

How to replace the disk drive on a Philips NMS8245 computer

Javi Lavandeira (javilm@aamsx.org)

8th February 2002

Abstract

There are times when the internal disk drive of the computer must be replaced because the original has stopped working correctly. And since you can no longer buy original MSX spare parts, it has to be replaced by a standard PC disk drive. You'll see how to replace the disk drive on a Philips NMS8245 computer, which comes equipped with a double-sided double-density internal disk drive. The NMS8245 unit we'll use on this article had its drive replaced already, but this won't affect the article.



1 Opening the computer

First, you have to remove the screws of the cover. There are two of them in the back of the computer, and two more under it. In the pictures you can see where they are. Remove the screws, but don't try to force the cover to open it. You could break it, because it is being held by three plastic pieces in the front and

sides of the computer (see the pictures). You'll have to use a thin object under these points in order to release the cover (a small screwdriver will do).

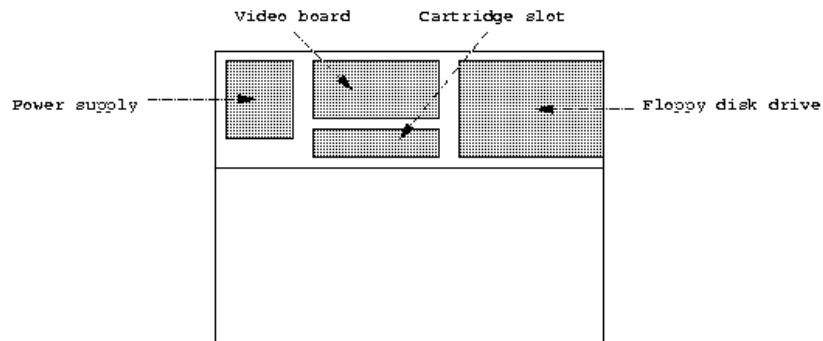


Be careful when you remove the cover, because there's a flat cable coming from the main board plugged to the LED board, as seen in the pictures. Just pull the plug to completely release the cover of the computer.

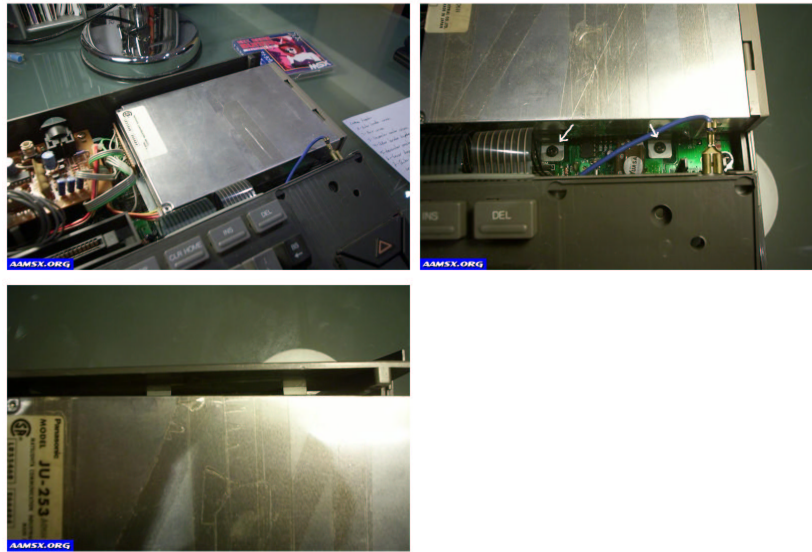


2 Removing the old drive

Inside the computer you'll see (from left to right) the power supply, the cartridge slot and a small circuit board, and then the disk drive to the right.

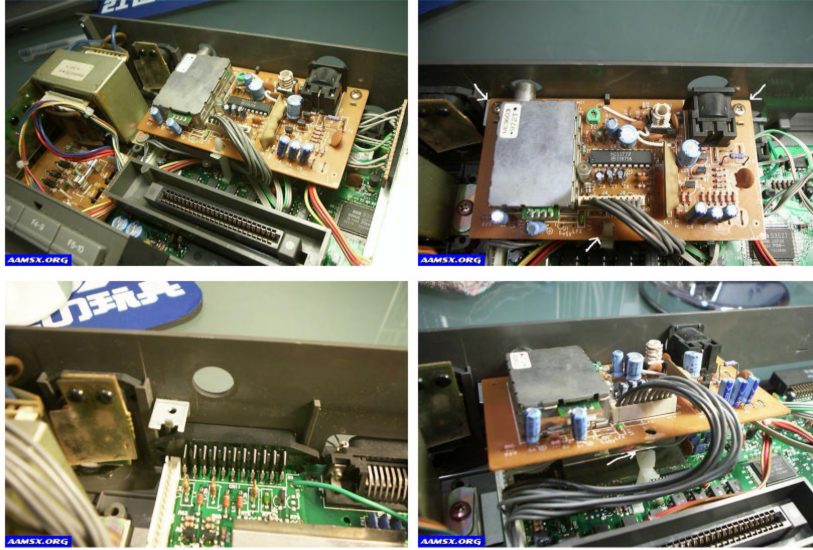


The disk drive is screwed to a metal plate, which is screwed to the computer board and has two small metal pieces inserted inside two small holes in the back cover. See the pictures for more detail. First remove the screws, and then carefully remove the drive and metal plate. Now carefully remove the two flat cables wired to the drive. The one with four wires is the drive's power supply.

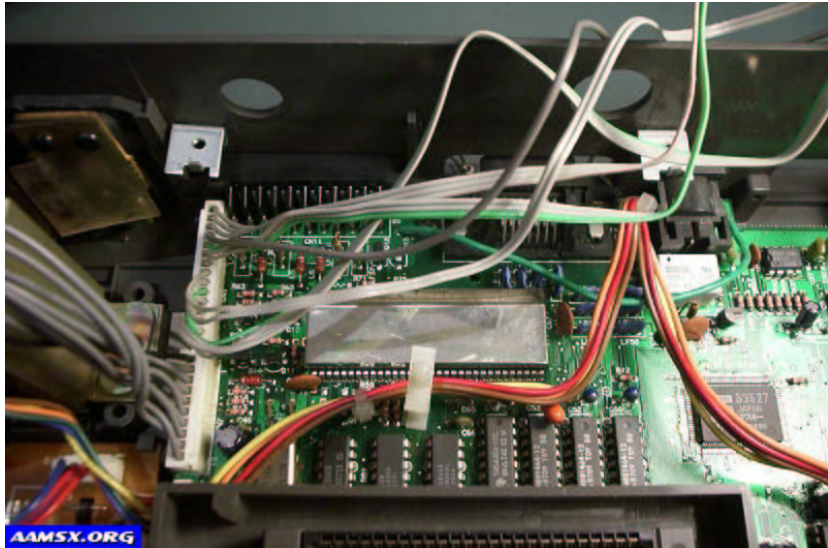


3 Removing the old drive cable

You have to remove the old disk drive cable, but it is plugged under the small circuit board that can be seen in the pictures. So you'll have to remove this board now. This board is held by two screws and a white plastic piece, which you can see in the following pictures.



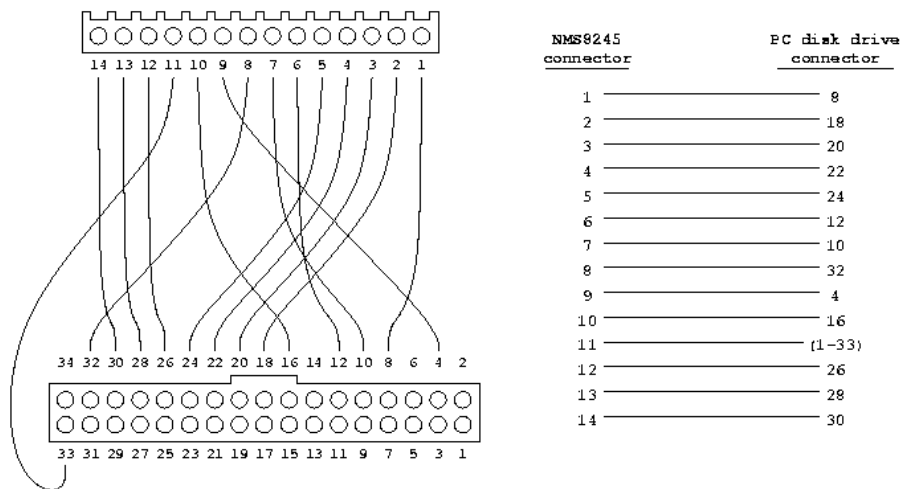
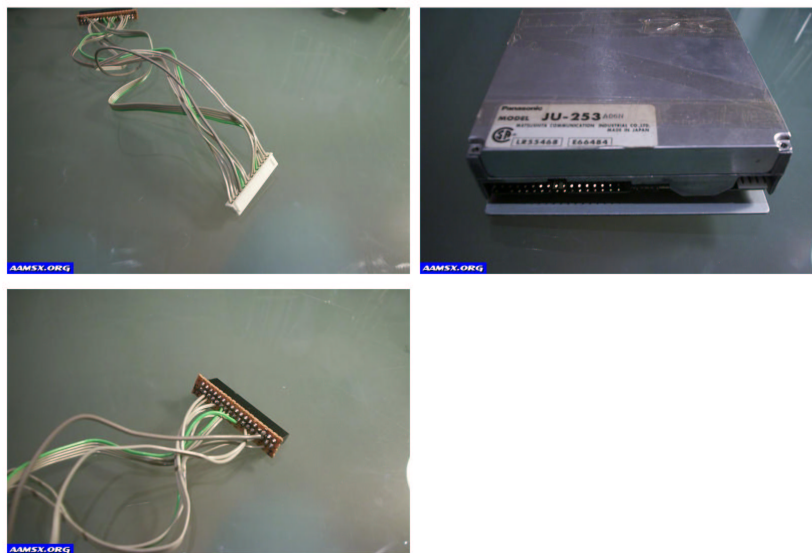
Be very careful when removing the screws on this board. They're screwed to small metallic pieces which are in turn screwed to the back plate of the computer. These metallic pieces are delicate, and could be damaged if you don't remove the screws carefully. Finally, remove the white plastic piece from its hole in the board. You might have to use pincers to push this piece while you pull it out from the hole.



Now the board is (almost) free. It is still attached to the computer board by a flat cable plugged to it, but you don't need to unplug it. Just set the board aside so you can reach the disk drive cable, and unplug it.

4 Making a new cable

Now take a look at the MSX cable, and compare it with the connector on the PC drive. Standard PC disk drives have a 34-pin connector, while this MSX model has a 14-pin cable. You will have to make a 14-to-34 pin adaptor cable. And it is easy. You could use a standard PC floppy cable and wire it to the MSX connector. In the pictures, the MSX cable has been soldered to a very small circuit board with the PC floppy connector soldered to it. Any method is ok, as long as the wires are arranged as in the following diagram.



5 Plugging the new drive

The rest is easy. Just plug the new cable to the computer, and then place the brown small circuit board where it was (the one that was held by the two screws and the white plastic piece). Now screw the new disk drive to the metal plate where the old drive was. It could happen that the screw holes in the plate don't fit the ones in the disk drive. In this case, just use duct tape to make the drive fit on this place (it had to be done this way in the computer in the pictures).

Now plug the power supply wire and the new cable to the drive. Then, place it where the original drive was, and screw it to the board. If you want, you can test the drive before closing the case again, but be careful not to touch anything near the computer's power supply if you do so. Finally, fit the computer cover again and screw it.

Enjoy your new drive!