NOTES:

1. ALL INTEGRATED CIRCUITS (EXCEPT REFERENCE DESIGNATIONS ARE TO BE PREFIRED)
   IN AND SUFFIXED H, EXCEPT DIP SIZE CONNECTORS.

2. ALL RESISTOR VALUES ARE IN OHMS, 1% 5%.
   ALL CAPACITORS ARE 0.1uf, 5%.

3. THE 60 MOST SIGNIFICANT BITS OF THE 8-BIT DEVICE UNIT ADDRESS ARE
   GENERATED BY INSERTION OR OMISSION OF THE FOUR JUMPER WIRE SHOWN.
   IF THE JUMPER IS OMITTED, THAT PARTICULAR BIT OF THE ADDRESS IS A
   ZERO. IF THE JUMPER IS INSERTED, THAT BIT IS A ONE.
   THE DEVICE UNIT ADDRESS FOR A SINGLE DISC UNIT MUST BE DIVISIBLE
   BY FOUR (012). IF SEVERAL DISC UNITS UP TO FOUR ARE OPERATED
   FROM ONE CONTROLLER CARD, THE FOUR DEVICE UNIT ADDRESSES CHOSEN
   MUST BE SEQUENTIAL, WITH THE LOWEST ADDRESS DIVISIBLE BY FOUR (012).

4. THE 3-BIT DEVICE CHANNEL ADDRESS IS GENERATED BY INSERTION OR OMISSION
   OF THREE JUMPER WIRE AS DESCRIBED IN NOTE 3, SEE SHEET 4.

5. THE DATA FORMAT TO AND FROM THE DISC CONSISTS OF A CLOCK PULSE EVERY
   0.7 USEC. IF THE DATA BIT IS A "ONE" THERE IS A DATA PULSE Linkedin
   BETWEEN THE CLOCK PULSES. IF THE DATA BIT IS A "ZERO" THERE IS NO
   DATA PULSE BETWEEN THE CLOCK PULSES. THE WRITE DATA TO THE DISC IS
   A COMPOSITE CLOCK/DATA SIGNAL. THE READ DATA FROM THE DISC IS
   SEPARATED INTO SEPARATE SIGNALS WITHIN THE DISC. THE FLIP-FLOP IS
   SYNCHRONIZED BY THE DATA CLOCK SIGNAL. THIS FLIP-FLOP IS AUTOMATICALLY
   RESET, IF A "ZERO" OCCURS ON THE READ DATA LINE BETWEEN THE CLOCK
   PULSES.

6. ALL SIGNALS TO AND FROM THE DISC ARE GROUND TRUE.

7. STALL (IDLE) OCCURS WHENEVER ONE OF THE DISCS BEING PULLED GOES
   TO A NOT READY CONDITION (IDLE) AT THE PREVIOUS POLLING TIME
   AND A READY CONDITION (NOT IDLE) AT THE PRESENT POLLING TIME. THIS
   OCCURS AT THE SUCCESSFUL COMPLETION OF A SEEK OPERATION, OR
   WHEN A DISC BECOMES READY AFTER TURN ON, OR WHEN A "SEEK
   COMPLETE" STATUS IS SENT FROM THE DISC.

8. THE ORIGIN OF THE WRITE DATA SIGNAL IS DEPENDENT UPON THE CIRCUITS
   OF THE TWO INPUT LINES, D6 AND D7, AS FOLLOWS:

<table>
<thead>
<tr>
<th>DA</th>
<th>DB</th>
<th>WRITE DATA CONTENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
<td>ALL ZEROS</td>
</tr>
<tr>
<td>0</td>
<td>1</td>
<td>ALL ONES</td>
</tr>
<tr>
<td>1</td>
<td>0</td>
<td>DATA REGISTER OUTPUT</td>
</tr>
<tr>
<td>1</td>
<td>1</td>
<td>CRC REGISTER OUTPUT</td>
</tr>
</tbody>
</table>

9. THE CRC REGISTER OPERATES IN THE FOLLOWING SEQUENCE:
   
   A. FOR WRITING DATA INTO DISC:
   1. MODE CONTROL AT 0 TO LOAD ALL ZEROS INTO CRC REGISTER.
   2. MODE CONTROL AT 1 WHILE WRITING THE DATA WORDS. THIS
      GENERATES CRC WORD.
   3. MODE CONTROL AT 0 TO WRITE CRC WORD ON DISC IN 29TH
      LOCATION.
   
   B. FOR READING DATA FROM DISC:
   1. MODE CONTROL AT 0 TO LOAD ALL ZEROS INTO CRC REGISTER.
   2. MODE CONTROL AT 1 WHILE READING ALL 256 WORDS THROUGH
      CRC REGISTER.
   3. MODE CONTROL AT 0, IF DATA TRANSFER WAS OK, THEN OUTPUT
      OF CRC REGISTER SHOULD BE ALL ZEROS.

10. THIS CARD IS NORMALLY SUPPLIED WITH TRACES INSTEAD OF JUMPER WIRES
    AT THE FOLLOWING LOCATIONS:

<table>
<thead>
<tr>
<th>JUMPER COLOR</th>
<th>JUMPERED WITH TRACE</th>
<th>FUNCTION PERFORMED</th>
</tr>
</thead>
<tbody>
<tr>
<td>RED</td>
<td>GREY</td>
<td>ADDRESS SET TO 027</td>
</tr>
<tr>
<td>WHITE</td>
<td>GREY</td>
<td>ADDRESS IN.FETCHED</td>
</tr>
<tr>
<td>JUMPER</td>
<td>GREY</td>
<td>GENERATE JUMPER</td>
</tr>
</tbody>
</table>

11. IF REQUIRED, ADD LINE FILTER CAPACITORS AS SHOWN
    ON WORK INSTRUCTION PCO 2223.