

Product Support Bulletin

Subject: Epson Equity 386/33 PLUS and Monochrome Video Installation

Date: 06/04/93
Page(s): 1 of 3

PSB No: S-0162
Originator: JAM

This bulletin provides information regarding the installation and compatibility of Monochrome Video sub-systems.

<u>1. Hardware Configuration:</u>	<u>Product Code</u>
CPU: Epson Equity 386/33+ [Serial Number: 64E2010044] [Configured System]	(A314221)
Memory: 4.0MB Standard, soldered on system board	
Additional: not installed	
BIOS Rev: D386-6080-031892-K2	
FDD: Canon MD5501 5.25" half-height 1.2MB	(A811371)
FDD: Canon MD 3641G 3.5" half-height 1.44MB	(A811381)
HDC: Integrated on Main Logic Board	
HDD: Quantum LPS-120	(A811951)
Video: EIZO Enhanced MDA [Monochrome Display Adapter]	
Display: Epson Monochrome Monitor [MBM-2095-E]	

Note: The Epson Monochrome Monitor (Model MBM-2095-E) was discontinued as a sales item as of June 1991. However, it is available as a warranty exchange item from the parts department.

2. Compatibility:

Monochrome Display Adapters are compatible on the Epson Equity 386/33 Plus system. Pre-configuring system C-MOS is required. Refer to page 2 of this document for details.

3. Display Symptoms & Causes:

System CMOS must be pre-set to successfully install a Monochrome video sub-system. The system will not sync properly after a Monochrome adapter and display are installed. A common complaint at that point is that the system is dead (no boot activity or keyboard response).

Hardware CMOS settings are incorporated into the BIOS ROM. VGA is the hardware default setting for video support. If a monochrome display adapter and monitor are installed and the system booted, the monochrome monitor will not synchronize properly because VGA BIOS calls are still being refreshed. Two possible indications can occur at this point:

- a) constant diagonal raster [loss of Horizontal Sync]
- b) randomly lite pixel characters on display, no raster update visible.

The system is operational even though display is garbled or not apparent. The system has encountered a conflict between CMOS settings and the hardware that is sensed by the system. Hitting the 'F1' key will allow the boot process to continue and the system will load the operating system even though no display may be present.

4. Changing CMOS for Monochrome Video Support

- A.) Attach a VGA monitor to the external VGA port on the rear of the system.
- B.) Boot the system. During boot process hit the delete, , key to enter the CMOS setup program.
- C.) A 'Start operating system/Run Setup' screen will be displayed. Hit the down-arrow key to highlight 'Run SETUP'.
- D.) Hit the 'Enter' key to start 'SETUP'.
- E.) Hit the down-arrow key to the 'Primary Display' option. 'VGA or EGA setting is currently highlighted.
- F.) Hit the PgUp/PgDn key twice to set 'Monochrome'.
- G.) Hit the Escape key, <Esc>, and a message 'Save SETUP configuration (Y/N)?' is displayed. Enter the letter Y and hit enter to continue.
- H.) The system will reboot and go through 'POST'. An error message will be displayed:

CMOS display type mismatch

Press <F1> to run SETUP or RESUME.

- I.) Press the <F1> key to continue
- J.) The 'Start operating system/Run Setup' screen will be displayed. 'Start operating system' is highlighted. Hit the 'enter' key to start the operating system and load DOS.

6. Changing Hardware jumpers for Monochrome Video Support.

A.) Power down the system and change the hardware jumpers for monochrome support.

J1 Onboard VGA video port: (3" from rear of main pcb on RtSide)	J4 Color/Monochrome Monitor Used: (4.5" from rear of Main PCB on RtSide) (1" from the DC power connector)
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A setting Video port enabled

B setting Video port disabled

A setting Color monitor attached

B setting Monochrome Monitor attached

B.) Configure the video adapter card appropriately for the monitor, in particular the Horizontal frequency output from the video card being used. In our test, the default Horizontal output frequency from the MDA card had to be changed from 31.5KHz to 18.44KHz. When the adapter was installed using the factory defaults, 31.5Khz, upon powering-up the system item 'b' under display symptoms mentioned above was encountered.

C.) Install the video adapter in an available expansion slot. Attach the monochrome monitor to the MDA's video port.

D.) Power up the system and then the monochrome display. The system will reboot and load to DOS. Epson MS-DOS, Microsoft Windows 3.1 and Lotus 3.1 were tested without any operation or video errors.

7. General Installation Tip:

During the test, a configuration error was noted when the Color/Monochrome jumper, (J4), was not moved to the Monochrome setting. Upon boot, the monitor displayed four legible 'DOS' prompts in 4 equally spaced quadrants of the screen. Setting the J4 jumper to the Monochrome setting corrected the problem and the system functioned under general testing criteria (i.e. DOS, Windows applications, Lotus etc.)

The setting of the system jumpers is of critical importance for a successful Monochrome video sub-system installation.

8. Third-Party Products Tested/Used:

Mfg:	Hitec Associates Ltd.
Product:	EIZO PROFESSIONAL Enhanced MDA (Monochrome Display Adapter)
Model:	MD-B05
Name:	Hitec Associates Ltd.
Address:	601, 87BLDG., 7-50 Yokogawa, Kanazawa, 921, Japan
Phone:	0762-41-8600

Product Support Bulletin

Subject: Epson Equity 386/33 Plus & Super Dual VGA Adapter Installation.

Date: 06/04/93
Page(s): 1 of 4

PSB No: S-0157
Originator: JAM

This bulletin provides information regarding the installation and compatibility of the Super Dual VGA adapter by Colorgraphic Communications in the Equity 386/33 Plus.

<u>1. Hardware Configuration:</u>	<u>Product Code</u>
CPU: Epson Equity 386/33 Plus [Serial Number: 64E2010044] [Configured System]	(A314221)
Memory: 4.0MB Standard, soldered on system board Additional: not installed	
BIOS Rev: D386-6080-031892-KZ	
FDD: Canon MD5501 5.25" half-height 1.2MB	(A811371)
FDD: Canon MD 3641G 3.5' half-height 1.44MB	(A811381)
HDC: Integrated on Main Logic Board	
HDD: Quantum LPS-120	(A811951)
Video: Colorgraphic Super Dual VGA adapter [Serial Number 310024]	
Display: Epson Professional Series 17' Color VGA Monitor [Model T1184U]	(A804241)

2. Operating Systems:

Epson MS-DOS Version 5.0 installed at factory. (Configured System)
Microsoft Windows Version 3.1 installed at factory. (Configured System)

3. Compatibility:

The Super Dual VGA adapter from Colorgraphic Communications is compatible in the Epson Equity 386/33 Plus system. MS-DOS and MS-Windows applications were tested and no operational errors were encountered. Changing the video hardware jumpers on the main system board is required. Refer to page 3 of this document for details. The video drivers tested are on page 4 of this document. The ability to display a Windows session across two monitors was confirmed and no errors were apparent. This product may prove beneficial in an AutoCAD for Windows environment.

4. Possible display symptoms and causes.

System CMOS and video jumpers must be set appropriately to successfully install any video adapter. The system may not sync properly after an adapter and display are installed. A common symptom is that the system appears to be dead (no boot activity or keyboard response).

Hardware CMOS settings are incorporated into the BIOS ROM. Color VGA is the hardware default setting for video support. If a display adapter and monitor are installed and the system booted, the monitor may not synchronize properly because VGA BIOS calls are still being refreshed. Two possible indications can occur at this point:

- a) constant diagonal raster [loss of Horizontal Sync]
- b) random pixel characters on display, no raster update visible.

The system is operational even though the display may be garbled or not apparent. The system has encountered a conflict between CMOS settings and the hardware that is sensed by the system. Hitting the 'F1' key will allow the boot process to continue and the system will load the operating system even though no video display may be present.

5. Examining CMOS for Third Party video support (video card on bus):

- A.) Attach a Color VGA monitor to the external VGA port on the rear of the system.
- B.) Boot the system. During boot process hit the delete, , key to enter the CMOS setup program.
- C.) A 'Start operating system/Run Setup' screen will be displayed. Hit the down-arrow key to highlight 'Run SETUP'.
- D.) Hit the 'enter' key to start 'setup'.
- E.) Hit the down-arrow key to the 'Primary display' option. 'VGA or EGA' setting is currently highlighted.
- F.) Verify that 'VGA or EGA' is set and DO NOT alter the setting.
- G.) Hit the Escape key, <Esc>, and a message 'Save SETUP configuration (Y/N)?' is displayed. Enter the letter Y and hit enter to continue.
- H.) The system will reboot and go through POST and load DOS.

6. Changing hardware jumpers for Third-Party video support:

- A.) Power down the system and change the hardware jumpers to disable the embedded VGA adapter port on the system board. (Settings listed bold are used in this configuration.)

J1 Onboard VGA video port:
(3" from rear of main PCB on RtSide)

J4 Color/Monochrome Monitor
(4.5" from rear of main PCB on RtSide, 1" from the DC power connector)

A setting, Video port enabled
B setting, Video port disabled

A setting, Color monitor attached
B setting, Monochrome Monitor attached

- B.) Install the video adapter in an available 16 bit expansion slot. Attach a monitor to the Super Dual VGA adapter, lower port (primary video port). Attach a secondary monitor to the upper port on the video card (secondary video port).
- C.) Power up the system and then both displays. The system will reboot and load DOS. The secondary monitor will display the bios revision of the video adapter until a Windows session is started. After ending a Windows session, the second monitor will only display a blinking cursor in the upper left corner of the display. This is normal operation of the display adapter. Dual monitor support is only active by using the appropriate video driver and application. Epson MS-DOS, MS-Windows 3.1 were tested without any operation or video errors.

7. Video adapter hardware configuration:

- A.) Factory Defaults were used throughout the testing process. There is one dip switch block and 5 jumpers on the video card. Jumpers J3, J4, J5 can be altered, jumpers J1 and J2 are for EPROM size and should not be changed. Switch bank 1 (SW1) has 4 rocker setting for on or off. The defaults are:

1=off 2=on 3=on 4=on.

Switches 1 and 2 sets the board to primary video base I/O address of 34C(hex) and secondary video base I/O address of 348(hex). Switches 3 and 4 sets the video adapter I.D. to zero (binary 00). This is done if multiple Super Dual video adapters are installed. This information can be found on page 4 and 5 of the Super Dual VGA Operations Manual.

8. Dual VGA video driver installation:

- A.) A Super Dual VGA Utility Disk is supplied with the video adapter. The root directory contains a READ-ME file with general information on installing the various video drivers. The root directory contains a WINDOWS_DOC file with specific information on how to install the Windows Video drivers.
- B.) The file recommends installing the video drivers from the DOS prompt and not from the Windows dos prompt. From the Windows subdirectory, run SETUP. Select 'display', scroll down the list of available video drivers and highlight "other display". If necessary, specify the drive letter and path i.e. (a:\w31). Select the desired resolution and press return. The process will transfer various files from the floppy to the C:\WINDOWS\SYSTEM subdirectory. You may be prompted for several of the Windows diskettes. Please have them available.
- C.) Upon completion of the file transfers, restart Windows. Verify that the desired video driver is being utilized. Double-click on the Main Program Group, double-click on the Windows Setup program item. The current hardware settings are displayed on the Windows Setup screen. At the display setting, the previously selected Super Dual VGA driver is being utilized. For this session, the following driver was used:

Super Dual VGA H2V1 640x480x256.

- D.) Using two monitors, Windows usage across both displays was confirmed. No video anomalies or errors were encountered.

9. Resolutions tested.

- A.) Super Dual VGA H2V1 640x480x16 Ok
- B.) Super Dual VGA H2V1 800x600x16 Ok
- C.) Super Dual VGA H2V1 1024x768x16 Ok
- D.) Super Dual VGA H2V1 640x480x256 Ok
- E.) Super Dual VGA H2V1 800x600x256 Ok

10. General Installation Tip:

The setting of the system jumpers is of critical importance for successful Third-Party' video support.

For more information concerning the Colorgraphic Communications Super Dual VGA video adapter, contact:

Colorgraphic Communications
5388 New Peachtree Rd.
Atlanta, GA 30341-2849
BBS: (404) 452-8238
FAX: (404) 458-0616
TEL: (404) 455-3921

Product Support Bulletin

Subject: Epson Equity 386/33 PLUS, MS-DOS 5.0 and Windows 3.1 Video drivers.

Date: 8/7/92
Page(s): 1 of 3

PSB No: S-0146
Originator: JAM, ALV

The purpose of this bulletin is to provide information regarding the installation and compatibility of the Windows 3.1 Video Drivers Update.

<u>1. Hardware Configuration:</u>	<u>Product Code</u>
CPU: Epson Equity 386/33+ [Serial Number: 64E2010044] [Configured System]	(A314221)
Memory: 4.0MB Standard, soldered on system board	
Additional: not applicable	
BIOS Rev: D386-6080-031892-K2	
FDD: Canon MD5501 5.25" half-height 1.2MB	(A811371)
FDD: Canon MD 3641G 3.5' half-height 1.44MB	(A811381)
HDC: Integrated on Main Logic Board	
HDD: Quantum LPS-120	(A811951)
Video: Integrated on Main Logic Board [External VGA port provided on rear of unit]	
Display: Epson Professional Series VGA monitor	(A804241)

2. Operating Systems:

Epson MS-DOS Version 5.01 installed at factory. (Configured System)
Microsoft Windows Version 3.0 installed at factory. (Configured System)

3. Windows Upgrade:

Microsoft Windows Version 3.1 upgrade performed. 'Express Setup' (Microsoft Recommended) installation routine used for the upgrade from 3.0 to version 3.1.

4. Video Driver Update:

Windows 3.1 diskettes 1 through 3 are required during the update process to transfer font files need by the new video drivers. **New** video driver file is **ET4DRV.EXE** and is on the Epson BBS. It is in the **Drivers** library area of the bulletin board.

5. Compatibility:

The new video drivers for Windows 3.1 are compatible. Installation time approximately 15 minutes.

6. Update Video Driver file information:

For speed of access and availability the Windows 3.1 updated video drivers are available on the Epson BBS. The name of the file is **ET4DRV.EXE** and is located in the **DRIVERS** library area. The files are zipped and self-extracting. The BBS directory structure is as follows with a brief guide to maneuver to the DRIVERS library area:

Main| F for file areas| | S for selecting Lib| | | type in drivers| | | | F to view a directory listing of files in drivers library

| | | | {download the file according to your communications pkg instructions}

FILE DIRECTORY OF LIB DRIVERS Special Drivers for Epson Products

File	Bytes	Source	Description
- -	----	- -	-----
ACAD8.EXE	37008	Sysop	AutoCAD 8 CEG Video Driver
ACAD8DL.EXE	93742	Sysop	AutoCAD 8 Display List CEG Video Drivers
AUTODESK.EXE	23040	Sysop	ESC/P2 AutoCAD/AutoSketch Driver
CEG.DRV	14720	Sysop	Lotus driver for the CEG graphics
CPI4000.EXE	14080	Sysop	AutoCAD driver for the EPI-4000
EPSMOUSE.EXE	18560	Sysop	Drivers for the Epson Mouse
EPSONLQC.ZIP	47360	Hoser	Color Printer Driver for Windows 3.0
ES300DD.EXE	51616	Tran	ES-300C DOS Driver and Diagnostics
ESCP2WIN.EXE	60416	Sysop	ESC P2 Drivers for Windows
ET4DRV.EXE	654592	Tomlinson	Windows 3.1 Drivers - Equity 386/33 PLUS
FILES.	2357	Sysop	File Directory for the 'DRIVERS LIB.
INDEX.	10334	Sysop	Index of files in the 'DRIVERS' LIB.
L23ESCP2.ZIP	3072	Tran	Lotus 1-2-3 Rel 2.3, ESC/P 2 Driver
LQ570DRV.EXE	52096	Sysop	LQ-570 Drivers
LT3ESCP2.ZIP	190336	Tran	Lotus 1-2-3 Re3.x ESC/P 2 Drier
LTWINDRV.EXE	196352	Tomlinson	LCD Drivers for Windows and LT-386SX
MOUSE7.EXE	10624	Sysop	MS Mouse 7.00 Patch for EQ386SX Plus
OMNIPAGE.ZIP	39552	Purdy	E S 3 0 0 C C O L O R S C A N N E R F O R OMNIPAGE
PSDRV3_4.EXE	105472	Sysop	Windows Postscript Driver 3.4 - EPL7500
PSSDL.EXE	113664	Hoser	Driver for EPL 7500 / MS Word anomaly
TOPFILES.	929	Sysop	Top popularity files.
TRUESCAN.ZIP	47872	Purdy	ES-300C Driver for TrueScan software
WIN30C&T.EXE	83968	Markberg	Windows 3.0 800x600 Driver for 386SX+
WIN31DRV.EXE	258066	Tomlinson	C&T Display Drivers for Windows 3.1
WINESCP2.ZIP	46336	Tran	MS Windows 3.0, ESC/P 2 Driver, Gen 1.5
WORDSCAN.ZIP	36480	Purdy	WORDSCAN PLUS DRIVER FOR ES300C

	1588180 bytes (approx)		
	26 files		

7. Extracting/Exploding the Video Driver suggestions:

Down-load the **ET4DRV.EXE** to your local hard disk drive, a 1.2Mb or 1.44Mb diskette. The driver files expand-out to approximately 643,174 bytes of data space. Run the file ET4DRV.EXE and the files will extract themselves into the disk/current-directory. If the current directory has data on it, copying the necessary files to another diskette may become tedious (Housekeeping tip). Recommendation: Transfer the ET4DRV.EXE onto another diskette and write-protect it. Keep it as a Master diskette for duplication purposes. Delete the driver file from the exploded diskette, write-protect it and use it for duplication purposes.

8. General Installation Tips:

I installed the new driver files from within Windows. From Program Manager go to File and select Bun... and in the Command Line: box type in setup. This will bring up the Windows Setup program group. Select Options and then select change System Settings.. the Change System Settings program group is displayed with the current values. At Display click on the down arrow symbol at the end of display mode currently highlighted in black. A list of video drivers and modes are displayed. Scroll down and highlight Other display (Requires disk from OEM)... Click on OK button. A message is displayed to insert the OEM diskette into drive A:\. Insert the diskette with the uncompressed video drivers into drive a:\. Click on OK button.

Select the desired video driver you wish to install, such as:

ET4000 800x600 256 col. (Large fonts)

Click on OK button. The new driver is displayed in the Display parameter in the Change System Settings program group. Click on OK button. The Change System Settings program group then asks you if you want to install a new driver. Select New and have Window 3.1 diskettes 1 through 3 ready for updating the fonts needed for the new driver.

The system will ask you at various points to install the diskettes as needed. The system transfers the various fonts onto the hard disk drive. The system asks you to install the ET4000 Windows 3.1 driver disk. Install the diskette and click the OK button. The driver files are loaded on to the hard disk drive.

The Exit Windows Setup program group appears at this point. You are asked to either Restart Windows or Continue. Warning: the system alerts you not to warm boot (CTRL+ALT+DEL) or loss of data will occur. Restart Windows and the new driver and fonts will be activated.

9. Resolutions tested:

- | | |
|--|----|
| 1. 1024 x 768 x 16 colors small fonts | Ok |
| 2. 800 x 600 x 256 colors small fonts | Ok |
| 3. 640 x 480 x 256 colors | Ok |
| 4. 1024 x 768 x 16 colors large fonts | Ok |
| 5. 800 x 600 x 256 colors large fonts | Ok |
| 6. 640x480x16 colors | Ok |

Product Support Bulletin

Subject: Equity 386/33 PLUS Incompatibilities

Date: 6/5/92
Page(s): 1 of 2

PSB No: S-0140
Originator: JAM, MT, MD

The purpose of this bulletin is to provide information on known incompatibilities of the Equity 386/33 PLUS at the time of product introduction.

1. IBM 5251/11 Emulation Adapter is not compatible. Variance #1a: Loss of video output upon powering on the system at cold-boot. The Hard disk is accessed during the boot process but no video display can be seen. The Testing Lab experienced this variance previously using the 5251 card for 8-bit slots (DET92X0693 Rev B). The 5251 card for 16-bit slots (EC#A131192B) completely passed. Variance #1b: Random video characters are displayed after entering DIR followed by CLS. The anomaly manifests itself only if the commands have been executed in that order.
2. AST 5251/11 Emulation Adapter is not compatible. Variance #2: Upon rebooting the system, foreground and background colors are nearly the same. This makes distinguishing characters difficult. Other operations function normally.
3. DTC 6180 ESDI Hard Disk Controller is not compatible. Variance #3: Low-Level formatting of ESDI does not complete successfully and returns a fatal error message.

STATUS: Resolutions to these Variances are being researched by EPI.

WORK AROUNDS:

1. Variance #1a: Pressing the RESET button caused the 5251 adapter to work properly. ALL EMULATION TESTING THEN PASSED!
Variance #1b: No workaround was found by the Testing Lab.
2. Variance #2: Two workarounds for this are: (1) Disable the on-board video port and use a VGA adapter in a bus slot or (2) configuring SETUP to COLOR rather than VGA resolves the screen problem.
3. Variance #3: Low-level formatting the drive on another system and reinstalling it in the Equity 386/33 Plus is an alternative. The system functioned normally thereafter.

Test Labs Results:

1. The Epson 386/33 Plus successfully executed 142 (98%) out of 145 tests without variance.
2. The Equity 386/33 Plus has been extensively tested by an outside Third Party Testing Lab. Out of a "TEST SUITE" of 145 Hardware and Software combinations, these are the only outstanding variances.

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