

OpFamily[®] Software

**for OpTrend[®], OpPanel[®], OpTrend[®] Plus,
OpPanel[®] Plus, and OpTrend[®] Remote Interfaces**

Software Installation Guide



General Precautions

Read this entire manual and all other publications pertaining to the work to be performed before installing, operating, or servicing this equipment.

Practice all plant and safety instructions and precautions.

Failure to follow instructions can cause personal injury and/or property damage.



Revisions

This publication may have been revised or updated since this copy was produced. To verify that you have the latest revision, check manual **26311**, *Revision Status & Distribution Restrictions of Woodward Technical Publications*, on the *publications page* of the Woodward website:

www.woodward.com/publications

The latest version of most publications is available on the *publications page*. If your publication is not there, please contact your customer service representative to get the latest copy.



Proper Use

Any unauthorized modifications to or use of this equipment outside its specified mechanical, electrical, or other operating limits may cause personal injury and/or property damage, including damage to the equipment. Any such unauthorized modifications: (i) constitute "misuse" and/or "negligence" within the meaning of the product warranty thereby excluding warranty coverage for any resulting damage, and (ii) invalidate product certifications or listings.



Translated Publications

If the cover of this publication states "Translation of the Original Instructions" please note:

The original source of this publication may have been updated since this translation was made. Be sure to check manual **26311**, *Revision Status & Distribution Restrictions of Woodward Technical Publications*, to verify whether this translation is up to date. Out-of-date translations are marked with . Always compare with the original for technical specifications and for proper and safe installation and operation procedures.

Warnings and Notices

Important Definitions



This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.

- **DANGER**—Indicates a hazardous situation which, if not avoided, will result in death or serious injury.
- **WARNING**—Indicates a hazardous situation which, if not avoided, could result in death or serious injury.
- **CAUTION**—Indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.
- **NOTICE**—Indicates a hazard that could result in property damage only (including damage to the control).
- **IMPORTANT**—Designates an operating tip or maintenance suggestion.

WARNING

**Overspeed /
Overtemperature /
Overpressure**

The engine, turbine, or other type of prime mover should be equipped with an overspeed shutdown device to protect against runaway or damage to the prime mover with possible personal injury, loss of life, or property damage.

The overspeed shutdown device must be totally independent of the prime mover control system. An overtemperature or overpressure shutdown device may also be needed for safety, as appropriate.

WARNING

**Personal Protective
Equipment**

The products described in this publication may present risks that could lead to personal injury, loss of life, or property damage. Always wear the appropriate personal protective equipment (PPE) for the job at hand. Equipment that should be considered includes but is not limited to:

- Eye Protection
- Hearing Protection
- Hard Hat
- Gloves
- Safety Boots
- Respirator

Always read the proper Material Safety Data Sheet (MSDS) for any working fluid(s) and comply with recommended safety equipment.

WARNING

Start-up

Be prepared to make an emergency shutdown when starting the engine, turbine, or other type of prime mover, to protect against runaway or overspeed with possible personal injury, loss of life, or property damage.

WARNING

**Automotive
Applications**

On- and off-highway Mobile Applications: Unless Woodward's control functions as the supervisory control, customer should install a system totally independent of the prime mover control system that monitors for supervisory control of engine (and takes appropriate action if supervisory control is lost) to protect against loss of engine control with possible personal injury, loss of life, or property damage.

NOTICE**Battery Charging
Device**

To prevent damage to a control system that uses an alternator or battery-charging device, make sure the charging device is turned off before disconnecting the battery from the system.

Electrostatic Discharge Awareness

NOTICE**Electrostatic
Precautions**

Electronic controls contain static-sensitive parts. Observe the following precautions to prevent damage to these parts:

- Discharge body static before handling the control (with power to the control turned off, contact a grounded surface and maintain contact while handling the control).
- Avoid all plastic, vinyl, and Styrofoam (except antistatic versions) around printed circuit boards.
- Do not touch the components or conductors on a printed circuit board with your hands or with conductive devices.

To prevent damage to electronic components caused by improper handling, read and observe the precautions in Woodward manual **82715**, *Guide for Handling and Protection of Electronic Controls, Printed Circuit Boards, and Modules*.

Follow these precautions when working with or near the control.

1. Avoid the build-up of static electricity on your body by not wearing clothing made of synthetic materials. Wear cotton or cotton-blend materials as much as possible because these do not store static electric charges as much as synthetics.
2. Do not remove the printed circuit board (PCB) from the control cabinet unless absolutely necessary. If you must remove the PCB from the control cabinet, follow these precautions:
 - Do not touch any part of the PCB except the edges.
 - Do not touch the electrical conductors, the connectors, or the components with conductive devices or with your hands.
 - When replacing a PCB, keep the new PCB in the plastic antistatic protective bag it comes in until you are ready to install it. Immediately after removing the old PCB from the control cabinet, place it in the antistatic protective bag.

OpFamily[®] Software Installation

Introduction

OpFamily[®] software is the leading operator control technology from Woodward. OpFamily software provides a simple, turnkey system that allows engineers and operators to easily create custom applications for Woodward's OpPanel[®], OpPanel[®] Plus, OpTrend[®], and OpTrend[®] Plus graphical interfaces.

IMPORTANT

This manual contains the instructions for installing and troubleshooting OpFamily software. Instructions for configuring installed OpFamily software for your application are covered by the OpPanel or OpTrend manual in this software package.

You must complete the instructions in this booklet before you'll be able to configure your application.

Set up Your Computer Hardware

1. Set up your hardware according to the manufacturer's instructions. The table below indicates which hardware configurations Woodward recommends.

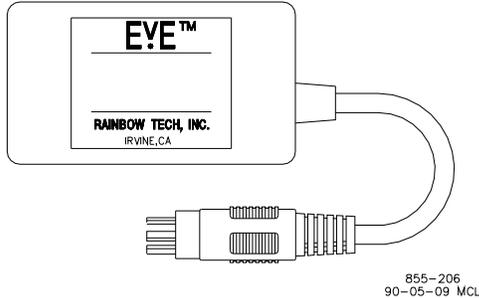
	OpPanel	OpPanel Plus	OpTrend	OpTrend Plus	OpTrend Remote
Quadra 610	✓				
Classic II (min. 10 MB RAM)	✓				
Ilisi (min. 20 MB RAM)		✓			
Ilci (min. 20 MB RAM)		✓			✓
Centris 650		✓			✓
Quadra 620	✓	✓	✓		✓
Quadra 650 (min. 20 MB RAM)		✓	✓	✓	✓
Quadra 700 (min. 20 MB RAM)			✓	✓	✓
Quadra 800 (min. 20 MB RAM)			✓	✓	✓
Powerbook 180c (min. 10 MB RAM)					✓

To run OpFamily software, your computer must include:

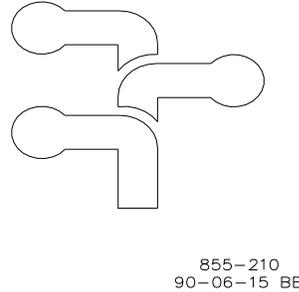
- An FPU (math coprocessor)
- A Macintosh-compatible 640 x 480 pixel monitor
- Macintosh Operating System 7.0.1 or higher (installed)
- The Eve hardware key
- Woodward OpFamily Install disk
- *Pyro!*[®] screen saver; use only the clock module with the Control Panel (other screen savers interfere with OpFamily software functions)
- *At Ease* Desktop Manager

In addition, Woodward *recommends* you run OpFamily software with:

- At least an 80 MB hard drive (your application's archiving requirements should determine your hard drive size)
2. Plug the Eve hardware key (that came in this package) into the ADB port before powering up the system.



Hardware Key



ADB Icon

Learn the Macintosh Operating System

Review Macintosh's User's Guide for desktop Macintosh computers.

IMPORTANT

This manual assumes that you are comfortable with Macintosh usage and conventions. If you aren't, see the Macintosh documentation that came with your computer.

For information about other components (such as CRT, printer, etc.), see the documentation that was supplied with the equipment.

Clean up and Set up Your Computer

1. Verify the System version. In the Apple menu, pull down **About This Macintosh...** Verify that **System Software 7.0.1** or higher revision, appears.

IMPORTANT

If you see **About Finder...** instead of **About This Macintosh...** you will need to install System 7. This requires the System 7 installation disks. Follow the installation instructions provided by Apple.

If you are using version 7.0.1 some of the following instructions and pictures do not apply.

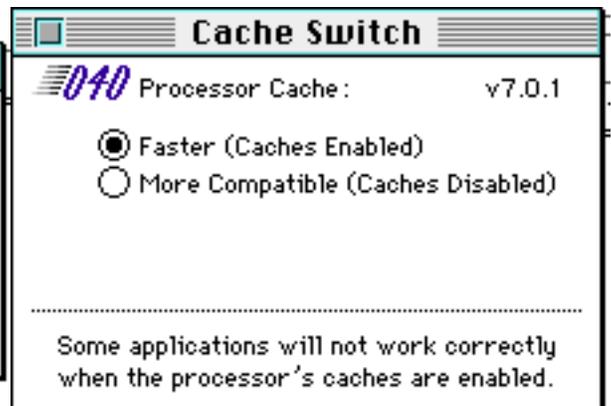
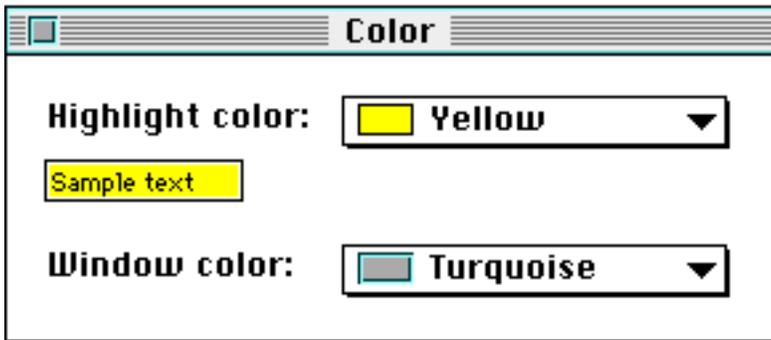
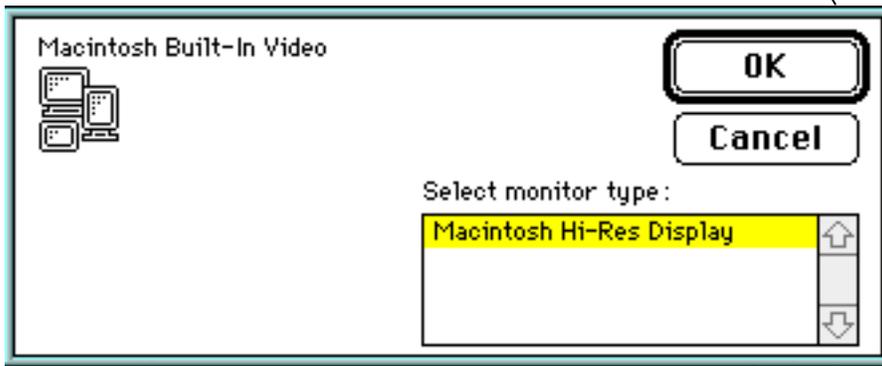
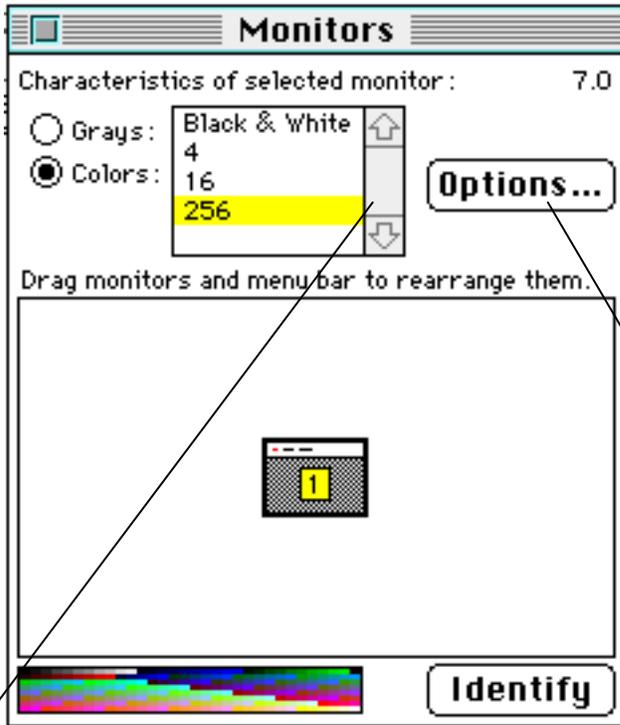
2. Verify that the total amount of RAM is as follows:

OpPanel system	10 MB
OpPanel Plus system	20 MB
OpTrend system	20 MB
OpTrend Plus system	20 MB

3. From the Macintosh HD Main folder perform the following:
 - Drag the **Hypercard Player** folder to the trash.
 - Drag the **Teach Text** to the Utilities Folder. (If Utilities folder does not exist, create it.)
 - Drag the **Read Me** file to the trash.
4. In the System folder perform the following:
 - Select **View** by Small Icon.
 - Clean up by name (Option-**Special**). You should resize the window and repeat until all items fit in a single column. If for some reason this is not possible, arrange in two columns.
5. In the Control Panels folder (inside system folder) perform the following:
 - Select **View** by Small Icon
 - Clean up by name (Option-**Special**).
 - The following items should be present. Drag the files **not** on this list to the trash:

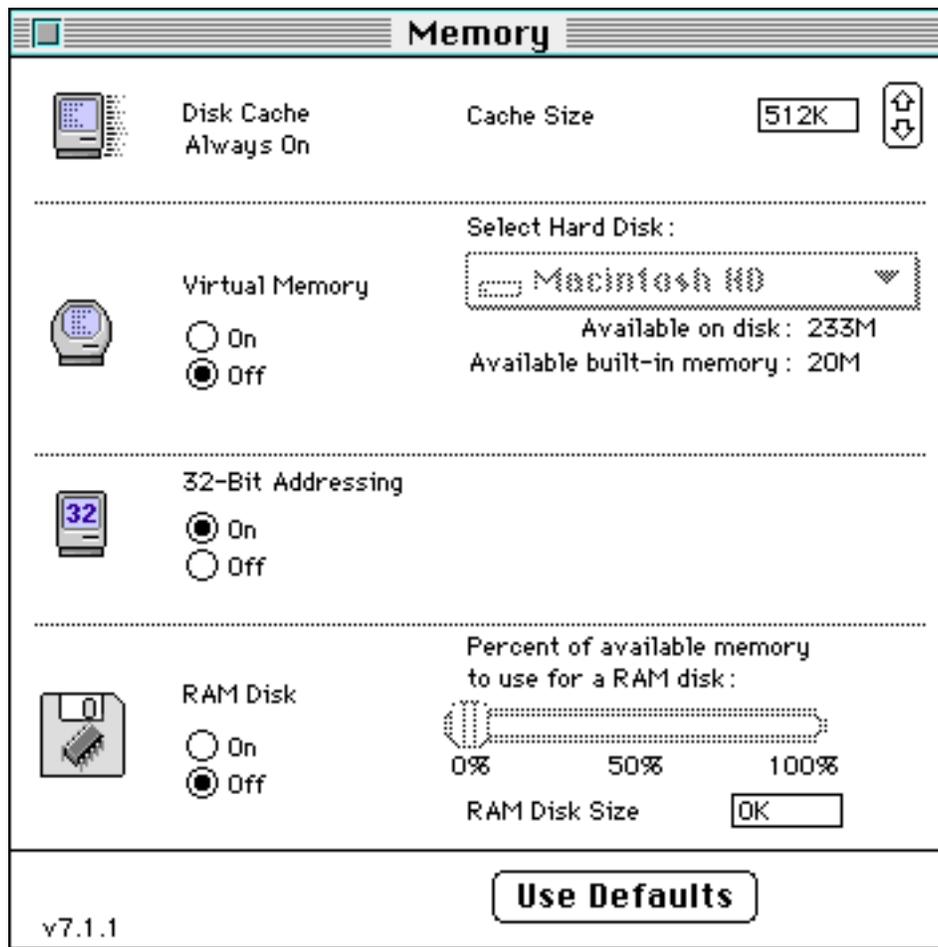
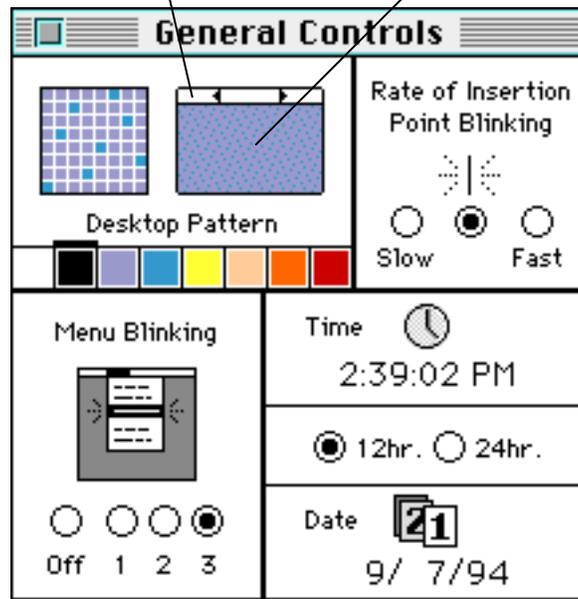
Cache Switch	Monitors
Color	Mouse
Date & Time	Network
Easy Access	Numbers
File Sharing	Sharing Set Up
General	Sound
Keyboard	Startup Disk
Labels	Users and Groups
Map	Views
Memory	

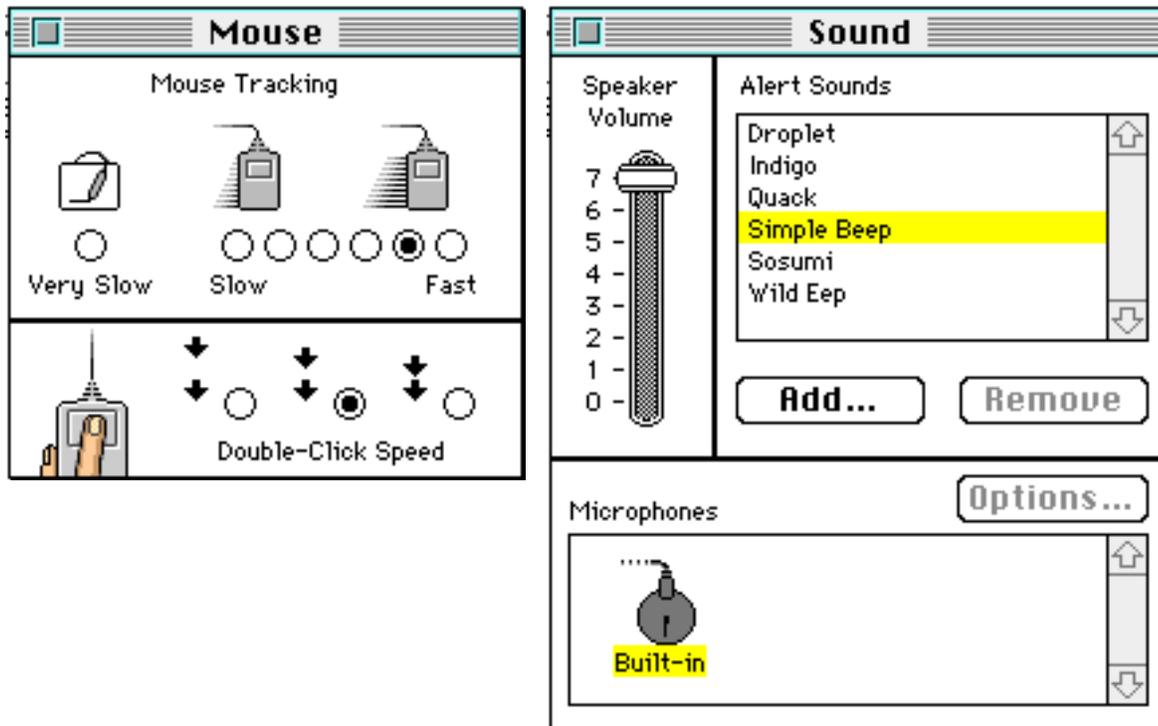
6. Set up the control panels as follows:



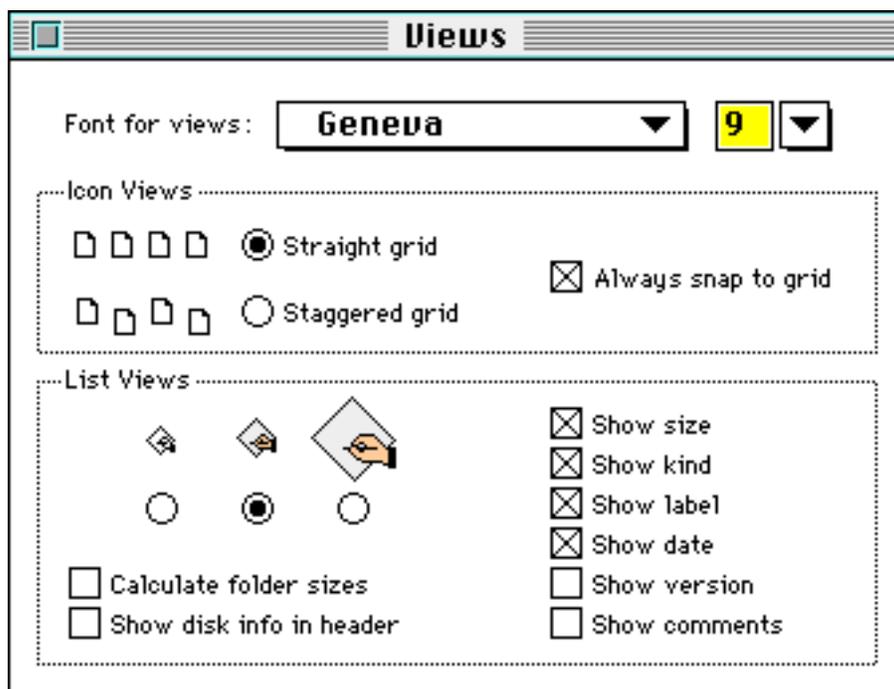
Select desired pattern here

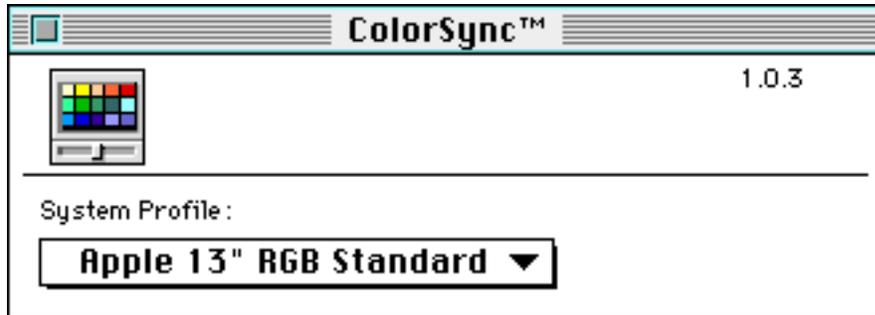
Click here to activate pattern





*Sound panel may vary slightly





* ColorSync™ panel may not be present

- Date & Time: Set to the current date and time
 - Easy Access: (default OK)
 - File Sharing: (default OK)
 - Keyboard: (default OK)
 - Labels: (default OK)
 - Map: (default OK)
 - Network: (default OK)
 - Numbers: (default OK)
 - Sharing Setup: (default OK)
 - Startup Disk: (default OK)
 - Users & Groups: (default OK)
 - Clean up by name: (Option-**Special**)
7. In the Apple Menu Items folder (inside system folder) perform the following:
- Clean up by name (Option-**Special**).
 - Drag Alarm Clock to the Control Panels folder (It can be used in a way that disrupts up the trending time base. Placing it in the control panels will protect it under At Ease.)
 - Clean up by name (Option-**Special**).

The finished folder should look like this:



8. In the Extensions folder (inside system folder) perform the following:

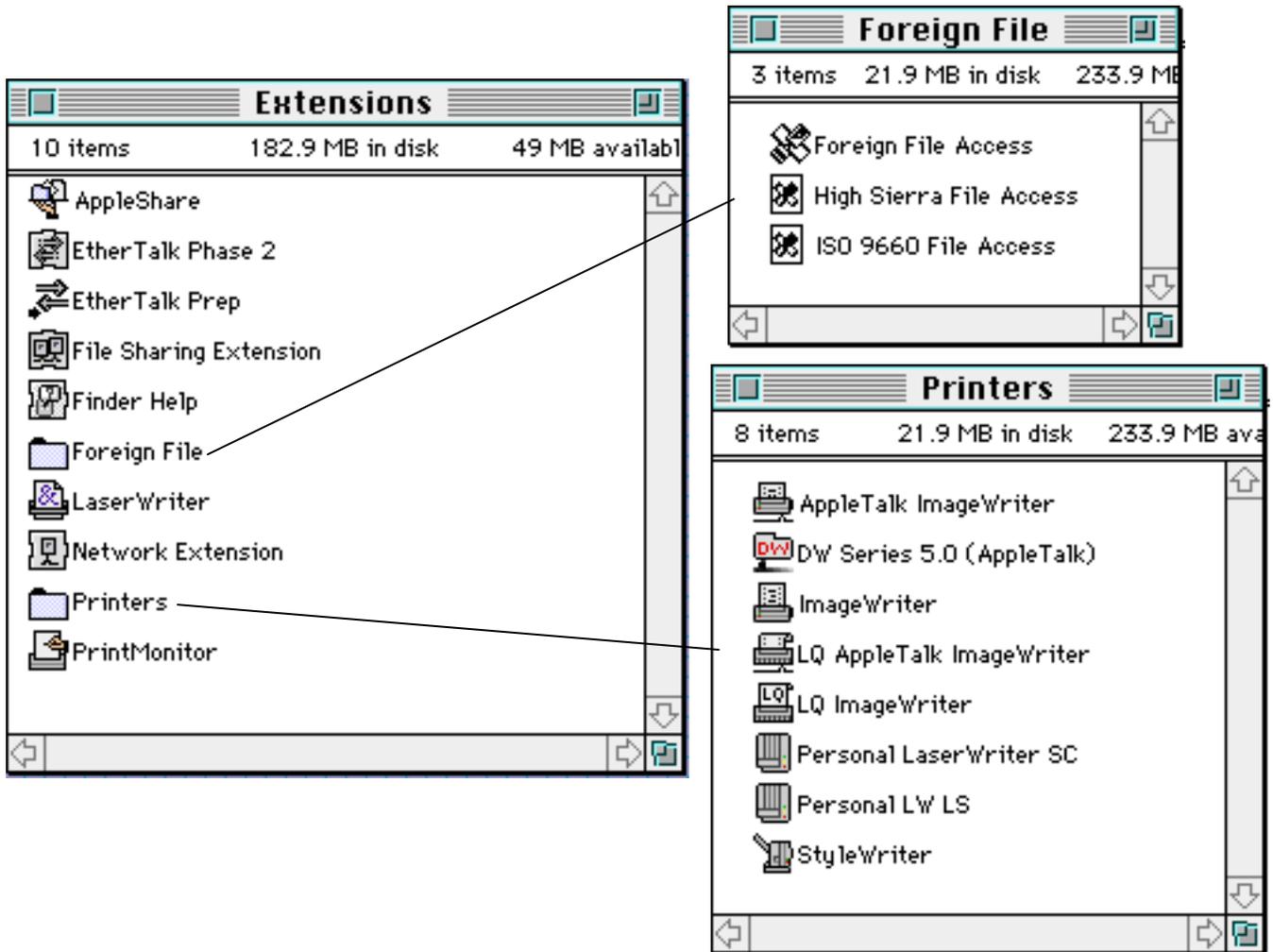
- Select View by Small Icon
- Clean up by name (Option-**Special**)
- Create a folder named Printers
- Create a folder named Foreign File
- Drag the following items into the Printers folder:
 - Apple Talk ImageWriter
 - ImageWriter
 - LQ AppleTalk ImageWriter
 - LQ ImageWriter
 - Personal LaserWriter SC
 - Personal LW LS
 - StyleWriter

Drag the following items into the Foreign File folder:

- Foreign File Access
- High Sierra File Access
- ISO 9660 File Access

- Clean up by name (Option-**Special**)

The extensions folder should now look something like this:



9. The following procedures require the use of the OpFamily 'install' disks (qty 2). Close all folders and proceed as follows:
 - Insert Install Disk 1 and click on the installer. Follow the instructions. You will be prompted for disk 2. This installs the OpFamily™ Software and training programs.
10. Install miscellaneous software.
 - Install CompactPro (optional). Be sure to follow the instructions provided in the Woodward App Note.
 - Install Pyro! (optional) Be sure to follow the instructions provided in the Woodward App Note.
 - Install At Ease (required!) Be sure to follow the instructions provided in the Woodward App Note.
 - Empty the trash (**Special**)

Hardware

- Install the hardware according to the manufacturers instructions. Some hints appear below.

AE QuadraLink card (1751-203)—This card installs very easily, but use caution; it must be installed properly or it will interfere with network communications.

DO NOT use the installer!

The only file you need is *AE Shadow INIT*. Drag it from the installation disk (you will have to resize the window to see it) into the *Extensions* folder on the hard disk. That is all you need to do.

SilentWriter 95 Laser Printer w/ EtherPrint—With this device it is highly recommended that you use the Dayna EtherPrint box. This will allow background printing without the tendency to interfere with data scanning.

1. Set all the switches on the Dayna EtherPrint box (P/N 1790-629) to the ON (down) position. If you are using the AUI port to a transceiver (optical or 10-BASE-T) you will have to put switch 3 in the OFF (up) position.
2. Connect the LocalTalk cable provided to the SilentWriter.
3. The SilentWriter should be set to use the AIM interface and PostScript Level II software emulation. You may also opt to turn off the power up test as well. Refer to NEC documentation on using the menu system on the front panel of the printer.
4. Install the BNC-T connector (P/N 1609-972) and 50 Ohm terminator (P/N 1602-993) onto the BNC connection on the back of the EtherPrint Box.
5. Connect the ThinNet Adapter (P/N 1790-677) to the Built In EtherNet port on the back of the Macintosh.
6. Connect BNC (coax) cable (P/N 5416-425) between the EtherPrint box and the Macintosh. Do not use the cables provided as they will not work. The ThinNet adapter is self terminating and this will over terminate the network.
7. Turn power off on both the printer and the EtherPrint box.
8. Turn power on to the printer and wait about 5 seconds and apply power to the EtherPrint box. The manufacturer asks that power be applied and removed at the transformer (110AC end) rather than the power connection at the back of the unit.
9. You should now go into the Network control panel and set the network to EtherTalk. You will get a warning about existing services. Select the 'Yes' option. If you do not get an error message to the effect that 'Built In Local Talk will be used instead', you have successfully installed the EtherPrint network. If you do get an error, you need to verify all connections, terminations and cables again.
10. You should now be able to go to the Chooser under the Apple Menu and select LaserWriter. Highlight the SilentWriter 95 printer turn Background printing on and exit the chooser. You should get a message to the effect that 'the printer has been changed' and to 'select page set up from all open applications'.
11. If you are warned that the system must be restarted, do so. You should now be able to print to your printer.

DeskWriter and DeskWriterC Printers—Connect the printer according to the instructions provided by the manufacturer. Install the driver using the installer provided with the printer. Select the printer (serial) using the chooser and select the port to communicate over (printer is the logical choice). Turn background printing on. Exit the chooser. You are now set up to use this printer. In system 7 the printer fonts are not required due to the use of True Type fonts.

Setting up a Line Printer—The printer recommended is the Epson FX 870 printer with the serial card installed (P/N 1790-769). The printer should be configured for 9600 baud, No Parity, 8 data bits and 1 stop bit (9600,N,8,1). The cable you should use is P/N 5416-755. The final step is to set up the Line Printer Port in the General/Alternate I/O submenu. You should select the port so that it does not conflict with the current printer. **Never** select the printer port to both the graphics printer and the line printer, you will get garbage on the graphics printer and port conflicts whenever an attempts are made to print graphics. Once the printer is connected properly it will print everything that goes to the Event Log as it happens.



Read the pertinent (enclosed) OpTrend OR OpPanel manual before installing OpFamily software.

Configure Your OpTrend or OpPanel Application

1. If you have not read the pertinent (enclosed) OpTrend or OpPanel manual, read it now. Follow that manual's instructions for configuring your application.
2. If you're not experienced with OpFamily software, run the OpFamily software Training Program. This tutorial will help you configure your system.

The OpFamily tutorial consists of six units as follows:

Unit 1 Macintosh Basics

Unit 2 OpFamily Display Overview

The OpFamily program
 The Set Up file
 Get Info file
 The OpFamily screen
 The menus
 Print Edit
 History Operate
 Configure

Unit 3 General Configuration

General
 Communications
 Security
 Telecommunications
 Devices
 Alternate I/O

Unit 4 Configuring - Standard Gauges

Analog Input
 Analog Control
 Digital Input
 Digital Control

Unit 5 Configuring - Special Gauges (OpTrend only)

Group Trends
 Calculation
 Accumulation
 X-Y Plots

Unit 6 Configuring Graphics

Graphic Pull Down Menus

Graphic Windows

Importing Graphics

Graphic Tools

Pointer	Text
Box	Rounded Box
Oval	Line
Arc	Polygon
Dynamic Data	Dynamic Fill
Symbol Swap	Arc Fill

There are two parts to every unit. The first part consists of an electronic presentation, the second part is a set of exercises designed to reinforce the information learned in the presentation. To get the full benefit of the tutorial it is suggested that you perform the exercises.

With all units, it is best to read the first section of the .txt file before proceeding. To view the .txt file you simply double click on the .txt file to launch it. To run the slide show for any given unit you simply launch that unit's Slide program. Once you are in the slide show you can move around by using the arrow keys (right=next, left=previous). You can exit the slide show at any time by pressing the <esc> or <clear> key on the keyboard. To exit completely, select Quit from the file menu.

Troubleshooting

Symptom	Cause	Remedy
When launching program, error code - 999 is reported	The Eve Init file is missing	Contact Woodward or your authorized dealer or distributor for assistance.
When launching program, error code - 994 is reported	The correct hardware key is missing	See step 2 under Setup Your Computer Hardware. 1. Make sure power is off. 2. Plug key into ADB port. 3. Turn computer on.
When scanning with configured software, no response on some or all devices	Communication failure	Mismatched baud rate or data format (ASCII or RTU)
		Cabling not wired correctly
		Modbus [®] device not responding
When scanning with configured software, bad response on some or all devices	Communication failure	Requesting Modbus address exceeds slave's address range

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- Apple, the Apple logo, and Macintosh are registered trademarks of Apple Computer, Inc.
- Eve is a trademark of Rainbow Tech, Inc.
- Modbus is a registered trademark of Modicon, Inc.
- OpFamily, OpPanel, and OpTrend are registered trademarks of the Woodward Governor Company.
- *Pyro!* is a trademark of Fifth Generation Systems, Inc.

Miscellaneous Software Installation

***Pyro!* Screen Saver Software**

To install ***Pyro!*** software you should **NOT** install the modules. The only file that is to be used is the *Pyro!* control panel. Drag the *Pyro!* control panel from the installation disk into the Control Panels folder (inside the System Folder). Once you have done this you will have to reboot the computer, select the *Pyro!* control panel and turn it on. When you launch the control panel for the first time you will be asked to provide a Name and Company. Be prepared to enter whatever is appropriate (if you make a mistake/misspell, just reinstall the control panel from the install disks). You will also be asked to provide an initial password, use the password run. Password will not be enabled initially, however if this field is left blank, password protection for *Pyro!* will not be available.

Restart the machine.

Configure it as follows (in control panels):

- Clock should be checked.
- Fireworks should not be checked (at least the clock provides a useful function).
- Primary should be unchecked.
- Persistence is infinite.
- On should be selected.
- Show icon at startup should be checked.

Click on the When to Sleep... button and configure as follows:

- Sleep now corner should be upper right
- Never sleep corner should be lower left
- Sleep delay minutes should be 15
- Macintosh is busy should be checked
- Modem is receiving should be checked

Click on the When to Wake... button and configure as follows:

- Mouse Moved should be checked
- Mouse Clicked should be checked

AtEase Software

- Insert disk 1 of the AtEase installation disk set and double click on INSTALLER
- Select CUSTOMIZE installation
- Select MINIMUM install
- Select INSTALL
- Follow instructions and select RESTART at the prompt
- Drag the AtEase Setup Icon into the Control Panels folder in the System Folder (leave the At Ease Folder in the System folder).

IMPORTANT

Before proceeding, you should make sure that all applications have been named the way they should appear in AtEase and that the OpFamily and OpTraining folders have been installed.

- Double click on the AtEase Setup Icon to configure AtEase
- Configure the first User as follows:

User Name:	Admin
Password:	finder
After Startup:	Stay in At Ease

NEXT

Add applications:

At Ease SetUp
Compact Pro
OpFamily™ (* all that apply)

NEXT

MENUS

ALL

NEXT

SECURITY

Anywhere
Allow access to finder

DONE

- Configure the second User as follows

User Name:	Operations
Password:	run
After Startup:	Stay in At Ease

NEXT

Add applications:

Compact Pro
OpFamily (* all that apply)

NEXT

MENUS

Minimal

NEXT

SECURITY

Anywhere

DONE

- Configure the third User as follows (this is optional)

User Name:	Training
Password:	leave blank— do not enter a password
After Startup:	Stay in At Ease

NEXT

Add applications:

Macintosh Basics

Unit 2 Slides

Unit 3 Slides

Unit 4 Slides

Unit 5 Slides

Unit 6 Slides

Unit 1.txt

Unit 2.txt

Unit 3.txt

Unit 4.txt

Unit 5.txt

Unit 6.txt

OpFamily™ (put copy in training, use empty setup file)

NEXT

MENUS

Minimal

NEXT

SECURITY

Only in users folder

DONE

- Select **Administrator Password** from the **Options** Menu. The password should be **finder**.
- Select the OK button.
- Select the ON button.
- Select QUIT from the file menu
- Select RESTART from the Special menu
- After restarting the computer you should verify the set up by logging in as each type of user.

For ADMIN verify that all applications launch, that you can get to the finder, control panels and chooser.

For Operations verify that all applications launch, that you cannot get to the finder, and that a minimum number of options are available in the menus.

For Training verify that all slide shows and .txt files can be accessed. With the slide shows you may have to use the following procedure:

- First, login as admin and go to the finder
- Launch each of the slide shows from inside their prospective folders and save
- launch each .txt file (use Teach Text to open at prompt) and save each file
- Return to Training and verify that each file opens correctly

Comments

At Ease serves one main purpose; to keep unauthorized personnel from accessing the operating system. This is important since there are many possible ways to corrupt, disrupt or otherwise mess up either the operating system or the OpFamily software. It accomplishes this protection by restricting access to the 'finder' to those who know the correct password and therefore presumably know what they are doing.

It is very important to have At Ease installed not only for the reasons mentioned above but also because the OpFamily code has been known to misbehave without it (crash). The details of this are not important other than to be aware that At Ease is not an optional accessory, it is a requirement.

You may encounter a system with more than one application using the same version of the OpFamily software. If this is the case you should make sure that each of the versions has a different name. This can be done editing the name of the version, for example:

- * Rename **OpFamily 6.34 (2/4)** to **Main** and **OpFamily 6.34 (2/4)** in a different folder to **Aux**. In doing this you will be able to tell which is which and add them to At Ease as you desire.

Compact Pro

Compact Pro is a data compression program which has been licensed to the Woodward Governor Company. This is a pre-registered copy so you will not have to register your copy.

The following is a segment from the Compact Pro User's Guide:

Installing Compact Pro

Compact Pro is distributed as a single file named "Compact Pro Package" which is a self-extracting archive. When this file is opened from the Finder, it creates a folder containing two items: "Compact Pro" (the Compact Pro application program) and "Compact Pro User's Guide" (the file you're reading now).

To install Compact Pro, place a copy of the "Compact Pro" file in any folder (Woodward recommends that this file be placed in the Utilities folder) on your startup disk (the one which has your System folder). If your startup disk does not have enough free space to hold the Compact Pro application, you may store it on ANY mounted disk, but some operations will not be as smooth.

- Launch Compact Pro Package on Distribution Disk
- Select Desktop
- Open Macintosh HD
- Open Utilities folder (if nonexistent, create)
- EXTRACT
- Eject disk when complete

We appreciate your comments about the content of our publications.

Send comments to: icinfo@woodward.com

Please reference publication **80019A**.



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