Blue Label
PowerEmulator

Version 1.8

Installation and User's Guide

License

Lismore Software Systems, Ltd.

About This Manual

This manual is your complete guide to Blue Label PowerEmulator. It provides instructions for the setup procedure and operating the Blue Label PowerEmulator, as well as specific information on each of the included components and utilities.

This manual assumes that you are familiar with the basic operations on your Macintosh. For background on these topics, refer to your Macintosh User's Manual. It is also recommended to get acquainted with the PC operating system you would like to use.

Contents

Chapter 1: Introduction

Welcome!

Thank you for purchasing Blue Label PowerEmulator by Lismore Software Systems. Blue Label PowerEmulator is software designed to provide the IBM PC emulation based on the Power Macintosh compatible computers. This product gives you an ability to use any operating systems, business applications, programs and games developed for IBM PC-compatible computers.

Blue Label PowerEmulator Contents

- Blue Label Loader - an application that allows you to run Blue Label PowerEmulator
- Blue Label Setup - an application that allows you to customize the emulated components of PC hardware
- Components - the folder containing all the required components of emulated PC hardware
- Utilities - the folder containing disk utilities
- PC Drivers - the folder containing some DOS device drivers
- DOSBOOT.IMG - floppy disk image containing PTS-DOS and DOS shell - DOS Navigator
- MacBlueLabelLib - a shared library required for Blue Label PowerEmulator
- User's Guide - Blue Label PowerEmulator documentation in Adobe Acrobat format

System Requirements

- Mac OS 8.6-9.x
- 64 megabytes of free RAM
- 300 megabytes of free disk space
- Grayscale or color monitor (265 colors) 1024x768
- CD-ROM drive
- Keyboard
- Mouse

Features Supported

- Pentium® processor instruction set
- VESA SVGA graphics (from 320x200 to 1280x1024, from 256 color to True color)
- Four PC disk images (up to 2GB each), which can be used simultaneously
- Floppy and floppy disk images support
- CD-ROM
- SCSI (up to 6 devices)
- 3Dfx Graphic Accelerator (Voodoo and Voodoo 2 support)
- SoundBlaster sound (input/output) with high quality
- Ethernet networking
- Printer support
- Fast Modem interface for better access to Internet
- Mounting PC Disk Images on Mac’s Desktop
- Copying files from Mac to PC and vice versa

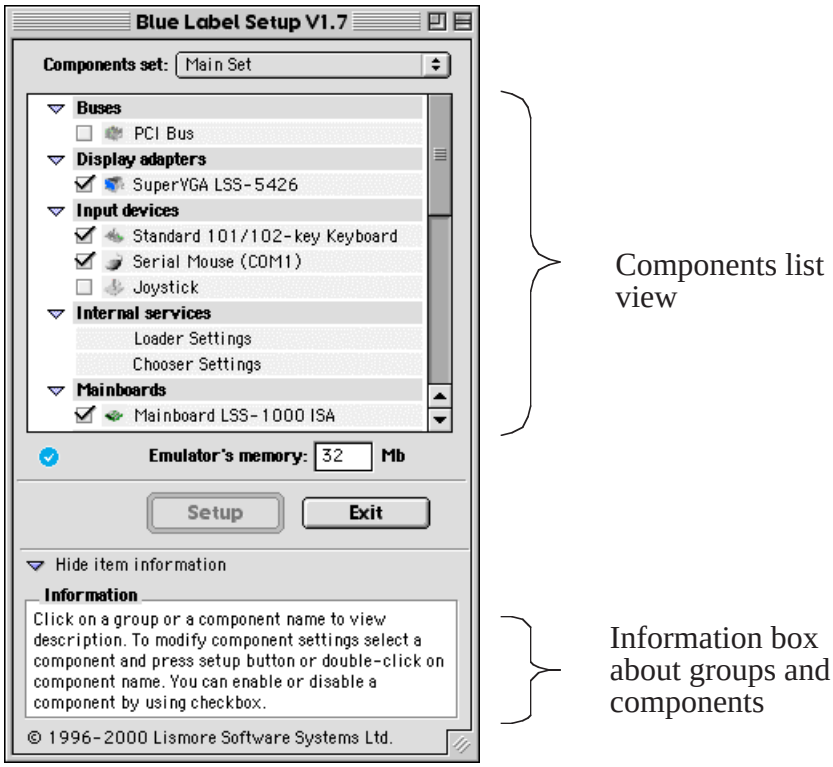
Chapter 2: Quick Start

This chapter is for experienced Macintosh users who would like to use Blue Label PowerEmulator immediately. The detailed setup procedure is described in Chapter 3 "Blue Label Setup".

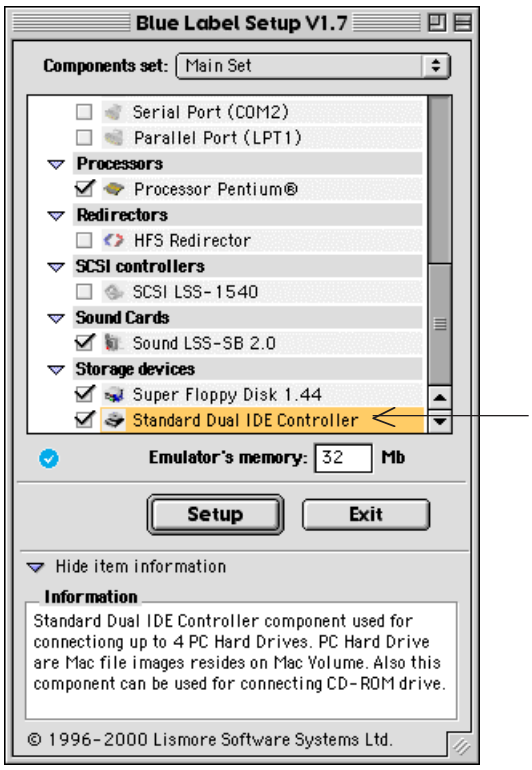
1. Open "**Blue Label PowerEmulator V1.8**" folder.

2. Double-click "**Blue Label Setup**" icon to launch the setup.

Blue Label Setup main window appears:



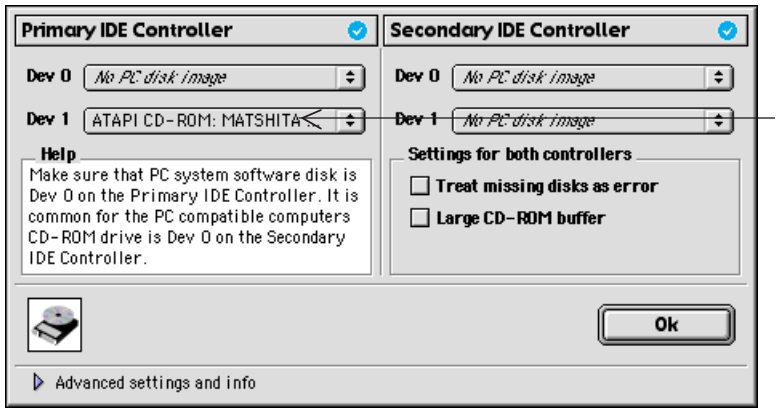
3. Find "**Standard Dual IDE Controller**" component using scroll bar. Usually this component is at the bottom of the list.



Standard Dual IDE Controller component

4. Double-click "**Standard Dual IDE Controller**" line.

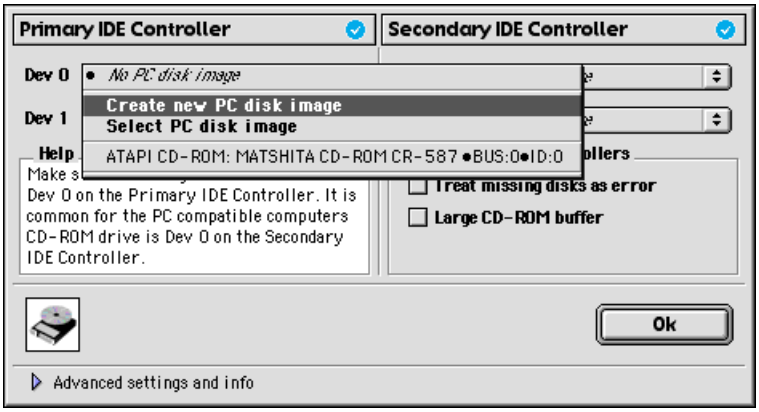
Standard Dual IDE Controller setup window appears:



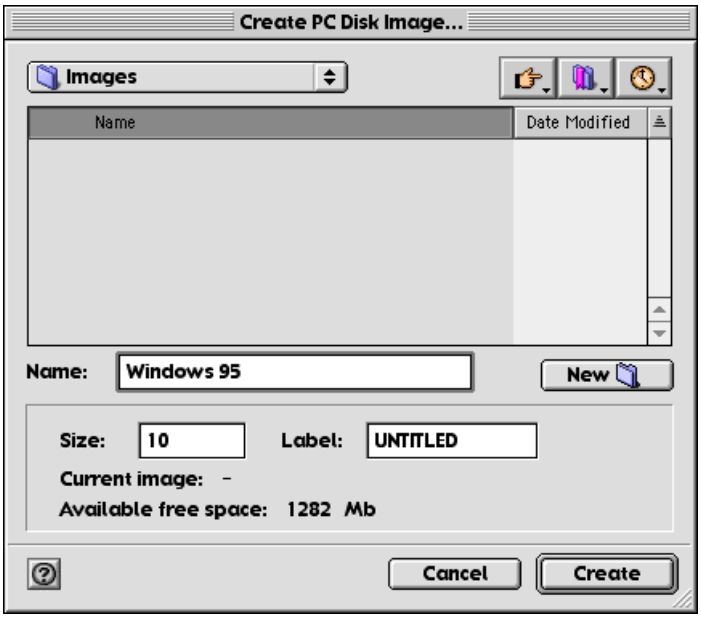
Automatically selected CD-ROM drive

Note:	*If CD-ROM drive is present in your Mac it will be selected automatically.*

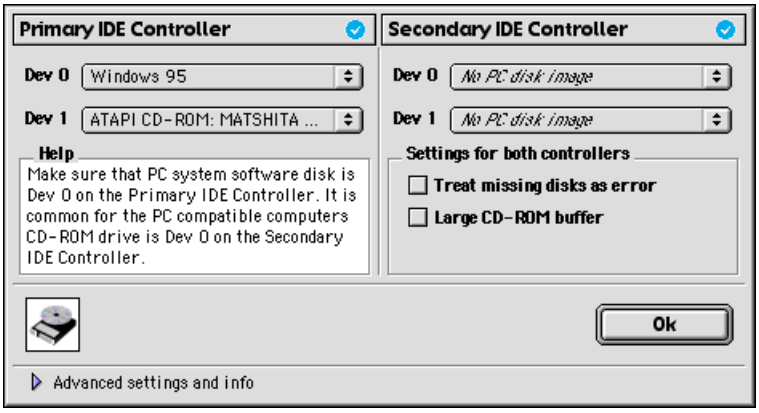
5. Select "**Create New PC Disk Image**" menu item from the menu.



Standard file dialog appears:



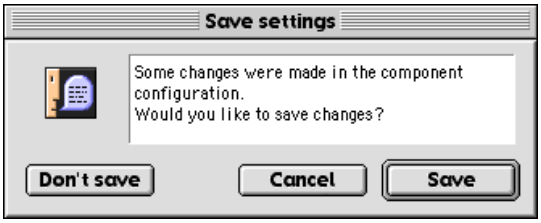
6. Enter PC disk image name and size. Click "**Create**" button. PC disk image is created.



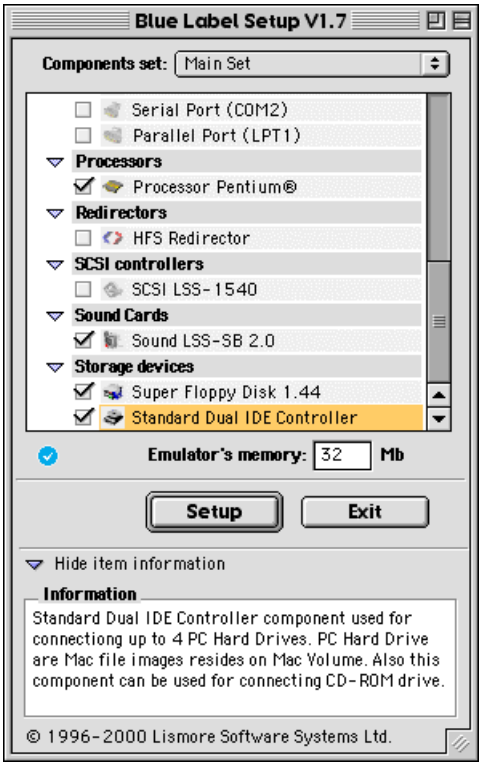
Note:	*Blue Label PowerEmulator doesn't install operation system (like DOS or Windows) on the PC disk image. You can not immediately boot from the created PC disk image. At first you should install a PC OS (Windows95/98, DOS, Linux etc.) from a bootable floppy, bootable CD-ROM disk or floppy image (e.g. DOSBOOT.IMG).*

7. Click "**Ok**" button in the "**Standard Dual IDE Controller**" window.

Confirmation dialog appears:

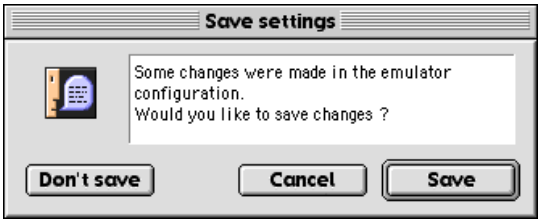


8. Click "**Save**" button in the confirmation window to save preferences **of "Standard Dual IDE Controller**".



9. Click "**Exit**" button in the "**Blue Label Setup**" main window.

Confirmation dialog appears:



10. Click "**Save**" button in the confirmation window to save preferences of "**Blue Label Setup**".

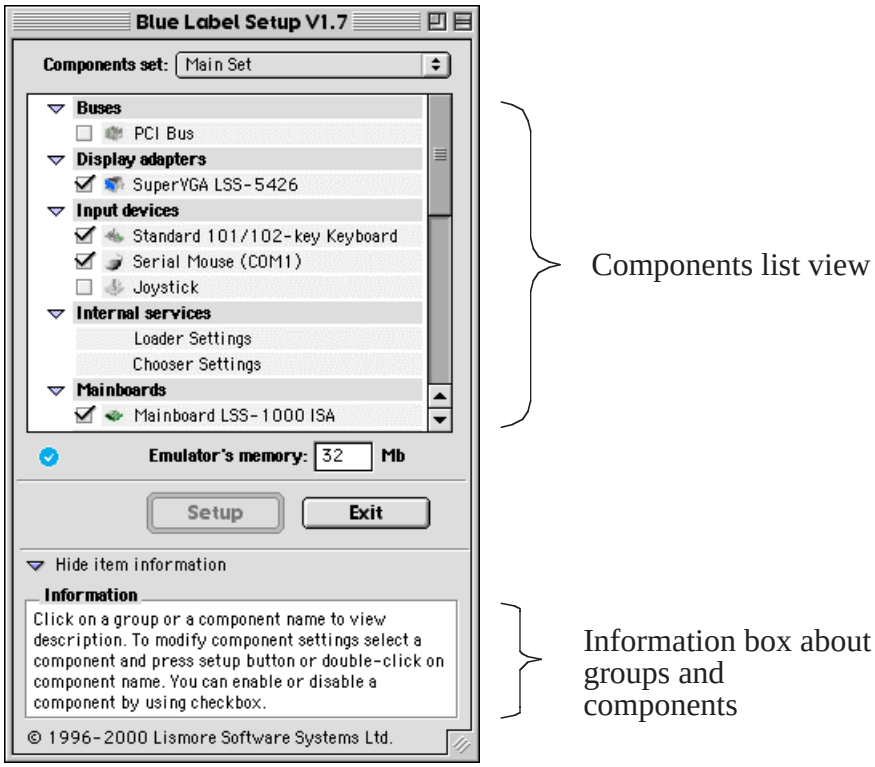
Now Blue Label PowerEmulator is ready to launch and to install an OS. Double-click "**Blue Label Loader**" icon to launch the Blue Label PowerEmulator.

Note:	*To get instructions on installing operating system on your Hard Disk Image please refer to Chapter 10 "Installing OSes"*

Chapter 3: Blue Label Setup

The Blue Label Setup application has an option of setting up hardware/software configuration of the Blue Label PowerEmulator. To open Blue Label Setup double-click the Blue Label Setup icon.

Blue Label Setup window appears:



The Blue Label PowerEmulator contains a set of components. Each of the components emulates a PC device or represents a Blue Label service option.

All components are grouped. Each group contains components of one class. For example: Group “Input devices” contains components emulating keyboard, mouse and joystick.

Groups

The "Blue Label PowerEmulator" consists of the following groups:

Buses	- contains a set of components emulating computer buses
Display adapters	- contains a set of components emulating video cards
Input devices	- contains a set of components emulating data input devices
Internal services	- contains a set of components enabling adjustment of an internal emulator functions
Mainboards	- contains a set of components emulating computer mainboards
Multimedia devices	- contains a set of components emulating multimedia devices
Network cards	- contains a set of components emulating network cards
Ports	- contains a set of components emulating computer ports
Processors	- contains a set of components emulating CPU and FPU
Redirectors	- contains a set of components enabling access to foreign file systems

SCSI controllers	- contains a set of components emulating SCSI controllers
Sound cards	- contains a set of components emulating sound cards
Storage devices	- contains a set of components emulating computer data storage devices

Components

The Blue Label PowerEmulator consists of the following components:

Processor Pentium®	- emulates Pentium® type processor
Mainboard LSS-1000 ISA	- emulates ISA-class mainboard
SuperVGA LSS-5426	- SuperVGA class video card Cirrus Logic CL-GD5426 compatible
Standard 101/102-Key Keyboard	- emulates 101/102-key Keyboard redirected to the Mac keyboard
Standard Dual IDE Controller	- emulates two ATA-class disk controllers including ATAPI interface for CD-ROM drives
Super Floppy Disk 1.44	- emulates floppy disk controller redirected to the Mac floppy or floppy disk image
Sound LSS-SB 2.0	- emulates sound card Creative SoundBlaster 2.0 compatible
Ethernet LSS-NE2000	- emulates Ethernet card Novell NE-2000 compatible
SCSI LSS-1540	- emulates SCSI controller Adaptec AHA-1540 compatible
PCI Bus	- emulates PCI bus redirected to the Mac PCI bus
3Dfx Graphic Accelerator	- emulates 3Dfx graphic accelerator use Voodoo compatible accelerator cards
Serial Mouse (COM1)	- emulates serial mouse redirected to Mac mouse
Serial Port (COM2)	- emulates communication serial port COM2 redirected to the Mac serial port or a file
Serial Port (COM3)	- emulates communication serial port COM3 redirected to the Mac serial port or a file
Parallel Port (LPT1)	- emulates printer parallel port redirected to Mac serial port or to the connected Mac printer
Joystick	- emulates game port using InputSprocket
HFS Redirector	- redirects Mac file system to DOS file system
Loader Settings	- manipulates settings of Blue Label Loader application

Enabling/Disabling components

To enable or disable the appropriate component click check box in the components list.

☐ - Component is disabled
☑ - Component is enabled

To setup the "Blue Label PowerEmulator" to the default configuration, use "**Command+D**" keys (or select "Default" from "Configuration" menu).

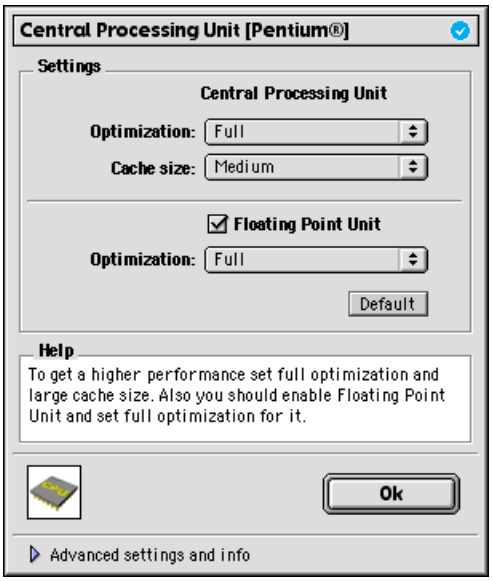
Note:	*Minimal configuration of "Blue Label PowerEmulator" components:* *Processor Pentium®* *Mainboard LSS-1000 ISA* *SuperVGA LSS-5426* *Standard 101/102-Key Keyboard* *Standard Dual IDE Controller or Super Floppy Disk 1.44*

Opening components setup

Each component of the “Blue Label PowerEmulator” has its own setup.

To open a required component setup, click the component title and click “Setup” button in the Blue Label Setup window or just double-click component’s name.

Component setup dialog window appears:



Configuration manager

Configuration Manager save various Blue Label PowerEmulator component's parameters to sets. Enable/disable components and change their parameters in various sets. This can be handy for running various PC OSes, and applying different sets to them.

To open Configuration manager window open the Configuration menu and choose Manager menu item.

Configuration manager window appears

New - add a new set
Rename – rename the selected set
Delete – delete the selected set

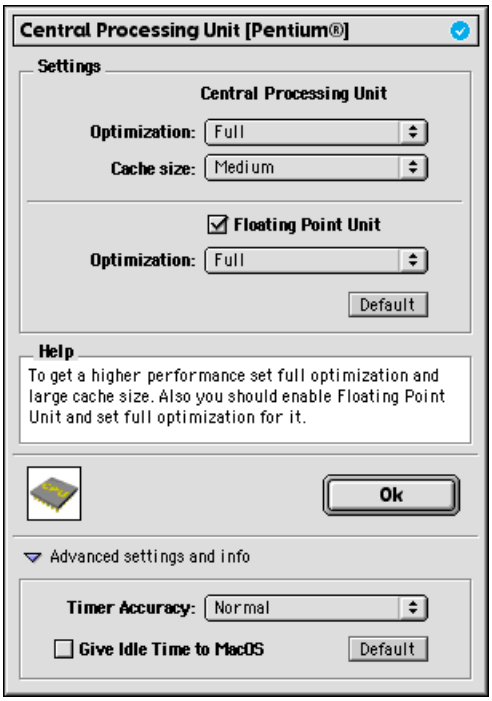
Chapter 4: Components

Processor Pentium®

Processor Pentium® component is used for converting and executing Intel Pentium® processor commands on a PowerPC processor. Operating system, application, game, and utility requests are dynamically converted to the native PowerPC code that allows achieving maximum possible performance. You can use setup to adjust the component.

Processor Pentium® setup provides the following features:

- Central Processing Unit (CPU) optimization level
- Central Processing Unit (CPU) cache size setup
- Enable/disable Floating Point Unit (FPU)
- Floating Point Unit (FPU) optimization level
- Timer Accuracy (Advanced)
- Giving Idle Time to Mac OS (Advanced)



Central Processing Unit (CPU) optimization level setup

This option sets the Speed-Compatibility ratio. Using IBM PC compatible computer's specificity this component optimizes Intel Pentium® processor commands and as a result programs run faster. Invalid execution of a program may be sometimes caused by an incorrect use of processor commands. That is why you can adjust desired Speed-Compatibility ratio yourself.

Processor Pentium® setup provides following levels:

- **Standard** - partial optimization
- **Full** - full optimization

Central Processing Unit (CPU) cache size setup

This option sets the memory size to be used for converting Intel Pentium® commands to the native PowerPC code. Cache size is calculated depending on a memory size dedicated to the Blue Label Loader application. The larger the cache size is, the faster PC programs run. The entire memory size dedicated to the Blue Label Loader application is shared between PC memory and cache. Therefore, to achieve maximum emulator performance you should dedicate enough memory to the Blue Label Loader application and set maximum cache size.

Processor Pentium® setup supports the following cache sizes:

- **Small**
- **Medium**
- **Large**

Note:	*Blue Label Loader application memory size setup is described in Chapter 6 "Blue Label Loader".*

Enable/Disable Floating Point Unit (FPU)

This option allows to enable/disable Floating Point Unit (math co-processor). Some programs may work better if Floating Point Unit is disabled.

Floating Point Unit (FPU) optimization level setup

This option sets Speed-Compatibility ratio. Standard mode provides maximum precision in mathematical calculations. Program execution speed increases if this function is used, but this may cause some inaccuracy in mathematical calculations.

Timer Accuracy (Advanced)

This option allows you to select PC timer's accuracy value. When PC software runs it executes time periodic tasks. Commonly it simply updates timer counter. This option sets the maximum frequency with which timer periodic tasks are executed. Some programs may work better if Timer Accuracy option is set to High.

Processor Pentium® setup provides the following timer accuracy settings:

- **Low** - more time for processor, less time to timer periodic tasks
- **Normal** - optimal value
- **High** - less time to processor, more time to timer periodic tasks

Note:	*High Time Accuracy value may be used on fast Macintosh models. It is not recommended for slow processor types.*

Give Idle Time to Mac OS (Advanced)

This option allows to enable/disable execution of Mac OS system software at emulator's runtime. Some Mac OS applications or system software require periodic refresh, therefore if you use such software turn the option on.

OS depended settings

Windows 3.1 (3.11)

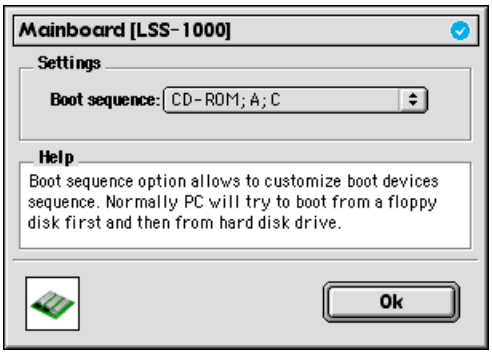
If you would like to use Windows 3.1 (3.11) you should set Standard optimization level for Central Processor Unit (CPU).

Mainboard LSS-1000 ISA

Mainboard LSS-1000 ISA component is used for connecting emulated devices. It also contains Real-Time Clock, CMOS, Interrupt Controller etc. These devices don't require extra setup or adjustment.

Mainboard LSS-1000 ISA setup provides the following features:

• PC boot sequence setup



PC boot sequence setup

This option sets PC boot sequence.

1. A,C,CD-ROM - System will try to boot OS first from floppy, Hard Drive then from CD-ROM

2. C,A,CD-ROM - System will try to boot OS first from Hard Drive, floppy then from CD-ROM

3. CD-ROM,C,A - System will try to boot OS first from CD-ROM, Hard Drive then floppy

4. CD-ROM,A,C - System will try to boot OS first from CD-ROM, floppy then Hard Drive

5. A,CD-ROM,C - System will try to boot OS first from floppy, CD-ROM then from Hard Drive

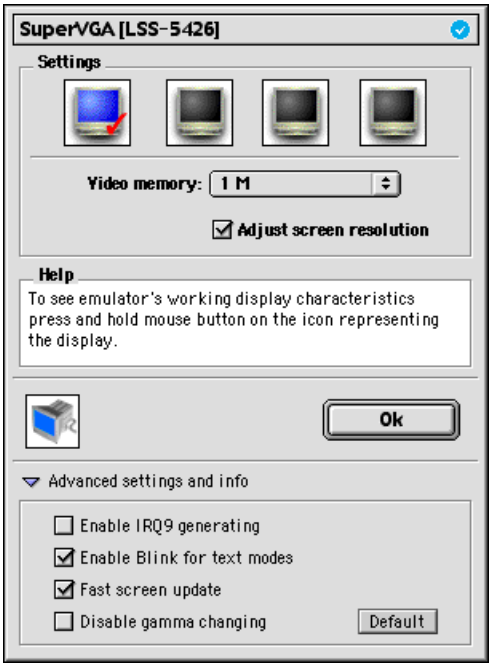
This option allows booting from different devices. For example: if you have a bootable CD you would like to boot an OS from, just choose the boot sequence in which system will try to boot from CD-ROM first.

SuperVGA LSS-5426

SuperVGA LSS-5426 component is used for display video output. Using setup you can select an appropriate Mac display and set emulated video card properties.

SuperVGA LSS-5426 setup provides the following features:

- Working display selection
- Viewing display properties
- Video memory size setup
- Screen resolution adjustment
- Enable/Disable IRQ9 interrupt (Advanced)
- Enable/Disable blinking for text modes (Advanced)
- Fast screen update (Advanced)
- Disable gamma changing (Advanced)



Working display selection

If your Mac has two or more displays this option allows you to select which display is to be used for PC program's video output.

1. Click appropriate display icon and hold mouse button.
Display Info window of the current working display appears in its upper left-hand corner.

2. Release mouse button. Current working display is selected and marked with red.

It is recommended to use as work display the one having maximum colors and resolutions available. Colors and resolutions are shown in the Display Info window. Available resolutions and color sets are marked red.

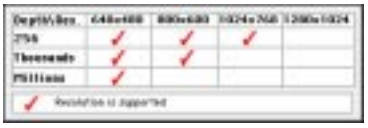
Note:	*Color depth and resolution also depend on video memory size and on adjustment parameter (see options below).*

Display parameters viewing

To view maximum colors and resolutions available with current video memory and adjustment settings:

1. Click work display icon and hold mouse button.

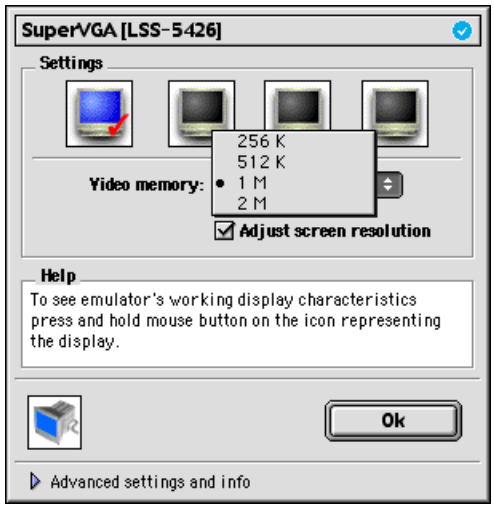
Display Info window appears in the upper left-hand corner:



Resolutions marked red are available for PC programs.

2. Release mouse button.

Video memory size setup



This option sets emulator video memory size. Color depth and resolution depend on video memory size. The more video memory is set - the more resolutions and colors are available for PC programs.

Note:	*Color depth and resolution also depend on Mac video card parameters. To determine maximum available color depth and resolution see "Viewing Display parameters "*

If your Mac shows the same settings in the Display Info window with different video memory size then you should choose less video memory size.

Resolution adjustment setup

This option is used for automatic resolution adjustment. If this option is enabled then when a PC program switches resolution Mac switches its resolution too. For example: If your Mac's resolution is high when PC program switches to a low one, then your Mac switches to a low resolution too.

If this option is disabled then when a PC program switches resolution Mac won't switch its resolution. For example: If your Mac's resolution is high while PC program switches to a low one, then your Mac won't switch its resolution and PC video will be displayed in a window.

Note:	*After exiting the emulator or when you switch to Mac OS, resolution, colors and gamma are restored to the state which was prior emulator's launch.* ***Files and folders location on your Mac's desktop doesn't change.***

Enable/Disable interrupt IRQ9 (Advanced)

This option allows you to enable/disable video card IRQ9 generation. IRQ9 is disabled (it is its default state) but some programs may request the interrupt. The method of operation is obsolete though this option is present for better compatibility.

Enable/Disable blinking for text modes (Advanced)

This option allows you to enable/disable blinking in text modes. This option is necessary for those users who use OSes, which work in text mode (like DOS). PowerPC processor resources are used for blinking text (this option is hardware generated for IBM PC computers), therefore if your would like to increase video performance disable blinking.

Fast screen update (Advanced)

This option allows you to setup display refreshing rate. Some games (such as Doom, Quake, etc.) may display frames up to 80 times per second. If you have disabled this option, the component limits display refreshing rate to 20 frames per second that increases emulator's speed.

Disable gamma changing (Advanced)

This option disables Mac gamma changing (gamma correction) for the emulator video output.

OS depended settings

Windows NT 4.0 (3.51)

Using 2Mb of video memory is not recommended. Otherwise Windows NT will display video information improperly.

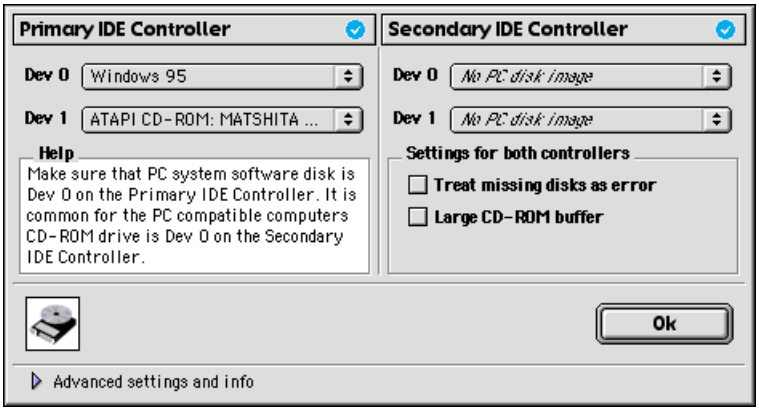
Standard Dual IDE Controller

Standard Dual IDE Controller component is used for working with mass storage devices. Virtual disks (PC disk images) residing on Mac volume as files are used for storing PC files. These files are PC hard drives copies generated by software methods. To setup an OS (DOS, Windows or other OS), to install a PC program or a game you are to create one or more PC disk images.

Standard Dual IDE Controller component is also used for connecting CD-ROM drive.

Standard Dual IDE Controller setup provides the following features:

- PC disk images creation
- Work PC disk images selection
- Choosing and assigning CD-ROM drive
- Displaying information on used ports, interrupts and DMA (Advanced)



PC disk images creation

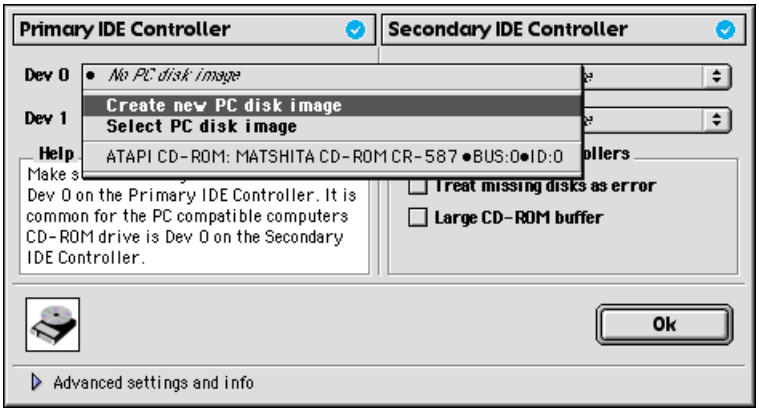
This option allows you to create PC disk images. To create a PC disk image, please determine size of the disk you want to have. Size of the disk depends on the software that you wish to install there i.e. OS, business software, games or something else. For example: if you want to create PC disk image for Windows 95 its size is to be larger than 150 MB. If you create PC disk image for DOS, 20 MB is enough.

Use Installation Guide of an OS you are installing. You can also use recommendations described in Chapter 8 “Installing OSes”.

How to create PC disk image:

1. Determine what purposes the PC image will be used for. Whether it will be used for installing an OS or additional programs, games and utilities. This is necessary to make a correct choice on what controller and device your PC disk image should be created. If PC disk image will be used for installing an OS then you should use menu Dev 0 on Primary IDE Controller. If it will be used for installing additional programs, games and utilities use menu Dev 0 or Dev 1 on Secondary IDE Controller.

2. Select “Create new PC disk image” from the appropriate Device menu.

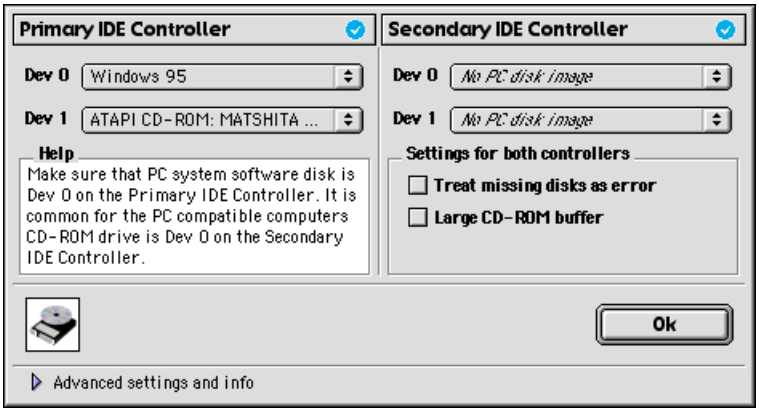


Standard file dialog window appears:

3. Enter PC disk image name, size and label (optional). Minimum PC disk image size is 1 MB, maximum 2GB.

4. Click “Create” button. If PC disk image creation was successful the dialog closes.

PC disk image name appears in the appropriate device menu.

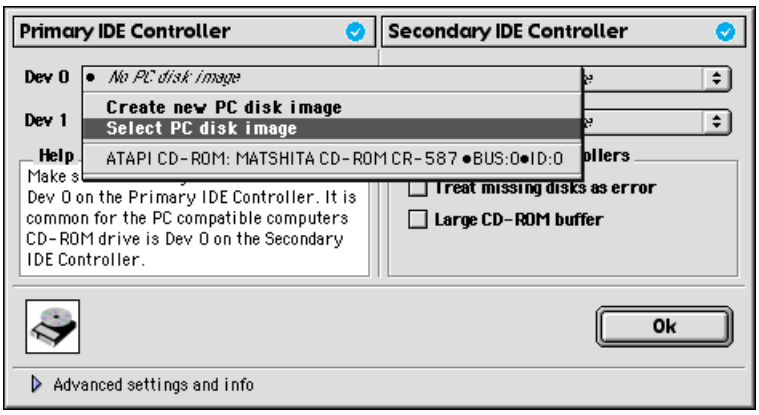


Work PC disk images choosing

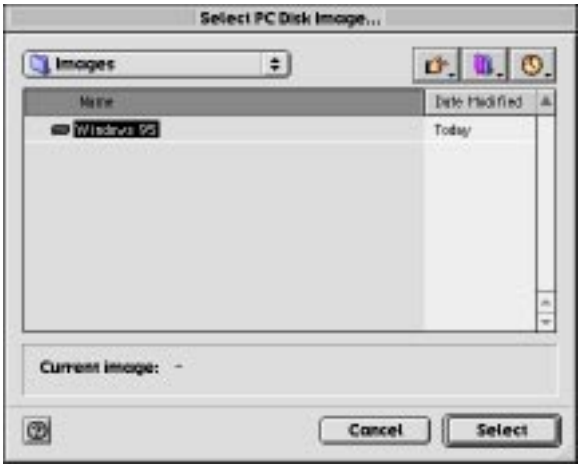
Standard Dual IDE Controller component supports simultaneous use of up to four PC disk images. You can create more PC disk images that you will choose depending on the purpose. For example for business applications you have a disk named “Business”, for games disk named “Games”, for texts and documents “My documents” etc. It is common for IBM compatible computers that OS resides on Dev 0 Primary IDE Controller, and additional disks are Dev 0 and Dev 1 Secondary IDE Controller.

How to change work disk:

1. Select “Select PC disk image” menu item for the appropriate device.

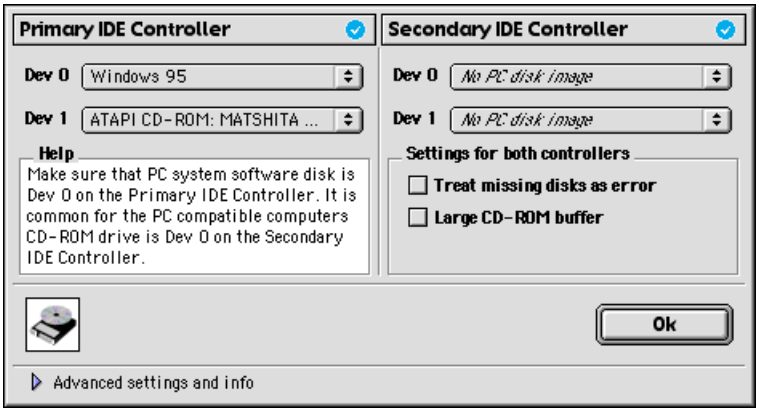


2. Standard file dialog appears.



3. Choose PC disk image and click “Select” button.

PC disk image name appears in the appropriate device menu.



You can choose any combination of PC Disk images to configure Standard Dual IDE Controller.

Sample 1 (Two Hard Disks and one CD-ROM):

Primary Dev 0	- Drive C	“System”
Primary Dev 1	- CD-ROM	
Secondary Dev 0	- Drive D	“Games”
Secondary Dev 1	- None	

Sample 2 (Two Hard Disks):

Primary Dev 0	- Drive C	“System”
Primary Dev 1	- Drive D	“Texts”
Secondary Dev 0	- None	
Secondary Dev 1	- None	

Sample 3 (Three Hard Disks):

Primary Dev 0	- Drive C	“System”
Primary Dev 1	- Drive D	“Business”
Secondary Dev 0	- Drive E	“Games”
Secondary Dev 1	- None	

Sample 4 (Three Hard Disks and one CD-ROM):

Primary Dev 0	- Drive C	“System”
Primary Dev 1	- CD-ROM	
Secondary Dev 0	- Drive D	“Business”
Secondary Dev 1	- Drive E	“Games”

Sample 5 (Four Hard Disks):

Primary Dev 0	- Drive C	“System”
Primary Dev 1	- Drive D	“Business”
Secondary Dev 0	- Drive E	“Texts”
Secondary Dev 1	- Drive F	“Games”

Choosing and assigning CD-ROM drive

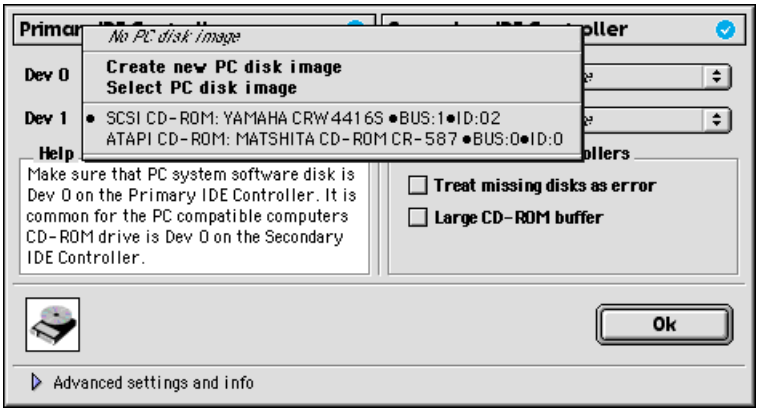
To let PC programs use a CD-ROM you should select the Mac CD-ROM on which IDE Controller will be emulating PC CD-ROM drive. At first launch of the Standard Dual IDE Controller setup (if your Mac has a CD-ROM drive) CD-ROM will be automatically selected and assigned as Dev 1 Primary IDE Controller. This position is standard for the majority of operating systems.

Some OSes require CD-ROM to be assigned as Dev 0 Secondary IDE Controller. You can set the option using setup. If your Mac has more than one CD-ROM, you can select which device will be used for the emulation. If you want to use CD-ROM in DOS or Windows 3.1 programs you should use LSSCDROM.SYS (see Chapter 7 “PC Drivers” for details). You can also use any other ATAPI CD-ROM compatible driver.

How to select a CD-ROM drive:

1. Press and hold mouse button on the menu of an appropriate device (typically it is Dev 1 on the Primary IDE Controller).

If CD-ROM drive is present, menu item "CD-ROM drive info" appears:



2. Select an appropriate CD-ROM device for emulation.

3. Release mouse button. CD-ROM drive is selected.

Note:	*If there is no CD-ROM in your Mac then there will be a sign in the menu information line “No CD-ROM drive”.*

Displaying information on used ports, interrupts and DMA (Advanced)

This option is used for displaying hardware settings of the "Standard Dual IDE Controller".

Key Combinations

Standard Dual IDE Controller recognizes the following key combinations:

Command+2 - eject CD
Command+3 - load CD
Command+P - play Audio CD
Command+S - stop Audio CD

OS dependent settings

Windows 95/98

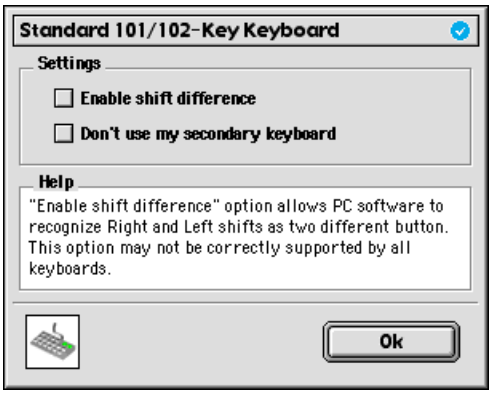
Windows 95/98 doesn't detect Secondary IDE controller while installing if there is no disk connected to it. Therefore, prior installing Windows 95/98, you should connect at least one disk to Secondary IDE Controller.

Standard 101/102-Key Keyboard

Standard 101/102-Key Keyboard component is used for PC keyboard emulation using Mac keyboard. This component is also used for Blue Label PowerEmulator functions for example such as “**Command-Q**" (Exit from the emulator)

Standard 101/102-Key Keyboard setup provides the following features:

- Shift difference
- Don’t use my secondary keyboard



Shift difference

This option allows you to enable/disable recognizing Left Shift/Right Shift, Left Control/Right Control, Left Alt/Right Alt as different keys. It is required for some programs that Left and Right modifier keys will output different codes when they are pressed. For example: In a game Left Shift may be defined as “crouch” when Right Shift is defined as “jump”. If option Shift Difference is disabled then on pressing Right Shift action “crouch” will be performed.

Note:	*Some types of Mac keyboards don’t support this option, therefore programs may not work properly*

Don’t use my secondary keyboard

This option disables usage of the second keyboard as a main one for the emulator. You may use this option if you have 2 keyboards connected to your Mac and the additional one doesn't work with the emulator.

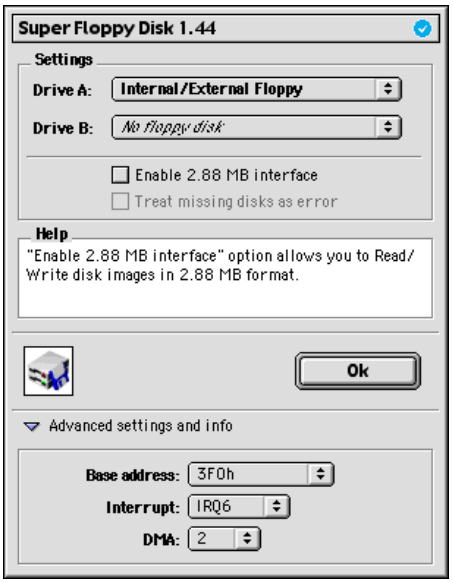
Super Floppy Disk 1.44

Super Floppy Disk 1.44 component is used for reading/writing files in IBM PC format, using Mac floppy disk drive. The component also emulates operations with floppy disk images. Floppy disk image is a copy of a diskette in a file residing on your volume. Having connected such image to your Super Floppy Disk 1.44 component you will be able to work with the image like with a real diskette.

Super Floppy Disk 1.44 component supports two floppy disk images. You may assign your hardware floppy disk drive for drive A as well as floppy disk image. For drive B you may assign floppy disk image only.

Super Floppy Disk 1.44 setup provides the following features:

- Floppy disk drive selection
- Floppy disk image selection
- Floppy disk image creation
- Enable 2.88 MB Interface
- Displaying information on used ports, interrupts and DMA (Advanced)



Floppy disk drive selection

This option is available if your Mac has a floppy disk drive.

To select a floppy disk drive, click Drive A pop-up menu and select Internal/External floppy menu item.

Note:	*If this option is available on your Mac but you don't have a floppy drive, this option works as if there is no floppy disk inserted in your floppy disk drive.*

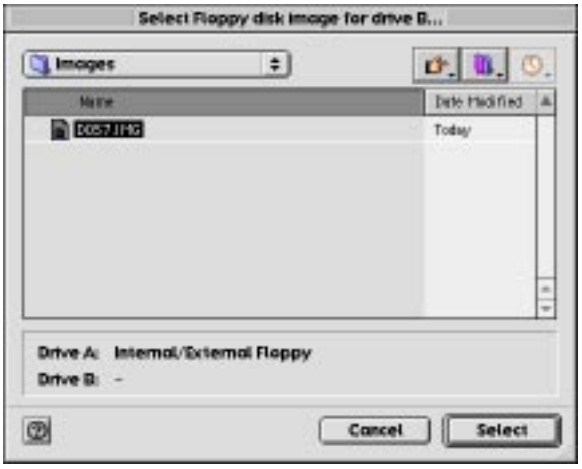
Floppy disk image selection

This option allows you to select Floppy disk images.

To select Floppy disk image:

1. Select “Select Floppy image…” from the appropriate Drive menu.

Standard file dialog window appears:



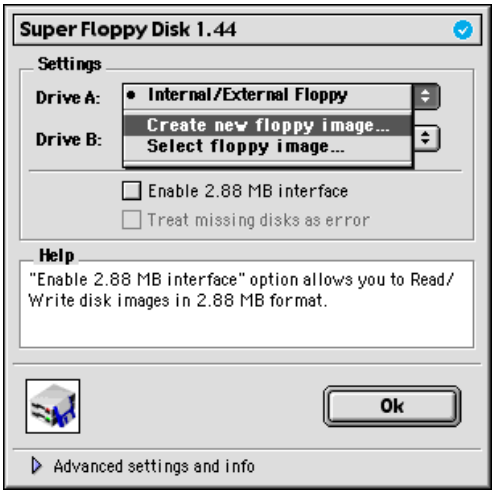
2. Choose Floppy disk image and click “Select” button. Floppy disk image name appears in the appropriate Drive menu.

Floppy disk image creation

Using this option you can create Floppy disk images. You may create disks in three different formats: 720Kb, 1.44Mb and 2.88Mb.

How to create a Floppy disk image:

1. Select “Create new Floppy image…” from the appropriate Drive menu.



Standard file dialog window appears:

2. Enter Floppy image name and select the appropriate disk format.

3. Click “Create” button. If PC disk image’s creation was successful the dialog closes.

Floppy image name appears in the appropriate Drive menu.

Enable 2.88 MB Interface

This option allows you to read/write floppy disks in 2.88MB format.

Note:	*As this option is not standard for 1.44 disk drives, it may work improperly with some OSes.*

Displaying information on used ports, interrupts and DMA (Advanced)

This option is used for displaying Super Floppy Disk 1.44 hardware settings.

Key combinations

At emulator’s runtime Super Floppy Disk 1.44 component recognizes the following key combinations:

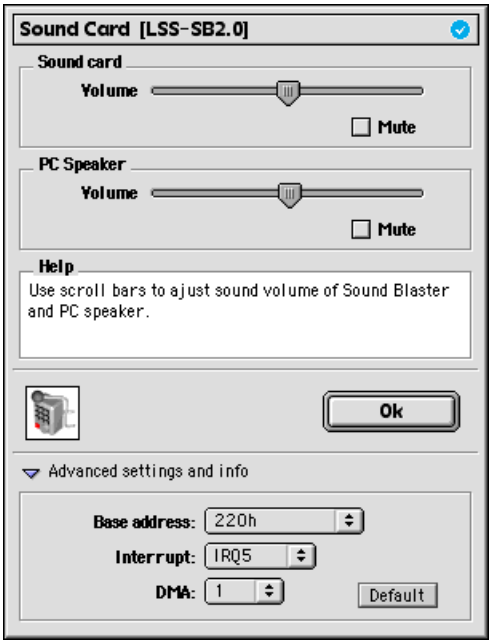
Command-1 - if a real floppy disk drive is assigned to the drive the disk will be ejected.
Command-4 - select (unselect) floppy disk image for drive A. "Use none" button will automatically assign real floppy disk for drive A if it is present in your Mac.
Command-5 - select (unselect) floppy disk image for drive B.

Sound LSS-SB 2.0

Sound LSS-SB 2.0 component is used for sound input/output made by PC software, using Mac input/output sound system. The component emulates Creative SoundBlaster compatible sound card. If a PC program requires manual sound card setting then you should choose **Creative Sound Blaster** or **100% compatible sound card**. Standard PC settings: **PORT: 0x220, IRQ: 5, DMA 1**. This component also emulates PC speaker. In IBM PC compatible computers PC speaker is a separate sound device, therefore the component has separate settings for a PC speaker.

Sound LSS-SB 2.0 setup provides the following features:

- Digital Sound volume setup
- PC Speaker volume setup
- Ports, interrupts and DMA assignment (Advanced)



Digital Sound volume setup

This option allows you to adjust sound card volume independently from your Mac sound volume settings. The adjustment affects PC sound volume only. You can also disable sound output using "mute" option.

To setup volume:

Drag slide bar to the left to decrease or right to increase volume.

PC Speaker volume setup

This option is similar to sound card volume setup.

Ports, interrupts and DMA assignment (Advanced)

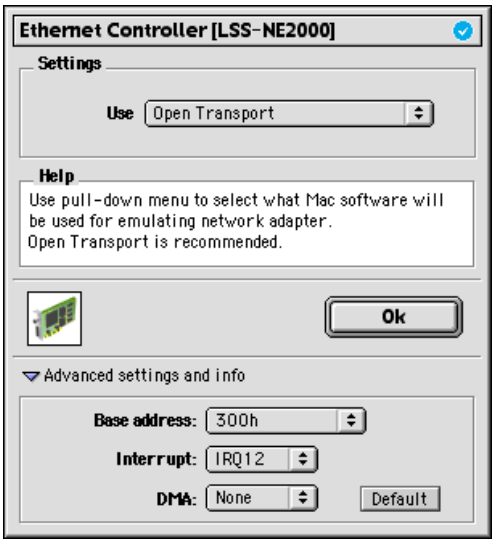
This option allows you to redefine PORT, IRQ and DMA settings for sound card. Some PC programs require (usually games) their own PORT, IRQ and DMA values rather than the defaults, so you can redefine the values.

Ethernet LSS-NE2000

Ethernet LSS-NE2000 component can be used to connect your emulated PC to a network. The component emulates **Novell NE-2000** compatible network adapter. If a PC program or an OS requires manual network adapter setting then you should choose **NE2000 compatible network adapter**. Standard PC settings: **PORT: 0x300, IRQ: 12**.

Ethernet LSS-NE2000 setup provides the following features:

• Mac network card selection
• Ports, interrupts and DMA assignment (Advanced)



Mac network card selection

If your Mac has more than one network adapter, this option allows you to select which Mac network adapter will be used for emulating PC network card.

Thus, Ethernet LSS-NE2000 component can work in two modes:

1. Use Open Transport

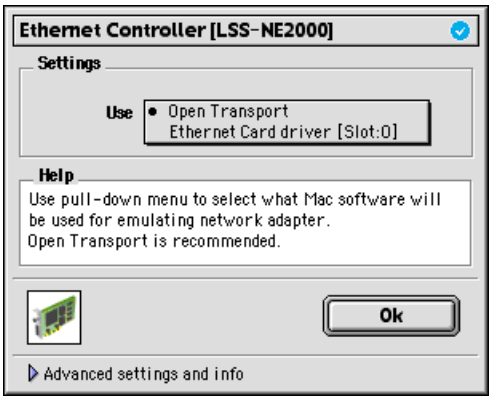
This option uses all Open Transport settings for network adapter emulation. You can select network adapter using AppleTalk control panel.

2. Use Ethernet card driver

Not all Open Transport versions have a set of functions required for full emulation of a network adapter, therefore if the component doesn't work in "Use Open Transport" mode you may use "Use Ethernet Card driver" option.

To select Mac network protocol:

1. Press and hold mouse button on the pop-up menu. Pop-up menu contains names of all installed Mac network adapters.



2. Choose one.

3. Release mouse button. Mac network adapter is selected for emulation.

Note:	*It is recommended to use the Open Transport option if you have a third party Ethernet adapter*

Ports, interrupts and DMA assignment (Advanced)

This option allows you to redefine PORT, IRQ and DMA settings for a network card. Some PC programs require (mainly drivers) PORT, IRQ and DMA to be rather different from the defaults, therefore you can redefine the values yourself.

Note:	*The component automatically transforms any Network adapter you have selected to Novell NE2000 compatible adapter. When you are installing OS use Novell NE2000 network adapter compatible drivers.*

SCSI LSS-1540

SCSI LSS-1540 component is used for connecting SCSI to your emulated PC. Using this component you can connect such devices as External SCSI Disk, External SCSI CD-ROM etc. The component emulates **Adaptec AHA-1540 compatible SCSI controller**. If a PC program or an OS requires manual SCSI card setting then you should choose **Adaptec AHA-154x SCSI host adapter**. Standard PC settings: **PORT: 0x330, IRQ: 11, DMA 6**.

SCSI LSS-1540 setup provides the following features:

- Mac SCSI card selection for emulation
- Enable/disable access to Mac SCSI disks
- Ports, interrupts and DMA assignment (Advanced)

Mac SCSI card selection for emulation

If your Mac has more than one SCSI card this option allows you to select the Mac SCSI controller which will be used for emulation.

To select Mac SCSI controller:

1. Press and hold mouse button on the pop-up menu.
Pop-up menu contains names of all installed Mac SCSI controllers.

2. Choose one.

3. Release mouse button. Mac SCSI controller is selected for emulation.

Enable/Disable access to Mac SCSI disks

This option enables/disables access to Mac SCSI disks. If there is a SCSI hard disk in Macintosh format installed in your Mac then on disabling the option PC software won't be able to access it. This option protects Mac OS, Mac files and Mac folders from being corrupted by PC software. If the option is enabled then a PC software can access Mac SCSI disk, and you can use specialized programs to access Mac SCSI disks.

Ports, interrupts and DMA assignment (Advanced)

This option allows you to redefine PORT, IRQ and DMA settings for a SCSI controller. Some PC programs require (mainly drivers) PORT, IRQ and DMA values to be rather different from the defaults, so you can redefine the values yourself.

Note:	*The component automatically transforms any SCSI adapter, you have selected, to AHA-154x compatible adapter. When you are installing OS use Adaptec AHA-154x SCSI Host Adapter compatible drivers.*

PCI Bus

PCI Bus component is used by PCI-based components. One of these components is 3Dfx Graphic Accelerator. If you have PCI Voodoo-based Graphic Accelerator installed in your Mac and you would like to use it in your emulated PC, then PCI Bus component should be enabled.

PCI Bus setup provides the following features:

• Viewing information on PCI devices (Advanced)
• Viewing information on used ports (Advanced)

Viewing information on PCI devices (Advanced)

You can use the option to get information on PCI devices installed on your Mac.

Viewing information on used ports (Advanced)

You can use the option to get information on PCI Bus hardware settings.

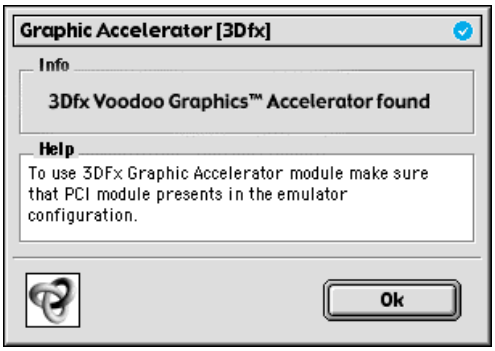
Note:	*PCI Bus component doesn't emulate PCI cards. It just provides Blue Label components with the interface. An appropriate Blue Label component is required to use your Mac's PCI card. 3Dfx Graphic Accelerator is the only component of this kind by now.*

3Dfx Graphic Accelerator

3Dfx Graphic Accelerator component is used for Voodoo-based graphic accelerator support. If you want to use 3Dfx Graphic Accelerator make sure that PCI Bus component is turned on.

3Dfx Graphic Accelerator setup provides the following features:

• Viewing information on the installed 3Dfx Graphic Accelerator



Viewing information on the installed 3Dfx Graphic Accelerator

This option is used for displaying information on the installed 3Dfx Graphic Accelerator on your Mac.

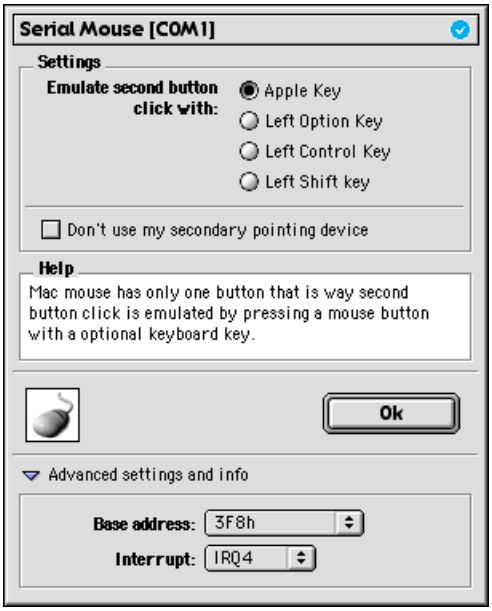
Note:	*Many programs use 3D libraries while working with 3Dfx Graphic Accelerator. The libraries require Floating Point Unit (FPU), so please make sure that FPU option is enabled in a Processor Pentium® setup.*

Serial Mouse (COM1)

Serial Mouse (COM1) component is used for emulation of PC mouse using Mac's mouse. The component supports 1 and 2 button Mac mouse. If your mouse has one button then you can assign a key on the keyboard, which will be pressed together with a mouse button to emulate the right mouse click. The component emulates **Microsoft Serial Mouse** compatible device connected to emulated serial port COM1. You should use LSSMOUSE.COM mouse driver if you want to use mouse in DOS programs. Also you can use any other driver that works with a standard serial mouse.

Serial Mouse (COM1) setup provides the following features:

- Second mouse button assignment
- Don't use my secondary pointing device
- Displaying information on the used ports and interrupts (Advanced)



Second mouse button assignment

Select a key on the keyboard to be pressed with a mouse click to emulate second mouse button and click the appropriate radio-button.

Don't use my secondary pointing device

This option disables usage of the second mouse as a main one for the emulator. You may use this option if you have an additional pointing device (i.e. Tablet) connected to your Mac and it doesn't work with the emulator.

Displaying information on the used ports and interrupts (Advanced)

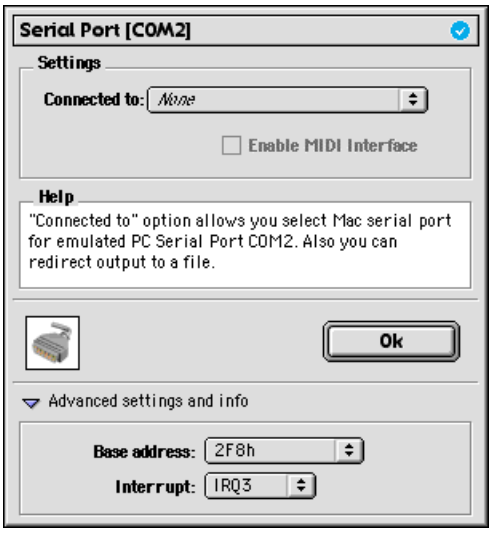
This option is used for displaying Serial Mouse (COM1) hardware settings.

Serial Port (COM2)

Serial Port (COM2) component is used for connecting serial devices to your emulated PC. You can connect Modem, Printer etc., using this component.

Serial Port (COM2) setup provides the following features:

- Output assignment
- Enabling MIDI Interface
- Displaying information on the used ports and interrupts (Advanced)

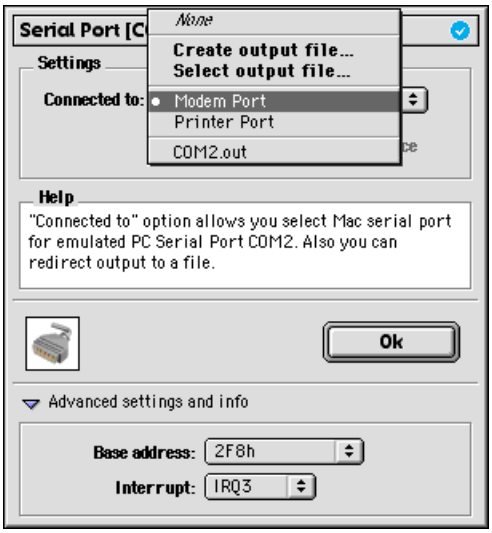


Output assignment

This option allows you to select the Mac's port, which will be used for emulation. Commonly, Mac has 2 serial ports - Modem port and Printer port, therefore if you want to use Serial Port COM2 as a **modem port** then in "Connected to" menu you should select the port your modem is connected to.

To select Mac's serial port:

1. Press and hold mouse button on the pop-up menu.
Pop-up menu contains names of all serial ports that are installed in your Mac.



2. Choose one.

3. Release mouse button. Mac's serial port is selected for emulation.

Note:	*Mac's serial port names may be different, depending on the computer type or the devices connected to your Mac's serial ports. For example: iMac's modem port is called "Internal modem".*

Enable MIDI Interface

This option should be enabled if you have connected a MIDI device to the Serial Port (COM2).

Displaying information on the used ports and interrupts (Advanced)

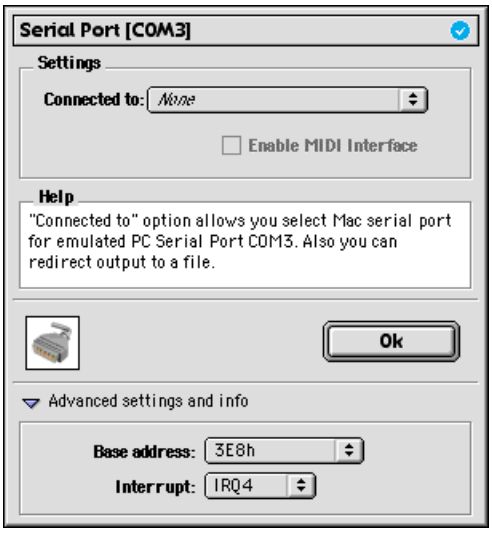
This option is used for displaying Serial Port (COM2) hardware settings.

Serial Port (COM3)

Serial Port (COM3) component is used for connecting serial devices to your emulated PC. You can connect Modem, Printer etc, using this component.

Serial Port (COM3) setup provides the following features:

- Output assignment
- Enabling MIDI Interface
- Displaying information on the used ports and interrupts (Advanced)



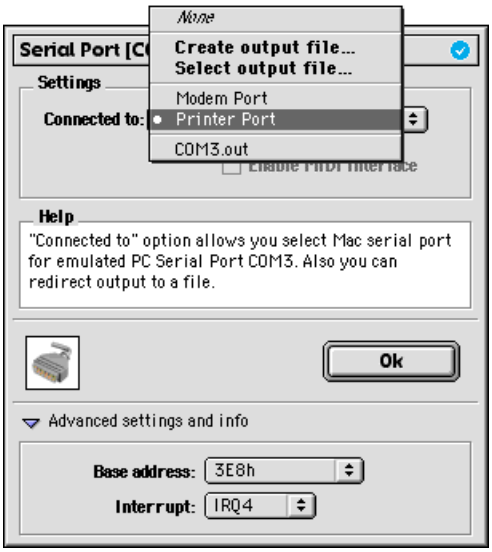
Output assignment

This option allows you to select Mac's port, which will be used for emulation. Commonly, Mac has 2 serial ports - Modem port and Printer port, therefore if you want to use Serial Port COM3 as a **printer port** then in "Connected to" menu you should select the port your serial printer is connected to.

To select Mac's serial port:

1. Press and hold mouse button on the pop-up menu.

Pop-up menu contains names of all installed Mac serial ports.



2. Choose one of them.

3. Release mouse button. Mac's serial port is selected for emulation.

Enable MIDI Interface

This option should be enabled if you have connected a MIDI device to the Serial Port (COM3).

Displaying information of the used ports and interrupts (Advanced)

This option is used for displaying Serial Port (COM3) hardware settings.

Note:	*Using Serial Port (COM3) for your modem is not recommended. This can result in hardware failures because COM1 (Serial mouse) and COM3 have shared resources. Use Serial Port (COM2) to connect your modem.*

Parallel Port (LPT1)

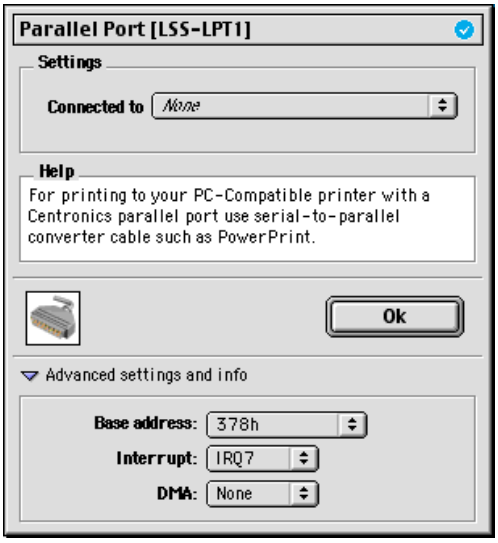
Parallel Port (LPT1) component is used for connecting printer to your emulated PC. This component works in two modes:

1. Emulates printer via serial to parallel converter.
2. Emulates printer directly to the attached printer.

When you are using the first option, you are required to have serial to parallel converter cable (such as **PowerPrint™** or compatible adapter).

Parallel Port (LPT1) setup provides the following features:

• Output assignment
• Displaying information on the used ports and interrupts (Advanced)



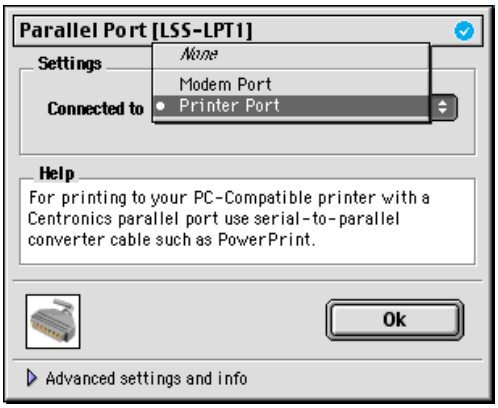
Output assignment

This option allows you to select Mac's printer or serial port will be used for emulation of LPT1. If you want to use a printer in your emulated PC then in "Connected to" menu you should select the serial port what serial to parallel converter is connected or connected printer.

To select Mac's serial port:

1. Press and hold mouse button on the pop-up menu.

Pop-up menu contains names of all installed Mac serial ports.



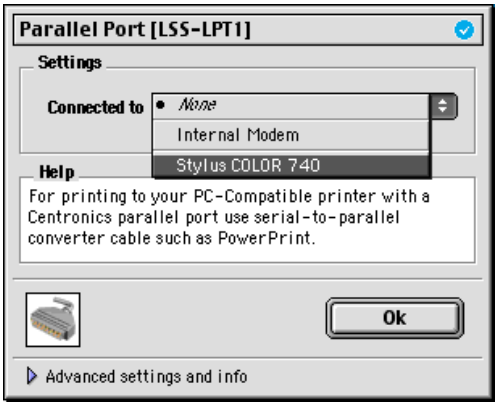
2. Select the port your serial-to-parallel converter is connected to.

3. Release mouse button. Mac's serial port is selected for emulation.

To select printer:

1. Press and hold mouse button on the pop-up menu.

Pop-up menu contains names of all connected printers.



2. Select the printer.

3. Release mouse button. Printer is selected for emulation.

Displaying information on the used ports and interrupts (Advanced)

This option is used for displaying Parallel Port (LPT1) hardware settings.

Joystick

Joystick component is used for connecting Mac's joystick to your emulated PC. Input Sprocket is used to emulate joystick. Make sure that Input Sprocket is installed on your Mac. The component supports up to 2 simultaneously connected joysticks.

Joystick setup provides the following features:

• Joystick type selection
• Axes and buttons adjustment
• Displaying information on the used ports (Advanced)

Joystick type selection

Using this option you can select the type of PC joystick (or joysticks) that will be emulated. The option allows you to select the number of joysticks, axes and buttons.

Joystick component emulates the following types of PC joysticks:

• 1 Joystick - 2 axes, 2 buttons
• 1 Joystick - 2 axes, 3 buttons
• 1 Joystick - 2 axes, 4 buttons
• 1 Joystick - 3 axes, 2 buttons
• 1 Joystick - 3 axes, 4 buttons
• 2 Joysticks - 2 axes, 2 buttons

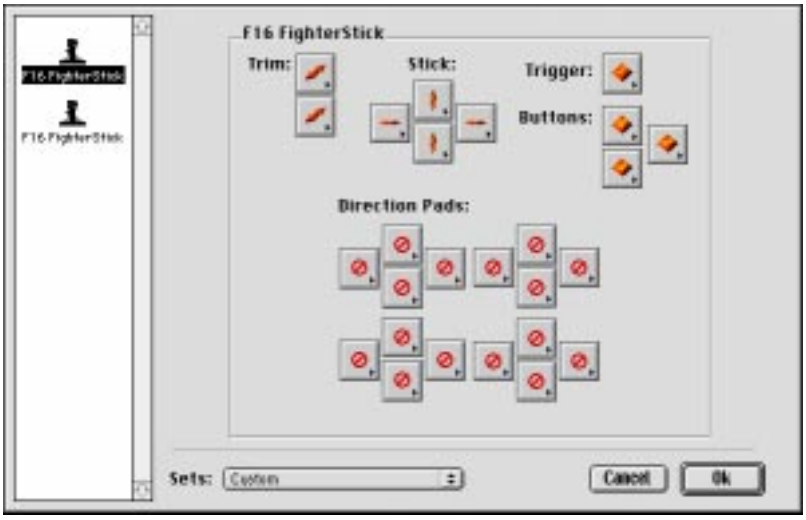
Axes and buttons adjustment

This option is used for:

1. Mac joystick's selection for emulation.
2. Axes and buttons assignment.

To select and adjust joysticks just press "Setup" button in the Joystick setup window.

Standard Input Sprocket dialog window appears:



1. Select Mac's joystick for emulation.
2. Adjust axes and buttons for selected joystick.

If you want to use 2 joysticks in your emulated PC, then you should:

1. Select "2 joystick - 2 axes, 2 buttons" from "Emulate" menu in the Joystick setup window.

2. Click on "Setup" button.

3. Select first joystick in the Input Sprocket dialog window.

4. Setup X-axis, Y-axis and two buttons for first joystick.

5. Select second joystick in the Input Sprocket dialog window.

6. Setup X-axis, Y-axis and two buttons for second joystick.

Note:	*Be sure that first joystick's axes and buttons settings do not intersect with the second joystick's axes and buttons settings.*

Displaying information on the used ports (Advanced)

This option is used for displaying Joystick hardware settings.

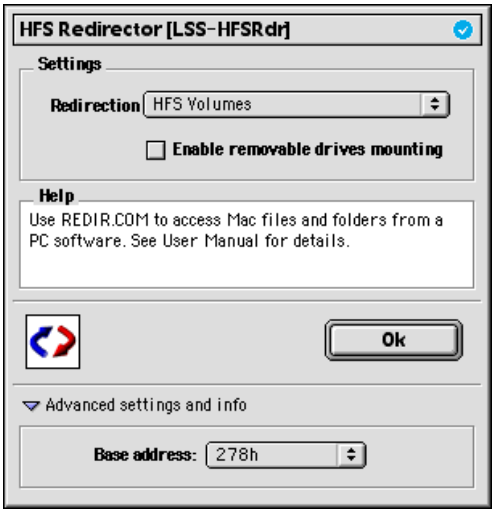
Note:	*The component automatically transforms any Mac Game Adapter, you have selected, to Standard Joystick. When you are installing an OS use Standard Joystick drivers.*

HFS Redirector

You can use the HFS Redirector component to obtain access to your Mac volumes from your emulated PC. This component transforms Mac's file system to DOS file system, so you can read, writes, copy and delete Mac files from your emulated PC. The program LSSREDIR.COM is used to access Mac volumes
(see Chapter 7 "PC Drivers" for details).

HFS Redirector setup provides the following features:

• Enabling/disabling removable drives mounting
• Displaying information on the used ports



Enable/disable removable drives mounting

This option enables/disables removable drives mounting for transforming Mac file system to DOS file system. For example if you don't want your Audio or Video CD to be mounted on the PC, turn this checkbox off.

Displaying information on the used ports (Advanced)

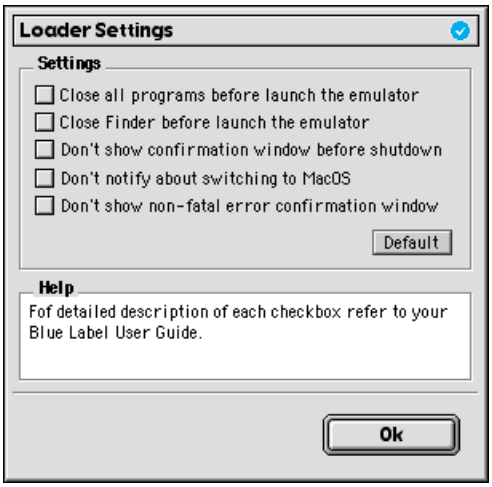
This option is used for displaying HFS Redirector hardware settings.

Loader Settings

Loader Settings component is used for Blue Label Loader adjustment (see Chapter 5 “Blue Label Loader” for details).

Loader Settings setup provides the following features:

• Enabling/disabling programs unload prior emulator’s launch
• Enabling/disabling Finder unload prior emulator’s launch
• Enabling/disabling displaying confirmation and warning windows



Enabling/disabling programs unload prior emulator’s launch

This option enables/disables unloading of all loaded programs prior emulator’s launch. As loaded programs use systems resources it may affect decreasing emulator performance. To increase speed of emulation, check this checkbox on. This option is recommended if you are using virtual memory.

Enable/disable Finder unload prior emulator’s launch

This option enables/disables unloading the Finder prior emulator’s launch. As Finder uses systems resources it may affect the emulator’s performance. To increase the speed of emulation, turn this checkbox on. This option is recommended if you are using virtual memory.

Enable/disabling displaying the confirmation and warning windows

This option enables/disables displaying the confirmation and warning windows of Blue Label PowerEmulator.

You can turn off the following windows:

1. Confirmation window about exiting from emulator
2. Notification window about switching to Mac OS
3. Warning window about non-fatal errors

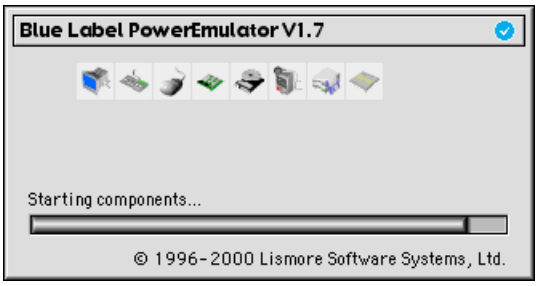
Chapter 5: Blue Label Loader

The “Blue Label Loader” application is used for launching the Emulated PC.

Launching the Emulated PC

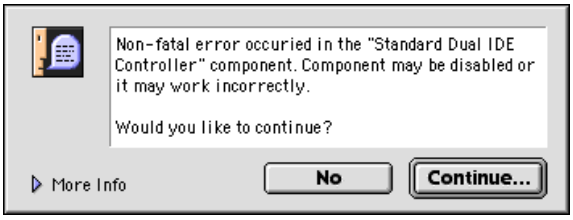
To launch the Emulated PC just double-click the “Blue Label Loader” icon.

“Blue Label Loader” window appears.

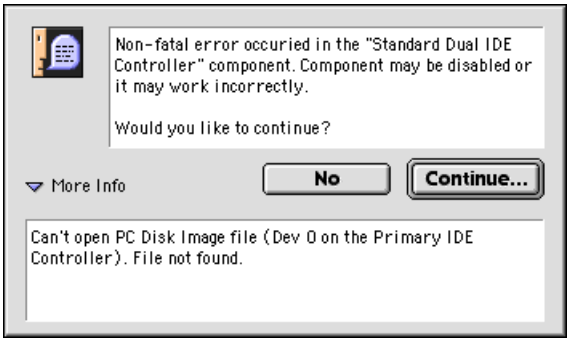


“Blue Label Loader” will load and launch components that you have selected in the Blue Label Setup. Having finished components loading and launching the “Blue Label Loader” closes its window and the Emulated PC is ready to work.

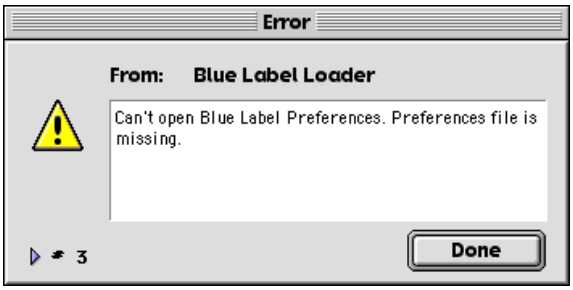
If while launching one of the components a non-fatal error occurs (for example: PC Disk image file not found), then “Blue Label Loader” displays a warning window.



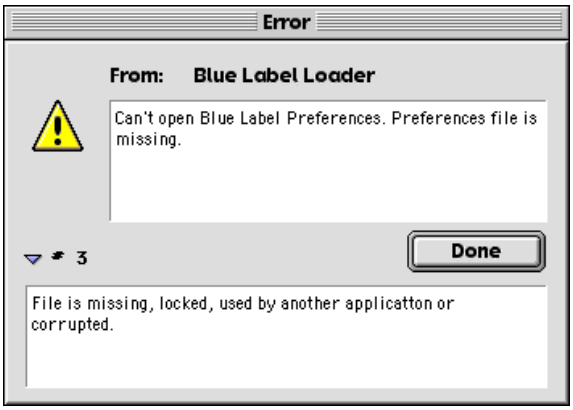
For error details, click triangular button.



If while launching one of the components a fatal error occurs (for example: Blue Label preferences file not found) then “Blue Label Loader” stops loading and displays the Error window.



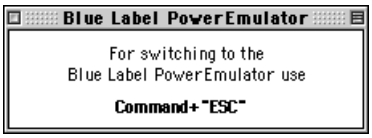
For error details, click triangular button.



Switching to Mac OS/Returning to the Emulated PC

To switch to Mac OS just press “**Command+Esc**” key combination. Blue Label Loader turns all emulator components off and switches to background mode.

Notification window appears.



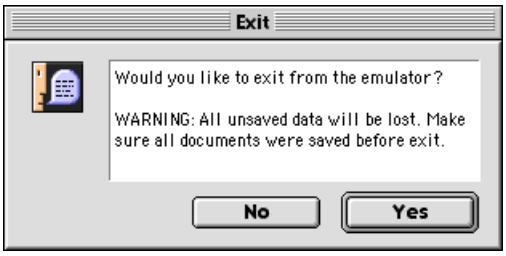
Note:	*If you have disabled notifications, the notification window about switching to Mac OS, won’t be displayed.*

To return to the Emulated PC press “**Command+Esc**” key combination. “Blue Label Loader” turns all emulator’s components on and becomes active. Also you can use the "Application" menu from the Finder.

Note:	*If you have loaded your system without Finder or having used OS Chooser then “**Command+Esc**” combination will not work.*

Exiting from the Emulated PC

To exit the Emulated PC press "**Command+Q**" key combination. “Blue Label Loader” confirmation window appears.



Press "**Yes**" to exit or "**No**" to return to the Emulated PC.

Note:	*If you disabled confirmation displaying, confirmation window about exiting the emulator won’t be displayed.*

After exit from the Emulated PC dialog window appears:

You can exit from the emulator by pressing “**Exit**” button or you can restart Emulated PC by pressing “**Restart**” button.

Chapter 6: Utilities

This chapter describes the usage of Blue Label PowerEmulator utilities.

PC Disk Mounter

The “PC Disk Mounter” utility is used for mounting PC disk images on your Mac’s desktop.

This utility allows you to copy PC files from/to Mac HDD without the emulator. For mounting PC disk image on your Mac desktop just drop PC disk image file on the PC Disk Mounter icon. PC disk image drive icon will be shown on Mac’s desktop.

PC Disk Mounter can also mount PC disk images created by VirtualPC, RealPC and SoftWindows.

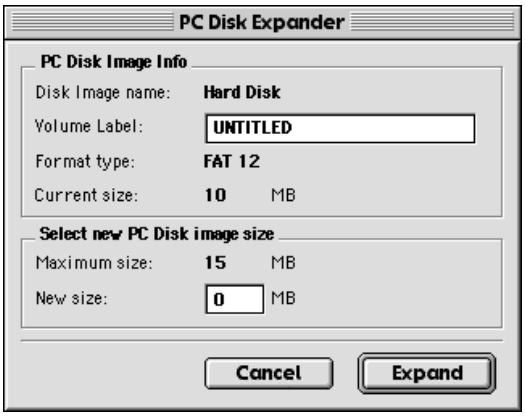
Note:	*PC Exchange 2.0 or File Exchange 3.0 is required for PC Disk Mounter.*

PC Disk Expander

The "PC Disk Expander" utility is used for expanding PC disk images.

To expand PC disk image:

1. Drop PC disk image file on the "PC Disk Expander" icon. “PC Disk Expander” dialog window appears:



Note:	*If your PC disk image already has a maximally possible disk size, an alert window appears.*

2. Setup new PC disk image size in the dialog window. It must be less than or equal to the maximal PC disk image size.

Note:	*Maximum PC Disk Image size is determined by PC file system specifics.*

3. Click “Expand” button. Confirmation dialog window appears:

4. Click “Ok” button to continue. Expanding progress window appears:

5. When expanding is completed, a notification window will be displayed to notify you that the expanding was successful.

6. Click "Ok" button and press “Command+Q” to exit the "PC Disk Expander".

Is My CD Bootable?

The “Is My CD Bootable?” utility will help you to determine whether you may use your CD-ROM disk for booting an OS from it at emulator’s startup. If your CD-ROM disk is bootable you may load OS directly from the disk. If it is not, you should use a floppy or floppy image for OS installation.

To get information about CD-ROM disk just drop CD-ROM disk icon on the “Is My CD Bootable?” application icon.

VFI Maker

The “VFI Maker” utility allows you to convert PC floppy disk images in order to make them usable Super Floppy Disk 1.44 component. PC floppy disk image is a copy of diskette in a file. Commonly such images are supplied with operating systems.

The “VFI Maker” supports the following floppy disk image formats: RAW, DDI, FLP, IMG and DSK.

To convert a PC floppy image, just drop the file image icon on the “VFI Maker” application icon.

Chapter 7: PC Drivers

This chapter describes how to use Blue Label PowerEmulator PC drivers.

LSSMOUSE.COM

The LSSMOUSE.COM is used to support mouse in DOS applications.

To launch the driver, type at the DOS prompt (or insert the string in your AUTOEXEC.BAT):

LSSMOUSE

After successful load you will see a message:

LSS Mouse Driver v1.0
Copyright 1996-99 Lismore Software Systems Ltd.
Driver successfully loaded.

To unload the mouse driver, type at the DOS prompt:

LSSMOUSE OFF

After successful unload you will see a message:

LSS Mouse Driver v1.0
Copyright 1996-99 Lismore Software Systems Ltd.
Driver has been unloaded from the memory.

The driver recognizes the following keys:

Key	Description
/L	set left-hand mode
/R[1...9]/L	set mouse speed
/H	display help
OFF	unload mouse driver

For example:

LSSMOUSE.COM /L /R5

Note: Prior using the mouse driver make sure Serial Mouse (COM1) component is enabled in the "Blue Label Setup".

LSSCDROM.SYS

The LSSCDROM.SYS driver allows you to access files and folders on the CD-ROM disk in DOS applications.

To enable CD-ROM drive add the following string to your CONFIG.SYS file:

DEVICE=C:\LSSCDROM.SYS /D:MSCD001

Also add the following string to your AUTOEXEC.BAT file:

MSCDEX.EXE /D:MSCD001

After successful load you will see a message:

Blue Label PowerEmulator CD-ROM Driver, Version 1.0
Copyright 1996-99 Lismore Software Systems Ltd.
ATAPI CD-ROM found.

The driver recognizes the following commands:

Key	Description
/D:[NAME]	set driver name
/DMA	set DMA mode for CD-ROM access

Note: To use the CD-ROM driver, make sure that the CD-ROM drive is selected in the Standard Dual IDE Controller Setup.

LSSREDIR.COM

The LSSREDIR.COM driver allows you to access files and folders on Mac's disks.

To mount all Mac disks, type in the DOS prompt (or insert a string into your AUTOEXEC.BAT):

LSSREDIR.COM /A

The driver recognizes the following commands:

Key	Description
/H or /?	display help
/M:<name> [/L:<letter>]	mount Mac volume <name> as drive <letter>
/D:<letter>	dismount Mac volume on specified drive <letter>
/V	view all Mac volumes
/S	show all mounted Mac volumes
/A	mount all Mac volumes
/U	dismount all Mac volumes and unload redirector driver

For example:

LSSREDIR /M:HardDisk /L:G

Note:	*To use redirector driver, make sure that the HFS Redirector component is enabled in the Blue Label Setup.*

Chapter 8: Installing OSes

Common recommendations

This chapter describes recommendations for installing operating systems under Blue Label PowerEmulator.

1. Choose an OS for installation (DOS, Window 3.1, Windows 95 etc).

2. You should better use OS with CD -ROM boot support. To become sure that your CD-ROM disk is bootable, you may use “Is My CD Bootable?” utility. For installing an OS from a bootable CD use Mainboard LSS-1000 setup to adjust the boot sequence (CD-ROM must be first in it).

3. Use OS Installation Guide to determine the required PC disk image size (For example: DOS - 15 MB min, Windows 95 - 150 MB min)

4. You should create PC disk image for OS installation on Dev 0 Primary IDE Controller. And assign the CD-ROM drive to Dev 1 Primary IDE Controller.

5. Prior to the OS installation, enable components of Blue Label PowerEmulator you would like to use after OS installation (For example: Network adapter is disabled on default, therefore if you would like to have network support in Windows 95 you should enable Ethernet LSS-NE2000 component).

6. Use OS Installation Guide for step-by-step OS installing.

7. To avoid device conflicts use hardware setting preset in components (Advanced setting and info PORTS, IRQ, DMA).

8. Do not use OS disks created by other emulators.

9. Do not copy OS from disk to disk.

10. For better performance install only the OS components that you are going to use.

Note:	*OS Installation Guide is a document supplied with the OS you will install.*

Installing OSes using DOSBOOT.IMG file

Blue Label PowerEmulator is shipped with DOSBOOT.IMG file. This is a DOS boot image file. You can use the file if your Mac doesn't have a floppy disk drive or if your OS CD is not bootable. DOS boot image file contains DOS you may use for booting up your emulated PC and for installing a PC OS, which you are going to use.

To launch the emulator with DOS boot image:

1. Enable Super Floppy Disk 1.44 component in Blue Label Setup.
2. Open Super Floppy Disk 1.44 component setup, by double-clicking its title.
3. Click pull-down menu for drive A and select "Select floppy image…" menu item. Standard file dialog window appears.
4. Select DOSBOOT.IMG file.
5. Click OK button and save Preferences.
6. Open Mainboard LSS-1000 ISA component setup by double-clicking its title.
7. Set the following boot sequence: A, C, CD-ROM.
8. Click OK button and save Preferences.
9. Exit the Blue Label Setup.
10. Launch Blue Label Loader application.

After emulator's launch you will see a menu containing 3 items:

1. Start PTS-DOS.
2. Make drive C: bootable.
3. Run SETUP.EXE from CD-ROM.

Press 1, 2 or 3 to select the appropriate item.

Item 1 will run PTS-DOS and file manager Dos Navigator.

Item 2 will make your drive (C:) bootable copying DOS files, utilities and drivers to it. If you wish to select the item make sure that drive C: is connected and available.

Item 3 will try to run SETUP.EXE from your CD-ROM disk if the file exists. Windows CDs as a rule has the file.

Note:	*If you wish to install an OS from CD-ROM disk, please insert the disk prior emulator's launch.*

How to install Windows 95/98/98SE

1. Make sure that you allocated not less than 48Mb to Blue Label Loader (Get Info command). If it's necessary, enable Virtual Memory.

2. Make sure that there is no program currently running except Finder.

3. Please run your Energy Saver from Control Panel and set your system slider control to the "Never" position.

4. In the Blue Label Setup menu click on "Configuration" and set "Default state". The "Default state" option enables only necessary Blue Label components and disables others such as PCI bus + 3dfx, network card, modem and SCSI support. You always can enable and setup those components after successful Windows installation.

5. Create a new hard drive image with minimum size of 350Mb in the Standard Dual IDE Controller component.

6. Assign this image for Primary Dev 0.

7. Assign your CD for Primary Dev 1.

8. In the Mainboard component select the sequence A: C: CD-ROM.

9. In the Super Floppy component select DOSBOOT.IMG.

10. If you are going to install Windows 98/98SE, set the "Central Processing Unit optimization level" option to "Standard" in the Processor Pentium component. After the successful installation you will be able to set the above feature to "Full" in order to increase the BLPE performance.

11. Run Blue Label Loader.

12. Select "Start PTS-DOS" (F1).

13. In Dos Navigator from the drive M: (your CD-ROM) run Windows Setup (setup.exe) (Press Alt+F2 and select M:). Please refer to the Microsoft "Getting Started" brochure if you meet any problem concerning Windows itself.

14. Don't make a system diskette when Windows Setup asks you to.

15. When Windows Setup asks you to remove a floppy disk, press command+4 and select "Use None".

16. When setup is finished and it asks you to reboot, please press Command+Q and in Blue Label Setup (Mainboard component) change the boot-sequence to C: A: CD-ROM.

17. Run Blue Label Loader.

18. Windows 95/98/98SE must run properly.

Note:	*Please don't forget when you want to exit Windows you should press the "Start" button, then "Shut Down" and "Shut Down" again. You can press Command+Q only after you see the sign "Now you can shut down your computer".*

How to install a modem in Windows 95/98/98SE

In order to install your external or internal modem, you should do the following:

1. Enable the Serial Port (COM2) component in Blue Label Setup.
2. Choose "Connected to: Modem Port" in Serial Port (COM2) component settings.
3. Run Windows 95/98/98SE using Blue Label Loader.
4. In Windows 95/98/98SE install Windows drivers supplied with your modem or Standard Modem driver with the same bps as your modem has from the Windows drivers base.
5. Restart Windows 95/98/98SE.

Chapter 9: Mac OS system software requirements

This chapter provides a list of Mac OS system software required for Blue Label PowerEmulator components work.

Component	Required Mac OS system software
Processor Pentium®	none
Mainboard LSS-1000 ISA	none
SuperVGA LSS-5426	none
Standard 101/102-Key Keyboard	none
Standard Dual IDE Controller	none
Super Floppy Disk 1.44	none, USB Floppy Enabler if you are using USB Floppy Disk drive
Sound LSS-SB 2.0	none
Ethernet LSS-NE2000	Open Transport software
SCSI LSS-1540	none
PCI Bus	none
3Dfx Graphic Accelerator	none
Serial Mouse (COM1)	none
Serial Port (COM2)	none, for modem connection required modem communication software for your Modem
Serial Port (COM3)	none
Parallel Port (LPT1)	Open Transport software, printer software for your Printer
Joystick	Input Sprocket software
HFS Redirector	none
Loader Settings	none

Chapter 10: Troubleshooting

This chapter describes some common difficulties and their possible causes. If a problem is not described below, please write us support@lismoresystems.com

PC OS Problems

Problem:
OS doesn't boot from Bootable CD-ROM
Solutions:
Make sure that CD-ROM drive is selected in the Standard Dual IDE Controller setup.
Set the boot sequence in Mainboard LSS-1000 setup (CD-ROM must be first).
Press CTRL-ALT-DEL or CTRL-ALT-. (Dot on the numeric keypad, this key is between zero key and enter key) when the BIOS table is displayed.
You should insert Bootable CD-ROM into your CD-ROM drive prior emulator's launch.

Problem:
Device doesn't work or it is not accessible for an OS
Solutions:
Make sure that the device is enabled in the Blue Label Setup.
Install device system software.
Check hardware settings of the device for conflicts.
Set correct PORTS, IRQ, DMA parameters.

Problem:
Device conflicts with other devices
Solutions:
Set correct PORTS, IRQ, DMA parameters.

Problem:
OS doesn't print using LPT port
Solutions:
Make sure that Parallel Port (LPT1) component is enabled in the Blue Label Setup.
Make sure that in the menu "Connected to" Printer Port is set.
Install system software for LPT1.

Problem:
Low colors depth on the screen
Solutions:
Set more Video memory in the SuperVGA LSS-5426 setup.

Problem:
Program requires FPU (Floating Point Unit)
Solutions:
Make sure that FPU (Floating Point Unit) is enabled in the Processor Pentium module setup.

Problem:
System doesn't recognize Left and Right shifts as two different keys
Solutions:
Enable Shift difference in the Standard 101/102-Key Keyboard setup.

Problem:
No sound
Solutions:
Make sure that Sound LSS-SB2.0 component is enabled in the Blue Label Setup.
Make sure that Mute checkbox is disabled.
Set correct PORTS, IRQ, DMA parameters in the PC program.

Problem:
Mouse is not present
Solutions:
Make sure that Serial Mouse (COM1) component is enabled in the Blue Label Setup.
Install LSSMOUSE.COM driver (Required for DOS only).

Problem:
CD-ROM drive is not present
Solutions:
Make sure that CD-ROM drive is selected in the Standard Dual IDE Controller setup.
Install LSSCDROM.SYS driver (Required for DOS only).

Problem:
Not enough memory for PC programs
Solutions:
You should increase memory size available to Blue Label Loader application (use Get Info option in the Finder).
You should increase Mac memory size, adding virtual memory and dedicating more memory to Blue Label Loader application.
Add Mac’s physical memory.

Components Problems

Problem:
Modem is not listed in "Connected to" in the Serial Port (COM2) or Serial Port (COM3) setup
Solutions:
Make sure that communication software for your modem is installed in your Mac

Problem:
Joystick setup returns an error
Solutions:
Make sure that Input Sprocket software for your joystick is installed in your Mac. Make sure that Joystick is connected to your Mac.

Problem:
PCI Bus component returns an error
Solutions:
Disable the component. PCI Bus component can be used only with PCI based Macs.

Frequently Asked Questions

Question:
I have used your floppy image shipped with Update 4 and installed Windows'95 with it and every time after restarting DOS Navigator loads. What should I do?

Answer:
You should just quit DOS Navigator, pressing Alt+X and Enter. If you don't want to load DOS
Navigator in future, remove the last string "DN" from AUTOEXEC.BAT file.

> *Note: If you won't use DOS you should not install it on your disk image (do not select item 2 if you have booted your system from our floppy image), you should just select item 3, if you failed, then you should manually run Windows setup from the CD.*

Question:
How can I install Ethernet Card in Linux?

Answer:
When you are installing Ethernet Card in Linux you should select Manual Select and enter required parameters in decimal format (Port 768 and IRQ 12).

Question:
I can't install drivers for my Thrustmaster joystick. Why?

Answer:
The emulator will recognize any joystick connected to your Mac as a standard joystick.

Question:
I have USB Imation SuperDrive (Newer Technology's uDrive) what should I do to get it to work?

Answer:
To make USB Floppy drive work you should install USB Floppy Enabler from PACE Anti-Piracy Inc. http://www.paceap.com.

Question:
I have installed third party PCI Ethernet card. Blue Label PowerEmulator doesn't recognize it, but it's available in "PCI bus" component setup. What should I do?

Answer:
You should install Mac OS software for your card to make your third party PCI Ethernet card available. "PCI bus" component doesn't work directly with any PCI card, it just provides interface for components, that's why you need Blue Label component emulating your Ethernet card to operate it. (3Dfx Graphic Accelerator is an example of such a component. Working with "PCI Bus" component it allows using Voodoo Graphics Accelerator).

Question:
May I use other CD-ROM driver than LSSCDROM.SYS?

Answer:
Yes, you may. You may use any ATAPI CD-ROM driver. For example: CR_ATAPI.SYS, OAKCDROM.SYS, ECSCDIDE.SYS.

Question:

How can I make Ethernet LSS-NE2000 work?

Answer:

Component Ethernet NE-2000 is compatible with Novell NE-2000 Ethernet Adapter. For having access to Ethernet LSS-NE2000 in Windows 95/98 you should install Windows NE2000 drivers:
Click Start, point to Settings, and then click Control Panel. Double-click Add New Hardware, and then follow the instructions on your screen.
When you see "Do you want Windows to search for your new hardware?", click No.
Double-click the Network Adapters. Select Novell/Anthem manufacturer.
Double-click NE2000 Compatible. Follow the instructions on your screen. Click Finish.
When you are prompted "Do you want to restart your computer now?" Click No.
Click Start, point to Settings, and then click Control Panel.
Double-click System. Click Device Manager. Open Network adapters group.
Select NE2000 Compatible and click properties. Click Resources.
Select Input/Output Range and click Change Setting. Enter Value 0300-031F and click OK.
Select Interrupt Request and click Change Setting. Enter Value 12 and click OK.
Click OK.
Restart Windows.

Question:

I can see my Adaptec 2906 SCSI Host Adapter in PCI Bus component setup but when I install Linux driver I can't see it. Why?

Answer:

Blue Label PowerEmulator emulates Adaptec AHA-1540 SCSI Host Adapter using SCSI LSS-1540 component. This means that any Mac SCSI Adapter will be converted to AHA-1540 compatible SCSI adapter. Therefore, for installing SCSI Host Adapter you should install drivers for Adaptec AHA-154x. (Also you can't use AHA-152x drivers because it's a different adapter).

Question:

I can't get Windows 3.1 to work. The setup was OK but when I try to launch it everything freezes. What should I do?

Answer:

For running Windows 3.1 you should set CPU Standard optimization mode in Processor Pentium component setup.

Question:

How can I make SCSI-1540 work?

Answer:

Component SCSI-1540 is compatible with Adaptec AHA-1540 SCSI Host Adapter. Making SCSI-1540 work in DOS or Windows 3.x you should install drivers from Adaptec Inc. http://www.adaptec.com

Having downloaded drivers, unpack and copy them to your system PC disk image. For making SCSI devices available use the following drivers:

ASPI4DOS.SYS for SCSI host adapter
ASPIDISK.SYS for SCSI disks
ASPICD.SYS for SCSI CD-ROM

Note: Having downloaded and unpacked drivers please read README.TXT file.

For having access to SCSI-1540 in Windows 95/98 you should install Windows SCSI drivers.

Click Start, point to Settings, and then click Control Panel. Double-click Add New Hardware, and then follow the instructions on your screen.
When you see “Do you want Windows to search for your new hardware?”, click No.
Double-click the SCSI Controllers. Double-click AHA-154x/164x SCSI Host Adapter.
Follow instructions on your screen. Click Finish.
When you are prompted "Do you want to restart your computer now?" Click No.
Click Start, point to Settings, and then click Control Panel.
Double-click System. Click Device Manager. Open SCSI controllers group. Select
AHA-154x/164x SCSI Host Adapter and click properties. Click Resources.
Select Input/Output Range and click Change Setting. Enter Value 0330-0333 and click OK.
Select Interrupt Request and click Change Setting. Enter Value 11 and click OK.
Select Direct Memory Access and click Change Setting. Enter Value 6 and click OK. Click OK.
Restart Windows.

Question:
Windows 95/98 does not include a driver for Cirrus Logic CL-GD5426. What driver should I use?

Answer:
You can use universal Cirrus Logic driver shipped with Windows 95/98.

Question:
I have Windows 95 system disk image created by Virtual PC (RealPC). I tried to boot from the image but the system hanged. What's up?

Answer:
You can use only DOS image created by other PC emulator for startup.
You can't use Windows or UNIX image created by other PC emulator for startup because the emulated hardware is different. Therefore Windows or UNIX may freeze or crash while startup.

Appendix A: Keyboard Layout and Key Combinations

Exiting From Emulator (Command+Q)

Standard Extended Keyboard

iMac style Keyboard

Switching to Mac OS (Command+ESC)

Standard Extended Keyboard

iMac style Keyboard

PC Reboot (CTRL-ALT-DEL)

Standard Extended Keyboard

iMac style Keyboard