EXPANDABLE LOW POWER EROM BOARD---COMPONENT SIDE

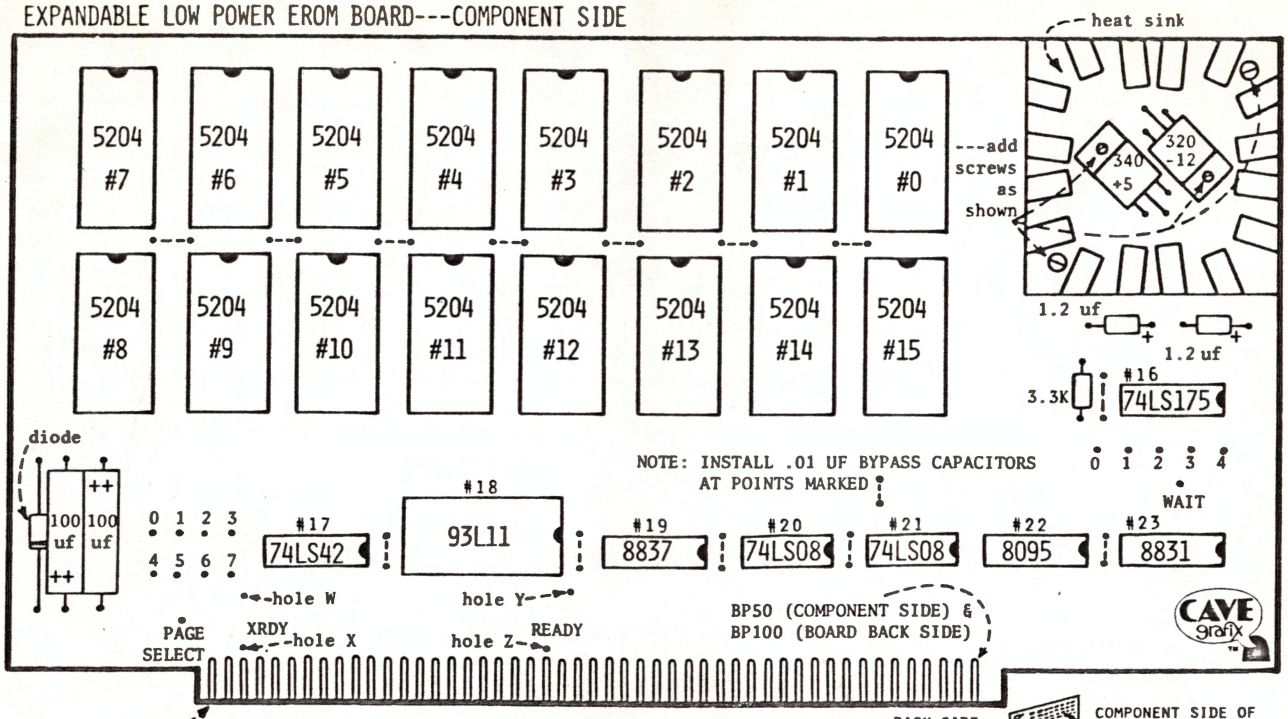


DIAGRAM 1

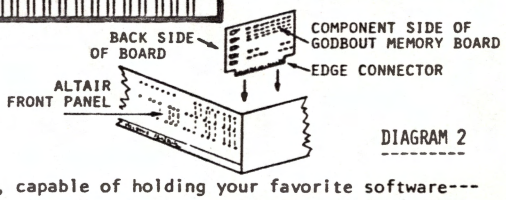


DIAGRAM 2

ASSEMBLY INSTRUCTIONS---GODBOUT EROM BOARD

This board may be configured as a 2K by 8, 4K by 8, or 8K by 8 EROM module, capable of holding your favorite software---assembler/editor or whatever. In conjunction with our pre-programmed EROMs, this board makes an ideal assembler/editor for the 8080 microprocessor in the 4K by 8 configuration.

***ASSEMBLY: 1) First solder in all sockets. 2) Install heat sink into place on circuit board, and attach with two screws. Do not overtighten screws to prevent cracking the circuit board. 3) Install regulators on top of the heat sink, using silicone grease. Note that a mica insulator installs under the LM320T/-12; also note that the LM340T/5 may be house numbered as SL00100. Again, attach with two screws; do not overtighten screws. 4) Mount and solder the diode, 3.3K resistor, and 1.2 uf capacitors. 5) Mount and solder the .01 uf bypass capacitors. 6) Observing polarity, mount & solder the 100 uf electrolytics. 7) Solder wirewrap pins (optional) into the holes for PAGE SELECT and WAIT. 8) Look over your work, noting the polarity of the electrolytic capacitors and the diode. Check for solder bridges or shorts. 9) Plug in the non-EROM ICs (all ICs except 5204s).

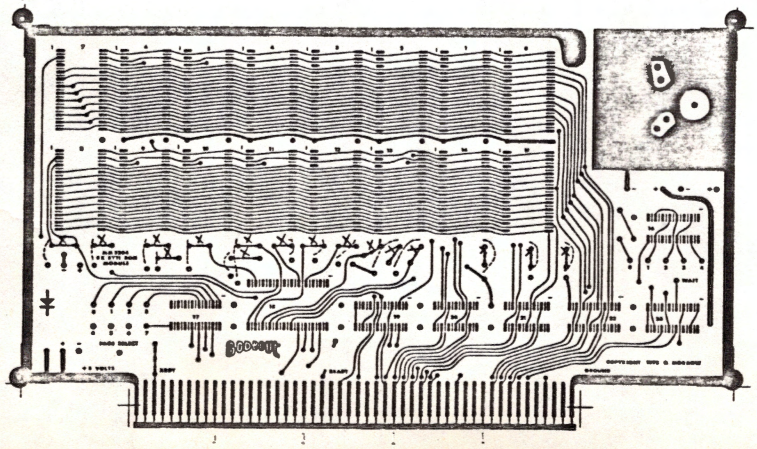
***PLUGGING IN EROMS: The EROMs should be handled as little as possible and should be stored in conductive foam. Plugging in a 24 pin IC, however, requires a bit of careful handling to avoid bending or otherwise damaging the pins. We recommend lining up one side of the EROM with the socket holes (while holding the EROM over the socket), then running your thumbnail along the other side until the EROM pins line up with the socket holes. If necessary, do this for both sides of the EROM. When the EROM pins are lined up with the socket holes, push the EROM in---all pins at the same time.

***The 2K version comes with 4 EROMs, which may go into any 4 sockets on the board; whether you want them in the upper block of memory, the lower block, or scattered is up to you. Plugging in this board commits 8K of address. The 4K version comes with 8 EROMs, which similarly may be placed in any 8 EROM sockets. The 8K version comes with 16 EROMs, which fill up all the sockets. The 8080 assembler/editor board comes with 8 EROMs, 7 of which are dedicated to the software. These EROMs have numbers on the top (8 through 14), and must go into the matching numbered sockets on the EROM board. The 8th EROM is shipped unprogrammed, in case you want to add custom EROM information to the software.

***PAGE SELECT: This board may occupy any one of 8 pages of memory; add a jumper from PAGE SELECT to the appropriate number page. For the 8080 assembler/editor software board, the jumper must connect to page 7.

***WAIT STATE SELECTION: Since editor/assemblers are intrinsically I/O bound, this board was designed to sacrifice speed somewhat to gain significant power savings. At 25°C, this board should work with 2 wait states; it is guaranteed to work with 3 wait states over the normal temperature range. To select the desired wait state, add a jumper from WAIT to the appropriate number. Should you desire a faster board, it is possible to achieve 1 wait state operation by following directions (given elsewhere on this sheet) on modifying your board. The penalty is an increase in power consumption.

***SPECIAL NOTE TO ALTAIR OWNERS: PCC (People's Computer Company) has suggested a modification to the Altair 8800 wherein its control panel READY signal is disconnected and reconnected to XRDY. If your Altair has been changed in this manner, then you need to do the following: referring to diagram 1, cut the trace between hole W and hole X; then, add a jumper between hole Y and hole Z. Diagram 2 shows how to plug the Godbout EROM board into your Altair.

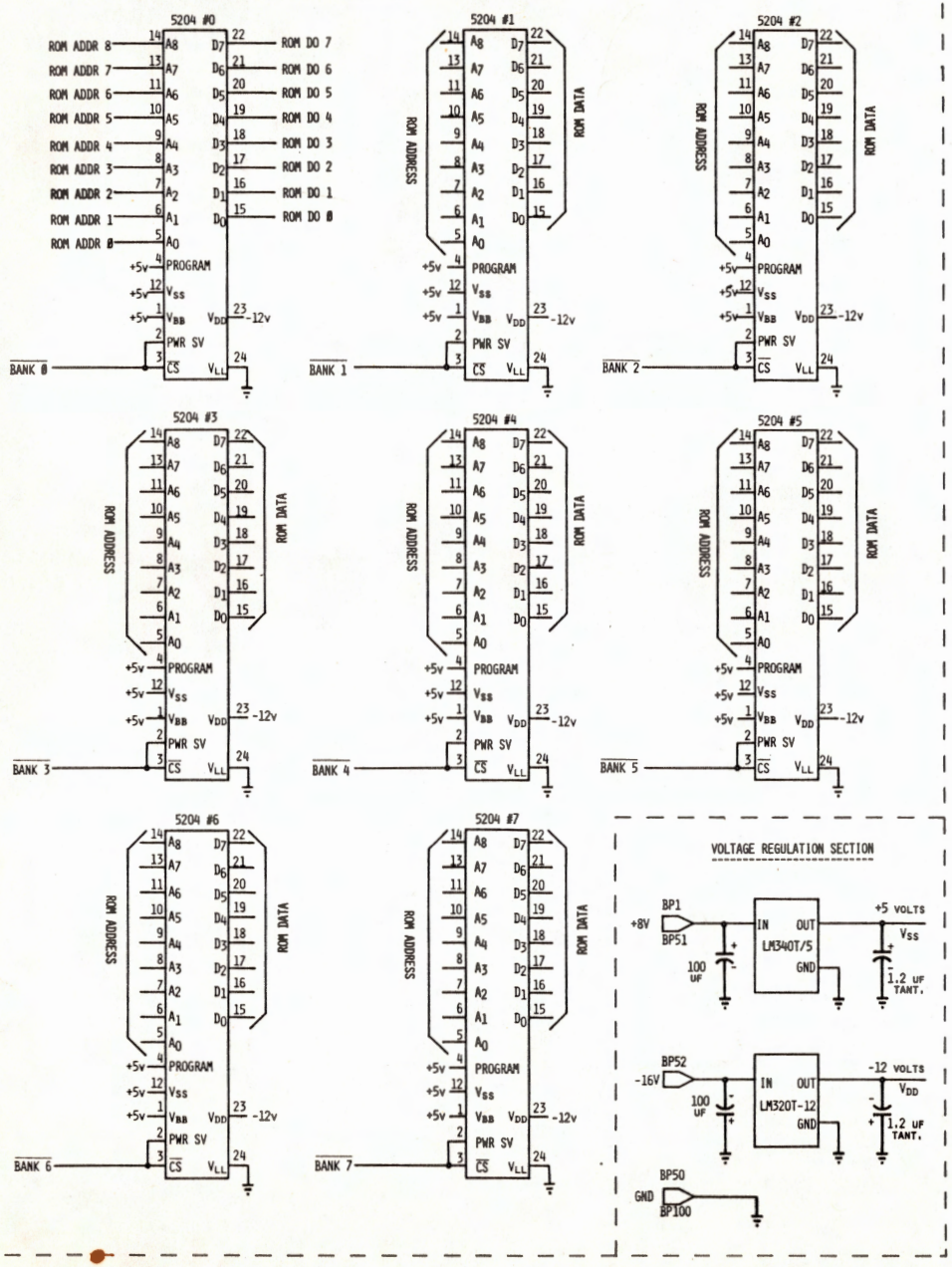


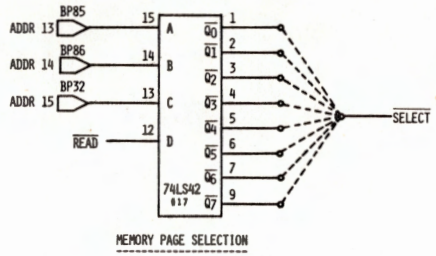
The diagram on the left shows the component side of the EROM board. By cutting traces at the points marked (X), and adding the jumpers shown with dotted lines, it is possible to achieve one wait state at 25°C, and a guaranteed 2 wait states. Bear in mind, though, that running at the faster speed adds approximately 22 ma per 5204 on the board for a savings of approximately 800 ns in terms of time.

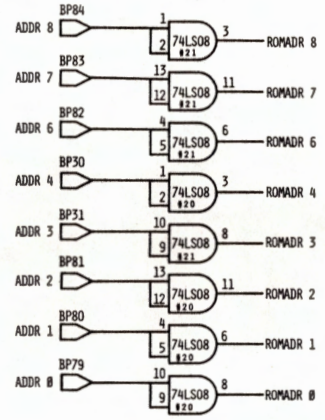
When cutting traces, use a knife to cut the trace at the two thin points-then use your knife to lift up the trace between the two thin points.

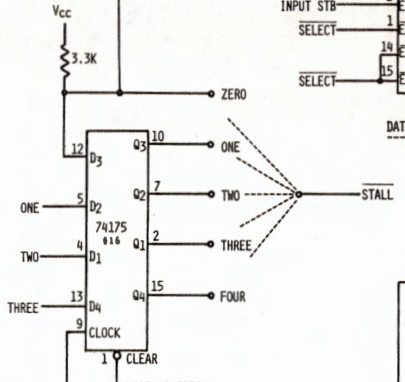
GODBOUT
BILL GODBOUT ELECTRONICS
BOX 2355, OAKLAND AIRPORT, CA 94614

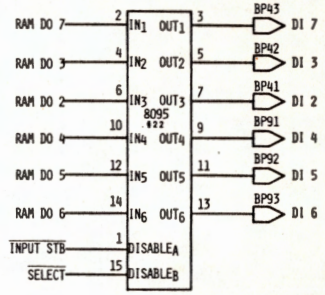
EROM BANKS #0 THROUGH #7 (EROM BANKS #8 THROUGH #15 ARE IDENTICAL AND ARE NOT SHOWN)

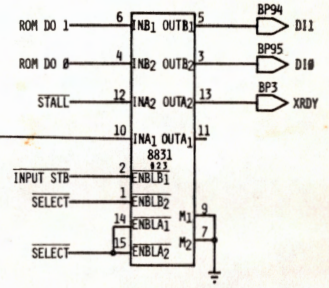


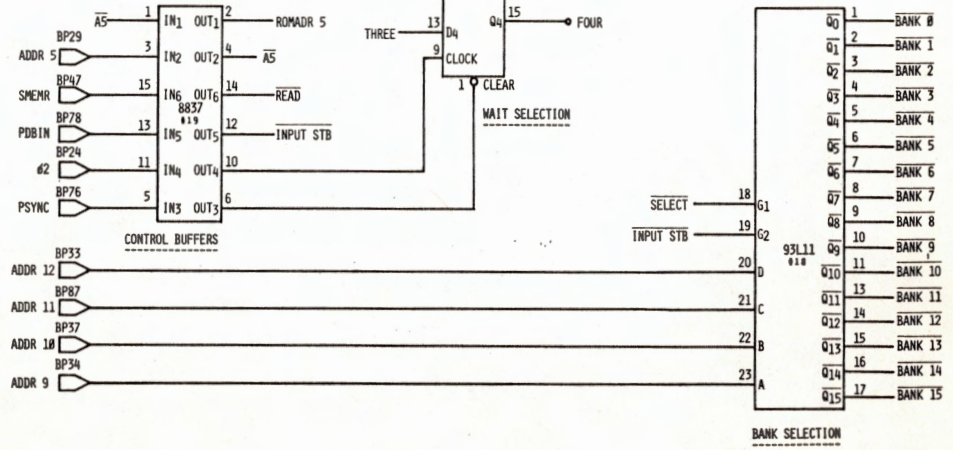


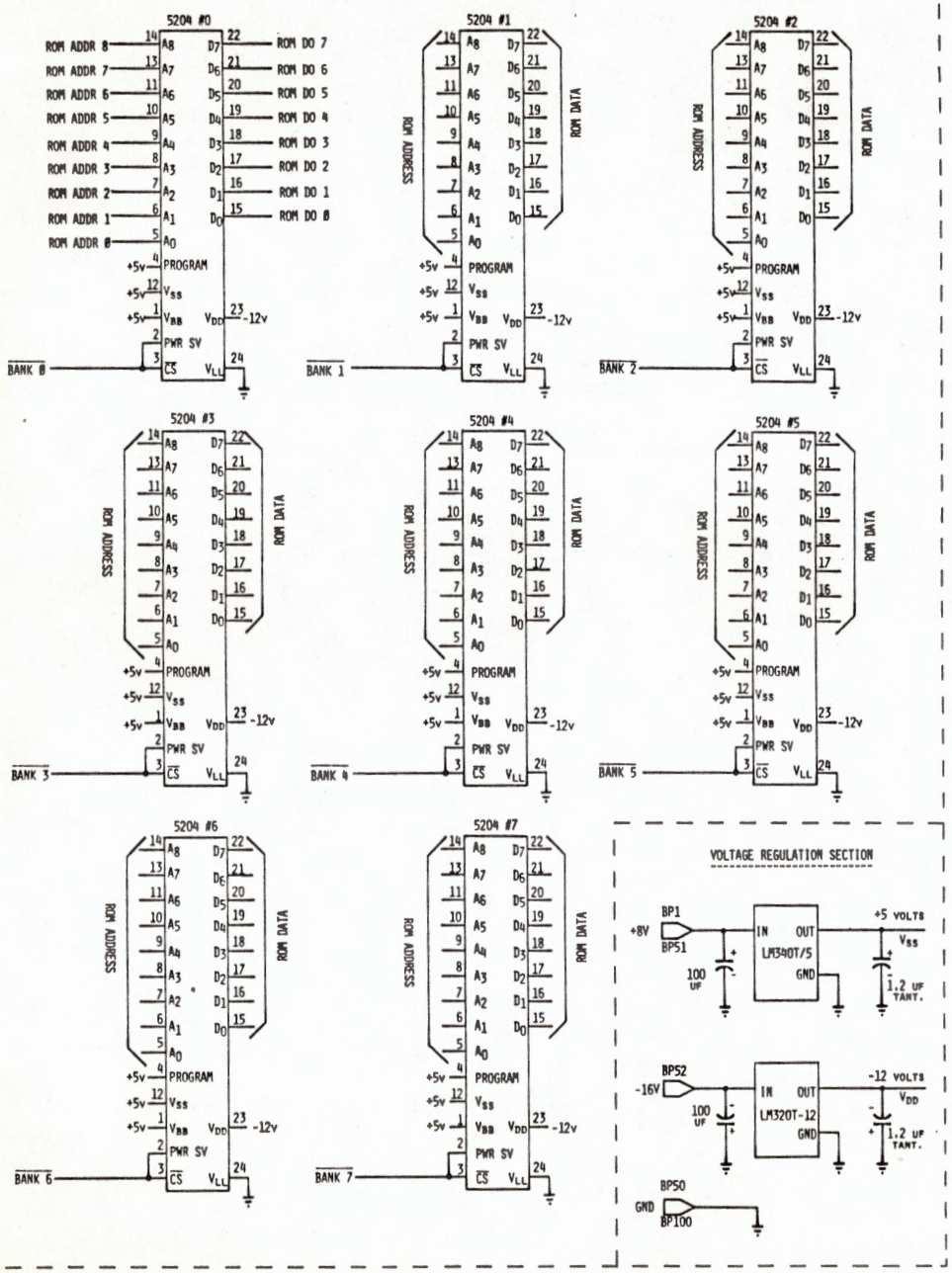
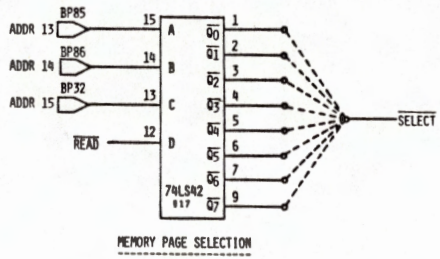
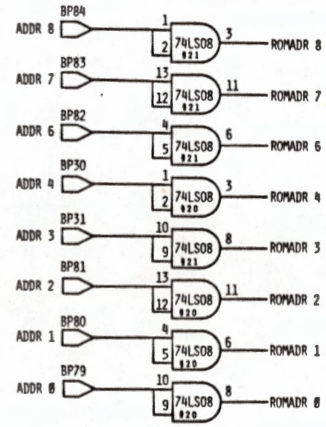
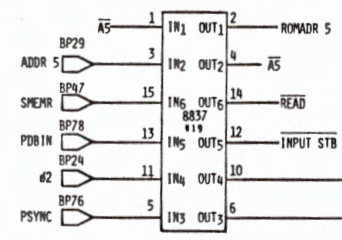
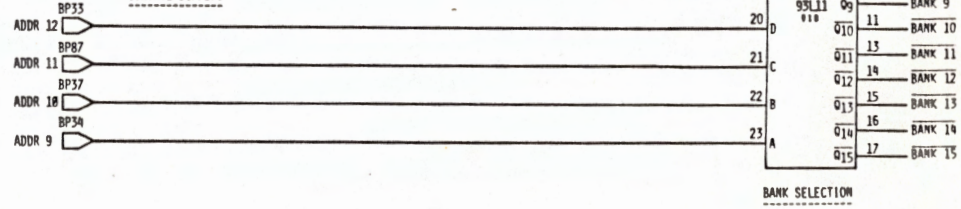
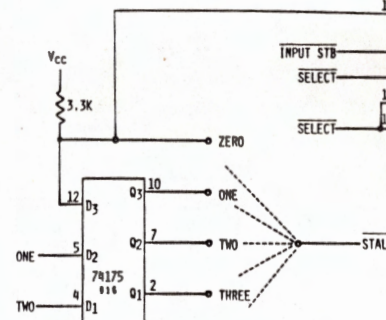
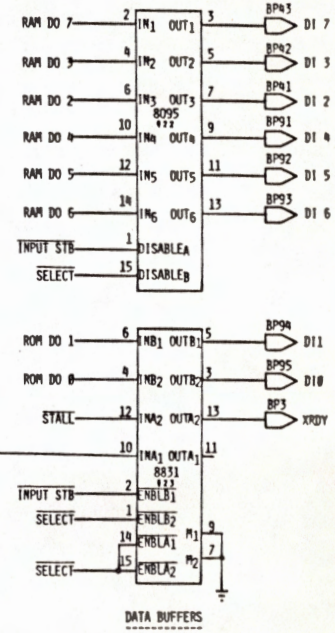










ROM

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