

The Qume DataTrack-8 floppy disk drive is one of the finest double-sided 8 inch floppy disk drives made. Unfortunately, it is difficult to determine the correct settings of the drive's various jumpers for proper operation with the K-1013 disk controller and CODOS operating system. This note explains the correct setting of each of the Qume disk drive jumpers.

1. Position the disk drive horizontally so that you are facing its printed circuit board and the disk door is toward your left.
2. The DRIVE SELECT jumpers can be found in the lower right corner of the board. Look for a horizontal row of 8 long, square posts sticking up and labelled DS1 DS2 DS3 DS4. For drive 0 you must connect the two adjacent posts labelled DS1 together. If you have two or more drives, you should wire the DS2 posts together instead for the second drive, DS3 for the third, etc. You may have been supplied with a black slip-on plug which makes the task of changing the drive number easier. The 4 pairs of square pads immediately below the row of 8 posts should be completely separate and not connected to anything. The 3 rows of 3 square pads each below the 4 pairs are not important.
3. On the extreme right side of the board about 2/5 up from the bottom will be found a vertical row of 8 square posts labelled 2S DC D C. The two pins labelled 2S should be connected together. The 2 pins labelled D should be connected together. The 2 pins labelled C should be connected together. The 2 pins labelled DC SHOULD NOT be connected together.
4. Immediately to the left of the vertical row of posts will be found an IC socket with a "programmable DIP shunt" plugged into it. The DIP shunt has 8 links which look somewhat like fuse links running accross it. These are labelled A B X R I Z HL and one that is not labelled. The links accross A, B, R, I, and the blank one at the left end must be intact or bridged. The links accross X, Z, and L must be cut or missing. We have found it easient to remove and discard the DIP shunt and instead use little wire jumpers similar to those used as jumpers in our boards.
5. about 2 inches from the left edge and 3 inches up from the bottom of the board are two horizontal rows of 8 square posts each. The bottom row is labelled GND HA T40. The top row is labelled GND DS DL Y. The pair of posts marked Y should be connected together. The remaining 14 posts should be free of connections.
6. Near the geometric center of the board will be found IC U3D which is a 7400. Immediately below this IC is a pair of square pads marked S. These pads are normally connected together by a printed circuit line. This connection between the two pads must be cut with a sharp knife.
7. If your system is to have 2 or more drives, remove the termination resistors on all drives except drive 0 (the one with the DS1 jumper installed, see step 2). The resistors look like IC's and are plugged into sockets immediately adjacent to the signal cable connector half-way up the right side of the board and are labelled 1TM and 2TM. If more that one drive has the termination reisitors, system operation may be intermittant.

The above instructions should be sufficient for configuring a new, standard DataTrack-8 drive. If you have purchased a used drive or have reason to believe that it has not come directly from QUME (i.e., surplus house, bankruptcy sale, etc.) check the other jumper settings described on the back of this page.

#### ADDITIONAL JUMPER SETTINGS

8. Just above the drive selection jumpers described in step 2 is four rows of 2 square pads each marked M, S1, S2, and S3. The row marked S2 should have a printed circuit bridge connecting the two pads. There should also be a bridge from the left S2 pad to the left S1 pad. The other two rows should not be bridged.
9. Further up is a horizontal row of 3 square pads marked L2 and L1. The rightmost 2 (marked L1) should be bridged.
10. Left of the drive selection jumpers will be found a pair of square pads marked DS. There should be no bridge between them.
11. Immediately above the DIP shunt socket will be found two square pads marked R and I. There should be no bridge between them.
12. Further up is a horizontal row of 3 square pads labelled LC and LS. There should be a bridge between the rightmost 2 pads (the pair labelled LC). The leftmost pad should be isolated.
13. Moving to the left, there is another horizontal row of 3 square pads labelled WP and NP. Again the rightmost pair (labelled WP) should be bridged.
14. Going directly down about 3/4 inch is another horizontal row of 3 square pads labelled R1 and RR. There should be a bridge accross all 3 of them.
15. About 1.5 inches down from the top and in the center of the board is a horizontal row of 3 posts (wide spacing) labelled GND 1A 1B next to a row of 8 posts (narrow spacing) labelled 2B 2A 3 4 5 +6 +12 +17. These are test points are should have no connections made to the posts.
16. At the extreme bottom left is a column of 12 square pads labelled A1 A2 A6 A7 B8 A9 B10 A11 B12 A13 B14 B15. There should not be any bridges accross any of these pads.
17. At the extreme right edge of the board next to the signal cable connection are 7 square pads. They should be connected to the edge fingers and other circuitry by PC lines but should not be connected to each other.

#### EFFECT OF JUMPER SETTINGS

The effect of these jumper settings is as follows:

1. READY, TRACK 0, and INDEX are daisy chained (that is, asserted only when DRIVE SELECT is true).
2. Stepper motor power is continuously applied.
3. The head is loaded only when DRIVE SELECT and HEAD LOAD are both true.
4. The front panel activity LED lights when the head is loaded.
5. Normal double-sided operation using pin 14 to select the diskette side.
6. The circuit that inhibits READY when side 2 of a single-sided diskette is accessed is disabled (required for proper double-sided operation with K-1013).