



ML501 CompactFlash Re-imaging Procedure



May 2007

Overview

- Procedure
- Warnings
- Setup
- Checksum
- Determining the Drive Number
- Imaging the CompactFlash

Procedure

- This procedure restores the ML501 32 MB CompactFlash to as-shipped condition
- Can be used to install future updated CompactFlash disk images



Caution



- 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



Equipment Overview

- SiliconDrive™ 32 MB CompactFlash™
 - Comes preloaded with hardware and software demonstration systems for ML501



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)
 - ml501_cf_img.zip
 - cf_image_tools.zip
 - Optional - xcsc.zip

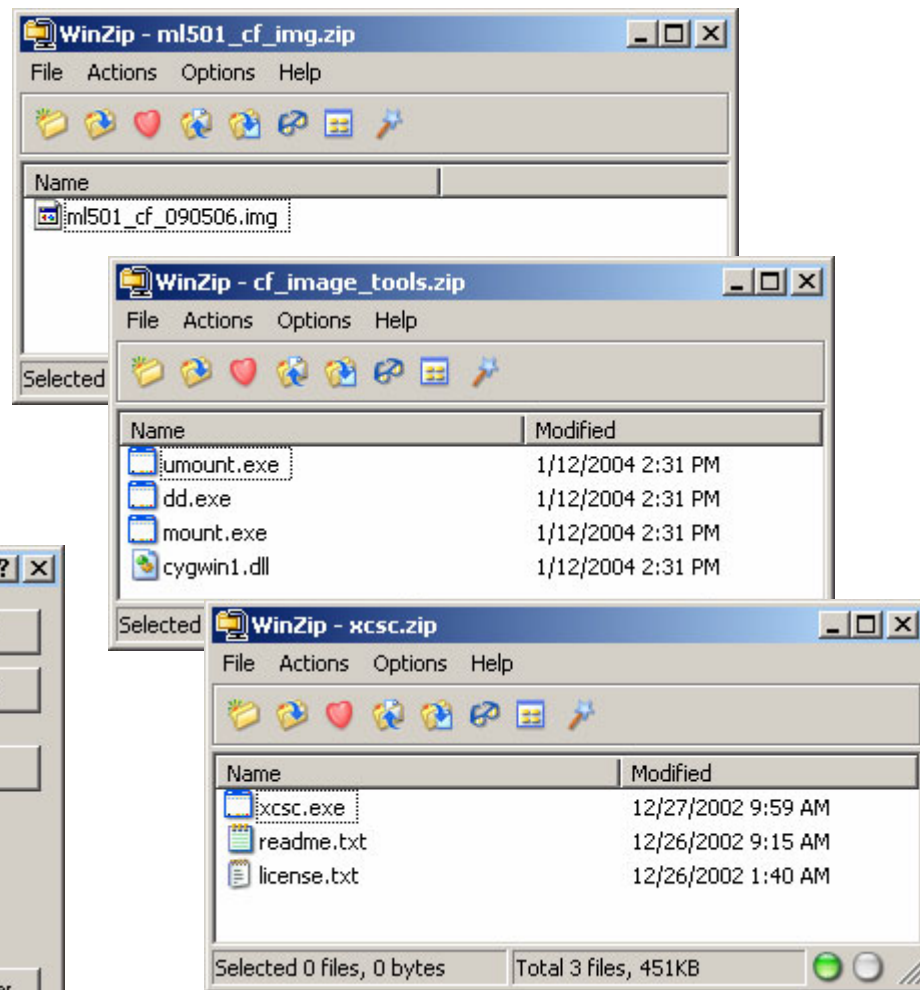
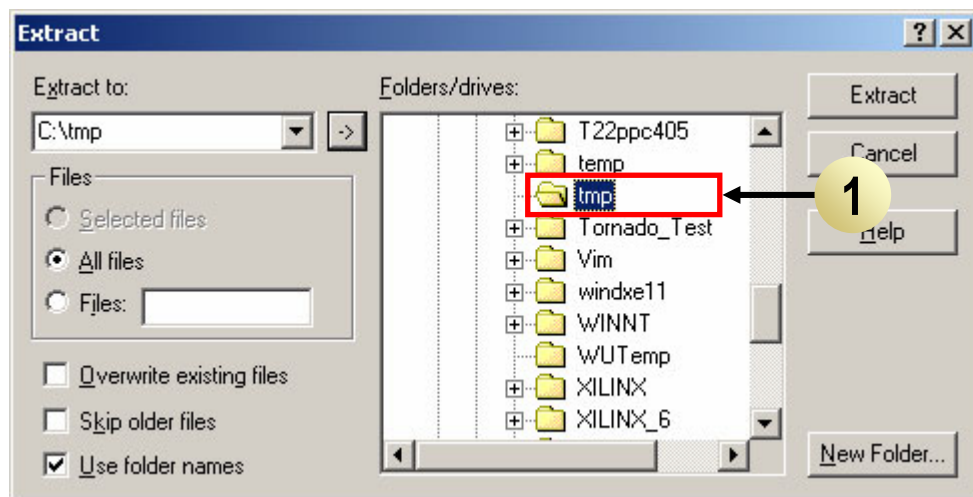
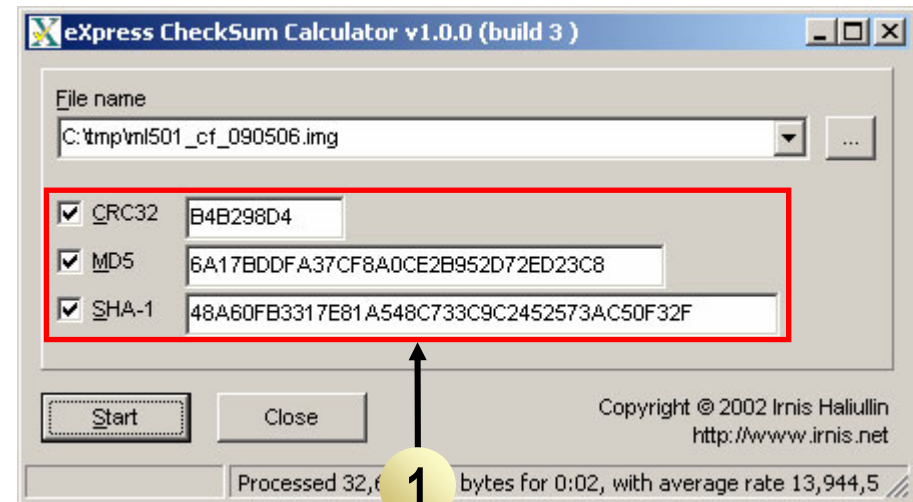
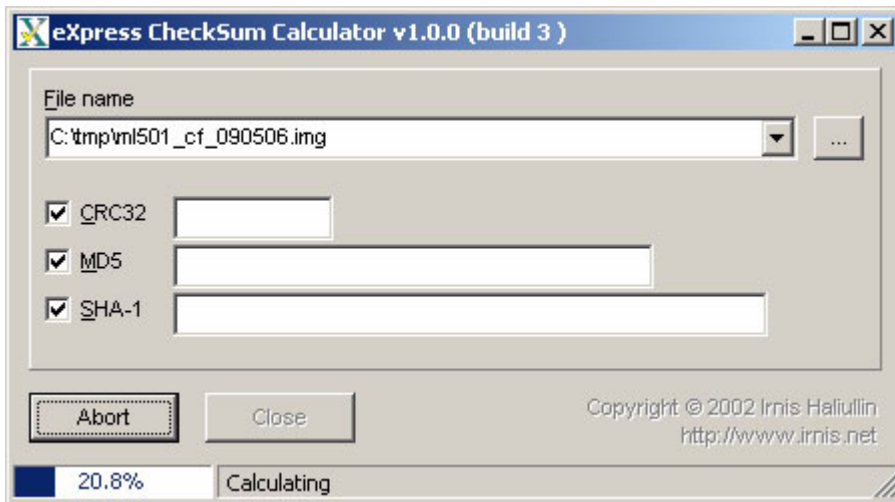


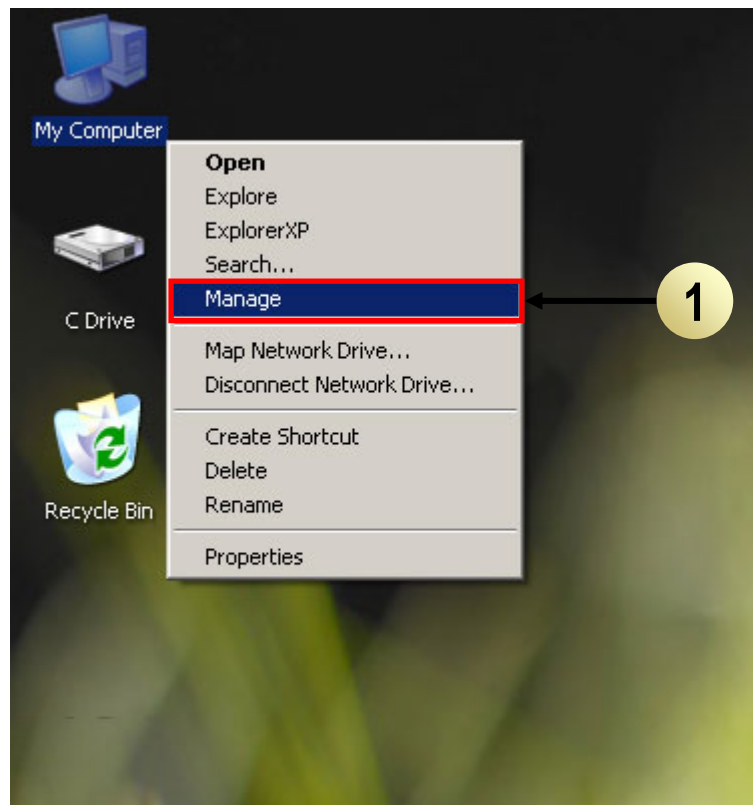
Image Checksum

- Optional - Run **xcsc.exe** on the image
 - These values (1) are for the **ml501_cf_090506.img**
 - The image CRC can be found on the download page for that specific image



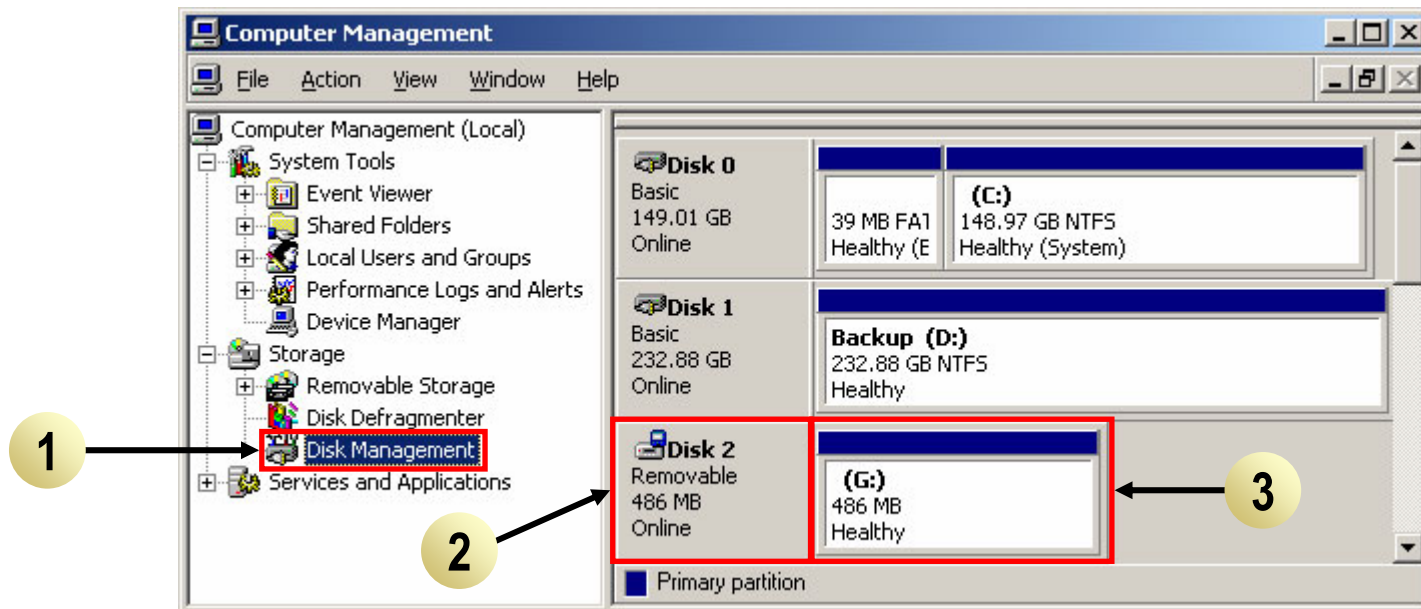
Determining the Drive Number

- Right click My Computer and select **Manage** (1)



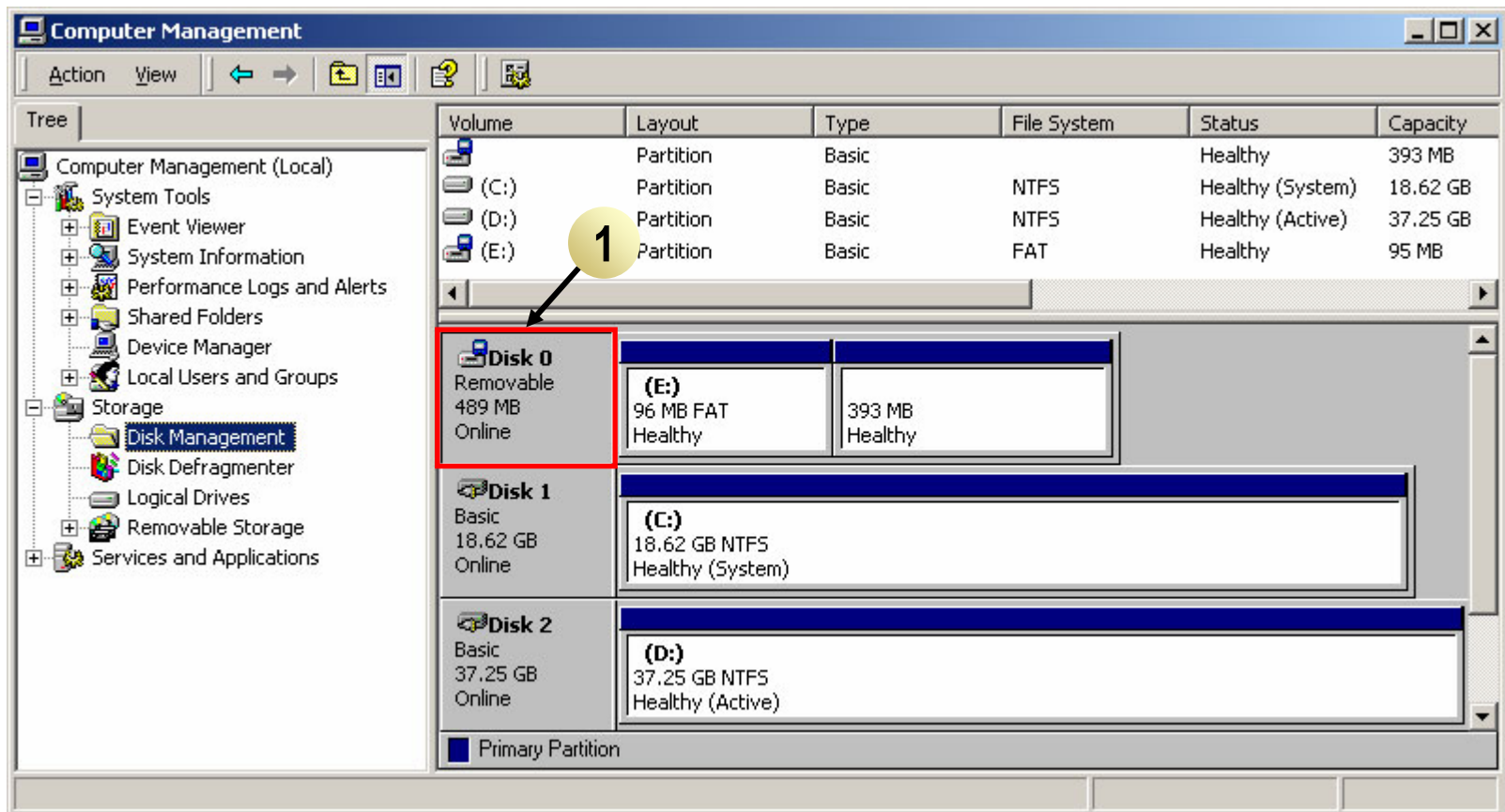
Determining the Drive Number

- Select **Storage -> Disk Management** (1)
- In this case, the CompactFlash's Drive Number is "2" (2)
 - May have a different number on your system
 - This number may change after a reboot or hardware change, so always check
 - The partitioning (3) may look different (two instead of one)



Determining the Drive Number

- The Drive number for the CompactFlash can vary from PC to PC
 - The Drive number in this case is “0”

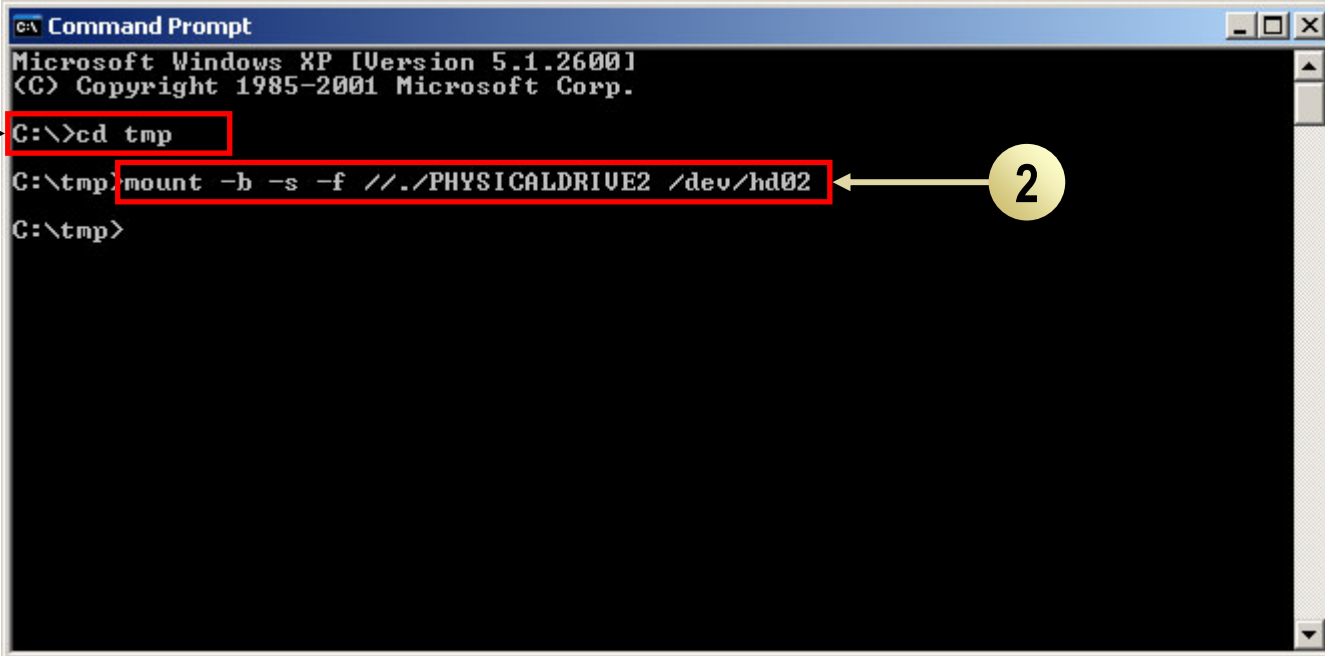


Mount the CompactFlash

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

mount -b -s -f //./PHYSICALDRIVE x /dev/hd0 x

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



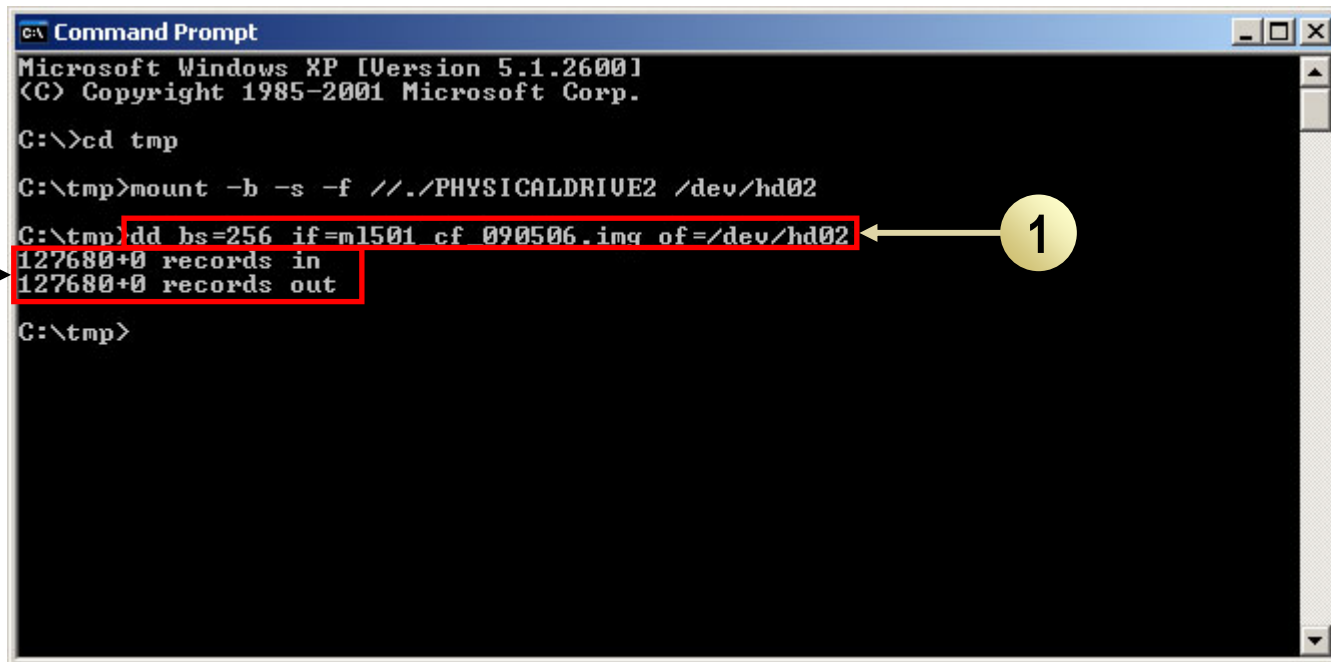
```
Command Prompt
Microsoft Windows XP [Version 5.1.2600]
(C) Copyright 1985-2001 Microsoft Corp.

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

The screenshot shows a Windows Command Prompt window. The first command, `cd tmp`, is highlighted with a red box and a yellow circle labeled '1' with an arrow pointing to it. The second command, `mount -b -s -f //./PHYSICALDRIVE2 /dev/hd02`, is also highlighted with a red box and a yellow circle labeled '2' with an arrow pointing to it.

Image the CompactFlash

- Write the disk image to the CompactFlash card (1)
dd bs=256 if=ml501_cf_090506.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 XP [Version 5.1.2600]
(C) Copyright 1985-2001 Microsoft Corp.

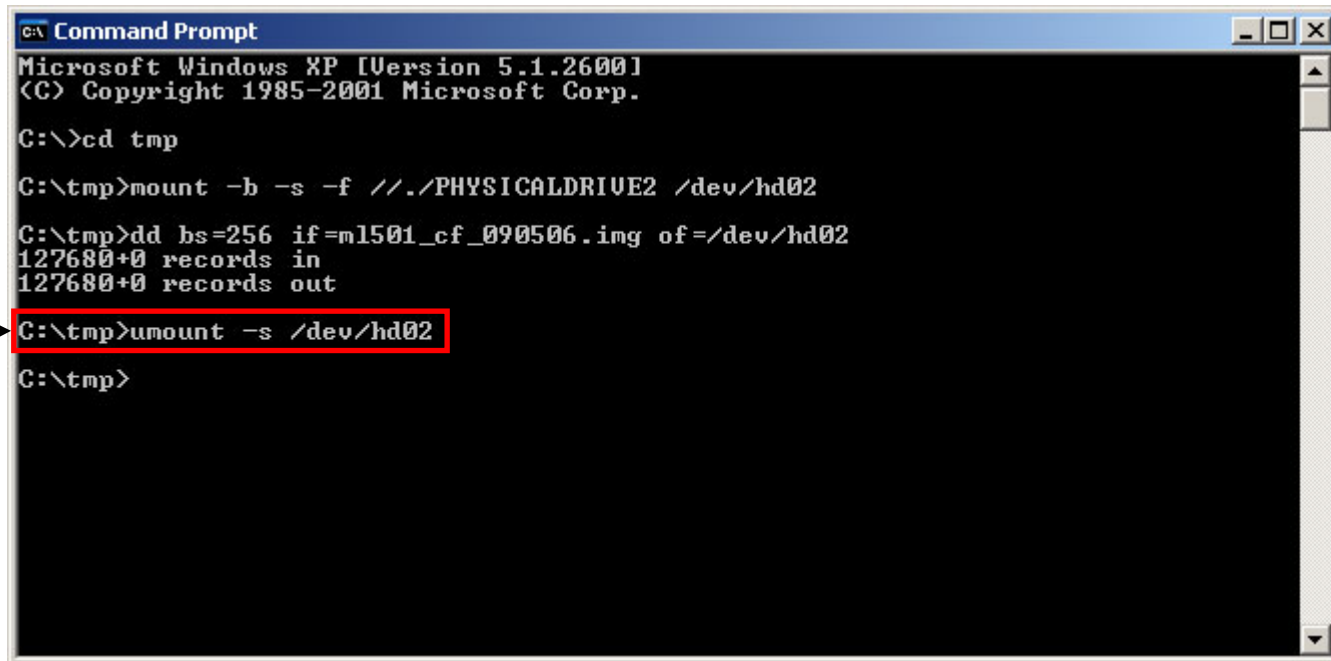
C:\>cd tmp
C:\tmp>mount -b -s -f ../PHYSICALDRIVE2 /dev/hd02
C:\tmp>dd bs=256 if=ml501_cf_090506.img of=/dev/hd02
127680+0 records in
127680+0 records out
C:\tmp>
```

Unmount the CompactFlash

- Unmount the CompactFlash card (1)

umount -s /dev/hd0x

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



```
C:\ Command Prompt
Microsoft Windows XP [Version 5.1.2600]
(C) Copyright 1985-2001 Microsoft Corp.

C:\>cd tmp

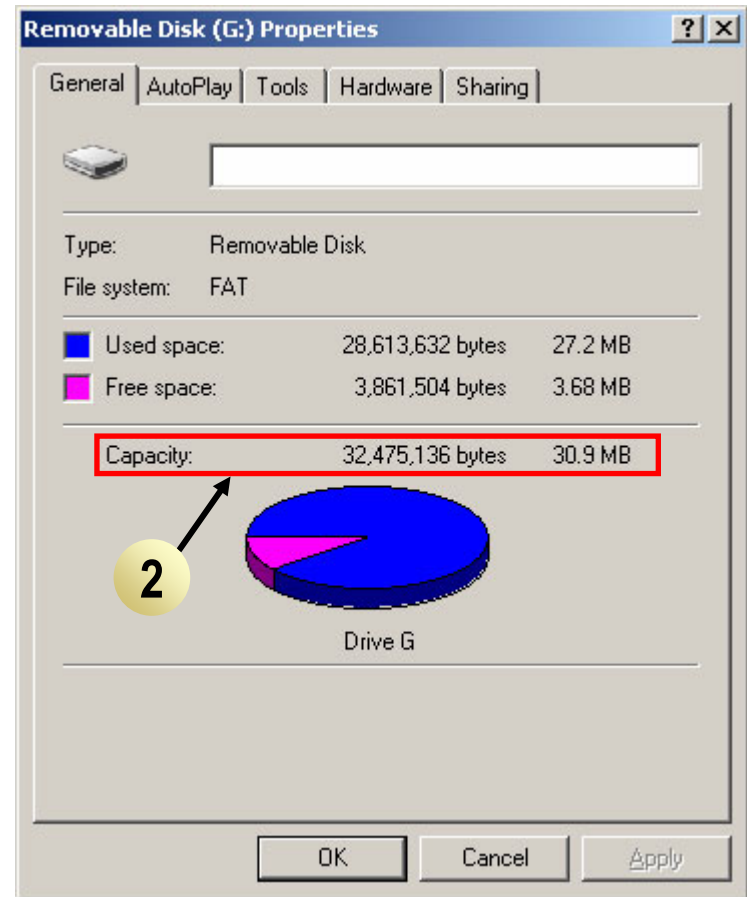
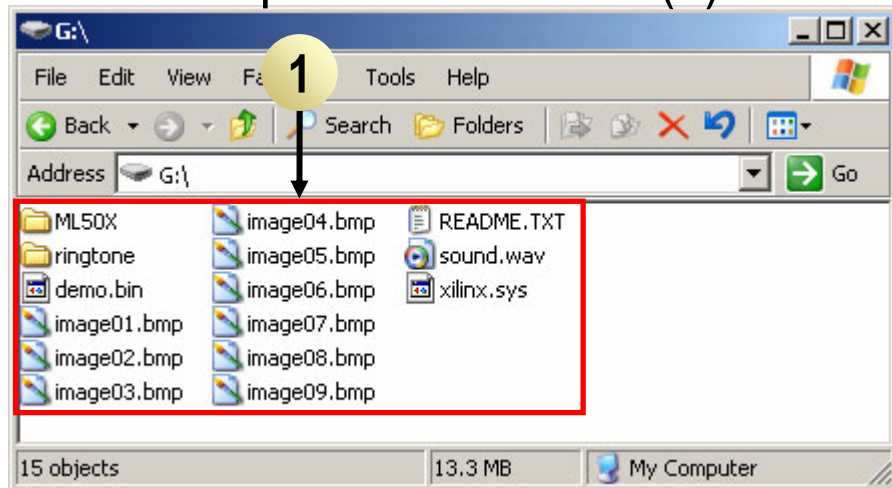
C:\tmp>mount -b -s -f ../PHYSICALDRIVE2 /dev/hd02

C:\tmp>dd bs=256 if=m1501_cf_090506.img of=/dev/hd02
127680+0 records in
127680+0 records out

1 → C:\tmp>umount -s /dev/hd02
C:\tmp>
```

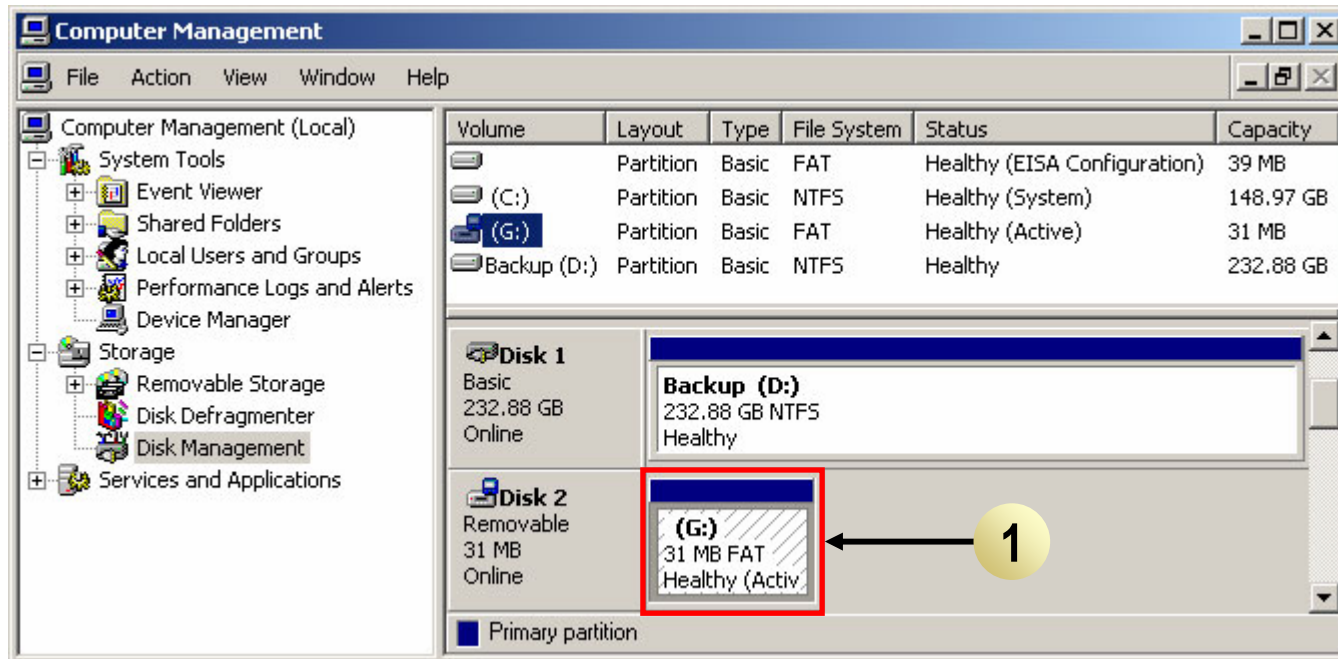
Drive Contents

- 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 30.9 MB space on the disk (2)



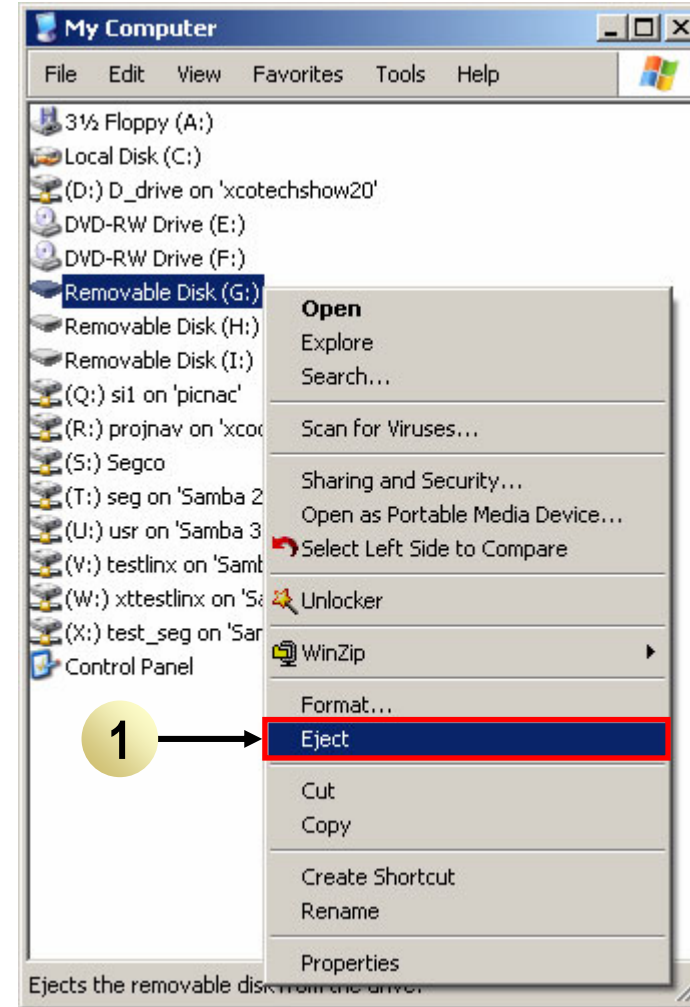
Drive Partitions

- After imaging, one partition will appear on the CompactFlash (1)



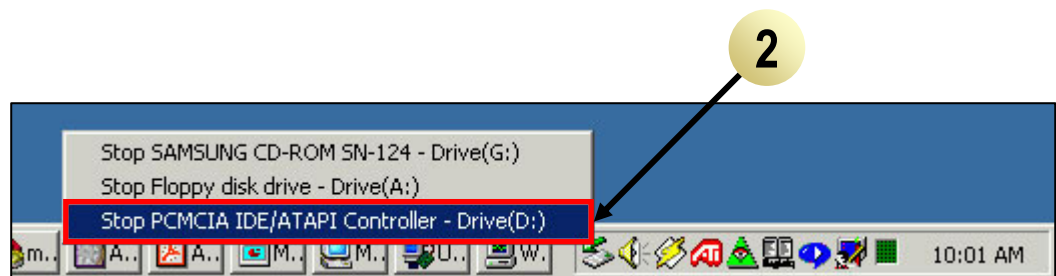
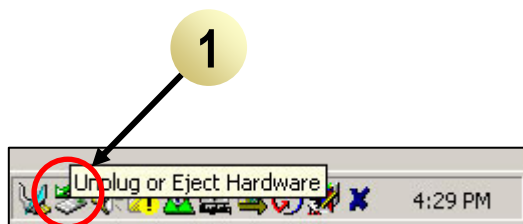
Remove the CompactFlash

- 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



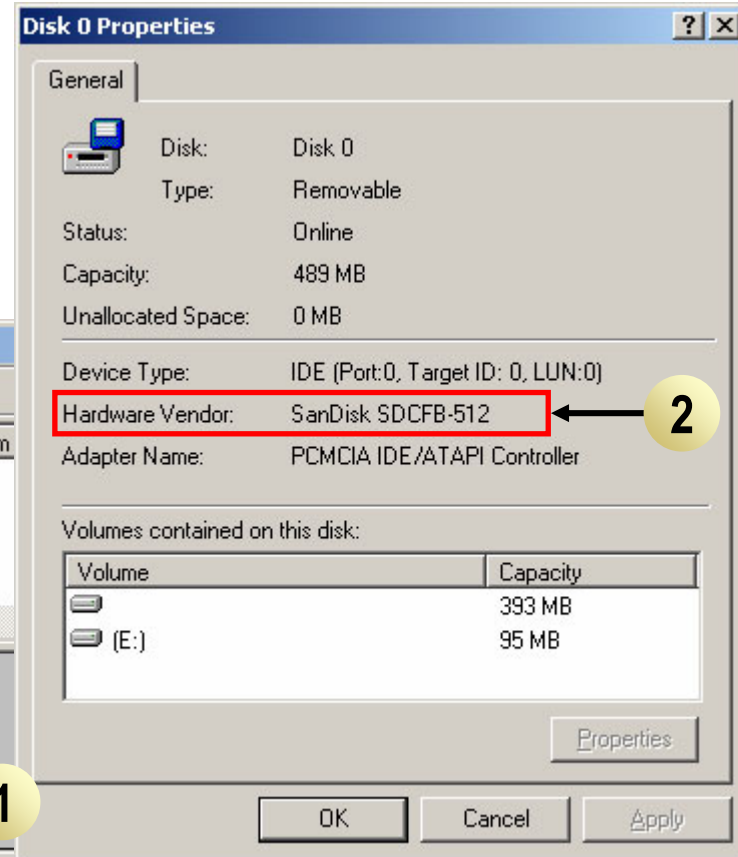
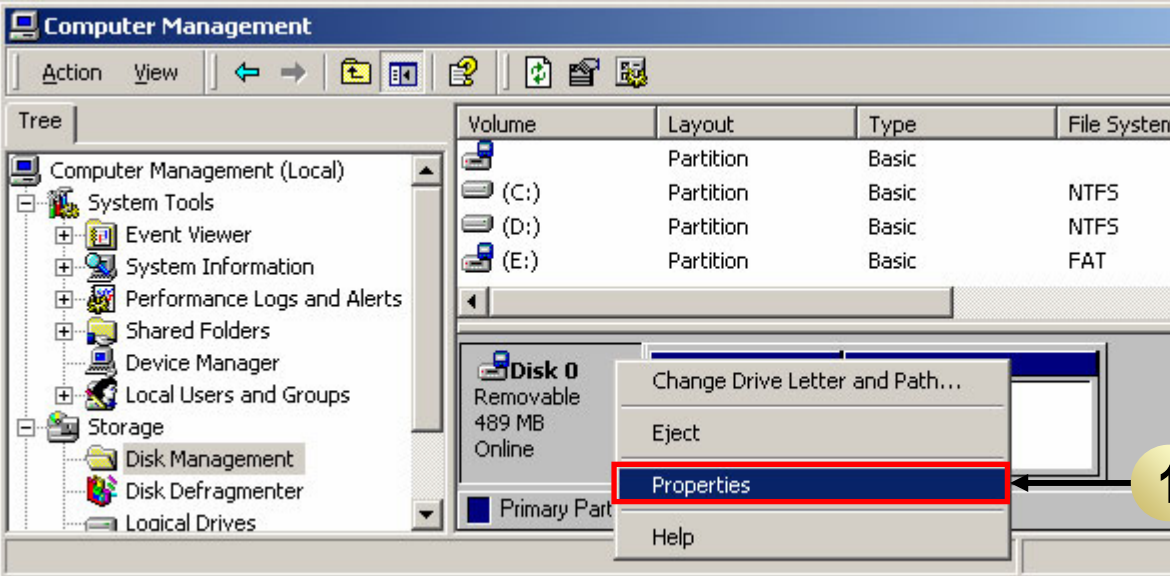
Remove the CompactFlash

- 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)



Documentation

- ML501
 - ML501 Overview
<http://www.xilinx.com/ml501>
 - ML501 User Guide – UG226
<http://www.xilinx.com/bvdocs/userguides/ug226.pdf>
 - ML501 Getting Started Tutorial – UG228
<http://www.xilinx.com/bvdocs/userguides/ug228.pdf>
 - ML501 Schematics
http://www.xilinx.com/bvdocs/userguides/ml501_20061010_bw.pdf