

# ***Earthworm Jim***

## **Technical Troubleshooting**

### **Introduction**

Welcome to the one-level demo version of *Earthworm Jim*. This supplemental documentation is designed as a troubleshooting guide in the event you experience technical problems while running the program. The following contains technical tips and other information that could not be included in the online Help file.

### **Customer Support Bulletins**

In an effort to keep you informed of the latest product developments, Activision has created Customer Support Bulletins. These files are located on the various online services and contain the latest information about Activision products.

### **Troubleshooting**

The following information is designed to help you resolve any difficulties you may encounter while running the program.

#### **Error Messages**

##### **"Requires a 486, Pentium or better processor"**

1. *Earthworm Jim* requires a 486/33 or better processor with a minimum of 8 MB of RAM. Attempting to run the program on a lesser machine may result in hardware and performance difficulties.
2. The game is not compatible with the NextGen chip as it is a 386 chip that emulates a Pentium. *Earthworm Jim* requires a 486 or better chip in order to run.

##### **"Requires Windows 95 or Windows NT 3.51+"**

1. *Earthworm Jim* requires the Windows 95 or Windows NT 3.51 operating system. The game is not compatible with Windows 3.1 or other operating systems.

##### **"Earthworm Jim should be played in 256 color mode for best performance"**

See the section entitled Game Graphics Are Faded Or Strange In Appearance.

##### **"Are you sure you want to give up the current game?"**

1. Using the File Menu to start a new level or changing the level of difficulty in the middle of a game will reset the weapons, continues, energy level, enemies and other collectables to

- their default settings.
2. Switching difficulty levels in the middle of a game will result in the start of a new game in the newly selected difficulty mode. However, the game will automatically save the last level played in the previous difficulty mode. Read the online Help file for more information about switching levels of difficulty.

## Windows 95 Troubleshooting

Activision thoroughly tests its games on a variety of systems before they are released, but it is virtually impossible to test on all combinations of software and hardware. Many of the problems you may encounter in Windows 95 are caused by device drivers for video cards, sound cards and CD-ROM drives that are not fully compatible with the Windows 95 operating system.

The following troubleshooting tips are intended to assist you in solving some of the common problems that occur with the new Windows 95 operating system. If you continue to experience technical difficulties after trying the following solutions, please contact Activision Customer Support.

### Game Freezes Or Crashes

1. Make sure your system is at least a 486/33 with a minimum of 8 MB of RAM. Trying to run the game on a lesser machine may result in hardware and performance difficulties.
2. Disable the Sound Effects option in the Sound page of the Properties Box contained in *Earthworm Jim*. Particular sounds may cause the game to freeze when played on certain sound cards. If an updated driver does not correct this problem, disabling the sound effects may help to decrease the chance of game crashes.
3. Do not leave the game sitting idle for extended periods of time as this may cause your system to lock up. If you are not playing the game, please exit the program and restart it later when you want to play again.
4. It is recommended that you reboot your system after experiencing a crash. This helps to ensure that you will not experience any residual effects related to the crash.

### Game Too Slow

1. If your computer has a turbo button, make sure it is set to the highest MHz possible.
2. Make sure your system is at least a 486/33 with a minimum of 8 MB of RAM. Running the game on a lesser machine may result in hardware and performance difficulties.
3. Make sure that your display mode is set to 256 colors. *Earthworm Jim* should be played in 256 color mode for best performance. Although the game may be played in higher color modes, you may experience slowdown and minor color changes in game graphics. Although it may be time consuming to have to switch between higher color modes and 256 color mode, this is what allows for the high rate of speed in the game. To switch to 256 color mode, perform the following steps:
  - a) Make sure you have a 256 color video driver installed for use.
  - a) Open the Windows 95 Control Panel folder and double-click on the Display icon.
  - b) Click on the Settings tab.
  - c) Select 256 Color in the Color Palette drop-down menu, then click the OK button.

Various utilities that eliminate the need to reboot whenever you switch color modes are available on most online services.

4. Playing the game in a large-sized or maximized window and/or while your screen resolution is set above 640x480 may result in screen "tearing", frame dropout and general slowdown. For better performance in this situation, it is recommended that you select one of the pre-determined window sizes in the Display section of the System page located in the Properties Box contained in *Earthworm*

*Jim* and/or set your screen resolution in Windows 95 to 640x480. To do this, perform the following steps:

- a) Open the Windows 95 Control Panel folder and double-click on the Display icon.
  - b) Click on the Settings tab.
  - c) Move the slider bar in the Desktop Area section until it reads 640x480, then click the OK button.
5. If you are playing the game in an odd-sized custom window, this may result in screen "tearing" and general slowdown. For better performance in this situation, it is recommended that you select one of the pre-determined window sizes in the Display section of the System page located in the Properties Box contained in *Earthworm Jim*.
  6. If you are running the program on a Pentium machine with a speed of less than 90 Mhz and are playing in Full Screen mode with the Sync Full to Monitor option enabled, this may result in slower performance. For better performance in this situation, disable the Sync Full Screen to Monitor option.
  7. Make sure you are not running an excessive amount of background applications. Before running *Earthworm Jim*, close any applications that are not in use. If you still experience slowdown, make sure you are not running any programs or utilities, such as System Agent, that automatically perform functions at given intervals. Applications that perform auto-scans, auto-defragmentation and the like may result in slower performance during these functions.
  8. If you frequently multi-task or your system is linked to a network, go to the System page in the Properties Box contained in *Earthworm Jim* and set the Game Priority option to Real Time. This will devote maximum processing power to the game. Remember that playing the game in Real Time mode may affect any applications running in the background. It is recommended that you do not attempt downloading or other similar functions while playing in this mode.
  9. If you are experiencing general slowdown problems, it is recommended that you play the game in Full Screen mode, which is designed for maximum display combined with maximum performance. The Full Screen option is not available when running the program in Windows NT.

### **Game Too Fast**

1. There is a rare problem related to Windows 95 that results in the game running at twice the normal speed. To resolve this situation, reboot your system and restart the game.

### **Partial Sound Or No Sound**

1. Make sure your sound card is 100% Windows 95 compatible. Using a non-Windows 95 compatible sound card and drivers may result in sound problems.
2. The Sound Effects option is not available when running the program in Windows NT.
3. Make sure your speakers are plugged in correctly, turned on and the volume is set at an audible level.
4. Open the Windows 95 Volume Control program to verify that none of the various channels are muted or set to an inaudible level.
5. Make sure the Sound Effects option is enabled in the Sound page of the Properties Box contained in *Earthworm Jim*.
6. Your sound drivers for Windows 95 may require updating. Check the installation and setup parameters of your sound card using the Device Manager of Windows 95 to determine if this is the case. To do this, perform the following steps:
  - a) Open the Windows 95 Control Panel folder and double-click on the System icon.
  - b) Click on the Device Manager tab.
  - c) Click on the plus sign located next to the Sound, Video and Game Controllers icon.
  - d) Highlight your sound card and click on the Properties button.

If you purchased your sound card before the release of Windows 95, you may obtain updated drivers in a variety of places. Most hardware retailers have access to the most recent drivers. Additionally, most sound card manufacturers maintain a BBS containing the latest drivers for free downloading.

Moreover, drivers are available on CompuServe, America Online, The Microsoft Network and other popular online services. A list of sound card manufacturers and their Technical Support and BBS numbers is contained at the end of this document. Please make every effort to install the latest sound drivers before calling Activision Customer Support.

### **Game Graphics Are Faded Or Strange In Appearance**

1. Make sure your video card is 100% Windows 95 compatible. Using a non-Windows 95 compatible video card and drivers may result in display problems. It is known that playing the game using Trident video cards occasionally results in minor color changes in game graphics. It is recommended that you obtain the latest Trident video drivers in an effort to avoid this situation. A list of video card manufacturers and their Technical Support and BBS numbers is contained at the end of this document.
2. Make sure that your display mode is set to 256 colors. *Earthworm Jim* should be played in 256 color mode for best performance. Although the game may be played in higher color modes, you may experience slowdown and minor color changes in game graphics. Although it may be time consuming to have to switch between higher color modes and 256 color mode, this is what allows for the high rate of speed in the game. To switch to 256 color mode, perform the following steps:

a) Make sure you have a 256 color video driver installed for use.

a) Open the Windows 95 Control Panel folder and double-click on the Display icon.

b) Click on the Settings tab.

c) Select 256 Color in the Color Palette drop-down menu, then click the OK button.

Various utilities that eliminate the need to reboot whenever you switch color modes are available on most online services.

3. If you are experiencing problems in seeing all of the File pull-down menu on your screen, it is recommended that you change the font size in Windows 95 to a smaller setting. To do this, perform the following steps:

a) Open the Windows 95 Control Panel folder and double-click on the Display icon.

b) Click on the Appearance tab.

c) Select the word Menu located in the Item drop-down menu.

d) Change the font size by clicking on the bottom arrow in the Size menu located to the right of the Item drop-down menu.

If you purchased your video card before the release of Windows 95, you may obtain updated drivers in a variety of places. Most hardware retailers have access to the most recent drivers. Additionally, most video card manufacturers maintain a BBS containing the latest drivers for free downloading. Moreover, drivers are available on CompuServe, America Online, The Microsoft Network and other popular online services. A list of video card manufacturers and their Technical Support and BBS numbers is contained at the end of this document. Please make every effort to install the latest video drivers before calling Activision Customer Support.

### **Keyboard Controls Do Not Work**

1. Make sure the Keyboard option is enabled in the Keyboard page of the Properties box contained in *Earthworm Jim*.
2. Make sure all connections between your keyboard and computer are properly connected.
3. Certain key configurations will not allow three simultaneous key presses, which often results in not being able to perform certain game actions simultaneously. You will hear a keyboard "tick" from the PC speaker when this happens.

### **Gamepad Or Joystick Does Not Work**

1. Make sure your joystick is properly calibrated in Windows 95. To do this, perform the following steps:
  - a) Open the Windows 95 Control Panel folder and double-click on the Joystick icon.
  - b) Select the appropriate settings in the Current Joystick and Joystick Selection drop-down menus.
  - c) Calibrate your controller.
2. Although Windows 95 contains several built-in gamepad and joystick drivers, you may need to obtain a Windows 95 compatible driver from the gamepad or joystick manufacturer.
3. The Joystick option is not available when running the program in Windows NT.

## Hardware Manufacturers

The following is a list of Technical Support and Customer BBS numbers for system, sound card, video card and CD-ROM manufacturers. Activision has made every effort to ensure that these numbers are correct. However, you may want to consult the documentation for your PC, video card, sound card or CD-ROM drive for more up-to-date information about each company. The first section is for people living in North America. The second section is for people living outside of North America.

### Inside North America...

#### System Manufacturers

##### Acer

Technical Support	(800) 733-2237
BBS	(408) 428-0140
BBS	(800) 833-8241

##### AST Research

Technical Support	(800) 727-1278
BBS	(714) 852-1872

##### Compaq

Technical Support	(800) 652-6672
BBS	(713) 378-1418

##### Dell

Technical Support	(800) 624-9896
BBS	(512) 728-8528

##### Epson

BBS	(310) 782-4531
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##### Gateway

Technical Support	(800) 846-2301
BBS	(605) 323-2224 or (605) 232-2109
Download Service	(800) 846-7562

##### Hercules Computer Technology Inc.

Technical Support	(510) 623-6050
BBS	(510) 623-7449 (V.32 bis)

BBS (510) 623-7034 (9600 baud)  
BBS (510) 623-7142 (2400 baud)

### **IBM**

Technical Support Multimedia (908) 329-7131  
Technical Support PS/1 PRO (800) 765-4747  
Technical Support Valuepoint (800) 772-2227  
Technical Support Valuepoint (213) 621-5576

### **Intel**

Technical Support (800) 538-3373  
BBS (503) 645-6275

### **Leading Edge**

Technical Support (800) 225-2283  
BBS (503) 836-3971

### **Micronics**

Technical Support (510) 651-2323  
BBS (510) 651-6837

### **Packard Bell**

Hardware Support (800) 733-4411  
Software Support (801) 579-0161  
BBS (801) 250-1600  
BBS (818) 773-7207

### **Tandon**

Technical Support (805) 523-0340

### **Tandy Computer**

Technical Support (817) 878-6875

### **Toshiba**

Technical Support (800) 999-4273  
BBS (415) 656-5159

### **Zenith**

Technical Support (800) 227-3360  
BBS (800) 888-3058

## **Sound Card Manufacturers**

### **Advanced Gravis**

Technical Support (206) 881-6945

### **ATI Technologies Inc.**

Technical Support (905) 882-2626  
BBS (905) 764-9404

### **Aztech**

Technical Support (800) 886-8879

### **Boca Research Inc.**

Technical Support (407) 241-8088

BBS (407) 241-1601

#### **Cardinal**

Technical Support (717) 293-3124  
BBS (717) 293-3074

#### **Creative Labs**

Technical Support (408) 428-6622  
BBS (408) 428-6660

#### **Diamond**

Technical Support (408) 736-2000  
BBS (408) 524-9301

#### **Logitech**

Technical Support (510) 795-8100  
BBS (510) 795-0408

#### **Media Vision**

Technical Support (800) 638-2807  
BBS (510) 770-0968

#### **Microsoft**

Technical Support (206) 637-7096  
BBS (206) 936-4082  
BBS (206) 936-6735

#### **Reveal**

Technical Support (800) 473-8325

#### **Roland US**

Technical Support (213) 685-5141

#### **Turtle Beach**

Technical Support (717) 843-6916  
BBS (717) 845-4835

### **Video Card Manufacturers**

#### **Actix Systems**

Technical Support (408) 986-1625  
BBS (408) 970-3719

#### **Advanced Integration Research**

Technical Support (408) 428-0800  
BBS (408) 428-1735

#### **Advanced Micro Technology**

Technical Support (909) 598-6120  
BBS (909) 594-5770

#### **Alpha Systems Lab**

Technical Support (800) 576-4275

#### **Altech International**

Technical Support (800) 882-8194  
BBS (408) 946-2227

**Artist Graphics Company**

Technical Support (800) 627-8478  
BBS (612) 631-7664

**ATI Technologies**

Technical Support (905) 882-2626  
BBS (905) 764-9404

**Atlaz Intl., Limited**

Technical Support (516) 239-1854

**Boca**

Technical Support (407) 241-8088  
BBS (407) 241-1601

**Cache Computers, Inc.**

Technical Support (510) 226-9922  
BBS (510) 226-7486

**Cardinal**

Technical Support (717) 293-3124  
BBS (717) 293-3074

**Celerite Graphics, Inc.**

Technical Support (510) 226-6390  
BBS (510) 226-7851

**Cirrus Logic**

Technical Support (510) 435-8808  
Technical Support (510) 623-8300 (west coast)  
Technical Support (508) 470-3380 (east coast)  
BBS (510) 440-9080

**Colorgraphic Communication**

Technical Support (404) 455-3921  
BBS (404) 452-8238

**Cornerstone Technology**

Technical Support (800) 562-2552 x306  
BBS (408) 435-8943

**CSS Laboratories, Inc.**

Technical Support (800) 966-2771  
BBS (714) 852-9231

**Diamond Computer Systems, Inc.**

Technical Support (408) 325-7100  
BBS (408) 325-7175 (14400 baud, 8 bits, no parity, 1 stop)  
BBS (408) 325-7080 (2400 baud, 8 bits, no parity, 1 stop)

**Edge Technology, Inc.**

Technical Support (800) 438-3343



**ELSA America, Inc.**

Technical Support (800) 272-3572  
BBS (415) 588-6286

**Focus Information Systems, Inc.**

Technical Support (510) 657-4586  
BBS (510) 657-9451

**Genoa**

Technical Support (408) 432-8324  
BBS (408) 943-1231

**Headland (Video Seven)**

Technical Support (800) 553-1850  
BBS (415) 656-0503

**Hercules Computer Technology Inc.**

Technical Support (510) 623-6050  
BBS (510) 623-7449 (V.32 bis)  
BBS (510) 623-7034 (9600 baud)  
BBS (510) 623-7142 (2400 baud)

**Identity Systems Technology**

Technical Support (800) 723-8324  
BBS (214) 705-7213

**IOcomm Intl., Corp.**

Technical Support (800) 998-8919

**Liberty Electronics USA**

Technical Support (800) 497-8324

**Matrox Electronics Systems Limited**

Technical Support (800) 462-8769  
BBS (514) 685-6008

**Metheus Corporation**

Technical Support (503) 690-1550  
BBS (503) 690-1559

**MicroStep, Inc.**

Technical Support (818) 336-8991  
BBS (818) 961-9992

**Mirage Computer Systems**

Technical Support (310) 440-1460

**National Design, Inc.**

Technical Support (512) 329-5055  
BBS (512) 329-6327

**Number Nine Computer Corporation**

Technical Support (617) 674-0009  
BBS (617) 862-7502

**Nth Graphics**

Technical Support (800) 624-7552  
BBS (512) 832-1964

**Oak Technology**

Technical Support (408) 737-0888  
BBS (408) 524-9014

**Orchid Technology Inc.**

Technical Support (510) 683-0323  
BBS (510) 683-0327

**Paradise**

Technical Support (800) 832-4778  
BBS (415) 968-1834

**Sigma Designs**

Technical Support (510) 770-0100  
BBS (510) 770-0111

**SixGraph Computing, Limited**

Technical Support (800) 561-2892  
BBS (514) 336-4169

**STB Systems**

Technical Support (800) 234-4334  
Technical Support (214) 234-8750  
BBS Phone (214) 437-9615  
BBS (214) 237-9615

**SuperMac Technology, Inc.**

Technical Support (408) 245-0646  
BBS (408) 773-4500

**Swan Technologies, Inc.**

Technical Support (800) 468-7926  
BBS (814) 237-6143

**Trident Microsystems Inc.**

Phone (415) 691-9211  
BBS (415) 691-1016

**Tseng Labs**

Technical Support (215) 968-0502  
BBS (215) 579-7536

**Video Logic, Inc.**

Technical Support (617) 494-0530  
BBS (617) 494-4960

**Video Seven**

Technical Support (800) 553-1850  
BBS (510) 656-0503  
BBS (415) 656-0503

**VidTech Microsystems, Inc.**

Technical Support (800) 752-8033

BBS (612) 780-3564

**Willow**

Technical Support (212) 402-9500

**CD-ROM Manufacturers**

**Hitachi**

Technical Support (800) 241-6558

**Mitsubishi**

Technical Support (800) 344-6352

BBS (714) 236-6286

**Mitsumi**

Technical Support (408) 970-9699

**NEC**

Technical Support (708) 860-0335

BBS (508) 635-6328

**Panasonic**

Technical Support (800) 222-0584

BBS (201) 863-7845

**Sony**

Technical Support (714) 826-6410 (west coast)

Technical Support (201) 368-3774 (east coast)

BBS (408) 955-5107

**Teac**

Technical Support (213) 726-0303

**Outside North America...**

**System Manufacturers**

**Acer**

Technical Support USA (408) 434-6677

BBS USA (408) 428-0140

**AST Computers**

Technical Support USA (817) 232-9824

BBS USA (714) 852-1872

**Compaq**

Technical Support USA (713) 378-2000

BBS USA (713) 378-1418

**Dell**

Technical Support France 1-30-60-6900

Germany 61-03-971-0

Spain 1-32-91080

United Kingdom 344-860-456  
Australia 2-930-3355  
Finland 0-692-3122  
Ireland 61-304091  
Poland 644-2525  
Sweden 8-590-05-100  
Austria 2243-34100-0  
Belgium/Luxembourg 2-466-91-99  
Netherlands 20-6812666  
Canada (416) 758-2100  
Czechoslovakia 2-879250  
Japan 3-5420-5353  
Mexico 5-228-7800  
Norway 67-125711  
Singapore 32-08370  
Switzerland 22-979-0101  
USA (512) 728-8528

BBS

**Epson**

Technical Support  
BBS

USA (310) 782-0770  
USA (310) 782-4531

**Gateway**

Technical Support  
BBS

USA (605) 232-2191  
USA (605) 232-2109

**Hercules Computer Technology Inc.**

Technical Support  
BBS

Germany 14-24-910-5  
Germany 14-24-089-8

**IBM**

Technical Support  
BBS

USA (404) 238-1234  
USA (919) 517-0001

**Intel**

Technical Support  
BBS

USA (503) 264-7000  
USA (503) 264-7999

**Leading Edge**

Technical Support  
BBS

USA (508) 836-4800  
USA (503) 836-3971

**Micronics**

Technical Support  
BBS

USA (510) 651-2323  
USA (510) 651-6837

**Packard Bell**

Technical Support

France 1-40-64-1000  
Germany 89-83-703-1  
Italy 2-29-52-7444  
Spain 1-45-80055  
USA (801) 250-1600

BBS

**Tandon Computer**

Technical Support

USA (805) 582-6119

**Tandy**

Technical Support

United Kingdom 922-434-000

**Toshiba**Technical Support  
BBSUSA (714) 859-4273  
USA (714) 837-4408**Zenith**Technical Support  
BBSUSA (708) 808-5000  
USA (708) 808-2264**Sound Card Manufacturers****Advanced Gravis**Technical Support  
  
BBSFrance 1-39-73-1534  
Germany 99-61-507-7  
USA (206) 883-3211**ATI Technologies Inc.**Technical Support  
BBSGermany 46-09-077-7  
Germany 46-21-020-1 or 46-09-076-6**Aztech Labs**Technical Support  
BBSGermany 11-69-084-3  
Germany 11-69-178-2**Boca Research Inc.**Technical Support  
BBSUSA (407) 997-7202  
USA (407) 241-1602**Cardinal**Technical Support  
BBSUSA (717) 293-3124  
USA (717) 293-3074**Creative Labs**Technical Support  
  
BBSFrance 1-39-20-0421  
Germany 31-10-283-8  
USA (918) 742-2377**Diamond Computer Systems, Inc.**Technical Support  
  
  
BBSFrance 42-20-5959  
Germany 78-04-023-5  
Italy 39-25-16-671  
Spain 1-30-41534  
USA (408) 325-7175**Logitech**Technical Support  
  
BBSFrance 34-48-9050  
Switzerland 21-869-9851  
USA (510) 795-0408**Media Vision**Technical Support  
BBSUSA (510) 770-9905  
USA (510) 770-0968

### **Microsoft**

Technical Support

France 1-69-86-1020  
Germany 08-93-176-0  
Italy 39-22-69-121  
Spain 1-80-40000

BBS

Belgium 2-735-00-45

### **Reveal**

Technical Support

BBS

United Kingdom 818-457-400  
USA (818) 713-8188

### **Roland US**

Technical Support

Germany 05-26-0009-0  
Italy 29-35-81-311  
Spain 3-30-81000

### **Turtle Beach**

Technical Support

BBS

Switzerland 22-347-1181  
USA (717) 767-5934

## **Video Card Manufacturers**

### **Actix Systems**

Technical Support

BBS

USA (408) 986-1625  
USA (408) 970-3719

### **Advanced Integration Research**

Technical Support

BBS

USA (408) 428-0800  
USA (408) 428-1735

### **Advanced Micro Technology**

Technical Support

BBS

United Kingdom 256-811-101  
USA (909) 594-5770

### **Alpha Systems Lab**

Technical Support

BBS

USA (714) 252-9200  
USA (714) 252-0624

### **Artist Graphics Company**

Technical Support

BBS

United Kingdom 844-261-313  
USA (612) 631-7664

### **ATI Technologies**

Technical Support

BBS

Germany 46-09-077-7  
Germany 46-21-020-1 or 46-09-076-6

### **Atlaz Intl., Limited**

Technical Support

USA (516) 239-1854

### **Boca Research Inc.**

Technical Support

BBS

USA (407) 997-7202  
USA (407) 241-1602

### **Cache Computers, Inc.**

Technical Support USA (510) 226-9922  
BBS USA (510) 226-7486

**Cardinal**

Technical Support USA (717) 293-3124  
BBS USA (717) 293-3074

**Cirrus Logic**

Technical Support France 1-48-12-2812  
Germany 15-24-008-4  
Italy 92-61-34-836  
BBS USA (510) 440-9080

**Colorgraphic Communication**

Technical Support USA (404) 455-3921  
BBS USA (404) 452-8238

**Cornerstone Technology**

Technical Support Germany 97-44-154-0  
BBS USA (408) 435-8943

**CSS Laboratories, Inc.**

Technical Support USA (714) 852-8161  
BBS USA (714) 852-9231

**Diamond Computer Systems, Inc.**

Technical Support France 42-20-5959  
Germany 78-04-023-5  
Italy 39-25-16-671  
Spain 1-30-41534  
BBS USA (408) 325-7175

**ELSA America, Inc.**

Technical Support USA (408) 565-9669  
BBS USA (408) 565-9630

**Focus Information Systems, Inc.**

Technical Support USA (510) 657-4586  
BBS USA (510) 657-9451

**Genoa**

Technical Support USA (408) 432-8324  
BBS USA (408) 943-1231

**Hercules Computer Technology Inc.**

Technical Support Germany 14-24-910-5  
BBS Germany 14-24-089-8

**Liberty Electronics USA**

Technical Support USA (510) 623-6000

**Matrox Electronics Systems Limited**

Technical Support USA (514) 685-2630  
BBS USA (514) 685-6008

**Metheus Corporation**

Technical Support United Kingdom 734-312-112  
BBS USA (503) 690-1559

**Micron Computer**

Technical Support USA (208) 463-3444

**Mirage Computer Systems**

Technical Support USA (310) 301-4541  
BBS USA (310) 301 4542

**Number Nine Computer Corporation**

Technical Support Germany 96-14-491-0  
BBS Germany 96-12-139-0

**Nth Graphics**

Technical Support USA (512) 832-1944  
BBS USA 512) 832-1964

**Oak Technology**

Technical Support USA (408) 737-0888  
BBS USA (408) 524-9014

**Orchid Technology Inc.**

Technical Support France 1-47-80-7050  
Germany 13-28-007-1  
BBS United Kingdom 256-479-898  
United Kingdom 256-463-373

**Sigma Designs**

Technical Support Germany 89-33-644-3  
BBS USA (510) 770-0111

**STB Systems**

Technical Support United Kingdom 818-970-662  
BBS United Kingdom 818-971-008

**Swan Technologies, Inc.**

Technical Support USA (814) 238-1820  
BBS USA (814) 237-6145

**Trident Microsystems Inc.**

Technical Support USA (415) 335-1179  
BBS USA (415) 691-1016

**Tseng Labs**

Technical Support Germany 49-00-004-9  
BBS Belgium 2-716-50-00  
USA (215) 579-7536

**Video Logic, Inc.**

Technical Support United Kingdom 923-260-511  
BBS United Kingdom 923-271-301

**VidTech Microsystems, Inc.**



Technical Support  
BBS USA (612) 785-9717  
USA (612) 780-8033

**Western Digital**

Technical Support  
BBS USA (714) 932-4900  
USA (714) 753-1234

**Willow**

Technical Support  
BBS USA (718) 402-0203  
USA (718) 993-2066

**CD-ROM Manufacturers**

**Hitachi**

Technical Support  
France 1-48-21-6015  
Germany 40-73-441-0  
Italy 39-02-30-231  
Spain 3-33-08652

**Mitsumi**

Technical Support  
USA (415) 691-4465

**NEC**

Technical Support  
BBS USA (508) 264-8000  
USA (508) 635-4706

**Panasonic**

Technical Support  
France 1-49-46-4300  
Germany 32-18-702-0  
Spain 7-24-81100  
BBS USA (201) 863-7845

**Sony**

Technical Support  
BBS USA (408) 894-0555  
USA (408) 955-5107

**Teac**

Technical Support  
BBS USA (213) 726-0303  
USA (213) 727-7660