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COMPUTER PRODUCTS
A Division of Electronic Memories and Magnetics Corp.
3216 West El Segundo Blvd.
Hawthorne, California 90250

April 18, 1978
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<td>942656</td>
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<td>Diagnostic Panel Assembly</td>
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<td>942956</td>
<td>Printed Wiring Board Diagnostic Panel</td>
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<tr>
<td>942957</td>
<td>Diagnostic Panel Schematic</td>
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<td>(S) 19</td>
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<td>(T) 20</td>
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*Only if IBM 1 MEG REP STOCK*
9. COMPONENT HEIGHT SHALL NOT EXCEED .350
8. SOLDER COMPONENTS AND BOARD TO CONNECTOR USING ITEM NO. 12
7. REFERENCE DESIGNATIONS ARE FOR REF ONLY AND MAY NOT APPEAR ON PART.
6. ■ INDICATES PIN 1.
5. -- HEAVY LINE INDICATES CATHODE END OF DIODE OR POSITIVE POLARITY OF CAPACITOR.
4. MARK BOARD WITH THE FOLLOWING INFORMATION:
   VERSION ___________ PART REV. ___________ PER EMPS 6-1 METHOD ______ COLOR BLACK IF NOT CITED
   COMPONENT LEAD AND BUILD-UP (FAR SIDE)
   SMALL NOT EXCEED .006.
   ASSEMBLE PER EM MANUFACTURING STANDARDS.
   BOARD TO BE FLAT WITHIN .001 INCH IN ANY SECTION FOLLOWING APPLICATION OF SOLDER.
   SCHEMATIC DIAGRAM SEE PARTS LIST.
   OTHERWISE SPECIFIED.
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PART IDENTIFICATION

<table>
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<tr>
<th>PART NUMBER</th>
<th>REVISION</th>
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ON FINAL ASSEMBLY, TIMING TAPS MAY NOT BE AS SHOWN. THESE ARE SUBJECT TO CHANGE IN TEST.

- 0-40 VERSION OF PART VALUES JUMPER L29 TO L30
- PIN 8 IS VEE (-4V).
- INCLUDES AN 1/0 PIN.
- THIS CARD IS A 200 OHMS.
- ALL SIGNALS ARE IBM MIST LEVEL.
- ALL CAPACITOR VALUES ARE IN MICROFARADS ±100%, ±100%.
- ALL RESISTORS ARE 5% OHMS.
- RESISTOR VALUES ARE IN OHMS ±10%.
- OTHERWISE SPECIFIED

SCHEMATIC

BSM SELECT

EMM COMPUTER PRODUCTS DIVISION
ELECTRONIC MEMORIES & MAGNETICS CORPORATION

DIB-ADV3

PARTS LIST

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<tr>
<th>PART NO.</th>
<th>QUANTITY</th>
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APPLICATION

COMPUTER PRODUCTS DIVISION
ELECTRONICS MEMORIES & MAGNETICS CORPORATION

DIB-ADV3

DATE APPROVED: 10-1-77

CHECKED: 

SCEMATIC

SHEET 1 OF 4

DISTRIBUTION NO.

SHEET 1 OF 4

+125V

GND

-4V

+125V

GND

-4V

Spare

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THI: INTRODUCTION

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Description APPROVED

REVISED SHEET 1

A

B

C

D

155 OTHERWISE SPECIFIED

16224 942907
8. All resistor module values are in ohms, ±10% ±2%.

7. __________ indicates an Vs pin.

6. This card is MST-2, 20 = 80 ohms.

5. All signals are Vdd not level.

4. All capacitors are ±14%.

3. All capacitor values are in microfarads ±15% ±0.5.

2. All resistor values are in ohms ±15% ±0.5.

1. PIN 1 & 16 of all IC's is +1.25V (Vcc); PIN 8 of all IC's is +4.0V (Vee).

Unless otherwise specified.
**NOTES: UNLESS OTHERWISE SPECIFIED**

1. **ALL RESISTOR MODULES ARE ±2% PIN 1 COMMON**
2. **THERE IS A MET-B CARD, 28 = 90.4.**
3. **ALL SIGNALS ARE IBM MSTR LEVEL.**
4. **PIN 1 OR 41 ENSURE CH IS +125V(VCC).**
5. **PIN 1 OF ALL IC'S IS +125V(VCC).**
6. **PIN 4 OF ALL IC'S IS ±125V(4V).**
7. **ALL 0.01μF CAPACITORS ARE 50V, ±10%.**

**NOTES:** UNLESS OTHERWISE SPECIFIED
When PRO cable is not installed short pins A & B and memory system will power up in local mode, unless otherwise specified.
NOTES: UNLESS OTHERWISE SPECIFIED

1. IF NOT ETCHED ON BOARD MARK ASSY NO AND REVISION LETTER PER ENDS 6-1, METHOD II, BLACK CHARACTERS.
2. "C" SQUARE INDICATES PIN NO. 1 OF INTEGRATED CIRCUITS.
3. "D" SQUARE INDICATES INVERTED POSITION.
4. "A" SQUARE INDICATES POSITIVE END OF CAPACITOR.
5. REFERENCE DESIGNATIONS ARE FOR REFERENCE ONLY AND MAY NOT APPEAR ON PART.
6. ASSEMBLE PER EMMF STANDARDS.
7. FOR SCHEMATIC DIAGRAM, SEE PARTS LIST.

NOTE: UNLESS OTHERWISE SPECIFIED
ON FINAL ASSEMBLY, TIMING TRIPS MAY NOT BE AS SHOWN. THESE ARE SUBJECT TO CHANGE.

- ODI ONLY
- MAY LEVELS
- INPUT IS GROUNDED IN SYSTEM.

1. PIN 6 IS 0.156 IN GND.
2. (---) INDICATES 0.050 PIN.
3. ALL CAPACITOR VALUES ARE IN MICRO FARADS. ±0.5%. ±0.050.
4. ALL RESISTORS ARE 1% ±0.050.
5. ALL RESISTOR VALUES ARE ±0.050.
6. ALL RESISTOR VALUES ARE ±0.050.
7. PIN 8 & 14 ARE ±0.050
8. U2, U3, U4, U5 ARE ±0.050
9. P4 & 16 ARE ±0.050
10. ALL RESISTOR VALUES ARE ±0.050
11. MAY LEVELS
12. INPUT IS GROUNDED IN SYSTEM.
13. PIN 6 IS 0.156 IN GND.
14. (---) INDICATES 0.050 PIN.
15. ALL CAPACITOR VALUES ARE IN MICRO FARADS. ±0.5%. ±0.050.
16. ALL RESISTORS ARE 1% ±0.050.
17. ALL RESISTOR VALUES ARE ±0.050.
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19. PIN 8 & 14 ARE ±0.050
20. U2, U3, U4, U5 ARE ±0.050
21. P4 & 16 ARE ±0.050
22. ALL RESISTOR VALUES ARE ±0.050
23. MAY LEVELS
24. INPUT IS GROUNDED IN SYSTEM.
25. PIN 6 IS 0.156 IN GND.
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27. ALL CAPACITOR VALUES ARE IN MICRO FARADS. ±0.5%. ±0.050.
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31. PIN 8 & 14 ARE ±0.050
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33. P4 & 16 ARE ±0.050
34. ALL RESISTOR VALUES ARE ±0.050
35. MAY LEVELS
36. INPUT IS GROUNDED IN SYSTEM.
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72. INPUT IS GROUNDED IN SYSTEM.
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74. (---) INDICATES 0.050 PIN.
75. ALL CAPACITOR VALUES ARE IN MICRO FARADS. ±0.5%. ±0.050.
76. ALL RESISTORS ARE 1% ±0.050.
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122. (---) INDICATES 0.050 PIN.
123. ALL CAPACITOR VALUES ARE IN MICRO FARADS. ±0.5%. ±0.050.
124. ALL RESISTORS ARE 1% ±0.050.
125. ALL RESISTOR VALUES ARE ±0.050.
126. ALL RESISTOR VALUES ARE ±0.050.
127. PIN 8 & 14 ARE ±0.050
128. U2, U3, U4, U5 ARE ±0.050
129. P4 & 16 ARE ±0.050
130. ALL RESISTOR VALUES ARE ±0.050
131. MAY LEVELS
132. INPUT IS GROUNDED IN SYSTEM.
133. PIN 6 IS 0.156 IN GND.
134. (---) INDICATES 0.050 PIN.
135. ALL CAPACITOR VALUES ARE IN MICRO FARADS. ±0.5%. ±0.050.
136. ALL RESISTORS ARE 1% ±0.050.
137. ALL RESISTOR VALUES ARE ±0.050.
138. ALL RESISTOR VALUES ARE ±0.050.
139. PIN 8 & 14 ARE ±0.050
140. U2, U3, U4, U5 ARE ±0.050
141. P4 & 16 ARE ±0.050
142. ALL RESISTOR VALUES ARE ±0.050
143. MAY LEVELS
144. INPUT IS GROUNDED IN SYSTEM.
145. PIN 6 IS 0.156 IN GND.
146. (---) INDICATES 0.050 PIN.
147. ALL CAPACITOR VALUES ARE IN MICRO FARADS. ±0.5%. ±0.050.
148. ALL RESISTORS ARE 1% ±0.050.
149. ALL RESISTOR VALUES ARE ±0.050.
150. ALL RESISTOR VALUES ARE ±0.050.
151. PIN 8 & 14 ARE ±0.050
152. U2, U3, U4, U5 ARE ±0.050
153. P4 & 16 ARE ±0.050
154. ALL RESISTOR VALUES ARE ±0.050
155. MAY LEVELS
156. INPUT IS GROUNDED IN SYSTEM.
157. PIN 6 IS 0.156 IN GND.
158. (---) INDICATES 0.050 PIN.
159. ALL CAPACITOR VALUES ARE IN MICRO FARADS. ±0.5%. ±0.050.
160. ALL RESISTORS ARE 1% ±0.050.
161. ALL RESISTOR VALUES ARE ±0.050.
162. ALL RESISTOR VALUES ARE ±0.050.
NOTES: UNLESS OTHERWISE SPECIFIED

4X ADDRESS INPUT TO ALL STORAGE CARDS ON THIS BSM.
21-29, 31-39

SH SIZE ORDER NO. ORG NO.
D 16224 942932

REVOLUTIONS

OFF

DATE

DESCRIPTION

SCALE

WEIGHT

SHEET

1

942932

D 16224
PART IDENTIFICATION

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<td>942935-002</td>
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NOTES: UNLESS OTHERWISE SPECIFIED

- Connector to be centered on contacts within .001.
- If not etched on board, mark Assy No. and revision letter per E-1, Appendix C, black characters.
- "A" indicates positive end of expansion.
- Compensate height not to exceed .001.
- Reference designations are for reference only and may not appear on part.
- Component lead & solder lengths not to exceed .060, pads.
- Assemble per wire harness standards.
- For schematic diagram, see parts list.

NOTES: UNLESS OTHERWISE SPECIFIED
-002 VERSION OF 942935 ASSY.
### Cable Diagram

#### Table: Wiring Details

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#### Notes:
- W45 thru W49 are for 2 MEG.
- W41 thru W44 are for 1 MEG.
- NOTES: UNLESS OTHERWISE SPECIFIED
- **C** SIZE ONLY

---

**Diagram**

[Diagram showing cable connections and part numbers]
CONNECTOR CONTACT BLADES ARE TO BE CENTERED ON THE ETCH CONNECTOR PADS WITHIN ±.001.

IF NOT ETCHED ON BOARD MARK ASSY NO. AND REVISION LETTER PER EMS 6-1, METHOD X, BLACK CHARACTERS.

* SQUARE PAD INDICATES PIN NO.1 OF INTEGRATED CIRCUITS & RESISTOR MODULES.

+BAND INDICATES CATHODE END OF DIODE.
+INDICATES POSITIVE END OF CAPACITOR.
6. SOLDER COMPONENTS TO ITEM NO.1 USING ITEM 3.
5. COMPONENT HEIGHT NOT TO EXCEED .001.

REFERENCE DESIGNATIONS ARE FOR REFERENCE ONLY AND MAY NOT APPEAR ON PART.
2. ASSEMBLE PER EM MFG. STANDARDS.
1. FOR SCHEMATIC DIAGRAM, SEE PARTS LIST.

NOTES: UNLESS OTHERWISE SPECIFIED
6. ALL SIGNALS ARE M INPUT LEVEL.
   D. ___ INDICATES A 10-POSITION PIN.

4. ALL (IC3 PIN-1) & (IC4 VCC) ARE +12.5V; PIN #8 (VEE) IS -4V.

3. ALL RESISTOR VALUES ARE 10%.
2. ALL RESISTORS ARE 1%.
1. ALL CHARACTER VALUES ARE IN MICROVOLTS, J, NOV, ±20%.

NOTES: UNLESS OTHERWISE SPECIFIED.

---

**SPECIFICATIONS**

- **DESCRIPTION:** ENG. MODEL CONTROL DVG.
- **DATE:** 9/17/97
- **AUTHOR:** BCA

---

**REFERENCES**

- **REVISIONS:**
  - R1: ENG. MODEL CONTROL DVG.
  - R2: DELETED K3G (011)
  - R3: DELETED R1K (011)
  - R2: DELETED K3G (011) & RZ2
  - R5: DELETED K3G (011)

---

**PARTS LIST**

- **PART IDENTIFICATION**
- **PART NUMBER**
- **PART NAME**

---

**DIAGRAM**

- **DESCRIPTION:** Schematic
- **GENERATED BY:** COMPUTER PRODUCTS DIVISION
- **DATE:** 9/17/97

---

**PRODUCT NUMBER:** D 16224

---

**DESCRIPTION:** COMPUTER MEMORIES DIVISION

---

**APPLICATION:** COMPUTER PRODUCTS DIVISION

---

**DESCRIPTION:** SCHEMATIC - BCA

---

**DESCRIPTION:** D 16224 942942

---

**DESCRIPTION:** PARTS LIST

---

**DESCRIPTION:** DATE STAMP

---

**DESCRIPTION:** SHEET / 1
REVIEWS

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NOTE: FOR VALUES SEE REF. DESIGNATION CHART

SHEET 1.

NOTE: UNLESS OTHERWISE SPECIFIED

D 16224 942950
ALL SWITCHES INSTALLED WITH KEYWAYS TO THE LEFT.
IF NOT ETCHED ON BOARD MARK REV NO. AND REVISION LETTER PER EM MFG MET, BLACK CHROMATION.
1. SQUARE PAD INDICATES PIN NO. 1 OF INTEGRATED CIRCUIT.
3. INDICATES POSITIVE END OF CAPACITOR.
5. SOLDER COMPONENTS TO ITEM NO. 1 USING ITEM NO. 2.
5. COMPONENTS DESIGNATIONS ARE FOR REFERENCE ONLY AND MAY NOT APPEAR ON PART.
6. COMPONENTS LEAD & SOLDER BUMP NOT TO EXCEED .060, FANSIDE.
7. ASSEMBLE PER EM MFG STANDARDS.
8. FOR SCHEMATIC DIAGRAM, SEE PARTS LIST.
NOTES: UNLESS OTHERWISE SPECIFIED

COMPONENT SIDE SHOWN
1. BOARDS BUILT FROM PWB 942944-001 REV XI ONLY.
2. ITEMS 18 THRU 21, 23 TO 26 MOUNTED WITH RESISTOR VALUES FACING UPWARD.
3. ETCH LIST BETWEEN U1-3 & U1-4 SOLDER SIDE.
4. JUMPER LIST SOLDER SIDE.
5. BETWEEN U7-3 TO U1-4 SOLDER SIDE.
6. U1-4 TO U7-5.
7. 3.75 REF.
8. IF NOT ETCHED ON BOARD MARK ASSEMBLY NO 4 REV LETTER.
9. PER EMPS 6-4, METHOD 3, BLACK CHARACTERS.
10. SQUARE PAD INDICATES PIN NO.1 OF INTEGRATED CIRCUITS.
11. ^2 MARK INDICATES CATHODE END OF DIODE.
12. SQUARE PAD INDICATES PIN NO.1 OF INTEGRATED CIRCUITS.
13. Square Pad Indicates Pin No.1 Of Integrated Circuits.
15. Assemble Per EM HIS Standards.
16. For Schematic Diagram See Parts List.
17. Notes: Unless Otherwise Specified.