

## Duplicating NTFS Disk Drives on the Mac

You will need two free programs: **MacFuse** and **NTFS-3G**. If you go to MacUpdate and find, download and install **NTFS-3G** then it will also install the matching version of **MacFuse**. These programs both show up in **System Preferences**. You do not need to change any of the settings to get this to work but you should restart your computer before going any further.

Attache the two drives to your mac. Firewire is best but this should also work with USB drive connections. The drive you are copying from should already be in NTFS format. If the drive you are copying too is not NTFS then launch **Disk Utility** (Applications-->Utilitites) and use the Partition area to create one large NTFS partition with Master Blocks as the directory method. When the partitioning is finished Quit the program.

Now launch **terminal** (Applications-->Utilities). A window should appear with a prompt at the top that is usually your computer name and your account short name.

Type **sudo su** and hit return. You will be asked for a password. This must be an administrators password. If successful you will get a prompt something like "sh-3.2#".

Type **diskutil list** to generate the list of attached drives. You should get something like this being displayed

```
/dev/disk0
#:                                TYPE NAME                SIZE          IDENTIFIER
0:    GUID_partition_scheme      *250.1 GB     disk0
1:      EFI                      209.7 MB     disk0s1
2:      Apple_HFS Macintosh HD   249.7 GB     disk0s2
/dev/disk1
#:                                TYPE NAME                SIZE          IDENTIFIER
0:    FDisk_partition_scheme     *160.0 GB     disk1
1:      windows_NTFS Sessional1018      160.0 GB     disk1s1
/dev/disk2
#:                                TYPE NAME                SIZE          IDENTIFIER
0:    FDisk_partition_scheme     *160.0 GB     disk2
1:      windows_NTFS Untitled    160.0 GB     disk2s1
```

In this case, disk0 is the boot disk. "disk1" is the drive to copy from and "disk2" is the drive to copy to. The only other thing you need to worry about is the block size. You can use a large block size and it should work. In this case I was experimenting and I used a blocksize(bs) of 4k. In this case a 160GB drive took about 4 hours to copy using firewire 400 and a MacBook Pro 2.4GHz dual core. Using a 32k block size saved about 360 seconds or 6 minutes so it makes little difference.

Before running the command be sure to eject the target disk from the desktop otherwise the drive is considered busy. The command for doing the copy is (if is Input File, of is output file, bs is blocksize):

```
dd if=/dev/disk1 of=/dev/disk2 bs=4k
```

When the command completes it reports the records in and out, how much was transfered and in how much time.

```
39072726+0 records in
```

```
39072726+0 records out
```

```
160041885696 bytes transferred in 14438.745243 secs (11084196 bytes/sec)
```

The time here converts to 4.01 hours.