

## Disk layout of Prophet 2000 and Prophet 2002 floppy disks

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### **Important note:**

Disclaimer:

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The information in this document is not based on any official specification of Sequential or Yamaha and has not been confirmed or approved by these companies.

The information in this document is the result of reverse engineering activities on existing floppy disks created on Prophet 2000 samplers.

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The specifications in this document have not been tested thoroughly, and any usage of them are the full and sole responsibility of the user himself/herself.

Two different types of floppy disks exist for Prophet 2000 samplers:

- Single sided disks with a total theoretical capacity of 430 080 bytes (420K)
  - These disks are only used on early 256K Prophet 2000 samplers
  - Upgraded 512K and 1MB Prophet 2000 and Prophet 2002 samplers can read these disks also
  - The actual usable capacity is 399 616 bytes
- Double sided disks with a total theoretical capacity of 860 160 bytes (840K)
  - These are the native disks used in 512K and 1MB Prophet units
  - The first side of these disks can be read and written by 256K Prophet units also
  - The actual usable capacity is 800 000 bytes

The disks consist of

- One or two sides, depending on the Prophet 2000 (*numbered 0 and 1 by convention*)
- 80 tracks per side (*numbered 0 to 79 by convention*)
- On each track 5 sectors of 1024 bytes (*numbered 0 to 4 by convention*) followed by 1 sector of 256 bytes (*numbered 5 by convention*)

A specific issue with Prophet 2000 disks is the presence of so-called *deleted data address marks (DDAM)* on some of its sectors.

This is due to the fact that the Prophet 2000/2002 is formatting all 1024-byte and 256-byte sectors but it *not* actually writing to them when saving data.

The sectors not written are left with a DDAM.

Note that this is quite an obscure characteristic of Prophet disks (and some other proprietary 80's disks in general). Some floppy disk controllers in more modern computer equipment may not support floppy disks with DDAMs.

Even if the controller supports DDAMs, it may be required to read the tracks with DDAMs sector by sector instead of all sectors at once.

Current analysis of Prophet 2000 floppy disks indicate DDAMs on following sectors:

- Side 0, Tracks 1→79, Sector 5
- Side 1, Tracks 0→79, Sector 5
- Side 0, Track 0, Sector 4
- Side 0→1, Track 39, Sectors 1 and 2
- Side 0→1, Track 78, Sectors 1 and 2
- Side 0→1, Track 79, Sectors 0→4

For single sided disks, just ignore the Side 1 information.

The Prophet 2000/2002 seems capable of reading disks without these DDAMs. But for compatibility reasons it must be assumed that most Prophet 2000/2002 disks will contain DDAMs.