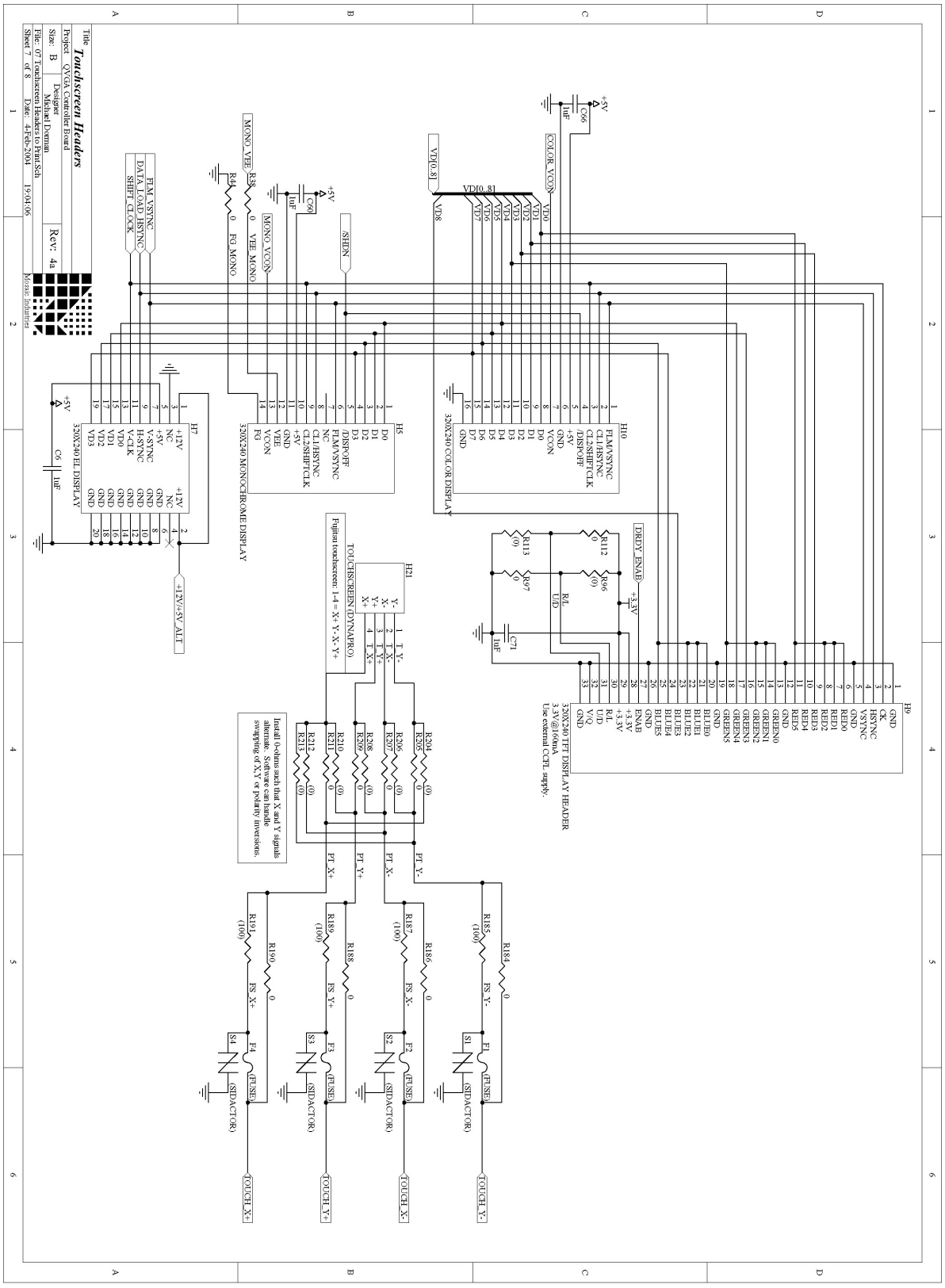

Figure D-17 QVGA Board Display/Touchscreen Headers and Touchscreen Intrinsic Safety Barrier (ISB).

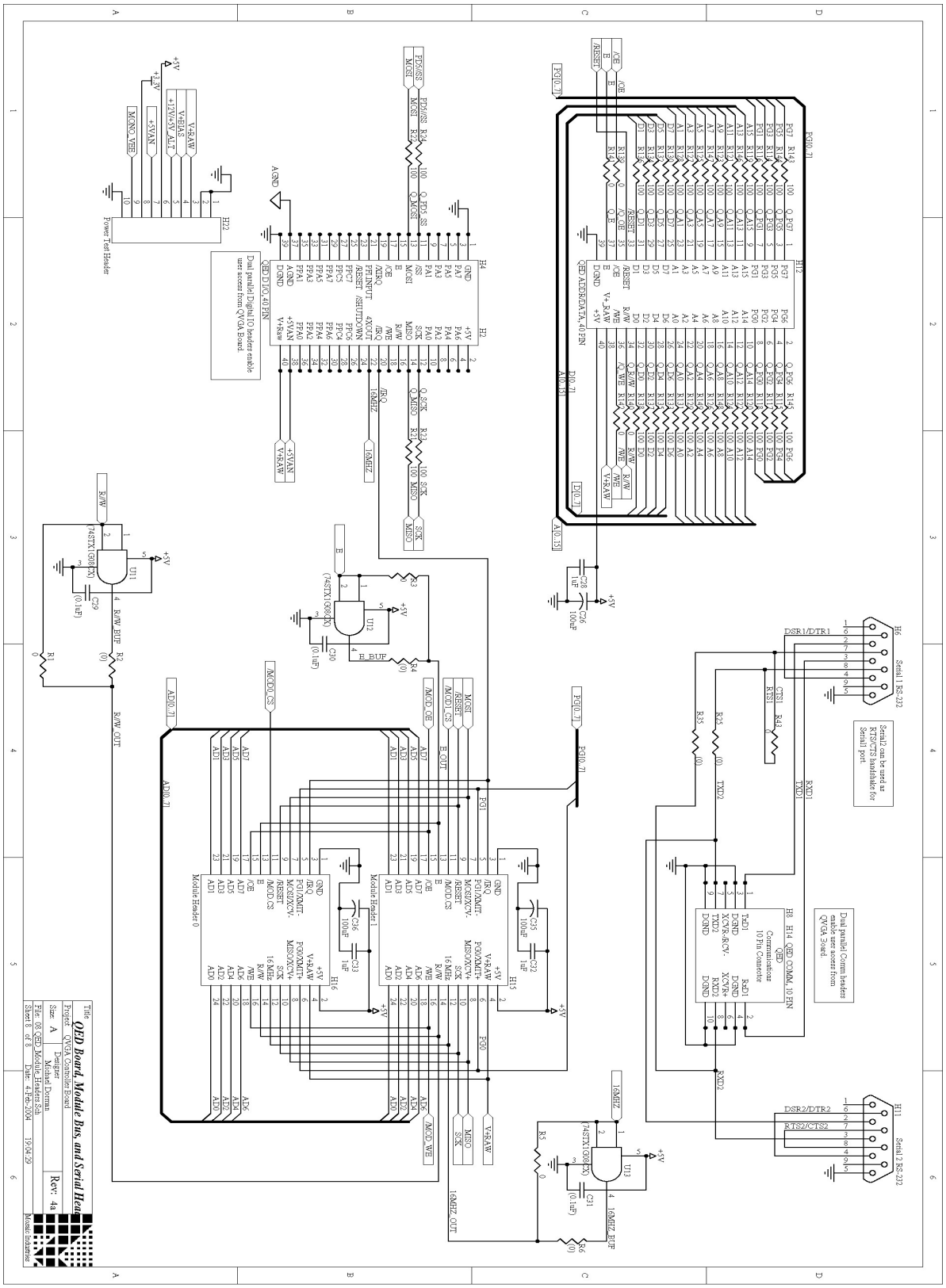

Figure D-18 QVGA Board Wildcard Module Bus Ports and Serial Connectors.