

# Re: ARC boot path question SATA vs IDE boot order

---

*Source:*

<http://www.tech-archive.net/Archive/WinXP/microsoft.public.windowsxp.general/2006-06/msg04155.html>

---

- *From:* "- Bobb -" <[bobb@xxxxxxxxxxxxxx](mailto:bobb@xxxxxxxxxxxxxx)>
  - *Date:* Mon, 12 Jun 2006 14:31:39 -0400
- 

Timothy,

That boot.ini worked fine.

IDE drive = rdisk(0) primary drive in BIOS (my X64 boot)

rdisk = 1 for SATA = XP Pro.

So, that will save me an install

I can now install Vista x64 to the IDE drive ( overwrite old copy of XP)

and when done with the beta , remove the IDE to get back to plain old XP Pro.

Although the drive letters change between OS boots. For X64 one drive = C , then under XP that drive partition = F:

I'll have to think over how I'd like to have the drives / Os'es arranged.

I'll let you know how I end up – thanks very much.

( gotta get back to an SBS install for now – same kind of issue.)

back on my PC wrote in message [news:us5QPxkjGHA.4044@xxxxxxxxxxxxxxxxxxxxxxxxxxxxxx](mailto:news:us5QPxkjGHA.4044@xxxxxxxxxxxxxxxxxxxxxxxxxxxxxx)

Thought a second and the X64 box needs to be first drive so I booted it and changed boot.ini to be:

```
[boot loader]
timeout=5
default=multi(0)disk(0)rdisk(0)partition(2)\WINDOWS
[operating systems]
multi(0)disk(0)rdisk(0)partition(1)\WINDOWS="Windows XP Pro x64 Edition" /fastdetect
multi(0)disk(0)rdisk(1)partition(1)\WINDOWS="Windows XP Pro on SATA drive C "
/fastdetect
```

the XP install that is on 0-0-0-2 not used for now

rebooting now

"- Bobb -" <[bobb@xxxxxxxxxxxxxx](mailto:bobb@xxxxxxxxxxxxxx)> wrote in message [news:uXK7RqkjGHA.4884@xxxxxxxxxxxxxxxxxxxxxxxxxxxxxx](mailto:news:uXK7RqkjGHA.4884@xxxxxxxxxxxxxxxxxxxxxxxxxxxxxx)

So – with SATA as first boot – my boot.ini would be :

```
[boot loader]
```

Re: ARC boot path question SATA vs IDE boot order

```
timeout=5
default=multi(0)disk(0)rdisk(0)partition(1)\WINDOWS
[operating systems]
multi(0)disk(0)rdisk(0)partition(1)\WINDOWS="Microsoft Windows XP
Professional" /NOEXECUTE=OPTIN /FASTDETECT
multi(0)disk(0)rdisk(0)partition(2)\WINDOWS="Microsoft Windows XP
Professional E:" /FASTDETECT /NOEXECUTE=OPTIN
multi(0)disk(0)rdisk(1)partition(1)\WINDOWS="Windows XP Pro x64 "
/fastdetect ( This would be IDE drive #1 partition #1 ?)
```

I'll try it now.

"Timothy Daniels" <TDaniels@xxxxxxxxxxxxxx> wrote in message  
[news:qMadnY-1E9a-NRDZnZ2dnUVZ\\_uqdnZ2d@xxxxxxxxxxxxxx](mailto:news:qMadnY-1E9a-NRDZnZ2dnUVZ_uqdnZ2d@xxxxxxxxxxxxxx)

You're interested in what value to set the rdisk() argument.  
Here's background:

In just an IDE environment, "rdisk(x)" refers to the disk that  
is at position "x" relative to the start of the HD boot order.  
The \*default\* HD boot order is:

Master, IDE ch. 0,  
Slave, IDE ch.0,  
Master, IDE ch. 1,  
Slave, IDE ch. 1.

In this default HD boot order, assuming that all IDE ch.  
positions  
are occupied by a HD, rdisk(0) refers to the Master on IDE  
ch. 0,  
rdisk(1) refers to the Slave on IDE ch. 0, etc. If there is no  
HD  
with an MBR at a particular position, rdisk() just refers to the  
next  
HD in the HD boot order.

Many, if not most, BIOSes allow the user to reset the HD  
boot  
order via keyboard during the POST phase of the boot  
process.  
But the meaning of "rdisk(x)" continues to follow whatever  
HD  
boot order that the user sets up. This can be used to change  
which HD controls booting merely by resetting the HD boot  
order,  
and it can be used as a crude (but effective) method of multi-  
booting. The only thing it lacks is partition selection to find  
the OS.

A crude way of selecting the partition to control booting is to

Re: ARC boot path question SATA vs IDE boot order

set which Primary partition on a HD is "active" before restarting the PC. Once a HD is selected for booting, the MBR of that HD hands off control to the boot sector of the "active" partition, where ntlldr and boot.ini and ntdelect.com are expected to be found. In WinXP, the "active" setting can be manually controlled with Disk Management – rt–clk a partition in the GUI, and if "Mark Partition as Active" is greyed out, it's already "active".

But, of course, the most convenient way of multi–booting is to use the menu information contained in the entries of the boot.ini file. There, "rdisk(x)" refers to the HD relative to its position x in the HD boot order, starting with "0", and "partition()" refers to the position of the partition within the HD, starting with "1". The partitions are no'd starting with the Primary partitions, then the Local Drives on the Extended partition if there is one. Thus, the OS can be in any partition on any HD in the system. There can even be more than one OS in each partition since the file name containing the OS must be given, too, which the installer usually chooses to be "WINDOWS" unless there is already a "WINDOWS" folder present. (I don't recommend more than one OS in a partition, though.)

Now, as you have found, when the SATA HD boot order is selected, "rdisk(0)" refers to the 1st SATA HD in the HD boot order, \*probably\* SATA ch. 0. "rdisk(1)" would \*probably\* refer to the 2nd SATA HD in the default SATA HD boot order – \*probably\* SATA ch. 1.

Your question is "How does one combine the "rdisk()" spaces of the IDE and SATA HDs?" I don't know the answer to that, but the answer is probably \*very\* BIOS–specific. Since your ASUS is a Phoenix–based BIOS, it's probably a common implementation, so the answer would be valuable to a lot of

Re: ARC boot path question SATA vs IDE boot order

PC users. Please favor us with an experiment:

Set the BIOS to use the IDE controller first.

In the boot.ini file of an "active" Primary partition of an IDE HD,

place an OS entry that has the "rdisk()" argument set to the no. of IDE HDs in the system. That is, if there is one IDE HD,

use "rdisk(1)" in the new entry. See if it causes the SATA HD

to control booting. If it does, it would appear that the rdisk() space of the IDE HD boot order spills over into the SATA HD

boot order. If "rdisk(1)" doesn't work, try "rdisk(5)".

I suspect, though, that the rdisk() spaces don't overlap since the controllers are so different. But please let us know.

\*TimDaniels\*

"- Bobb -" wrote:

One question about the ARC Path Naming Conventions :  
I have a SATA and just added a temporary bootable IDE drive (old drive that I used here prior to sata purchase). I see that in the boot.ini of each drive that the path is the same - it depends on the order that I setup the ASUS ( phoenix) BIOS which boots first. So if I set SATA first, then I get ITS boot menu - and it works fine. If I make the IDE drive first in BIOS boot order, I get the IDE boot menu. With both in there, other than changing BIOS , any way to specify which drive to boot ?? I would THINK that they'd be a variable to set path of IDE channel 0 or 1 and/or SATA channel 0 or 1 ? I'd like to leave them both in for now to use old XP partitions for Vista x32 and x64 installs, but don't want to have to toggle BIOS. ( yes I would reformat old partitions)

Old IDE drive:

Re: ARC boot path question SATA vs IDE boot order

```
[boot loader]
timeout=5
default=multi(0)disk(0)rdisk(0)partition(2)\WINDOWS
[operating systems]
multi(0)disk(0)rdisk(0)partition(2)\WINDOWS="Microsoft
Windows XP Professional" /fastdetect
/NoExecute=OptIn
multi(0)disk(0)rdisk(0)partition(1)\WINDOWS="Windows
XP
Professional x64 Edition" /fastdetect
```

New SATA Drive

```
[boot loader]
timeout=5
default=multi(0)disk(0)rdisk(0)partition(1)\WINDOWS
[operating systems]
multi(0)disk(0)rdisk(0)partition(1)\WINDOWS="Microsoft
Windows XP Professional"
/NOEXECUTE=OPTIN
```

/FASTDETECT

```
multi(0)disk(0)rdisk(0)partition(2)\WINDOWS="Old
XP Pro
on E:" /FASTDETECT
/NOEXECUTE=OPTIN
```