This is a request by baycityanri. In his W95 Pcem tutorial thread, he was asking if I could help with W98SE, so I decided to write this tutorial for everybody. I will assume that you already have all the roms you need in your roms folder, if not, you need those first!

Things we need:

- A romset for the different machines Pcem supports. You'll have to google them.

- Drivers for Voodoo, 2D graphics (Just in case, W98 should already come with these) and DirectX 7.

DL: https://mega.nz/#!8gBQ2IAZ!bKNqBlirD1a2VpDBYtnNHfpISzTULlm5nR4H8bN5KUo

- PloP Boot Manager Floppy disk.

DL: https://mega.nz/#!Y1gACDBZ!9Qp1hApo49ibtuIGGdPfRthcaZaAg216QNq3aoFzcXU

- Windows 98 SE (Bootable).

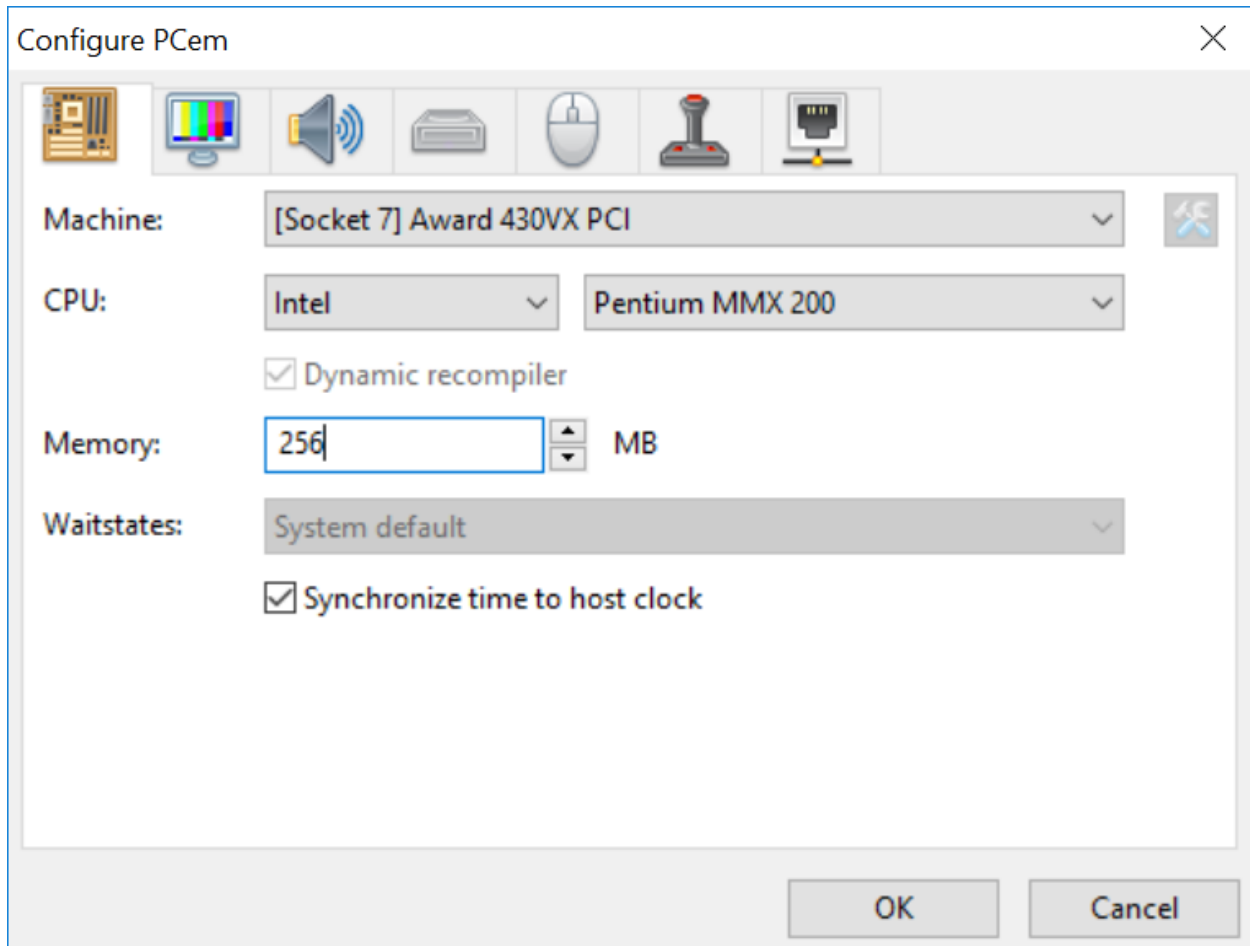DL: https://uplod.org/tkx5baea2piu

1. Configuring PCem

The first thing we always do when building a PC is putting the hardware we will use together. Pcem is no different in this regard, as changing hardware post OS install will only create problems. So, let's begin by configuring our emulator.
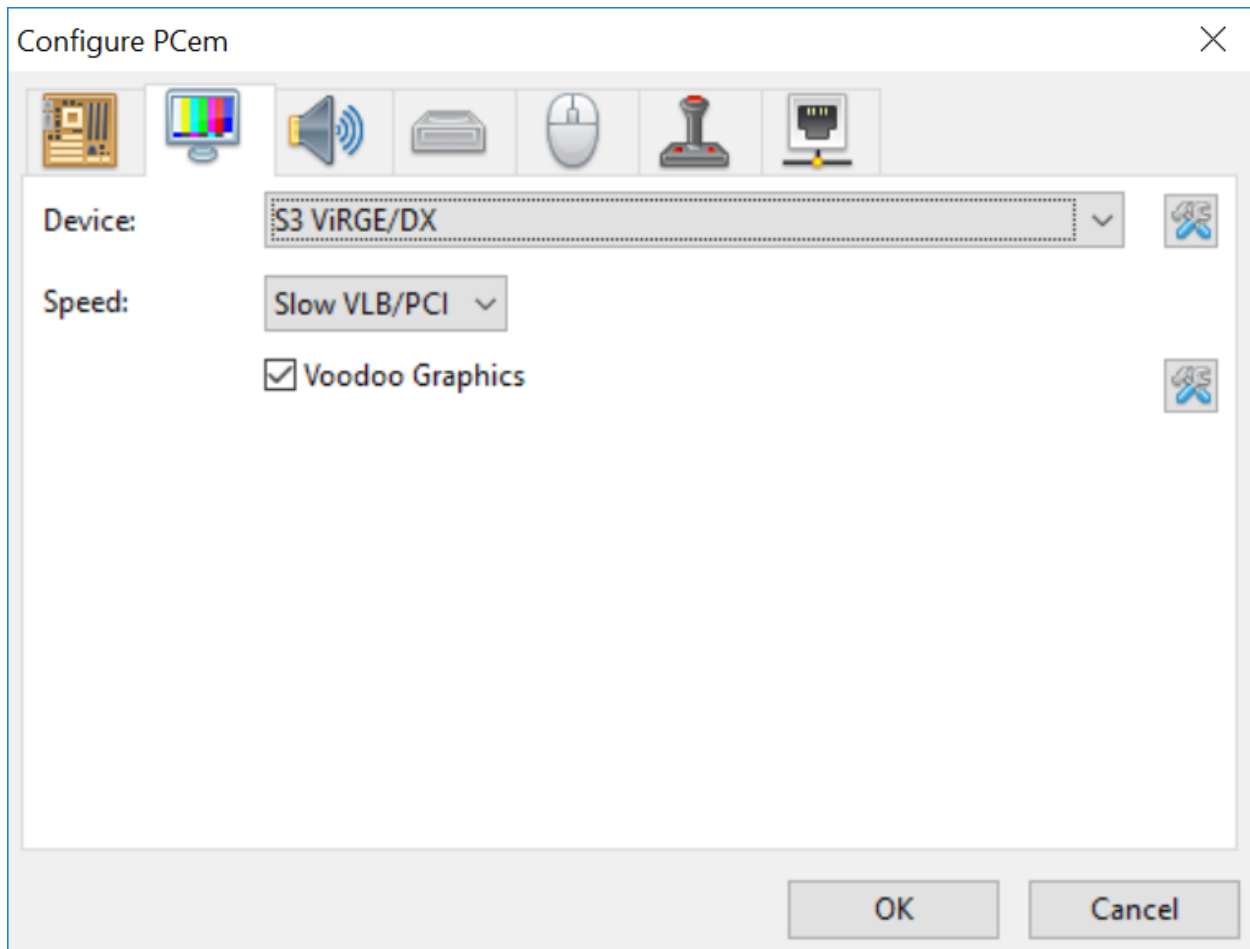
The first thing you gotta do is create your profile. Call it anything you want.

Now enter the configuration for your profile. And set all the settings as the images indicate.

[CPU]

Configure PCem   ✕

Machine: [Socket 7] Award 430VX PCI   ⌄

CPU: Intel   ⌄   Pentium MMX 200   ⌄

             ☑ Dynamic recompiler

Memory: 256   ⬍   MB

Waitstates: System default   ⌄

             ☑ Synchronize time to host clock

                                    OK   Cancel

[GPU]

Configure PCem   ✕

Device: S3 ViRGE/DX   ⌄   🔧

Speed: Slow VLB/PCI   ⌄

                 ☑ Voodoo Graphics   🔧

                                              OK   Cancel

Remember to check Voodoo Graphics, set the configuration for Voodoo as follows.

[Voodoo]

Device Configuration

Voodoo type:	Voodoo 2
Framebuffer memory size:	4 MB
Texture memory size:	4 MB

☑ Bilinear filtering
☐ Screen Filter

Render threads: 2

☐ SLI
☑ Recompiler

OK   Cancel

[Sound]

Configure PCem

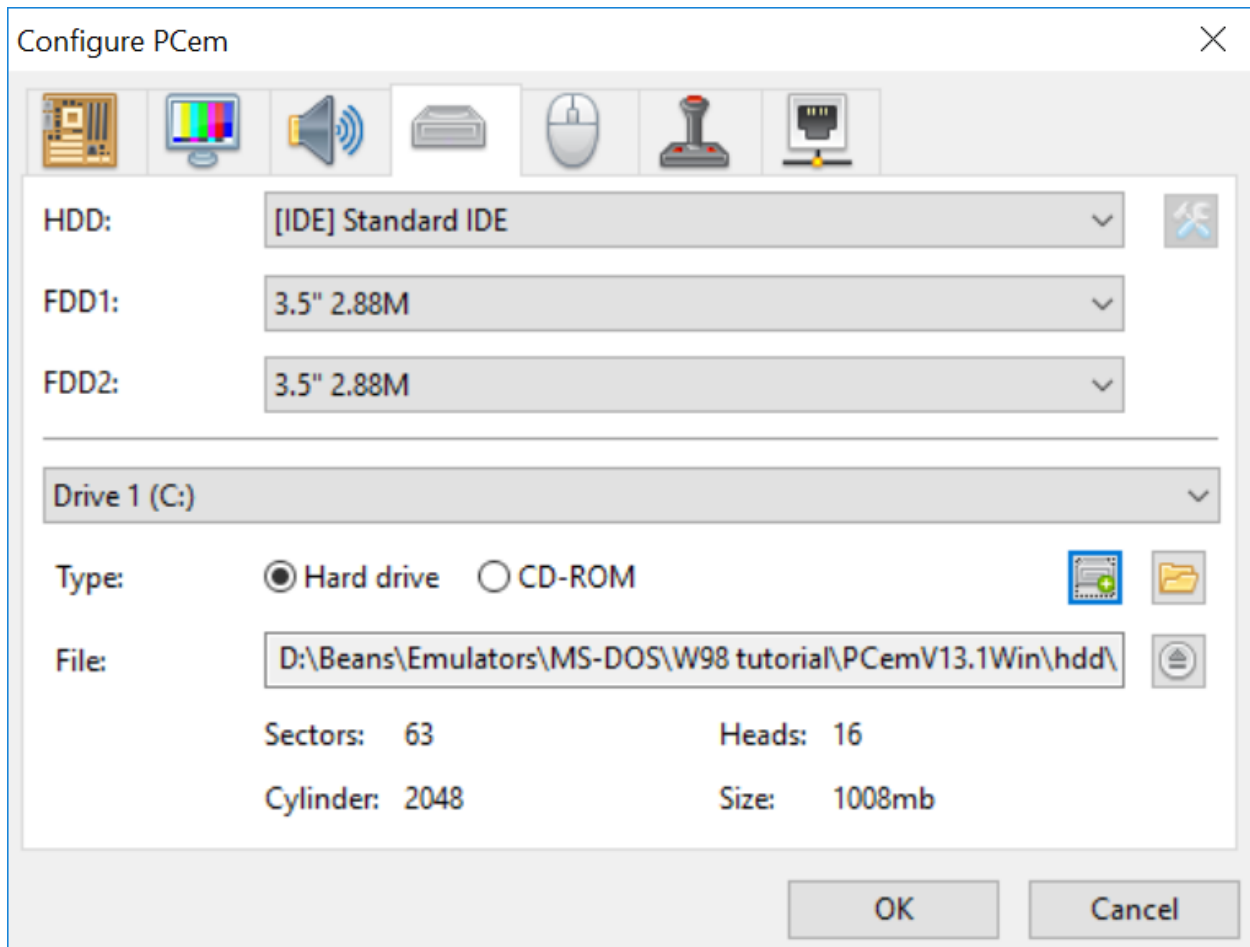Device: Sound Blaster AWE32

☐ CMS / Game Blaster

☐ Gravis Ultrasound

☐ Innovation SSI-2001

LPT Device: None

OK   Cancel
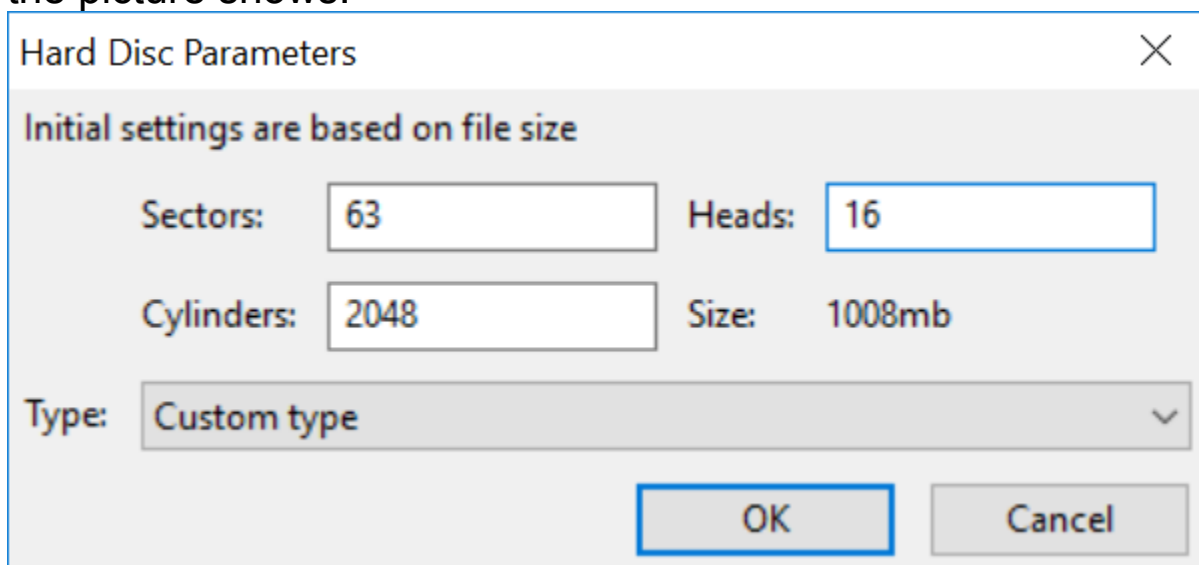
[HDD inputs]

Set Drive C: as the main HDD, Drive D: as CD-ROM. Now create a new Hard drive image for Drive C: and set the parameters as the picture shows.
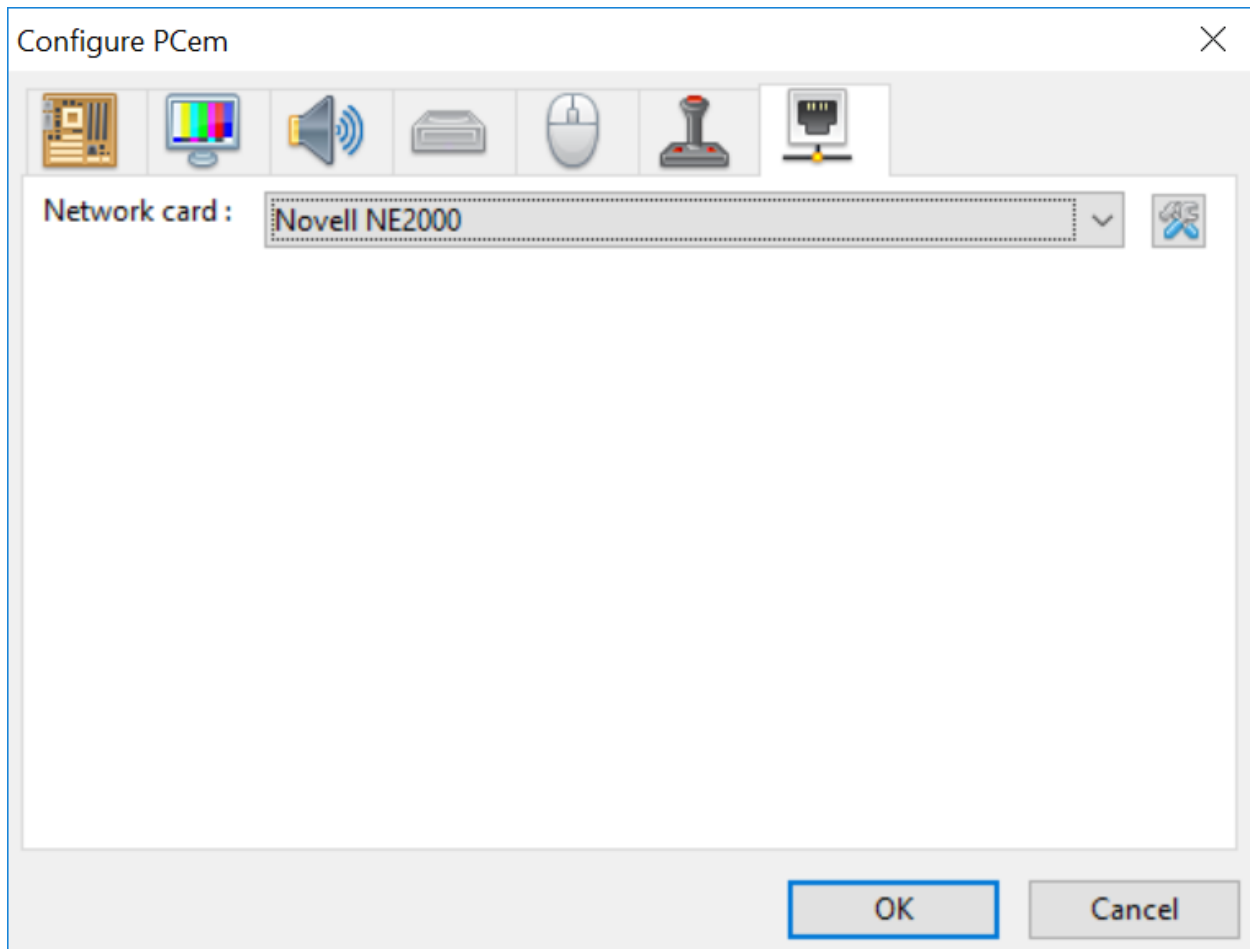
You may set whatever parameters you want if you dislike mine. Here's a reference.

Size	Cylinders	Heads	Sectors
20 MB	615	4	17
30 MB	411	4	38
40 MB	980	5	17
80 MB	832	6	33
120 MB	895	5	55
160 MB	326	16	63
200 MB	683	16	38
250 MB	511	16	63
340 MB	691	16	63
500 MB	1023	16	63
850 MB	1728	16	63
1 GB	516	64	63
1.2 GB	620	64	63
1.6 GB	815	64	63
2.1 GB	1023	64	63

Skip keyboard and joystick unless you really care to change anything here.

Network is optional, however I recommend setting it up nevertheless.

[Network]

Configure PCem

Network card : Novell NE2000

OK   Cancel

2. Installing Windows 98 SE.

We got our PC built, so now we're going to install W98. Boot your profile, and on CD-Rom, mount the W98 iso on the CD-ROM and PloP Boot manager on the floppy drive A. Configure your BIOS to boot from the floppy drive if it's not done automatically and just let it do it's thing.

Once the boot loader shows up, choose CD-ROM, eject floppy drive A and follow the pictures.

Microsoft Windows 98 CD-ROM Startup Menu

1. Boot from Hard Disk
2. Boot from CD-ROM

Enter your choice:

```
Microsoft Windows 98 Startup Menu
================================


    1. Start Windows 98 Setup from CD-ROM.
    2. Start computer with CD-ROM support.
    3. Start computer without CD-ROM support.

Enter a choice: 1











 F5=Safe mode   Shift+F5=Command prompt   Shift+F8=Step-by-step confirmation [N]
```

```
Microsoft Windows 98 Setup
=========================

   Setup needs to configure the unallocated space on your
   hard disk to prepare it for use with Windows. None of
   your existing files will be affected.

   To have Setup configure the space on your hard disk for you,
   choose the recommended option.

  ┌──────────────────────────────────────────────────────────┐
  │ Configure unallocated disk space (recommended).           │
  │ Exit Setup.                                                │
  └──────────────────────────────────────────────────────────┘


   To accept the selection, press ENTER.
   To change the selection, press the UP or DOWN ARROW key,
   and then press ENTER.




ENTER=Continue   F1=Help   F3=Exit
```

Formatting Hard Disk

Please wait; Setup is formatting your hard disk.

Formatting drive C
100% of drive formatted

Windows 98 Setup

- Preparing to run Windows 98 Setup
- Collecting information about your computer
- Copying Windows 98 files to your computer
- Restarting your computer
- Setting up hardware and finalizing settings

Estimated time remaining:

30-60 minutes

Watch here for information about Windows 98 Setup.

Microsoft

Windows 98 Setup

Welcome to Windows 98 Setup.

Congratulations on choosing Windows 98, the software that makes your computer more powerful, reliable, manageable and entertaining.
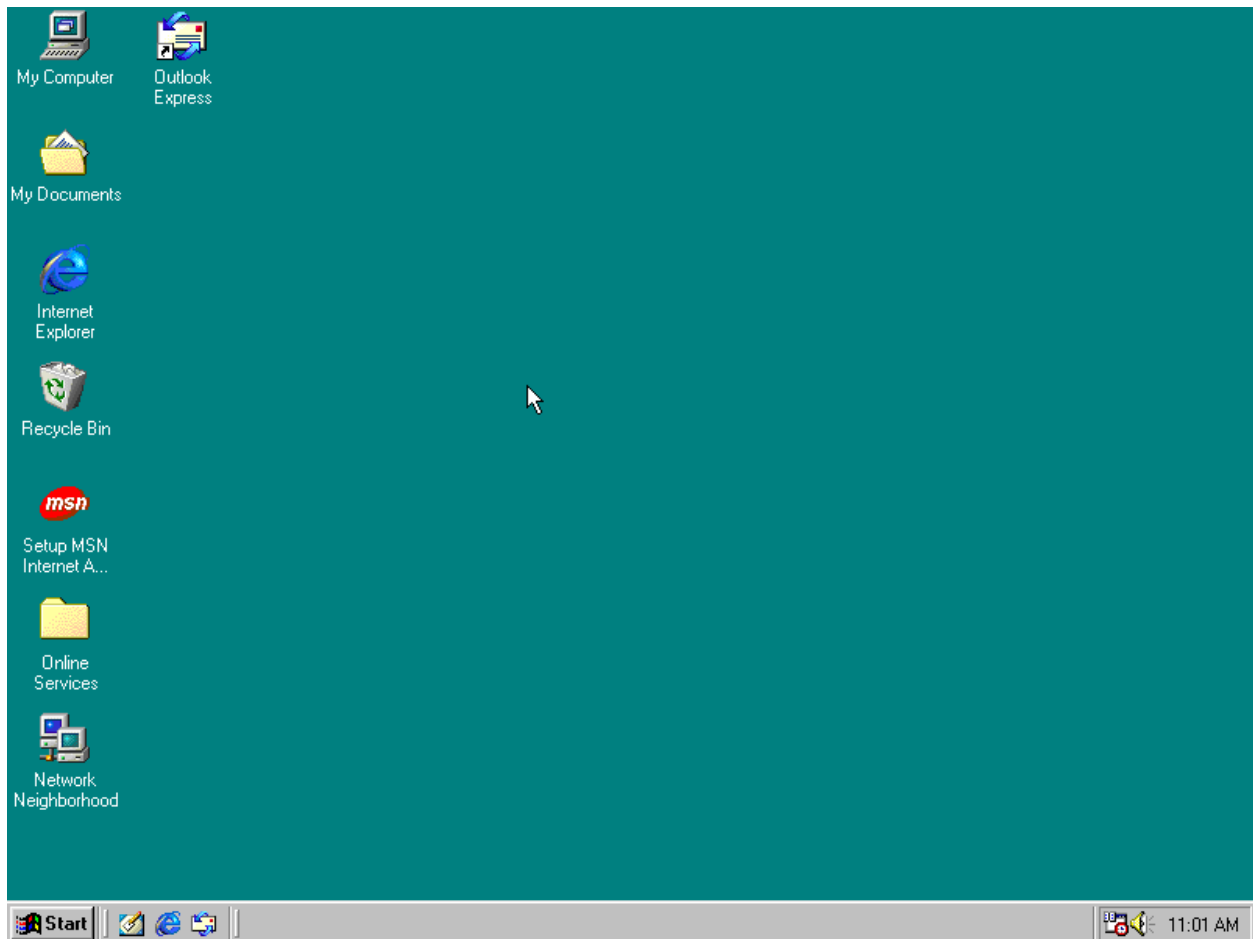
With Windows 98, you can connect to the Internet quickly and easily. And, Windows 98 is even easier to use than Windows 95.

Setup will take from 30 to 60 minutes, depending on the speed of your computer.
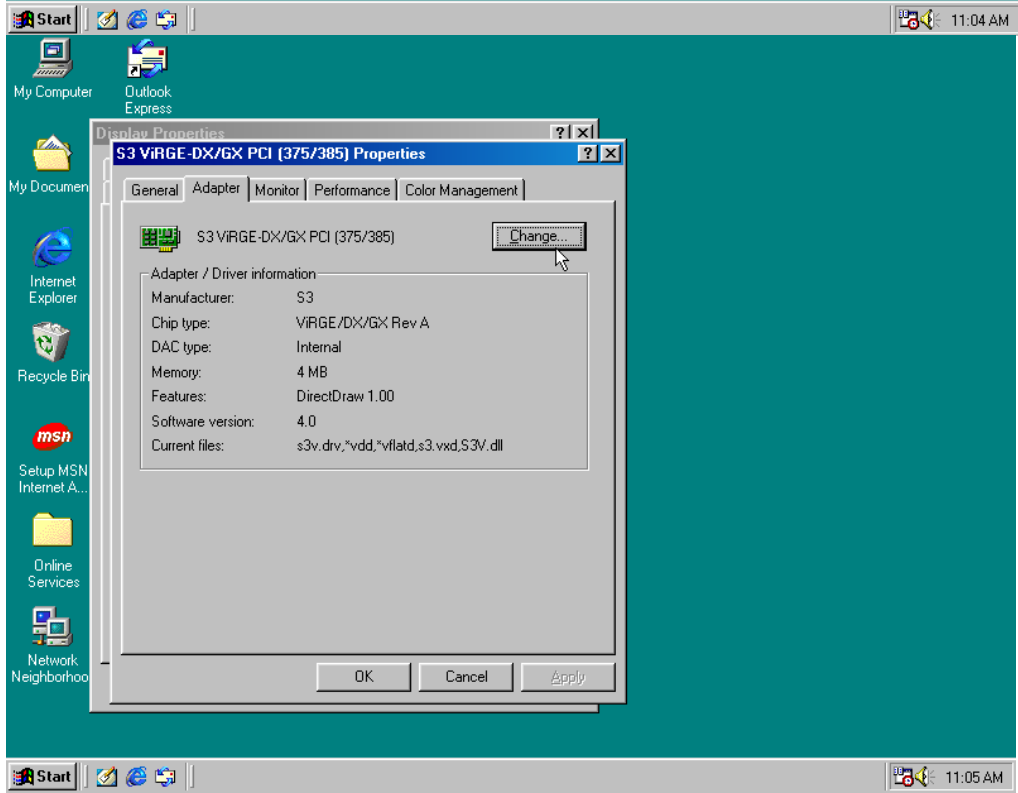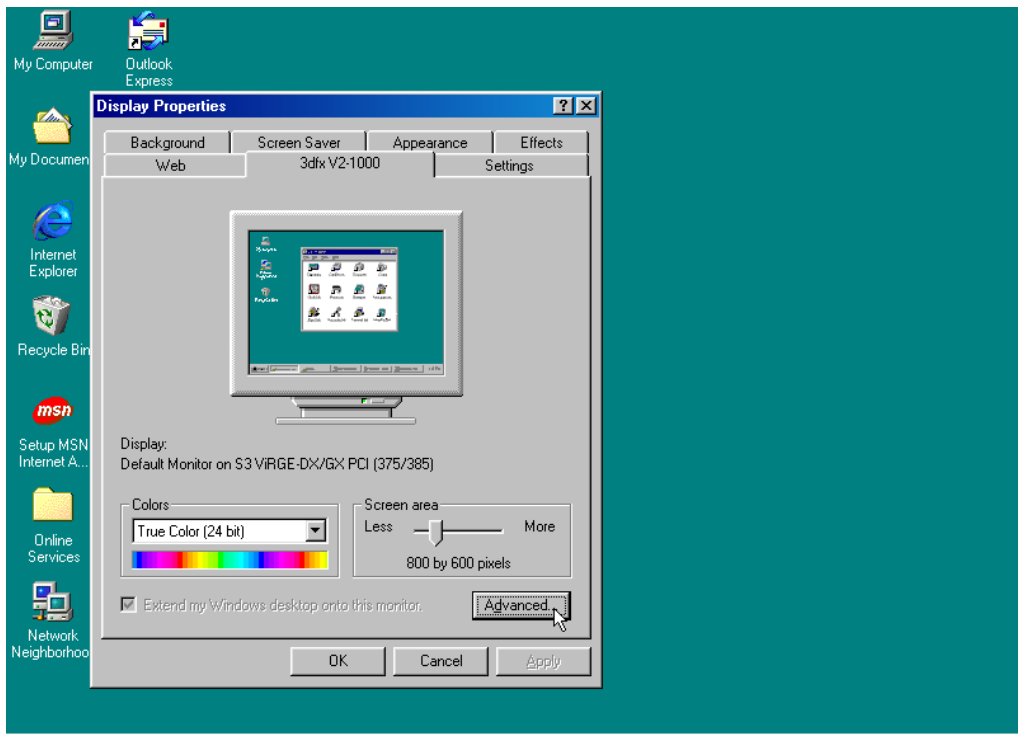
To begin Setup, click Continue.
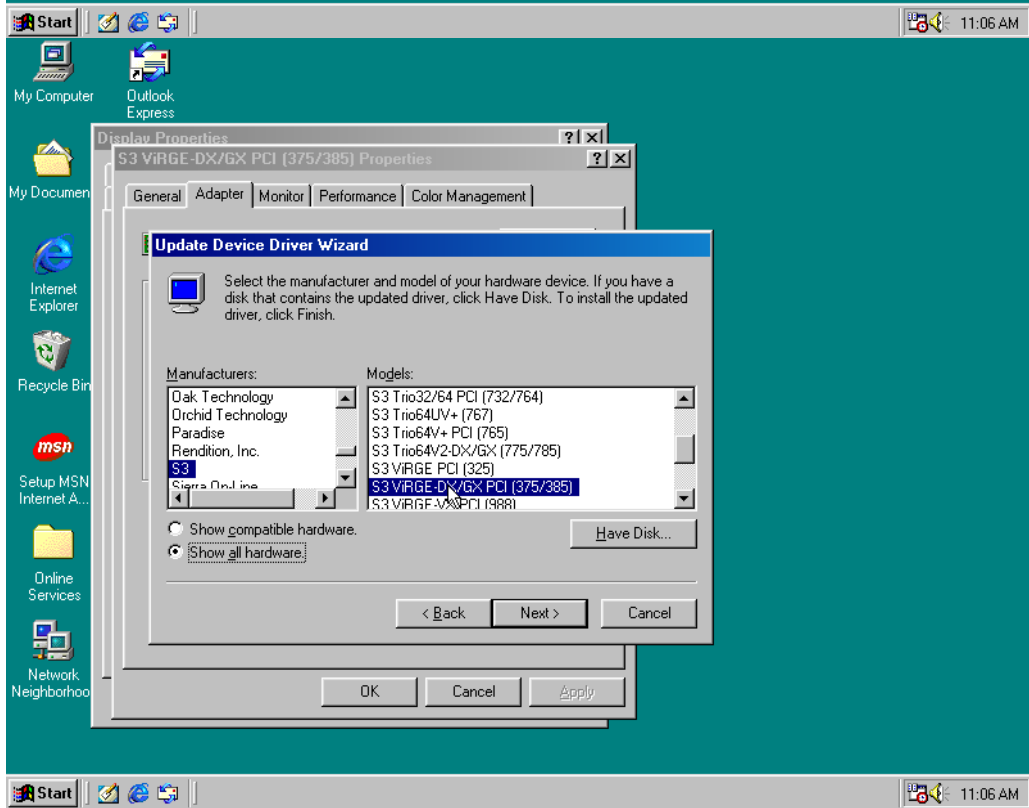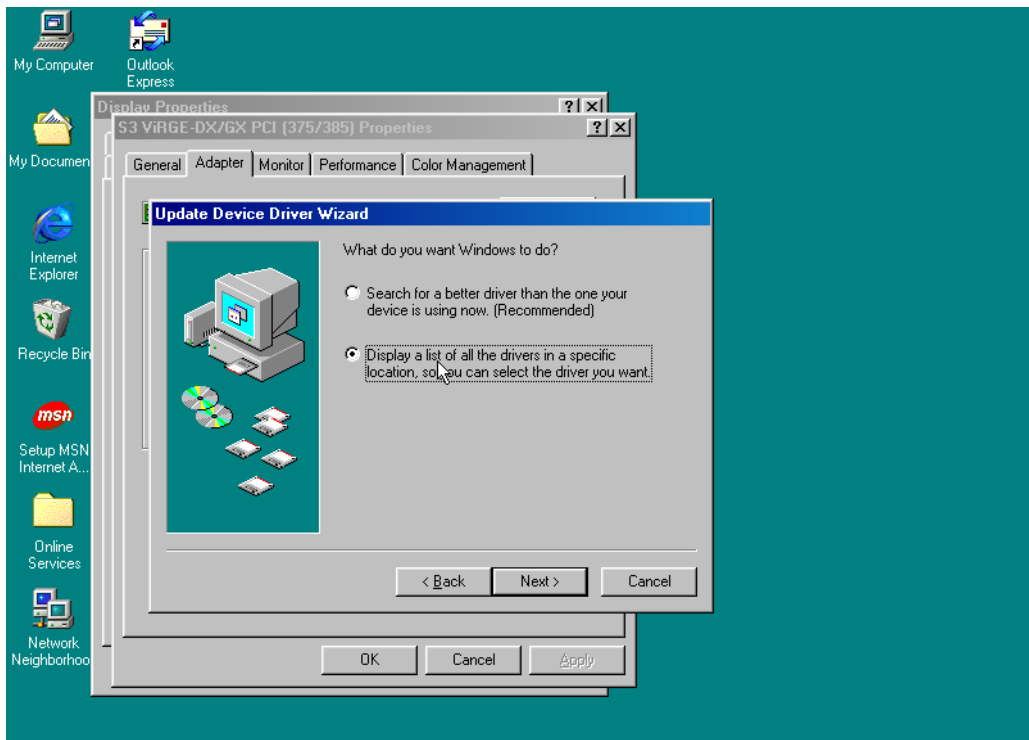
[Continue] [Exit Setup]

From here on out, everything is very straightforward, basically press next next next until you have Windows 98 installed.

3. Windows 98 in the house!

Now that we have Windows 98 up and running, you should be able to play around with it. Right click on the desktop, choose properties and change the resolution to something you like. If for any reason the driver for the S3 Verge did not install, follow the pictures. If all works well, skip to step 4.

My Computer

Outlook
Express

My Documen

Internet
Explorer

Recycle Bin

msn
Setup MSN
Internet A...

Online
Services

Network
Neighborhoo

Display Properties

| Background | Screen Saver | Appearance | Effects |
| Web | 3dfx V2-1000 | Settings |

Display:
Default Monitor on S3 ViRGE-DX/GX PCI (375/385)

Colors
True Color (24 bit)

Screen area
Less ——————— More

800 by 600 pixels

☑ Extend my Windows desktop onto this monitor.   Advanced...

OK   Cancel   Apply

Start   11:04 AM

My Computer

Outlook
Express

My Documen

Internet
Explorer

Recycle Bin

msn
Setup MSN
Internet A...

Online
Services

Network
Neighborhoo

Display Properties

S3 ViRGE-DX/GX PCI (375/385) Properties

| General | Adapter | Monitor | Performance | Color Management |

▦ S3 ViRGE-DX/GX PCI (375/385)   Change...

Adapter / Driver information

Manufacturer:	S3
Chip type:	ViRGE/DX/GX Rev A
DAC type:	Internal
Memory:	4 MB
Features:	DirectDraw 1.00
Software version:	4.0
Current files:	s3v.drv,*vdd,*vflatd,s3.vxd,S3V.dll

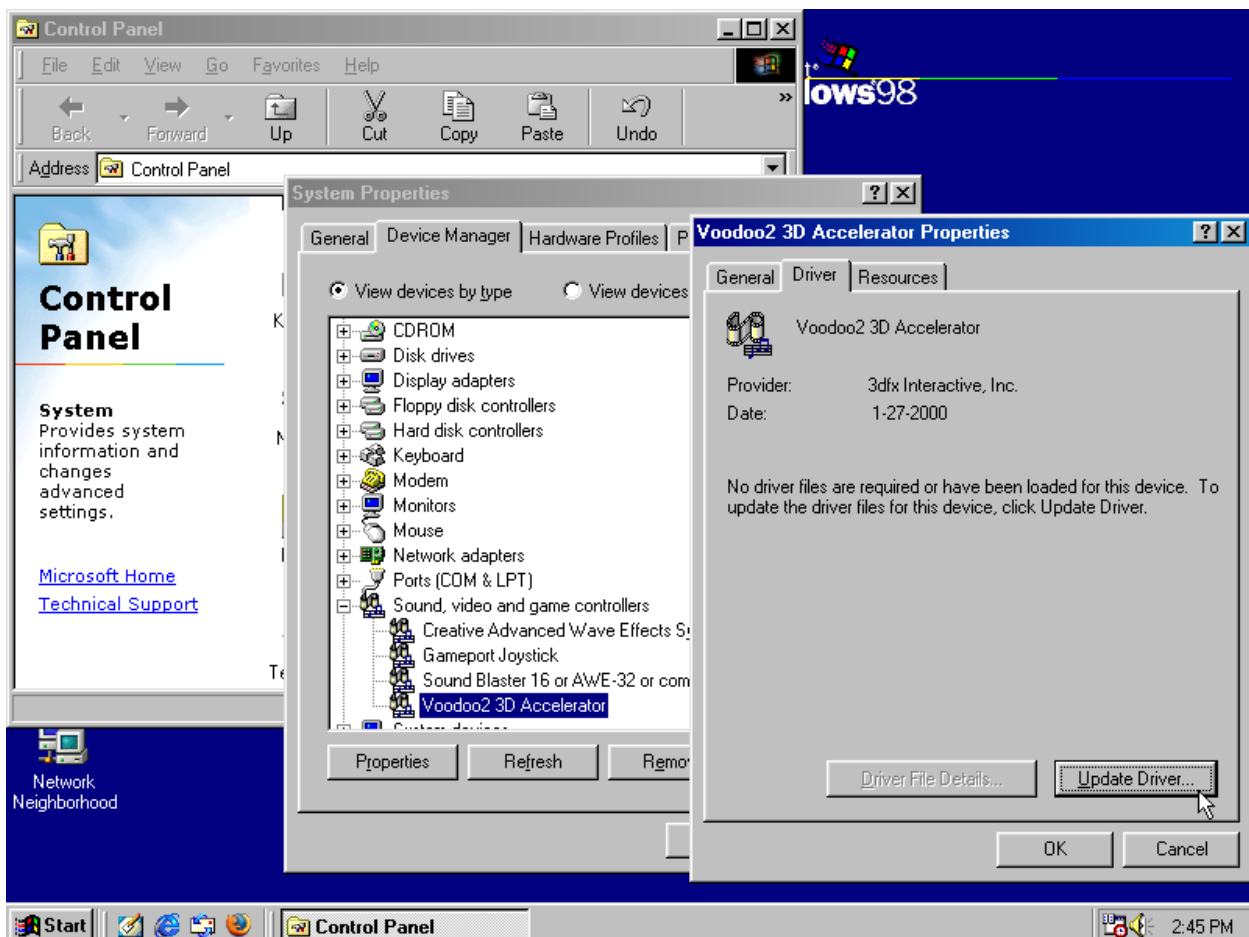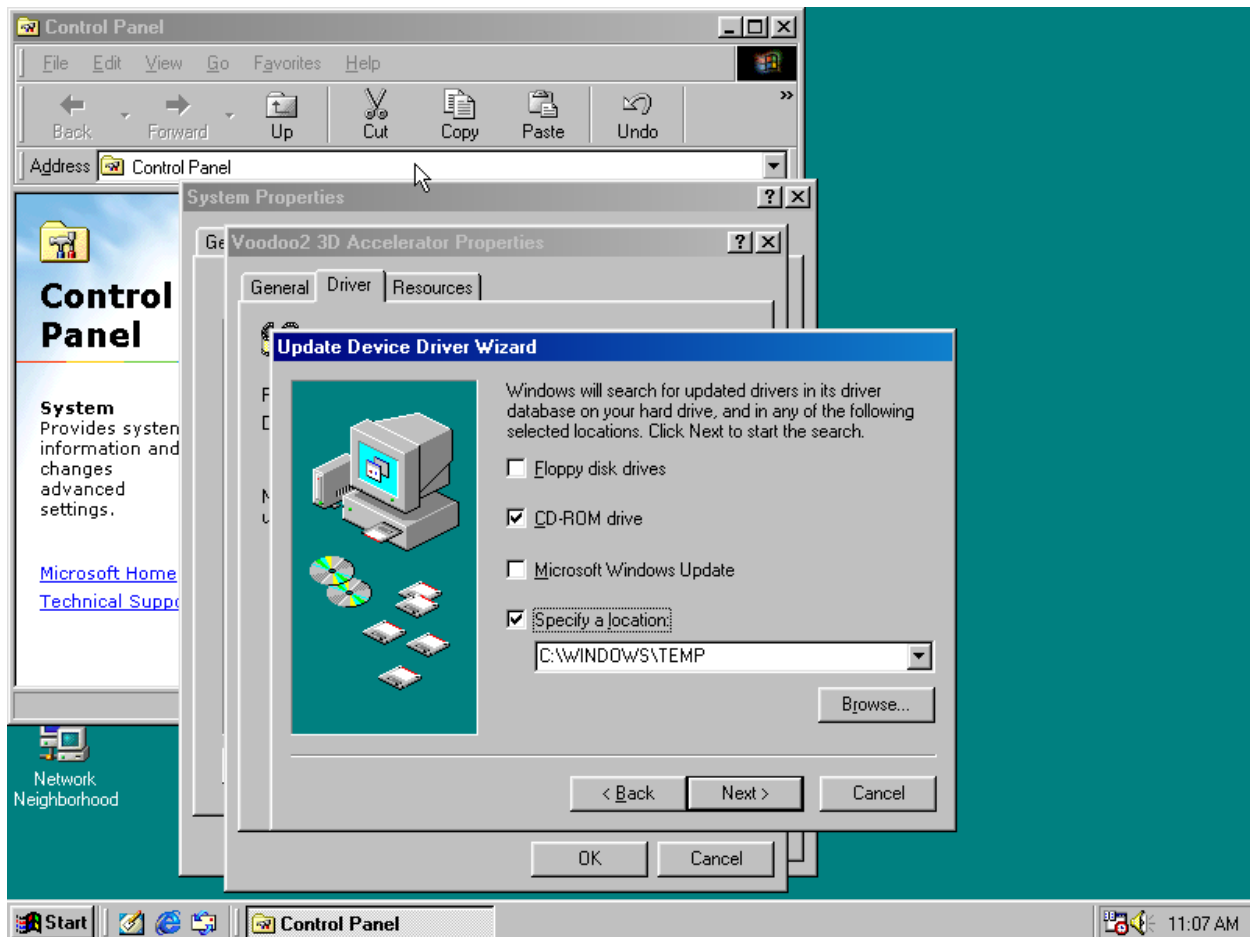OK   Cancel   Apply

Start   11:05 AM

4. Who do you Voodoo b*tch?

Time to install the Voodoo drivers baby! First thing you gotta do is mount the drivers CD image that you downloaded, and go to the Voodoo 2 folder, run the file and let it unzip. It will unzip in C:\Windows\Temp by default, so we're going to use that path.

Now go on control panel, System and go to the Device Manager tab, you should see an unknown device called PCI Multimedia Video Device (In my pic, it shows as Voodoo 3D accelerator because I installed the drivers already). Double click that device, go on the driver tab and click Update driver. Now just follow the pictures.
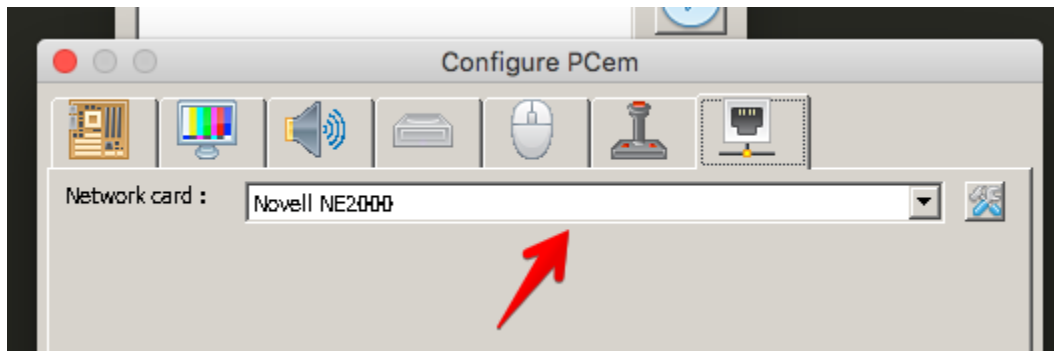
You should be all done now! If there's any drivers required, they will all be in the Windows 98 disc, so just follow the steps to install the S3 Verge drivers, but choose your required device instead. It's quite simple really. Feel free to ask questions.
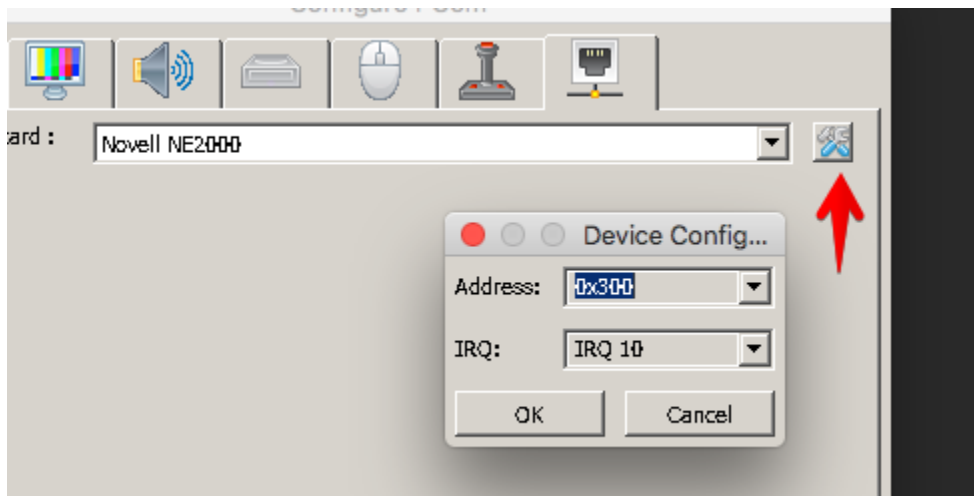
5. Extras!

This is optional but screw it, we're here already so let's make this Windows 98 connect to the interbuttz. Credits go to alexmocanu on the Pcem forums for this networking tutorial.

First install npcap from here: https://nmap.org/npcap/. Make sure you select WinPcap compatibility, otherwise it won't work.

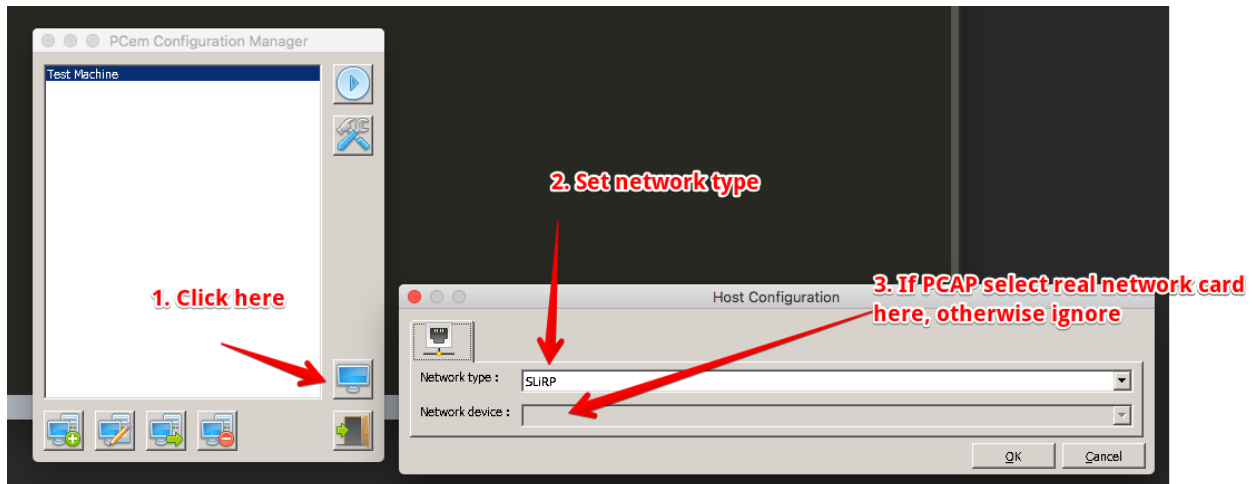Select the Novel NE2000 adapter in PCem.

Click on the nic settings button and copy the IRQ and address values.

By default they are IRQ = 10, Address = 0x300. This is important because the emulated card is not PNP aware and you will have to set these values manually later.
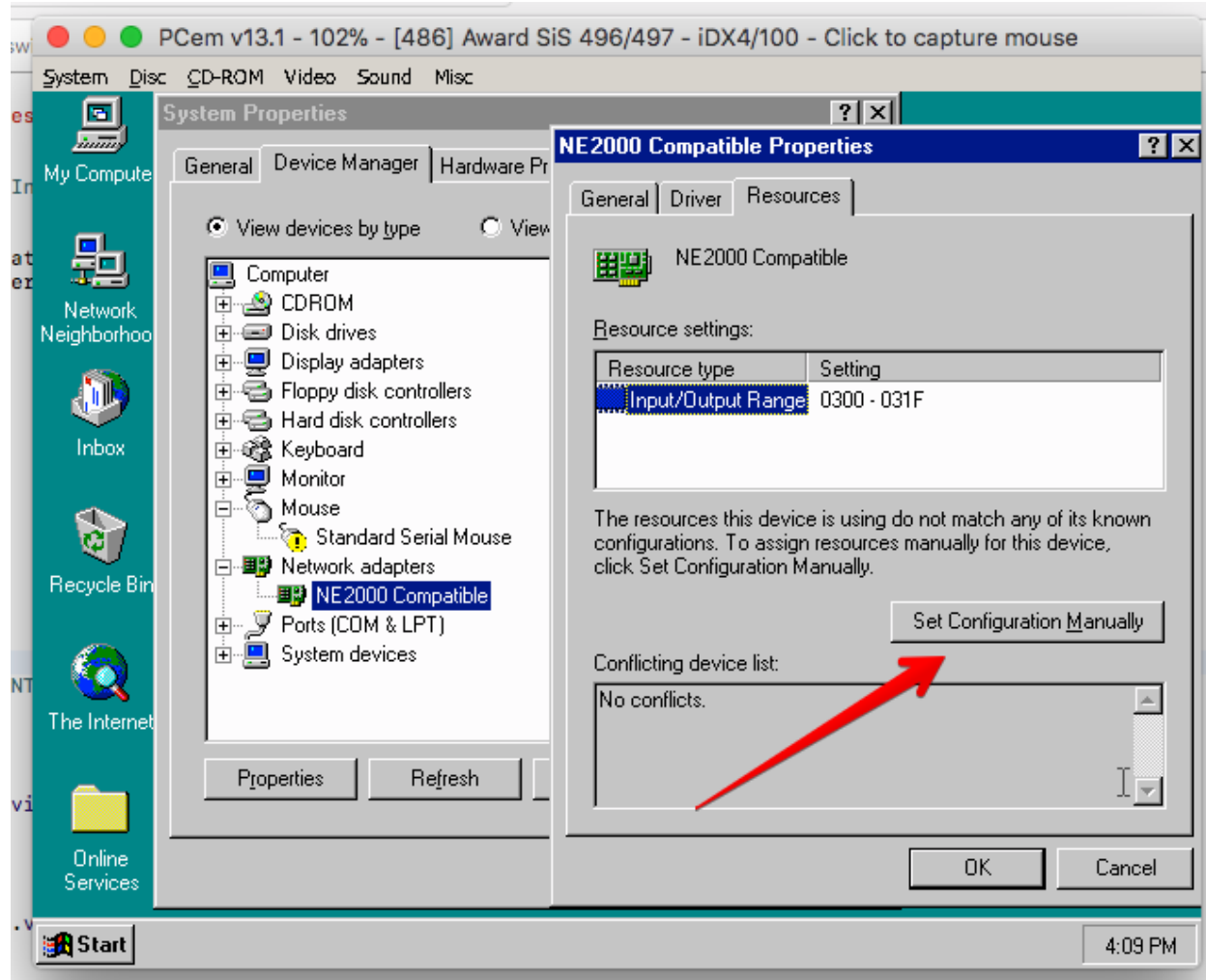
Set network type (SLIRP or PCAP). If you are using PCAP also select the physical network interface you are binding it to.
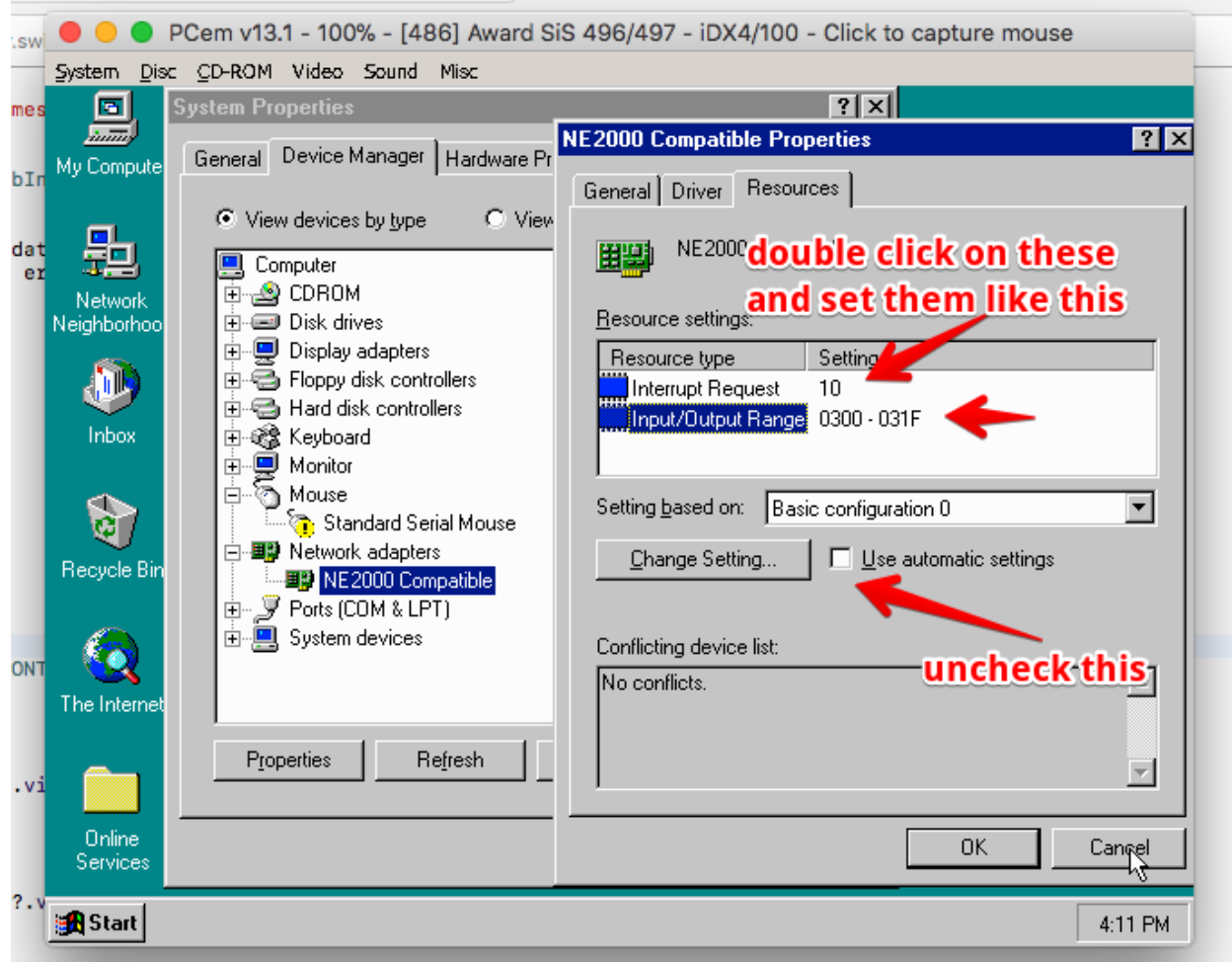
If you are using PCAP please make sure you are using a wired interface, Wifi are kind of hit and miss...

If the "NE2000 Compatible" adapter doesn't appear in the Device Manager then go to Control Panel and use the "Add New Hardware" applet to add it (use auto detection or add it manually, whichever method works for you). You might have to restart your virtual machine after this step ends.

Once the step above is done and the machine restarted, open the device manager, right click on the "NE2000 Compatible" device, select "Properties" and in the dialog that appears click the manual configuration button
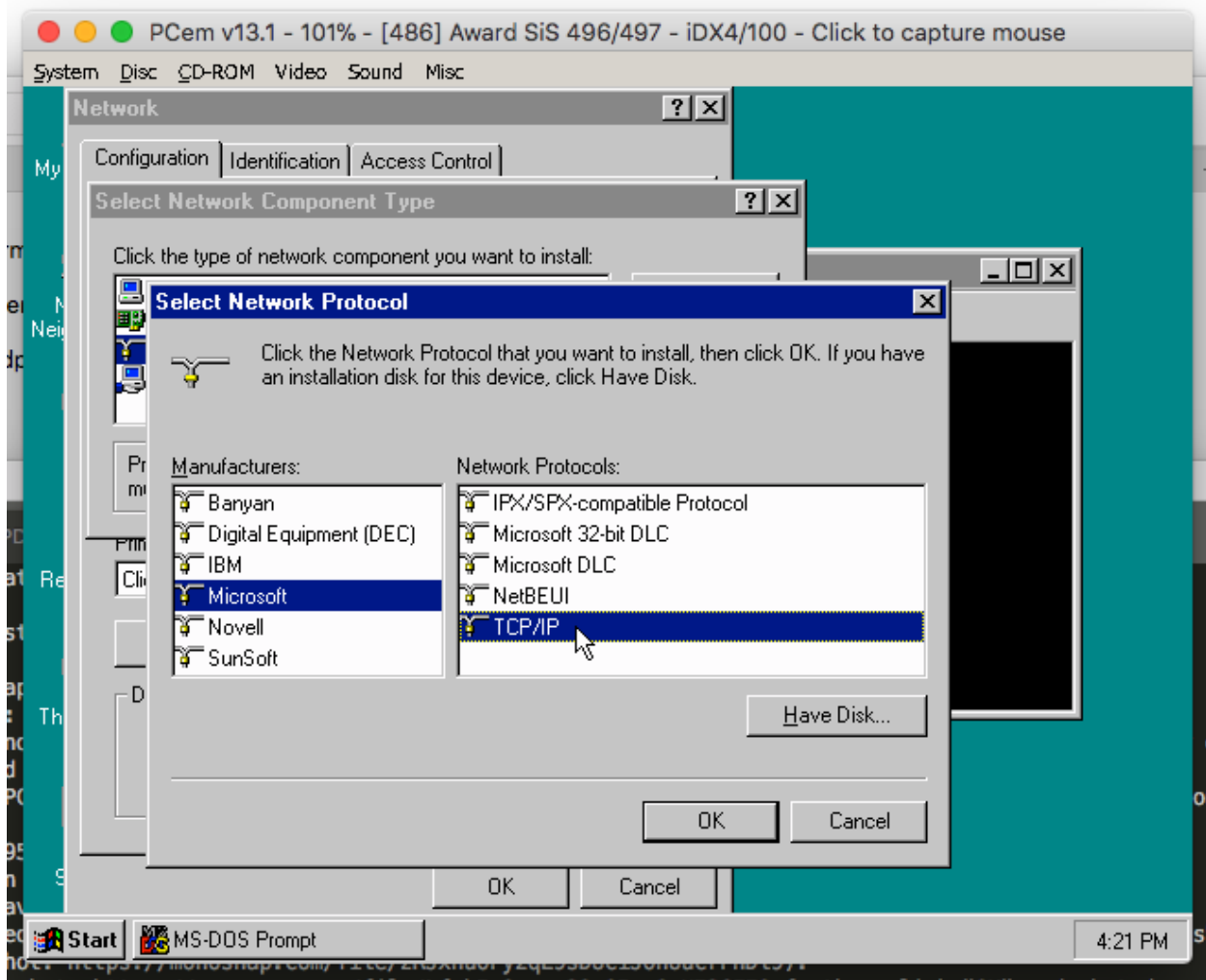
Set IRQ to 10 and address to 300 like in this screenshot:

then click "OK" and shut down the virtual machine when prompted.

boot up the machine then right click on the "Network Neighborhood" icon, select properties and add the TCP/IP Protocol (ADD -> Protocol -> Microsoft TCP/IP). You might have to restart the machine again.

Boot the machine (if needed) and have fun. Networking should be up and running now.

NOTE: If your browser keeps asking you to set dial up. Follow these steps.

Right-click on "Internet Explorer" on your Windows 98 desktop and select "Properties." Open the "Connections" tab in the Internet properties window and click the button "Install" to open the Internet Connection Wizard.

Choose the third option, allowing you to set up your connection manually. Click "Next" and on the next page, choose "I connect

through a local area network (LAN)." Click "Next" again. On the next page, ensure that both boxes are unchecked. Click "Next" once more and on the final page of the wizard, choose "No" and click "Next" and then "Finish" to close the wizard. You should now be able to start surfing the Internet.

NOTE: I recommend using WinCDemu to create ISOS that you can mount on PCem to easily transfer files.

MS-DOS	Games	Play with VLC media player	11:53 AM	File folder
Pictures	PCemV	7-Zip	11:58 PM	File folder
reative Cloud File	Softwa	CRC SHA	8:41 AM	File folder
	W98 tu	Show this folder on the desktop	10:41 AM	File folder
neDrive	KEY.txt	Give access to	10 6:02 PM	Text Document
his PC	plpbt.i	UltraISO	2:31 AM	Disc Image File
	Scumn	Restore previous versions	6:08 AM	Shortcut
3D Objects	Scumn	Include in library	11:19 AM	Shortcut
Desktop	Windo	Pin to Start	1:43 PM	Disc Image File
Documents	window	Build an ISO image	7:49 AM	iso Archive
Downloads		Send to		
Music		Cut		
Pictures		Copy		
Videos		Paste		
Local Disk (C:)		Create shortcut		
WD (D:)				