Product Support Bulletin

Subject: EPSON Endeavor C and Sound Blaster Discovery CD 16

Date: 04/08/94 PSB No: S-0171
Page(s): 1 of 5 Originator: JAM

The purpose of this bulletin is to provide information regarding the installation and compatibility of the Sound Blaster Discovery CD 16.

1. Hardware Configuration: Product Code

CPU:	Epson Endeavor C, 80486sx/25 Processor
Memory:	4.0 Mb Standard
Additional:	not applicable
BIOS Rev:	AMI/Seiko Epson Corp. D486-6080-112593-KF
FDD:	Mitsumi D-359T3, 1.44Kb 3.5" disk drive
HDC:	Integrated on Main Logic Board
HDD:	Conner CP-3104
Video:	Cirrus GD5442 Video chip, 512KB, Upgradeable to 1 MB [External VGA port provided on rear of unit]
Display:	Epson Professional Series VGA monitor (A804241)

2. Operating Systems:

Microsoft DOS Version 6.2
Microsoft Windows Version 3.1

Microsoft DOS was loaded in a default mode.

3. Windows Installation:

Microsoft Windows Version 3.1 installed. 'Express Setup' (Microsoft Recommended) installation routine used for the install.

4. Compatibility:

The system is compatible with the Sound Blaster Discovery CD 16 Multimedia system by Creative Labs Incorporated using Microsoft DOS version 6.2. Installation time approximately 30 minutes.

The system was also tested with Microsoft DOS version 6.0 and Microsoft DOS version 5.0. The Sound Blaster Discovery CD 16 Multimedia product is compatible with those operating systems.

The following information is provided for reference purposes only. The AUTOEXEC.BAT and the CONFIG.SYS files are actual examples of the tested system.

5. Memory Allocation information.

```
c:\>chkdsk

Volume MS-DOS-6 created 12-16-1993 10:OOa
Volume Serial Number is 1A259203

 104515584 bytes total disk space
   4042752 bytes in 6 hidden files
    163840 bytes 68  directories
  78866432 bytes in 1876 user files
  21442560 bytes available on disk

      2048 bytes in each allocation unit
     51033 total allocation units on disk
     10470 available allocation units on disk

    655360 bytes total memory
    532080 largest executable program size
```

6. AUTOEXEC.BAT file information:

```
@ECHO OFF
SET BLASTER=A220 I5 D1 H5 P330 T6
SET SOUND=C:\SB16
C:\SB16\SB16SET /M:220 /VOC:220 /CD:220 /MIDI:220 /LINE:220 /TREBLE:0
C:\SB16\SBCONFIG.EXE/S
C:\WINDOWS\SMARTDRV.EXE /X
PROMPT $p!$g
PATH C:\WINDOWS;C:\DOS;
SET TEMP=C:\DOS
C:\DOS\MSCDEX.EXE /D:MSCD001 /V /M:15
C:\DOS\MOUSE
C:\
```

7. CONFIG.SYS file information:

```
DEVICE=C:\DOS\SETVER.EXE
DEVICE=C:DOS\HIMEM.SYS
DOS=HIGH
FILES=10
STACKS=9,256
DEVICE=C:\SB16\DRV\SBCD.SYS /D:MSCD001 /P:220
SHELL=C:\DOS\COMMAND.COM C:\DOS\ /p
```

8. General Installation Tips:

Hardware:

The Discovery CD 16 uses a Sound Blaster 16 sound card. The product was used in its default configuration. The following are the factory defaults:

Feature:	Jumper position:	Setting used:
Base I/O address	IOS0 closed	220(H)ex
Midi address	IOS1 closed	330(H)ex
Board Interrupt	IS0 open IS1 closed	IRQ5
8-bit DMA channel	DAS0 open DAS1 closed	Channel 1
16-bit DMA channel	DBS0 closed DBS1 closed	Channel 5
Joystick port	JYEN closed	Enabled
Audio Output Amp	OPSL pins 2 & 3 closed OPSR pins 2 & 3 closed	Audio amplified internally: no external amp needed

These settings can be found in the 'GETTING STARTED' manual that comes with the product. The system uses a Matsushita model CR-563-B CD-ROM drive. From the factory the drive ID is set to 0. This jumper is on the rear of the drive between the power connector and the data/ribbon cable.

Software:

The Discovery CD 16 Multimedia system comes with 5 3.5" diskettes. Three diskettes are for the sound card, one is for a 'Text-to-Speech' application, and one disk is for the CD-ROM device driver and utilities.

The Sound Blaster files are copied to the hard disk drive by an INSTALL.EXE utility on disk 1. The utility will prompt the installer for the second and third disks. The routine will modify the AUTOEXEC.BAT and CONFIG.SYS files. Upon completion, the user is prompted to re-boot the system so that the changes can take effect. The utility will also modify the Windows SYSTEM.INI file. When you run Windows, a SB routine will modify and add the Sound Blaster utilities to a new Program group. The routine will re-start Windows so that the changes can take effect. The sound card can be tested in a DOS environment by running TESTSB16. This file is located in the sound blaster sub-directory SB16.

The utility will test the existence and functionality of the following areas:

I/O Address:	IRQ:	DMA channels:	DSP Version:
220H	**5**	**1,5**	**4.05**

The bold face values above are typical for the default configuration. The Sound card passed all of the tests listed below:

2-operator FM Music
4-Operator FM Music
8-Bit Sound
16-Bit Sound

The CD-ROM files are copied to the hard disk drive by an INSTALL.EXE utility on the disk 1. The routine will modify the AUTOEXEC.BAT and CONFIG.SYS files. Upon completion, the user is prompted to re-boot the system so that the changes can take effect. To install CD-ROM into Windows, the user must manually add the 'QuickCD' to the Sound Blaster 16 program group. Open the 'Sound Blaster 16' group, and from Program Manager File select New. Program Item should have the bullet marked. Select the OK button. From the Program Item Properties box select the Browse button. Scroll to the C:\SB16\PLAYCD sub-directory. Select QCD.EXE as the file name and click the OK button. This bring you back to the Program Item Properties box. For a Description enter QCD. Click on the Change Icon button and choose a CD symbol for the icon button. Click on the OK button and the QuickCD icon is present in the Sound Blaster 16 program group. Insert an analog/music CD into player. If you click on the CD icon without a disc installed you will get the following warning: 'Ensure that you have a CD audio ready in your drive and CD MCI driver installed in your system. The system is ready for use.

9. MultiMedia Kit Applications tested:

1. Aldus PhotoStyler SE	Ok
2. San Diego **Zoo** Presents... The Animals	Ok
3. Software Toolworks Multimedia Encyclopedia	Ok
4. Just Grandma and Me - Broderbund	Ok
5. Where in the world is Carmen SanDiego?	Ok

Miscellaneous packages tested:

6. DOS Version “Eye of the Beholder II”	Ok
7. DOS Version “Wolfenstein 3-D’	Ok
8. MS Dinosaurs for Windows	Ok
9. DOS Version ‘Battle Chess”	Ok

10. Company Address:

Creative Labs Inc.
1901 McCarthy Boulevard,
Milpitas, CA 95035

Phone: 408 428-6622
Fax: 408 428-6633
BBS: 408 428-6660
Baud: 300 to 14400 (V.32N.42 bis)
Data bits: 8
Parity: none
Stop bits: 1

Misc: (405) 742-6622 Technical Support

11. Anomalies/Issues:

This Product Support Bulletin was specifically generated to address concerns about compatibility of the Sound Blaster Kit in this system running under DOS 6.0. As documented the system is fully functional in that operating environment. Concern was also expressed about using the DOS 6.0 memory manager EMM386.EXE. Various packages that must run in expanded memory were tested and experienced no errors.

Note: There is a known compatibility issue recording a digital file from any audio input device at a sampling rate of 44Khz. The problem is apparent on various PCs. **The issue is NOT problem on this system.** A large digital file was created using SB 16 Mixer and SB Wave Studio from Windows. The file was approximately 20Mb large after sampling a dynamic ROCK source. Playback of the file rendered no dropouts of the original material. The process is compatible on this system.

Product Support Bulletin

Subject: Epson Endeavor 486C and Media Vision Fusion CD 16.

Date: 10/08/93
Page(s): 1 of 5

PSB No: S-0165
Originator: MTD

The purpose of this bulletin is to provide information regarding the installation and compatibility of the Media Vision Fusion CD 16.

1. Hardware Configuration:

CPU:	Epson Endeavor 486C
	[Configured System / DOS and Windows loaded]
Memory:	4.0 Mb Standard
BIOS Rev:	AMI/Seiko Epson Corp.
FDD:	Mitsumi D359T3, 3.5" 1.44MB disk drive
FDC:	Integrated on Main Logic Board
HDD:	Conner CP-30174E
HDC:	Integrated on Main Logic Board
Video:	Integrated on Main Logic Board
	[External VGA port provided on rear of unit]
Display:	Epson Professional Series VGA monitor

2. Operating Systems:

Microsoft DOS Version 6.0.
Microsoft Windows Version 3.1 provided with Progression 4 in shipping box.

3. Windows Installation:

Microsoft Windows Version 3.1 installed. 'Express Setup' (Microsoft Recommended) installation routine used for the install.

4. Compatibility:

The system is compatible with Microsoft DOS version 6.0. The system is compatible with the Fusion CD 16 Multimedia system by Media Vision Incorporated. Installation time approximately 30 minutes.

5. Product Specifications and Settings:

Specifications and settings on page 2 of 5 and 3 of 5.

6. Specifications for internal CD-ROM Reader Model Number CDR-55JD

User Data Capacity	680Mbytes/disc (Maximum)
Total Number of Blocks	333Kblocks/disc (Maximum)
User Data Blocks	2048bytes/sec.
Data Transfer Rate	300Kbytes/sec.
Burst Transfer Rate	1.5Mbytes/sec.
Seek Time	350msec.
Hard Error Rate	Below 10 (After error correction)
Memory Buffer	64K bytes
Photo CD Compatibility	Multisession Photo CD/Single session Photo CD

7. Audio Section

Sampling Frequency	44.1 kHz
Quantifying Bit Number	16 bit linear
Number of Channels	2
Frequency Response	20Hz through 20kHz
Dynamic Range	80dB
S/N Ratio	90dB
Total Harmonic Distortion	0.05%
Channel Separation	65dB (1kHz)

8. General Specifications

Power Supply	5V 0.55A, 12V 1.0A
Dimensions (WxHxD)	14.9 x 4.3 x 21.0cm 5-7/8 x 1-11/16 x 8-9/32 in.
	1.4kg 3.1 lbs.
Accessories	User's Manual (1), SCSI Cable (1), Power Y-Cable (1), Mounting Rails (2), Screws (4), CD-ROM Cartridge (1)

The following information is provided for reference purposes only. The AUTOEXEC.BAT and the CONFIG.SYS files are actual examples of the tested system.

9. Memory Allocation information:

```
c:\>chkdsk

Volume MS-DOS_6 created 04-21-1993 9:03a
Volume Serial Number is 1A95-7205

 121131008 bytes total disk space
      4096 bytes in 2 hidden files
     90112 bytes 32 directories
  45658112 bytes in 1200 user files
  75378688 bytes available on disk

      2048 bytes in each allocation unit
     59146 total allocation units on disk
     36806 available allocation units on disk

    655360 bytes total memory
    616176 largest executable program size
```

10. Autoexec.bat file information:

```
c:\>type autoexec.bat

C:\FUSION16\MSCDEX.EXE /D:MVCD001 /M:10 /E /V /L:D
LH /L:1,56928 C:\DOS\MOUSE
LH /L:0;1,42384 /S C:\WINDOWS\SMARTDRV.EXE
@ECHO OFF
PROMPT $p$g
PATH C:\WINDOWS;C:\DOS;C:\FUSION16;
SET TEMP=C:\DOS
SET BLASTER=a220 d1 i7 t3
C:\
```

11. Config.sys file information:

```
c:\>type config.sys

DEVICE=C:\DOS\HIMEM.SYS
DEVICE=C:\DOS\EMM386.SYS RAM HIGHSCAN
BUFFERS=15,0
FILES=15
DOS=UMB
LASTDRIVE=E
FCBS=4,0
DEVICE=C:\DOS\SETVER.EXE
DOS=HIGH
STACKS=9,256
SHELL=C:\DOS\COMMAND.COM C:\DOS\ /p
DEVICEHIGH=C:\FUSION16\MVSOUND.SYS D:5 Q:3 J:1 S:1,220,3,7 M:0
DEVICEHIGH=C:\FUSION16\SLCD.SYS /D:MVCD001 /B:1F88 /M:P
```

12. General Installation Tips:

The Media Vision Pro Audio Spectrum card comes with a quick installation diskette that will install both the DOS and Windows files necessary to use the sound card. The process will automatically update the autoexec.bat and config.sys files and alter the Windows SYSTEM.INI file. The installation process is transparent and seamless.

The process transfers an audio CD program for **DOS** named 'Musicbox' and an auxiliary volume control utility 'PAS' (Pro Audio Spectrum). During the process, two CD Rom packages are transferred to the hard disk drive: Compton's Family Encyclopedia and a game 'Where in the world is Carmen San diego? - Deluxe Edition. Either package can be run from the hard disk drive or from the CD ROM itself. Instructions on how to start either package are displayed prior to ending the installation process.

The other two DOS entertainment packages, Wing Commander II and Ultima UnderWorld, are not automatically loaded to the hard disk drive with the above process. The games are transferred by mounting to the CD ROM, d:\, and running an installation batch file. To install Wing Commander II, type d:\winstall. To install Ultima Underworld, type d:\uinstall. Upon starting either game, the software prompts the user for hardware configuration information. You pick the sound card you are going to use (Soundblaster Compatible), the DMA channel (DMA 5), and whether to use Expanded Memory (Yes if you want digital voice output). Wing Commander is started by typing WC2. Ultima Underworld is started by typing UW.

For **Windows** applications, installation installs Pocket Recorder files to the Windows sub-directory. Pocket Recorder is available from the Pocket Tools Program Group. To use the CD ROM as an audio CD player it will be necessary to create a program item in the Media Player Group. Instructions on how to install it are not forth-coming. The procedure is available in the Utilities guide.

After the CD player is installed, using the device is as easy as using a standard audio device. Volume, balance, bass and treble controls are available as well as track usage. All functions worked flawlessly.

Note: There is a publically known compatibility issue recording a digital file from any audio input device at a sampling rate of 44Khz. The problem is apparent on various PC's. **This issue is NOT a problem on this system.** A large digital file was created using Pocket Recorder and Pocket Mixer from Windows CD player. The file was approximately 20Mb large after sampling a dynamic 'ROCK' source. The conversion of the source signal to digital file is lengthy and should not be interrupted while the icon is processing the file. Playback of the file rendered no dropouts of the original material. The process is compatible on this system.

13. Products tested:

1. DOS Musicbox & volume control software PAS	Ok
2. Windows Pocket Recorder & Pro Mixer	Ok
3. Windows Pocket CD player	Ok
4. CD Version "WingCommander II"	defective CD media
5. CD Version "Underworld - The Stygian Abyss"	Ok
6. DOS Version "Eye of the Beholder II"	Ok

14. Company Address:

Media Vision Inc.
1385 Laurelview Court
Fremont, CA 94538

Phone: 510 770-8600
MISC: 800 638 2807 Technical Support
MAIN: 800 348-7116
BBS: 510 770-0527, 300-14.1 baud, 8-bits, no parity, 1 stop bit.
FAX: 510-770-8648

Product Support Bulletin

Subject: Common Questions and Answers for the Epson Endeavor 486C Computers

Date: 10/08/93
Page(s): 1 of 10

PSB No: S-0164
Originator: MTD

GENERAL

Q1. What is the Epson Endeavor 486C computer?

A. The Epson Endeavor 4SX/25C, 4DX/33C and 4DX2/50C represent an enhancement to the new Endeavor family of entry-level computer products. Along with an affordable price, the new Endeavor series offers Intel™ i486™ processing power and upgrade solutions for a wide range of computing applications. In addition to the performance that these systems offer, users will appreciate the convenience of a small footprint, and complete system integration. Key features include:

- Choice of Intel 486SX/25, 486DX/33 or 486DX2/50 processor
- Built-in math coprocessor (4DX/33 and 4DX2/50); math coprocessor support in the 4SX/25 model
- Intel OverDrive™ Support (4SX/25 and 4DX/33)
- Zero Insertion Force (ZIF) socket for easy processor upgrades
- 8KB internal cache (built-in CPU)
- 0KB SRAM secondary cache installed on main system board; upgradable up to 256KB using 8KB or 32KB SRAM (optional)
- Small-footprint case incorporates
  - Four ISA 16-bit option slots (three full-length, one third-length)
  - Three drive bays; two external, one internal
  - Built-in Super VGA video support
  - Two serial, Bi-directional Parallel, Mouse and Keyboard ports
  - Built-in floppy and IDE hard drive controller/interface
- Choice of 120MB Quantum, 170MB Conner or 240MB Quantum Hard Disk Drive

What is the Epson Endeavor 486C Computer?
(continued)

- 4MB Base RAM, parity checked. 0 wait states; expandable to 36MB with SIMMS on main board
- VGA video (512KB on main board; upgradeable to 1 MB) Cirrus logic GD5442 video display controller
- Alternate VGA feature connector for additional graphics capabilities
- System and video BIOS can be relocated in shadow RAM for increased system performance
- ROM based system SETUP
- Password security
- Virus warning abilities included in BIOS
- Bundled with MS-DOS® 6.0, Microsoft® Windows™ 3.1 and a mouse (MS-DOS and Windows are pre-loaded on the hard drive)

Q2. What is the target market for this computer?

A. The Epson Endeavor 4SX/25C, 4DX/33C and 4DX2/50C computers are targeted at the following markets.

- Home office and small-business users seeking maximum performance at today's low prices.
- Work at home users who need an efficient and cost-effective system that's compatible with all their business software.
- Businesses in search of a low-cost network node that can handle current and future applications.

Q3. What interfaces and controllers are integrated on the motherboard?

A. The Epson Endeavor 4SX/25C, 4DX/33C and 4DX2/50C computers come standard with a built-in IDE hard disk drive interface, a floppy disk drive controller, a super VGA video adapter, alternate VGA feature connector, two serial interfaces, a bi-directional parallel interface, a PS/2 style mouse port and PS/2 style keyboard port all integrated on the main system board.

Q4. What /eve/s of password security are provided with the Epson Endeavor 486C computer?

A. The Endeavor 486C series of computers offer two levels of password security to ensure that unauthorized users do not change the system's SETUP configuration or obtain access to the system.

- Password security to obtain system access
- Password security to access SETUP menus

CPU

Q5. What microprocessors are being offered with the Epson Endeavor 486C series computer?

A. The Epson Endeavor 4SX/25C comes standard with an Intel™ i486SX™ microprocessor (CPU) running at 25MHz. The Epson Endeavor 4DX/33C comes standard with an Intel™ i486DX™ CPU running at 33MHz. The Epson Endeavor 4DX2/50C comes standard with an Intel™ DX2/50™ CPU running at 50MHz. Common features of the different microprocessors include backward compatibility with the 8088, 8086, 80286, and 80386 CPUs and a built-in 8KB cache. For system flexibility, the built-in CPU cache can be disabled via SETUP.

The™ i486DX/33 and DX2/50 CPUs contains an on-chip numeric coprocessor to increase the speed of floating point operations. This coprocessor is backward compatible with the 387DX and 387SX math coprocessors and complies to ANSI/IEEE standard 754-1985.

Q6. What processor upgrades are available in the Epson Endeavor 486C computer?

A. The Epson Endeavor 4SX/25C computer can be upgraded by installing an Intel™ i487SX™ or Intel Overdrive CPU in the processor socket. Both of these CPUs improve system performance by adding a numeric coprocessor to speed up floating point calculations. The Intel Overdrive CPU doubles the processor's internal speed to further increase system performance.

The Epson Endeavor 4DX/33C computer can be upgraded by installing an Intel Overdrive CPU in the processor socket. Like the Intel Overdrive CPU for the 4SX/25, the Intel Overdrive CPU for the 4DX/33 also doubles the processor's internal speed to further increase system performance.

BIOS

Q7. What BIOS comes with the Epson Endeavor 486C computer?

A. The Epson Endeavor 486C series computers incorporate an AMI/Seiko Epson BIOS that contains both the system and video BIOS. This BIOS is contained in a single EPROM device that is installed in a pluggable socket on the computer's main system board (motherboard).

Q8. How is SETUP accessed and what information is contained in setup?

A. To access SETUP, press the "DEL" key after POST (Power On Self-Test) completes the memory test but before the computer loads the operating system. There are two pages of setup information.

STATUS PAGE
- System Date and Time
- Floppy Drive Type Selection A: B: (360K, 1.2M, 720K, 1.44M and None)
- HDD Drive Type Selection C: D: (Type Number or User-Defined)
- Video Type (Not Installed, CGA80, VGA/PGA/EGA, CGA40, and Mono)
- System Speed (Fast/Slow)
- Boot Sequence (Drive A,C or C/A)
- Floppy Seek (Enable/Disable)
- Virus Protection (Enabled/Disabled)

OPTIONS PAGE
- Shadow Setup (System, Video or System/Video)
- Keyboard Setup (Test, Numlock On/Off, Rate, and Delay)
- Peripherals Setup
  Serial Port Address
  3f8h, 2f8h IRQ4/IRQ3 (Com1/Com2, Com1+Com2) or (Disabled)
- Parallel Port Address
  378h, 0278h (Uni-LPT1/2 Bi-LPT1/2), or (Disabled)
- PS/2 Mouse (Enabled/Disabled)
- On-B/D FDC Select (Enabled/Disabled)
- IDE HDC Select (Enabled/Disabled)

VIDEO

Q9. What video adapter comes standard (built-in) with the Epson Endeavor 486C computer?

A. The Epson Endeavor 486C series computers utilize a Cirrus GD5422 VGA graphics controller as its built-in video adapter. These computers include 512KB of video memory which may be upgraded to a full 1 MB of memory by installing pluggable memory chips.

The Cirrus VGA graphics controller is 100% hardware and BIOS-compatible with IBM® VGA display standards.

Q10. What type of RAM chips are used to upgrade the video memory to a full 1MB on the Epson Endeavor 486C computer?

A. Increasing the Epson Endeavor 486C series computer's video memory requires four 256K x 4 bit, 70ns 20-pin DRAM ZIP (Zig-zag lnline Package) chips. These chips install on the computer's main logic board in sockets VM00, VM01, VM02 and VM03.

To ensure compatibility, we have tested the following DRAM ZIP chips and confirmed that they operate properly when upgrading the video memory:

Supported Video ZIP Chips

MANUFACTURER	PART NUMBER
Goldstar®	GM71C4256AZ-70
Micron®	MT4C42562-6, MT4C4256Z-7
Samsung®	KM44C256CZ-6, KM44C256CZ-7

Q11. What video modes are supported by the Epson Endeavor 486C computer?

List below is a table that shows the Epson Endeavor 486C series computer's supported video modes and the memory requirements to obtain each mode:

Mode	Resolution	Colors	Memory Rewired
VGA	640 x 480	16	512KB
Extended, 512KB memory required	640 x 480	256	512KB
	640 x 480	32,768*	512KB
	640 x 480	65,536*	512KB
	800 x 600	16	512KB
	800 x 600	256	512KB
Extended, 1 MB memory required	640 x 480	16,777,216**	1MB
	800 x 600	32,768*	1MB
	800 x 600	65,536*	1MB
	1024 x 768	16	1MB
	1024 x 768	256	1MB
	1024 x 768	256	1MB

Note: "*" indicates a Hi-Color mode and "**" indicates True Color mode.

Q12. What software video drivers are provided with the Epson Endeavor 486C computer?

There are two diskettes included that feature video drivers for many popular software programs and also include video utilities. The key drivers included are:

Lotus 1-2-3 Rel. 2.x,3, Lotus Symphony Rel. 2.0, Windows 3.1, WordPerfect 5.1
The VGA video utilities included are: CLMODE and SETRES. These utilities are useful when customizing system settings such as video modes or refresh rates.

MEMORY

Q13. What is the standard memory configuration and maximum amount of system memory that can be used in the Epson Endeavor 486C computer?

A. The Epson Endeavor 486C series computers come standard with 4MB of system memory. This memory is soldered on the main system board.

There are two SIMM sockets on the main system board. These sockets accept 1 MB, 4MB or 16MB SIMMs. Optional SlMMs may be purchased to increase the computer's memory up to a maximum of 36MB.

NOTE: The SlMMs used must be 70ns or faster, 32 or 36-bit, 72-pin, fast page mode type.

Q14. What are the valid system memory configurations for the Epson Endeavor 486C computer?

A. The following table shows the possible SIMM configurations for the Epson Endeavor 486C series computers; do not install memory in any other configuration.

SIMM 1	SIMM 2	Total Memory
0	0	4MB*
1MB	0	5MB**
4MB	0	8MB**
1MB	4MB	9MB**
4MB	4MB	12MB
16MB	0	20MB**
1MB	16MB	21MB**
4MB	16MB	24MB**
16MB	16MB	36MB

* Standard memory on the system board

** SIMMS can occupy either socket

MEMORY (continued)

Supported SIMMs

Manufacturer	Description	Size	Original Manufacturer Part No.
Samsung	1M x 36	4MB	KMM5361000A(B,C)-7
	4M x 36	16MB	KMM536400A(B,C)-7
	256K x 36	1MB	KMM536256C-7
	1M x 32 (w/o parity)	4MB	KMM5321000BV-7
Goldstar	1M x 36	4MB	GMM7361000SG-70
	1M x 32 (w/o parity)	4MB	GMM7321000SG-70

CACHE

Q15. Can the Endeavor 486C computers include secondary cache?

A. Yes. The system board is capable of supporting up to 256KB of external SRAM cache memory.

There are ten CACHE sockets on the main system board. These sockets accept 8KB or 32KB SRAM chips installed in the sockets of BANK0 and BANK1. BANK0 must be filled before BANK1.

The SRAM type used for sockets U15 and U16 must match the type installed in the banks.

Cache size	Bank 0	Bank 1	U15	U16
0KB				
32KB	4x8KB	0	1x8KB	1x8KB
64KB	4x8KB	4x8KB	1x8KB	1x8KB
128KB	4x32KB	0	1x32KB	1x32KB
256KB	4x32KB	4x8KB	1x32KB	1x32KB

CACHE (continued)

Supported Cache Memory SRAM DIP Chips

Socket	Manufacturer	Original Manufacturer Part No.
U15, 16 (15-ns)	Alliance	AS7C256-15PC
	Winbond	W24257AK-15
	Samsung	KM68257BP-15
	Micron	MT5C42568-15
U17-20, 56-59 (20ns)	Alliance	AS7C256-20PC
	Winbond	W24256(7)AK-20
	UMC	UM61256-20
	Samsung	KM68257BP-20
	Micron	MT5C42568-15

(Build To Order)

Q16. What are installable options from Epson?

RAM
VIDEO RAM
SRAM
CHOICE OF FDD's
CHOICE OF HDD's
TBU
FAX MODEM
SCANNER I/F
MULTI-MEDIA
SCSI I/F

MASS STORAGE

Q17. What factory floppy and hard disk drive configurations are offered with the Epson Endeavor 486C computer?

A. The Epson Endeavor 4SX/25C, 4DX/33C and 4DX2/50C computers are available in three factory configurations. All three configurations come standard with a 1.44MB floppy disk drive.

The Epson Endeavor 486C series computers is built to customer's order by the factory.

LAN COMPATIBILITY

Q18. What local Area Networks have been tested on the Epson Endeavor 486C computer?

A. The system is tested and approved as Novell NetWare "Workstations" with the following Novell products:

Netware (v2.2)	NetWare 3270 LAN Workstation (v2.0)
Netware (v3.11)	OnLAN/PC (v1.3)
Netware Lite (v1.1)	NetWare Link/64 (v1.1)
DR DOS (v6.0)	NetWare Link/T1 (v1.1)
Novell Print Server (v1.21)	NetWare Link/X.25 (v1.00)
Netware Access Server (v1.3)	NetWare Asyn Remote Router (v1.2a)
LAN Workplace for DOS (v4.01)	NetWare Asyn Comm Server (v3.0)

NETWORK BOARDS TESTED

Q19. What Network boards have been tested on the Epson Endeavor 486C computer?

TEST PRODUCTS NAME	MANUFACTURER
Etherlink II	3Com
Etherlink III	3Com
Etherlink 16	3Com
IBM Token Ring Adapter 16/4	IBM
IBM Token Ring Adapter II	IBM
NE1000	Novell
NE2000	Novell
NE2100	Novell
RX NET	Novell
SMC ARCNET 190ST	SMC

EQUITY 386/33 PLUS					
VER	PART #	DESC	TYPE	LOC	REASON
031892	Y707590802	AMI	27C512	U29	INITIAL RELEASE
061892	201078300	AMI	27C512	U29	Rapid keystrokes on all areas of the keyboard may cause a shift key lock and/or keyboard lockup. In some rare cases, improper keyboard timing may cause intermittent system boot failure. See ECN No: EQ386/33+-001 (2/5/93).

ENDEAVOR / EQUITY 4					
VER	PART #	DESC	TYPE	LOC	REASON
1.149A		AWARD	27C010	U8	INITIAL RELEASE

ENDEAVOR 486C					
VER	PART #	DESC	TYPE	LOC	REASON
053193	1017670	AMI	27C010	U8	INITIAL RELEASE

EL 486 UC					
VER	PART #	DESC	TYPE	LOC	REASON
1.01	451-7010-201	PHOENIX	27C010	U20	INITIAL RELEASE