

## Re: Bootable USB HDD

**Source:**

<http://www.tech-archive.net/Archive/WinXP/microsoft.public.windowsxp.hardware/2004-07/5172.html>

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**From:** Nathan McNulty (*nospam\_at\_msn.com*)

**Date:** 07/31/04

Date: Sat, 31 Jul 2004 00:06:29 -0700

I would like to hear you explain how I "implied you made it all up." I did nothing but confirm exactly what you said. I only added that a BIOS with the ability to boot from USB is required. I have tried to offer a couple of examples that I use that can boot from USB (both chipsets and my USB Flash Drive works).

Also, notice I never said anything about fdisk. The reason is because I don't ever use fdisk as I feel it is outdated. I think it was great you included that part and I never intended to attack that.

I can see you are simply going to see me as flaming you no matter what I say, so just know that I never said anything that was meant to offend you, but merely offer more information (as well as confirmation).

----

Nathan McNulty

Edward W. Thompson wrote:

```
> You've certainly confused me now. What do you mean re your work around?
> Load USB drivers from a floppy to a Hard drive, then boot the system from an
> external USB Drive, unless I am missing something pretty fundamental here I
> don't think so. The machine will not recognise the USB drivers you load
> until the machine is booted up using the OS on the hard drive . This is not
> the same as booting directly from a USB HDD when the machine reads the OS
> from the USB HDD. Surely one of the most significant reasons to boot from a
> USB HDD is to give an alternative means to start a machine in the event of a
> failure of the fixed HDD system.
```

```
>
```

```
> With regards to the rest of your post, I think I am justified to say I was
> offended. I posted in good faith to give information to those who may be
> trying to boot from an external USB drive. I had some problems that I
> worked through and thought my experience may save others the same trouble I
> had. Your post did nothing but implied I have mad it all up and that you
> cannot boot directly from and external USB HDD. As far as I know, from my
> searches of Google, there is not similar info available re problems of using
> fdisk and recreating the mbr.
```

```
>
```

```
> I really wonder what you do when you really set out to offend :-).
```

```
>
```

```
>
```

```
>
```

```
> "Nathan McNulty" <nospam@msn.com> wrote in message
> news:uMhVqdmdeHA.4048@TK2MSFTNGP12.phx.gbl...
```

```
>
```

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>>LOL, I never attacked the OP, nor did I mean to offend anyone. I was  
>>just adding a little side note. Yes, booting off USB devices is simple  
>>if your BIOS supports it. I don't even need a floppy drive since my  
>>computer can boot off my USB Flash Drive. You simply have to have a  
>>BIOS that supports this and set it up correctly. And just to note,  
>>there are almost always workarounds. If you needed to boot off a USB  
>>Harddrive and your BIOS does not support it, you use a floppy to load  
>>the proper drivers and boot off that harddrive (which could all be  
>>automated).  
>>  
>>Again, to the OP, it was not my intention to offend you, but to expound  
>>a little bit and offer examples.  
>>  
>>-----  
>>Nathan McNulty  
>>  
>>  
>>Wislu Plethora wrote:  
>>  
>>>>-----Original Message-----  
>>>>"Edward W. Thompson" <thomeduk1@btopenworld.com> wrote in  
>>>>  
>>>>message  
>>>>  
>>>>  
>>>>news:ulNdXFjdEHA.1644@tk2msftngp13.phx.gbl...  
>>>>  
>>>>  
>>>>>Firstly, if you read the post I think I made it clear  
>>>>  
>>>>that my new  
>>>>  
>>>>  
>>>>>motherboard does support booting from a USB HDD.  
>>>>>  
>>>>>Secondly, the point of the post was to advise others,  
>>>>  
>>>>who like me, may  
>>>>  
>>>>  
>>>>>not  
>>>>  
>>>>  
>>>>>know, that fdisk has limitations and the apparent need,  
>>>>  
>>>>at least in my  
>>>>  
>>>>  
>>>>>case,  
>>>>  
>>>>  
>>>>>to recreate the mbr if the drive had been previously  
>>>>  
>>>>partitioned.  
>>>>  
>>>>  
>>>>>While I may be wrong, I don't think there is any 'work  
>>>>  
>>>>around' if the  
>>>>  
>>>>  
>>>>>BIOS

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```
>>>>
>>>>
>>>>>does not support booting from the HDD.
>>>>>
>>>>>My post has nothing to do with a 'work around'.
>>>>>
>>>>>Don't you take the time to read what is written,
>>>
>>>however imperfectly,
>>>
>>>
>>>>>before you jump in?
>>>>>
>>>>>
>>>>>"Nathan McNulty" <nospam@msn.com> wrote in message
>>>>>news:eOamKtgdEHA.1692@tk2msftngpl3.phx.gbl...
>>>>>
>>>>>
>>>>>>Just a note. You MUST have a BIOS that supports
>>>
>>>External USB Storage
>>>
>>>
>>>>>>Devices. If you have an Intel i865 or i875 Chipset,
>>>
>>>you can boot from
>>>
>>>
>>>>>>external USB Storage devices without any extra
>>>
>>>effort. Most of this is
>>>
>>>
>>>>>>trying to figure out a way to workaroud the BIOS if
>>>
>>>your motherboard
>>>
>>>
>>>>>>doesn't support this.
>>>>>>
>>>>>>----
>>>>>>Nathan McNulty
>>>>>>
>>>>>>
>>>>>>Edward W. Thompson wrote:
>>>>>>
>>>>>>
>>>>>>>I am posting my experience in making an external
>>>
>>>USB HDD bootable as
>>>
>>>
>>>>>an
>>>>>
>>>>>
>>>>>>aide
>>>>>>
>>>>>>
>>>>>>>to others who may be having the same problem. My OS
>>>
>>>is WINXP Pro
>>>
```

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```
>>>
>>>>formatted
>>>>
>>>>
>>>>>>NTFS and the external drive is formatted FAT32.
>>>>>>
>>>>>>I have an external usb/firewire enclosure in which
>>>
>>>is housed an IBM
>>>
>>>
>>>>DJSA
>>>>
>>>>
>>>>>230
>>>>>
>>>>>>2.5" HDD. I have been using this setup for about a
>>>
>>>year to store
>>>
>>>
>>>>>backups
>>>>>
>>>>>>and the like. I used the system on both my desktop
>>>
>>>(USB 2.0) and
>>>
>>>
>>>>laptop
>>>>
>>>>
>>>>>>(firewire).
>>>>>>
>>>>>>I upgraded my desktop to a system that has a
>>>
>>>motherboard that allows
>>>
>>>
>>>>>booting
>>>>>
>>>>>>from a USB HDD. I then tried to make my external
>>>
>>>enclosure bootable
>>>
>>>
>>>>>and
>>>>>
>>>>>
>>>>>>ran
>>>>>>
>>>>>>
>>>>>>>into complications.
>>>>>>>
>>>>>>>Initially I simply transferred (sys) DOS ver 7.0 OS
>>>
>>>onto the external
>>>
>>>
>>>>>HDD
```

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```
>>>>
>>>>
>>>>>>(FAT32), made the drive active in WINXP, changed
>>>
>>>the boot order in the
>>>
>>>
>>>>>>desktop BIOS and tried to boot. The boot process
>>>
>>>hung, although the
>>>
>>>
>>>>>>external drive was recognised. I then booted to
>>>
>>>DOS via a floppy and
>>>
>>>
>>>>>>repartitioned the drive using fdisk, making a single
>>>
>>>primary partition.
>>>
>>>
>>>>>fdisk
>>>>
>>>>
>>>>>>identified the external drive as Drive 3, I have
>>>
>>>two SATA drives on my
>>>
>>>
>>>>>>desktop. I formatted the partition and reloaded
>>>
>>>the OS (Sys c:) from
>>>
>>>
>>>>my
>>>>
>>>>
>>>>>>bootable floppy. So far so good.
>>>>>>
>>>>>>I then tried to make the drive active, using fdisk
>>>
>>>and found that I
>>>
>>>
>>>>>>couldn't
>>>>>
>>>>>
>>>>>>as fdisk will only allow the first drive to be made
>>>
>>>active and the
>>>
>>>
>>>>>>external
>>>>>
>>>>>
>>>>>>drive is recognised as Drive 3. So back to WINXP
>>>
>>>to make the drive
>>>
>>>
>>>>>active
```

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```
>>>>
>>>>
>>>>>there (Control Panel->Admin Tools->Computer
>>>
>>>Management). I changed
>>>
>>>
>>>>the
>>>>
>>>>
>>>>>boot
>>>>>
>>>>>
>>>>>>order back to USB-HDD first and tried to reboot.
>>>
>>>The system again
>>>
>>>
>>>>hung
>>>>
>>>>
>>>>>>during the bootup as before.
>>>>>>
>>>>>>For whatever reason I concluded the problem may be
>>>
>>>a MBR problem so I
>>>
>>>
>>>>>tried
>>>>>
>>>>>
>>>>>>to recreate the MBR using fdisk /mbr. Fortunately
>>>
>>>before I tried that
>>>
>>>
>>>>I
>>>>
>>>>
>>>>>>read that fdisk /mbr will only rewrite the mbr on
>>>
>>>the first drive in
>>>
>>>
>>>>the
>>>>
>>>>
>>>>>>system. To rewrite the mbr for another drive (in
>>>
>>>my case drive 3) I
>>>
>>>
>>>>>either
>>>>>
>>>>>
>>>>>>had to disconnect my two SATA fixed drives (which
>>>
>>>would make the
>>>
>>>
>>>>>external
>>>>>
```

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```
>>>>>
>>>>>>drive, drive 1) or find an alternative to fdisk.
>>>
>>>By searching Google
>>>
>>>
>>>>I
>>>>
>>>>
>>>>>>found the symantec gdisk.exe, bundled with Ghost,
>>>
>>>will allow rewriting
>>>
>>>
>>>>>mbr
>>>>>
>>>>>
>>>>>>on disks other than the first. gdisk used to be
>>>
>>>available as freeware
>>>
>>>
>>>>>but
>>>>>
>>>>>
>>>>>>not anymore. Fortunately I was able to download an
>>>
>>>old copy of the
>>>
>>>
>>>>>gdisk
>>>>>
>>>>>
>>>>>>freeware version from a site by searching using
>>>
>>>Google. I recreated
>>>
>>>
>>>>>mbr
>>>>>
>>>>>
>>>>>>(gdisk 3 /mbr) and the machine now boots from the
>>>
>>>external drive
>>>
>>>
>>>>>without
>>>>>
>>>>>
>>>>>>problems.
>>>>>>
>>>>>>I believe my experience only relates to previously
>>>
>>>used HDD. If a new
>>>
>>>
>>>>>drive
>>>>>
>>>>>
>>>>>>is partitioned using fdisk anew mbr is created
>>>
>>>however when an old
```

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```
>>>
>>>
>>>>drive
>>>>
>>>>
>>>>>is
>>>>>
>>>>>
>>>>>>repartitioned fdisk does not recreate the mbr. Why
>>>
>>>the mbr was the
>>>
>>>
>>>>>source
>>>>>
>>>>>
>>>>>>of ther proble, I have no idea. I don't have that
>>>
>>>level of knowledge,
>>>
>>>
>>>>>but
>>>>>
>>>>>
>>>>>>my experience suggests that if anyone is trying to
>>>
>>>make a previously
>>>
>>>
>>>>>used
>>>>>
>>>>>
>>>>>>HDD bootable via an external enclosure, re creating
>>>
>>>the drive mbr will
>>>
>>>
>>>>>be
>>>>>
>>>>>
>>>>>>required.
>>>>>>
>>>>>>>Before I embarked on this 'enterprise' I did look
>>>
>>>up as many
>>>
>>>
>>>>>references
>>>>>
>>>>>
>>>>>>as I
>>>>>>
>>>>>>
>>>>>>>could find on what was entailed to make an external
>>>
>>>usb drive bootable
>>>
>>>
>>>>>and
>>>>>
>>>>>
>>>>>>>all my references suggested using fdisk, which for
```

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>>>  
>>>me gave problems,  
>>>  
>>>  
>>>>and  
>>>>  
>>>>  
>>>>>>none indicated that recreating the mbr will/may be  
>>>  
>>>required.  
>>>  
>>>  
>>>>>>Hope this may be of assistance to others.  
>>>>  
>>>>Ed:  
>>>>Based on my own experience, to the best of my knowledge  
>>>  
>>>you cannot boot from  
>>>  
>>>  
>>>>a USB external hard drive. Hardly a week passes where I  
>>>  
>>>don't come across  
>>>  
>>>  
>>>>postings in various newsgroups as well as information on  
>>>  
>>>>various web sites  
>>>  
>>>  
>>>>that state that "you can boot from a USB external hard  
>>>  
>>>drive as long as your  
>>>  
>>>  
>>>>motherboard's BIOS supports this capability", or words to  
>>>  
>>>>that effect. I've  
>>>  
>>>  
>>>>worked with a variety of modern motherboards, many of  
>>>  
>>>>which contain a BIOS  
>>>  
>>>  
>>>>element indicating a USB boot capability, but I've yet to  
>>>  
>>>>boot to a USB  
>>>  
>>>  
>>>>external hard drive containing a cloned XP operating  
>>>  
>>>>system. And I have yet  
>>>  
>>>  
>>>>to come across a \*documented\* source indicating this  
>>>  
>>>>capability is actually  
>>>  
>>>  
>>>>achievable.  
>>>>

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>>>>The following is from Western FAQs:  
>>>>Question: Can I boot my computer using an external  
>>>>(FireWire, USB, Combo)  
>>>>  
>>>>hard drive?  
>>>>  
>>>>Answer: Western Digital does not provide technical  
>>>>support for booting your  
>>>>computer using an external hard drive. BIOS manufacturers  
>>>>who design PC  
>>>>system BIOS chips have informed Western Digital that it  
>>>>is not currently  
>>>>possible to boot your computer with an external hard  
>>>>drive.  
>>>>  
>>>>I also queried Symantec Technical Support on this issue  
>>>>and here's their  
>>>>response:  
>>>>"Thank you for contacting Symantec Online Technical  
>>>>Support.  
>>>>  
>>>>You wanted to know if you could boot from a external USB  
>>>>drive that you have  
>>>>cloned to using Norton Ghost.  
>>>>  
>>>>The issue at hand would be whether the drive would be  
>>>>recognized in the boot  
>>>>sequence of your system. To the best of my knowledge,  
>>>>there is no  
>>>>motherboard that supports booting from external devices  
>>>>currently. This  
>>>>

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>>>  
>>>>really has nothing to do with Norton Ghost."  
>>>>  
>>>>  
>>>>  
>>>>In addition, I raised the question with two local  
>>>>  
>>>>computer technicians in  
>>>>  
>>>>  
>>>>our area; both of whom stated that USB external drives  
>>>>  
>>>>are not bootable.  
>>>>  
>>>>  
>>>>  
>>>>Using Symantec's Ghost 2003, I routinely clone my  
>>>>  
>>>>internal hard drives to  
>>>>  
>>>>  
>>>>USB external hard drives. I can, when the need arises,  
>>>>  
>>>>clone the external  
>>>>  
>>>>  
>>>>drive back to the fixed internal one and under those  
>>>>  
>>>>circumstances the  
>>>>  
>>>>  
>>>>internal drive will be bootable.  
>>>>  
>>>>  
>>>>  
>>>>  
>>>>If anyone has personally booted from a USB external hard  
>>>>  
>>>>drive or witnessed  
>>>>  
>>>>  
>>>>such, I would certainly be grateful to hear about it.  
>>>>  
>>>>  
>>>>  
>>>>  
>>>>Art  
>>>>  
>>>>  
>>>>  
>>>>The OP stated quite succinctly, "The machine now boots from  
>>>>the external drive without problems." Do you think he's  
>>>>lying?  
>>>>  
>  
>  
>