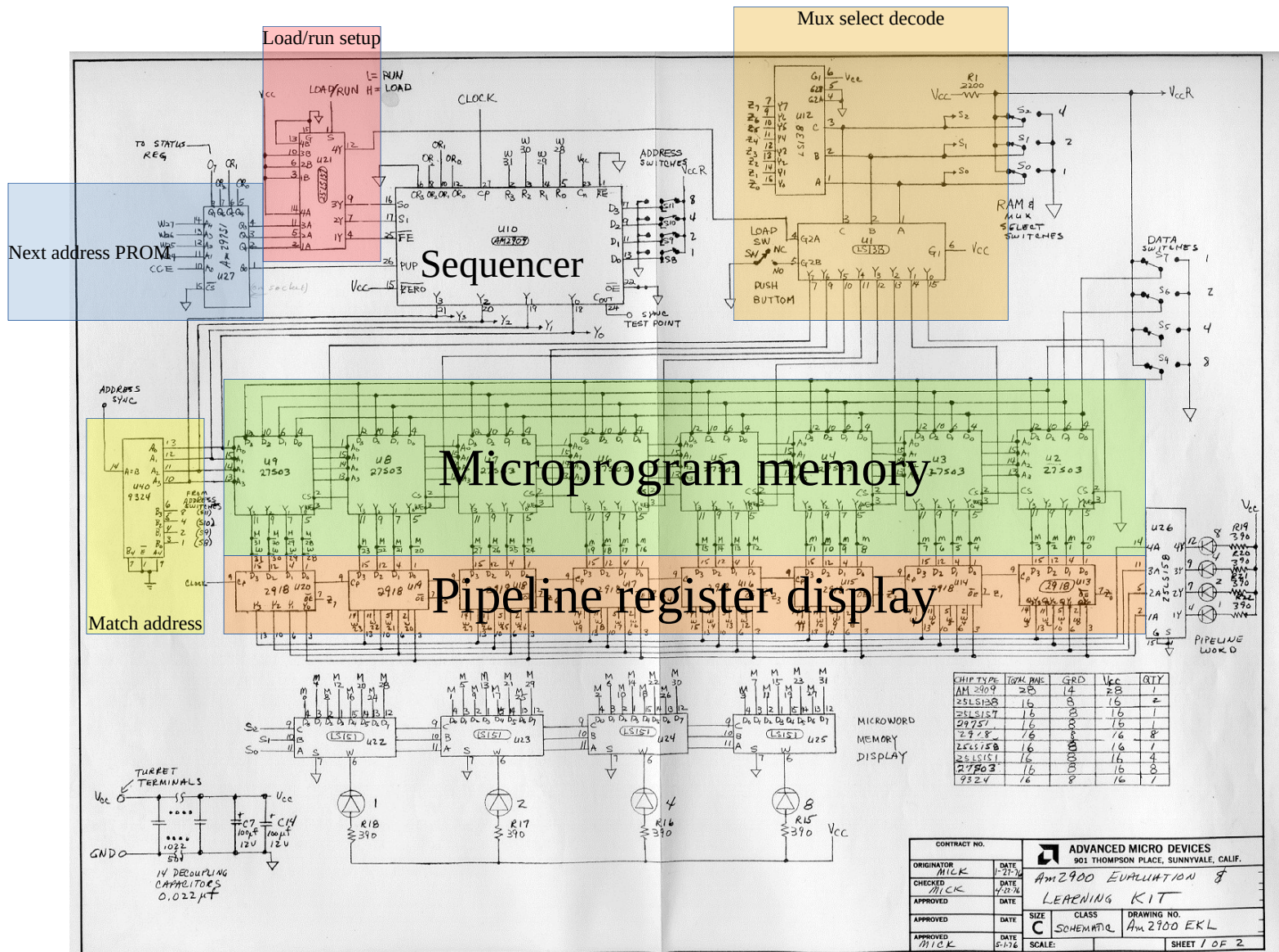


Am2900 Evaluation and Learning Kit

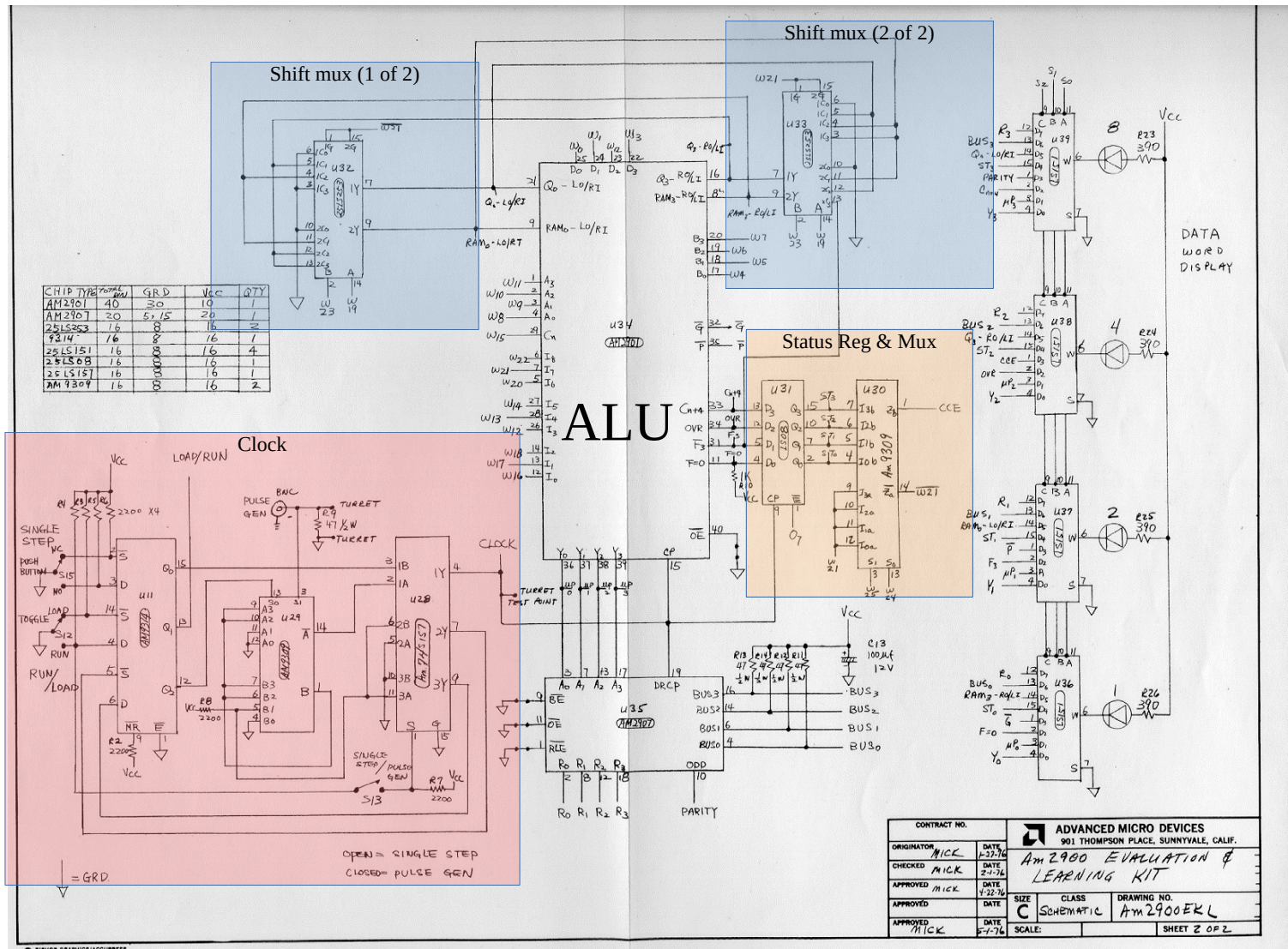
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Notes by Al Williams
(Hackaday)

1. The mux select decode lets you view 4 bits of memory, pipeline, or data (next page) on the LEDs. The Y signals are influenced by LOAD/^RUN, the Z signals are not.
2. U21 controls U10 in load mode (S0,S1,FE=1). Otherwise, that comes from U27.
3. U13-U20 latch the uP memory for display purposes (selected with Z). U26 is just used as an LED driver.



General notes (Al Williams): This kit is a 4-bit CPU slice with 16 32-bit microprogramming instructions. There are 3 sets of LEDs: Data, Pipeline, and Memory. You can use the mux switches to look at all 32 bits of the memory and pipeline 4 bits at a time. There are also 8 different "data" items you can look at. For example 000-next address, 001-ALU Y, etc. In load mode, you set the address, the data and press the load memory pushbutton to write a 4-bit slice of a 32-bit word at that address. Then you can press single step to load the address from the address switches for execution. Flip to run and you can use the single step button to step through the microcode program or connect an external clock generator. The sequencer is concerned with what's the next microcode address to execute. The next page shows the ALU that does the actual execution and contains 16 4-bit register, a Q register, and the ALU. The microcode instruction tells what goes into the ALU, the function, where the output goes, and the next instruction.



Notes by Al Williams (Hackaday)

1. The clock only generates single pulses or gates the external signal into the system.
2. The status register holds the last result which feeds CCE to the control unit for the NEXT instruction. (2nd half of U30 is used as an inverter).
3. U36-U39 show different data on LEDs based on mux switch
4. The purpose of U35 is unclear. UP0-3 is the same as R0-R3 is the same as BUS0-BUS3. All are displayed. None are used elsewhere. Given the "jumpers" on BE,OE,RLE, this might be for some "future" expansion that never happened?