

Re: Transfer Of Floppy Boot Sector To Hard Disk

Source: <http://coding.derkeiler.com/Archive/Assembler/alt.lang.asm/2006-02/msg00373.html>

- *From:* Frank Kotler <fbkotler@xxxxxxxxxxx>
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DimitrisKa@xxxxxxxxxxx wrote:

Hello everybody,
I have a 486 machine which boots from a floppy. The floppy doesn't contain an OS, but instead contains the program that the machine is destined to run. (CNC cutting). (I don't have the source for the program).

I want to make the machine boot from a hard disk, instead of the floppy.

I have followed these steps:

- 1) I installed ms-dos on a hard disk and made sure that the machine can boot from the hard disk.
- 2) I copied all the files from the floppy to the hard disk

Are there files with the hidden and/or system attribute set? ("dir /a" should show them) These won't normally be copied – and are most likely ones you want. ("attrib -s -h thefile.sys" to make 'em copyable)

What kind of filenames **are** you seeing? Can you tell which one is "the boss", that's loaded by the floppy bootloader? (maybe you could rename it to io.sys, and let your normal hard drive bootloader think it's loading dos?)

You say no OS, but if you're seeing named files – more than one – then whatever runs after boot must have support for a FAT12 file system. If it doesn't also have support for FAT16, you may have a problem. IIRC, if you make a small enough partition (8M?). dos fdisk will make it FAT12 – that might be a workaround, if that's a problem.

- 3) From the boot sector of the floppy (FAT12), I took only the boot code (offset 3Eh, 450bytes) and copied over the boot code of the hard disk (FAT16).

You'll need slightly different code to load FAT16 than FAT12. FAT16 is easier, 'cause you don't have to do that "half-byte shuffle". I assume you "copied over" the original code starting from offset 3Eh – leaving the first bytes as-is? And I assume you're doing this on the partition bootsector, not the MBR?

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Unfortunately this hasn't worked. I get "no operating system found" when trying to boot from the hard disk. This is the message that is hard coded in the boot code – and it is actually written in German.

Well, it's a good sign you're seeing that. You must be doing a lot right!

Is it necessary to disassemble the boot code, or is there something that I am missing here?

The FAT12/FAT16 difference seems likely to be the biggest problem. I don't know if it would be easier to alter your floppy code to do FAT16, or alter your existing FAT16 code (or *some* FAT16 code) to load the proper file to the proper address. You'll probably want to disassemble the floppy code in any case.

Been a while since I've fooled with this – and mostly FAT12 – but that's what I think you're up against. When you fire it up, be cautious with expensive parts and human flesh!

Best,
Frank

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