

Product Support Bulletin

Subject: Proper Method for Running Benchmark and Diagnostics Programs

Date: 06/04/93

Page(s): 1 of 1

PSB No: S-0158

Originator: MWT

This bulletin describes the proper method for running any benchmark or diagnostics programs. This applies to any computer system.

In most cases, the computer should be started using an MS-DOS boot diskette that's 'clean' - in other words, one with no CONFIG.SYS or AUTOEXEC.BAT files. The appropriate executable can then be run, either from diskette or hard drive.

There will be some exceptions to the above rule. In attempting to benchmark or troubleshoot any add-on that requires a device driver (CD-ROM, local area network, etc.), obviously the necessary device driver(s) must be loaded. Also, some programs will require a minimum number of FILES or BUFFERS to be defined in the CONFIG.SYS file. Such programs will usually display this requirement if they are run without the necessary CONFIG.SYS file.

For the most consistent results, use the absolute minimal boot configuration that's allowed by the hardware being tested.

Product Support Bulletin

Subject: Equity Series SIMM Compatibility

Date: 12/4/91
Page(s): 1 of 1

PSB No: S-0136
Originator: JAD

Due to the influx of third party SIMMs on the market, there are some that are not compatible with Epson products. This bulletin is intended to be an aid in ensuring that only compatible SIMMs are chosen for use in Epson's Equity Series of computers.

The SIMMs in question were SEIMENS, CUMULUS and KINGSTON. Installing these SIMMs in Epson products may cause the following errors:

Parity Check 1
18FFFE 0000 202 Memory Address Error
164 System Options Not Set
1500 E000 201" DOS RAM Address Error

It was thought that the chips used in these SIMMs were of poor quality.

Epson Portland evaluated the SIMMs in question and found that this was not true. The problem is caused by the SIMM circuit boards (ITE and TECAP circuit boards) used to manufacture the SIMM modules. The dimensions of these boards are not compatible with industry standard SIMM sockets. This may result in incomplete contact between the SIMM assembly and it's socket. This is caused by insufficient size of the contact surfaces in these products. Also enlarged holes in the TECAP product allow the component pin to pass entirely through the hole without making contact.

It is recommended that only SIMMS meeting industry standard contact surface specifications be used in Epson Equity computer products.

Some recommended SIMMs that were tested and found Compatible are:

Toshiba
Matsushita
CDC Enterprises
Samsung
Aculogic

For more information contact Technical Support.

Product Support Bulletin

Subject: The Equity 386SX PLUS Diskless Workstation - Installing Optional Equipment

Date: 3/7/91
Page(s): 1 of 3

PSB No: S-0134
Originator: APA

WORKSTATION INSTALLATION SUMMARY

Install an 3 or 16-bit network interface card (NIC) with a auto-boot ROM in an option slot.

Load the remote workstation boot files onto the file server. Typically, this is done at another attached workstation, using a floppy drive to load the necessary boot files. Instructions for this procedure can be found in the section of your network documentation that addresses this type of installation.

Attach the diskless workstation NIC to the network using the appropriate cable.

When the workstation is booting, and a local hard drive with a bootable partition is present, the system will ask if you want to boot from the network. If "N" is selected, the local hard drive will be used to boot. If 'Y' is selected, the system will look for a file server. If no file server can be found, it will display an "Error finding server" message, and will make additional attempts every few seconds until a server is found.

FLOPPY DRIVE INSTALLATION

Floppy disk drives are inserted into the drive bays, without FDD guide rails, using four screws to secure each drive.

Two floppy drive cables are included. A read/write cable (standard seven wire twist) and a read-only cable (identified by heat shrink tubing located near the connector that connects to the main board).

Install the standard diskette drive cable, if you want the system to be able to both read and write data to a diskette inserted in the drive.

FLOPPY DRIVE INSTALLATION (continued)

Use the write-protected cable if you do not want users to be able to write data to any diskette inserted in the drive. This cable prevents users from copying data from the network server (or any other drive they can access) onto a diskette in either the A or B drive. If an attempt is made to write to a floppy diskette, a 'Write protect error' will occur. However, data can still be read from a diskette and copied to a local hard drive or other network drive.

HARD DRIVE INSTALLATION

One IDE drive cable, with two drive connectors, is supplied with the system.

Only standard drive types 0-63 can be specified in the ROM setup program (refer to drive table on pages 2-24 & 2-25 of the user's manual). The drive types are identical with the standard Equity 386SX Plus).

If the standard Equity 386SX PLUS SETUP program is used to specify a user-defined drive type (or modify other settings), the "Diskette boot control" option will be disabled upon exiting and updating..

If the ROM setup program is used to re-enable the boot control, the standard drive type specified by the ROM SETUP program will also be saved, thus overriding the user-defined settings.

The ROM SETUP program allows an incorrect drive type (for example: 37) to be set and saved. Therefore, care must be taken to use a correct drive type.

The following is a list of some common IDE drives and the drive types that should be used:

MODEL	DRIVE TYPE	SIZE (to nearest MB)	TOTAL BYTES (per CHKDSK)
Conner CP-344	59	41 MB	42,496,000
Conner CP-3104	60	100 MB	104,515,584
Seagate ST-157A-1	14	42 MB	44,486,656
Seagate ST-1201A or Imprimis/CDC 94354-200	54	153 MB	160,055,296

OTHER CONSIDERATIONS

If you desire access to the local hard drive while using the network, ensure that the DOS downloaded from the file server can support the local hard drive partition(s). For example, if a large 4.01 MS-DOS primary partition (>32MB) is present on the local hard drive, and 3.30 DOS is used to boot from the file server, the local hard drive will be inaccessible. (An error similar to "Invalid drive specification" will occur when attempting to access the drive).

The DOS versions used should also be matched to allow the use of version-dependent DOS utilities from the local hard drive.

Product Support Bulletin

Subject: Introducing the Equity 386SX PLUS Diskless Workstation

Date: 8/7/91
Page(s): 1 of 4

PSB No: S-0133
Originator: APA

INTRODUCTION

This system has been designed to be a diskless workstation node on a local area network. There are no disk drives supplied with this model. Cables are included to install floppy drives and/or hard drives as the need arises. Standard procedures for installing a diskless workstation are used and can be found in your network installation documentation.

The user's manual is the same as the one supplied with the standard Equity 386SX PLUS, and contains a user's guide update "slip-sheer that describes the differences between the standard and the diskless models.

Differences between the standard model and the diskless model are summarized as follows:

- Does not include disk drives, DOS, video drivers or other software. Includes drive cables for installing optional drives.
- Setup utility is modified and is contained in ROM. New options include extended memory and boot control.
- User or Administrator mode is set by jumper J1 on the main board. The control of this mode along with the system key lock protect the system configuration resulting in added security.
- Only supplied in a 1 MB configuration. Use instructions in the user's manual that pertain to the 1 MB model only.

IDENTIFICATION

Both the standard and diskless models have the same logo plate on the front of the CPU; "Equity 386SX PLUS". The "CODE" number can be used to identify the diskless model, and is located on or near the serial number label attached to back of the CPU:

CODE: A038590

ITEMS INCLUDED

Equity 386SX PLUS CPU with 1MB (soldered), power cord.

101 key enhanced keyboard (6-pin mini DIN).

User's manual, slip-sheet and warranty card.

One key, used for locking the top cover of the CPU.

Three drive cables:

- Read/write floppy cable.
- Read-only floppy cable, identified by heat shrink tubing located near the connector that connects to the main board.
- IDE Hard drive cable with connectors for two drives.

SETUP NOTES

Setup is only available on boot-up (RESET or warm boot), and only when in 'Administrator' mode (jumper J1 is set to "B"). When the computer completes its power-on diagnostics, two beeps will occur (this is not a SETUP error) and the following prompt will appear:

Press F10 to run Setup

After 5 to 8 seconds if F10 is not pressed, the computer will continue to boot. If F10 is pressed, the Setup screen will appear. Press the F7 key twice to save and reboot. Refer to page 3 of this document for a listing of the setup options.

If in "User" mode (J1 set to "A"), one beep will occur, no F10 option will appear, and the system will continue booting.

Differences in Setup between the standard Equity 386SX PLUS and the diskless version include the following:

- Extended memory size can be specified (in 128K increments).
- Diskette boot control. Choose "Disabled" to use the system as a dedicated workstation network node. Choose "Enabled" if a diskette drive is installed and you want to be able to boot the system from that drive.

After Setup is run you may want to change jumper J1 to position A and lock the computer cover with the key lock. This changes the operating mode to user mode and protects the computer's configuration.

SPECIFICATIONS

ROM-resident SETUP Utility
 Copyright (c) SEIKO EPSON CORP. 1990

Permanent parameters:

Base memory 640 KB
 Coprocessor Not installed

User-defined parameters:

Time 14:59:19
 Date 07-26-91
 Power-on password Not set (If desired, enter password here)

User-selectable parameters:

Hard disk type of drive 1 00 (Select 0-63)
 Hard disk type of drive 2 00 (Select 0-63)
 Extended memory 384KB (Selectable in 128K increments)
 Display type EGA, MCGA, VGA, or other
 CGA - 49 columns
 Monochrome
 Processor speed High/Auto/Low
 Diskette drive A No drive installed or disabled
 5 1/4" 360 KB diskette drive
 5 1/4" 1.2 MB diskette drive
 3 1/2" 729 KB diskette drive
 3 1/2" 1.44 MB diskette drive
 Diskette drive B Same options as above
 Diskette boot control Enabled/Disabled
 Speaker Enabled/Disabled
 Initial num lock On/Off
 Keyboard repeat rate Normal/Fast/Slow
 Network server mode Disabled (needs power-on
 Enable password to enable)
 Serial Primary/Secondary/Disabled
 Parallel Primary/Secondary/Disabled

COMPATIBILITY WITH NIC CARDS

System configuration:

BIOS: CTRTD-1, CTRT-2 (version 1.57)

DOS: MS-DOS 3.30

Video: built-in

The following cards have been tested successfully with the system used as a workstation:

<u>MANUFACTURER/CARD</u>	<u>NOVELL NETWORK VERSION</u>	<u>CARD SETTINGS</u>
Standard Microsystems Corp. ARCNET PC110 8 bit, with Novell boot	3.11	S1: 2,3 off S2: 2,6 & 9 on JP3 on, JP1 & JP2 off ROM (driver v2.11) #881012 (IRQ2, I/O 2E0, RAM D000:0)
Novell Inc. Ethernet NE-1000A 8 bit	2.2	W1-W8: 2-3 (thin cable) W9, W10 jumpered (I/O 300)/no boot ROM (IRQ3, I/O 300, no DMA/RAM)

Product Support Bulletin

Subject: Equity 386SX PLUS Questions and Answers

Date: 4/3/91
Page(s): 1 of 9

PSB No: S-0131
Originator: DS/MT

GENERAL:

Q1. What microprocessor does the Equity 386SX PLUS use?

A. The Equity 386SX PLUS utilizes the Intel 80386SX-16 microprocessor. Use of this CPU gives you 386 performance and compatibility in a 16-bit based computer architecture.

Q2. At what speed does the Equity 386SX PLUS operate?

A. The Equity 386SX PLUS operates at either 16MHz or 8MHz. The speed can be set by using the following keyboard commands:

CTRL ALT + = 16 MHz (High Speed)

CTRL ALT - = 8 MHz (Low Speed)

CTRL ALT * = Automatic speed mode set (This is when the floppy disk drive is accessed.)

There is also an **ESPEED** utility that can be run at the command prompt as follows:

ESPEED /H = Switch to high speed.

ESPEED /L = Switch to low speed.

ESPEED /A = Enables Automatic speed switching.

If you run **ESPEED** with no parameters the following message is displayed:

**Epson Speed control utility Version X.XX
Copyright (c) SEIKO EPSON CORP. 1990**

**Usage: ESPEED [/H] [/L] [/A]
/H = set high speed (no auto speed)
/L = set low speed (no auto speed)
/A = set auto speed**

Q3. What is the Auto Speed function?

A. The Equity 386SX PLUS is capable of operating at 16MHz or 8MHz. Some copy-protected applications require the computer to run at 8MHz while accessing the program diskette. By enabling the Auto Speed function, the computer automatically switches to 8MHz when accessing the diskette drive. It then switches back to 16MHz for optimal performance. See above procedure for setting the Auto Speed function.

Q4. What BIOS does the Equity 386SX PLUS use?

A. The Equity 386SX PLUS BIOS is written specifically for the computer by Seiko-Epson Corp.

Q5. Can the Equity 386SX PLUS support an 80387 co-processor?

A. Yes, 80387SX support is available. The Equity 386SX PLUS has a socket for an optional 80387SX-16 math co-processor which operates at 16MHz. This allows extra processing power for math intensive programs like Lotus 1-2-3 or AUTOCAD.

Q6. Can the Equity 386SX PLUS use option cards that are available for the IBM PC/AT?

A. The Equity 386SX PLUS uses an AT-compatible ISA (Industry Standard Architecture) bus that enables you to install any of the various add-on products designed for IBM PC, XT or AT computer, such as: expanded memory, EGA or VGA video, internal modems and many more. It also supports all of the option boards manufactured by Epson for the EQUITY series. There are 4 standard I/O expansion slots (one with 8-bit bus and 3 with 16-bit bus). The 16-bit slots will also accept most 8-bit compatible cards. The Equity 386SX PLUS offers flexibility in tailoring the system to your needs.

Q7. Are there any tested internal modems that can be used?

A. The Epson Link PC and the Hayes 2400 baud internal modems have been approved.

Q8. Does the Equity 386SX PLUS have a built-in mouse port?

A. Yes, it has a PS/2 compatible mouse port on the rear panel of the computer. The connector is a 6 pin mini DIN for an IRQ12 mouse or other device.

Q9. Can any other Equity keyboards be used on this machine?

A. Only the Equity Ie. Both the Equity Ie and the Equity 386SX PLUS use the PS/24-type mini-DIN connector. All other Equity keyboards use the AT-type full-size DIN connector.

Q10. What is the logical assignment of Diskette Drives?

A. When the Equity 386SX PLUS is configured with two diskette drives, it will boot from either diskette drive. If you boot the system from a diskette in the second diskette drive, normally the 6 drive, that drive becomes drive **A** and the first diskette drive, normally drive **A**, becomes drive **B**. This assignment remains in affect until the system is reset with the reset switch, turned off, or is rebooted from the drive currently designated **as** drive **B** or the **AFDD.EXE** utility on the Reference Diskette is run (**the** use of **AFDD** is described later). Therefore, the drive assignments can be controlled in two ways:

1. Boot the computer from a diskette in the drive you want assigned **as** drive A.
2. Run the **AFDD** program to reverse the current drive letter assignment.

The current logical drive assignments remain in effect when the system is rebooted from the hard disk by pressing **CTRL- ALT-DEL**. The drive assignments are lost if the system is turned off or reset with the reset button.

To use the **AFDD** utility, **type AFDD** at the command prompt and the following message appears on the screen:

Reassign FDD utility Version XXX
Copyright (c) SEIKO EPSON CORP. 1989

New Assign	Present
-------------------	----------------

Drive A: 1.2MB <== 1.44MB	
Drive B: 1.44MB <== 1.2MB	

(S)et and Reboot, Any other key to Abort ? _

if you press S, the drive letters are switched and the system reboots with the new assignments in effect. Pressing any other key aborts the operation and returns to the command prompt.

NOTE: The diskette drive types shown in AFDD message vary with the types of drives installed. If another type of diskette drive is installed (360 KB or 720 KB), the message is adjusted accordingly.

Q11. What terminal emulation boards are compatible with the 386SX PLUS?

A. The following products have been tested and approved:

3278/79 Emulation Adaptor	IBM
IBM 5250 Board	IBM
IRMA/2	DCA inc.
SDLC	IBM

Q12. Does the 386SX PLUS have a battery for the Real Time Clock?

A. The 386SX PLUS uses the Dallas DS1287 RTC which incorporates an HD146818 compatible real-time clock with an internal battery.

Q13. What video adapter comes with the 386SX PLUS?

A. The 386SX PLUS has built in VGA support that offers resolutions up to 800x600 when used with a multi-frequency monitor.

Q14. Can the serial and parallel ports be disabled?

A. Yes, the parallel and serial ports can be disabled by running the setup program on the reference diskette and choosing DISABLE.

Q15. How many internal device bays does the 386SX PLUS have, and will it support a full-height device?

A. The 386SX PLUS has 3 half-height bays to support up to 3 half-height devices. There is no capability for a full-height device.

Q16. How many wait states does the 386SX PLUS have?

A. At 16MHz, the system utilizes a "1/4 wait state" architecture for memory access and 0 wait states for ROM BIOS access on the motherboard. At 8MHz, memory and ROM BIOS access require 1 wait state; on the expansion bus, all memory or device requests are 1 wait state. If additional wait states are required, devices on the I/O channel hold the READY signal low, thus wait states are generated until the device can respond to the CPU.

Q17. Are the wait states user selectable?

A. No, the 386SX PLUS automatically inserts them when needed after the command phase of the processor clock cycle.

Q18. How many jumpers are on the system board?

A. There are six (6) jumpers on the system board:

System Board:

Jumper 1: Password security enable/disable.

A: Disabled

B: Enabled

Jumper 2: Onboard HDD interface enable/disable.

A: Enabled

B: Disabled

Jumper 3: internal Mouse port IRQ12.

A: Assigned to on board mouse port

B: IRQ12 assigned to bus expansion slot

Jumper 4: Monitor type color/monochrome.

A: Color monitor

B: Mono monitor

Jumper 5: Auto IOCHRDY enable/disable.

A: Disabled

B: Enabled

Jumper 6: Onboard video enable/disable.

A: Enabled

B: Disabled

NOTE: J6 is not present on early production units.

HARD DISK DRIVES:

Q19. What kind of hard disk drives are available for the 386SX PLUS?

A. As a factory configuration, the 386SX PLUS is available with a 40MB, 3.5" hard disk (Conner CP-3044,27ms access time). This HDD offers a 1:1 interleave and uses an embedded controller with an IDE interface. When installing the 40MB drive, use type 17. A 100MB option kit is also available.

Q20. What hard drive controller is used in the 386SX PLUS?

A. The 386SX PLUS uses a controller embedded on the hard drive. This controller connects to a Task File Host interface (IDE) that is integrated in the system board.

Q21. Can the 386SX PLUS use other hard disk drives and controllers?

A. Yes, the Host Interface on the system board can be disabled and other third party hard drive controllers and drives can be used. The interface can be disabled by setting Jumper J2 to position A. Other embedded controller AT-type drives can also be used with the Host Interface.

Q22. What extended hard drive support is available in the ROM BIOS that comes with the Epson 386SX PLUS?

A. The Seiko-Epson BIOS will directly support hard drives that range in size from 10MB to 153MB. There is direct support for the Seagate ST-251 as well as several ESDI drives. By providing this support for 3rd party hard disk drives, the Equity SX PLUS has the capability to use most 3rd party 8-bit and 16-bit hard disk controllers. SCSI drives have their own controllers attached to the drive and should work correctly when attached to the bus with a host adapter.

The 386SX PLUS also has a User Definable setting that allows you to set up hard disk drives that are not supported by the 386SX PLUS Drive Type Table. In SETUP, a sub-menu lists the settings you can change for each drive: the number of cylinders (tracks), the number of read/write heads, the number of sectors, the precompensation cylinder, the landing zone (the cylinder on which you want to park the heads when moving the computer), and the total storage capacity in megabytes. This allows you to use hard drives much larger than 153MB.

FLOPPY DRIVES:

Q23. What types of floppy disk drives will work on the 386SX PLUS?

A. The 386SX PLUS comes standard with either a 5.25" 1.2MB or 3.5" 1.44MB floppy disk drive. There is built-in BIOS support for industry standard 360KB and 1.44MB, 3.5" half-height floppy disk drives as well as the 720KB, 3.5" floppy drive. All four drive sizes are available from Epson.

Q24. Will the 386SX PLUS support 3 floppy disk drives?

A. No, not directly. The Epson controller and ROM BIOS supports a maximum of two floppy drives.

SIMM Location: 386SX PLUS 1 FDD System

6H 6L 5HSL 4H4L 3H3L 2H2L 1H 1L Total Memory

							*	*	*	*	2 MB
						#	#	*	*	*	4 MB
				#	#	#	#	*	*	*	6 MB
		#	#	#	#	#	#	*	*	*	8 MB
#	#	#	#	#	#	#	#	*	*	*	10 MB

Legend:

*= 256 KB SIMM

= 1 MB SIMM

Memory can also be expanded through the use of third party memory boards using an I/O slot.

Q28. What SIMMs should be used when adding memory to the 386SX PLUS?

A. Use the Epson 1MB kit (A808231) or the 2MB kit (A808101), to extend the system memory. Should you need to use third party SIMM modules we recommend the following:

Toshiba	1MBit x 9 70 nSec
Matsushita	1MBit x 9 70n Sec
CDC Enterprises	1 MBit x 9 70 nSec
Samsung	1MBit x 9 70 nSec
Acculogic	1MBit x 9 70 nSec

NOTE

The following SIMM chips do not work in the 386SX PLUS:

IBM Panasonic
Compaq NMBS

SOFTWARE:

Q29. What version of MS-DOS is provided with the 386SX PLUS?

A MS-DOS is optional and the customer can choose between versions 3.30 and 4.01.

Q30. Is the 386SX PLUS compatible with OS/2?

A. Yes, Epson OS/2 1.0 and IBM OS/2 1.2 have been tested on the 386SX PLUS.

Q31. Will it support Unix and/or Xenix? Which versions?

A. The Equity SX PLUS has been tested with Santa Cruz Operations Xenix 386 Rel. 2.3.2 and IBM PC Xenix Vers. 1.

Product Support Bulletin

Subject: Jumper Change on the Equity 386SX Plus Main Board

Date: 4/3/91

PSB No: S-0129

Page(s): 1 of 1

Originator: MWT

This bulletin is to inform you that, as of August 1990, an additional jumper (J6) has been added to the Equity 386SX Plus system board. This was effective with factory hard disk models of serial number 20B10020000 and higher.

The added jumper allows positive hardware enable/disable of the built-in VGA video controller. This change makes it more convenient to use third-party add-in video adapters.

Note that all factory single floppy disk drive models use the 6-jumper board and are not affected by this change.

For additional Service information, please refer to Technical Information Bulletin number EQ386SX+-001, dated 10/10/90, for more details.

EPSON

EPSON AMERICA, INC.

INFORMATION

Product Support Bulletin

Subject: Maximum Number of Printers Supported by Current Equity Computers

Date: 02/06/91

PSB No: S-0128

Page(s): 1 of 1

Originator: KAS

As computing environments increase in complexity, there has been an increasing number of instances that require the support of several printers by one computer. One common example is that of using Novell Netware's print server capabilities to provide printer access to a large group of users with differing printer requirements. Netware is capable of supporting three (3) parallel and two (2) serial printers on one server. Recent testing has shown that the Equity 386/25 Plus, Equity 386/25, Equity 386/20 and the Equity 386SX Plus will support three (3) parallel ports along with two (2) serial ports. The key factor in providing support for a third parallel port is the need for a parallel interface card that can be set to the IBM Monochrome Graphics/Parallel printer I/O address at 3BCh. The computer looks for this address first and, if present, will assign the parallel port on that card as LPT1. The built-in parallel port (I/O address 378h) will then be addressed as LPT2. We also had an AST I/O Mini serial/parallel card addressed at I/O address 278h, which was then reassigned to LPT3. Each of the three parallel ports was attached to a printer. There was also a printer attached to each of the two serial ports. All five printers were then set to print simultaneously under Netware Version 2.15 Rev. C using PCONSOLE. All five printers were able to print the documents assigned to them, simultaneously. The units were then tested using WordPerfect 5.1 on the network and again were successful in printing to the five (5) printers at the same time. The last tests were run with the units booting under DOS 4.01 and screen prints being directed to each of the printers. WordPerfect 5.1 was also used to direct documents to each of the printers. Again all five (5) printers were able to print the files that were sent to them.

Although not all Equity computer models were tested in this situation, the Equity models 386SX, IIe, III+ and II+ should work in a similar manner if the instructions above are used as a guide. There is one item of which to be aware when using the this setup and that is the system will complete the RAM count and lock up if using a monochrome monitor. If you need to use three parallel ports, USE A COLOR MONITOR.

Product Support Bulletin

Subject: Equity 386SX Plus HDD Interface Cable

Date: 12/5/90
Page(s): 1 of 2

PSB No: **S-0127**
Originator: DS

The purpose of this bulletin is to provide information on installing the hard disk interface cable, if and when an IDE hard disk is installed.

This procedure is not for systems that came with a hard disk drive already installed.

The cable will come packaged in the computers shipping container.

FOLDING THE INTERFACE CABLE

- 1: Lay the cable out with the circuit board connector to the left and line **1 (RED)** along the bottom.
- 2: Fold the cable down about 3.75" from the right, along the top of the cable, making a 90 degree angle at that point. Press down firmly to crease the cable.
- 3: Fold the cable in half at the center connector, so the circuit board connector is now on the right.
- 4: Fold the cable back to the left making a straight crease that aligns along the right edge of the first fold. The cable is now lying over the center connector.
- 5: With that same part of the cable, fold the cable at a 90 degree angle at the right edge of the previous fold so the circuit board connector is facing down and the cable is lying over the other connector. Crease the fold.
- 6: Take the center connector, now on the left side, and make a fold about 2" in from the center connector. Fold it down, making a 90 degree angle. Crease the fold.

INSTALLING THE INTERFACE CABLE

- 1: Remove the sub-assembly chassis from the computer and turn it over. Position it so the hard disk drive is on the left.
- 2: Lay the interface cable on the sub-assembly so the drive connector is on the left and the board connector is facing downward.
- 3: Connect the cable to the HDD.
- 4: Place a tie wrap fastener around the folded cables near the 90 degree fold.
- 5: Peel the backing off of the tie wrap fastener, and stick it to the bottom of the sub-assembly chassis.
- 6: Re-install the sub-assembly.

Product Support Bulletin

Subject: 800 X 600 Super VGA Driver for the Equity 386SX Plus and Microsoft Windows 3.0

Date: 12/5/90

PSB No: S-0126

Page(s): 1 of 1

Originator: MWT

The super VGA (SVGA) driver for Microsoft Windows 3.0 for the Equity 386SX Plus is now available for downloading from the Epson Product Support Bulletin Board System (BBS). Please refer to PSB S-0067B for an overview on using the BBS. Also note the new telephone numbers for the BBS: (800) 234-1445 extension 8777 and (213) 782-4531.

The file name is WIN30C&T.EXE, located in the DRIVERS file library. It is a self-extracting file and must be downloaded with a binary protocol, such as XMODEM.

Once the file has been downloaded, use the following steps to make it operational:

- 1) Copy the file to the hard disk subdirectory that contains the current .DRV files (typically C:\WINDOWS\SYSTEM).
- 2) Execute the file; this will produce four files named VDDVGA.386, VGAP45X.GR3, SETUP.INF and W3L600.DRV.
- 3) Copy the file W3L600.DRV to VGA.DRV (you may want to rename the original VGA.DRV file so it doesn't get overwritten).
- 4) Log into the C:\WINDOWS subdirectory and run Windows SETUP. From the System information screen select Display and press ENTER. From the list of available drivers, choose "800x600x16 for CHIPS Super VGA 82C452" and press ENTER. Then follow the screen instructions to save your choices and exit.
- 5) Re-boot the computer and start Windows. You should now be using the Super VGA resolution.

NOTE: You must be using a multi-frequency, auto-synching analog monitor (such as the NEC MultiSync 3D). Also, you may experience memory conflicts with advanced memory management utilities, such as Quarterdeck's QEMM386 version 5.11. If this occurs, you will need to experiment to determine which portions of memory need to be excluded from use by the memory manager.

EQUITY 386SX					
VER	PART #	DESC	TYPE	LOC	REASON
1.03	Y192804001	CPAN-A2	27C256	U25	INITIAL RELEASE
1.03	Y192805001	CPAN-B2	27C256	U37	
1.15	Y192805002	CPAN-BO3	27C256	U25	To allow the use of the DEC DEPCA adapter. To allow the use of the Seagate ST-157A, Quantum, Maxtor, Rodime, and WD93044-A hard disk drives. To allow the use of two Imprimis 9244-383 , Conner CP344, CP3104, or CP3204 drives in the same system. To allow KEYB.COM to be used in conjunction with EMM386.SYS. To allow FDD auto-configuration in CMOS. See ECN EQ386SX-001 (2/6/91).
1.15	Y192804002	CPAN-AO3	27C256	U37	
1.16	Y192590801	CPAN-A04	27C256	U25	To resolve a problem with rapid keystrokes using the enhanced 10-key area of the keyboard. This problem may cause shift key lock and/or keyboard lockup. To allow the use of a SCSI HDD controller with the password function. To allow CMOS to indicate daylight saving time mode. To resolve problem with DECNET PCSA v. 3.01. See ECN EQ386SX-004 (4/3/92).
1.16	Y192590802	CPAN-B04	27C256	U37	

EQUITY 386SX PLUS DISKLESS WORKSTATION					
VER	PART #	DESC	TYPE	LOC	REASON
1.57	Y705809001	CTRTRD-B02	27C512	U73	INITIAL RELEASE
1.57	Y705808001	CTRTRD-A02	27C512	U96	

EQUITY 386SX PLUS					
VER	PART #	DESC	TYPE	LOC	REASON
1.04.02	Y705805002	CTRT-BO3	27C512	U73	INITIAL RELEASE
1.04.02	Y705804002	CTRT-AO3	27C512	U96	
1.08.02	Y705805004	CTRT-BO5	27C512	U73	To allow remote boot from DEPCA network adapter. To allow expanded IDE hard disk drive support (Seagate ST-157A, Quantum, Rodime, Maxtor, Western Digital). See ECN EQ386SX+-001A (11/29/90).
1.08.02	Y705804004	CTRT-AO5	27C512	U96	
1.15.08	Y705805006	CTRT-BO7	27C512	U73	To allow the use of dual monitors with Microsoft Quick C. To allow the use of a Seagate SCSI controller and/or a NIC remote boot ROM with the password function enabled. To allow the use of ARCNET NICs at base address 2E0H. See ECN EQ386SX+-002 (2/6/91).
1.15.08	Y705804006	CTRT-AO7	27C512	U96	
1.16.8A	Y705805007	CTRT-B08	27C512	U73	Implemented in manufacturing. Resolved problems with video quality, QEMM memory mapping, 2E0h I/O address conflict with Novell networks and C&T drivers. BIOS overwrite of CMOS, and clock timing malfunction. See ECN EQ386SX+-003 (8/7/91).
1.16.8A	Y705804007	CTRT-A08	27C512	U96	
1.17.8A	Y705805008	CTRT-B09	27C512	U73	Resolve a problem with rapid keystrokes using the enhanced 10-key area of the keyboard. This problem may cause shift key and/or keyboard lockup. Fixes problem with installation of DECnet PCSA v. 3.0 or 3.1 may cause intermittent terminal emulation failures, inability to create remote boot workstations using NWSETUP and inability to download DOS to the server using DOSLOAD. See ECN EQ386SX+-004 (2/7/92).
1.17.8A	Y705804008	CTRT-A09	27C512	U96	