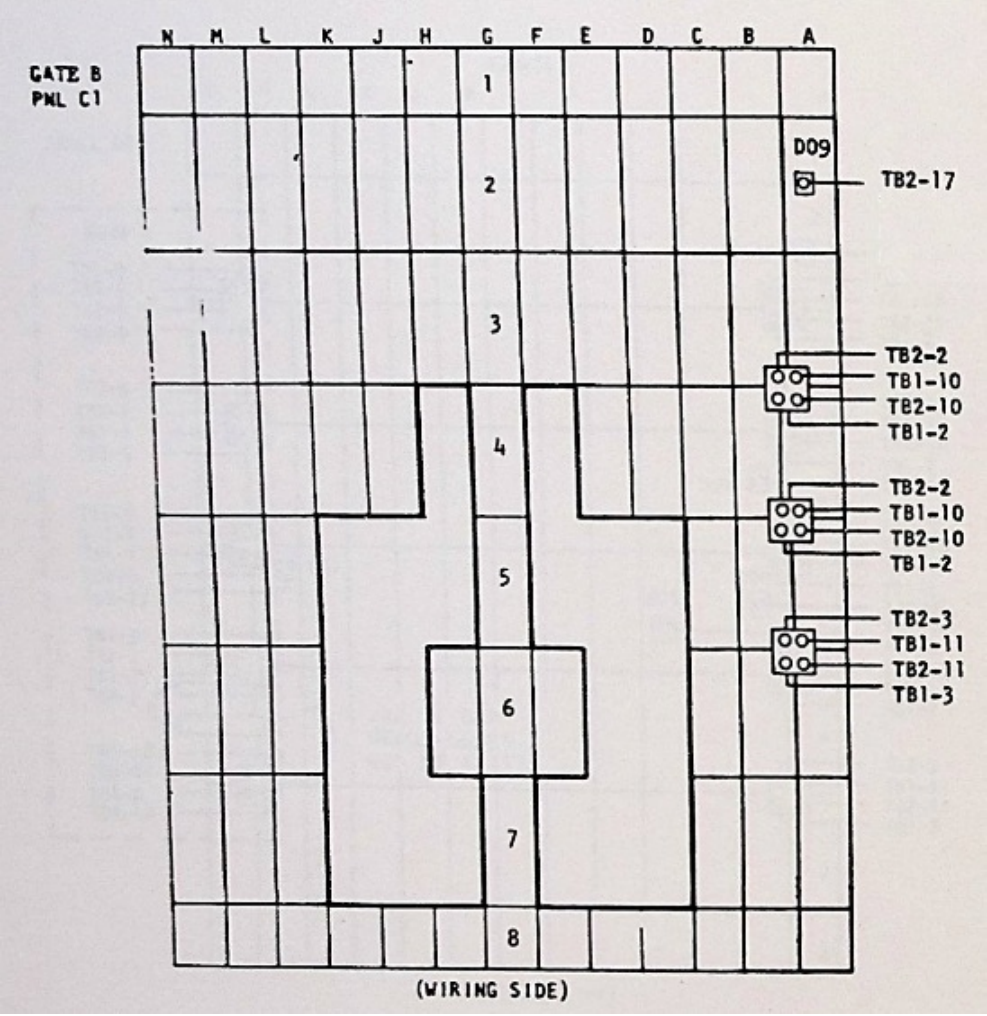
Installation Instructions
Core Memory Replacement for IBM 1130

1130 models this board can be used with

This board is designed to be used with 1130 models 1A and 1B, those with a 3.6 microsecond core memory technology and capacities of 4K or 8K words. These models have the memory completely contained in gate B, compartment C1 of the 1131 frame.

Preparation of the machine before mounting the board

1. Remove the side connectors that deliver power to the SLT board for gate B compartment C1. Three connectors have four pins (+6, -3, +3 and ground) and you have a single pin connector (+12V).



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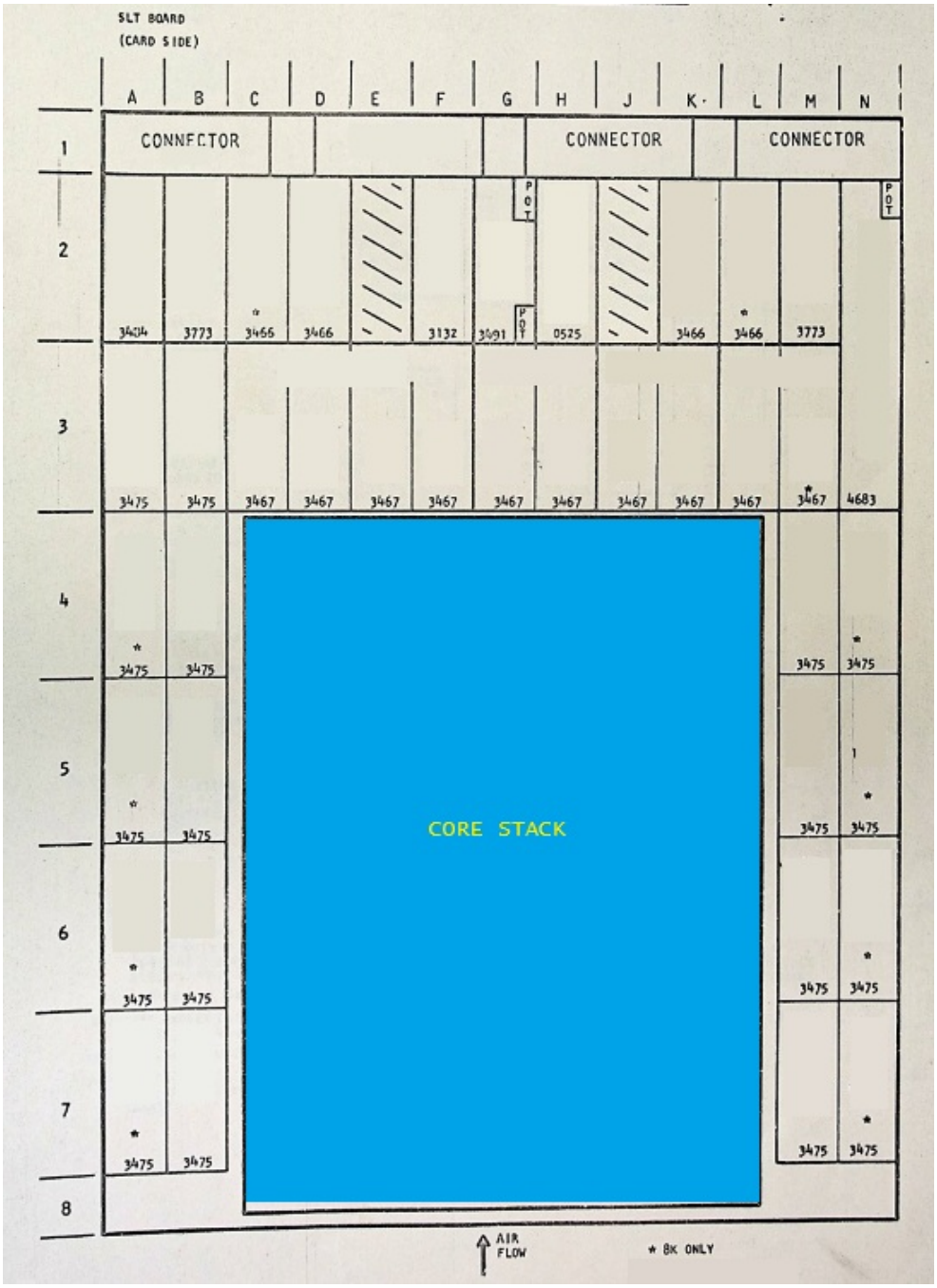
2. Remove and save the SLT cards surrounding the core memory stack. There are cards to be removed from slots A2, B2, C2, D2, F2, G2, H2, K2, L2, M2, N2, A3, B3, C3, D3, E3, F3, G3, H3, J3, K3, L3, M3, N3, A4, B4, M4, N4, A5, B5, M5, N5, A6, B6, M6, N6, A7, B7, M7 and N7.



3. Open the metal grill across the top of gate B and temporarily put it aside. You are looking down into the card compartments.

4. Pull the white cables off the connector positions at T1, T3 and T4. There should be no cable attached to T2; if there is, this is not one of the models of 1130 that are supported by this board.

5. Mount the 1130 MRAM board in place inside the opening of compartment C1 from the top so that the SLT pins stick out towards the SLT card side of the board and so that it sits with the original connector pins for T1, T3 and T4 behind the new PCB.
XXXXXXXXXXXXXXXXXXXXXXXX

6. Install cables T1, T3 and T4 onto the PCB, being careful to check that two two rows and 12 columns of pins are all inside the cable connectors.

7. Tie 12V input of regulator module to the red wire coming from the 1130 power supply.

8. Install the red and black wire pair onto the PCB with the red (+) wire closer to the top and the black wire closer to the bottom.

9. Route the red and black wires out the right side of compartment when viewing the core memory stack. Bring them down to the terminal blocks at the bottom of this gate.

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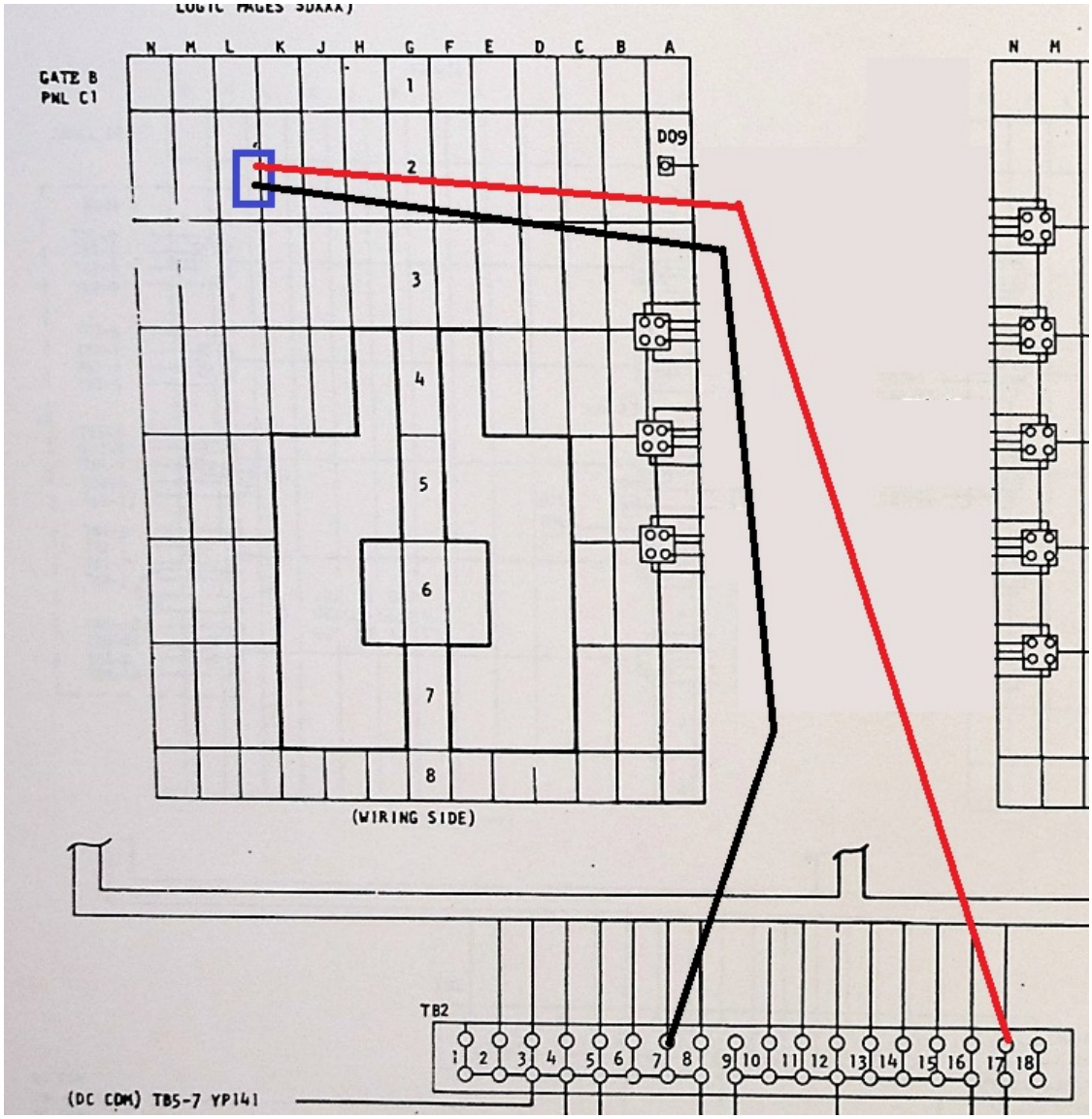
10. Put ring terminals on the ends of the two wires after trimming them to length to where they will attach.

11. Put the black wire ring terminal on TB2 positions 1 through 8, which ever is easier to add it to.

12. Put the red wire's ring terminal on TB2 position 17.



13. Close the card compartment cover and reattach the top metal grill.

Testing Procedure Number 1

- Turn on power to the machine.
- Open the top right cover of the 1131 and turn on the Storage Load switch just behind the usage meter.
- Set all the console entry switches on the front of the typewriter to 1 except for switches 0 and 15 which remain at 0.
- Push the PROG START button near the keyboard.
- The machine should be cycling through all addresses rapidly
- Turn the rotary mode switch to SI for a moment to stop the process
- Switch off the Storage Load switch near the usage meter
- Switch on the Storage Display switch near the usage meter
- Turn the rotary mode switch to RUN
- Push the Prog Start button near the keyboard
- The machine should be looping through memory reading it
- If it stops and the red Parity Stop lamp is on near the keyboard, something is wrong; stop testing
- Turn the rotary mode switch to SI temporarily and then to RUN
- Turn off the Storage Display switch near the usage meter

Testing Procedure Number 2

- Open the top right cover of the 1131 and turn on the Storage Load switch just behind the usage meter.
- Set all the console entry switches on the front of the typewriter to 0.
- Push the PROG START button near the keyboard.
- The machine should be cycling through all addresses rapidly
- Turn the rotary mode switch to SI for a moment to stop the process
- Switch off the Storage Load switch near the usage meter
- Switch on the Storage Display switch near the usage meter
- Turn the rotary mode switch to RUN

Installation Instructions
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- Push the Prog Start button near the keyboard
- The machine should be looping through memory reading it
- If it stops and the red PARITY STOP lamp is on near the keyboard, something is wrong; stop testing
- Turn the rotary mode switch to SI temporarily and then to RUN
- Turn off the Storage Display switch near the usage meter

Testing Procedure Number 3

- Turn the rotary mode switch to Load
- Set the console entry switches (CES) to 0000 0001 0000 0000
- Push the LOAD IAR button near the keyboard
- Push the PROG START button near the keyboard
- Set the CES to 0000 0001 0000 0001
- Push the PROG START button near the keyboard
- Set the CES to 0000 0001 0000 0010
- Push the PROG START button near the keyboard
- Set the CES to 0000 0001 0000 0011
- Push the PROG START button near the keyboard
- Set the CES to 0000 0001 0000 0100
- Push the PROG START button near the keyboard
- Set the CES to 0000 0001 0000 0101
- Push the PROG START button near the keyboard
- Set the CES to 0000 0001 0000 0110
- Push the PROG START button near the keyboard
- Set the CES to 0000 0001 0000 0000
- Push the LOAD IAR button
- Turn the rotary mode switch to Display
- Push the PROG START button near the keyboard
- The Storage Buffer Register (SBR) should read 0000 0001 0000 0000
- Push the PROG START button again
- The SBR should be 0000 0001 0000 0001
- Push the PROG START button again

- The SBR should be 0000 0001 0000 0010
- Push the PROG START button again
- The SBR should be 0000 0001 0000 0011
- Push the PROG START button again
- The SBR should be 0000 0001 0000 0100
- Push the PROG START button again
- The SBR should be 0000 0001 0000 0101
- Push the PROG START button again
- The SBR should be 0000 0001 0000 0110
- Push the PROG START button again
- The SBR should be 0000 0001 0000 0111
- Push the PROG START button again
- The SBR should read 0111 1111 1111 1110
- If the results are not correct, stop. There is a problem.
- Turn the rotary mode switch to RUN

Testing Procedure Number 4

- Using the core memory loader, load the Low Core diagnostic program into core
- Set the CES to the IAR that is displayed by the core memory loader when it has finished with the diagnostic file
- Turn the rotary mode switch to LOAD
- Push the LOAD IAR button near the keyboard
- Turn the rotary mode switch back to RUN
- Push the PROG START button near the keyboard
- Follow the directions for the diagnostic to verify memory is goo