

# eComStation 1.0

## Manual

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## Chapter 1: Welcome

This manual will try to ease the installation process of eComStation 1.0 onto your system. Please refer to it if you have questions or problems during your install. Especially important are the sections on LVM and the Preboot Menu. Make certain you understand how LVM functions before you make changes to your harddisk.

This manual contains the following sections:

### **Chapter 2: Installation**

Describes how to install eComStation using either CD#1 or CD#2 and how some problems can be avoided.

### **Chapter 3: What's Next?**

Will talk about how to add support for several hardware items and will touch shortly on the installation of additional applications.

### **Chapter 4: Getting Connected**

Explains briefly how to get connected to the Internet and your Local Network. Also contains a few tips on networking within a Windows Environment.

### **Chapter 5: Getting Involved**

Describes some ways you can help to support the development and evolution of eComStation

### **Appendix A: License Agreement**

### **Appendix B: Trademarks**

Contains Trademark notices and Acknowledgements

### **Appendix C: LVM**

Describes in detail the usage of the LVM program

### **Appendix D: Preboot Menu**

Explains the options available at the advanced boot menu when you start from eComStation CD#1

### **Appendix E: Troubleshooting**

Lists some frequently asked questions and answers. Consult this section if you have problems!

### **Appendix F: Getting Support**

Points you to the available documentation on the several CD's.

### **Appendix G: Coexisting with other OSes.**

Contains some tips on setting up eComStation alongside other Operating Systems.

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## Chapter 2: Installing eComStation

This chapter will describe in some detail the several installation options you have and guide you step by step through the installation process of eComStation.

### Getting started

Your eCS package consists of three CD's:

CD #1 contains the eComStation installer  
CD #2 contains the IBM (Merlin Convenience Pak) installer  
CD #3 contains all of the bonuspak applications

### Which Installation CD should I use?

If you are planning to install eComStation on your system and you want to upgrade your existing OS/2 Warp 4, eComStation Preview 1,2 or 3 installation, or if you have less than 64 MB of RAM in your system, you are advised to use CD#2 for the installation. If you are going to install eCS on an empty harddisk or volume (partition), it is advised to use the more convenient eComStation installer found on CD#1.

### Start your installation

To start the installation process, the computer needs to boot from the installation CD. Insert CD 1 or 2 and hit the reset button or turn off your computer and turn it on again. Some computers only scan the CD ROM for a CD to boot from when they get a "cold boot". If your system boots successfully from CD 1 or 2 you will be prompted with an option menu. CD#1 will let you choose between the normal boot (option 1) and the advanced boot menu (option 2 - see *D* for more information). The default is boot from harddisk (option 3). When booting from CD#2 you will be presented with an option menu that will let you choose to boot from CD (option 1) or harddisk (option 2).

With both CD's, you should make your choice within 10 seconds. If you do not select an option within 10 seconds, your system will proceed with the default action, which is to boot from harddisk.

*If you do not see one of these option screens to boot, please refer to the installation troubleshooting section in Appendix E*

If you are unable to boot from one of the installation CD's you will have to create BOOT diskettes.

### Creating boot diskettes from CD#1

1. Run `makedisk.bat` on a DOS based machine on which you have CD ROM access. Or run `makedisk.cmd` on an OS/2 based machine on which you have CD ROM access. This will create a bootdisk set with an advanced menu option. For more information about the advanced boot menu, please read *Appendix D*.
2. Run `mdnocsm.bat` on a DOS based machine on which you have CD ROM access. Run `mdnocsm.cmd` on an OS/2 based machine on which you have CD ROM access. This will create a set of bootdisks without an advanced option menu. This diskset should be sufficient for computers with only IDE disk controllers.
3. Boot from CD#1 on a different computer. Wait for the desktop build process to finish. In the "eComStation Install Program", select the option menu and choose "Create Installation Diskettes". Then click on the create button. After the process has finished you have a set of diskettes with the advanced boot menu. To remove the advanced boot menu from the disk, press the button config.sys. You can press the "Remove CSM" button. You will be prompted with a preboot screen (for more information please see *appendix D*). If you do not need to apply any changes, just hit `enter`. Any options you choose in this screen will be stored in the new `config.sys` on diskette #1.

### Creating bootdiskettes from CD#2

1. Use a computer on which you have access to CD rom and run `makedisk.bat` If you have access to a CD ROM on an OS/2 machine you can run `makedisk.cmd`.
2. If you have a computer on which OS/2 runs you can also run `ecsmakedisk.exe` from the root of the CD#2. When that program has started select the option "Tools" and then "Create Installation Diskettes", press the create button. When you have created the 3 installation disks you can insert "installation disk 1" and press the button config.sys. The window is divided in two parts. The upper window shows the drivers that are on the diskette and listed in the `config.sys`. You can disable drivers from the `config.sys` by clicking with the right mouse button on the device driver line you want to disable. When you then answer yes to the question if you want to remove the driver, it will be 'remmed' out of the `config.sys` and the driver will be removed from the disk, which creates space for possible

other drivers. You can add a driver by dragging and dropping it in the lower window (from a folder off the running system)

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## Step-by-step: Booting and installing from CD #1

If you want to enable USB support or other features, please refer to at *Appendix D (preboot menu)*.

*Features you select in the preboot menu will not only be used during the boot process but will also be added to the installation on your harddisk.*

When you have chosen between option 1 or 2 (advanced boot menu), eComStation will begin to boot. This will take about 2 minutes (depending on the speed of your CD ROM player). Wait for the desktop build process to finish. If no desktop appears, but a distorted screen or a trap screen (a black screen with numbers and letters on it) please check the following guidelines:

1. Do you have 64 MB or more then 64 MB of memory in your system? A minimum of 64 MB memory is required for the new installer to work.
2. Reboot the machine and select option 2 (advanced boot menu). Keep pressing the `TAB` until you reach the option "Legacy VGA", press the space bar to select this option. When selected press `enter`. This way eComStation will use the legacy VGA driver for the first phase of the installation.

### Installation Program

It is important you read the information displayed by the installation program, especially the introduction to LVM can be very useful. See also *Appendix C: LVM*. When you have finished, click on the option "Install eComStation" and click on the Start Installation button.

At the screen presented to you, you can select just a few settings.

For the best performance and wide range of video card support, select "Scitech Display Doctor". This is a video driver that supports many modern video chipsets. You can further choose to install eComStation base System and Multimedia. In most cases it is best to install both.

Click on next to proceed.

### Installation Volume selection

If there is any partition already present on your system which eComStation can be installed, it will be listed on this screen. Click on the button "Manage Volumes" to invoke LVM. When you have finished using LVM, press `F3` to exit LVM and save the results. When you have chosen the USB option in the advanced bootmenu and start LVM, there is a possibility that you get the message that the partition table on "Physical Disk (x)" is damaged. If you have one HDD installed x will be number 2. There is nothing wrong, you can ignore the message.

*Remember to delete the bootmanager from your hard disk! If you previously installed the bootmanager from OS/2 Warp 4, please reinstall the bootmanager using the LVM utility. This is necessary since the older versions of bootmanager are not LVM aware.*

If you want to install VoiceType (speech recognition) later on, please make certain that your boot drive is at least 300 MB larger than what is advised during the installation.

*For some possible problems with LVM please refer to appendix C; LVM and appendix E: Troubleshooting, installation section.*

Select to format the partition. Click on the Begin Format button. After a successful format your system will start to copy files, this will take somewhere between the 8 to 20 minutes (depending on the speed of your hard drive, CPU and hard disk). When the copying has finished, press the reboot button.

### eComStation Installation - Second Phase

After the reboot you will be presented with a screen "eComStation Installation - Second Phase". Please do not touch the desktop yet, you will first have to continue with the installation process. You should select the options from top to bottom.

1) First check your screen resolution. Change the resolution if you want, the change will take effect on the next reboot.

2) The following selection will let you add a printer. If you have an USB printer, please wait with the installation of that printer until the installation is finished.

3) As a third option you can run the IBM "selective install" utility to install a soundcard.

*In NO case should you change the video listed! Just ignore the setting, even if it is wrong. Nor should you touch the CD ROM options.*

If the installer requests the CD rom with \OS2IMAGE you should (temporarily) insert eCS CD#2.

4) The fourth option is for TCP/IP and Netbios (file and printer sharing). Click on continue and make sure you read the instructions. Click on continue when finished.

### **No network**

If your computer does not have a networkcard installed, press Cancel then OK to confirm.

### **Network - only TCP/IP**

If you do not want to share printers and files with a Windows workstation or access printers and files on an OS/2 or Windows server, choose TCP/IP only. Again, read the onscreen instructions carefully! By pressing execute you will invoke an utility called MPTS. Click on Ok and choose to configure MPTS. Click once again on configure. Now select the networkcard which is in your computer. In some cases your networkcard may not be listed because the chipset is listed and not the manufacturer of your networkcard.

If you cannot find the correct networkcard listed but you do have a diskette from your manufacturer with OS/2 drivers you can choose to Other adapters... Follow the instructions to add the driver. It may be necesarry to point to the exact location on your diskette, most of the times the OS/2 driver will reside in \NDIS2.

When you found the correct NIC, select it and press on the button change. In the window "stage 3" the name of the NIC will change accordingly. Then select the protocol "IBM OS/2 NETBIOS" in the stage 3 window and click on the remove button and confirm with a click on yes. Repeat these steps for Netbios over TCP/IP. Click on OK to exit this program and confirm that changes are written to your bootdrive.

### **Network - TCP/IP and Local Networking**

If you want to use TCP/IP *and* share files and printers, please push on Execute instead of the TCP/IP only button. Read the instructions again. Insert CD#2 and press on execute when finished reading.

Before pressing ANY button, *UNSELECT* the options TCP/IP and Netscape! Then click on next.

It is advised to configure the following screen from bottom to top.

### **TCP/IP**

The option TCP/IP services need only to be configured if you to connect your computer via a networkcard in your Local Network. Select DHCP server if there is a server in your network that assigns your computer with an IP address. If you have a small network, you usually do not have a DHCP server and you should manually assign an IP address and netmask. *If you connect to an internet provider via modem or ISDN card these options can be configured later.*

### **File and Printer Sharing**

If you have selected to also install the file and printer sharing, you need to fill in an userid and password. Please make certain you do not loose this information! The next option, most users can directly put a green checkmark before. This option is only needed when you have more then one NIC in your system. The last option at the top is important. The name given to system is as is shows up in your network browser. This name must be unique!

*Also assure the domain name is the same as your other eComStation / Windows (Workgroup name) machines if you want to share files and printers between all machines.*

If you keep Netbios over TCP/IP enabled and your machine also directly connects to the internet, this may be a potential security risk. eComStation provides you with a built-in firewall, which you can configure with Zampa. Please consider enabling the firewall.

### **After the Network Configuration**

When you are finished, press the Install button, then click on OK. Your system will be shutdown. When your system says so to do so, press CTRL ALT DEL to restart.

At the next reboot the system will load the installer to install the File and Print Client. Please sit back and wait for the system to reboot.

When the eComStation desktop has started up again please read the screen closely. If you do NOT want to share devices or printers that are available on the computer you are installing eComStation on, do not check the box "replace NET START REQ with....". If you DO want to share your resources with other machines in your Local Network, check this box.

### **Finishing your installation**

After you finished the Network configuration (if selected) you will be prompted by WiseMachine to enter the registration key of eComStation

and your name. *Both are case-sensitive!* You should have received your registration key by email and it is most convenient to save that key to a floppy disk, so you do not have to type it. You can read it from floppy by pressing Import From File. After successful registration, please wait for the desktopbuild process to finish.

### Ready!

This concludes the basic installation of eComStation. Please read on in Chapter 3 about using the eCSGuides to install additional applications, supported hardware and other hints and tips!

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### Step by Step: Installing from CD #2:

*Before starting the installation, make sure that if you have the FAT32 driver installed under Warp, you remove `partfilt.flr` from your `config.sys`!*

When you have booted from the CD you have the following options to continue the installation:

- press the `ESC` button on your keyboard, this will invoke the IBM installer with the IBM IDE driver.
- press `D`, the IBM installer will be loaded with the Daniela IDE driver. Please note that this driver will also be used when eComStation has finished installing. The Daniela driver is a good choice if you have a large harddisk (more than 8 gigabyte) or a computer with an Ultra ATA 66 or Ultra ATA 100 controller. *You will not have the option for the Daniela driver if you are booting from diskettes created with `makedisk.cmd`, `makedisk.bat` or `ecsmakedisk.exe`.*
- Other options offered are to enable or disable hardware detection, please try these if you experience trouble booting from CD#2.

If you have never run the Logical Volume Manager on your system before, the installer will first start the Volume Conversion Utility (VCU) which will create compatibility volumes out of your existing partitions. For more information on volumes, LVM and VCU, refer to *Appendix C: LVM*.

A reboot is required to activate the changes. Boot again from floppy or CD ROM.

You will now get to a textmode screen that welcomes you to the installer.

If there is no installable volume available, LVM will be shown (Logical Volume Manager, see *Appendix C*)

When you create the installation volume, note that if you want to install Voicetype (speech recognition) later on, you require is 300 MB more space than is advised during the installation.

If there is already an installable volume available, you can select the volume to which you want to install.

*If you have installed a bootmanager from Warp 4, please remove it and reinstall it! You need to do this because older bootmanagers of OS/2 are not LVM aware.*

If you are performing an upgrade from a previous installation, you are asked to confirm the volume to which you want to install and if it needs to be formatted. Choose to *NOT* format the partition. The IBM installer will now scan your system. If it detects a previously installed OS/2 Warp 4, some components may be listed as not being supported or will be removed. Most of these applications are part of the IBM BonusPak and can be reinstalled via Wisemachine or the eCSGuides.

The system will request a reboot after files have been copied to your harddisk. After this reboot, a desktop should appear. If you do not get a graphic user interface (the selective installer), but a black screen with a trap or a distorted screen please try the following:

1. Reboot the machine. The moment you see the white little block in the upper left corner on your screen with the text eCS1.00. Press the key combination ALT-F1. Then press the button F2.
2. Wait for the command prompt. Then type `setvga` and press enter. After some activity the prompt should return.
3. Type `exit` and press enter. Your system will reboot with default VGA drivers.

### **Video**

When you arrive at the selective install screen, please check the option "Primary Display", since the IBM installer sometimes detects a wrong chipset (especially if you have an ATI video card).

In most cases it is advisable to select Video Graphic Array (VGA) at this stage of the install, not the GRADD version. Then install Scitech Display Doctor when the install of eComStation has completed. See *Chapter 3; Video*.

Do not install your printer with the selective installer of IBM, but run the conversion utility afterwards (available on CD#3) which will let you select more modern printers and uses a convenient Printer Installation Guide.

### **Multimedia**

More modern soundcard support can be found in the **MMeCS** package on CD#3. You can not use this package until you have finished installing the eCS upgrade with the conversion utility.

After the selective install you will be prompted with two options selected by default. Do not change these if you want to migrate your old desktop to your new installation!

### **Network Installation**

You will now get to the network installation program.

Filling in the data with your name, department and company is not required. (It will be used to generate some default values which can be easily changed anyway).

Click on next. You can choose four components:

1. File and Print Services. This enables you to share Printers and directories, files and hard disks, between OS/2 and Windows computers. If you do not have a local network, installing this option is not necessary.
2. TCP/IP. You need to install this protocol if you want to surf the web, via a networking card, modem, ISDN adapter etc. Normally you should enable this option.
3. Netscape, keep this option marked, this is the webbrowser used in eComStation.
4. Tivoli Management Agent. You do not need this last option as a private home user. This is usually used in large businesses.

Click on next to configure the selected networking parts.

It is advised to configure the following screen from bottom to top.

### **TCP/IP**

The option TCP/IP services need only to be configured if you to connect your computer via a networkcard in your Local Network. Select DHCP server if there is a server in your network that assigns your computer with an IP address. If you have a small network, you usually do not have a DHCP server and you should manually assign an IP address and netmask. Ask your network administrator if in doubt. *If you connect to an internet provider via modem or ISDN card these options can be configured later.*

## File and Printer Sharing

If you have selected to also install the file and printer sharing, you need to fill in an userid and password. Please make certain you do not lose this information! The option at the top is important; the name given to system is as it shows up in your network browser. This name must be unique!

*Also assure the domain name is the same as your other eComStation and/or Windows (Workgroup name) machines if you want to share files and printers between all machines.*

## Continuing the installation

After the network settings have been confirmed, the installer will start to copy files. This will take some time and your computer will reboot a few times. If you are migrating your previous configuration you will be prompted with a screen which contains two windows to check your old `config.sys` and the new one. Review the proposed changes and modify them where you think this might be required. When finished press Save then Quit. In most cases all statements from the old `config.sys` are imported correctly into the new one. After this your `autoexec.bat` will be treated the same way. When you have confirmed the settings, the installer will continue to copy data to your hard drive.

*If you are upgrading a present installation and your computer remains hanging and you have selected the Daniela IDE driver, please check Appendix E: Troubleshooting, installation section.*

## Final Steps

After the installation has completed, you will see that on the next boot WiseMachine prompts you to register your copy of eComStation. Please do so after which your system will reboot again.

## Java 1.3

You will then be asked if you would like to install Java 1.3 or not. It is advisable to install Java 1.3 to a JFS volume for performance reasons. If you do not yet have setup a JFS volume you might want to skip the installation at this stage and use the eCSGuide at a later moment to install Java 1.3.

## Installation Finished

You have now upgraded your system to eComStation code base of version 1.00 You will find your old desktop in a folder called Previous Desktop. You can drag and drop applications from there to your new desktop.

## Convert to eComStation Look and Feel

To get access to all of the bonuspak applications of eComStation, like Lotus Smartsuite, the new look and feel of the desktop, Desktop On-Call and much more, you need to start `convert.exe` from CD 3. If you have not received your eCS GA from Mensys, please download `convert.exe` from <http://www.ecomstation.com> Insert CD#3 and open your drivesfolder, select your CD ROM drive (probably letter S:) and double click on `convert.exe` (located in the root of the CD). Follow the instructions on the screen. The conversion utility requires an additional 60 MB of space on your bootdrive. When the process has finished you will be asked to reboot.

## WiseMachine

When the machine has rebooted, you are once again asked to register eComStation through Wisemachine. This is an glitch in the upgrade process. After you successfully registered, wait for the desktop update to be finished.

*If your registrationkey was not accepted, WiseMachine will simply exit without notice, this may be confusing. You can try to register again by restarting WiseMachine.*

**Your system will now be at the same level as when installed directly from CD#1**

## Ready!

This concludes the basic installation of eComStation. Please read on in Chapter 3 about using the eCSGuides to install additional applications, supported hardware and other hints and tips!

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## Chapter 3: What's Next?

After finishing the initial installation, described in *Chapter 2*, you will be presented with what are called 'eCSGuides' that are meant to easily install some of the many applications included with eComStation. Select which applications you wish and follow the instructions on the screen to install them.

If you would like to invoke the eCSGuides at a later moment, you can do so by starting WiseMachine and selecting the menu option: *Utility -> Selective Install -> eCS Additional Packages*.

eComStation contains some features which are not included in the normal install process. Following are some hints on installing support for specific hardware.

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### Video

If you have chosen to install VGA you may want to upgrade to a more advanced videodriver, which is provided by the means of "Scitech Display Doctor" (SDD). This driver supports almost every modern video chipset on the market today and offers excellent performance by enabling the (2D) hardware acceleration of these chipsets.

It is installed onto your system already, if you selected Scitech Display Doctor during the eComStation installation from CD#1.

To add it manually to your system, you will need to copy `\SOFTWARECHOICE\ScitechSE\SDDSE705.exe` from CD#3 to an empty directory on your harddrive. Execute the file, and it will self extract there. When this is finished, from an eCS command prompt type "setup sdd" and hit enter. Now SDD will be installed on your computer.

If the refreshrate of your screen is not optimal, you may have to add your specific monitor to the SDD supported monitor list. You can do this by importing the Windows PnP info of your monitor. To do so, you require the monitor 'inf' file from your manufacturer. Switch to the directory `\SDD` on your boot drive and run the utility `gamon` from the command line with the option `import` and then the filename of the INF file of your monitor. For example `gamon import a:\monitor.inf`.

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### Printer

To install a locally connected printer in eComStation, you can use the Printer Installation Guide, available in the Printers folder within the eComStation folder on your desktop. Alternatively you can use a Printer Template from the templates folder and drag and drop it to the Printers folder. When you want to install a Network Printer, you will have to install it via the template drag and drop method, since the Printer Guide only supports local printers.

The installed drivers contain support for over 1000 printer models and are up to date to spring 2001. Additional drivers can be found in the directory `\DRIVERS\PRINTERDRIVERS\` on CD#3.

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### Multimedia

eComStation contains the MMeCS multimedia package which adds support for some multimedia devices.

For more information about MMeCS package 1 and audio drivers, open `\MMECS\MANUAL\HTML\MMPAK.HTML` from CD#3 with Netscape.

To add MPEG I and Video Disc playback support (not DVD film playback support) to Netscape and eCS, please copy the file `nspip30.exe` from the directory `\SOFTWARECHOICE\NETSCAPE\PLUGIN` of CD#1 to an empty directory on your HDD. Start `nspip30.exe` which will then selfextract. When it is finished extracting you should start `install.exe`.

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### USB Support

The following will describe several USB devices that are supported by eComStation and some hints to make them work.

If you require more information on eComStation or OS/2 and USB please refer to the excellent website <http://www.os2world.com/usb/>

If you have selected USB when installing from CD#1 (via the advanced boot menu) the following drivers will have been loaded:

```
BASDEV=USBHCD.SYS
BASEDEV=UBSD.SYS /REQ:USBHCD$ /i13
BASEDEV=USBHCD.SYS
BASEDEV=USBHID.SYS
```

These are the basic USB support drivers

They support motherboards with an *Intel* or *VIA* chipset.

If you do not have an Intel or VIA chipset on your motherboard you may need to install the so called *USBOHCI* USB driver. You can find this driver on CD#1 in `\Softwarechoice\USB\basic\`.

Install it by copying the file `usbhci.exe` to an empty directory on your hard disk and start the file to begin extracting. Please read the accompanying `readme.txt` on how to upgrade your USB configuration.

*There is a chance that when you booted from CD or diskettes your USB mouse will not work. The USB mouse should work when you boot from the hard disk the first time after installation.*

```
BASEDEV=USBMSD.ADD
```

(Mass storage driver for ZIP drives, external disk drive and other devices that conform to the USB mass storage standard)

```
BASEDEV=USBCDROM.ADD
```

(Support for HP USB Cdwriter 8200 and Sony Spredds CDRW)

```
device=x:\os2\boot\usbkbd.sys
```

```
device=x:\os2\boot\usbmouse.sys
```

(Support for USB keyboards and mice).

```
device=x:\os2\boot\usbcom.sys
```

(Support for USB Rockwell based modems)

If you have upgraded your system via CD#2 your `config.sys` will contain the following lines:

```
rem BASDEV=USBHCD.SYS
```

```
rem BASEDEV=UBSD.SYS /REQ:USBHCD$
```

```
rem BASEDEV=USBHID.SYS
```

```
rem BASEDEV=USBMSD.ADD
```

```
rem device=x:\os2\boot\usbkbd.sys
```

```
rem device=x:\os2\boot\usbmouse.sys
```

```
rem device=x:\os2\boot\usbcom.sys
```

To enable USB support open the `config.sys` in the root of your bootdrive and remove the word REM from all the lines.

### USB Network Adapters

eComStation has support for USB Ethernet adapters, which are based on the Kawasaki KL5KUSB101 chipset. You can find this driver on CD#1 in the directory `\SoftwareChoice\USB\ether`, copy the file `usbether.exe` to an empty directory on your hard disk and execute it.

Please read the accompanying `readme.txt`! The following USB ethernet network cards have been tested:

- 3COM USB Network Interface
- D-Link Corp. USB Ethernet Adapter (DSB-650)
- ADS Technologies Inc. USB Ethernet Adapter (USB-10BT)

### USB Audio

The drivers to enable USB audio support can be installed by inserting CD#2. Start `minstall` from the folder `eComStation -> System Setup -> Install Remove`. Select `\OPTIONS\USBAUDIO` on CD#2 as source directory.

### USB Printers

eComStation also supports USB printers. eCS does not support all printers attached to an USB port. To install USB printer support insert CD#1 and read the documentation in the directory `\SoftwareChoice\USB\print`. Please note that besides the driver which needs to be installed in the `config.sys` also a so called PDR file needs to be installed, which enables the USB port to be accessed by the `printerspooler`.

### USB CD RW devices

If you installed eComStation from CD#1 and selected USB support, you will have Read/Write access to USB connected CDRW devices. If you have used CD#2 to upgrade your installation and want to enable USB CDRW and USB mass storage support you should:

- study the directory `\SoftwareChoice\USB\stor` of CD#1
- install `OS2CDROM.DMD` from CD#3, which can be found in the directory `\DRIVERS\IBM-IDE-LATEST`.

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### PCMCIA Support

Most laptops/notebooks nowadays have one or more slots for so called PCMCIA card / PCCard devices. These devices should have OS/2 drivers if you would like to use them with eComStation. But firstly, you need to enable support for the PCMCIA chipset itself. eComStation ships with "Play at Will" which provides that support. To install Play At Will, insert CD#3 and switch to the directory `\DRIVERS\PCCARD` and copy the file `pccarden.exe` to an empty directory on your harddisk. Execute this file to let it selfextract. Then run the program `PCMINST2.EXE` and follow the instructions on the screen.

Please see the *readme.txt* on the CD in the directory `\DRIVERS\PCCARD` for the a list of supported PCMCIA chipsets.

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## Miscellaneous

### FAT32 support

If you have FAT32 partitions on your hard drive you can enable support under eComStation by using the driver available on CD#3 in the directory `\THIRDPARTY\Fat32\`. Please read the document `fat32.txt!` You are NOT required to install `partfilt.flt` or replace `os2dasd.dmd`. If you have rebooted your computer and the driver is loaded you will get read and write access to a FAT32 volume when that drive has a drive letter assigned under LVM.

### Iomega ZIP drives

Support for parallel port Iomega ZIP drives can be found on CD#3 in the directory `\DRIVERS\IBM-IOMEGA-PP-ZIP`. Copy the file `ppzip.exe` to an empty directory on your hard disk and start it. See the accompanying documentation file for installation details.

### Network Adapters

Support for additional network adapters can be found on CD#3 In the directory `\DRIVERS\NICPAK-IBM-DDPAK`.

### IBM TrackPoint

On CD#2 you will find the directory `\OPTIONS\TP4` this is the TrackPoint Support version 1.0. Run `INSTALL` from this directory to enable this feature.

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## Chapter 4: Getting Connected

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### Internet

The Internet is a huge network of computers, itself incorporating many thousands of individual subnetworks known as intranets (LAN's). The Internet is the largest network of computers in the world and it's importance as a medium to communicate and interact with other users has become very clear in recent years.

eComStation is very well capable to act as a client system to several services available on the Internet, such as (e)mail, web browsing, IRC ('chatting'), ftp (downloading files), telnet (remote console access) and much more. eComStation by default installs Netscape Communicator for web browsing and some other tasks (mail, news, ftp). More clients are available, either as installed application or as separate download. (for an overview please have a look at the 'Internet' folder on your eComStation desktop).

Before you are able to access the Internet, you will have to configure how your connection will be made. The list below gives an overview of the possibilities available in eComStation.

- Modem (analogue/ISDN)
- Cable
- ADSL
- LAN

### General Information Required

Before you start to configure your Internet Access, make sure you have the following information at hand:

- Your ISP dial in telephone number (in case of modem/ISDN)
- The username/password required to login to your ISP
- Your ISP nameserver IP address (most of the time this are two IP addresses, Primary DNS and Secondary DNS)
- In case of LAN connection the IP address of the gateway PC
- Additionally you may want to configure a Proxy Server (within your browser)

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### Modem

If you use a so called 'serial modem' to access the Internet you have to configure one of two options, which are explained below.

### **Internet Dial-up**

Firstly, you can use the default installed 'Internet Dial-up' which can be found in the Dial-up Tools folder (within the Internet folder on the desktop)

To be able to use it, you are required to use 'Add Entry' to define a new dialup connection.

#### *Login Info tab:*

Most fields of this application are self-explanatory, and you can press F1 at any time to get additional information. Please note that the 'default' of SLIP as connection type is obsolete and almost every provider nowadays supports PPP, which is preferred, as it uses a more efficient means of communication with the ISP.

#### *Connect Info tab:*

Most ISP's provide you with an IP address dynamically, so you would not need to fill the fields in Server Details (you can leave the MTU setting at its default of 1500).

The Domain Nameserver should be filled with the IP address of the Primary DNS of your ISP.

The Domain Name can be filled in with the domain of your ISP, typically the part that comes after the @ sign in your email address (for example your-isp.com)

Your Hostname can be left empty or filled in with your userid.

You should leave the remaining settings at their default value.

#### *Server Info tab:*

None of these fields are required and they are mainly used for obsolete applications that you will probably not use anyway, so you may leave these empty. If you want to fill them out, please consult your ISP documentation for the proper values.

#### *Modem Info tab:*

This page contains the physical configuration of your modem. There is an extensive list of predefined modems and if yours isn't listed you are well of using the 'default Hayes compatible' setting (most modems are Hayes compatible).

Please take note of which com-port your modem is connected to. If you use an external modem this is most likely com1 or com2, internal modems usually reside at com4.

Most default settings can be used, the notable exception is the port-speed. Please set this to 57.600 baud. Setting it higher will not

have a positive effect, but a lower setting will seriously slow down your connection.

### **InJoy**

InJoy is a text-mode internet dialler with highly advanced features and is the recommended way to connect to the Internet using eComStation. *Every license of eComStation contains a full version of: InJoy Extended!*

A short list of interesting features:

- Dial On Demand (InJoy will dial in to the Internet if you request a document which is not locally available)
- NAT (Network Address Translation) supports up to five PC's on your LAN to share one internet connection
- Autostart modules - you can configure InJoy to automatically start a program or sequence of programs once the internet connection is available.

#### *Installing InJoy*

You can install InJoy after the basic installation of eComStation has finished by using the eCSGuide that is called 'eCS BonusPak'

Click the Install button to start the installation. After installation completes, a folder InJoy has been created in your Installed Software folder and a shadow of InJoy has been placed in the Dial-Up tools folder within the Internet folder.

Double Click the InJoy icon to start the program. (Since it is a textmode application you will see a eCS commandprompt open up. You are still able to use your mouse to make menu selections though)

#### *Configuring InJoy*

To configure InJoy for a dial-up connection to the Internet you will first have to create an account. You can do this by pressing 'new' in the right half of the main screen. Give the account a name (other than 'Default') and fill in your userid and password provided by your ISP.

Pressing 'ok' takes you to the main configuration screen. Note that most default values are okay, InJoy is intelligent enough to pickup the nameserver and other IP addresses from your ISP. If you want you can still fill the nameserver IP address out, of course. If need be, you can let InJoy 'learn' a connection by scripting the login process. Please refer to the extensive online documentation, available in the InJoy folder on your desktop.

One notable selection is 'Auto Connect' - when you enable this feature, the connection will be created at the moment you start InJoy, this can be very useful for unattended login procedures when combined with Dial On Demand (Available at the 'Disconnect Actions' screen)

The other interesting feature, as described above, is the NAT option. Select this if you would like to share your connection with other PC's in your LAN. For information how to configure this feature properly, please refer to the online documentation of InJoy, or the website at: <http://www.fx.dk/injoy/>

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### ISDN adapters

If you use an ISDN adapter to connect to the Internet, you can also use the above described programs when:

- you use an external adapter, connected to your serial port
- you install and configure cFos/2, which is a driver that converts your ISDN device to a 'normal' serial modem. For more information on cFos, please consult their website: <http://www.cfos.com/>

Otherwise you will need to install and configure ISDNPM, which also ships with eComStation in a limited (but useable) eCS version. The full ISDNPM features NAT (like InJoy does) and highly advanced options. The version included with eComStation has no time limit but it is limited to one ISDN or PPPoE session via IP-Interface (slx) without NAT, Filters and Accounting. For more information, or installation, please refer to the ThirdParty eCSGuide available from: *WiseMachine -> Utility -> Selective Install -> eCS Additional Packages -> Thirdparty.*

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### Cable Connections

Cable Internet Access is by far the easiest to use and setup in eComStation. All that is required is that you install and configure the TCP/IP stack as described in *Chapter 2*. You can setup your IP configuration in detail by opening the *Internet -> TCP/IP -> TCP/IP Configuration (local)* from your desktop.

*Note that some Cable Internet Service Providers use a serial modem to connect you to the Internet and use a special login-'phone'-number you can use. If this is the case with your provider, use Internet Dial Up from Internet -> Dial Up Tools or InJoy as described above, instead.*

---

### (A)DSL

(A)DSL modems can be used with eComStation when your provider uses the PPPoE protocol. To enable this, you will need to install InJoy

PPoE from the *WiseMachine -> Utility -> Selective Install -> eCS Additional Packages -> eCS BonusPak eCSGuide.*

*Please note that InJoy PPoE installs a driver to your system which will not work under all conditions. Refer to the online documentation to make sure you understand the issues involved.*

The InJoy PPPoE Client is designed to offer reliable PPP over Ethernet (PPPoE) connectivity. For the full description and the complete list of features, refer to the product homepage: <http://www.fx.dk/pppoe/>  
*This version is fully functional and licensed for the use with eComStation.*

Some Internet Service Providers use another protocol to give you access to the Internet, the main one being PPPTP. For example KPN MxStream in Holland uses this protocol. Currently the only way you can access the Internet through PPPTP is by purchasing InJoy FireWall Professional and requesting special PPPTP drivers from F/X communications. For more information we refer to F/X: <http://www.fx.dk/firewall/>

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### LAN

Using your Local Area Network to access the Internet is possible when the TCP/IP protocol is installed and configured as described in *Chapter 2*. The main thing you need to know is whether your LAN uses DHCP to assign IP addresses to workstations, or that it uses static IP addresses. Consult your network administrator if in doubt. You can setup your IP configuration in detail by opening the *Internet -> TCP/IP -> TCP/IP Configuration (local)* from your desktop.

### Local Networking

eComStation has very excellent support for other networking operating systems (NOS) besides IBM LAN Server (or Warp Server), such as Novell and Banyan. It also supports several networking protocols. TCP/IP is the most popular these days, but eComStation offers NetBios (NetBEUI), NetBios over TCP/IP (TCPBEUI), IBM IEEE 802.2, Netware and Banyan. The most important feature of all this networking support is that the requester's execute concurrently. Meaning that you can run them all at the same time!

In the present eComStation architecture, this networking is referred to as Multi-Protocol Transport Services. The support is provided by drivers

called requester's. The requester's are specified in the `config.sys` file and loaded at boot. Network communication is provided to and from the requester's and protocol's using NDIS (Network Driver Interface Specification). eComStation ships with these requesters: IBM LAN, 3270 Emulation, Netware (via ThirdParty eCSGuide) and IBM TCP/IP. These requester's also have their associated protocol drivers as described previously (TCP/IP, 802.2, etc.). A very extensive online book "MPTS Configuration Guide" has been placed in the Online Information folder in the Help Center of your desktop.

When properly configured, eComStation is able to communicate/network with:

- Windows 95/98/Me
- Windows NT/2000
- Linux (Samba)
- Netware
- and more

### Networking Interoperability: Windows

You will need to install *File and Printer Sharing* to interoperate with a Microsoft Network. The eComStation client is very easy to setup to interoperate with a Microsoft Network if you know the tricks involved. The "File and Print Client Guide" is placed in the Online Information folder of the Help Center when you installed *File and Printer Sharing*. It contains a brief section on interoperability with Microsoft Networks. The three protocols generally needed to interoperate with Microsoft Network's are TCP/IP, NetBios, and NetBios over TCP/IP. The NetBios protocol is used locally on a subnet because it contains no routing information. This also means that NetBios cannot see past a router without help. NetBios over TCP/IP can see past a router and this protocol is generally used at corporate sites where large segmented networks are the norm.

### Windows NT

An eComStation client can take advantage of Microsoft Network in one of two ways. The eCS client can logon to the NT domain or logon locally. However, browsing is severely limited on a Microsoft Network if the servers have been configured with the default settings (more on this in a later section). Either method will achieve the desired results, to use the resources on a Windows NT server domain. One precaution, your local eCS logon must exactly match the logon ID on the NT domaincontroller. In addition, NT server allows lower case in passwords whereas eComStation does not.

In a segmented network architecture where the eComStation client is separated from the NT server via a router, NT domain authentication is impossible with the default configuration of the eCS client. IBM has described this issue in Technical Document #7775533. IBM Technical Document #3724433 describes some useful NT administrator tips. In order for the eCS client to be authenticated by the NT domain controller the IP address will have to be added to the `RFCBCST.LST` file.

Other NT resources would be added to the `RFCNAMES.LST` file. These files may be updated using MPTS or a text editor may be used. After the RFC files have been modified, the `RFCADDR` command can be run from an OS/2 window which will update the system and prevent the client from having to be restarted.

### Windows: Network Browsing

eComStation clients are unable to browse available resources on Microsoft Networks due to a LAN Manager parameter called *lmannounce*. This parameter defines the response to LAN Manager 2.x browser broadcasts. The default response is to ignore these broadcasts. However, the "net view" command can show resources when the resource is specified as follows: "net view \\resource". If the command "net view" is used, nothing will show except your workstation or other OS/2 Servers/Workstations on your network. The Window's servers and workstations will have to have their default settings changed as outlined below to enable browsing from OS/2 and eComStation.

#### *Windows for Work Groups:*

The parameter "lmannounce=yes" will have to be added in the [network] section of the `system.ini` file.

#### *Windows 95/98/Me:*

The parameter "LMAnnounce" is in located in Network settings under File and Print sharing properties.

#### *Windows NT 4.0 Server:*

In Network settings, Services, Server, select the Make Browser Broadcasts to LAN Manager 2.x clients at the bottom of the dialog page.

#### *Windows NT Workstation (possibly Windows 2000 also)*

Users will have to manually modify the Lmannounce entry in the registry. The entry is as follows:

```
\HKEY_LOCAL_MACHINES\System\CurrentControlSet\Services\LanmanServer\Parameters
```

This setting will have to be changed from the default of 0 to 1. The `regedt32.exe` program will have to be used for the above procedure. It is located in `\WINNT\SYSTEM32`.

*To enhance the performance of an eComStation workstation in a Windows NT Network you can change the default settings of `MAXIN` and `MAXOUT` from 1 to 3 in eComStation, either by using `MPTS` or directly in `\IBMCOM\PROTOCOL.INI`*

## Chapter 5: Getting Involved

eComStation allows the user to get involved on several levels. Users can adopt programs for WiseMachine, and allow them to be easily deployed and write new programs or port programs to eComStation. This chapter will briefly discuss this and hand you the tools to get started.

### Adopting Programs

eComStation allows you to easily install programs by deployment through WiseMachine. To provide the information to enable Wisemachine to deploy a program we designed the adoption process. This process takes you through the steps to gather essential information about a program to allow WiseMachine to deploy it. Two kinds of information are gather during the process. First some general information about the program and second information how to install it. Usually the following information is required for a succesful adoption of a program:

General information	
Program name	the full name of the program
Version	the versionnumber of the current version
Author/Company	Name of the company or author of the program
What	What does the program do
Why	Why did you choose this program and not a competing program
How to buy	How can you buy this program
Contact info	Your e-mail address or information to contact you
Installation information	
config.sys	What changes have to be made to config.sys (set statements, device drivers etc.)
startup.cmd	What changes have to be made to the startup.cmd
read/write access	To which files does the program need read/write access
desktop object creation script	A script to create the icons for the program and register any WPS classes it needs (see below for instructions)
desktop object removal script	A script that can destroy the desktop objects and deregister any WPS classes used by the program

This list may sound a bit intimidating, but the process is usually easier than it looks like at first sight. Of course if you run into trouble we are glad to help you complete the adoption process. For the process you will need the following programs: The program you want to adopt, or a fully functional demo version; *Object Desktop* (or its trial version); *Graphical File Compare*. If you don't already have Object Desktop or Graphical File Compare you can find links to download (trial) versions at the end of the section. Before you start adopting a program you should verify that the program isn't already adopted by someone else, and state your intention to adopt the program by registering the program for adoption. You can do this on the special adoption website. The information for the general section of the adoption program can usually be extracted from the manual or readme's included with a program. For this section it is especially important that you verify that you use the latest version available, and that you clearly identify the version you use.

To complete the information about the installation process there is a special procedure which makes it easier to get the correct information, this procedure consists of the following steps:

1. Install Object Desktop (only Object Package is needed) and Graphical File Compare
2. Make a copy of your `config.sys` and `startup.cmd`
3. Install the program you want to adopt
4. Use Graphical File Compare to find the changes in your `config.sys` and `startup.cmd`, and save these changes to a file.
5. Create a Object Package of the program folder or objects on you desktop
6. Save the Object Package as a REXX script and save the resources (icons/background bitmaps) too.
7. Zip up the REXX script and the resources

These seven steps provide you with all the information about `config.sys` changes, `startup.cmd` changes and desktop object creation. Usually we can extract the information to create the desktop object removal script from the desktop object creation script, so you do not have to worry about that.

To compose the list of files to which read/write access is needed is usually a bit more complicated, but normally the files to which read/write access is needed are only the configuration files and data files. To identify them you should consult the documentation included with the program or have a look at the directory listings. Common filename extensions for configuration files are `.cfg`, `.ini`, `.conf`, `.dat`. It is

important to verify is whether a program needs access to the central OS/2 ini files, usually named `os2.ini` and `os2sys.ini`. To verify that you could inspect these files with the Registry Editor, which you can find in the System Setup folder. If you can not get a comprehensive list it might be necessary to contact the author of the program or use a special sniffer daemon.

When you have gathered all the information you bundle everything in a zip file, and upload it to the adoption program ftp site. If the program you adopted is free for distribution you can include the installed version of the program also, if it is a commercial program, or distribution is inhibited in any other way you should only upload the information files and the files created with Object Package.

Some time after you uploaded the information you will receive a preliminary version of the WiseMachine deployment scripts for you adoption. You are kindly asked to test this script, and report back the results. When you find everything to work properly the WiseMachine scripts are ready for release and will be placed on the eComStation website, or will be included in a WiseMachine update.

#### **Links:**

Register a program for adoption:

<http://www.ionet.net/~jimburke/ecs/3rdparty.htm>

Adopted programs:

<http://www.ionet.net/~jimburke/ecs/list.htm>

Adaption process documentation:

<http://www.touchvoicecorp.com/ecsadopt.html>

Graphical File Compare:

<http://hobbes.nmsu.edu/pub/os2/util/disk/os2gfc.zip>

Object Desktop Trial Version:

<http://hobbes.nmsu.edu/pub/os2/util/wps/odp-demo.zip>  
(expires in 30 days)

NB: Eventually the adoption program will move to the eComStation website at <http://www.ecomstation.com/> if the links above have expired, please find the information at this site.

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## Development of new programs

Included with eComStation are the basic tools needed to develop new programs. On the CD#3 you will find the Toolkits for Java (both the Java 1.1.8 and Java 1.3 versions) and the OS/2 Developers Toolkit (version 4.5). Also included with the system is the powerful REXX language, which can be used to make text mode applications, or with some extensions can also be used to develop PM applications (see below). If you want to get started on development it is advisable to install the toolkits, which will give you extensive information on all aspects of programming for eComStation. If you are not interested in native application development, but only Java development, installation of the Java Toolkit would suffice.

There are no compilers or RAD (Rapid Application Development) tools included with eComStation, but several good compilers and RAD tools can be found on the internet, we will list a few of them here:

### C/C++ Compilers:

- EMX GCC, the GNU Compiler Collection, including the EMX runtime libraries that implement part of the standard UNIX functionality
- OpenWatcom, work in progress, the OpenSourced version of the famous compiler from Watcom

### Pascal Compilers:

- Virtual Pascal, a free highly Borland Pascal/Delphi compatible compiler with a Borland Pascal like development environment
- EMX GNU Pascal, part of the GNU Compiler Collection mentioned above.
- Free Pascal: A free, Turbo Pascal 7 compatible compiler

### BASIC Interpreters:

- QBasic, DOS version is included with eComStation. QBasic is an BASIC interpreter only, you can't compile to a executable
- Liberty Basic, a commercial BASIC for Windows and OS/2, which can also produce standalone programs

### REXX extensions:

- VREXX: REXX extensions to develop PM applications with REXX
- DrDialog, RAD development tool for REXX which allows you to develop PM applications, available on the IBM Developers' Toolbox.

Next to these there are several commercial development tools like VisualAge for Java, VisualAge C++, Simplicity for Java, VisPro REXX, etc, and there certainly are more free-, and shareware products out there which we did not include in this list. A good place to start looking for more free-, and shareware products is the `/pub/os2/dev` directory of the Hobbes archive.

When you develop your own program you can of course use the Adoption Process described earlier in this chapter to create an easy method for installation. Otherwise you could use one of the other Installers available for eComStation. A popular free installer for eComStation is the "WarpIN installer", which can be found on the Netlabs pages.

### Links:

EDM/2 programmers magazine: <http://www.edm2.com/>

Netlabs: <http://www.netlabs.org/>

Hobbes ftp archive: <http://hobbes.nmsu.edu/>

OpenWatcom: <http://www.openwatcom.org/>

Virtual Pascal: <http://www.vpascal.com/>

Free Pascal: <http://www.freepascal.org/>

Liberty BASIC: <http://world.std.com/~carlg/basic.html>

IBM Developers' Toolbox:

<http://www.developer.ibm.com/devcon/>

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## Appendix A: License Agreement

### eComStation End User License Agreement

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In addition to your primary computer, eComStation may be stored on secondary machine, such as a home or portable computer, provided that eComStation is not in active use on both machines at the same time. This would expressly prohibit running Desktop on Call to access eComStation on the primary computer from the secondary machine, a home or portable computer.

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## 12. Information About Your Software:

**eComStation** includes a license to use the following products with **eComStation**.

- IBM OS/2 Warp V4, IBM Product Number 31L0480M  
*Note: eCS upgrade product users are required to supply their own valid license for OS/2 V4*
- IBM OS/2 Warp Convenience Pak, IBM Product Number AS6Y5NA  
**IBM SMP** feature when purchased as an option or as part of **eComStation Professional**, Product Number AS6Y9NA
- IBM Desktop on Call for OS/2, IBM Product Number AS6YBNA
- IBM Lotus Smart Suite for OS/2 R1.6, IBM Product Number AS76KNA
- WiseMachine from [Serenity Systems International](#)
- Applause and the TWAIN Consumer Pack from [Solution Technologies, Inc.](#)
- InJoy 2.3 Professional Dialer and InJoy PPPoE from [F/X Communications](#)
- HOBLink X/11 for OS/2 from [HOB Software](#)

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## Appendix B: Trademarks

eComStation is packaged on CD using Info-ZIP's compression utility. The installation program uses UnZip to read zip files from the CD. Info-ZIP's software (Zip, UnZip and related utilities) is free and can be obtained as source code or executables from <http://www.cdrom.com/pub/infozip/>

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- eCS
- WiseManager
- WiseServer
- WiseClient
- WiseMachine
- WiseTalker
- Drag-n-Drop Deployment

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*Abbotsbury Software* has been so kind to license their Hauppauge drivers so these could be included with eComStation. These drivers allow for the use of Hauppauge TV boards to function under eComStation. For any commercial request regarding these drivers please contact:



### Abbotsbury Software Ltd.

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*MainConcept GmbH* has been so so kind to license their OS/2 AVI codecs for inclusion with eComStation.

For more info on MainConcept, please have a look on the following webaddress:

<http://www.mainconcept.de>



## Appendix C: LVM

This section takes you through the LVM program and explores its user interface.

LVM has two display modes, or 'views': the *Logical View* and the *Physical View*. These are described in detail below. You may switch between views by pressing the 'F5' key on your keyboard.

### The Logical View

When the LVM program is run, it starts up in what is called the Logical View. This is a display mode which shows all of the logical volumes that currently exist on your system.

Here is an example of what the Logical View looks like (the actual volumes and partitions shown may vary):

Logical Volume	Type	Status	File System	Size (MB)
eComStation 1.D	C: Compatibility	Bootable	HPFS	1000
Backup	D: Compatibility		HPFS	500
[ LAN 1 ]	N: Compatibility		LAN	0
[ CDROM 1 ]	*->S: Compatibility		CDFS	125

  

Disk Partition	Size (MB)	Disk Name
HDD_0	1000	[ D1 ]

F1=help F3=exit F5=Physical View Enter=Options Tab=Window

As the picture shows, the Logical View is divided into two display areas: an upper area, and a lower area.

**The upper area**, hereafter referred to as the *volume list*, lists all of the logical volumes that exist on the system. (If the system has no volumes, then this list will be empty.)

A volume is a logical drive, represented by a "drive letter". Consequently, the list of volumes includes not only hard disk volumes, but anything which currently has a drive letter assigned. This includes CD-ROM drives, Zip drives and similar devices, and even shared network drives, if available.

Each volume has a number of attributes, and these are shown by the columns in the volume list:

#### Logical Volume

This column indicates the volume's name and drive letter. The name is a short text label, up to a maximum of 20 characters, which you may choose yourself. If you decide not to give it a name of your own, then LVM will choose a default name. These names are mainly just labels for your convenience. However, if Boot Manager is installed, then these names will also be used to display the volumes on the Boot Manager menu.

After the name, the volume's drive letter is displayed. The drive letter is very important, as it is the name that the volume will have when you are using eComStation. You may assign any letter to any volume as you choose, unless that letter is already being used.

You may change a volume's drive letter, but if you do, you should make certain that any programs installed on the system which use that drive are also updated to be aware of the new letter. Since this can be a painstaking process, changing a volume's drive letter once it has been set is not generally recommended.

If the drive letter is changed, the old drive letter disappears from the display, and the new letter appears slightly to the left. This is a visual cue used to indicate that the letter has been changed since LVM was started.

Volumes which correspond to CD-ROM drives have an asterisk and an arrow next to the drive letter (' \*-> '). This is used to indicate that the volume does not actually have a fixed drive letter, but will simply

use the next letter available. The letter shown is the one currently being used, which may change if that letter is assigned to a different volume.

#### *Type*

This column indicates whether the volume is a compatibility volume or LVM volume.

#### *Status*

This indicates whether a volume is startable, bootable, installable, or none of these.

#### *File System*

Indicates the type of file system which the volume is using. LVM itself does not create or alter file systems. This column simply reports which file systems are in use, if any.

#### *Size (MB)*

This column indicates the total size of the volume, in megabytes (Mb). This size should be equal to the total size of all partitions in the volume.

Individual volumes within the list may be selected by using the up and down arrow keys on your keyboard. The currently-selected volume is indicated by a coloured 'selection bar'.

Throughout LVM, you may choose from a set of options relevant to the currently-selected item by pressing the 'Enter' key. This will cause an option menu to appear.

In this case, selecting a volume and pressing 'Enter' will bring up the volume options menu. (For more information, see the section on volume options.)

**The lower display area**, referred to as the volume partition list, lists the partitions that correspond to the currently-selected volume.

Every volume consists of either a single partition (if it is a compatibility volume), or a set of partitions (if it is an LVM volume) *which may span multiple drives* (this is one of the major advantages of LVM!)

The volume partition list displays the following attributes for each partition:

#### *Disk Partition*

This column indicates the partition's name. Like the volume name (in the volume list), the partition name is a short text label of up to 20 characters, which you may choose yourself. If you decide not to give it a name of your own, then LVM will choose a default name. These

names are only used within the actual LVM program, and are purely for your convenience.

#### *Size (MB)*

This column indicates the size of the partition, in megabytes (Mb).

#### *Disk Name*

This column indicates the name of the physical disk on which the partition is located.

Specific partitions within the volume partition list may be selected using the keyboard. To select a partition, you must first select the volume to which it belongs. With the desired volume selected, press the 'Tab' key, and the volume partition list will become 'active'. A selection bar appears in the volume partition list whenever it is active, allowing you to select partitions within the list by using the up and down arrow keys. To return focus to the volume list, press the 'Tab' key again.

Pressing 'Enter' when an item in the volume partition list is selected will cause the volume partition options menu to appear.

The Logical View allows you to work with logical volumes, and to view and rename the partitions within those volume; but it does not permit any significant manipulation of partitions, or the disks on which they reside. In order to work with disks and partitions, you will need to switch over to the Physical View.

Use the 'F5' key to switch views.

## The Physical View

The Physical View does for physical disks what the Logical View does for logical volumes. It allows you to view all disks and partitions present in the system, and to manipulate them in a number of ways.

Like the Logical View, the Physical View is divided into upper and lower display areas.

The screenshot shows the Logical Volume Management Tool - Physical View. It consists of two main tables. The upper table, titled 'Physical Disk', has columns for 'Physical Disk', 'Size (MB)', 'Free Space: Total', and 'Largest'. The lower table, titled 'Disk Partition', has columns for 'Disk Partition', 'Size (MB)', 'Type', 'Status', and 'Logical Volume'. At the bottom, there are keyboard shortcuts: F1=help, F3=exit, F5=Logical View, Enter=Options, Tab=Window.

Physical Disk	Size (MB)	Free Space: Total	Largest
[ 01 ]	2445	941	941

  

Disk Partition	Size (MB)	Type	Status	Logical Volume
[ BOOT MANAGER ]	3	Primary	In use	
HDD_0	1000	Primary	In use	eComStation 1.0
HDD_1	500	Logical	In use	Backup
[ free space 1 ]	941			

The upper area, referred to as the *disk list*, lists all the physical disks that exist on the system.

The disk list displays the following attributes for each disk present:

### Physical Disk

This column indicates the disk's number and name. The number represents the disk's physical identity within the computer.

The disk name, like volume and partition names, is a short text label of up to 20 characters. LVM gives each disk a default name, but you are free to change this name to a more descriptive one of your choosing.

These names have no real meaning to the system, and are purely for your convenience.

### Size (MB)

This indicates the physical disk's total size, in megabytes.

### Free Space

*Total:* This column indicates the total amount of free space (that is, space which is not part of any partition) available on the disk. The size is given in megabytes.

*Largest:* This column indicates the size of the largest contiguous block of free space on the disk. If there is only one block of free space, then this value will be the same as that shown under the 'Total' column.

As in the Logical View, the disk list has a 'selection bar' which allows you to select a disk from within the list, using the up and down arrow keys. Pressing the 'Enter' key will cause the disk options menu to appear.

The lower display area, referred to as the disk partition list, lists all partitions that exist on the currently-selected disk. It also shows blocks of free space.

The disk partition list displays the following attributes for each partition on the current disk:

### Disk Partition

This column displays the name of each partition. As usual, the name is a short text label of up to 20 characters. If you do not assign the partition a name, LVM will give it a generic default name, usually consisting of the letter 'A' and a number, enclosed in square brackets.

This column also indicates blocks of free space. Free space may be recognized by the fact that only the 'Disk Partition' and 'Size' columns have values. Free space blocks always have the name 'free space' followed by a number, enclosed in square brackets. The number indicates the relative position of the free space block on the disk, if there is more than one such block.

### Size (MB)

This column indicates the size of the partition or free space block, in megabytes.

### Type

This column indicates whether the partition is a primary or logical partition.

### Status

This column shows the current status of the partition. The possible values are 'available' and 'in use'.

### Logical Volume

This column indicates the name of the volume to which the partition belongs, if any.

To select a partition, you must first select the disk on which it exists. With the desired disk selected, press the 'Tab' key, and a selection bar will appear in the disk partition list, allowing you to select partitions using the up and down arrow keys. To return focus to the disk list, press the 'Tab' key again.

Pressing 'Enter' when a partition is selected will cause the disk partition options menu to appear.

### Creating an installable volume

*In order to install eComStation, you need to have at least one empty, visible compatibility volume available on your hard disk.*

If you do not already have a suitable volume ready to install eComStation, you will need to create one.

Creating a volume may seem like a complicated procedure. To a certain extent, it is. Managing hard disk partitions is not a trivial task under any circumstances, and the fact that volume management offers many powerful features unavoidably adds to the potential complexity.

*Note: If you have already created an empty volume for the purpose of installing eComStation (or from a preview installation), then you should not need to create another one.*

**Tip:** An excellent step by step guide is available in the online help during installation, please consult it if you need to perform harddisk or partition management. You can also view this document directly from CD from the directory: \ecs\books\lvmhelp.inf

### General Considerations

Make sure you have your harddisk layout the way you want it, before you install eComStation. The use of partitioning tools, like PartitionMagic of PowerQuest, FIPS, or others should be prevented if at all possible *after you have installed eComStation*.

Under eComStation, instead of using standard disk partitions to arrange your hard disks into logical drives, you use volumes.

*Note: the eComStation Preview and the IBM MCP installer use a tool to automatically "tag" all available partitions with a LVM "fingerprint". A compatibility volume is simply a partition which has been tagged in this way. The fingerprint is used by LVM to store extra information specific to volume management. This tool is called Volume Conversion Utility (VCU) and is known to cause trouble on some configurations. That is why the eComStation installer does not invoke this tool automatically. This requires that you create the volumes yourself with LVM.*

Operating systems which do not "understand" logical volumes will simply continue to treat compatibility volumes as partitions in the traditional sense.

However, if non-LVM-aware software which performs partition-level disk management is used, then this "fingerprint" may be inadvertently erased. Such programs include the "FDISK" utilities from most other operating systems, and also software such as Partition Magic from PowerQuest. For this reason, it is strongly recommended that you do not use such software on your system after installing eComStation.

If you must do so, then please read the following information carefully first.

If your system does not contain any special "LVM volumes" (as opposed to simple compatibility volumes), then the use of such programs is not likely to cause permanent data loss. In all probability, however, eComStation will not be able to boot from the affected disk drive until the LVM "fingerprints" are recreated. To do this, it will be necessary to boot the system off the eComStation CD-ROM or recovery diskettes, run LVM, and manually convert the partitions back into volumes. Once this has been done, your volumes should be fully restored and functional, with no loss of data.

*Note: We cannot, however, guarantee that no data will be lost. Partition management is an inherently risky business. Always back up any and all existing data on the computer, before working with disk partitions: whether through LVM, FDISK, Partition Magic, or any other means.*

The situation alters, however, if the system contains any "LVM volumes". Unlike compatibility volumes (which are fundamentally normal partitions), LVM volumes depend on a special data format which other partition management software (like FDISK or Partition Magic) does not recognize. In such a case, the volume information could be corrupted beyond recovery, resulting in the loss of all data stored on the LVM volume.

*Therefore, if you believe you will have cause to use third-party partition management software on your system, avoid using LVM volumes. (As noted, you are discouraged from using such software at all.)*

**Always back up all data on the system, before working with partitions or volumes.**

## Appendix D: Preboot Menu

The eComStation **Boot Options Menu** screen allows you to configure the system to work with the hardware on your workstation. Most computers will not require any changes in this screen in order to be able to boot normally. However, if you have trouble getting the CD to boot, then you can use the options on the Boot CD Device Selection screen to configure eComStation so that it will be able to boot on your computer.

The Boot Options Menu looks like this:



Each area on the screen will be described in detail in the following sections. In general, if you do not understand what you see on this screen, the best thing to try is to simply hit «Enter», boot the computer, and see if it works. Most of the time, it will. If it does not, or if you wish to change some of the defaults about how the system looks and acts when you boot from the CD, you can make selections in this screen to try and get the system to boot from the CD or to change things about how the system behaves after you have booted.

Please note that selections made in the "Boot Options Menu" will be used to configure the installation which will be created on your harddrive.

## Navigating the eComstation Boot Options Menu

The controls you use to change the various settings on the screen are the arrow keys, the «Tab» key, and the «Spacebar». Once you have configured the devices, you can use the «Enter» key to continue the boot. Here is a brief description of each of these controls:

- «Tab»: or «Right-Arrow»: Use either of these keys to move to the next field.
- «Shift+Tab» or «Left-Arrow»: Use either of these keys to move to the previous field.
- «Spacebar», «Up-Arrow», and «Down-Arrow»: Use these keys to modify the value of the currently selected field. Fields that use a checkmark to select whether a particular option is on or off can be toggled by using the space bar. When there are several options that are available in a field, you can scroll through them using the «Left» and «Right» arrows.
- Use the «Enter» key to continue booting once you have configured the setup to your satisfaction.

---

## The Configuration Options Available

### Miscellaneous settings

There are three groups of options in this area of the screen. The first allows you to configure the International options of eComStation, such as which keyboardlayout you are using, which codepage you are using and which country you are in. The second set of options allows you to select which drive you would like to use for your swap partition, if any, and where you would like the system initialization files to be stored. The main reason for being able to modify these settings is to make sure your system can successfully boot from CD. If you have more than one CD device in your computer for example, you should change the eCS CD Drive, User init file and System init file settings all to read T: (if you put the eCS boot CD in the second drive). Please experiment with these settings when you get an error 'cannot operate harddrive' during the CD bootprocess.

### International Settings

There are three options in the International Settings section of the Miscellaneous area of the screen. They are as follows:

- **Country Code:** This option lets you select the number that represents your country of origin. There is a list available of all countries and their country codes in the online documentation. If you don't know your country code, select the default, and look up your country code after you have reached the desktop by typing "help country" at an eCS command prompt. Most of the time, the country code is the same three digit number as the one used for your country in the international phone system.
- **Keyboard:** This option lets you select which keyboard layout you will be using. If you do not know the code of the keyboard you are using, then boot the system and type 'help keyb' at an eCS command prompt, and click on the 'layout' link in the command reference. You will see a complete list of all the keyboard layouts available to the system.
- **Codepage:** You can use this option to select which codepage you wish the system to use. If you are not sure which codepage you would like to use, select the default and then type 'help codepage' at an eCS command prompt to see a complete list of all the codepages that are on the system.

### System Configuration

The following options allow you to customise the operation of eComStation as a system while it is booted from CD.

- **Ram drive:** this is the driveletter that will be assigned to the RAM drive from which the CD will boot the eComStation Install/Maintenance system. Obviouslym this letter should not already be assigned in your computer, that is why the default value is the letter Z:
- **Swap file drive:** This setting controls which drive the swap file will be stored on. It defaults to the RAM disk created by the system when it boots up, so as to avoid the extremely unlikely possibility of damaging any existing system on the hard disk. However, if you wish, you can point the system to a disk on the hard drive. This is especially useful on computers with 64 MB RAM or less. *Note: You need to have your harddisk LVM enabled to use this feature.*
- **Reserve drive:** This controls some of the drive letter assignments eComStation will use when booted from the CD. The default is to use the RESERVEDRIVELETTER setting to force the CD-ROM to drive R: and to use drive Z: as the ramdisk for certain parts of the system.

- **eCS CD drive:** This is the driveletter that will be assigned to the CD drive where your eComStation boot CD resides in. Normally this would be the letter following the Reserved drive letter assigned before. If you have more than one CD device however, you would need to check what letter is assigned to your eCS CD boot drive. To do this, press ALT-F1 during the boot process (from CD#1) and at the blue screen that appears, press 'S' - search for eCS CD. A so called command prompt will appear, at which you can type the command CDDRIVE.EXE - that will report which drive letter got assigned to your CD drive. An example report is displayed below: all available CD devices are reported as *File System 'CDFS'* - in this particular case, there is just one CD device, the *label eCS\_CDRun* indicates this is the eComStation Boot CD.

```
eCS Command Interpreter version 4.5
```

```
[A:\]cddrive
```

```
eCS Drive Info
```

Drive	Label	Type	File System	Additional Information
C:	ECS	LOCAL	HPFS	
D:	BACKUP	LOCAL	HPFS	
S:	eCS_CDRun	LOCAL	CDFS	

```
[A:\]
```

- **User init and System init:** should always point to the eCS CD drive, unless you tweak them and store them on another accessible medium.

### **Desktop bootoptions**

- **Installer:** This will boot into the eComStation installer once your desktop is ready. This is default enabled and should be disabled only if you would like to do maintenance to your system with the CD boot option, but not install eComStation.
- **Desktop:** This option (selected by default) controls whether or not the Desktop is loaded when you boot eComStation from the CD. When booted to the desktop you have full access to your system and can use for example tools on available haddrive volumes to examine your system. Booting the desktop from CD does slow down the boot process however, so you may want to disable this selection.
- **Pause boot on Error:** This setting controls whether or not the system pauses if there are any drivers not loading properly during the system boot. In general, if you are having some problems booting from the CD-ROM drive, leave this option checked. However, if you are customarily booting from the CD-ROM drive and you know

everything works, you can disable this option to speed up boot times a bit.

- **No swap:** This will prevent the system from creating and using a swap file while booted from CD. This is the default behaviour if your haddrive is not yet LVM enabled. (It will fail to create the swapfile)
- **USB:** This enables USB support for your system. If you own and use USB keyboard, mouse or modem, enabling this option activates support. See *Chapter 3* for more detail.

### **Display**

eComStation will be able to boot from CD to a full color desktop by using a generic displaydriver created by IBM called GENGRADD. Most display adapters are supported by this driver and thus will successfully boot to a desktop. You can select the screen resolution in which you would like the desktop to appear, by selecting one of the values from 640 x 480 - 1280 x 1024. Choosing Auto select will let eComStation determine the best available screen resolution.

The color depth is also selectable, choose between 256 colors or 64k colors.

By selecting **Legacy VGA** you will revert to the generic VGA driver. Almost every display adapter available is supported by this driver and you can use this setting to thus will successfully boot to a (16 color) desktop. Notebook computers are most likely to give trouble with GENGRADD, so for these you might want to select legacy VGA.

### **ATA(PI)/(E)IDE**

The ATAPI/IDE Controller area lets you configure the way eComStation will handle the IDE interface in your system. There are three main options in this area:

- **Enhanced:** Check this option to use the enhanced IDE driver for your IDE controller. This is the driver written by Daniela Engert, and includes many improvements to the IBM driver so that it will work better and with a wider range of devices (notably are UDMA100 and UDMA66 controllers and drives)
- **Standard:** Check this option to use the standard IDE driver for your IDE controller. This is the driver written by IBM
- **None:** Check this option if you don't use any IDE devices at all and don't want to load an IDE driver.

### **Miscellaneous storage**

- **Load ATA before SCSI:** Check this option if you have both IDE and SCSI devices in your system and are booting from an IDE CD-ROM. If you have a mixed IDE and SCSI system and are booting from a SCSI CD-ROM, then make sure this option is unchecked. If you try to boot your computer and it doesn't work, changing this option is probably the first thing you should try.
- **MO disk large sector:** This setting is required for (large) MO devices/disks with sector sizes other than 512 bytes. Refer to your MO manual to find out if you require this.
- **Generic INT13 driver:** Use the BIOS to access your harddrive. This driver will only make drives available that do not are not supported by any other driver in the system. It will not use harddisk space above 8.4 GB, even when you have more available. This driver is rarely needed.
- **Floppy:** Load floppy drive support for diskettedrives of 360 kB to 2.88 MB
- **DASD:** This is a required setting. Disabling it will prohibit access to your local drives. Obviously you should not disable this driver. (The setting is redundant)
- **JJSCDROM:** JJSCDROM is a replacement CD-ROM file system driver, and supports some of the more recent Microsoft Joliet formats not supported by the IBM driver. If you are having trouble accessing some CDs while in eComStation, try using this driver to see if it improves the ability to use those CD's

## SCSI Support

Many SCSI controllers will work normally with default settings. However, there are some types of SCSI controllers that can create problems. Most notably, these devices tend to either be Adaptec, LSI, or Tekram controllers. If you have a SCSI controller in your computer and are having trouble getting the system to boot, find out what kind of controller you have and select the appropriate driver for your controller. Here is a list of the options listed, the physical driver and the hostadapters they support:

Menu Option	Driver	Supported Host Adapters
<b>Adaptec U160</b>	AICU160.ADD	<b>Adaptec:</b> AHA-29160/LP/N, AHA-39160/D <b>OEM:</b> AIC-7892, AIC-7899
<b>Adaptec 78U2</b>	AIC78U2.ADD	<b>Adaptec:</b> AHA-2940U2B/U2W, AHA-2950U2B, AHA-3950U2B/U2D, AHA-2930U2 <b>OEM:</b> AHA-2940U2, AIC-7890, AIC-7891, AIC-7896, AIC-7897
<b>Adaptec 7870</b>	AIC7870.ADD	<b>Adaptec:</b> APA-1480, AVA-2904CD, AHA-2910/B/C, AHA-2915C, AHA-2920C, AHA-2930/B/C/CU/U, AHA-2940/AU/U/U Dual/UW/UW Dual/UW Pro/W, AHA-2944UW/W, AHA-3940/AU/AUW/AUWD/U/UW/UWD/W, AHA-3944AUWD/UWD, AHA-4944UW/W, AVA-2902E, AVA-2904, AVA-2906 <b>Asus:</b> PCI-AS2940UW, PCI-SC300 <b>OEM:</b> AIC-7850, AIC-7855, AIC-7856, AIC-7860, AIC-7870, AIC-7880, AIC-7895
<b>Adaptec non-PCI</b>	AIC7770.ADD AHA174X.ADD AHA154X.ADD AHA152X.ADD	<b>Adaptec:</b> AHA-174x, AHA154x, APA-1460, AVA-150x, AVA-/AHA-151x, AHA-152x, AHA-153x, AVA-1825, AVA-2825, AHA-274xA/AT/W, AHA-284xA, AHA-274xT <b>DTC:</b> DTC-329x <b>Tekram:</b> DC-300B, DC-320, DC-380, DC800/B, DC-820/B, DC-880/B
<b>Advansys ASC</b>	ASC.ADD	<b>Advansys:</b> ABP-3925, ABP510, ABP5140, ABP5150, ABP5142, ABP542, ABP742, ABP752, ABP842, ABP852, ABP920,

		ABP930/U, ABP940/U, ABP950, ABP960/U, ABP970/U <b>Iomega:</b> ABP-960U, Jaz Jet <b>Iwill:</b> SIDE-2930/C/CR/U/U+ <b>SIIG:</b> i540 SpeedMaster, i542 SpeedMaster, Fast SCSI Pro PCI
<b>BusLogic</b>	FLASHPT.ADD BTSCSI.ADD	<b>BusLogic:</b> BT-/KT-440/C, BT-/KT-445/C/S, BT-/KT-540/C/CF, BT-/KT-542/B/C/D, BT-/KT-545/C/S, BT-/KT-640/A, BT-/KT-646/D/S, BT-/KT-742/A, BT-/KT-746C, BT-/KT-747/C/D/S, BT-/KT-757/C/CD/D/S <b>Buslogic/Mylex:</b> BT-/KT-930 Flashpoint LT, BT-/KT-932 Flashpoint DL, BT-/KT-950 Flashpoint LW, BT-/KT-952 Flashpoint DW, BT-/KT-946/C Multimaster, BT-/KT-948/C Multimaster, BT-/KT-956/C/CD Multimaster, BT-/KT-958/C/CD/D Multimaster
<b>I2O Storage</b>	I2OXPRT.SYS I2OSOSM.ADD	I2O Storage and Transport Operating System Module <i>I2O stands for Input to Output, which is a new specification that may come to support many different types of computer devices. If you have any I2O storage devices in your PC, check this selection to load the I2O driver so that you can use them.</i>
<b>Initio</b>	INIA100.ADD INI91U.ADD INI910.ADD INI610.ADD	<b>CMC:</b> PowerPort 3194U2W80, PowerPort 3194UW40 <b>Initio:</b> INI-A100U2W SPEEDWAY U2W, INI-9090U, INI-9100A I/O HIGHWAY, INI-9100U/UW I/O SPEEDWAY, INI-9200U/UW I/O EXPRESSWAY, INI-9400U/UW I/O THROUGHWAY, INI-9520U/UW I/O BAHN, INI-9100/W, INI-6100, INI-6102 <b>Iwill:</b> SIDE-2935LVD, SIDE-2935UW <b>NMC:</b> A100U2W, 9100U/UW <b>OEM:</b> INIC-1060, INIC-940, INIC-950, INIC-910
<b>Qlogic</b>	QL12OS2.ADD QL10OS2.ADD QL510.ADD	<b>QLogic:</b> QLA1240/D, QLA1000-PI, QLA1001-PI, QLA1020-PI, QLA1021, QLA1040-PI, QLA1041-PI, QLA910-PI,

	QL40OS2.ADD	QLA940-PI, QLA510-PI, QLA400-EA/-IA/-PA/-VL, QLA402-EA/-IA/-VL, QLA405-E/-I, QLA406-HD, QLA410-PA
<b>RAID (DPT)</b> <i>(selecting the RAID option will cause DPT, IBM and Mylex drivers to be loaded)</i>	DPT20XX.ADD	<b>DPT:</b> PM2011 SmartCache Plus, PM2012B SmartCache III, PM2022 SmartCache III, PM2024 SmartCache III, PM2041FW/W SmartCache IV, PM2042FW/W SmartCache IV, PM2044UW/W SmartCache IV, PM2122 SmartCache III, PM2124/W SmartCache III, PM2142FW/W SmartCache IV, PM2144UW/W SmartCache IV, PM3222/W SmartRAID, PM3224/W SmartRAID, PM3332UW/W SmartRAID IV, PM3334UW/W SmartRAID IV
<b>RAID (IBM)</b>	IPSRAID.ADD	<b>IBM:</b> ServeRAID, ServeRAID/2, ServeRAID II, ServeRAID-3H/-3L
<b>RAID (Mylex)</b>	DAC960.ADD	<b>Mylex:</b> DAC960E/M/PD/PDU/PE/PG/PJ/PL/S/SU/SX
<b>Symbios SYM_HI (LVD)</b>	SYM_HI.ADD	<b>LSI/Symbios:</b> LSI/SYM21002, LSI/SYM21040, LSI/SYM22902, LSI/SYM22903, LSI/SYM22910, LSI/SYM22915, LSI/SYM8953U, LSI/SYM8955U (33 & 66 MHz) <b>Tekram:</b> DC-390U3D/U3W <b>OEM:</b> LSI/SYM53C895A, LSI/SYM53C896, LSI/SYM53C1000, LSI/SYM53C1010
<b>Symbios SYM8XX</b> <i>(unfortunately the selection of this driver in the pre-boot screen does not save it to your final installation. Please refer to the <b>Installation Troubleshooting</b> section of <b>Appendix E</b>)</i>	SYM8XX.ADD	<b>Advance:</b> 2931U2W Home, 2941UW/U2W Business <b>Aresys:</b> CI-4500UW <b>Asus:</b> PCI-SC200, PCI-SC860, PCI-SC875 <b>DawiControl:</b> DC-2975U, DC-2976UW, DC-2980U2W <b>Intraserver:</b> ITI-3140U <b>LSI/Symbios:</b> LSI/SYM20810, LSI/SYM20860, LSI/SYM22801, LSI/SYM22802, LSI/SYM8100ASP/S, LSI/SYM8150SP, LSI/SYM815XS, LSI/SYM8250ASP/S, LSI/SYM8251AD/ASP/D/S, LSI/SYM8600SP, LSI/SYM8750SP,

		LSI/SYM8751D/SP/SPE, LSI/SYM8951U, LSI/SYM8952U, LSI/SYM8953U <b>NCR:</b> NCR8100S, NCR8150S, NCR8250S, NCR8251S <b>Tyan:</b> Yorktown <b>OEM:</b> NCR53C810, NCR53C815, NCR53C825, LSI/SYM53C810/A/AE, LSI/SYM53C815, LSI/SYM53C825, LSI/SYM53C825A, LSI/SYM53C860/AE, LSI/SYM53C875/E, LSI/SYM53C876, LSI/SYM53C885, LSI/SYM53C895/A
<b>Tekram TMSCSI</b>	TMSCSIW.ADD	<b>Tekram:</b> DC-310/U, DC-390F/U/U2B/U2W/W
<b>Tekram TRM3X5</b>	TRM3X5.ADD	<b>Tekram:</b> DC-305E/I, DC-315U, DC-395U/UW

This list can also be found on the eComStation CD#1 in  
\ecs\scsi.lst

## Appendix E: Troubleshooting

This chapter discusses some common problems you may encounter during the installation of eComStation. It is composed of several sources and documents, the main text however is found as the **known.issues** document in the root of eCS CD#1.

For a more extensive list of problems and solutions, please see the support forum at: <http://www.ecomstation.com/> and the newsserver at: <news://news.ecomstation.nl/>

### INSTALLATION

**Q:** The system will not boot from the bootable CD.

**A1:** Verify that your motherboard and/or disk controller BIOS support booting from CD and that you selected the right boot order.

**A2:** Watch the cd-rom ready light and the BIOS cd boot messages. Did the cd-rom become ready after the BIOS checked for a CD? If the cd-rom is taking too long to become ready, check if there is setting in the motherboard or disk controller BIOS to delay or wait longer for the cd-rom to become ready. In some cases a newer BIOS may provide this feature. Sometimes you can delay the boot process by pressing the `Pause` key.

**Q:** When booted to the command line, issuing the command `ecsmakedisk.exe` does not bring up the shell properly.

**A:** Issue the command `pmshell.exe` instead. The installer will still appear correctly.

**Q:** During Phase 1 (booted from CD or diskette) the system will hang on a command session (usually windowed) with endless looping command prompts. For example: `[S:\][S:\][S:\][S:\][S:\][S:\][S:\]`

**A:** This happens with some display adapters. Try to close the session. If you can't close the session you will need to reboot by pressing `Ctrl+Alt+Del`. Try to invoke the function you were running through a different path (ie. use the menu).

**Q:** I created a volume using LVM, but I cannot make it bootable, what is wrong?

**A:** If you created the volume from the *Logical View* of LVM, the volume will always be created as a logical partition. To make this type of partition bootable, you need to install the bootmanager. If you want to create a volume as a primary partition, use the *Physical View*.

**Q:** At the end of phase 1 of the installation, a command window came up with endless rolls of command prompts. For example:[A:\][A:\][A:\][A:\][A:\][A:\] I can not kill it. What do I do?

**A:** This is a result of some combinations of video adapter and the mouse driver which surface under certain conditions when booted from the CD. If the installer displayed a screen indicating "eCS installation completed.", try rebooting the machine. If the machine boots from the target volume cleanly and continues the installation, there is nothing to worry about.

If, however, it fails to boot, the last part of phase 1 did not get completed. Boot from the CD again, wait for the desktop to come up, start a full screen command session. At the command line, issue the command:

```
s:\ecs\instexit.cmd t: s: PHASE3
```

where s: is your CD-ROM drive letter, and t: is the target drive letter. When finished, reboot and to continue the installation

**Q:** My machine locked up during installation how can I restart the installation?

**A:** If the machine locked up after the first reboot you should bring up WiseMachine from your desktop, go to Utility -> Selective Install -> eCS Installation - phase 2. It will ask you for the eCS CD#1 (since some files will have to be copied to the harddrive), and then you can continue with the installation process. If the machine locked up after the second reboot you should select phase 3 from the WiseMachine menu to restart the installation

**Q:** During phase 2, I invoked the Selective Install for Networking and the main window of the Network installer popped up. Before I finish, I get a messagebox that asked me if I cancelled the Networking Installer. What's going on?

**A:** We are seeing this on some machines. When that happens do you, ignore the message box and leave it open while continuing with Selective Install for Networking. If the message box remains after Selective Install for Networking has closed you can dismiss it by answering "No".

**Q:** I would like to invoke some commandline commands from the CD booted eComStation desktop. Selecting the Full Screen Command Prompt doesn't do anything.

**A:** The command prompt opens in the background. Please use the CTRL+ESC keys and select it from the window list.

**Q:** My system hangs or freezes when during startup, before I get the Presentation Manager.

**A:** If the boot process hangs during boot you can disable hardware detection. Press Alt+F1 before the logo and select disable Hardware detection.

**Q:** After the first reboot I can not see anything on my screen *and* I am using a SiS videochipset

**A:** Your video-chipset is not supported properly by the SDD videodriver. Please press ALT+F1 before the logo appears and select F3 - reset primary video to generic default display and reboot.

**Q:** LVM reports no recognizable filesystems and no freespace.

**A:** Currently FAT32, NTFS, EXT2 and other filesystems will not be recognized by the eCS. Please use other disk tools to create space for eCS bootmanager and boot partition, then let LVM create the eCS partitions and BootManager during installation. *After using LVM, do NOT use any other FDISK programs.*

**Q:** When trying to run the installer for networking my computer locks up / crashes.

**A:** This is being caused by the hardware detection. Not all computers can handle the low level hardware probing that takes place in this process, so you should disable hardware detection and run the installer again.

You can disable hardware detection by renaming the file \IBMINST\CLBSNIFF.EXE on your bootdrive. You can then manually select your network adapter from the presented list. Or add the following line to your config.sys to disable the sniffer: SET MPTS\_SNIFF=/NS

## INSTALLATION - SCSI

**Q:** I have an Adaptec SCSI Adapter and SCSI CD-ROM and I couldn't get it to boot the eCS bootable CD. A typical message is for this problem is

```
-- loading please wait .....
```

**A:** Check the following to settings:

1. In the Adaptec BIOS, for the cdrom device set disconnect "NO"
2. Also some cdroms will not work properly in sync mode, try turning off initiate sync negotiation in the BIOS.

**Q:** When booting from the CD I get the following message:

```
eCS in unable to operate your hard disk or diskette drive.
```

```
The system is stopped.
```

**A:** Is your cd-rom connected to a SCSI disk controller?

eCS supports more SCSI disk controllers than most other OSes. Due to the large number of drivers there is a high possibility for a conflict between drivers. If you have a SCSI controller you have to use the advanced pre-boot menu (select boot option 2) and specify which SCSI driver you wish eCS to use. See the readme ReadME-BootMenu.TXT for more info. Also *Appendix D* lists all supported SCSI host adapters.

**Q:** I have an Adaptec SCSI Adapter and SCSI CD-ROM and I could not get it to boot the eCS bootable CD. A typical scenario for this problem is that the system is able to load the basedev drivers but not the device drivers. You would get messages like this:

```
device=s:\ecs\boot\testcfg.sys specified in the device
statement is not valid
```

**A:** The system needs to have assigned drive letters to the cd-rom in order to be able to load device drivers. Try using the JJSCDRROM driver. Reboot the system and select option 2 for advanced boot. In the menu select the JJSCDRROM option.

**Q:** My system contains one of the Symbios based SCSI host adapters (as listed in Appendix D)

It boots properly from the eCS CD#1, but after installation (and the first reboot) I cannot start the system anymore.

**A:** Unfortunately a small bug has surfaced in the eCS installation program. This causes the Symbios driver to be omitted from the `config.sys` which is placed on your bootdrive. The solution to this is to edit your `config.sys` right before the eCS installer wants you to reboot your computer. Add a line to your `config.sys` (after other basedev lines) which states:  
`BASEDEV=SYM8XX.ADD`

## GENERAL USE

**Q:** After eCS installation, every time I reboot, I keep getting this big banner "Please Wait" and it doesn't go away.

**A:** For some reason, the cleanup code in the eCS installation program was interrupted. Edit your `startup.cmd` and see if there is a section of entries sandwiched by "rem BEGIN WiseMachine" and "rem END WiseMachine". If so, delete all the lines between these two lines (including the two lines themselves). You might end up with nothing after that. If so, simply delete the `startup.cmd` file.

**Q:** I heard that eComStation is supposed to be super-fast. Why do I have the impression it is very slow?

**A:** It feels slow because your system might have a motherboard that is not reporting the amount of system memory to eCS properly. As a result, a lot of diskswapping will take place. You need to use either a newer kernel, or a kernel patch. Go to the directory `\patchldr` on the eCS CD#1 and please read the file `readme.first`

**Q:** What version of JFS (Journaled File System) is used?

**A:** eComStation is using the 5/08/2001 update to JFS. If you would like the backup MCP GA version of the files, these are available on eCS CD#3:

```
\fixes\testcase-beta\jfs\d0508\backup-mcp\os2
```

We can not recommend using fixes you find elsewhere on the internet. For the latest fixes please refer to our website.

*Please note that newer versions of JFS have known to have problems handling partitions formatted by earlier versions of JFS. If you are using a newer version of JFS and during bootup, JFS fails to complete the `chkdsk` process in a speedy manner, you might try booting up from the eCS CD or from a maintenance partition that uses the earlier JFS. If JFS is successful there, shutdown the system normally and reboot onto the volume that uses the newer JFS.*

**Q:** When I dial into the Internet with InJoy, my computer crashes just when the connection is ready, this will happen mostly when you dial in for the second time.

**A:** There is an error in the TCPIP stack which causes this behaviour. Please review the file `\fixes\ibm-official\tcpip43\ic27649.txt` on CD#3 for the solution to this problem.

**Q:** I get a `SYS####` error when I close `LVM.EXE`.

**A:** Sometimes a `SYS` error appears when exiting LVM, whether changes have been made or not. This error does not seem to present a problem with the function of LVM and it's manipulation of the disk. You can safely ignore this error.

**Q:** How to invoke the eCS Clock, with it's pretty looks?

**A:** You can always start the eCS clock by clicking with the right button on the clock in the eComCenter.

**Q:** My computer beeps, and the harddisk is spinning up and down all the time, what is going on?

**A:** Probably you have a problem with reading from harddisk. If eCS detects problems with reading from harddisk it tries to recover by resetting the diskcontroller. A common reason for read problems is a computer that is not properly grounded. Please check the electric grounding of your PC.

## WISEMACHINE

**Q:** I deployed Object Desktop using WiseMachine. After a reboot the Object Desktop banner came up while I opened the template folder and my machine became unusable.

**A:** After the reboot, do not open the template folder. Open the Object Desktop folder and start the "Workplace Shell Class Editor". This will pop up the Object Desktop banner without locking up your machine. The banner will appear only once and will not affect the template folder afterwards.

**Q:** How do I "move" an application that was deployed with WiseMachine?

**A:** The current version of WiseMachine does not support moving an application automatically. You must perform a "remove" (from the list of installed applications) first. When you do a remove, WiseMachine de-registers any WPS dlls for that application - if there is any, and then clean

up config.sys, desktop ICONs, and any entries in systems files relating to this particular application. However, the actual directory containing the application code is NOT removed. (This is intentional. If you DO want to remove the application code, you can do so by manually deleting the files). After removal, you can re-deploy that application by pointing the "source" to the original location, and set the "destination" to the new location. WiseMachine will then make a copy of the code and re-deploy it accordingly. You can remove the original copy after that. A move function will be added in future versions of WiseMachine.

**Q:** I am trying to install a program using WiseMachine or eCSGuides and the install window never appears?

**A:** Check that the install window did not appear in the background. Use the Ctrl+Ecs keys to bring up the window list. Select the program and press enter.

**Q:** I want to restart Phase 2 / Phase 3 of the eComStation Installation process using WiseMachine, but this does not affect my desktop, while I would like it to do just that!

**A:** The installation process sets two values in your USER.INI file, which you can remove to let the installer do a 'complete' Phase 2 or 3 re-install. Open REGEDIT2.EXE (from a Command Prompt) and use the Edit -> Find option to locate the ECOMSTATION entry. You can simply remove it.

---

## APPENDIX F: Getting support

If you run into problems with eComStation there are several places to get support. First of all a lot of documentation is included with the product. Most of it are text files which you can read with an editor like `tedit.exe` or `e.exe`. The `.inf` files can be viewed with `view.exe` and the `.pdf` files with `acroread.exe`. All these applications are included in startable form on CD. On the CD's you can find the following documents:

### General Documents - CD1

`readme.first`

General info on eComStation - Last minute installation notes and a quick troubleshooter for CD boot

`readme.txt`

Documentation from Merlin Convenience Pack - Information for installing from CD#2 (from IBM)

`readme2.txt`

Addenda to `readme.txt`

`ecs\books\WSeB-sg245393.pdf`

Information on the new functionality since the release of WSeB - chapter 4 discusses LVM and JFS

`ecs\books\lvmhelp.INF`

LVM documentation from Serenity Systems - includes tutorial approach for setting up your system

`ecs\books\usinglvm.inf`

LVM documentation from IBM

`ecs\books\migrate.pdf`

Documentation for migration - mainly targetted at WSeB - chapter 7 discusses LVM and JFS

**|** *Next to these documents you can find the helpfiles in .inf format for eComStation in the following directory: \OS2\BOOK*

### Drivers Related - CD1

`SoftwareChoice\UDF\readme.txt`

Documentation for the UDF Installable Filesystem (ifs)

`SoftwareChoice\USB\*.txt`

These subdirectories contain documentation for the USB drivers

`patchldr\readME.FIRST`

Documentation for the Bootloader patch to allow detection of >64MB on some machines

## Recovery and Diagnostic Tools - CD1

grahamutil\graham20.inf

Documentation for the Graham Utilities - Filesystem and Recovery tools.

*Please note that the Graham Utilities can be run directly from CD to provide maintenance possibilities for your system*

TVoice\WiseProg\wptool32\\*.txt

important warnings and documentation about the use of WPTools

## Application documentation - CD1

ecs\thememgr\readme.txt

Documentation for the ThemeManager

ecs\ecsStyler\readme.txt

Documentation for eStylerLite

ecs\books\wise.INF

Documentation for WiseMachineLocal

TVoice\Wiseprog\WiseManager\WiseApp\index.html

explanation of WiseApp, a utility to create your own WiseMachine Packages

## Drivers Related - CD3

Drivers\Dani-IDE-latest\506\DaniS506.DOC

Documentation for the Daniela IDE driver

Drivers\Dani-IDE-latest\ATAP\DaniATAPI.DOC

Documentation for the Daniela ATAPI driver

Drivers\ibm-ide-latest\README.TXT

Documentation for the IBM IDE and ATAPI drivers

Drivers\ibm-print01\readme.txt

Documentation for the parallel port driver with PCI support

Drivers\ibm-raid\README.TXT

Documentation for the IBM RAID controller drivers

Drivers\printerdrivers\epomni-epson-readme.txt

Readme for the Epson OMNI drivers

Drivers\SCSI\adapttec-7800fam\Reados2.txt

Readme for the Adaptec 7800 family drivers

Drivers\SCSI\lsi-symbios\INTRO.TXT

Readme for the LSI SCSI drivers

Drivers\SCSI\lsi-symbios\OS2.TXT

Readme for the LSI SCSI drivers

Drivers\SCSI\lsi-symbios\OS2faq.txt

FAQ for the LSI SCSI drivers

Drivers\SCSI\QLOGIC\readme.txt

Readme for the QLogic SCSI drivers

Drivers\pccard\README.CID

CID installation manual for PC Card Director (Play at Will)

Drivers\pccard\README.TXT

Installation manual for PC Card Director (Play at Will)

SoftwareChoice\ScitechSE\problems.txt

Documentation of known issues with SciTech Display Doctor

SoftwareChoice\ScitechSE\readme.txt

Manual, installation instructions and information on

MMeCS\readme.txt

Readme for the eCS Multimedia Pack 1.0

## Please note:

- *Some other packed drivers can also be found in the drivers directory on CD#3, to read their documentation unpack the drivers to a temporary directory first.*
- *In the directory Fixes you will find supported and unsupported fixes. All fixes include a text file description and installation instructions.*

## Information on the internet

If the readme's do not help, you can always try to consult the support forums on the internet, to help you forums have been created at the following sites:

- <http://www.ecomstation.com/>
- <http://www.ecomstation.nl/>

## Other websites of interest are:

- <http://www.os2ezine.com/>
- <http://www.os2voice.org/>
- <http://www.warpdoctor.org/>

Alternatively you could have a look at the OS/2 newsgroups or mailing lists and the OS/2 and eComStation usergroups.

---

## Appendix G: Coexisting with other OSes

eComStation is very well capable of coexisting with other OSes on your computer. This can be convenient in some situations, where you may want to use certain applications which are not able to run on eComStation. There are some details you should pay attention to, which are listed below. If you want to exchange data between OSes, make sure you have a volume which is read/writeable by these systems. Most of the time special drivers will be required to make this possible.

### General Considerations

Make sure you have your harddisk layout the way you want it, before you install eComStation. The use of partitioning tools, like PartitionMagic of PowerQuest, FIPS, or others should be prevented if at all possible *after you have installed eComStation*. If you do want to change your harddisk layout, please consult *Appendix D; LVM*.

### Windows NT/2000

If you are going to install Windows 2000 on your computer, please install Windows 2000 and then apply service pack 2 first. If you already have Windows 2000 on your system and want to install eComStation, also install service pack 2. If you do not do this, every time Windows 2000 starts up, it will destroy the eCS boot manager. This is a bug in Windows 2000. If your boot manager is destroyed you can restore it by booting eCS from the installation CD#1 and run LVM, where you can reinstall the bootmanager.

If you are using Windows N.T. 4.0 there is an option that you can mark a partition as not having a drive letter. Windows 2000 on the other hand does not have this option. Because of this, Windows 2000 will list HPFS partitions as being available in 'My Computer'. If you double click on that drive letter it will say it can not read that partition and sometimes you will be prompted with an option to format it. Of course you should not accept this offer, since it will render your HPFS volume useless.

### Windows 95, 98 or Me

If you have installed eCS and you are going to install Windows 95, 98 or Windows Me you will receive a warning about a 'bootmanager being disabled' or that you will 'no longer be able to start OS/2'. Ignore these warnings. When the installation has finished you can enable the bootmanager again by starting FDISK (from DOS) and via option 2 mark the smallest available partition as active (the bootmanager partition is usely about 4 to 7 MB in size).

To access *FAT32* partitions on your harddisk, please refer to the *Miscellaneous* section of *Chapter 3*.

*VFAT* partitions require the use of a *VFAT* driver, these are available on <http://hobbes.nmsu.edu/> another option to access *VFAT* partitions is by using NetDrive: <http://www.blueprintsoftwareworks.com/netdrive/>

### Linux

eComStation can be installed without problems alongside a Linux installation on the same system. Please use the LVM Bootmanager instead of lilo.

To read/write *HPFS* volumes you will need to obtain a module for Linux. To access Linux *ext2fs* partitions you require the driver available on CD#3: `\THIRDPARTY\MoreStuff\ext2_240.zip`

*Please note that the OpenJFS is not compatible with eComStation JFS and as such it is not advised to access your JFS volume from Linux. This may change in the future.*

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