

Outline

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- Imaging the CompactFlash

Overview

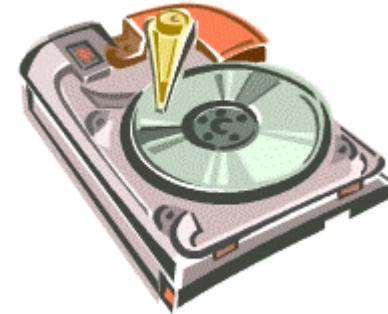
- This procedure restores the 512 MB CompactFlash to as-shipped condition
- Can be used to install future updated CompactFlash disk images



Warnings

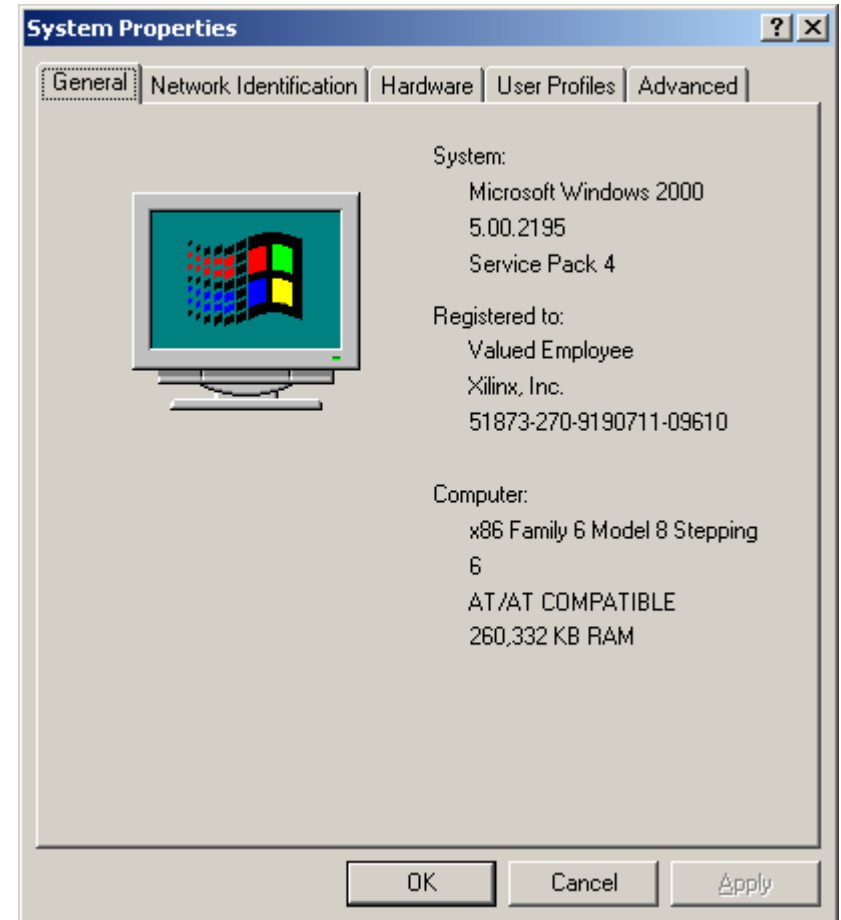


- This procedure will erase a hard drive
 - Make **sure** you are erasing the Compact Flash and not your PC's hard drive
 - Drive numbers mentioned in this procedure sometimes change when your PC reboots - verify the drive number **each time** this procedure is used
 - These tools **do not** check to see if you are doing something wrong
 - If you do not make a backup copy of the CompactFlash card you are imaging, you will **lose** all the data on the CompactFlash
- Xilinx cannot take responsibility for lost data or damaged hard drives



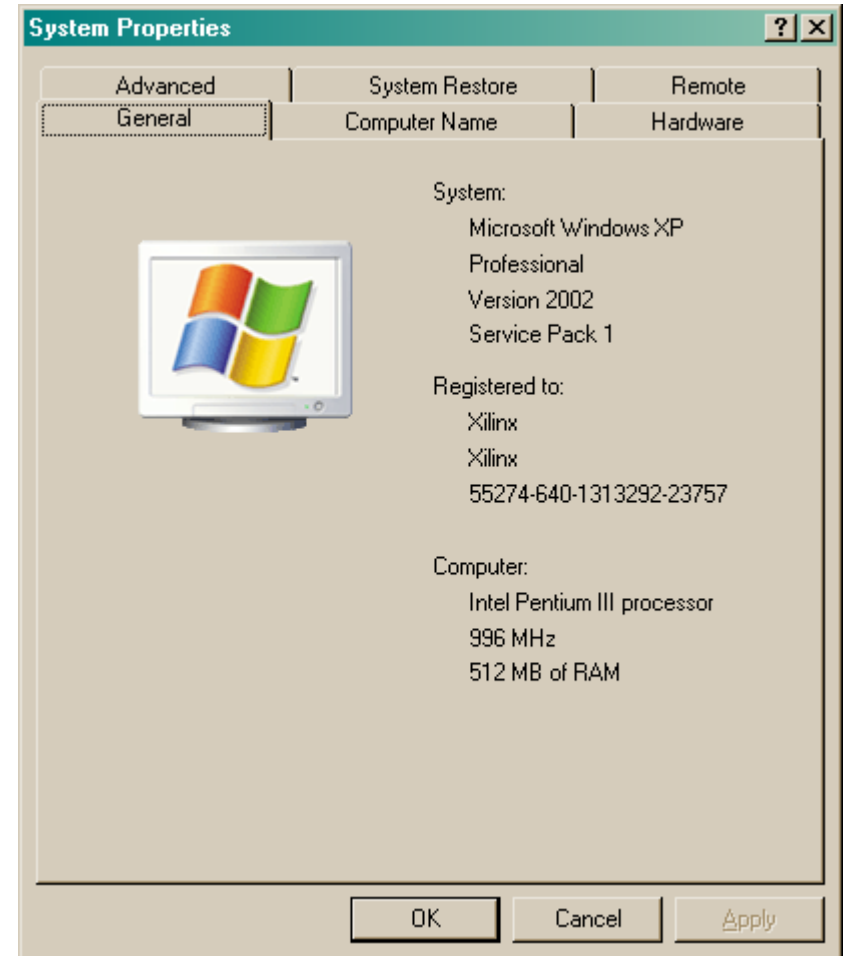
Software Setup

- This setup works in this Windows environment:
 - Windows 2000 (NT 5.0)
 - 5.00.2195 SP4
 - Right click on “My Computer” and select Properties to view your system properties



Software Setup

- This setup works in this Windows environment:
 - Windows XP (NT 5.0)
 - Version 2002 SP1
 - Right click on “My Computer” and select Properties to view your system properties



Equipment Overview

- SanDisk® 512 MB CompactFlash™
 - Comes preloaded with hardware and software demonstration systems for ML310



Equipment Overview

- Any CompactFlash Programmer that attaches to your PC - Some examples:
- SanDisk ImageMate™
 - Provides a USB interface for programming CompactFlash cards
 - See www.sandisk.com for more information
- SanDisk PC Card adapter
 - Used in a laptop PCMCIA slot to program CompactFlash cards



Files needed

- Unzip these files to a temp directory (1)
 - *ml310_cf_1080033_02.zip*
 - *cf_image_tools.zip*
 - Optional - *xcsc.zip*

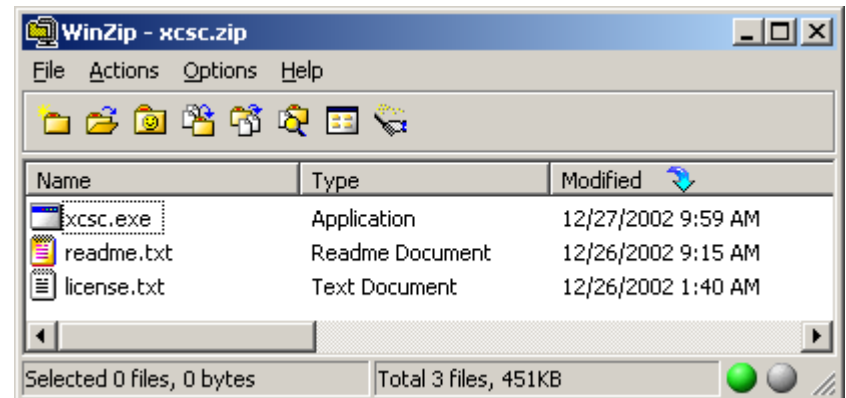
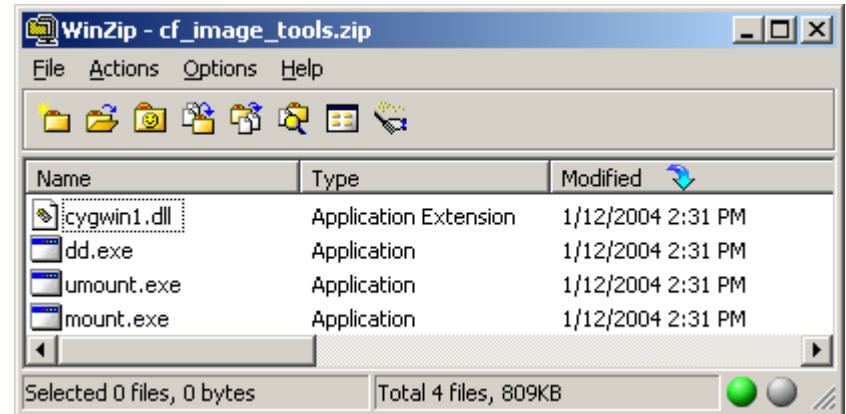
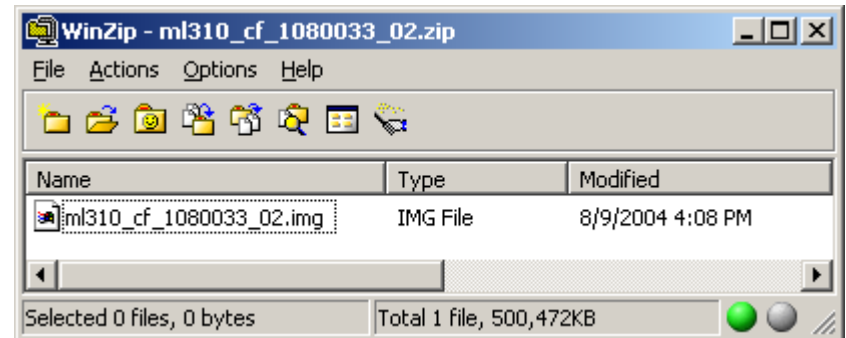
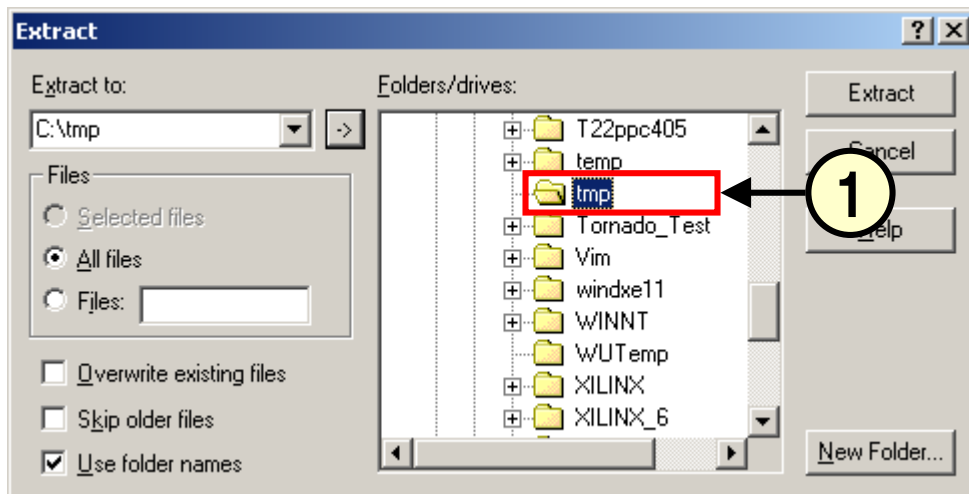
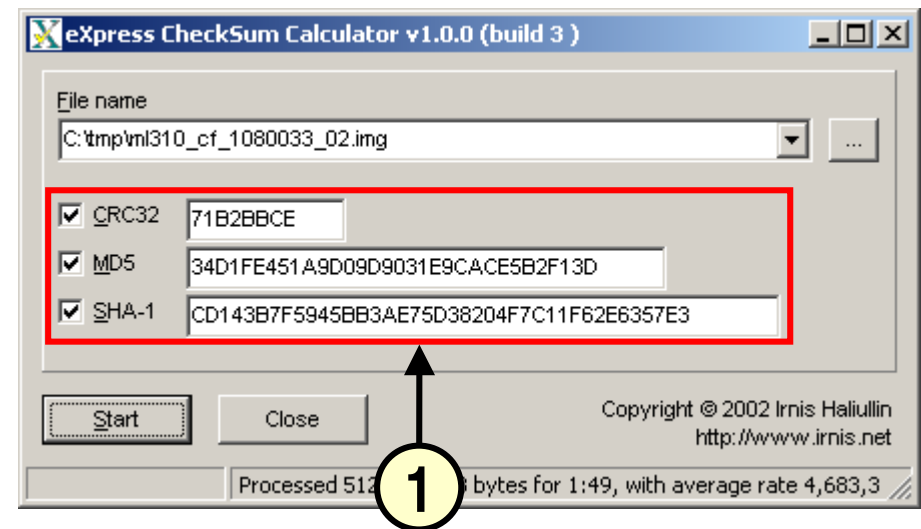
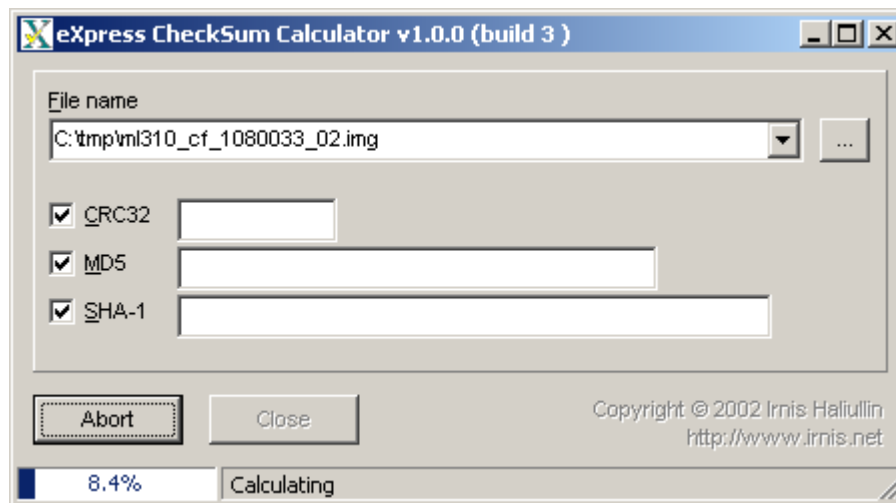


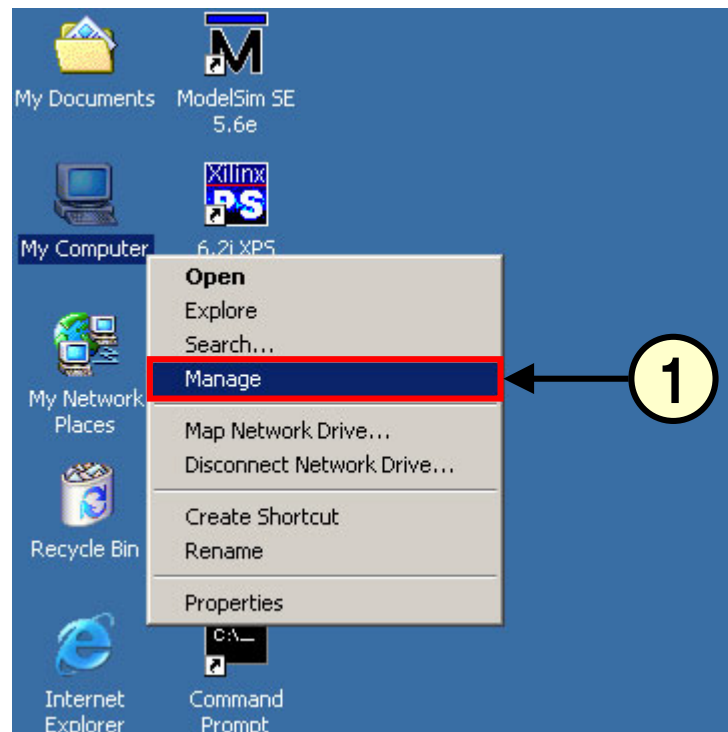
Image Checksum

- Optional - Run xcsc.exe on the image
 - Takes a minute or two to calculate Checksums
 - These values (1) are for the *ml310_cf_1080033_02.img*



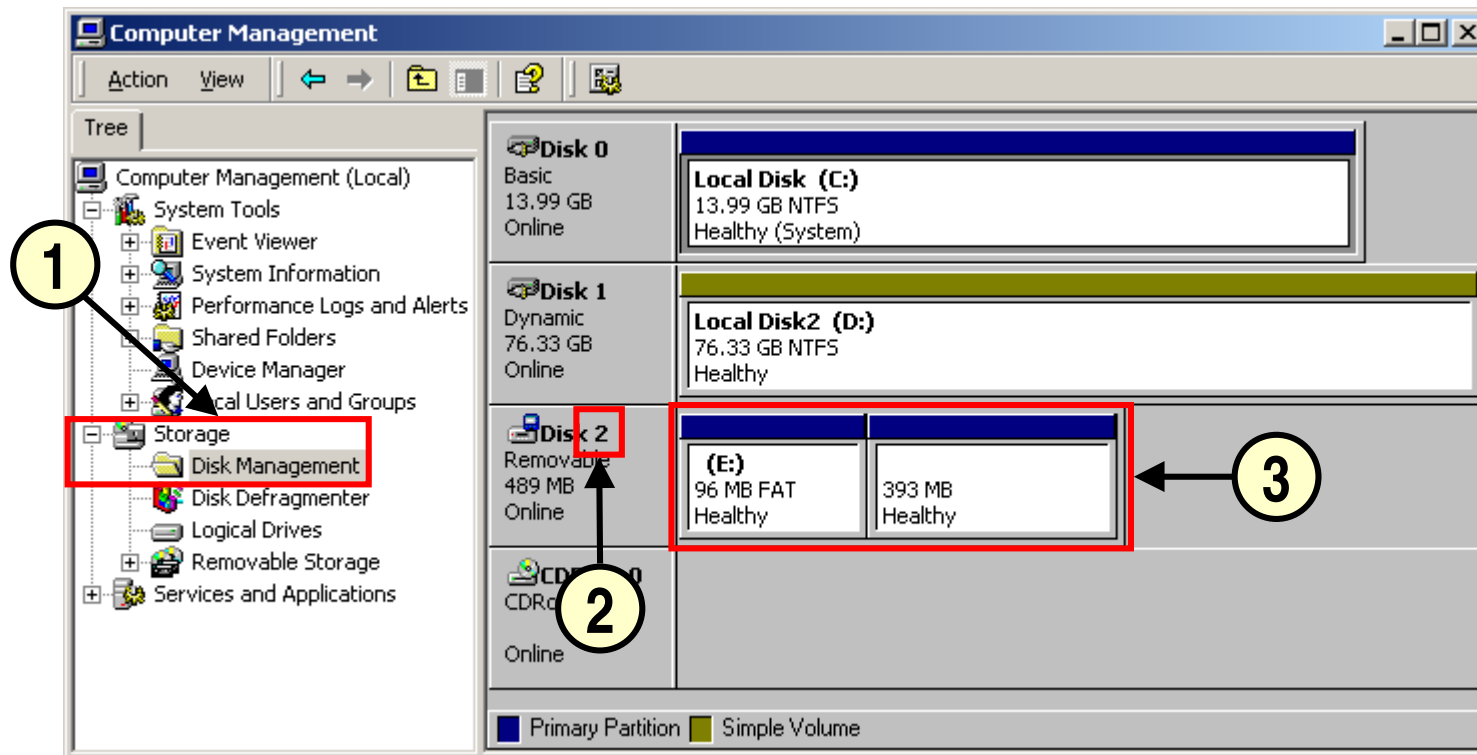
Determining the Drive Number

- Right click My Computer and select “Manage” (1)



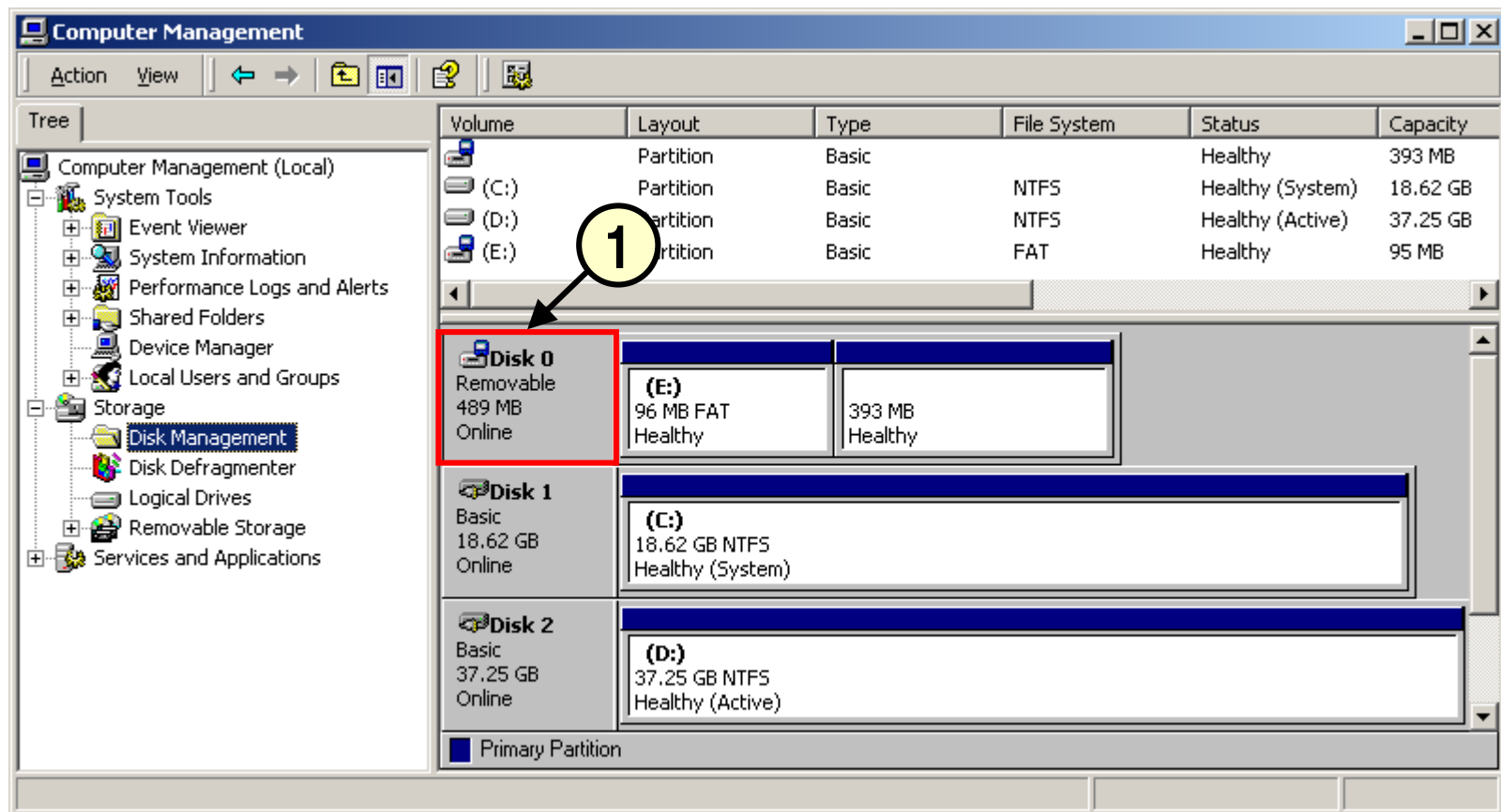
Determining the Drive Number

- Select Storage -> Disk Management (1)
- The CompactFlash's Drive Number is "2" (2)
 - May have a different number on your system
 - The partitions (3) may look different (one instead of two)



Determining the Drive Number

- As you can see here (1), on a different PC, the Drive number for the CompactFlash is different
 - The Drive number in this case is “0”

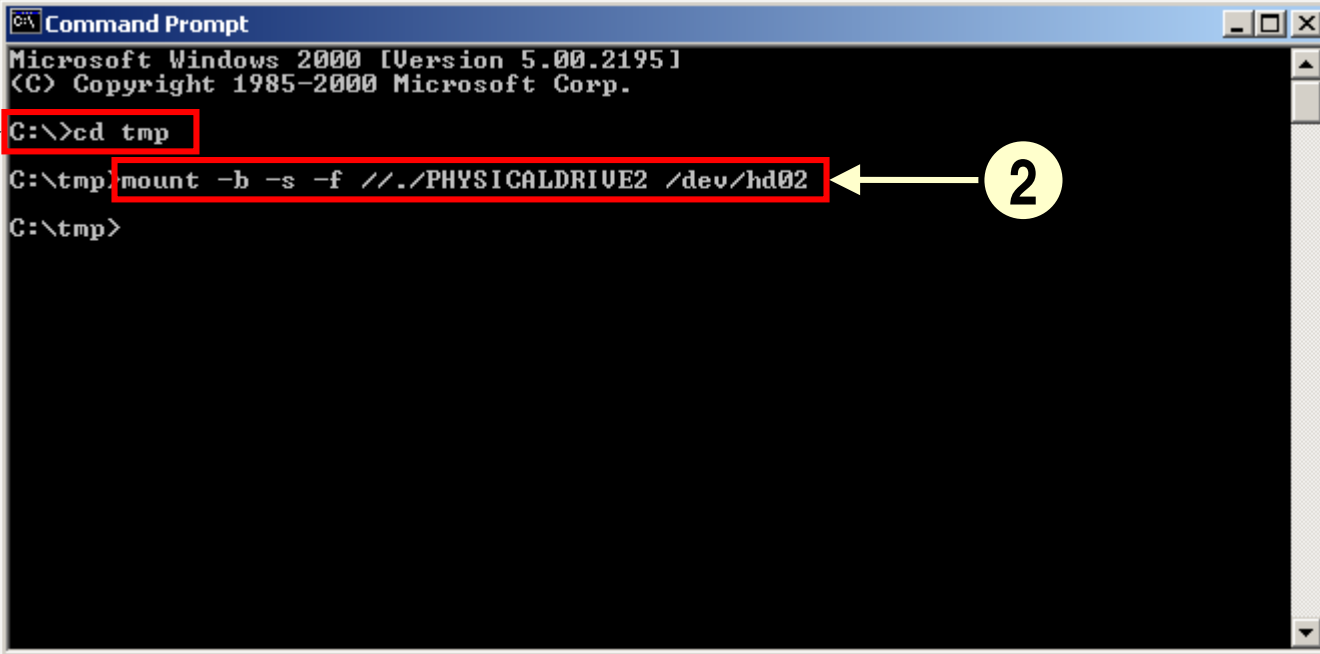


Mount the CompactFlash

- Start a windows command shell
- CD to the temp directory (1)
- Mount the CompactFlash card (2)

`mount -b -s -f ../PHYSICALDRIVEx /dev/hd0x`

- Replace the ~~x~~'s with the CompactFlash's drive number



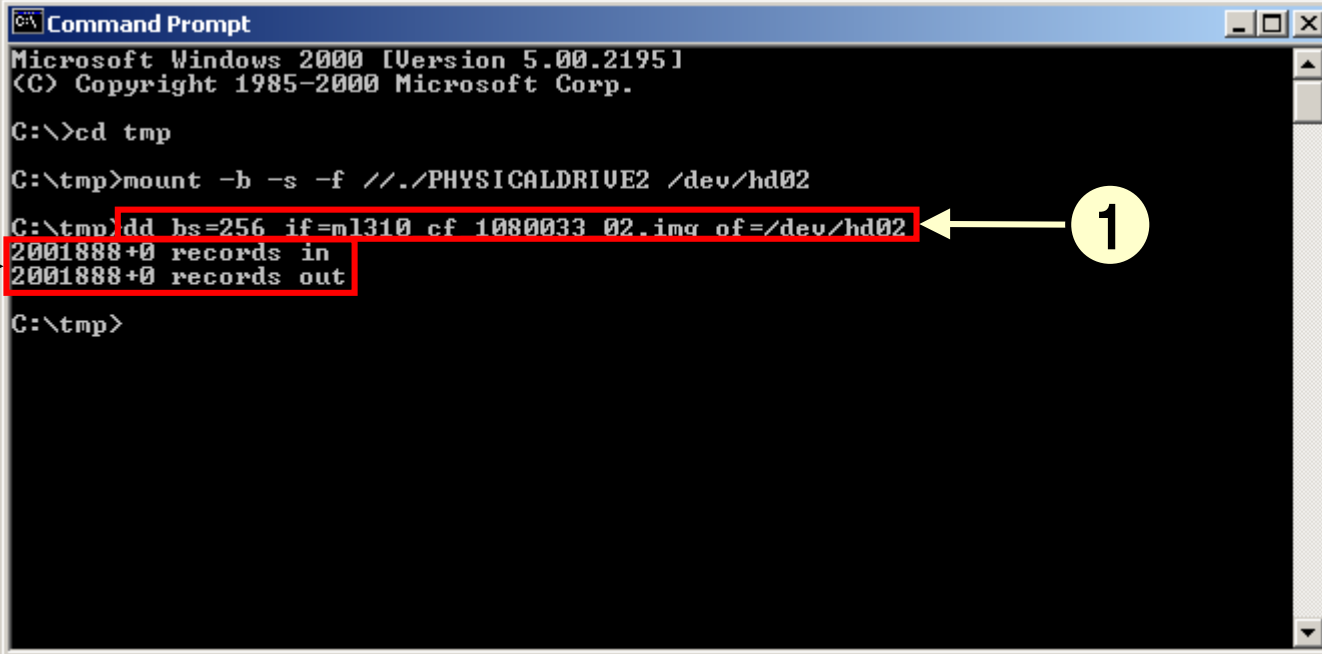
```
Microsoft Windows [Version 5.00.2195]
(C) Copyright 1985-2000 Microsoft Corp.

C:\>cd tmp
C:\tmp>mount -b -s -f ../PHYSICALDRIVE2 /dev/hd02
C:\tmp>
```

The screenshot shows a Windows Command Prompt window. The first command, `C:\>cd tmp`, is highlighted with a red box and a yellow circle containing the number 1. The second command, `C:\tmp>mount -b -s -f ../PHYSICALDRIVE2 /dev/hd02`, is also highlighted with a red box and a yellow circle containing the number 2. The prompt shows the current directory as `C:\tmp>`.

Image the CompactFlash

- Write the disk image to the CompactFlash card (1)
dd bs=256 if=ml310_cf_1080033_02.img of=/dev/hd0x
 - Replace the x with the CompactFlash's drive number
- This process can take up to 30 minutes
 - When finished it will list the records in and out (2)



```
Command Prompt
Microsoft Windows 2000 [Version 5.00.2195]
(C) Copyright 1985-2000 Microsoft Corp.

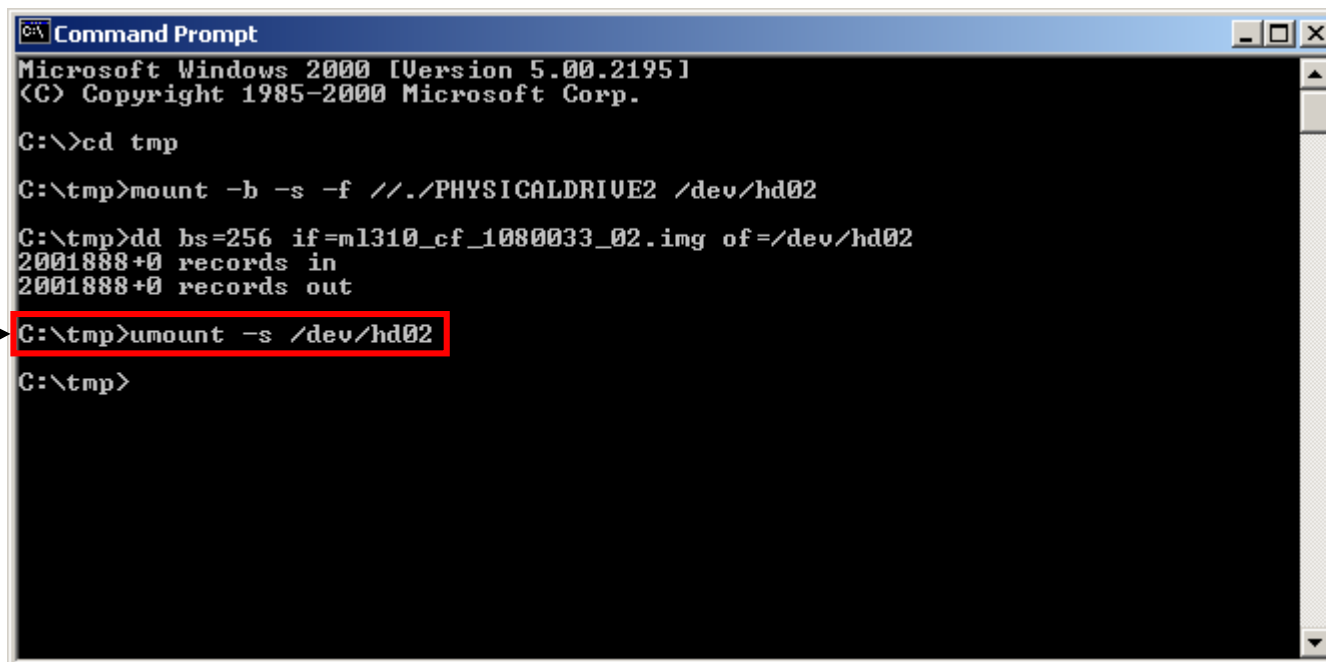
C:\>cd tmp
C:\tmp>mount -b -s -f ../PHYSICALDRIVE2 /dev/hd02
C:\tmp>dd bs=256 if=ml310_cf_1080033_02.img of=/dev/hd02
2001888+0 records in
2001888+0 records out
C:\tmp>
```

Unmount the CompactFlash

- Unmount the CompactFlash card (1)

`umount -s /dev/hd0x`

- Replace the **x** with the CompactFlash's drive number



```
Command Prompt
Microsoft Windows 2000 [Version 5.00.2195]
(C) Copyright 1985-2000 Microsoft Corp.

C:\>cd tmp

C:\tmp>mount -b -s -f //./PHYSICALDRIVE2 /dev/hd02

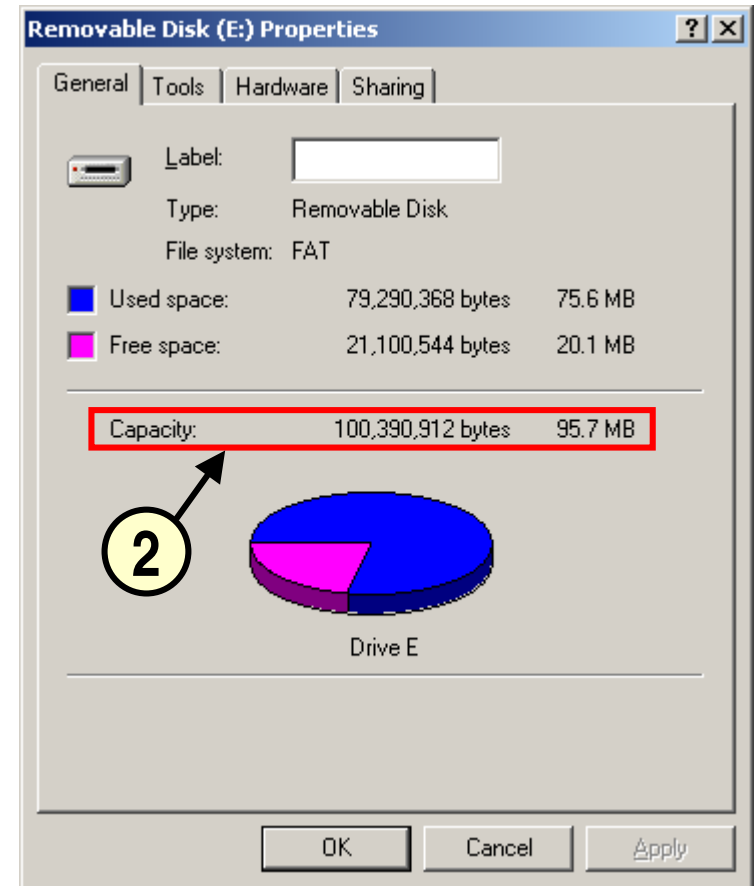
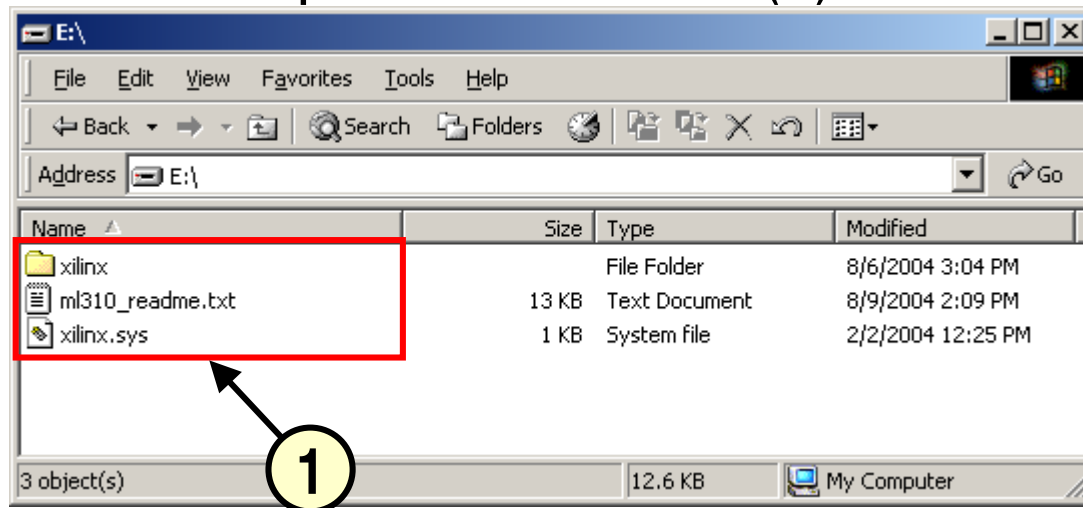
C:\tmp>dd bs=256 if=m1310_cf_1080033_02.img of=/dev/hd02
2001888+0 records in
2001888+0 records out

1 → C:\tmp>umount -s /dev/hd02

C:\tmp>
```

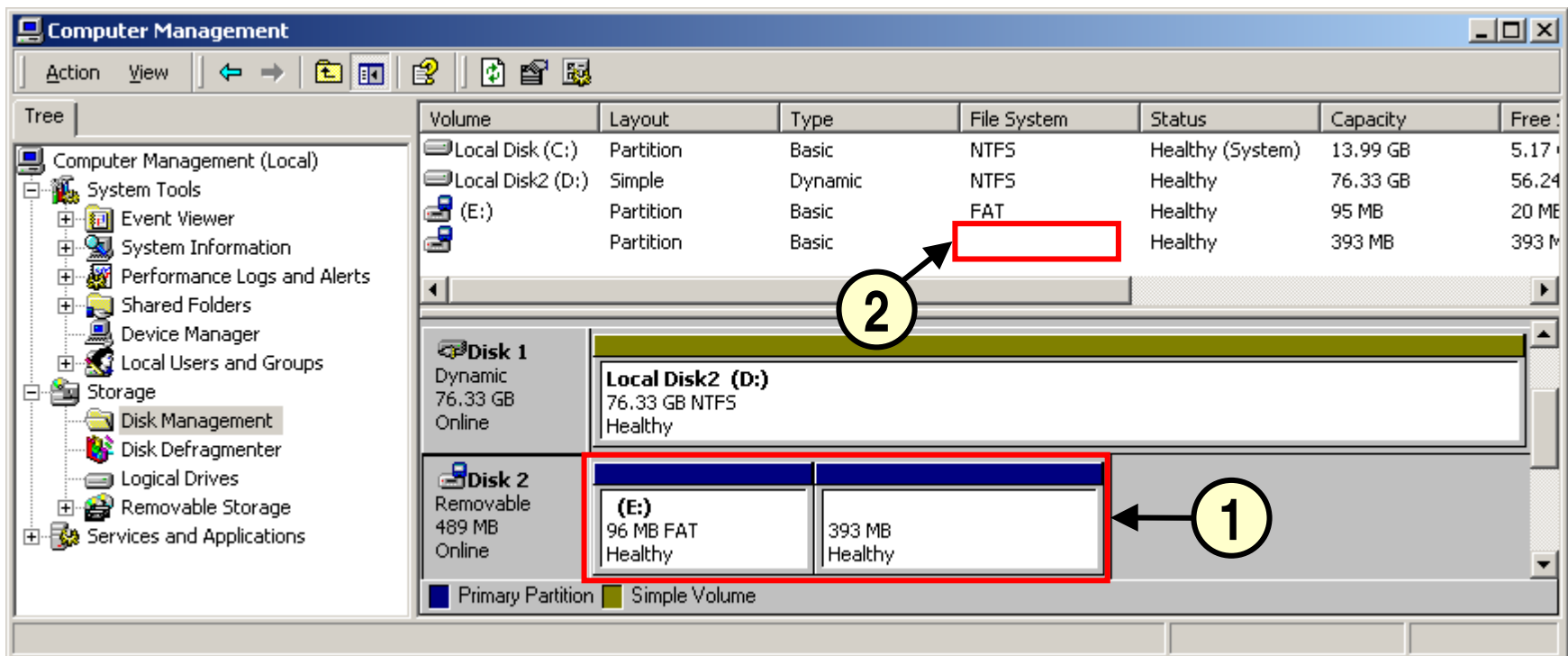
Drive Contents

- The CompactFlash should look like this after Imaging (1)
 - **Note:** You may have to eject and reinsert the CompactFlash to see this
 - Review “Remove the CompactFlash” slide before ejecting the disk
- The Disk Properties will show 95 MB space on the disk (2)



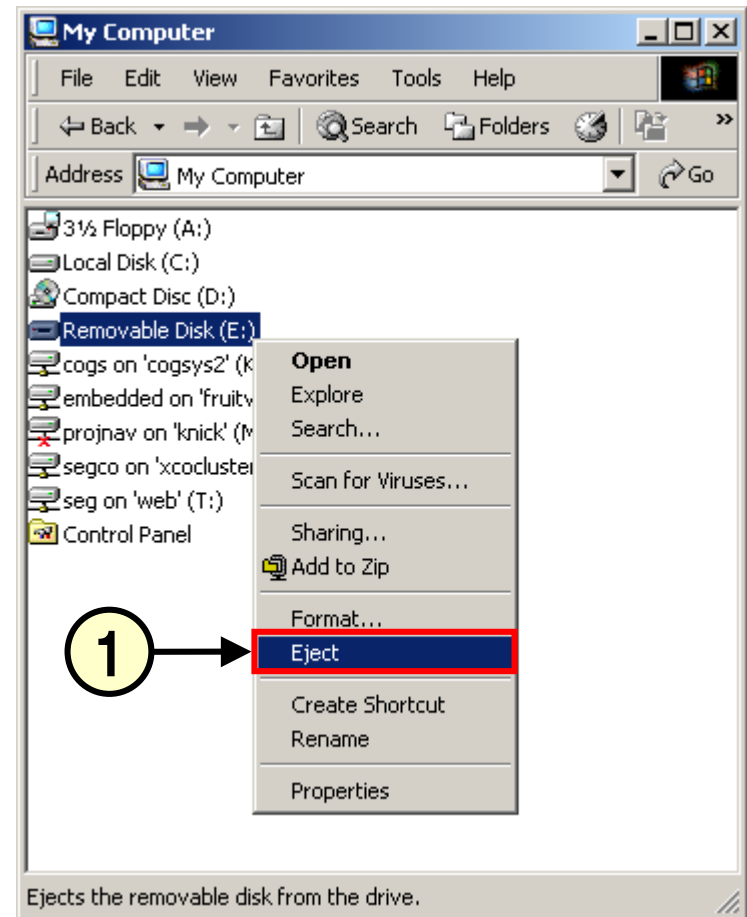
Drive Partitions

- After imaging, two partitions will appear on the CompactFlash (1)
 - The second (393 MB) is the Linux partition
 - Windows doesn't know about the Linux file system (2)



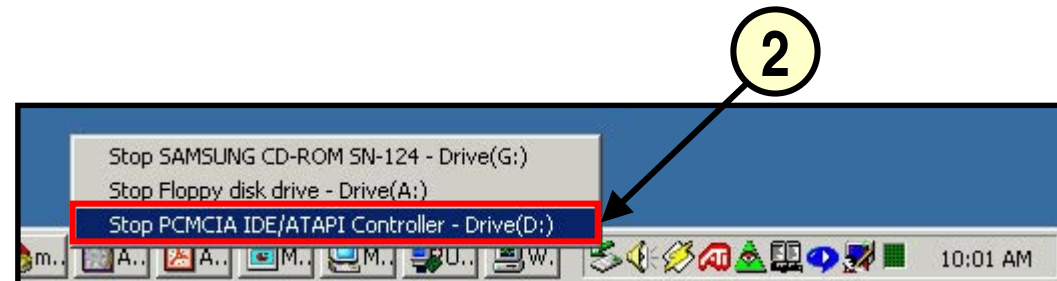
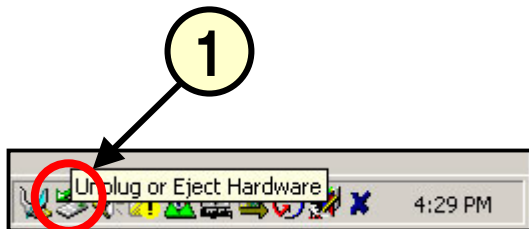
Remove the CompactFlash

- To insure data integrity, always Eject the Compact Flash prior to removing it from the adapter
- Right-click on the CompactFlash Drive and select Eject (1)
- Remove the Compact Flash card



Remove the CompactFlash

- When using a PC Card Adapter, the card must be properly stopped before the it is removed from your PC
 - Click on the Unplug or Eject Hardware icon in your system tray (1)
 - Stop the PCMCIA controller (2)



CompactFlash IDs

- Use a PC Card Adapter
- Right click on the CF disk and select Properties (1)
- This disk is a SDCFB-512 (2)

