Digital Alignment System TM

DAS

Adjustment Software for the
X2R/N2/N2H/24W1-Chassis Color Graphic Display
Version : J3.0

User's Manual

INY Corporation, P.E.
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For :

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1 What this manual is all about

This manual is the user's manual for the Sony DAS(**D**igital **A**lignment **S**ystem) software. The DAS program was designed as an aid in adjusting the X2R/N2/N2H/24W1-Chassis monitor.

1.1 What's New

- Support for the 24W1 chassis has been added.

2 How to use this manual

The manual is designed to guide you step by step in the installation and use of the DAS software. It is not meant to teach the theory and techniques of monitor adjustment.

Section 5 will let the impatient get up and running quickly. Sections 6 and on give a detailed description of the operation of the software.

Section 4 shows you the kinds of error screens you may see and what you can do to correct the error. **READ THIS SECTION EVEN IF YOU ARE AN EXPERT!**

3 Computer Hardware Requirements

The DAS program must be installed onto a hard disk before it will run.

The DAS system requires :

- An IBM AT or compatible with
  - · 80486 66MHz or higher CPU
  - · I/O channel running at 8 MHz
  - · 640K of memory
  - · DOS Version 3.3 or higher or DOS/V Version 6.2 or higher
  - · Monochrome Monitor
  - · One of this diskette drives / 1.44M 3.5"
  - · Optionally:
    A hard disk with at least 2Mb free
    EGA or VGA Monitor

- SentinelPro Security Key

- Monitor to Signal Generator cable

  Depending on the signal generator you are using, you will need the necessary cabling to connect the generator to the video input of the monitor.

  For a monitor which have a standard VGA style connector or a DB style 15 pin DIN connector, you will require an adapter to convert BNC cables from the signal generator to the DB connector on the end of the cable from the monitor.

  The Adapter for standard VGA style connector:

Monitor End VGA Connector	**Signal Generator End** RGB BNC
Pin 1	Red
Pin 6	Red Return
Pin 2	Green
Pin 7	Green Return
Pin 3	Blue
Pin 8	Blue Return
Pin 13	Horizontal Sync
Pin 14	Vertical Sync
Pin 10	Sync Return
Pin 5	Ground

The Adapter for DB style 15 pin DIN connector:

Monitor End DB-15	**Signal Generator End** RGB BNC
Pin 2	Red
Pin 1	Red Return
Pin 5	Green
Pin 6	Green Return
Pin 9	Blue
Pin 13	Blue Return
Pin 15	Horizontal Sync
Pin 12	Vertical Sync
Pin 4	Sync Return

- Monitor to PC Interface cable

  This cable is supplied by Sony. It has a DB-9 connector on one end to connect to the RS232 board and an 8-pin DIN connector on the other end to connect to the monitor.

- DIN Adapter Box

  For the X2R/N2/N2H chassis, an adapter box that converts the internal monitor connector to an 8-pin DIN connector. The cable from this adapter box plugs into connector on a PCB inside of the X2R/N2/N2H. The X2R/N2/N2H enclosure must be removed to make this connection.

Optionally,

- A Microsoft Compatible Mouse connected on COM1, as a Bus Mouse or as a PS/2 Mouse
  - · A serial mouse connected to a standard PC COM1 serial port
  - · You may need a DB-25 to DB-9 adapter if your PC has a different type connect than your mouse
  - · A PS/2 mouse should be connected to the PS/2 mouse connector
  - · A bus mouse connected to a bus mouse card.
  - · You must install the appropriate mouse driver software, see Section 3.2

- A RS-232 Interface Board jumped as COM3 and COM4.

- A Sony supplied Sealevel 3083-S101 RS-232/RS-422 Interface Board jumped as COM2 and COM3. The bottom connector is the RS-232 port -COM2.

- A supported Signal Generator on RS-232 COM3

  · Supported Model(s) :

  Astro Design VG-819, Astro Design VG-819S, Astro Design VG-823 or Quantum Data 801GF

  · A "VG-819(S), VG-823 or QD801GF Host Mode Cable" to connect the generator to the PC. This cable is supplied by Astro Design/Quantum Data or can be assembled by you. This cable has DB-25 or DB-9 connectors on each end. See Section 3.5.1.

  Team Systems VG-515pc

  · This signal generator is a card that plugs inside of your PC. There are no cabling requirements between the PC and the generator. The VG-515 appears to the PC as a serial port on COM4.

  · Follow the instructions that come with the generator when installing it into your PC.

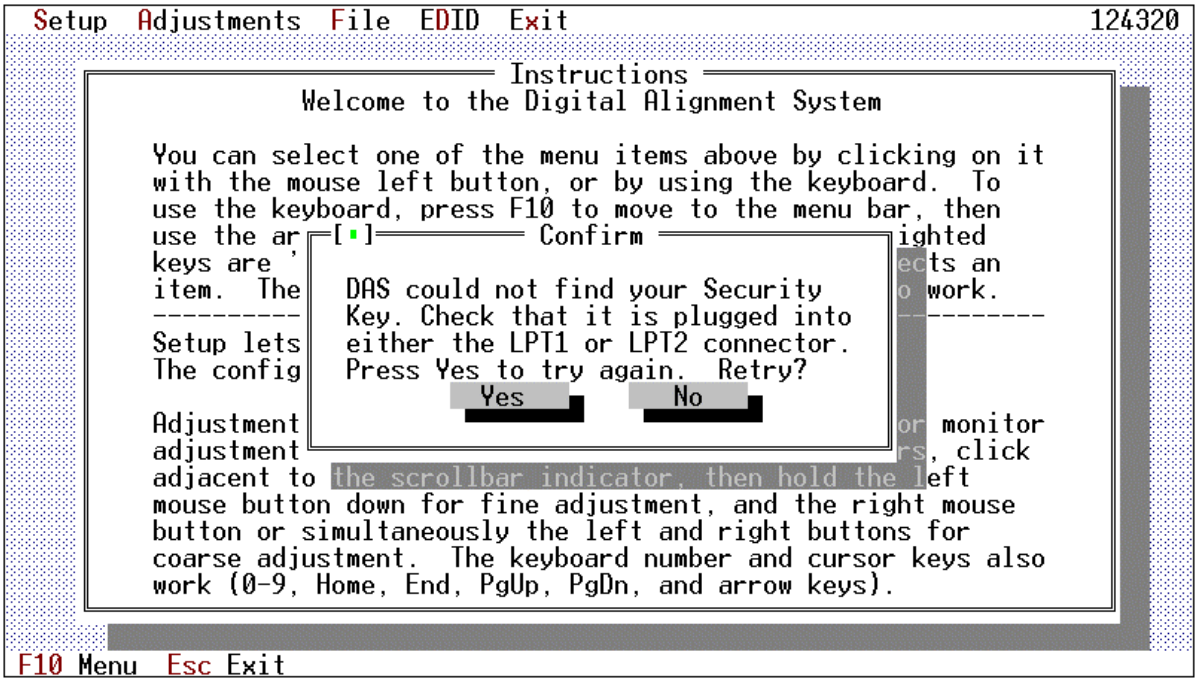
  · Standard PC COM2 or COM3 serial port if you are using a VG-819(S), VG-823 or QD801GF signal generator (the signal generator defaults to COM3 but can be moved, see Section 0)

  · You may need a DB-9 to DB-25 adapter if your PC has a DB-9 connector for the port.

3.1 Connecting the Security Key to the PC

The SentinelPro security key supplied with the DAS program must be plugged into either the LPT1 or LPT2 printer ports. If you have a printer cable already connected to the port, unplug the printer, plug the security key into the computer port and then plug the printer into the other connector on the key.

The DAS software periodically checks for the presence of the key. If the key is not found a popup message is displayed on the screen. The message is shown on Screen 1.



Screen 1: Missing Security Key Warning

You may press the **[*NO*]** button to terminate the DAS program immediately or you may install the key and then press the **[*YES*]** button to continue.

3.2 Connecting the Mouse to the PC

Computer mice, like all real mice, are different. How you install your mouse depends on the manufacturer of the mouse. Follow their instructions as you install the mouse on COM1. If you are given an option during the installation of the mouse, configure the mouse as a Two-Button Microsoft Compatible mouse.

3.3 Connecting the Sony Monitor

The monitor is connected to the PC COM2 using the special cable supplied by Sony.

3.4 Connecting the Signal Generator to the Monitor

The signal generator should be connected to the monitor by using 5 coaxial cables. Connect:

Red Video	Green Video
Blue Video	Horizontal/Composite Sync
Vertical Sync	

3.5 Connecting the Signal Generator to the PC

The method of connecting the signal generator to the PC depends on which supported signal generator you have selected.

The DAS program supports these signal generators:

- Astro Design VG-819(S), VG-823 or Quantum Data 801GF connected to the PC RS-232 COM2 or RS-232 COM3 port (defaults to COM3 but can be moved, see Section 0)
- Team Systems VG-515 plugged into the PC's I/O channel bus.
- Quantum Data 801GF-ISA plugged into the PC's ISA bus.

3.5.1 Astro Design VG-819, VG-819S and VG-823

The DAS program automatically supports the Astro Design VG-819, VG-819S and VG-823 Digital Video Generator. You can cable them to the PC and the DAS program will automatically control it to select the correct frequencies for each adjustment.

The VG-819(S) or VG-823 should be connected to the PC's RS-232 COM2 or RS-232 COM3 (the default is COM3 but can be changed, see Section 0) port by using a special serial cable supplied by Astro Design or assembled by you. The cable is called a Host Mode Cable".
The cable is wired as follows:

PC RS232C			VG-819(S)	VG-823
DB-9(Female)	DB-25(Female)		DB-25(Male)	DB-9(Male)
1	8	⟷	8	1
2	3	⟷	3	2
3	2	⟷	2	3
4	20	↰	20	4
5	7	⟷	7	5
6	6	↲	6	6
7	4	⟷	4	7
8	5	⟷	5	8
9	22	⟷	22	9

The VG-819S has a feature not found on the VG-819. The 819S model can turn off its Composite Sync, Horizontal Sync and Vertical Sync outputs. If you use the 819, you may have to disconnect the Horizontal and Vertical Sync cable when adjusting "Sync on Green" modes.

3.5.2 Team Systems VG-515

The DAS program automatically supports the Team Systems VG-515pc Programmable Video Generator. This board plugs right into the I/O channel inside of your PC. On the back of the board is a standard VGA connector that connects to the monitor.

3.5.3 Quantum Data 801GF

The DAS program automatically supports the Quantum Data 801GF Programmable Video Generator. This signal generator should be connected to the PC's RS-232 COM2 or RS-232 COM3 (the default is COM3 but can be changed, see Section 0) port by using a special serial cable supplied by Quantum Data or assembled by you.

The cable is wired as follows:

PC RS232C			QD801GF
DB-9(Female)	DB-25(Female)		DB-9(Male)
1	8		1
2	3	⟷	3
3	2	⟷	2
4	20		6
5	7	⟷	5
6	6	⟷	4
7	4	⟷	8
8	5	⟷	7
9	22		9

3.5.4 Quantum Data 801GF-ISA

The DAS program automatically supports the Quantum Data 801GF-ISA Programmable Video Generator. This board plugs right into the ISA bus inside of your PC. On the back of the board is a standard VGA connector that connects to the monitor.

3.6 Altering the Default Serial Port Assignments

By now you should see that the different combinations of monitors and generators could cause havoc with the RS-232 serial ports at the back of your PC. Here is a summary of the default requirements :

Device	Default Comm Port	Default Interrupt Number	PC Board Type
Serial Mouse	COM1	4	RS-232
Bus Mouse	COM4	varies	Bus Mouse Board
Monitor	COM2	not used	RS-232
VG-819(s)	COM3	not used	RS-232
VG-823	COM3	not used	RS-232
VG-5151pc	COM4	not used	built onto VG-515pc board itself
Quantum Data 801GF	COM3	4	RS232
Quantum Data 801GF-ISA	not used	not used	built onto 801GF-ISA board itself

3.6.1 Altering The Default Comm Port

Depending on your exact needs, you can change these default ports by using DOS 'Environment Strings'. These strings can be entered by you on the DOS command line or put into your autoexec.bat file. The format of the command to create one of these strings is:

set string = #

In place of the word 'string' use one of these names depending on the device that you want to reassign:

SIGGENPORT VG-819(S), VG-823, QD801GF, QD801GF-ISA
N1PORT For all X2R/N2/N2H/24W1 Monitors

For the monitors, the VG-819(S), the VG-823, and the QD801GF:

In place of the '#' sign in the 'set' command, enter a number from 1 to 8 which identifies which serial port that device is connected to:

#	Port	Port Address(Hex)	Monitor
1	COM1	3F8	All
2	COM2	2F8	All
3	COM3	3E8	All
4	COM4	2E8	All
5	COM5	320	N1PORT only
6	COM6	328	N1PORT only
7	COM7	338	N1PORT only
8	COM8	280	N1PORT only

COM1 and COM2 are the standard two serial ports found in most PC's. COM3 and COM4 can usually be added to the PC with the addition of an I/O Expansion Board. The remaining ports are for special boards that use non-standard port addresses implemented on combination RS232 boards.

For the QD801GF-ISA:

In place of the '#' sign in the 'set' command, enter a number from 1 to 8 which identifies which jumper setting is made on the QD801GF-ISA card:

#	ISA	Port Address(Hex)
1	0	300
2	1	308
3	2	310
4	3	318
5	4	250
6	5	258
7	6	260
8	7	268

Here is an excerpt from the *Quantum Data Model 801GF-ISA Quick Start Guide* :

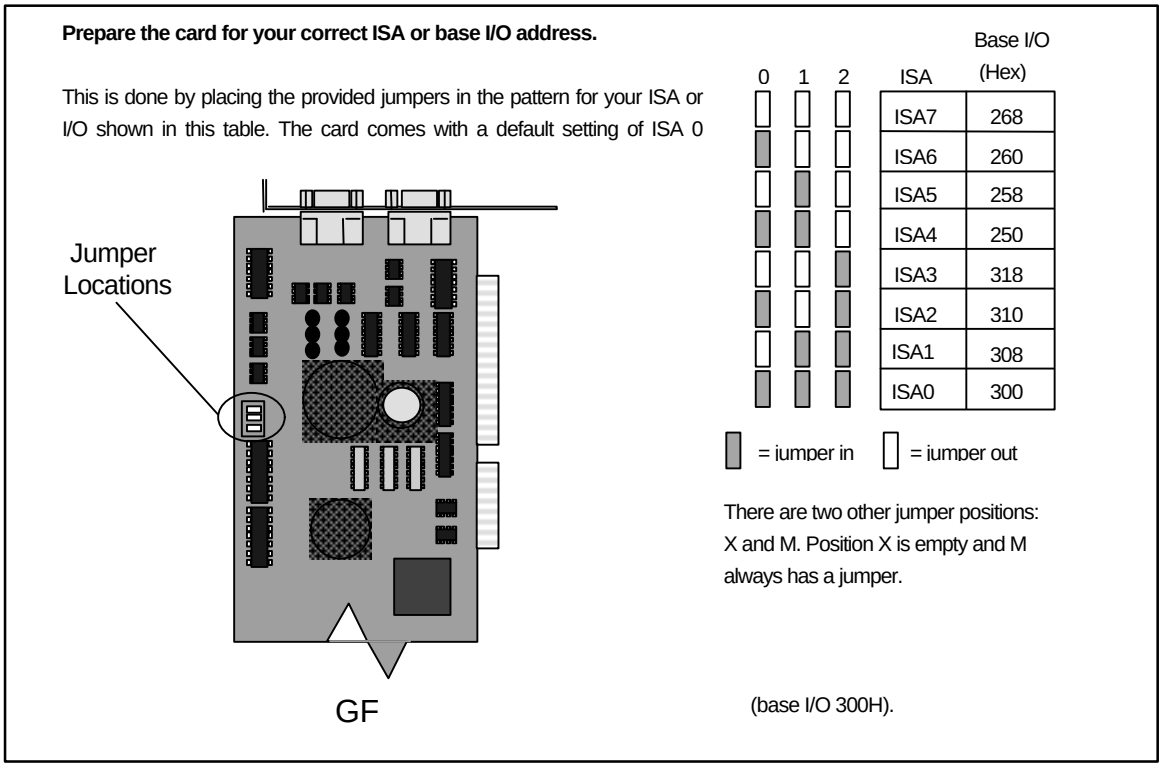


Figure 1: QD801GF-ISA Jumper Setting

After you have entered one of these 'set' command, you can check what the PC thinks you typed by entering the 'set' command without anything following it:

```
set
```

Here is what 'set' commands would look like for the default port assignments (you don't have to use these commands if the defaults are correct for your case):

```
set N1PORT=2
set SIGGENPORT=3
```

Now, for example, say you have a machine without a mouse. You can connect the VG-819 to COM1 and the monitor to COM2 by issuing these commands before you run the DAS program:

```
set N1PORT=2
set SIGGENPORT=1
```

The first one isn't actually needed anyway since it is the default port.

3.6.2 Altering The Default Interrupt Number

Usually the only way to use a different interrupt number is to change the default COM port assignment. In most cases, the interrupt number is fixed to the COM port as follows:

Comm Port	Interrupt Number
COM1	4
COM2	3
COM3	4
COM4	3
COM5-8	varies
Bus Mouse	varies

Generally on a PC, the available interrupts for ports and mice are 2, 3, 4, 5, 7, 10, 11, and 12. On some PC’s sound cards or other devices may already use some of these. Check your device documentation for the best combination.

If you can, you should have the bus mouse use interrupt 10, 11 or 12. Then interrupts 3 and 4 are both available for DAS devices.

4 Error and Warning Screens

We think the Error and Warning Screens that you may see are very important. So important, in fact, that we put this section of the User's Manual near the front.

The DAS program is designed to operate in as user friendly a manner as possible. The screens we display may help you to get the program running correctly without having to get technical help.

There are five types of errors:

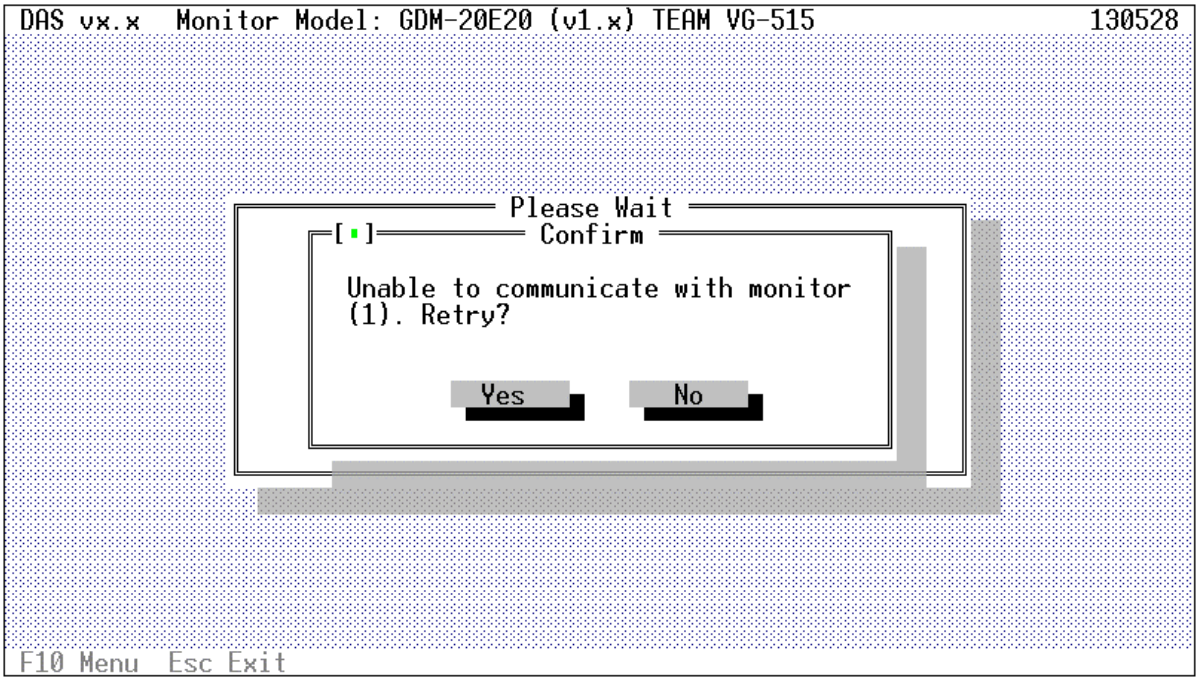
1. Communications errors
2. Monitor mode and frequency selection errors
3. Model information and errors
4. Disk Not Ready
5. Critical Disk Error

There are two types of warnings:

1. Horizontal frequency determination inaccurate
2. Signal Generator not set correctly

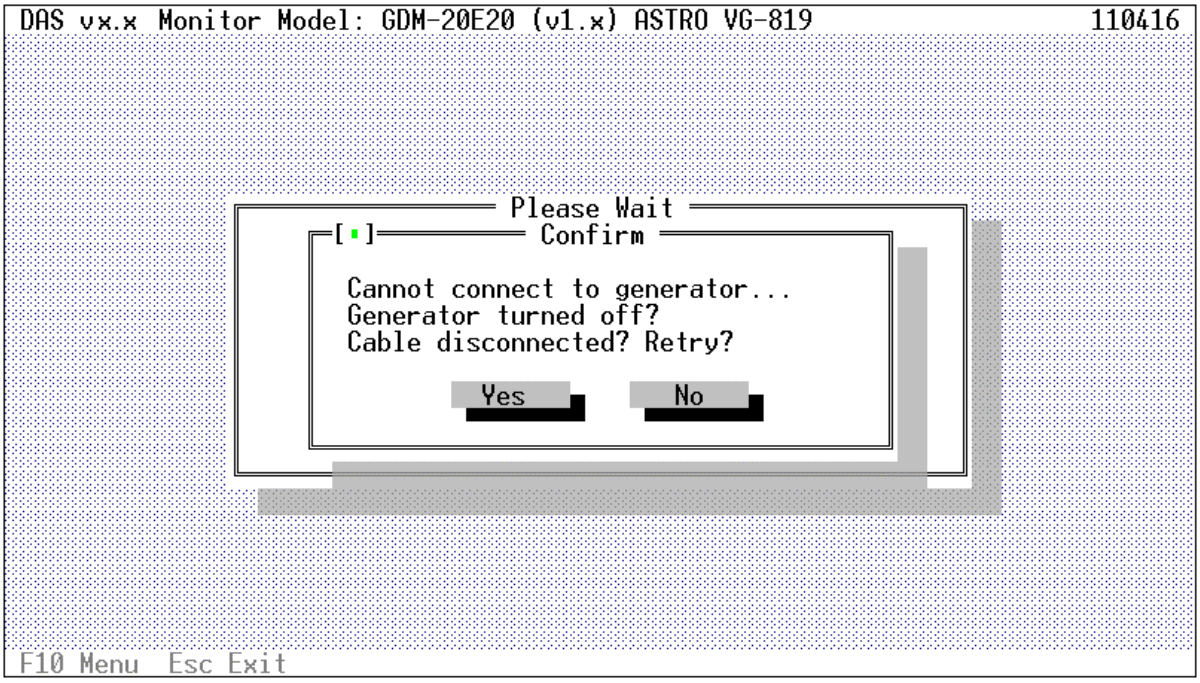
4.1 Error Type 1

When communicating with the monitor and signal generator, the program will try several times before indicating a failure. If the program cannot establish communication, it will put up a screen (Screen 2 and Screen 3) asking you if you want the program to try again.



Screen 2: Monitor Retry Popup

This screen (Screen 2) shows a monitor communications problem. At this point, you should check that the RS-232 board and monitor cables are correctly installed (correct port, etc.). Press **[*YES*]** to have the program try again. Press **[*NO*]** to return to the main screen. You should always press **[*YES*]** once or twice before you give up. If the DAS cannot establish communications with the monitor, you may have a defective monitor, RS-232 board or cable.



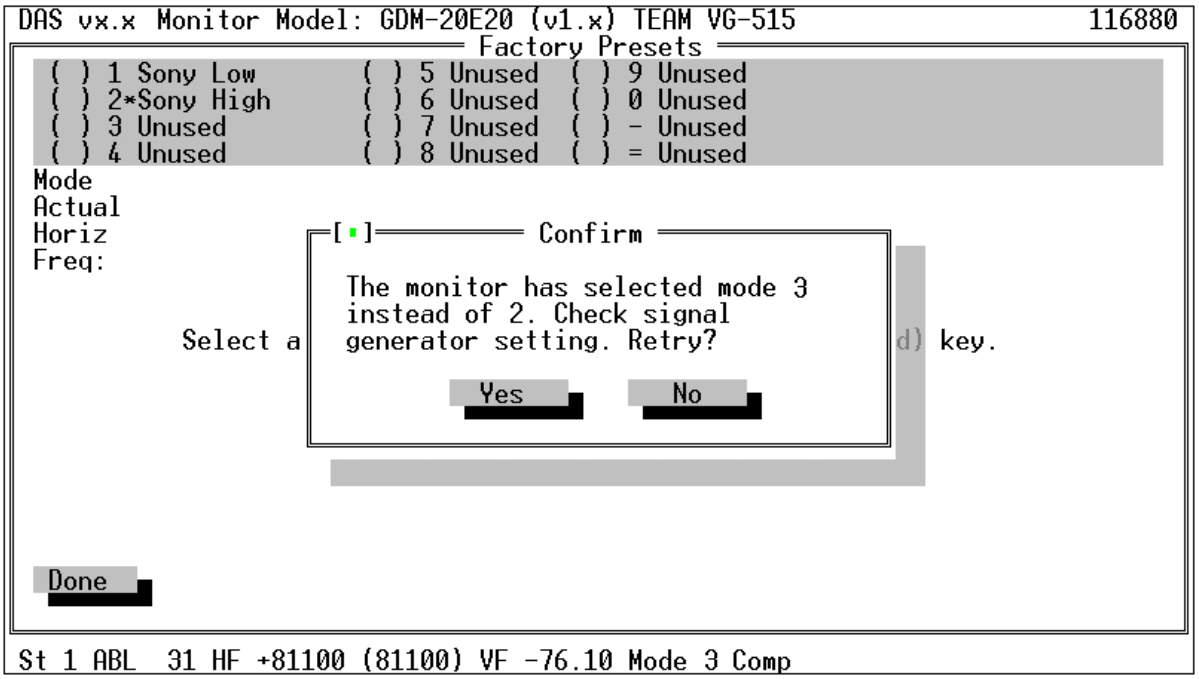
Screen 3: Signal Generator Retry Popup

This screen (Screen 3) shows a signal generator communications problem. At this point, you should check that your serial board and signal generator cable are correctly installed. **If you are using an Astro Design VG-819(S), make sure you have wired the cable as shown in Section 3.5.1.** Press **[*YES*]** to have the program try again. Press **[*NO*]** to return to the main screen. You should always press **[*YES*]** once or twice before you give up. If the DAS cannot establish communications with the signal generator, you may have a defective signal generator, RS-232 serial board or cable.

4.2 Error Type 2

There are cases where the internal horizontal frequency determination logic may not select the correct mode **within the monitor**. This may have an external cause, such as an incorrectly setup signal generator or an internal cause, such as the accuracy of the Timer/Counter inside of the monitor. If this occurs, a screen (Screen 4) will display what was expected and what was actually determined. Check the generator to be sure that it is setup correct. Check the cables to be sure they are wired correctly and plugged in to the correct connectors. Correct it if necessary and then select **[*YES*]** to retry the operation. If you are not using a manual generator, the problem is within the monitor. In this case contact technical support.

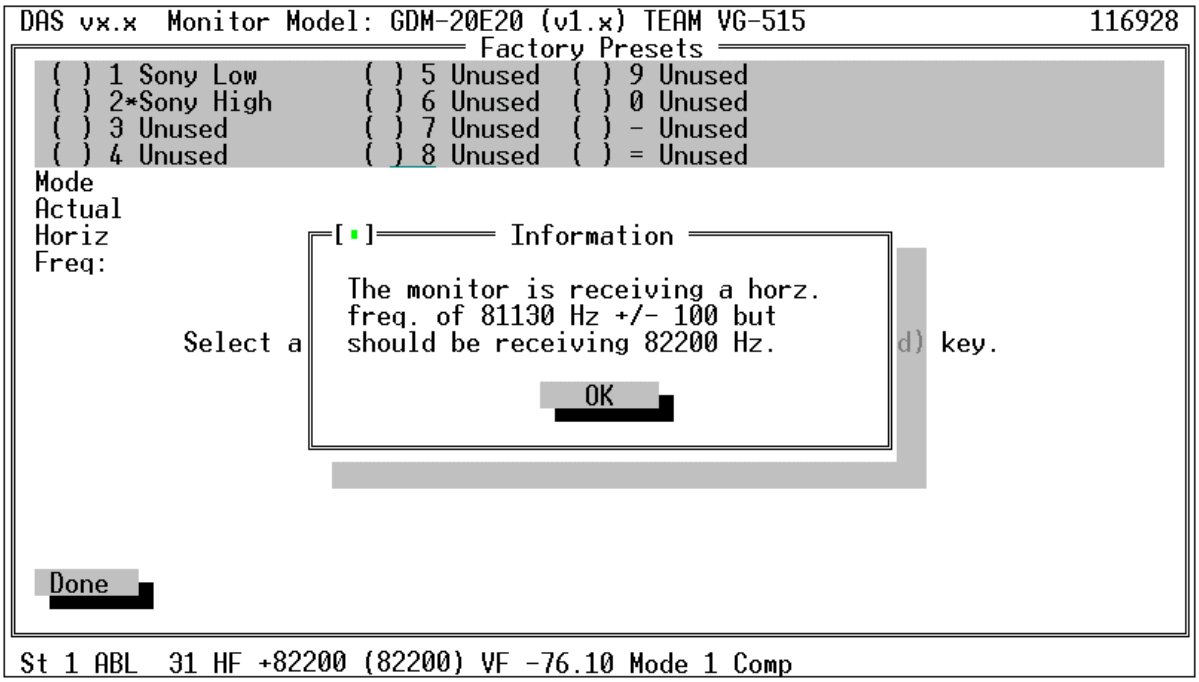
If you are using a VG-819 generator, there is an additional possible cause for this error. The VG-819 cannot turn off its Sync outputs and will have cases where sync information is contained on the green output BNC as well as the CS, HS and/or VS output BNC's. If you use the 819, you may have to disconnect the Horizontal and Vertical Sync cables if adjusting "Sync on Green" modes.



Screen 4: Mode Selection Error

There are also cases where the accuracy of the basic frequency determination logic in the monitor prevents the monitor from determining the exact input horizontal frequency. This is not a problem as long as the monitor determines the correct mode. An informational screen (Screen 5) will be displayed to tell you what happened. Press **[*OK*]** to continue the adjustment.

The DAS program is looking for 1) correct mode selected and 2) correct horizontal frequency. If the mode is correctly selected, proceed with adjustment.



Screen 5: Frequency Determination Error

4.3 Error Type 3

If the DAS model information contained in its internal data base becomes corrupted, you will get an error indicating a "Data Base" error. If this occurs you should reinstall the software following the procedure in Section 6.

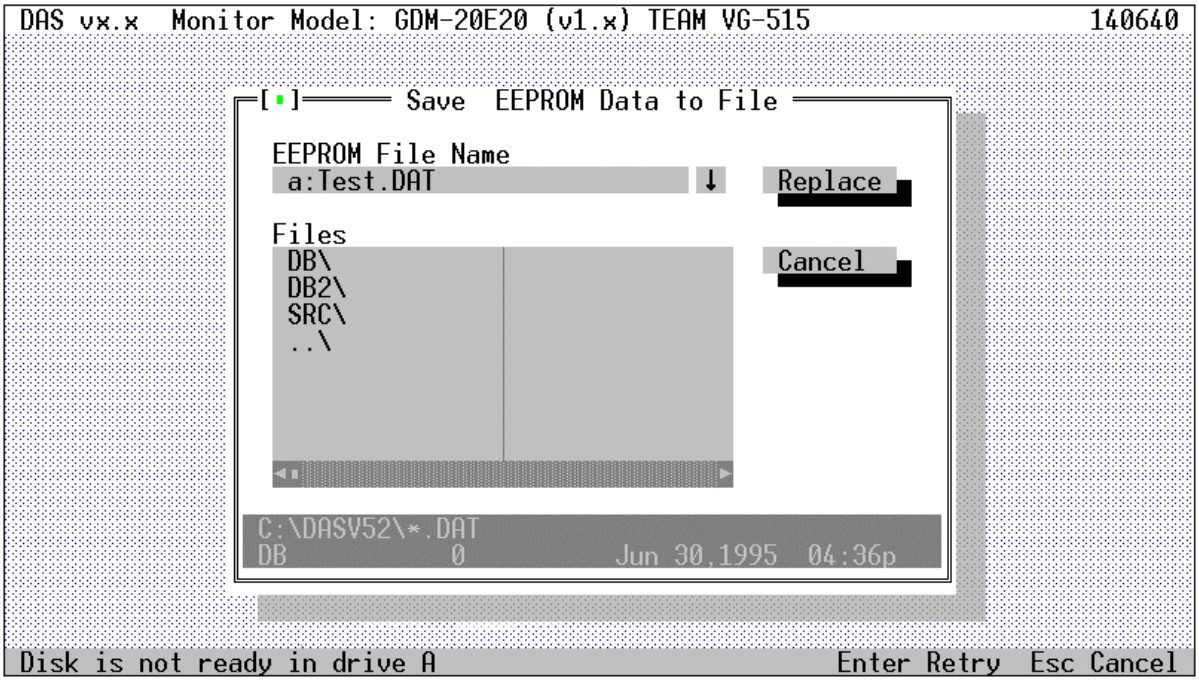
If the problem persists, copy down the error message and contact technical support.

4.4 Error Type 4

When you are using a diskette for reading or writing EEPROM files, if there is no diskette in the drive, you will see this screen (Screen 6).

Press the **Enter** key to retry the operation after inserting the diskette in the drive. Press the **Esc** key to cancel the operation. You may want to cancel the operation if, for example, you tried to access disk drive A: when, in fact, you wanted to access disk drive B:.

If this error repeats when you believe it should not, you may have a hardware problem.



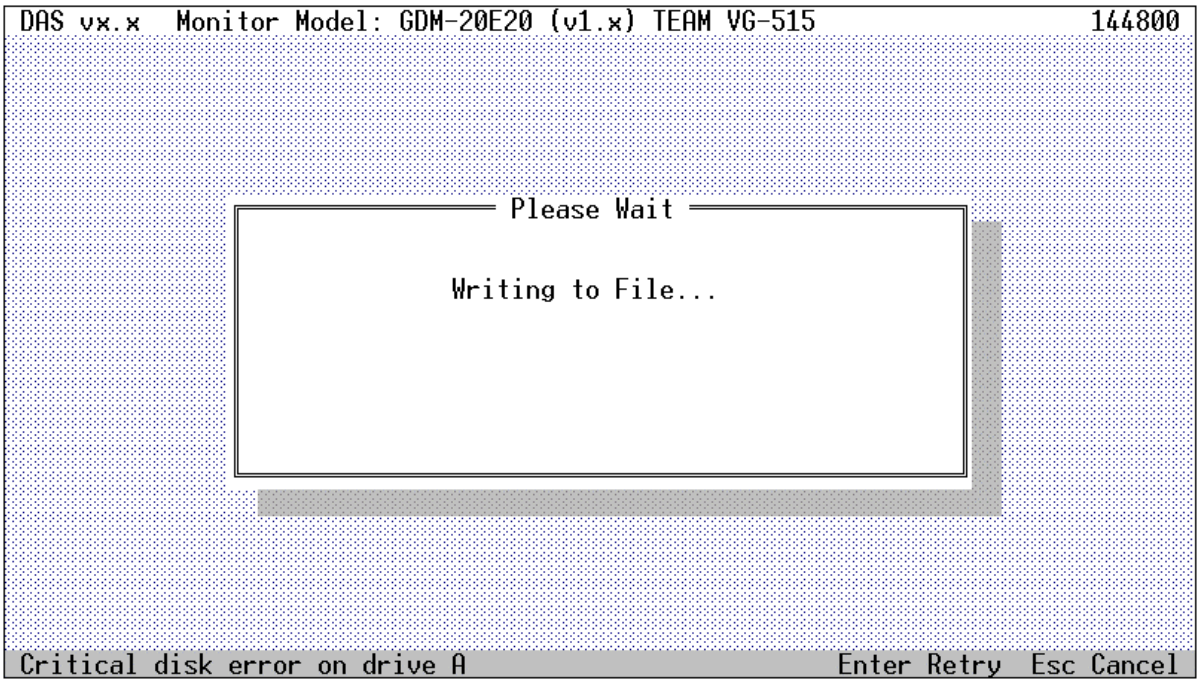
Screen 6: Disk Not Ready Error

4.5 Error Type 5

When you are using a diskette for writing EEPROM files, if the diskette in the drive is write protected, you will see this screen (Screen 7).

Press the **Enter** key to retry the operation after removing the write protect tab from the diskette. Press the **Esc** key to cancel the operation. You may want to cancel the operation if, for example, you had the wrong diskette in the drive.

If this error repeats when you believe it should not, you may have a hardware problem.



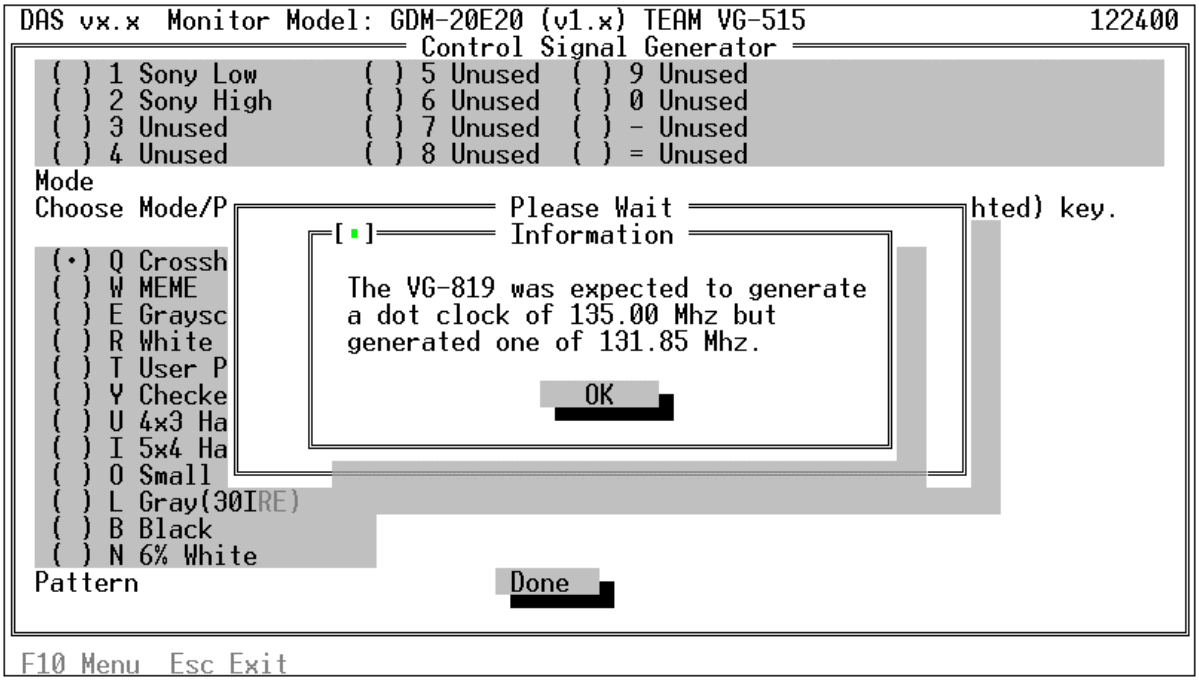
Screen 7: Critical Disk Error

4.6 Warning Type 1

Each time the monitor switches modes, the DAS program reads the horizontal frequency register and checks its value. The program does this to be sure that the signal generator has been setup correctly. The accuracy of the frequency measurement in the monitor may cause a warning message to popup on the screen (Screen 5) at this point. The accuracy, according to the monitor specification, is plus/minus 5 microseconds of 255 horizontal periods. The monitor itself has a resolution of plus/minus 100 Hertz. The DAS program will warn you that the monitor has determined a different frequency than what was expected. It is a warning only. Press the **[*OK*]** button to have the program continue.
This check is performed in the Factory Presets screen of the DAS program.

4.7 Warning Type 2

If you are connected to a supported signal generator, the DAS program will automatically control the setting of the generator. Part of this process is to make sure that the signal generator is operating correctly. To do this, the DAS program will double check the generator after programming it for the selected mode. If the generator does not confirm that it is correctly set, you will see a warning screen (Screen 8). It is a warning only. Press the **[*OK*]** button to the have program continue.



Screen 8: Signal Generator Warning Message

5 Quick Starts

These quick start instructions are for users who are familiar with menu based user interfaces. If they don't make any sense to you or you can't figure out what is going on, skip this and continue with Section 6.

- Connect the RS-232 interface cable between the COM2 port on your PC and the round connector on the rear of the monitor.

- Insert the Distribution Diskette into drive A.

- At the DOS prompt, type a: and press the **Enter** key.

- At the DOS prompt, type **install** and follow the installation instructions. You can install the DAS program onto a hard disk. It will not run from the Distribution Diskette and you cannot install it onto another diskette.

- At the DOS prompt, type **das** and press the **Enter** key.

- Press **F10** to activate the menu bar and use the arrow keys and the **Enter** key, select the Setup menu.

- From the Setup menu, select a monitor.

- From the Setup menu, select a signal generator.

- Activate the menu bar and from the Adjustments menu, select Step-by-Steps.

- Activate the menu bar and from the Exit menu, select Exit to return to the DOS prompt.

Now, please, read the rest of this manual.

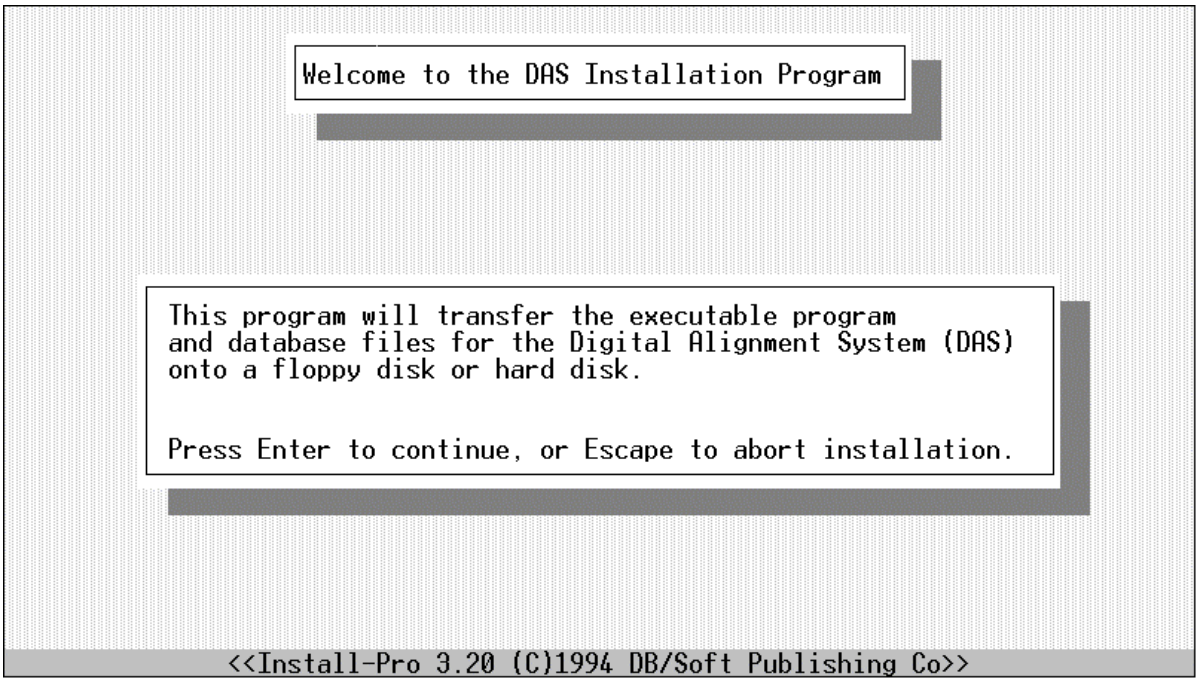
6 Installing the software

This section tells you how to install the DAS software on a hard disk. You must install DAS onto your hard disk. DAS will not run directly from the distribution diskette. It cannot be installed on another diskette.

6.1 Installation Procedure

Insert the distribution diskette into either your A or B drive. At the DOS prompt, type either **a:\install** or **b:\install** depending on which diskette drive you are using.

When the install program starts to run, it will show an introductory screen (Screen 9). Press the **Enter** key continue the installation.

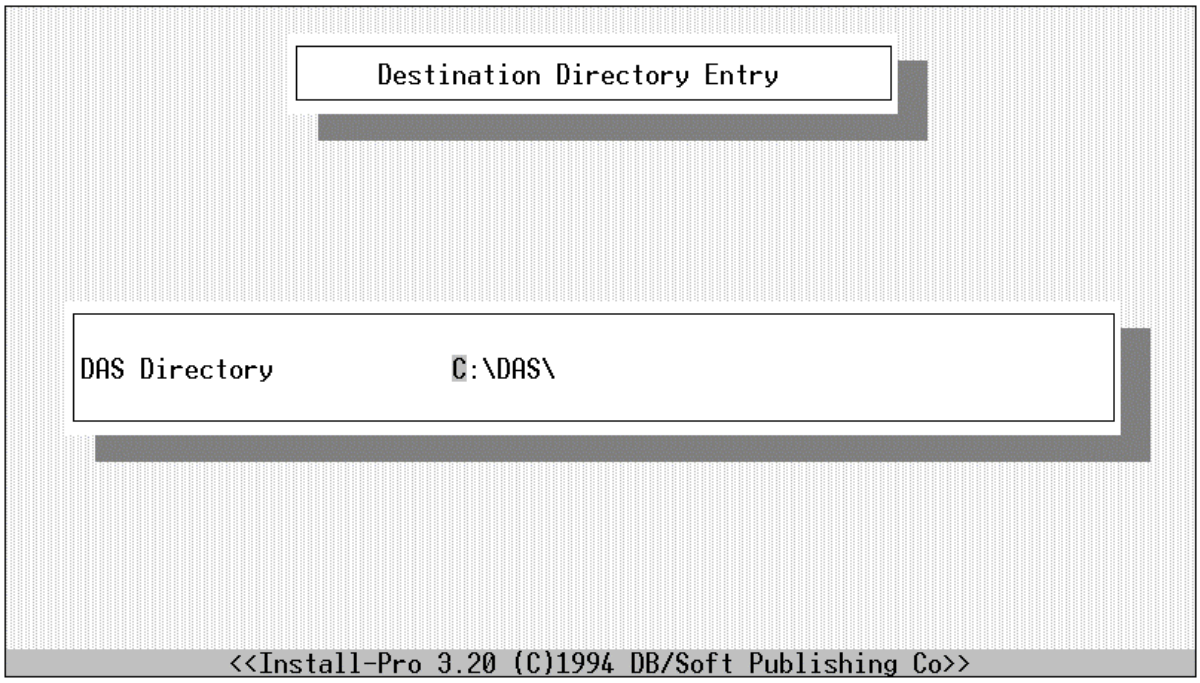


Screen 9: First Install Screen

CAUTION :

To guarantee that DAS vJx.x will run stable on your PC system, free conventional DOS memory of 580K is required !
(You can achieve this by using the DOS 'memmaker' command)

Then a screen (Screen 10) will appear which will show in which directory on which disk drive the program will be installed in. Both the drive letter and the directory can be changed.

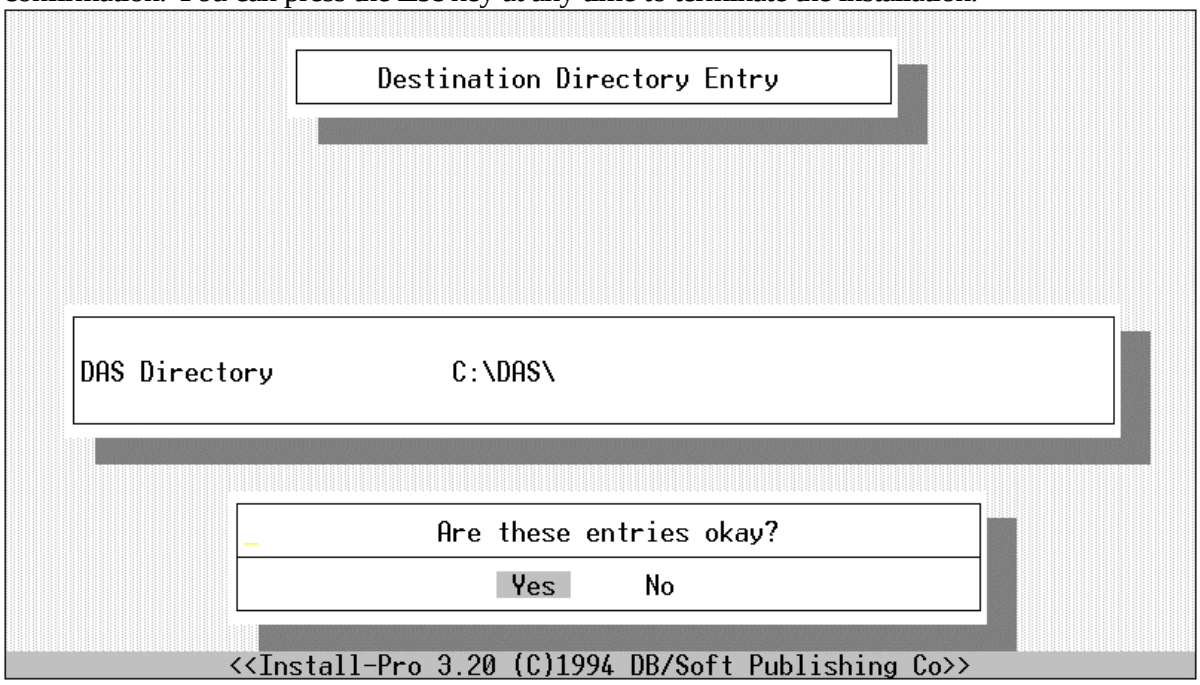


Screen 10: Second Installation Screen

The drive will default to the first hard disk on your machine, usually C:. If this is acceptable, just press the **Enter** key to confirm the drive. To change the disk drive letter, just type in the new drive letter when the field is highlighted and press the **Enter** key.

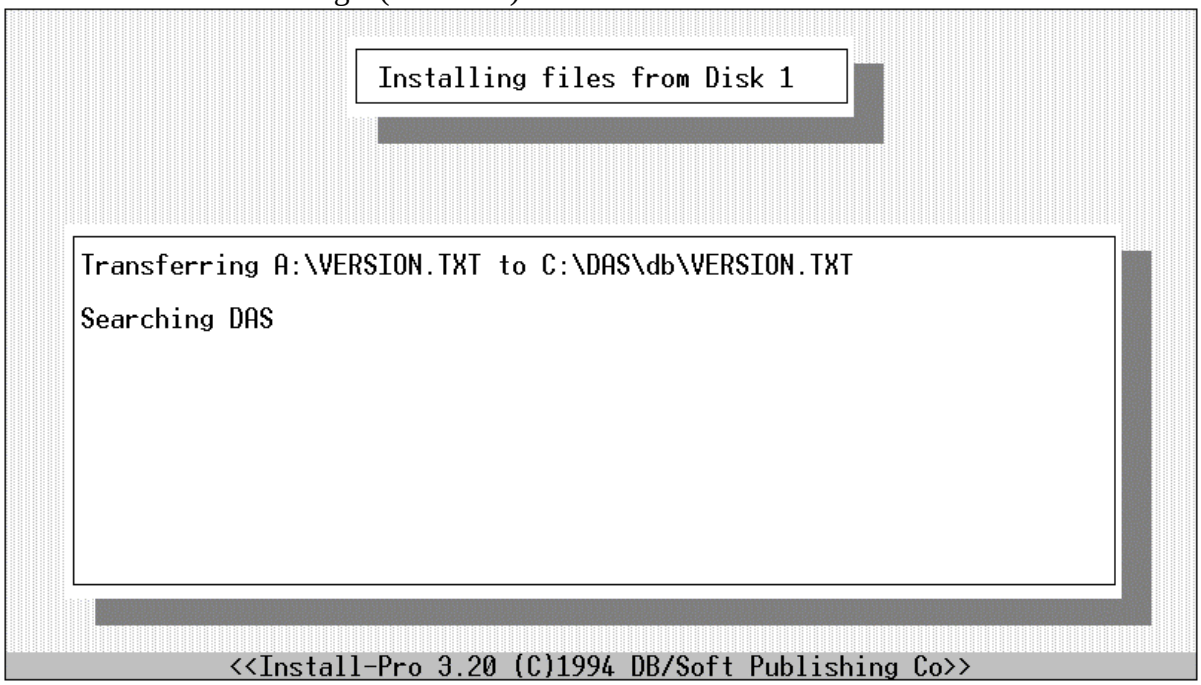
The directory will default to DAS. You should not change this unless you already have a DAS directory used by some other application. If this is acceptable, just press the **Enter** key to confirm the directory. To change the directory, just type in the new directory name when the field is highlighted and press the **Enter** key.

When the final confirmation screen (Screen 11) appears, press the **Enter** key one more time as final confirmation. You can press the **Esc** key at any time to terminate the installation.



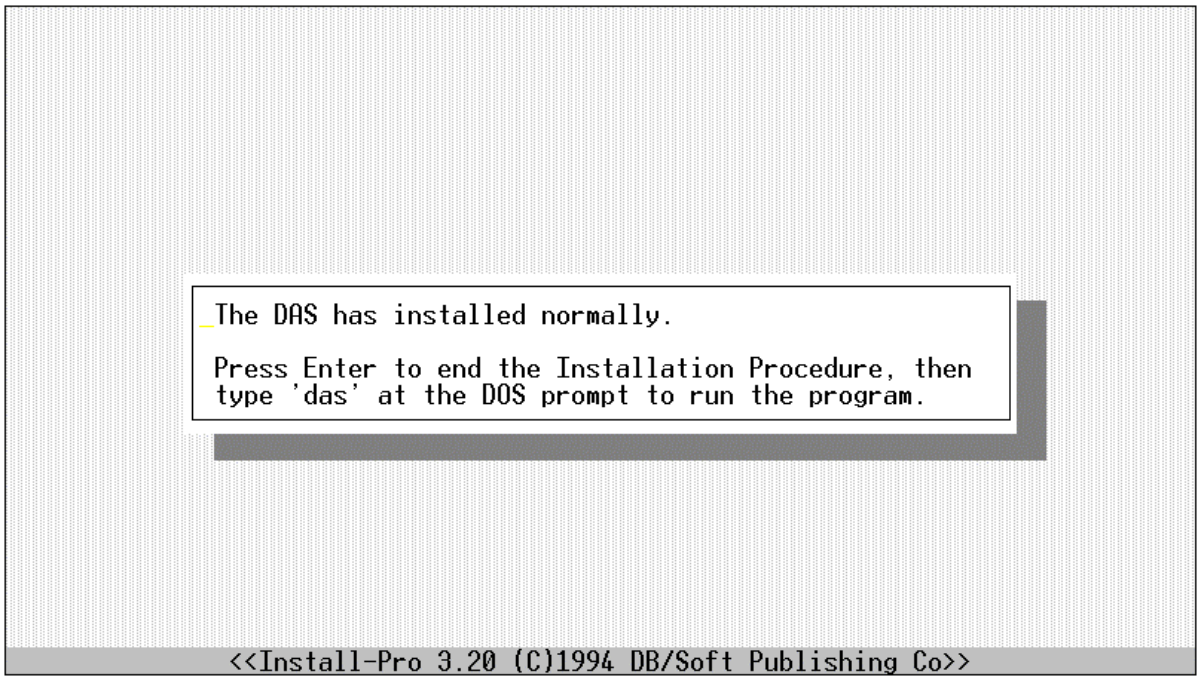
Screen 11: Installation Confirmation Screen

Now the installation will begin (Screen 12). You will see each file name as it is transferred to the disk.



Screen 12: Installation in Progress

When the installation is complete, the final screen (Screen 13) will be displayed. Press the **Enter** key to return to DOS.



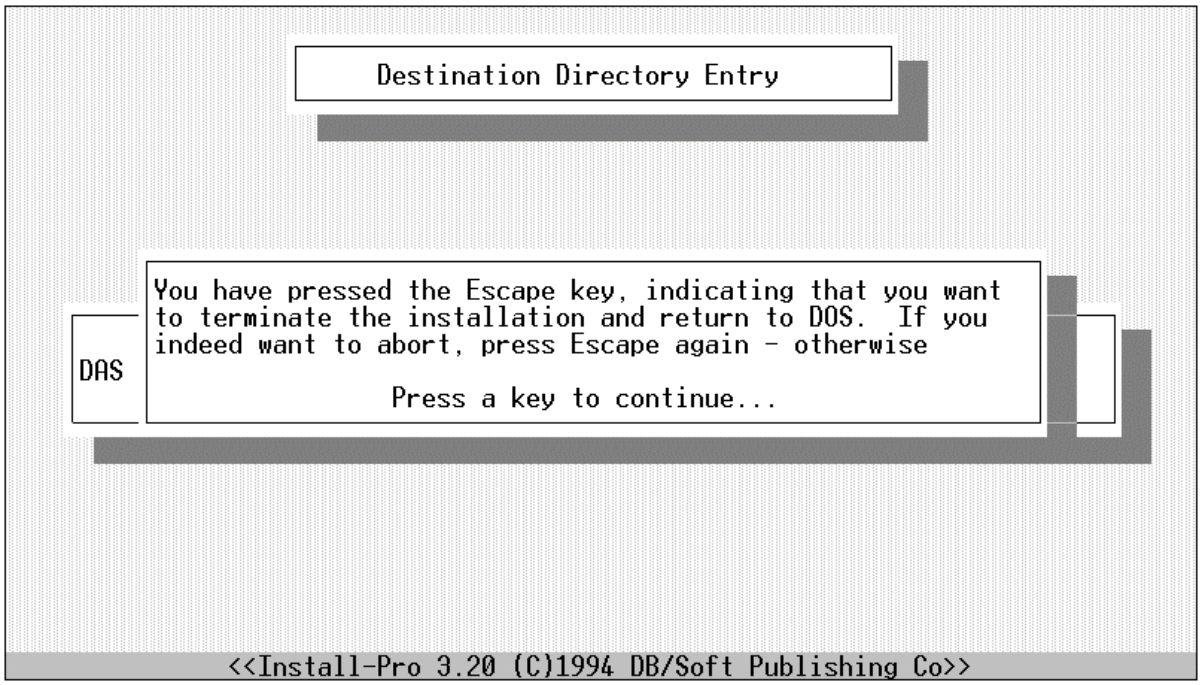
Screen 13: Installation Complete Screen

6.2 Installation Errors

There are four predomination error messages that you might see during installation.

6.2.1 Canceled by User

When you press **Esc** to cancel the installation (Screen 14). Press **Esc** again to confirm that you really want to cancel the installation. If you press any other key, the installation will continue.



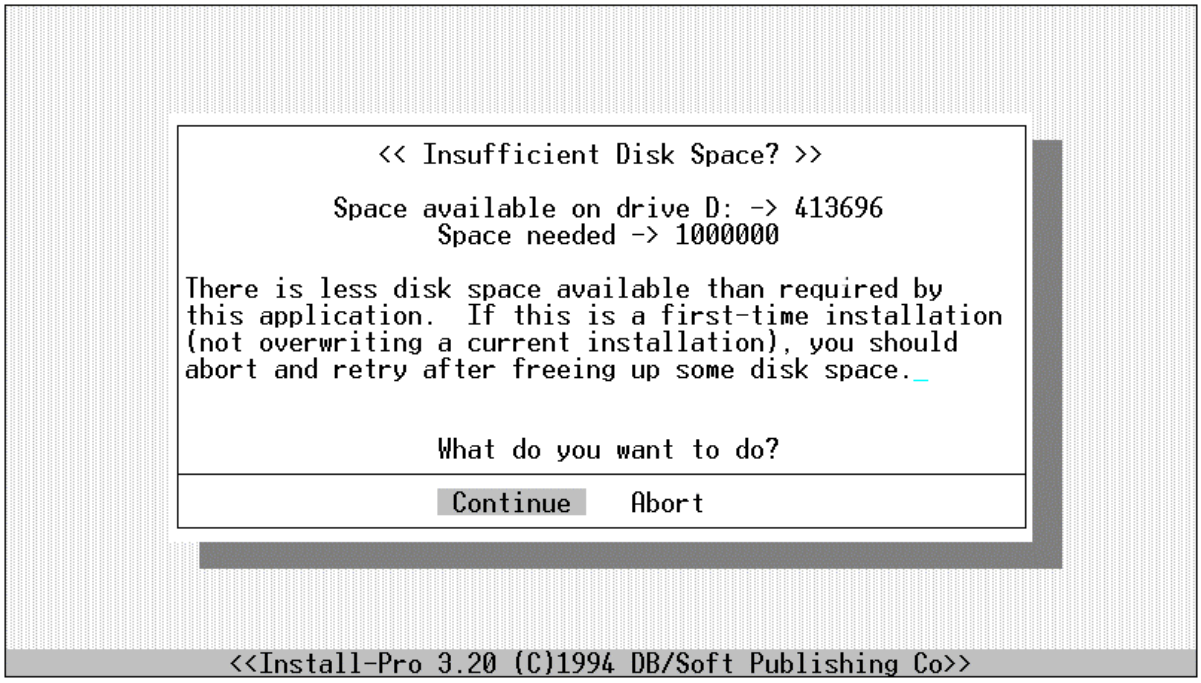
Screen 14: Installation Canceled by User

6.2.2 Insufficient Disk Space

If there is not enough disk space on your disk to hold the files, you will see an error message (Screen 15). The DAS system requires 1 megabyte of free space to install.

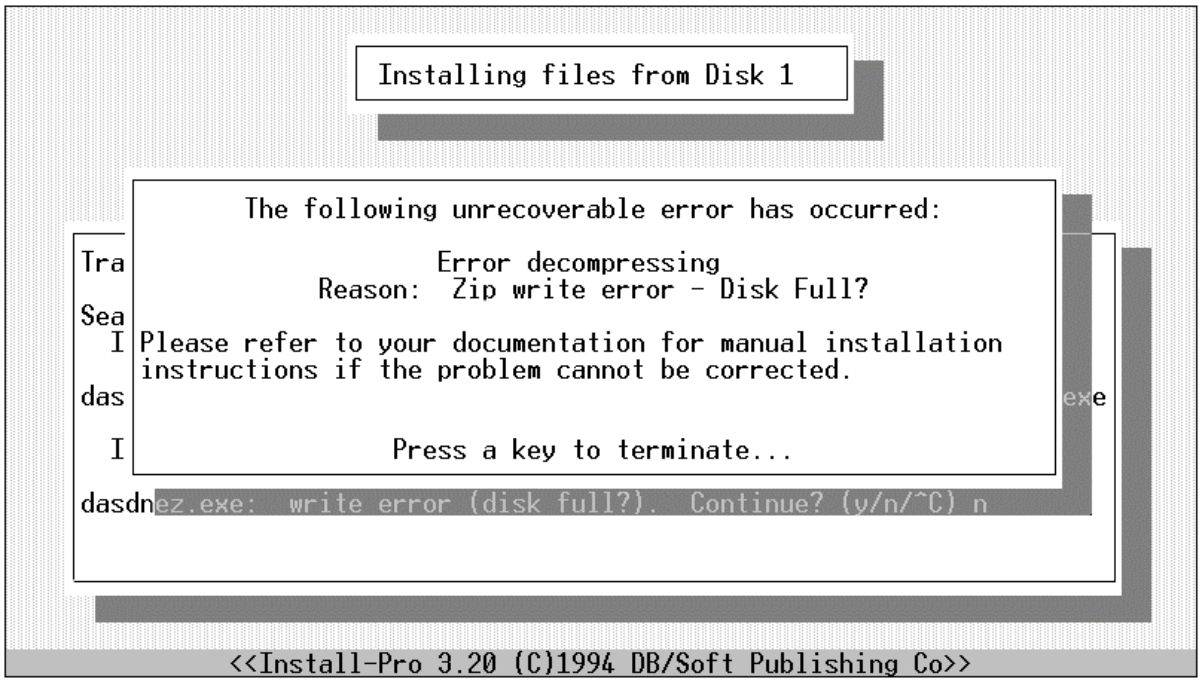
If you are installing DAS on a disk that already has DAS installed, you will still get this error message. But since the reinstalled DAS will write over the old version, no real additional disk space is needed. Select CONTINUE in this case.

If this is a new installation and you see this message, you really don't have enough space. Select ABORT in this case. You should retry the installation after freeing up at least 1Mb of disk space.



Screen 15: Insufficient Disk Space?

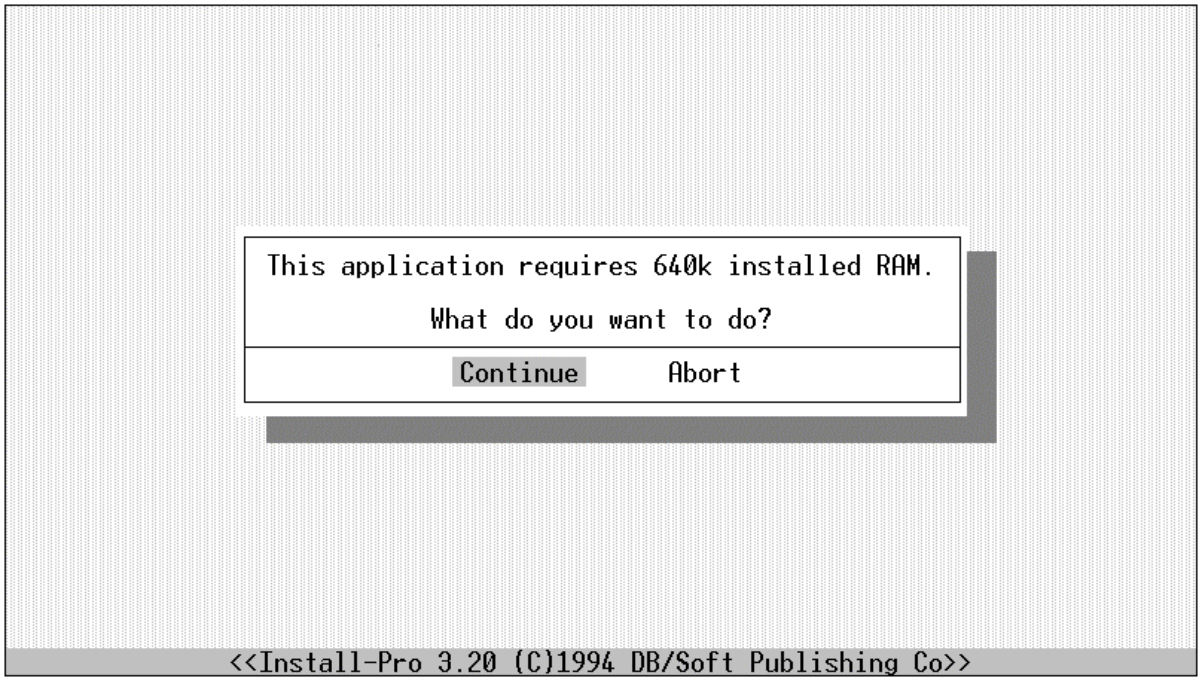
If you selected to continue installation and during the install you run out of disk space, a message (Screen 16) will be displayed. Once this occurs, installation cannot be continued. Pressing any key cancels the install. You will have to free up more disk space and then try the installation again.



Screen 16: Target Disk Full

6.2.3 Insufficient RAM

DAS requires 640K of RAM in order to run. This screen (Screen 17) warns you that you don't have enough installed RAM. This will not affect the installation so you may wish continued with the install. However, you may not be able to run the DAS program once the installation is complete.

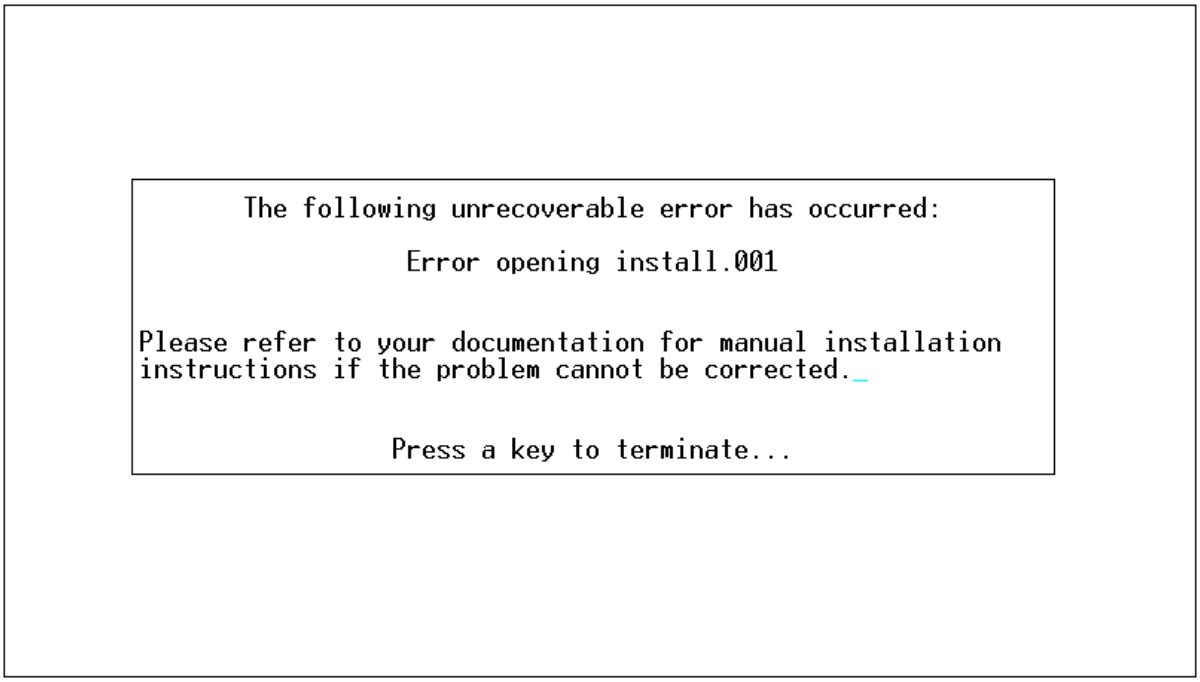


Screen 17: Insufficient RAM?

If you see this screen, you should probably select **[*ABORT*]** to terminate the installation. Install enough additional memory to reach the 640K required and then repeat the installation procedure.

6.2.4 Unrecoverable Errors

Other problems fall into the category of unrecoverable errors (Screen 18). In this case, usually the diskette has been corrupted in one way or another. Contact technical support.



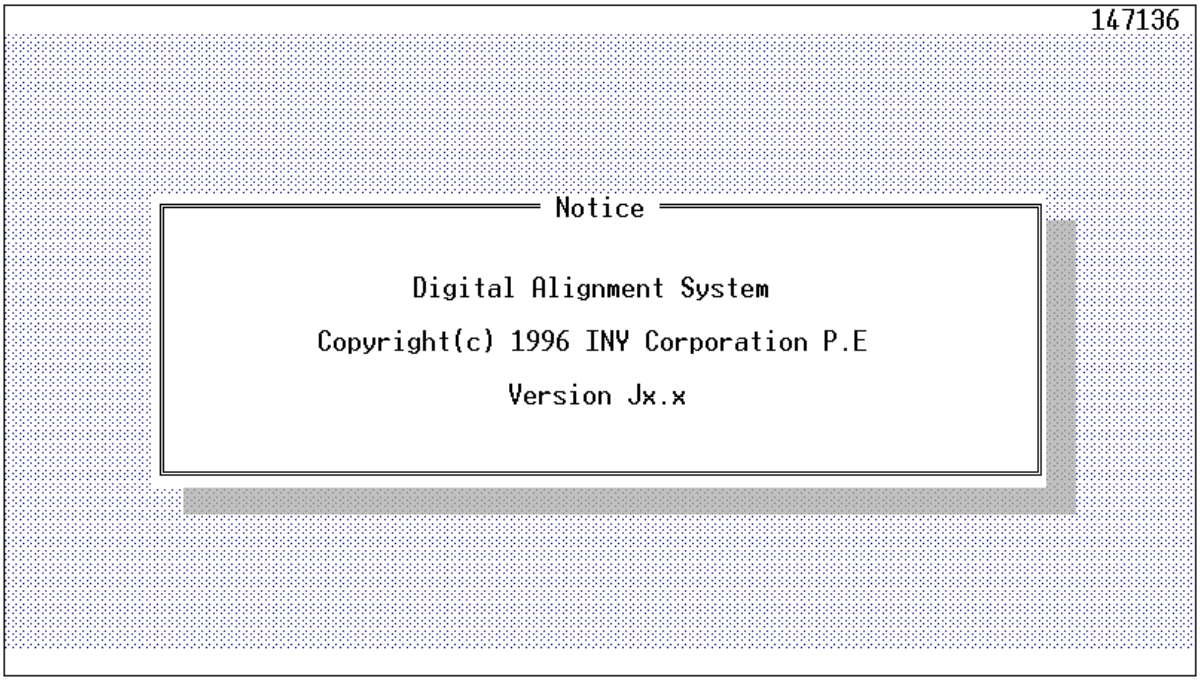
Screen 18: Unrecoverable Error

7 Starting the Program

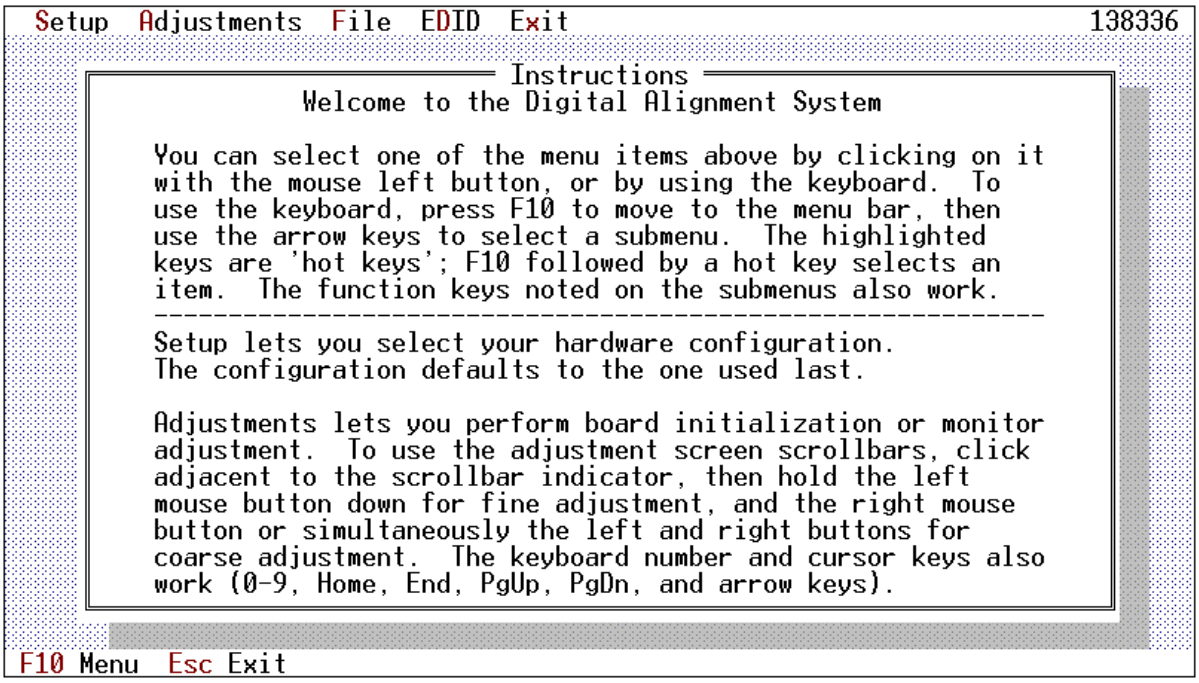
Change to the directory into which you installed the software in section 6. Unless you changed it, this would be the c: DAS directory.

Type **c:** at the DOS prompt.
Type **cd DAS** at the DOS prompt.
Type **das** at the DOS prompt to start the program.

The Introduction and Copyright screen (Screen 19) will display for a few seconds. The "Version x.x" shown on the screen in this manual will be replaced by the actual version number of the software that you have. After that, the main screen (Screen 20) will display. The center of the main screen contains help information to remind you what you can do from here.



Screen 19: Introduction and Copyright Screen



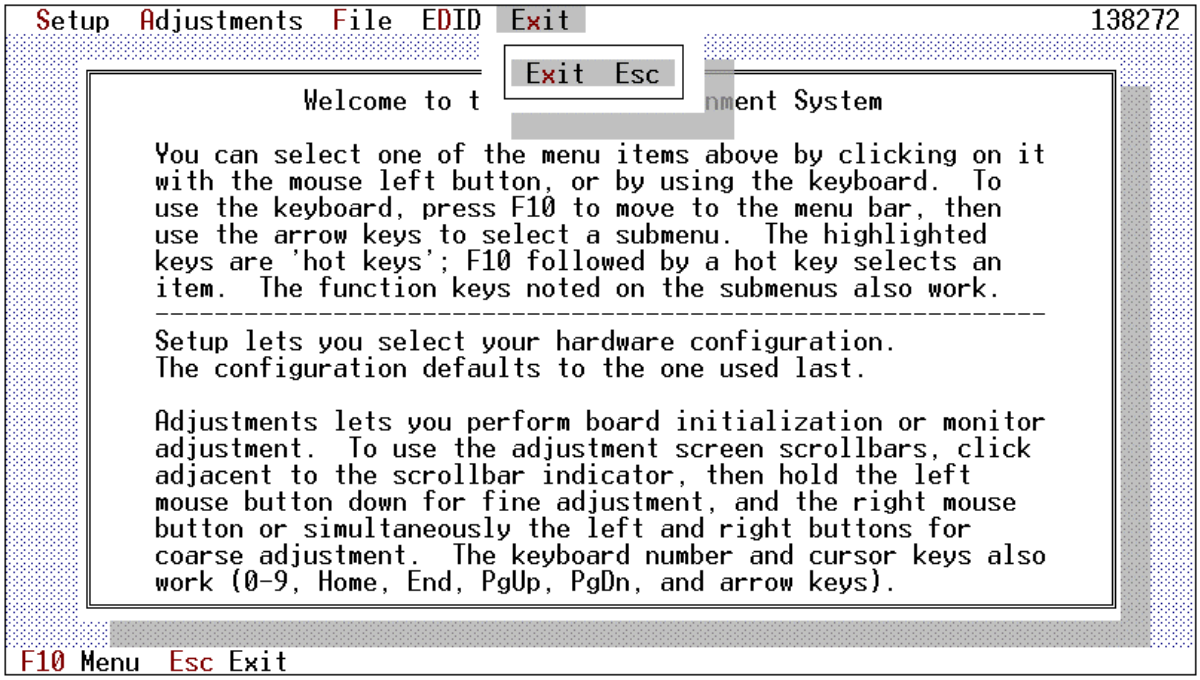
Screen 20: DAS Main Screen

8 Stopping the Program

After learning how to start the program, the next most important thing to learn is how to stop the program.

To stop the DAS program, press the **Esc** key until you return to the DOS prompt. In general, the **Esc** key will always exit from a screen and return you to the previous screen.

Alternately, you can select the Exit pulldown menu (Screen 21) and then select the Exit menu item.



Screen 21: Exit Menu

9 How to use the Keyboard

In general, you can use the **Tab** key move the selection highlight from one item on the screen to another. You can tell when an item is highlighted because the words associated with the item turn white.

9.1 Normal Keys

Esc	Exit from the current screen.
Tab	Move the next item in a list.
Enter	Select the item that is currently highlighted.
F10	Activates the menu bar at the top of the screen if this screen has a menu bar. You **MUST** press this key before a pull down menu can be selected.
DownArrow	If a menu is displayed, move to the next item in the menu. If an adjustment scroll bar was moved to with the **Tab** key, move the adjustment down 1.
UpArrow	If a menu is displayed, move the previous item in the menu If an adjustment scroll bar was moved to with the **Tab** key, move the adjustment up 1.
LeftArrow	If a menu is displayed, close this menu and pull down the next menu.
RightArrow	If a menu is displayed, close this menu and pull down the previous menu.
PgUp	If an adjustment scroll bar was moved to with the **Tab** key, move the adjustment up approximately 20.
PgDn	If an adjustment scroll bar was moved to with the **Tab** key, move the adjustment down approximately 20.
Home	If an adjustment scroll bar was moved to with the **Tab** key, move the adjustment to the top of its range.
End	If an adjustment scroll bar was moved to with the **Tab** key, move the adjustment to the bottom of its range.

Menus

Pull down a menu by pressing the **Tab** key until the menu name is highlighted and then press the **Enter** key. To select an item from the menu, use the **UpArrow** and **DownArrow** keys to highlight the menu entry and then press the **Enter** key.

Buttons

Buttons will appear on the screen as a word in a small box. In this document, we show them as **[*SAVE*]** - this would be called a save button. To press the save button, use the **Tab** key to highlight the word **[*SAVE*]** and then press the **Enter** key or use the mouse.

List Boxes

List boxes present lists of items that can be selected. The monitor selection, signal generator selection and step-by-step procedure selection use list boxes. If the list box holds more items than fit on a screen, a vertical list scroll bar will appear on the right side of the box. You can use the mouse to grab the thumbwheel and page through the list. You can also use the **PgUp/PgDn** keys. To select an item, move the highlighted cursor with the arrow keys and then press the **Enter** key to select that item.

Radio Buttons

Radio buttons appear on the screen as a pair of parenthesis **( )** next to an item. To select that item, use the **Tab** key until the item is highlighted and then press the **Enter** key. You will know that you have successfully selected the item when a small dot appears inside of the parenthesis **(•)**.

Scroll Bars

Adjustment scroll bars are adjusted by using the **Up/DownArrow** keys and **PgUp/PgDn** keys for course adjustments. To perform an adjustment, press the **Tab** key until the desired scroll bar is highlighted and then press the **Up/DownArrow** keys (to change the value by plus or minus 1) or the **PgUp/PgDn** keys (to change the value by approximately plus or minus 20).

You can also type a numeric value directly into the scroll bar. To do this, press the **Tab** key until the desired scroll bar is highlighted, then just press the number keys to enter the value - press the **Enter** key to load the value into the monitor. If you move to another scroll bar by pressing **Tab**, a Hot Key or by using the mouse, the value you typed will be discarded and the adjustment will return to its value before you typed in the number. In other word - you must press **Enter** for the typed in value to be written to the register.

Text Input Fields

Text input fields are always in overstrike mode.

To edit text input fields, use these keys:

Use **LeftArrow** and **RightArrow** keys to move to the character that you want to change. Characters typed will replace the characters on the screen.

Press the **Enter** key to accept the new characters.

Press the **Tab** key to move between fields. NOTE : pressing the **Tab** key without pressing

the **Enter** key will cause changes to be discarded.

Default Button

Highlighted key is white letters. Press the **Enter** key to activate.

9.2 Hot Keys

Hot keys are shown on the screen in Yellow on a color display and in high intensity on a monochrome display.

Hot keys are always active. You can select an item with a hot key by pressing the hot key any time it is displayed on the screen.

10 How to use the Mouse

If you have a mouse connected to your PC, it will make the DAS program even easier to use.

The mouse is used to select items from menus and to pull and tug on the adjustment scroll bars. The mouse pointer, which is shown as a small arrow on the screen, is moved about the screen by moving the mouse itself on the table or mouse pad.

The mouse itself may have two or three buttons. The left mouse button is used for almost all the mouse operations. The right button is used only with the adjustment scroll bars. The middle button is never used. When we refer mouse buttons, we usually won't use the word "mouse" but will just say the "left button".

When we say to "click" a mouse button, we mean to press it and then immediately release it.

Menus

Pull down a menu by pointing to it and clicking the left button. To select an item from the menu, point to it and click the left button. If the item is grayed, that means the selected monitor does not support that adjustment.

Buttons

Buttons will appear on the screen as a word in a small box. In this document, we show them as **[*SAVE*]** - this would be called a save button. To press the save button, point to it with the mouse pointer and click the left mouse button.

Radio Buttons

Radio buttons appear on the screen as a pair of parenthesis **( )** next to an item. To select that item, point to the radio button and click the left mouse button. You will know that you have successfully selected the item when a small dot appears inside of the parenthesis **(•).**

List Boxes

List boxes present lists of items that can be selected. The monitor selection, signal generator selection and step-by-step procedure selection use list boxes. If the list box holds more items than fit on a screen, a vertical list scroll bar will appear on the right side of the box. You can use the mouse to grab the thumbwheel and page through the list. To select an item, move the mouse pointer to the item you wish to select and then double click on the left mouse button to select that item.

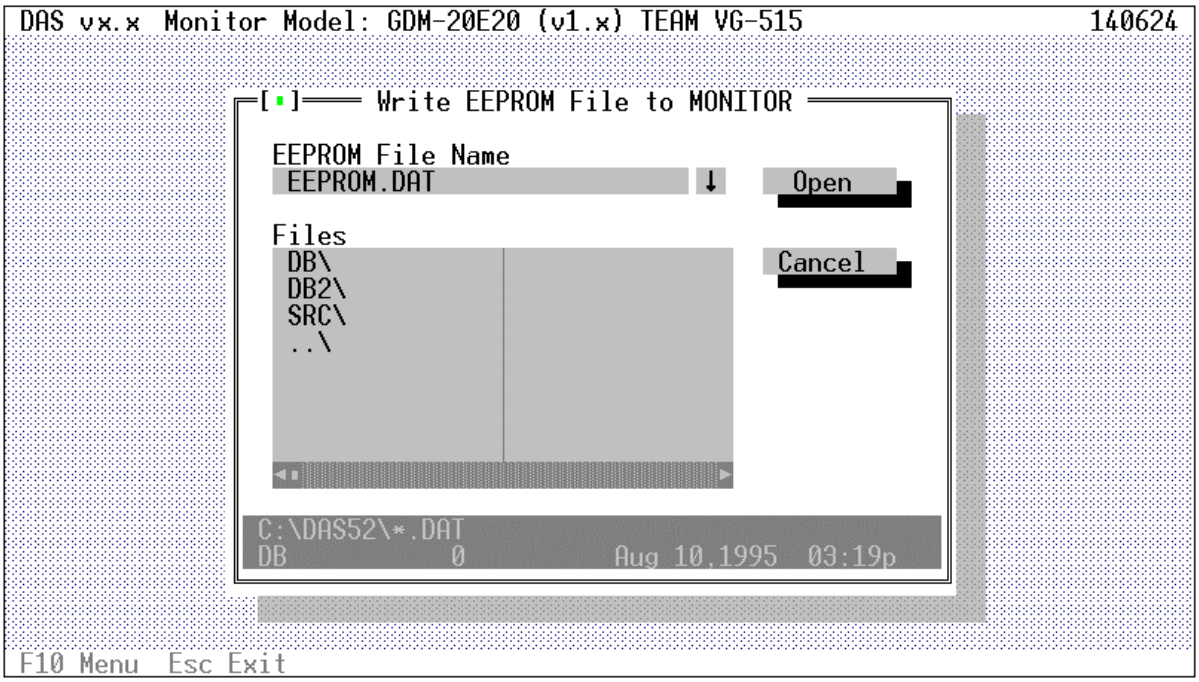
Scroll Bars

Adjustment scroll bars are adjusted by using the left button for fine adjustments and both the left and right buttons for course adjustments. To perform an adjustment, point to the scroll bar desired and press the left button. Then moving the mouse toward and away from you will cause the adjustment to change in steps of 1. While keeping the left button pressed, if you also press the right button, moving the mouse will cause the adjustment to change in steps of approximately 20.

You can also type a numeric value directly into the scroll bar. To do this, point to the scroll bar desired and press the left button. Then just press the number keys to enter the value - press the **Enter** key to load the value into the monitor.

11 How to Use the File Selection Dialog Box

In the File menu, you may be presented with a box that asks you to select a disk file name. Since these File Selection Dialog Boxes are universally used by many of the menu selection in the DAS program, this section will explain how they function.



Screen 22: File Selection Dialog Box

The box (Screen 22) contains the following fields:

File Name	A one line field to hold the selected filename.
Files List	A multiple line field that shows possible choices for the filename.
[*OPEN*] Button	Confirms the selected filename goes to the next DAS screen. Used for files that are to be read from the disk.
[*REPLACE*] Button	Confirms the selected filename and goes to the next DAS screen. Used for files that are to be written to the disk.
[*CANCEL*] Button	Cancels the filename name selected and goes back to the previous screen

At the bottom of the box, the current directory and the file information for the currently selected file are displayed.

11.1 Using the Mouse for Selection

You may manually type in a filename. To do this, click the mouse once in the filename field, type in a complete filename (which may include drive letter and directory path) and then press the **[*OPEN*]** or **[*REPLACE*]** button.

You may pick a filename from the Files List. To do this, click the mouse once on the file that you want, it will be moved to the FileName box, and then press the **[*OPEN*]** or **[*REPLACE*]** button. As a short cut, you can double click on the filename on the Files List and the filename will be immediately selected.

You may change the directory by double clicking on a directory name that appears in the Files List.

If more files and directories are available than fit on the Files List box, you can scroll the list right and left by pressing the arrows at the end of the horizontal scroll bar under the Files List box.

11.2 Using the Keyboard for Selection

You may manually type in a filename. To do this, press the **Tab** key until the FileName box is highlighted then type in a complete filename (which may include drive letter and directory path). Press the **Tab** key until either the **[*OPEN*]** or **[*REPLACE*]** button is highlighted then press the **Enter** key.

You may pick a filename from the Files List. To do this, press the **Tab** key until the File List box is highlighted. Use the **Up/DownArrow** keys to pick a file name. Press the **Enter** key to select the filename.

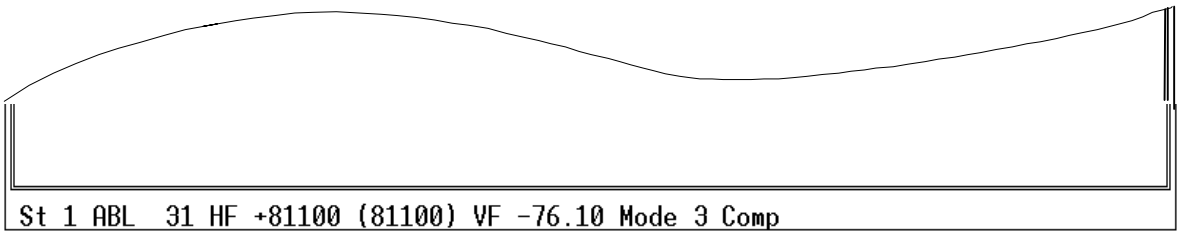
You may change the directory by pressing the **Enter** key after selecting the new directory with the **Up/DownArrow** keys.

If more files and directories are available than fit on the Files List box, you can scroll the list right and left by pressing the **Left/RightArrow** keys while the Files List box is highlighted.

12 Monitor and Program Status

12.1 Monitor Status Line

Whenever the DAS program is communicating with the monitor, it will display a monitor status line on the bottom line of the screen. The line will appear as follows:



Screen 23: Monitor Status Line

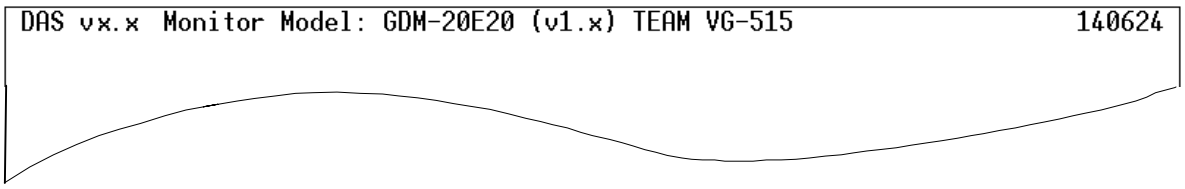
The meaning of each monitor status item is (X is replaced by the value):

St X	Monitor Status 0 : Power OFF 1 : Power ON 2 : Stand By 3 : Suspend 4 : Active OFF 5 : Safety Shutdown 6 : Aging 7 : System Change
ABL XX	ABL A/D converter input Data range 0-255 (0-5 volt input converted by the Microprocessor Control Unit (MCU)
HF +XXXXX	H-sync Frequency H Polarity + = High Positive - = Low Negative
(XXXXX)	H-flyback Frequency
VF +XX.XX	V-sync Frequency V- Polarity + = High Positive - = Low Negative

Mode X	Mode Table Index Pointer to used entry in the Mode Table. Range is 0-19. An index set to 255 means no entry in the table is currently used.
Comp	The monitor's sync input as determined by the monitor. Green Sync on Green Ext External Sync Comp External Composite

12.2 Program Status

The DAS displays program information on the top line whenever an adjustment screen is being displayed. The line will appear as follows:



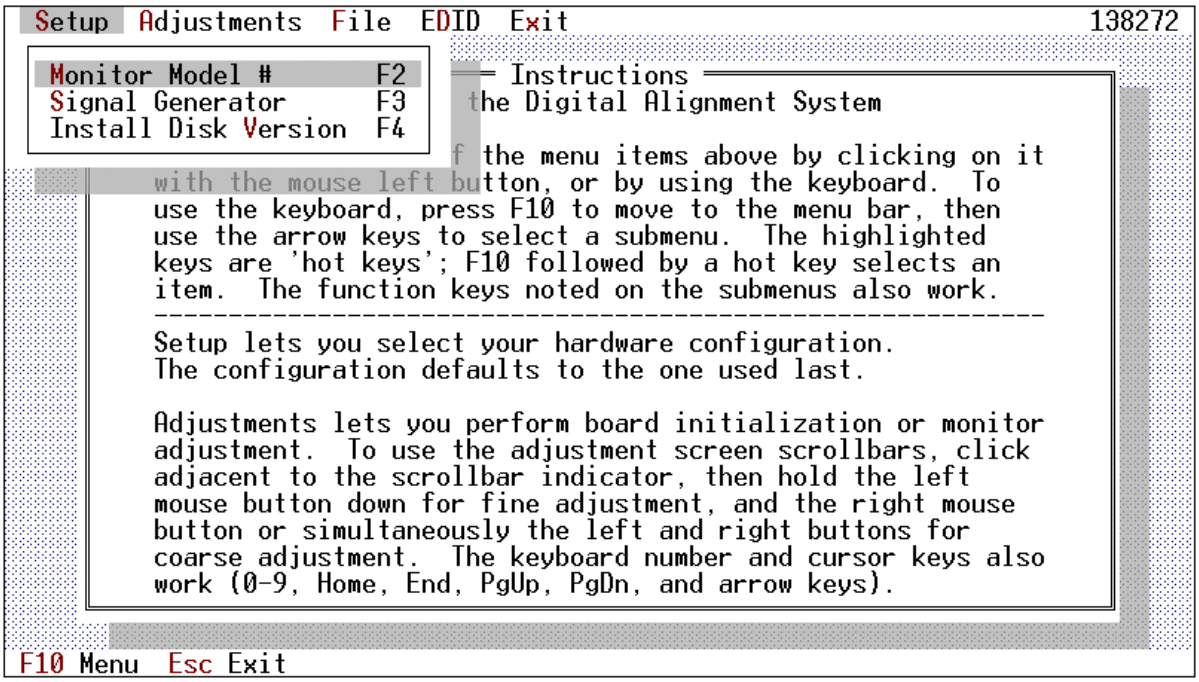
Screen 24: Program Status

The meaning of each program status item is:

DAS v x.x	The version of the DAS program.
Monitor Model: XXXXX	The monitor model selected
(vX.X)	The firmware version of the monitor model as selected from the Monitor Selection screen.
TEAM VG-515	The signal generated selected
XXXXXX	(number on the right) The amount of remaining memory available to the DAS program. If this number approaches zero, the DAS program may fail. You must have 640K of memory in your computer to run DAS.

13 Setup Menu

Select the Setup menu. The Setup pulldown menu will display (Screen 25). The Setup Menu is used to choose the model of the monitor you will be adjusting and to choose the signal generator you will be using. It is also used to display version information about the DAS.

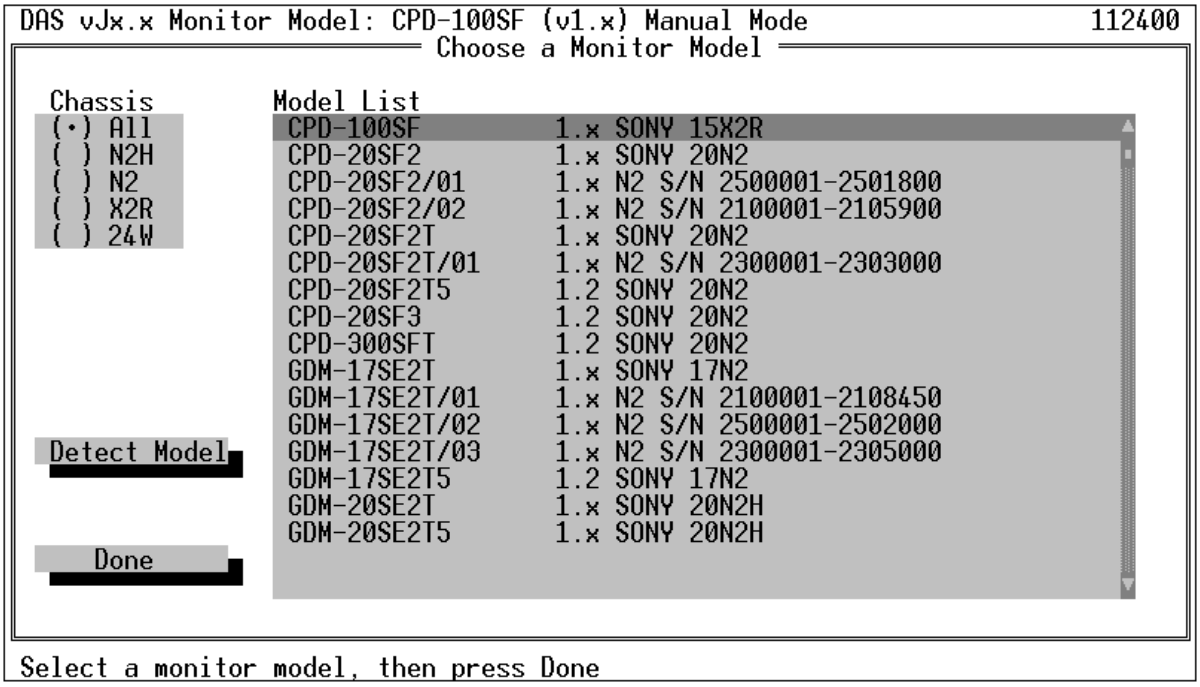


Screen 25: Setup Pulldown Menu

13.1 Choosing a Monitor Model

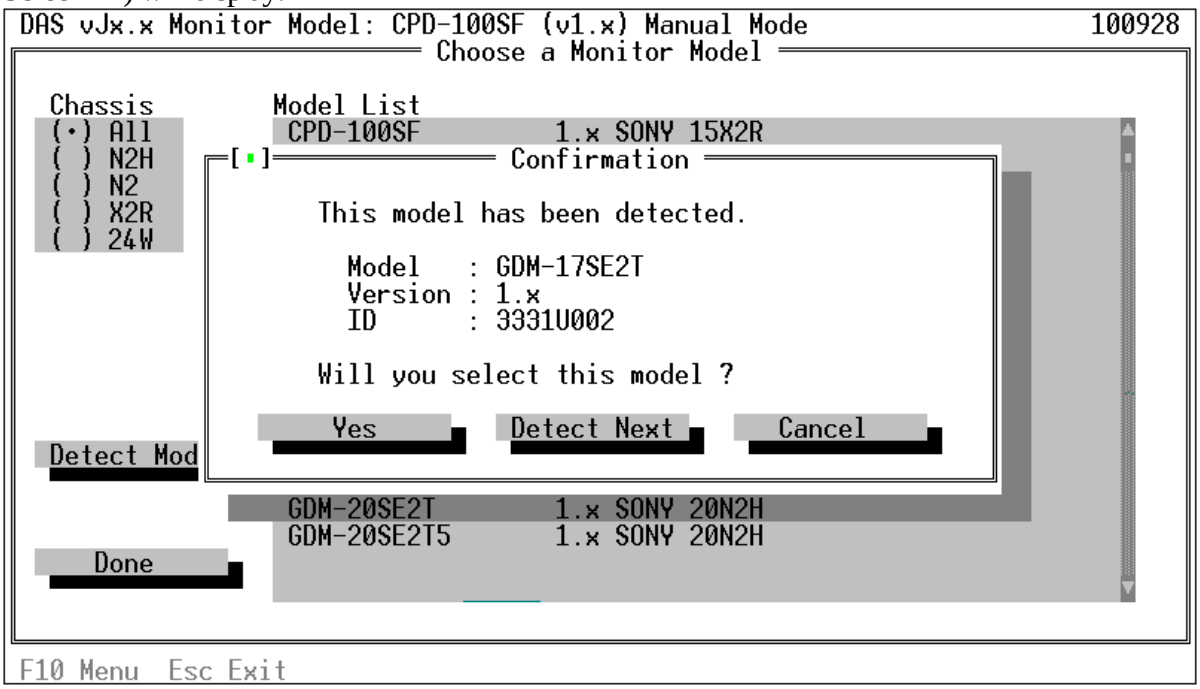
Select Monitor Model. The select monitor screen (Screen 26) will display.

Choose a monitor by clicking on the monitor you want. You can scroll the list up or down by moving the scroll knob. Then press the **[*DONE*]** button to return to the main screen (Screen 20). The monitor screen shows the model number and the firmware version. The same model may be listed with several firmware version numbers. Make sure you pick the correct entry for your monitor.
Usually the model list displays models of all chassis in the database. But if you choose a chassis by pressing the radio button **(•)** for the chassis you want, then the model list will display models of chassis you want.



Screen 26: Select Monitor Screen

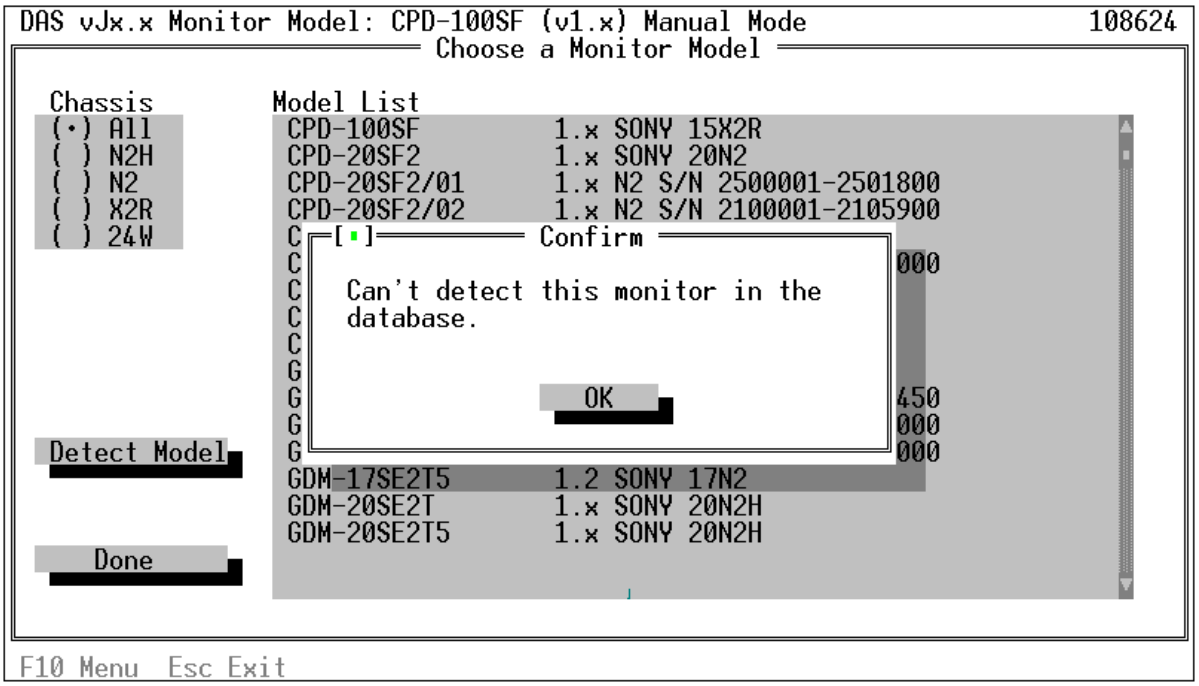
If you press the **[*Detect Model*]** button, then the DAS program reads a model information from the monitor which now connected to DAS and tries to detect the monitor model from database by using that model information. If the target model is detected then following screen (
Screen 27) will display.



Screen 27: Detect Monitor Model

If the monitor model displayed this screen (
Screen 27) is correct, then press **[*YES*]** button to choose the monitor model. But the monitor is not correct, you can detect next monitor model by pressing **[*Detect Next*]** button.

If the DAS program can't detect the target model, following screen (Screen 28) will display.

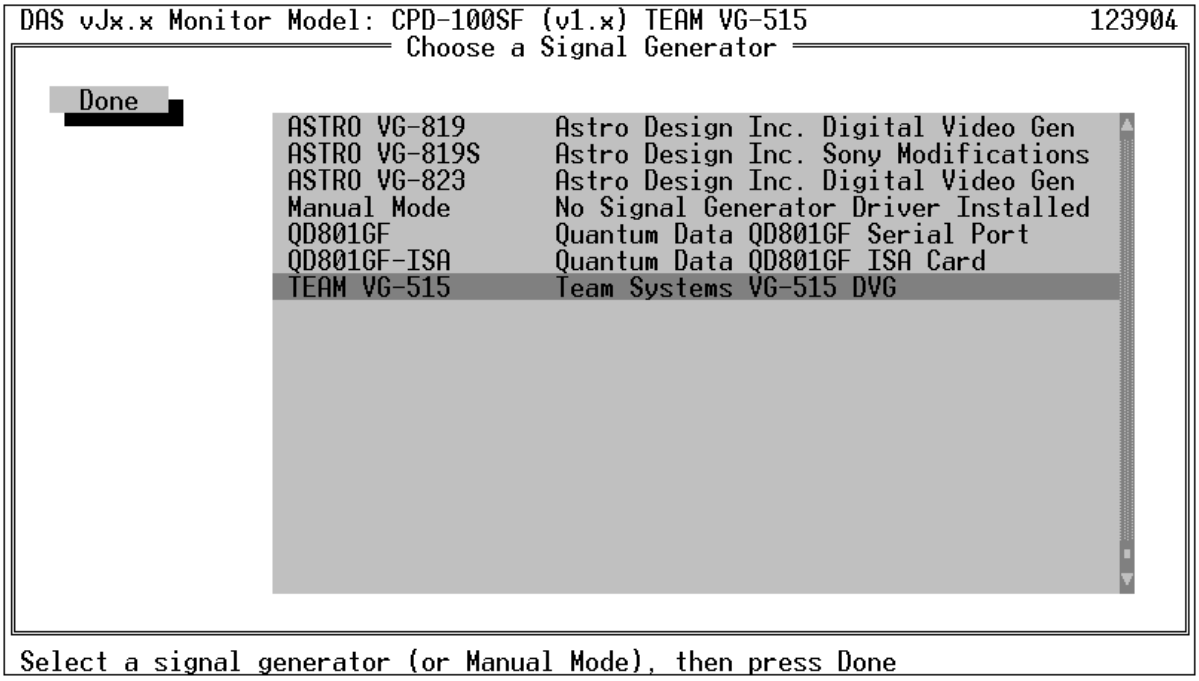


Screen 28: Can't Detect the Monitor

13.2 Choosing a Signal Generator Model

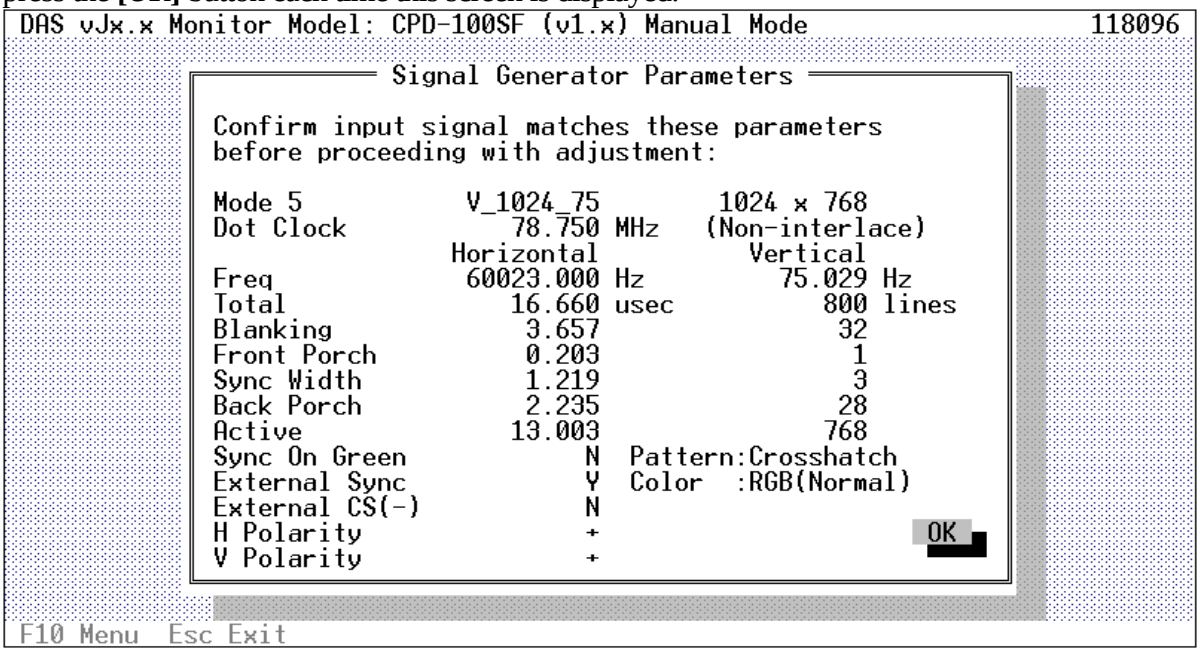
Select the Setup menu. The Setup pulldown menu will display (Screen 25). Select Monitor Model. The select signal generator screen (Screen 29) will display.

Choose a signal generator by clicking on the one you want. You can scroll the list up or down by moving the scroll knob. Then press the **[*DONE*]** button to return to the main screen (Screen 20).



Screen 29: Select Signal Generator Screen

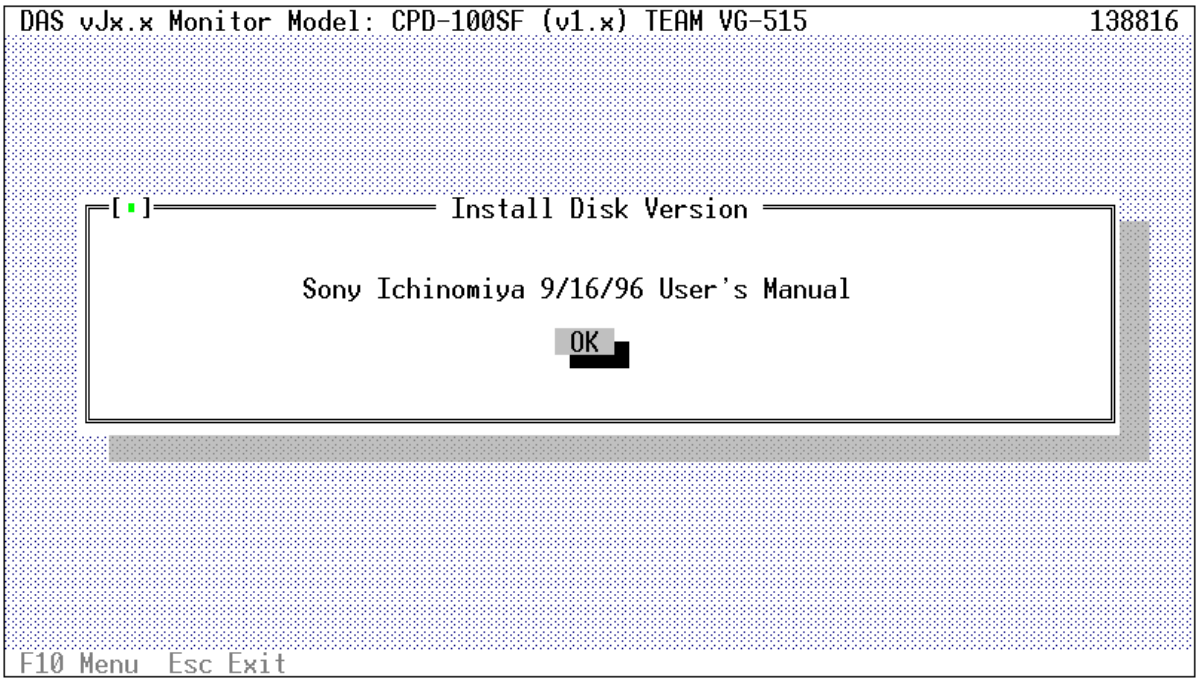
If you select **(•) Manual Mode**, each time the DAS needs the signal generator set to a particular frequency, it will display a prompt screen showing all the mode parameters. This screen (Screen 30) will display all of the timing information for the mode. You should set up your signal generator and then press the **[*OK*]** button each time this screen is displayed.



Screen 30: Manual Generator Setup

13.3 Displaying Version Information

Select the Setup menu. The Setup pulldown menu will display (Screen 25). Select Install Disk Version. The Version Information screen (Screen 31) will display. This screen shows the Customer, date and comment information about the version of DAS that you are running. This information is also displayed on the Maintenance screen.

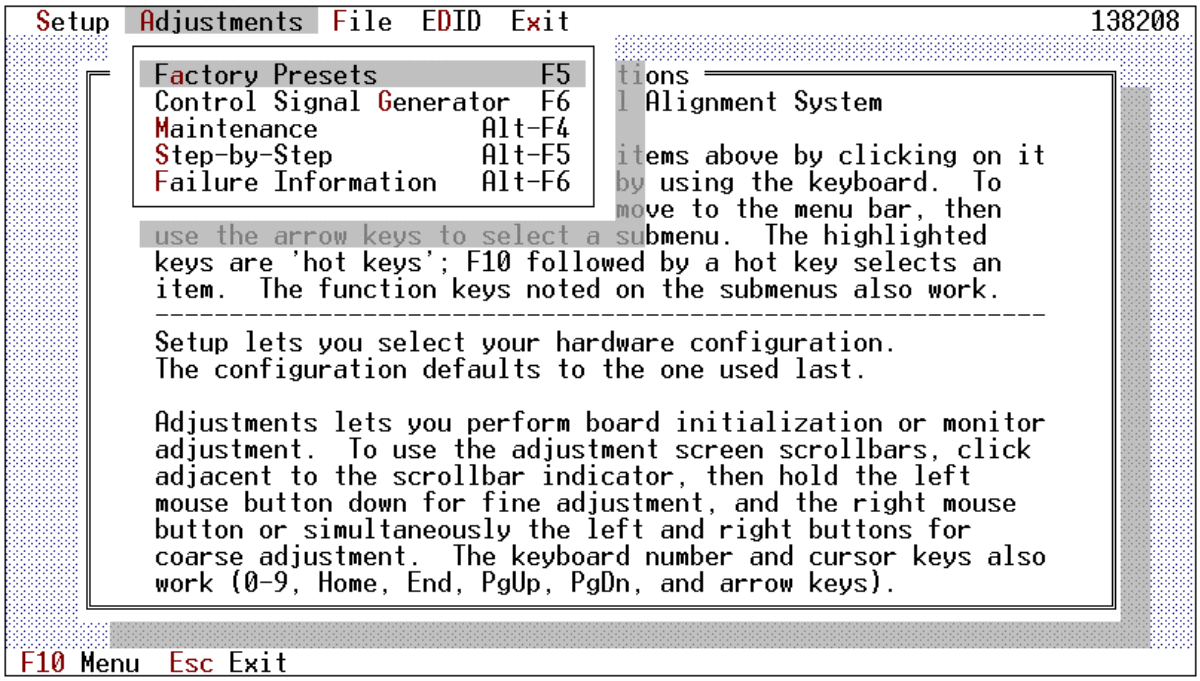


Screen 31: Install Disk Version

14 Adjustments Menu

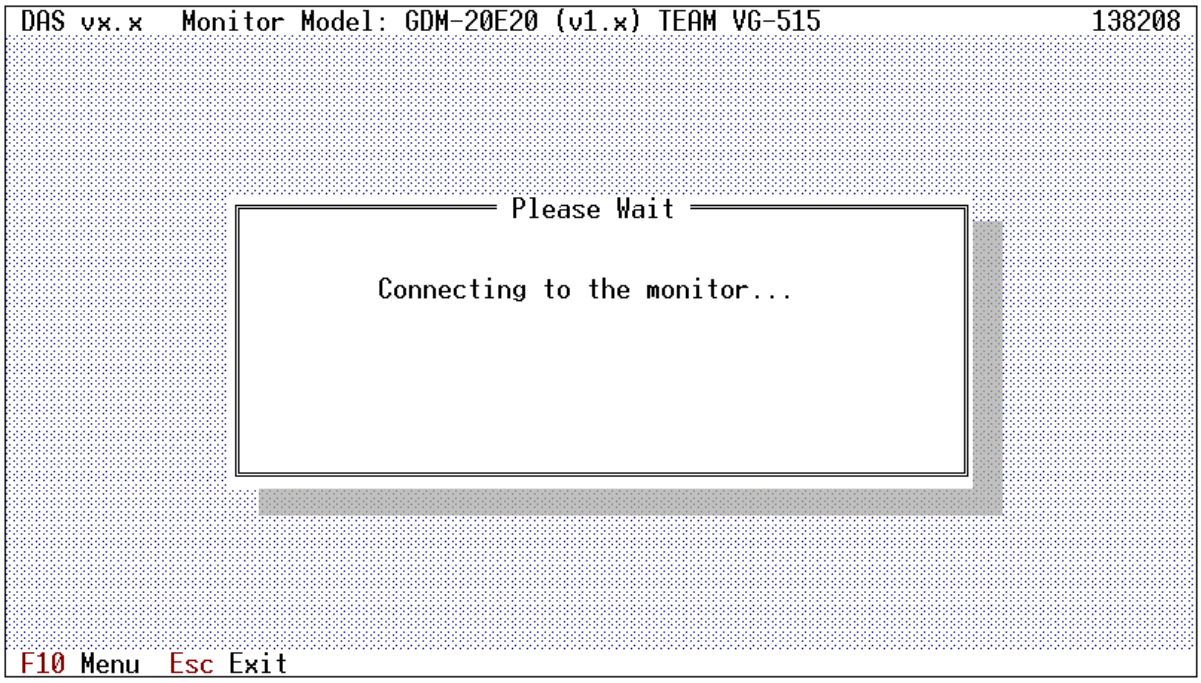
Select the Adjustment menu. The Adjustment pulldown menu will display (Screen 32).

You can select one of the non-grayed items from the menu (if the item is grayed, that means the selected monitor does not support that adjustment).



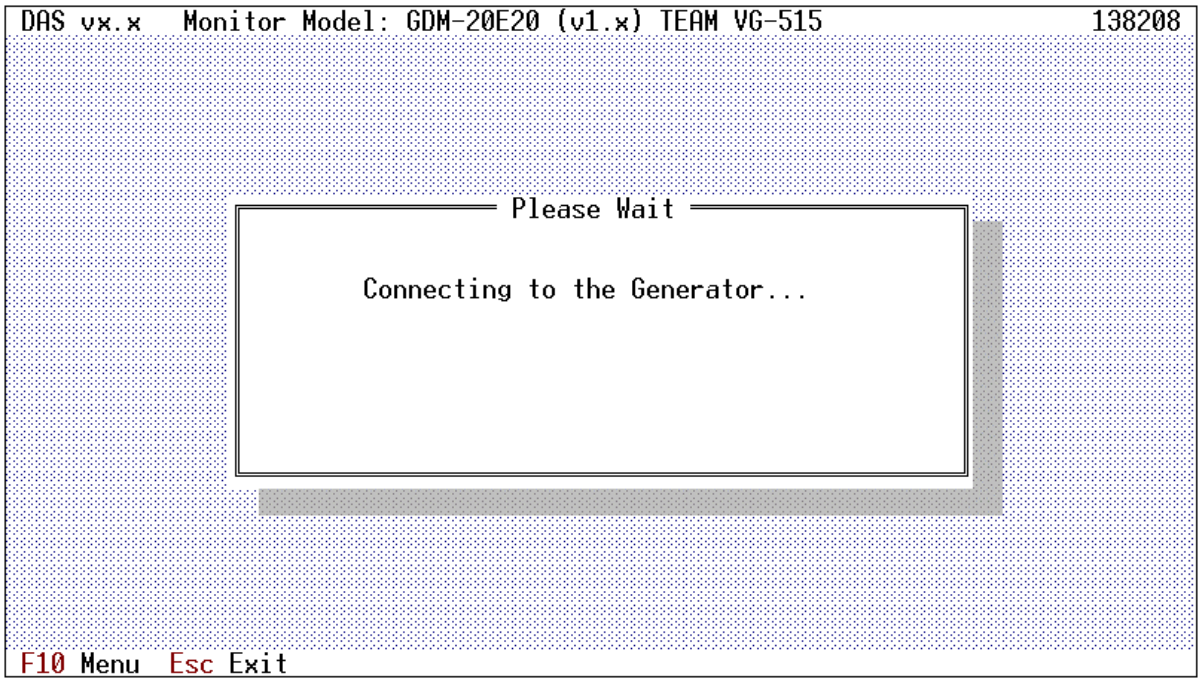
Screen 32: Adjustments Pulldown Menu

Each time the DAS program tries to connect to the monitor, you will see a screen (Screen 33) indicating this is occurring. All you need to do is wait a few seconds for the communications to be established.



Screen 33: Connecting the Monitor

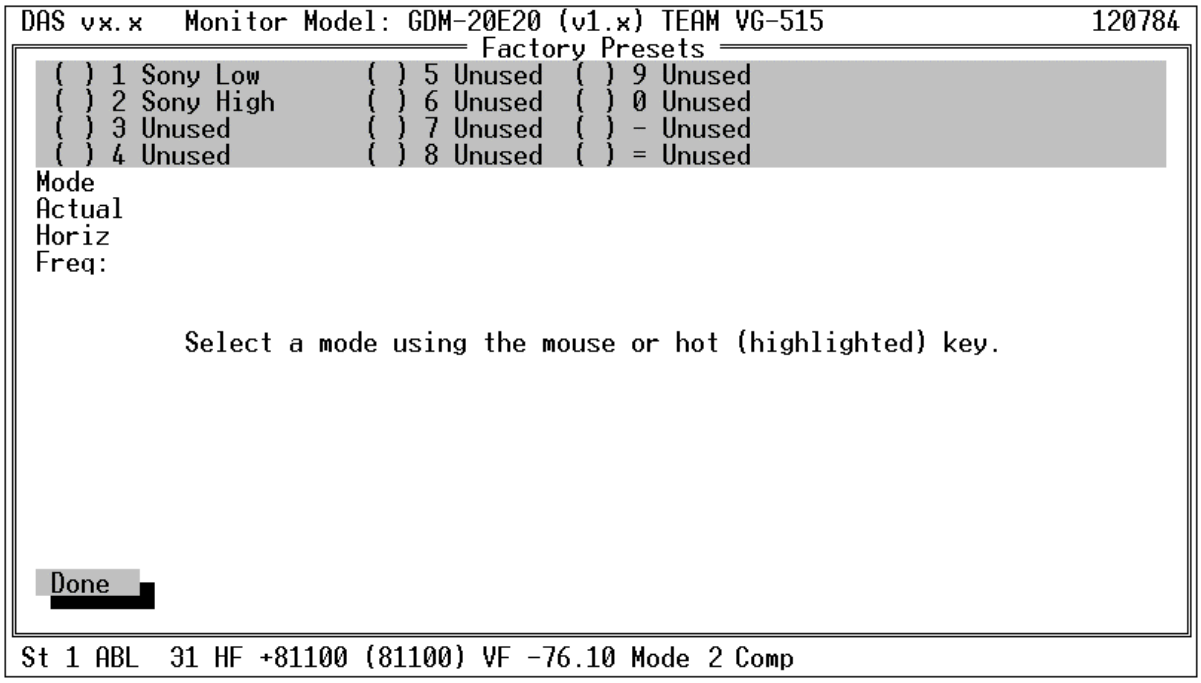
Each time the DAS program tries to connect to the signal generator, you will see a screen (Screen 34) indicating this is occurring. All you need to do is wait a few seconds for the communications to be established. Sometimes the connection will be so fast that you won't see the screen at all.



Screen 34: Connecting to the Signal Generator

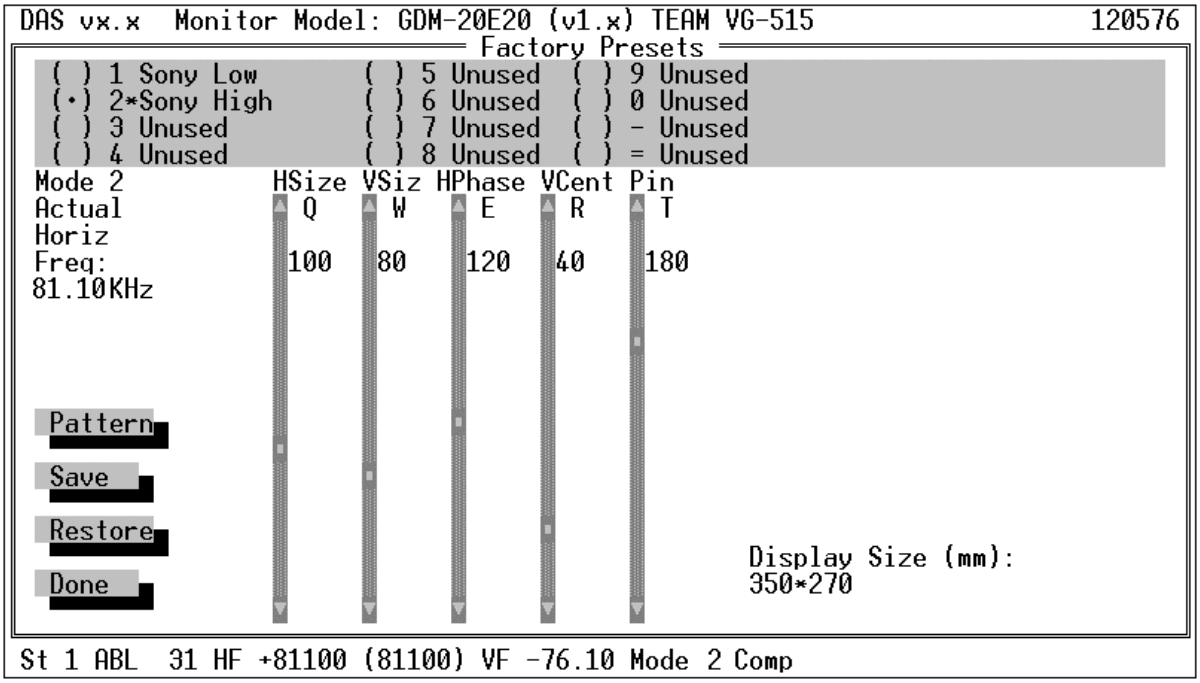
14.1 Alignment of Factory Presets

Select Factory Presets. Then the Factory Presets screen (Screen 35) will display.

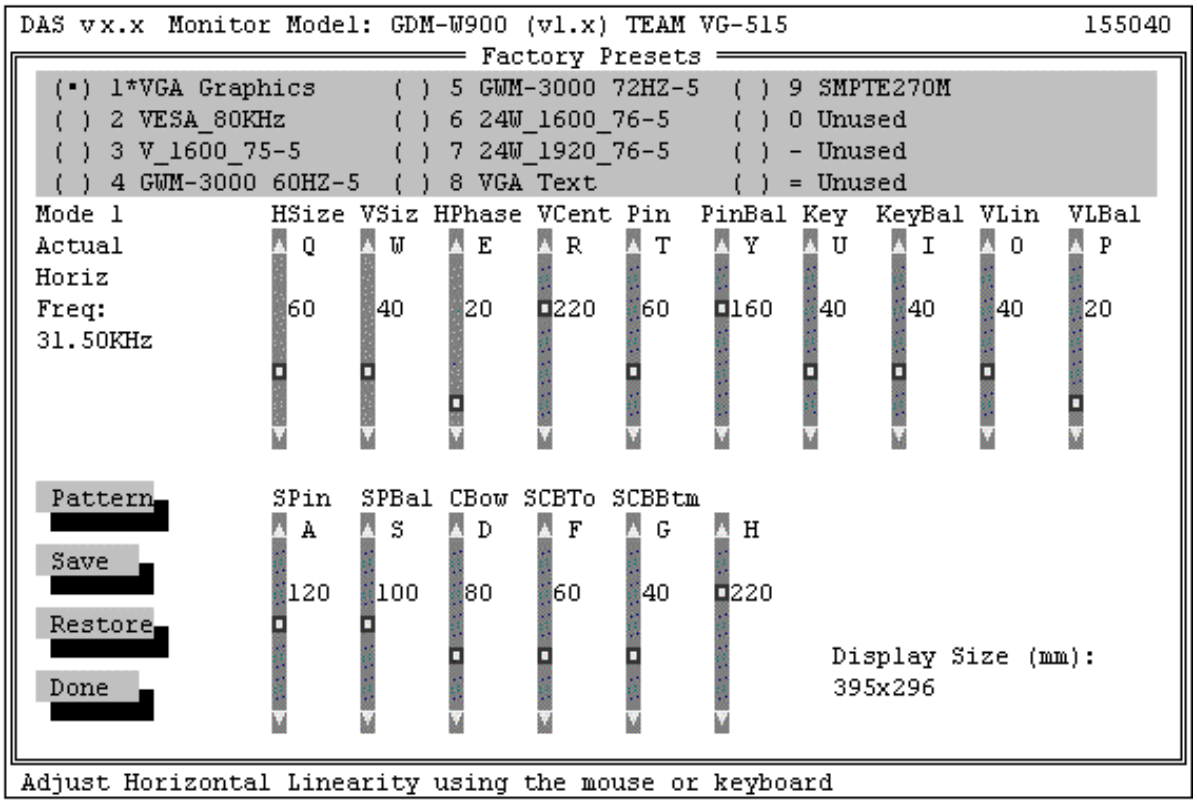


Screen 35: Factory Presets Screen

Choose a mode by pressing the radio button **(•)** for the mode you want. To assist you in remembering which modes you have adjusted, the mode name next to the radio button will be highlighted as you select each mode with an asterisk '*****' (Screen 36). When communications is established with the monitor, the alignment data for the selected mode are read into the DAS and displayed as scroll bars on the screen.



Screen 36: Mode Alignment Flag



Screen 37: In case of 24W1 Factory Preset

The values associated with each of the scroll bars are the values actually read from the monitor EEPROM. The mode number that you selected is displayed. Under the heading "Actual Horiz Freq:", the DAS program displays the horizontal frequency as actually determined by the monitor. This value is read directly from register (counter/timer) in the monitor. According to the monitor specifications, this frequency determination has as an accuracy of plus/minus 5 microseconds 255 pulses. Under the heading "Range:", the DAS program displays the adjustment range that this mode falls into. The range will have a value of 1 to 16.

You select a parameter to be manipulated and move the center 'knob' portion of the scroll bar to actually do the alignment.

The bottom line of the screen is the Monitor Status Line. On the lower right side of the screen, a reminder message shows the size of the display for the currently selected mode on a correctly adjusted monitor.

From the keyboard:

Use the **Tab** key to select the parameter to adjust. You will know when it is selected because the numeric value associated with the scroll bar will turn white. At the same time this occurs, the mouse is moved to the 'knob'.

Use the **Up/DownArrows** and the **PgUp/PgDn** keys as described in Section 9 to perform the alignment.

Use the **Tab** key to select the **[*PATTERN*]** button and press **Enter** to change the top menu so that you can change the pattern being displayed. If you change the pattern after making an adjustment, the new adjustment values will be saved in the monitor automatically.

Use the **Tab** key to select the **[*MODE*]** button and press **Enter** to change the top menu so that you can change the mode being adjusted.

Use the **Tab** key to select the **[*MORE MODES...*]** button and press Enter to change the top menu to show either the first 12 or remaining 8 modes.

Use the **Tab** key to select the **[*SAVE*]** button and press **Enter** to save the new alignment data in the monitor EEPROM.

Use the **Tab** key to select the **[*DONE*]** button when you are complete.

Use the **Tab** key to select the **[*RESTORE*]** button if you want to restore the alignment data values to the values which were there when you entered this mode's alignment.

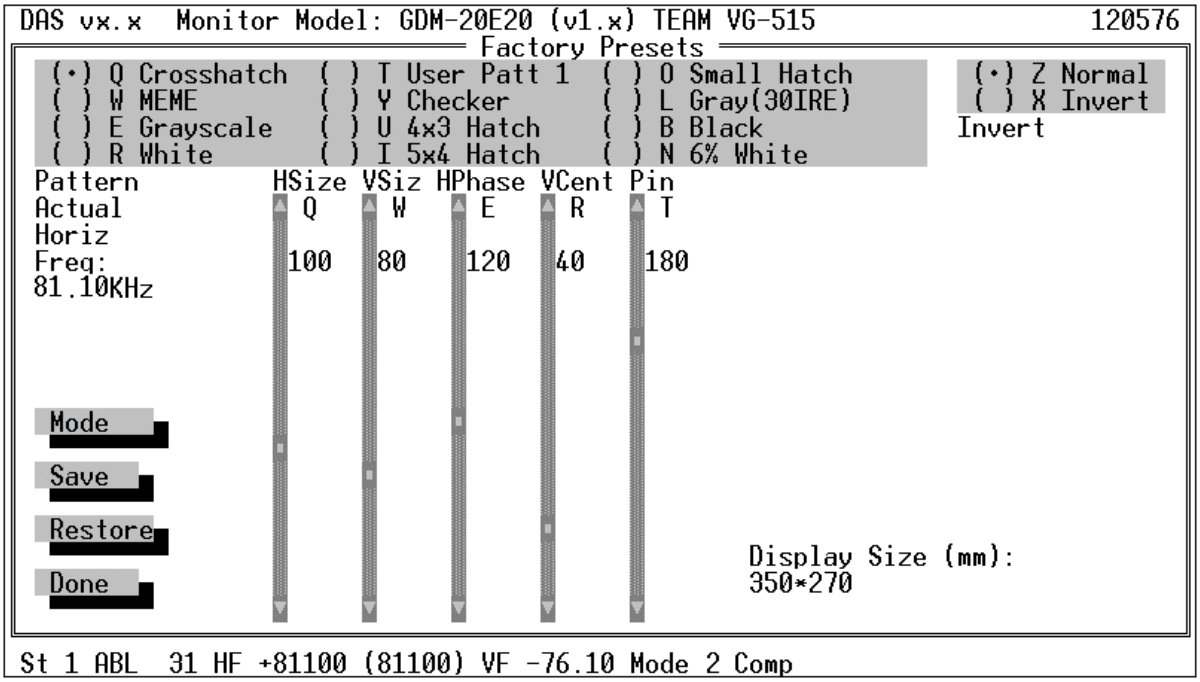
To change modes, press the **M** hot key followed by the hot key (**1 2 3 4 5 6 7 8 9 0 - =**) next to the mode you want to switch to.

With the mouse:

With the mouse, you perform the same steps as described above but you just point with the mouse and press the left button.

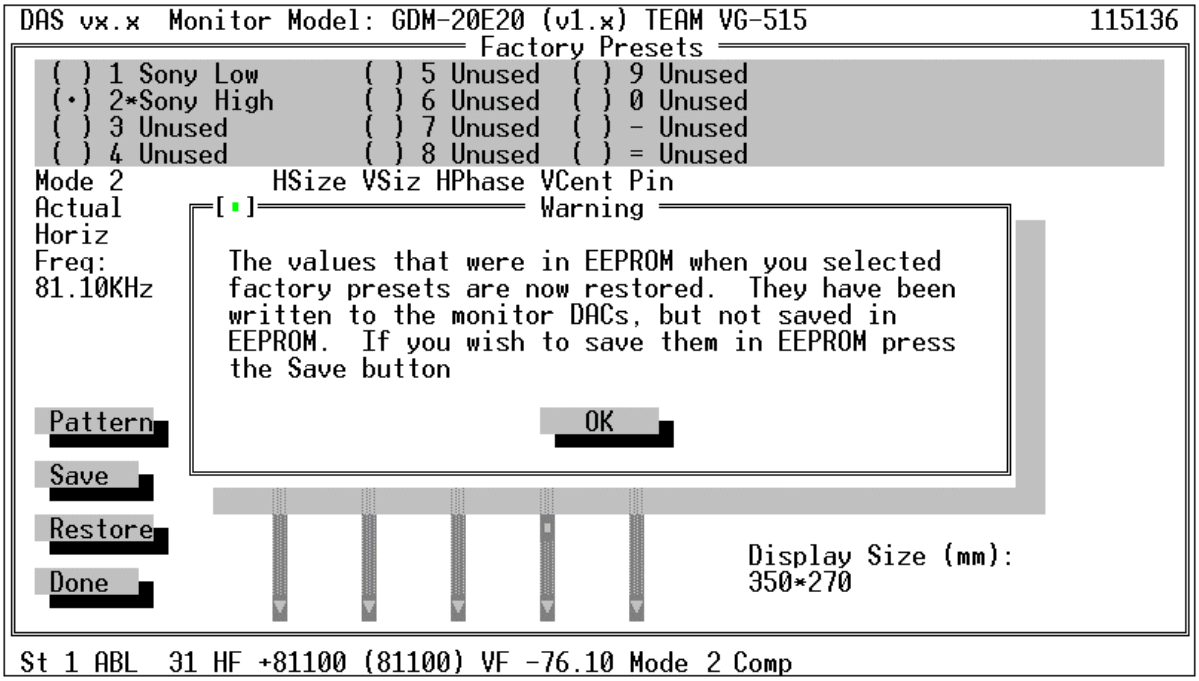
Mouse operation of the scroll bars in described in Section 10.

To change modes, just click on the radio button for the mode you want to adjust.
Screen 38 shows the pattern selection box displayed on the Factory Presets screen.



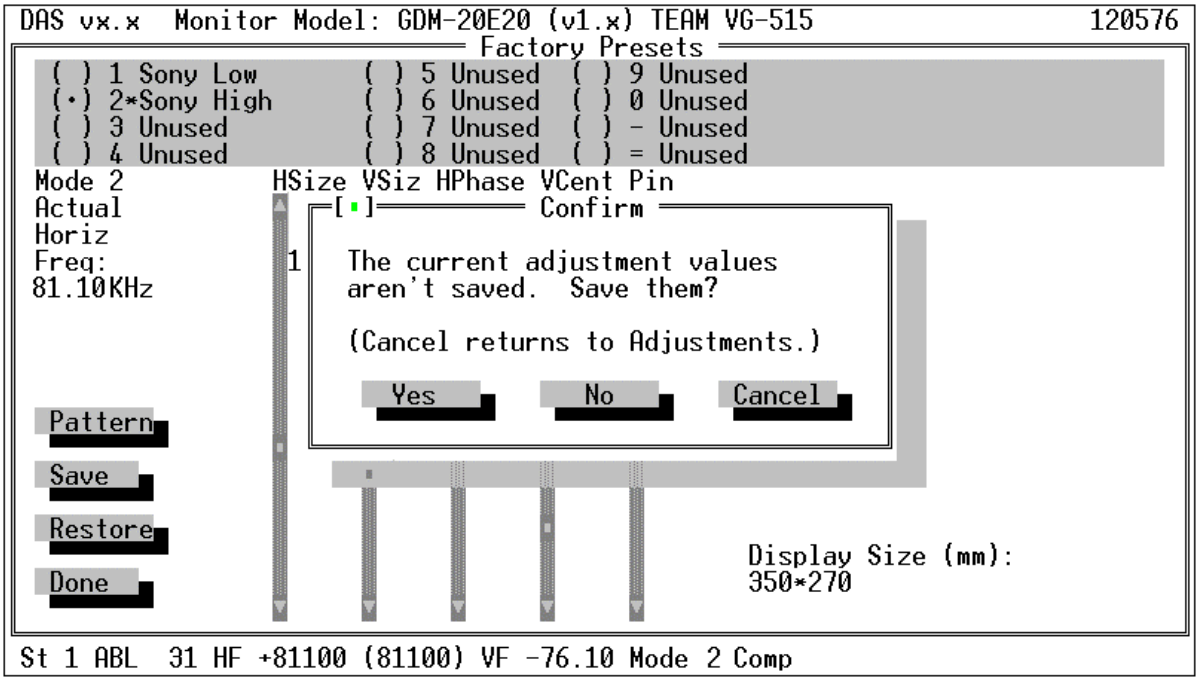
Screen 38: Pattern Selection on Factory Presets Screen

The **[*RESTORE*]** button will restore the values in the adjustments that were present when you entered the screen. Screen 39 shows the restore message that will be presented.



Screen 39: Factory Presets Restore

Whenever you change modes by selecting another radio button or by pressing the **[*DONE*]** button, if you have not saved the changed alignment data into the monitor's EEPROM, you will be given a chance to do so (Screen 40).



Screen 40: Factory Presets Safety Valve

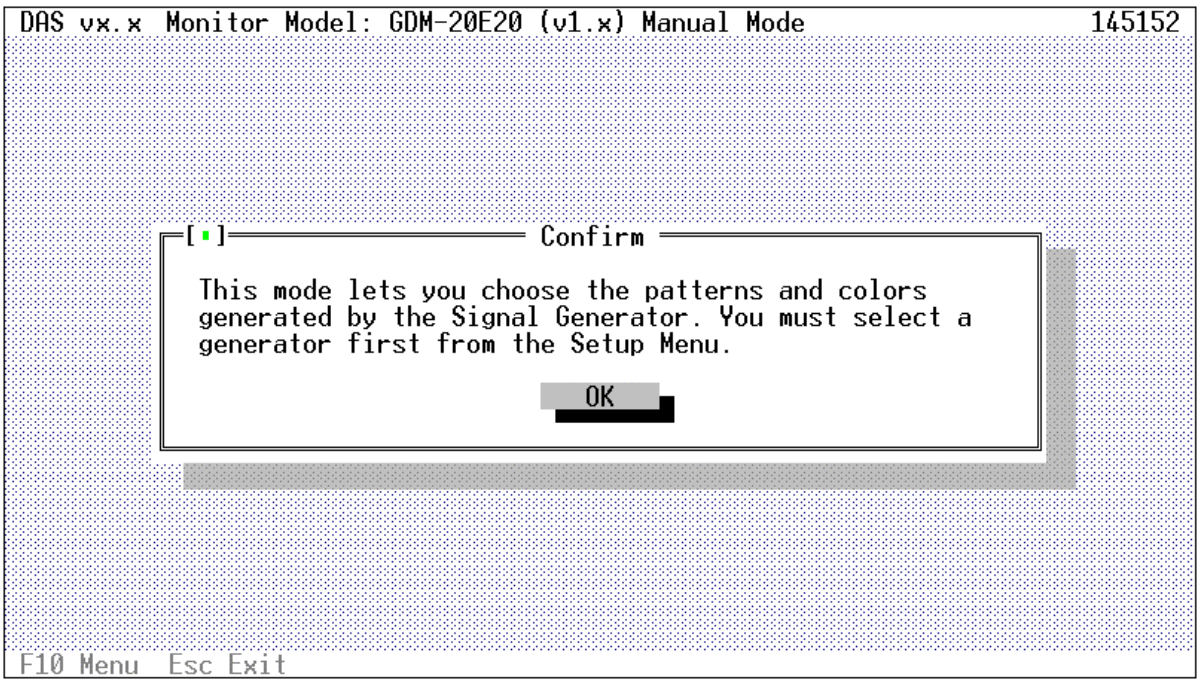
If you press **[*YES*]**, the alignment data are written to EEPROM. If you press **[*NO*]**, the adjustments are discarded. If you press **[*CANCEL*]**, you are returned to the Factory Presets screen (Screen 36) and you may continue with the alignment.

14.2 Control Signal Generator

If you have a supported signal generator attached to the PC running the DAS program, you may control the generator from the DAS program.

Select the Adjustment menu. The Adjustment pulldown menu will display (Screen 32). Select Control Signal Generator. The Control Signal Generator screen (Screen 42) will display.

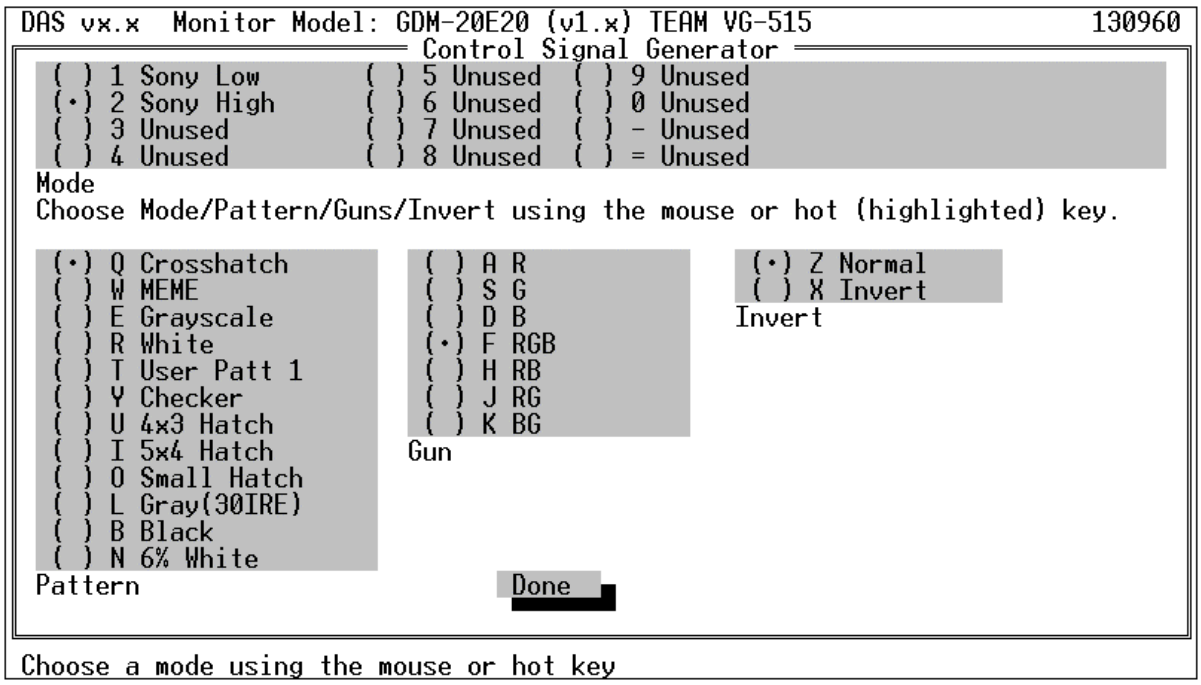
If you have not selected a supported signal generator, you will see a screen (Screen 41) warning that you must select a generator. Press the **[*OK*]** button to return to the main screen.



Screen 41: Choose a Generator First

When communications is established with the signal generator, you can choose a mode by pressing the radio button **(•)** for the mode you want.

The first 12 modes are displayed on the first screen. If **[*More Modes...*]** button is displayed on the Screen 42, you can see up to 8 additional modes by pressing this button. Use this button to move between the first 12 modes and the remaining 8 modes.



Screen 42: Control Signal Generator Screen

When the mode is selected, the signal generator will be programmed for the correct frequencies for that mode. The pattern displayed on the screen will be the default pattern consisting of a white crosshatch. Then, you can select a different pattern and gun setup. You can make the following selections (Note: not all generators support all selections. The generator will be programmed to come as close as possible) :

Pattern

Crosshatch	A crosshatch (default)
MEME	The MEME pattern used for focus adjustment. This pattern is normally inverted.
Stairstep	16 Vertical bars going from black on the left edge of the screen to white on the right edge in 16 shades of gray
White	White screen
User Patt 1	User pattern, see Section 14.2.2. This pattern is normally inverted.
Checker	Alternating pixel pattern used for Moiré adjustment.
4x3 Hatch	A crosshatch pattern of 12 vertical boxes and 16 horizontal boxes, one full vertical height circle and one 2/3 of vertical height circle
5x4 Hatch	A crosshatch pattern of 16 vertical boxes and 20 horizontal boxes, one full vertical height circle and one 2/3 of vertical height circle
Small hatch	A crosshatch pattern of 32 vertical boxes and 32 horizontal boxes with a dot inside each box if screen resolution permits the dot

Gray (30IRE)	A 30% white screen
Black	A 0% white screen which comes out black. Often called a 'Raster' pattern
6% White	A small white box (not necessarily square) equal to 6% of the screen area is drawn centered on the screen

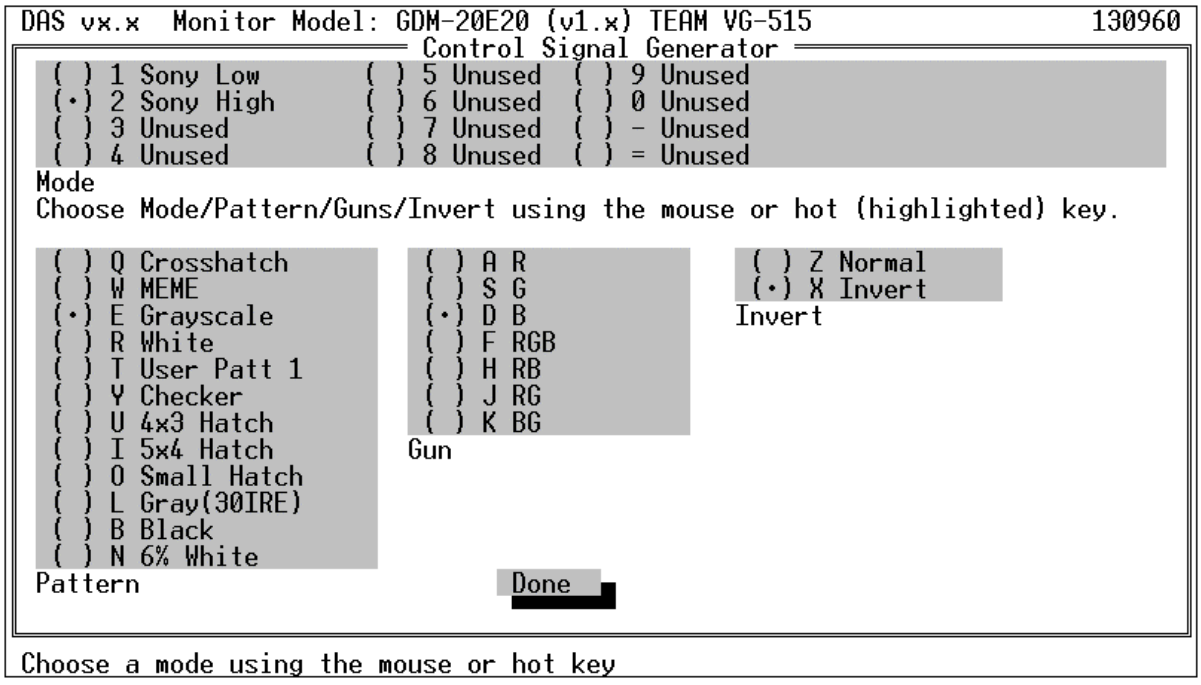
Guns

R	Red gun only
G	Green gun only
B	Blue gun only
RGB	All three guns on (default)
RB	Red and Blue guns on
RG	Red and Green guns on
BG	Blue and Green guns on

Invert

Normal	Normal Colors (default)
Invert	Inverted Colors

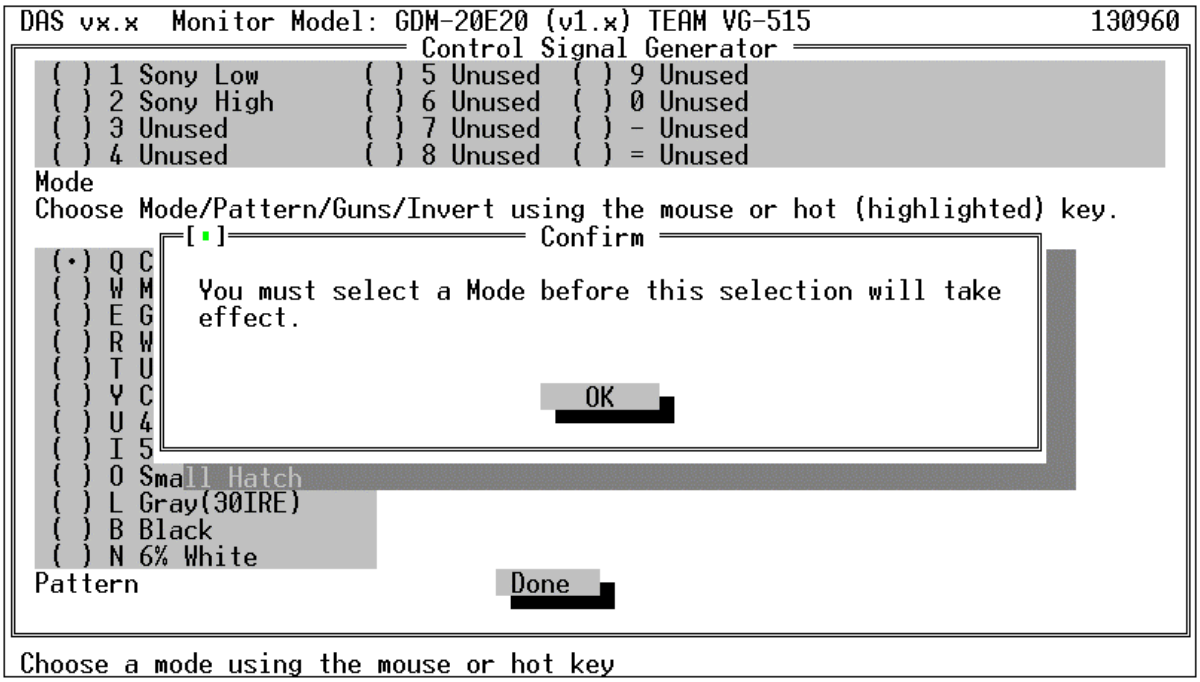
The Radio buttons will remain depressed (Screen 43) to show you which pattern you have selected. This selection, for example, will be 16 vertical (Stairstep) blue (B) bars going from full blue on the left to black on the right (Invert).



Screen 43: Controlling the Generator

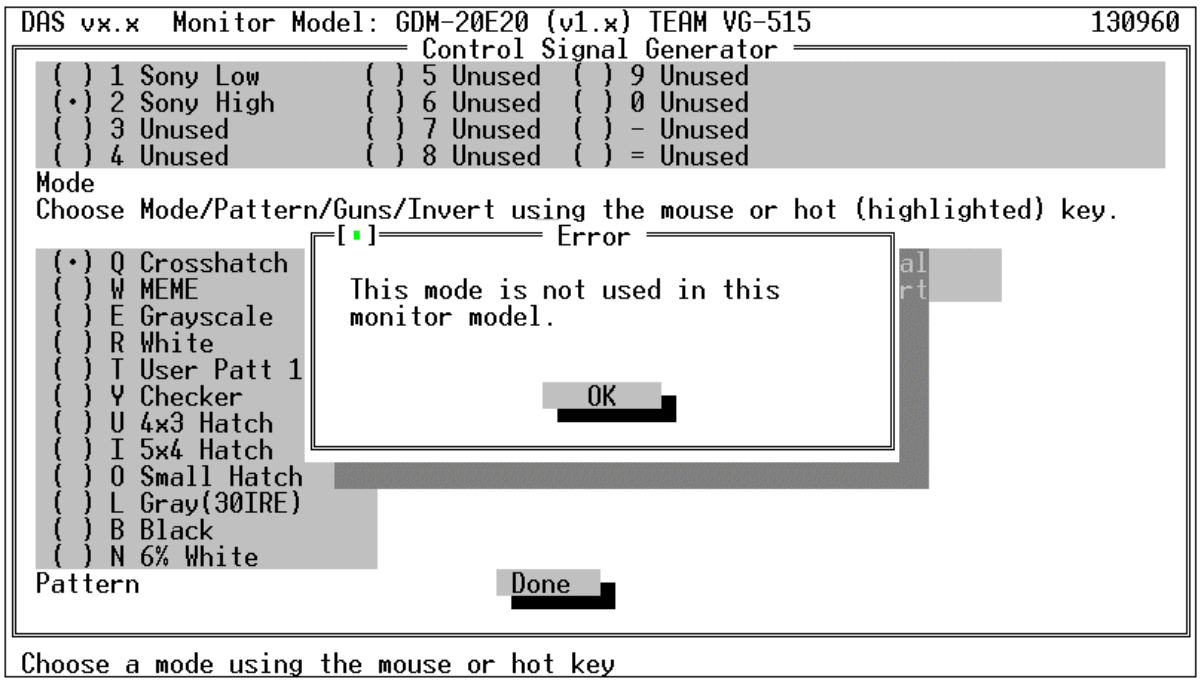
If you return to the Factory Presets screen, the new pattern you have selected will remain in effect. It will, however, reset to the white crosshatch if you exit the DAS program and then restart it.

If you attempt to change the pattern before you have selected a mode, you will be informed (Screen 44) that the change will not take effect until you select a mode. Just press the **[*OK*]** button and then press a mode selection Radio Button.



Screen 44: Select a Mode First

If you select a mode listed as unused, you will see the error message shown on Screen 45. Press the **[*OK*]** button and reselect the correct mode.



Screen 45: Unused Mode Selected

14.2.1 Special Considerations

Not all generators support all pattern selections. The generator will be programmed to come as close as possible to the selected pattern. Variations are described in this section.

14.2.1.1 Astro Design VG-819(S)

This generator produces these patterns differently than described in Section 14.2:

Selection	Pattern
Crosshatch	64 x 64 dot crosshatch
Dots	Not Supported

Other patterns are generated as described in Section 14.2.

14.2.1.2 Team Systems VG-515pc

This generator supports all patterns

14.2.2 User Pattern

If the signal generator is capable of storing pattern information, the User Patt 1 selection will use this pattern. What is selected depends on which supported signal generator you have selected.

14.2.2.1 Astro Design VG-819(S)

For the Astro Design VG-819(S), you can store a pattern into Panel ROM location 1 for use by this menu selection. Frequency information stored in these locations will be ignored.

14.2.2.2 Team Systems VG-515pc

This generator does not support user patterns.

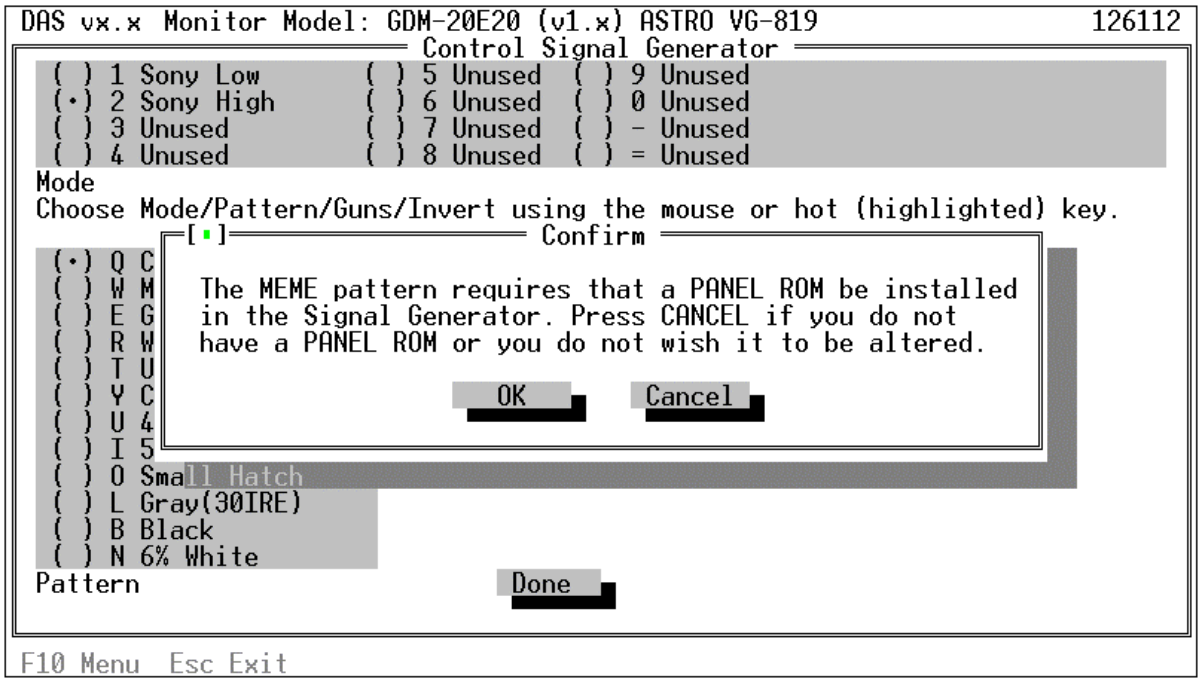
14.2.3 MEME Pattern

14.2.3.1 Astro Design VG-819(S)

If you are using an Astro Design VG-819(S), the MEME pattern is handled in a special way. The VG-819(S) can only display this type of pattern if you have a Panel ROM installed in the front panel socket of the VG-819(A). In addition, the pattern will overwrite any contents of character location E0. A screen (Screen 46) will be displayed to warn you that you are about to do this. It will be displayed the first time you select the MEME pattern. Press the **[*OK*]** button to proceed. Press the **[*CANCEL*]** to cancel the selection and return to the Control Signal Generator screen(Screen 42). If you press **[*OK*]**, the MEME pattern is loaded into the Panel ROM, if you press **[*CANCEL*]**, the ROM is not changed.

14.2.3.2 Team Systems VG-515pc

MEME Pattern support is automatic.



Screen 46: VG-819(S) Panel ROM Required

14.3 Maintenance

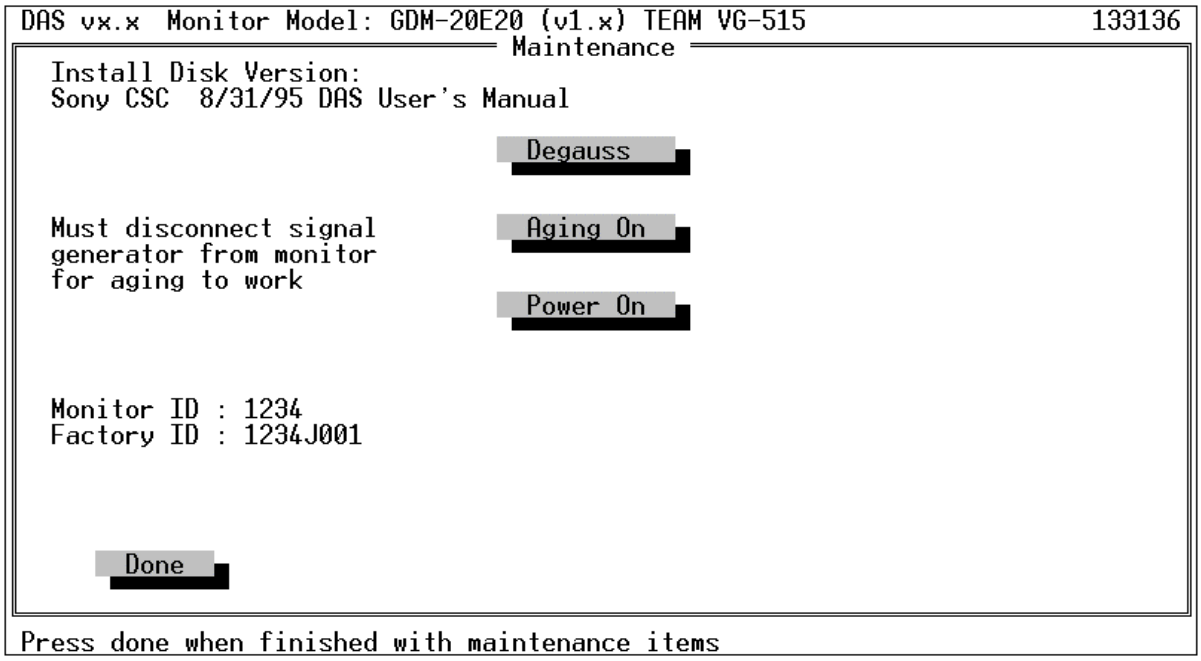
This screen(Screen 47) is only used for special operations. Normally, you should not press any buttons on this screen.

Using buttons on this screen, you can:

- **[*Degauss*]** : Degauss the CRT
- **[*Aging On*]** : Set Aging mode on and off
- **[*Power On*]** : Turn Power on and off

This screen shows you following information.

- **Install Disk Version**
  DAS version information that may be needed by program support personnel. This version information the same as that displayed by the Install Disk Version menu item on the Setup Menu.
- **Monitor ID**
  The software ID, version and revision. The first two digits are the software ID, the next two are the version and revision. For example, 1234 would indicate software ID of 12 and a version/revision of 3.4.
- **Factory ID**
  Factory ID Code(unique for each monitor model).



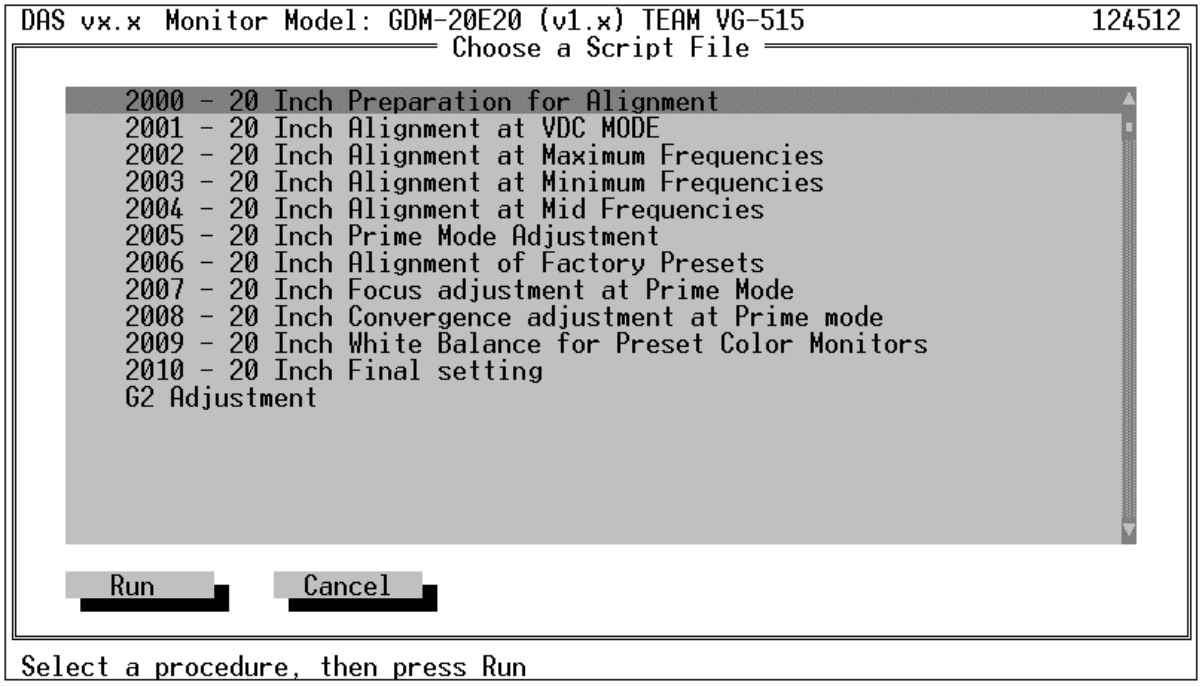
Screen 47: Maintenance

14.4 Step-by-Step Procedures

Step-by-Step procedures are meant to ease the adjustment of a monitor by presenting an orderly sequence of adjustment steps. The White Balance of earlier releases of DAS was a first attempt at such procedures. The latest release contains procedures for geometry, convergence, and focus as well.

Each screen has a step number in parenthesis following the screen title. You will notice that the numbering is not necessarily in any particular order. These screen sequence changes occurred during the development and testing of DAS. You never have to worry, though as the program will always present the screen to you in the correct order.

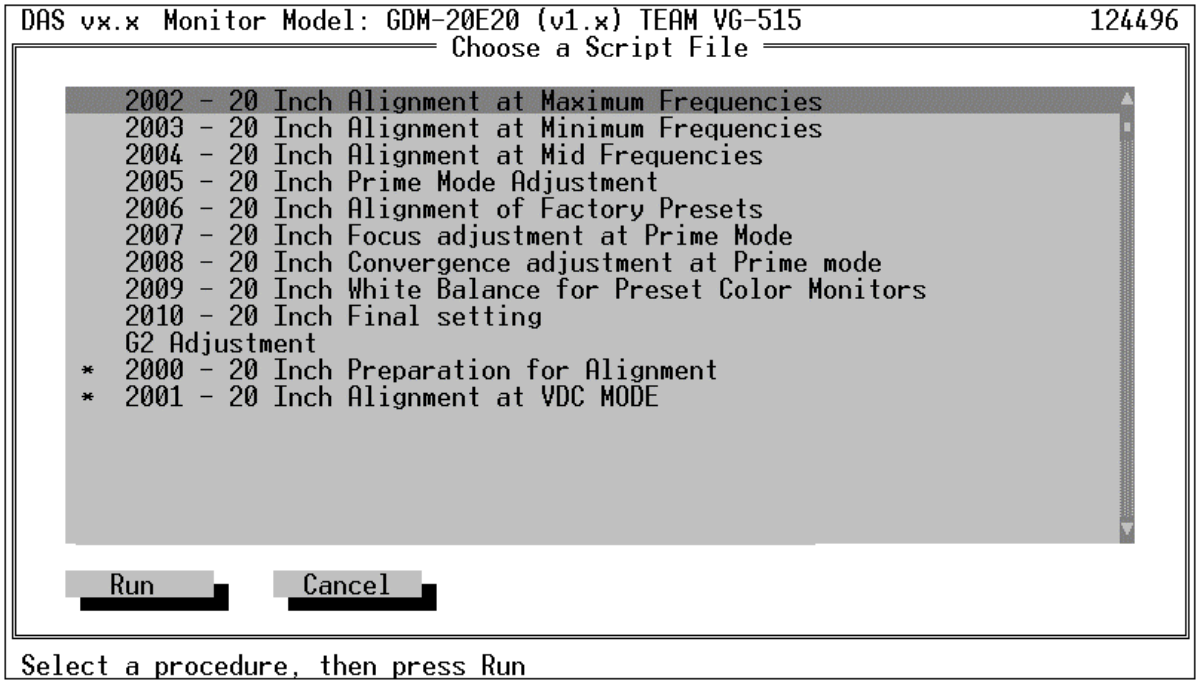
When you select Step-by-Step from the Adjustments menu, you will be presented with a list of available adjustment procedures in a list box. Screen 48 shows this list box. Select one by double clicking the left mouse button over the procedure you want to execute. Note that additional procedures may be added to this list, check any documentation you might have received with the program.



Screen 48: Step-by-Step Menu

As you complete each Step-by-Step procedure, an asterisk will be placed next to the procedure and that procedure will be moved to the bottom of the list (Screen 49). With this feature, you will be able to easily keep track of which procedures you have completed and if you do them in order, the next procedure to run will always be the first one in the list.

Before finishing Step-by-Step procedure, it is essential to do the Final setting, to be sure that the monitor has its correct initial data.

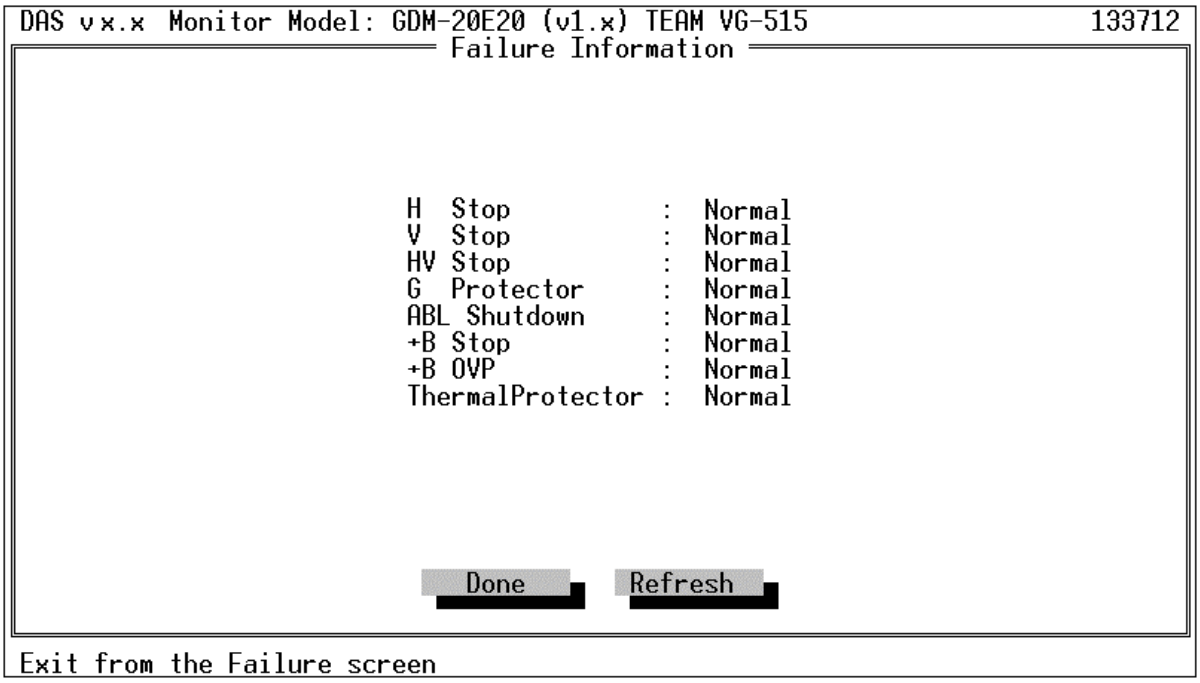


Screen 49: Completed Step-by-Step Procedure Marked with an "*"

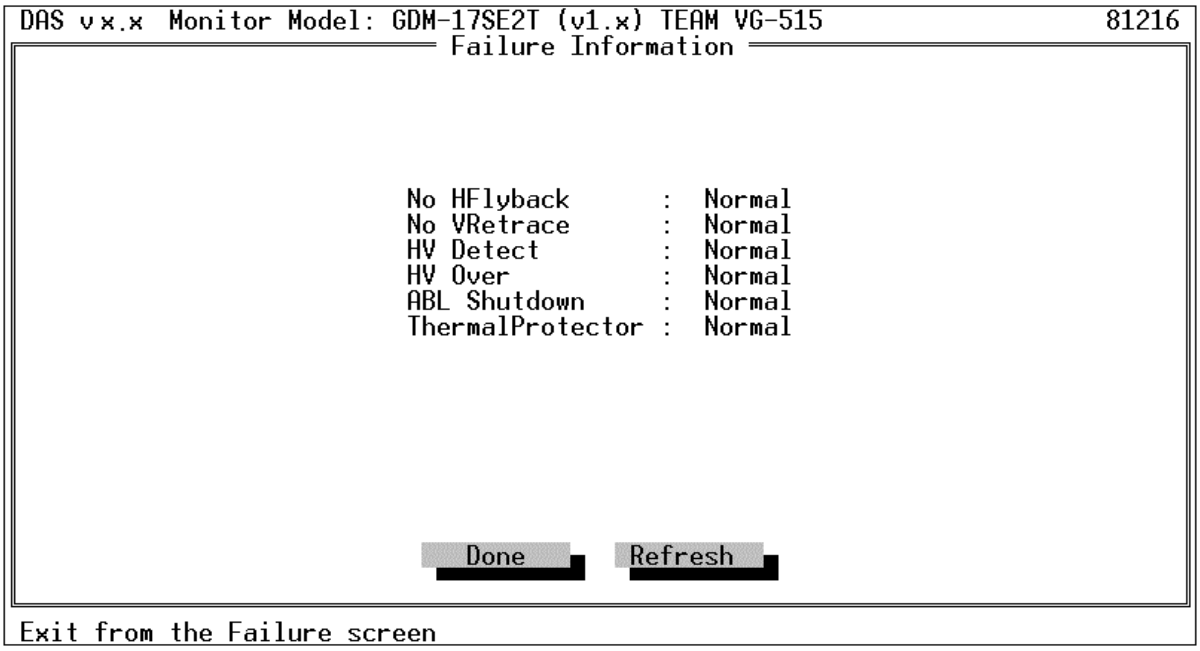
We won't show you all the screens that you will see for these procedures because with this new capability of the DAS program, they will be changing to meet the new demands of the monitors. Rest assured, though, that each procedure will be self-contained and will have the same look and feel of the previous version of DAS.

14.5 Failure Information

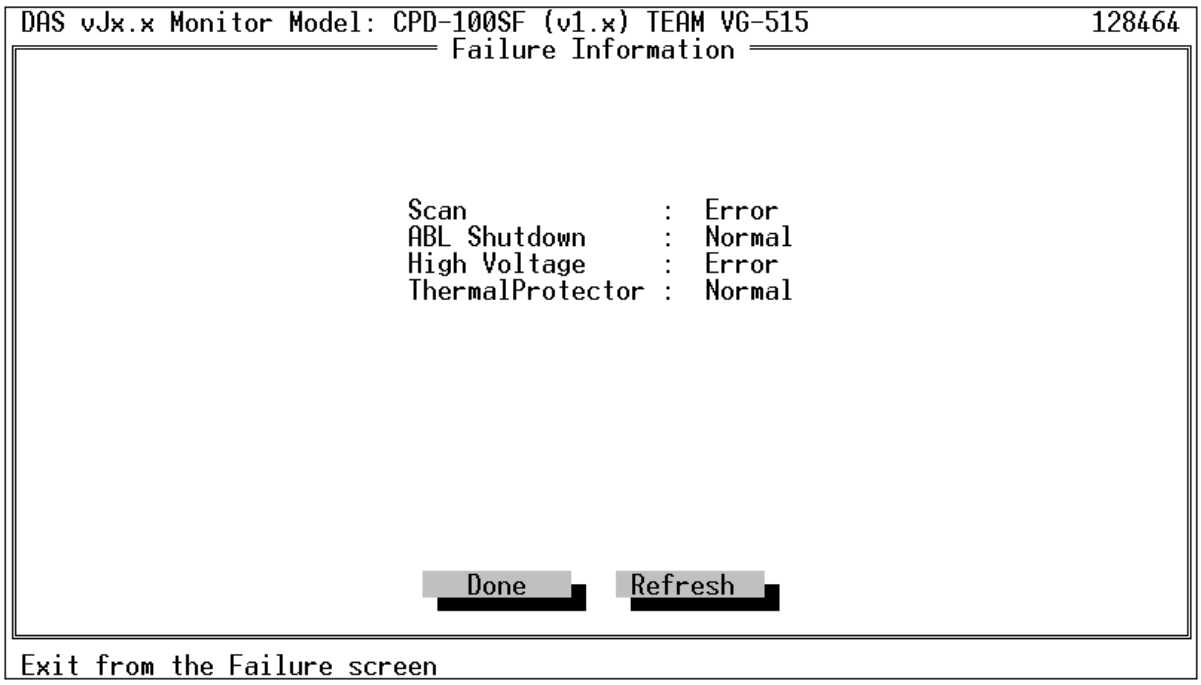
This screen displays failure information. The failure status is cleared when this screen exits.



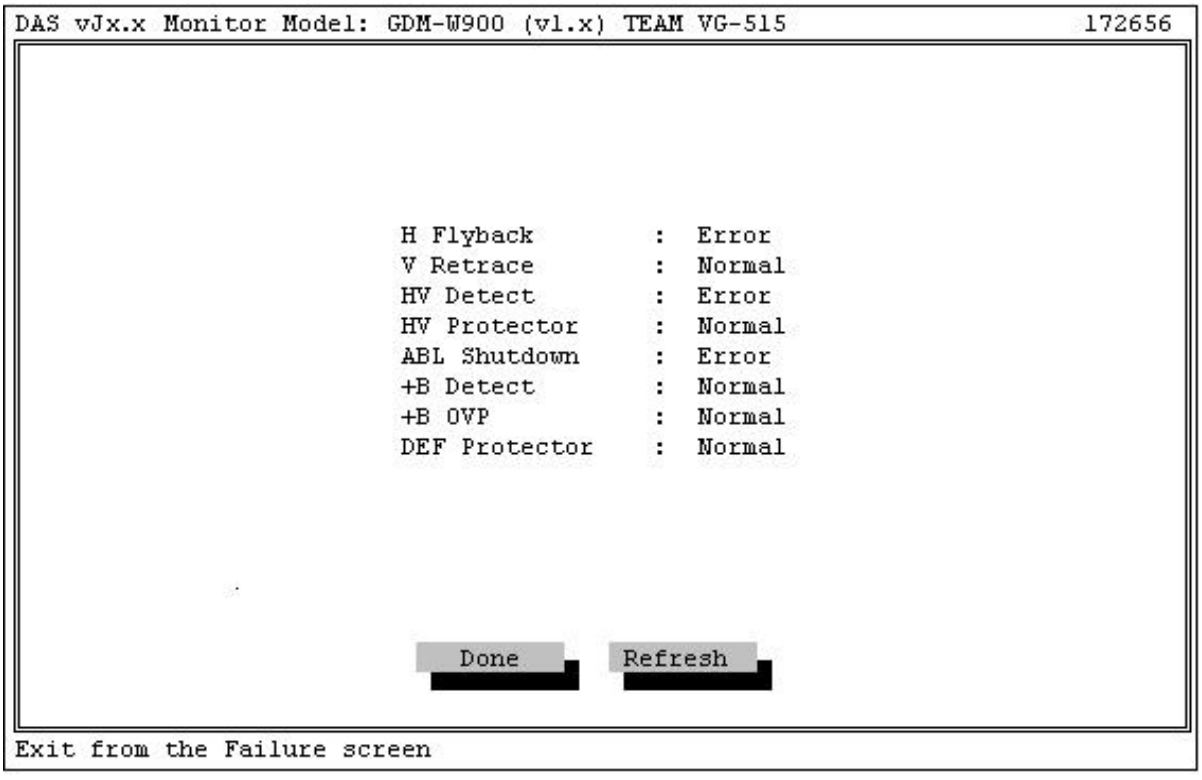
Screen 50: Failure Information(N2H)



Screen 51: Failure Information(N2)



Screen 52: Failure Information(X2R)



Screen 53: Failure Information (24W1)

The possible failures are:

For N2H

H Stop	Scan failure shutdown by the Microprocessor Control Unit due to loss of horizontal flyback.
V Stop	Scan failure shutdown by the Microprocessor Control Unit due to loss of vertical retrace.
HV Stop	High Voltage circuit failure.
G Protector	High Voltage or Beam Current circuit protector shutdown.
ABL Shutdown	ABL shutdown by the Microprocessor Control Unit or by the circuitry.
+B Stop	+B power supply circuit failure.
+B OVP	+B power supply OVP(Over Voltage Protection) shutdown.
ThermalProtector	Thermal protector shutdown.

For N2

No HFlyback	Scan failure shutdown by the Microprocessor Control Unit due to loss of horizontal flyback.
No VRetrace	Scan failure shutdown by the Microprocessor Control Unit due to loss of vertical retrace.
HV Detect	High Voltage circuit failure.
HV Over	High Voltage or Beam Current circuit protector shutdown.
ABL Shutdown	ABL shutdown by the Microprocessor Control Unit or by the circuitry.
ThermalProtector	Thermal protector shutdown.

For X2R

Scan	Scan failure shutdown by the Microprocessor Control Unit due to loss of horizontal flyback.
ABL Shutdown	ABL shutdown by the Microprocessor Control Unit or by the circuitry.
HV Over	High Voltage circuit failure or Over Voltage Protection (OVP) shutdown.
ThermalProtector	Thermal protector shutdown.

For 24W1

H Flyback	Scan failure shutdown by the Microprocessor Control Unit due to loss of horizontal flyback.
V Retrace	Scan failure shutdown by the Microprocessor Control Unit due to loss of vertical retrace.
HV Detect	High Voltage circuit failure.
HV Protector	High Voltage circuit protector shutdown.
ABL Shutdown	ABL shutdown by the Microprocessor Control Unit or by the circuitry.
+B Detect	+B power supply circuit failure.
+B OVP	+B power supply OVP(Over Voltage Protection) shutdown.
DEF Protector	DY protector shutdown.

Press the **[*Refresh*]** button to refresh the failure information.

15 File Menu

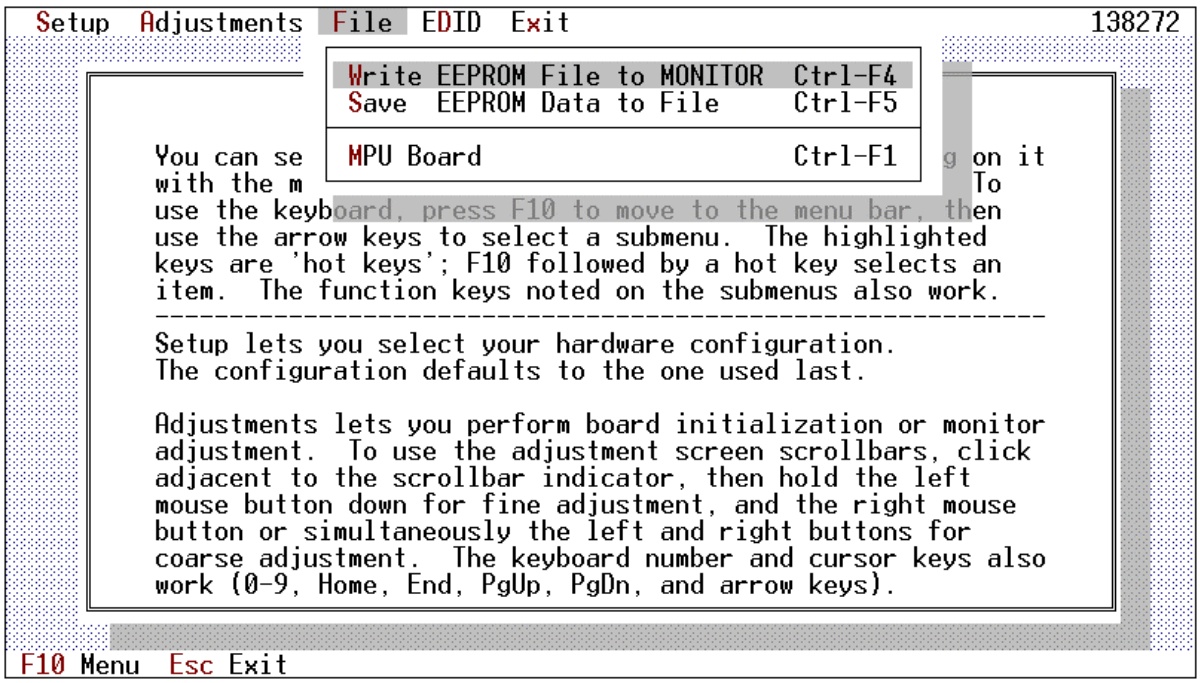
The DAS program gives you two ways to manipulate the EEPROM with the monitor.

You can save (Save EEPROM Data to File) and restore (Write EEPROM File to Monitor) the EEPROM within the monitor to/from your PC's disk. You might want to use this before you begin an alignment just in case you decide that what you started with was better than what you finished with.

You can load an initial set of EEPROM contents (MPU Board : Microprocessor Board) from the factory presets built into the DAS database. A complete alignment must be performed after this operation.

The File Mode Menu is used to perform these operations. The use of the File Dialog Box is described in Section 11. The File pulldown menu is shown in Screen 54.

In all cases, the DAS program will verify that the operation is successful by repeating it several times and checking that the data is consistent. If the DAS program cannot verify the integrity of the data, it will put up an error message recommending that you try again. If after several tries, you cannot get a successful upload or download, suspect a problem in the monitor or with the serial communications to the monitor.



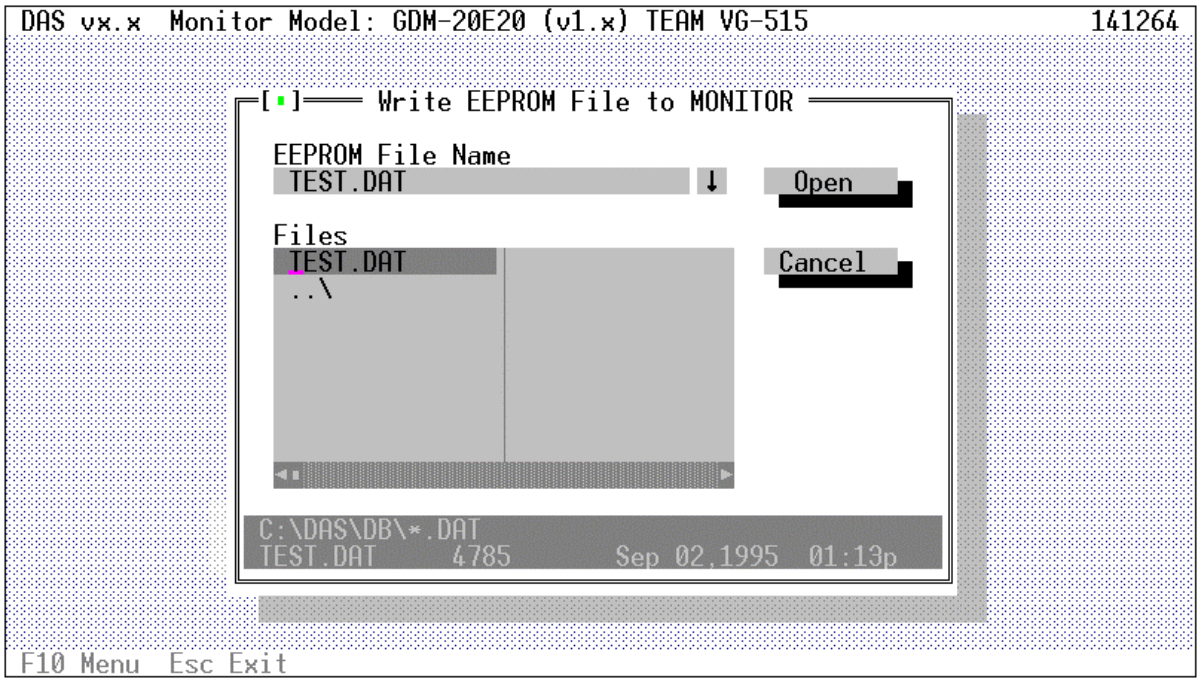
Screen 54: File Menu

15.1 Write EEPROM File to MONITOR

This menu selection permits you to copy the complete contents of an EEPROM file from the disk into the monitor EEPROM.

Select the File menu item. The File pulldown menu will display (Screen 54). Select **Write EEPROM File to MONITOR**. A file list will be displayed (Screen 55). Select a file as described in Section 11. The filename should have the extension ".DAT". Press the **[*OPEN*]** button. That file will be read from the disk and transferred to the monitor. If the file is not in EEPROM format (that is, was not created by the "**Save EEPROM Data to File**" routine), you will see an error message. If that message appears, press the **[*OK*]** button and the monitor EEPROM is not changed.

You may see error type 4 or 5 when running this menu selection. Error conditions are described above in section 4.



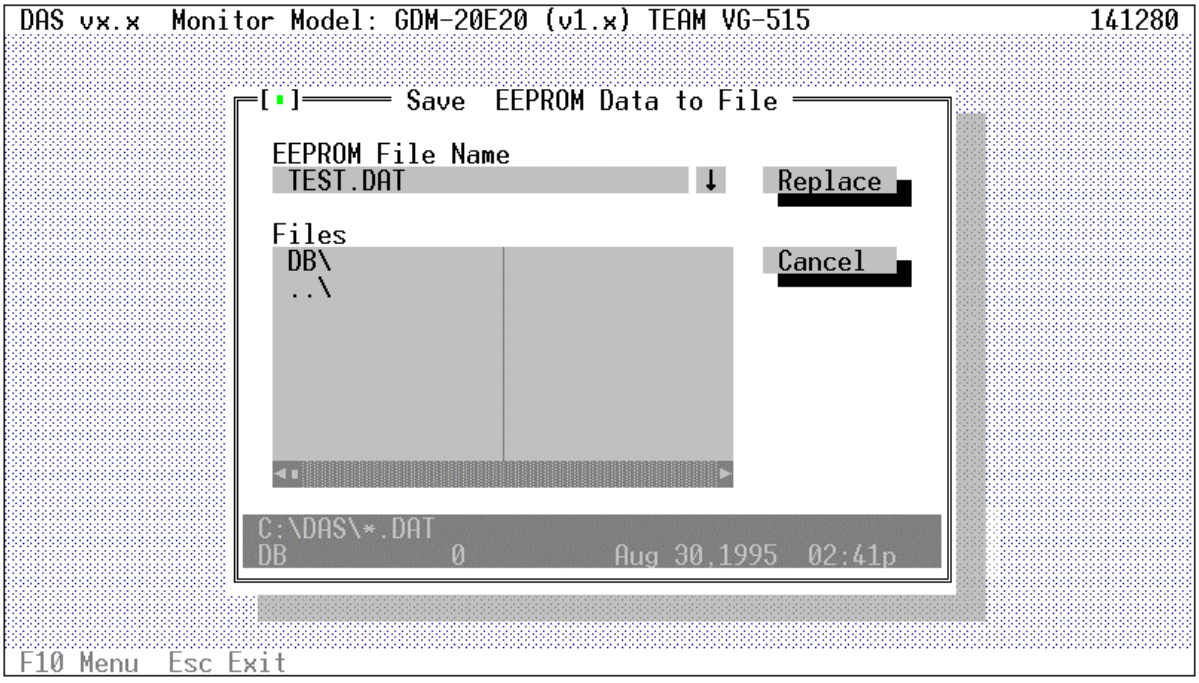
Screen 55: Write EEPROM File to MONITOR

15.2 Save EEPROM Data to File

This menu selection permits you to copy the complete contents of the monitor EEPROM into a disk file.

Select the File menu. The File pulldown menu will display (Screen 54). Select **Save EEPROM Data to File**. A file list will be displayed (Screen 56). Select a file as described in Section 11. The filename should have the extension ".DAT". Press the **[*REPLACE*]** button. The EEPROM data will be read from the monitor and transferred to the disk file.

You may see error type 4 or 5 when running this menu selection. Error conditions are described above in section 4.

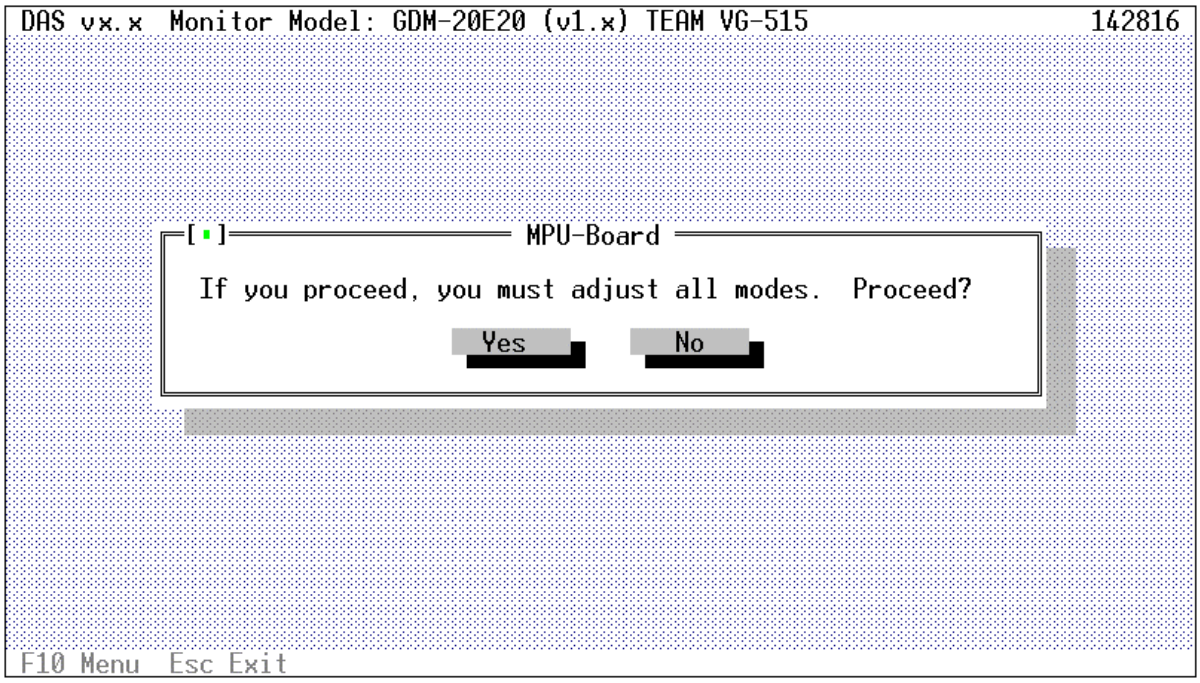


Screen 56: Save EEPROM Data to File

15.3 MPU Board

This menu selection, loads the monitor EEPROM with a complete set of factory preset data from the built-in DAS database.

Select the File menu item. The File pulldown menu will display (Screen 54). Select MPU Board. The first MPU Board (Screen 57) will display.

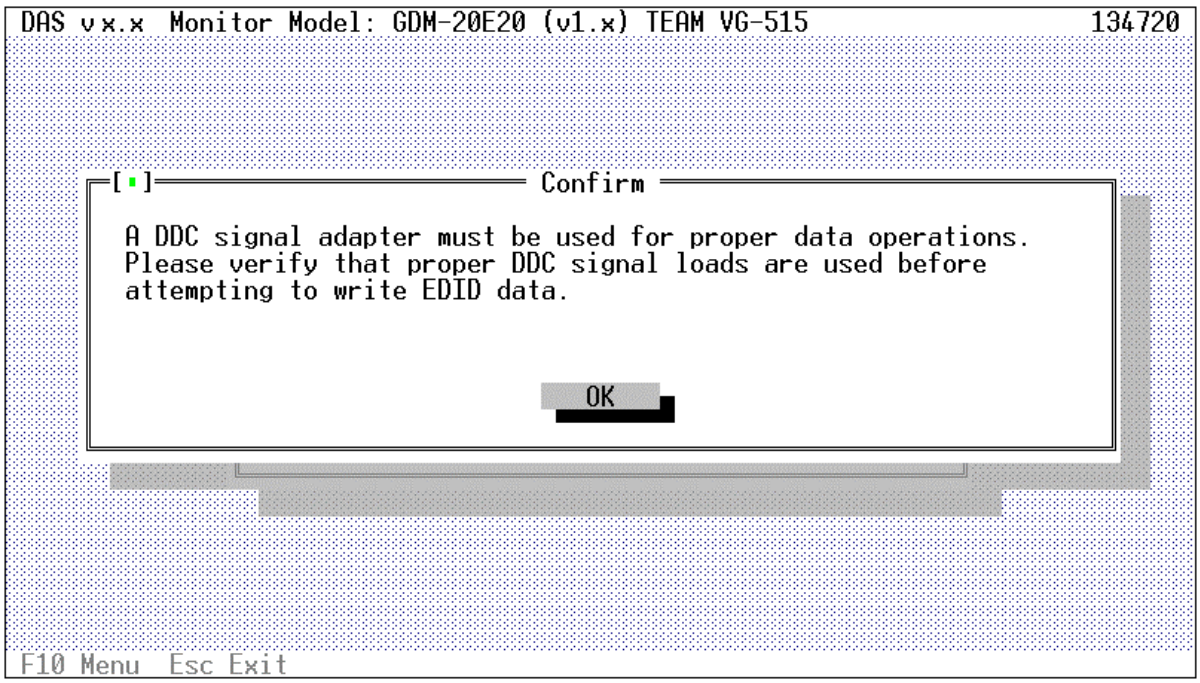


Screen 57: First MPU Board Screen

This screen is reminding you that if you proceed, you will have to re-align all modes. Press **[*NO*]** to return to the main screen (Screen 20). Press **[*YES*]** to proceed.

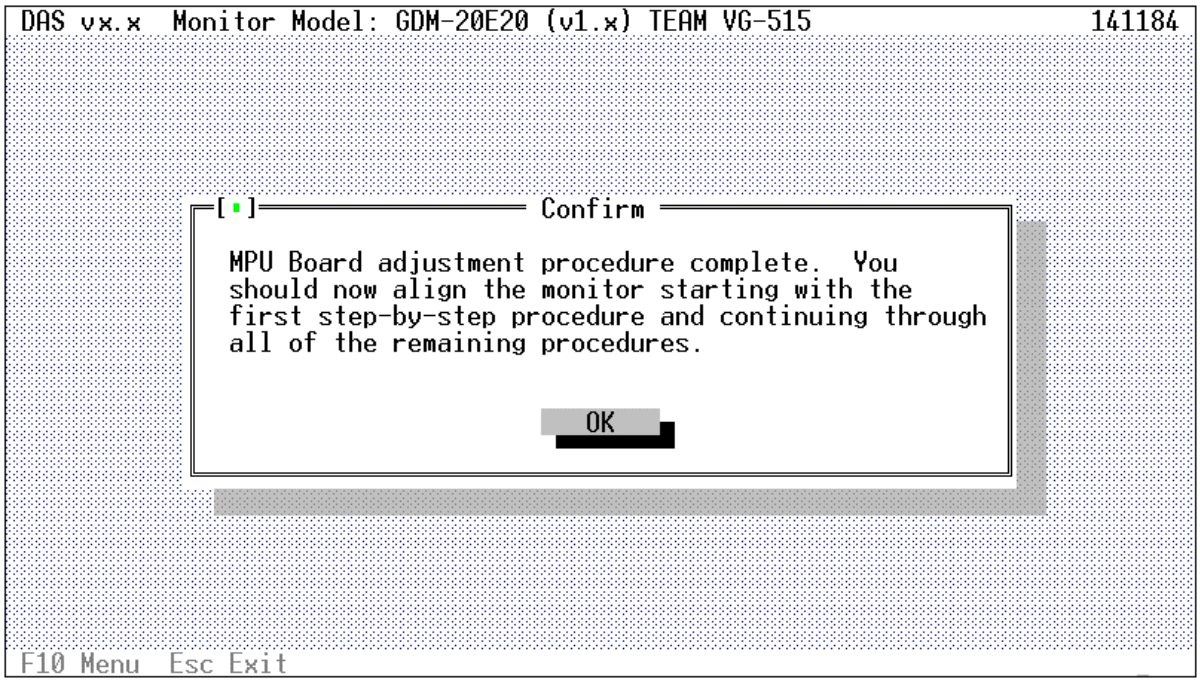
The EEPROM is then downloaded, no adjustments are required during the download.

Before writing EDID(**E**xtended **D**isplay **I**dentification **D**ata) data, the DAS program will confirm that a DDC(**D**isplay **D**ata **C**hannel) signal adapter is used(Screen 58). You must use the DDC signal adapter for proper EDID data operation. Press **[*OK*]** button after verifying about the DDC signal adapter.



Screen 58: Confirmation for a DDC signal adapter

Screen 59 indicates that the MPU Board adjustment is complete. Remember that the factory preset data is an average set of data. You must perform a complete alignment following the MPU Board procedure.

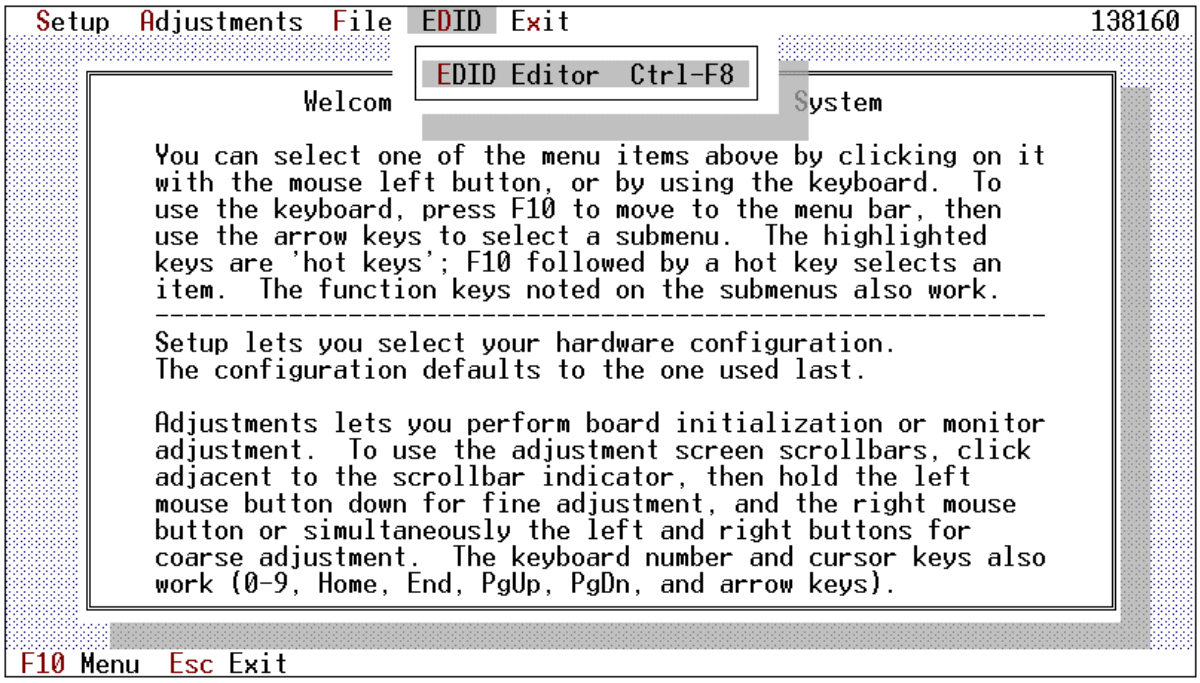


Screen 59: MPU Board Complete

16 EDID Menu

Select the EDID(**E**xtended **D**isplay **I**dentification **D**ata) menu item. The EDID pulldown menu will display (Screen 60).

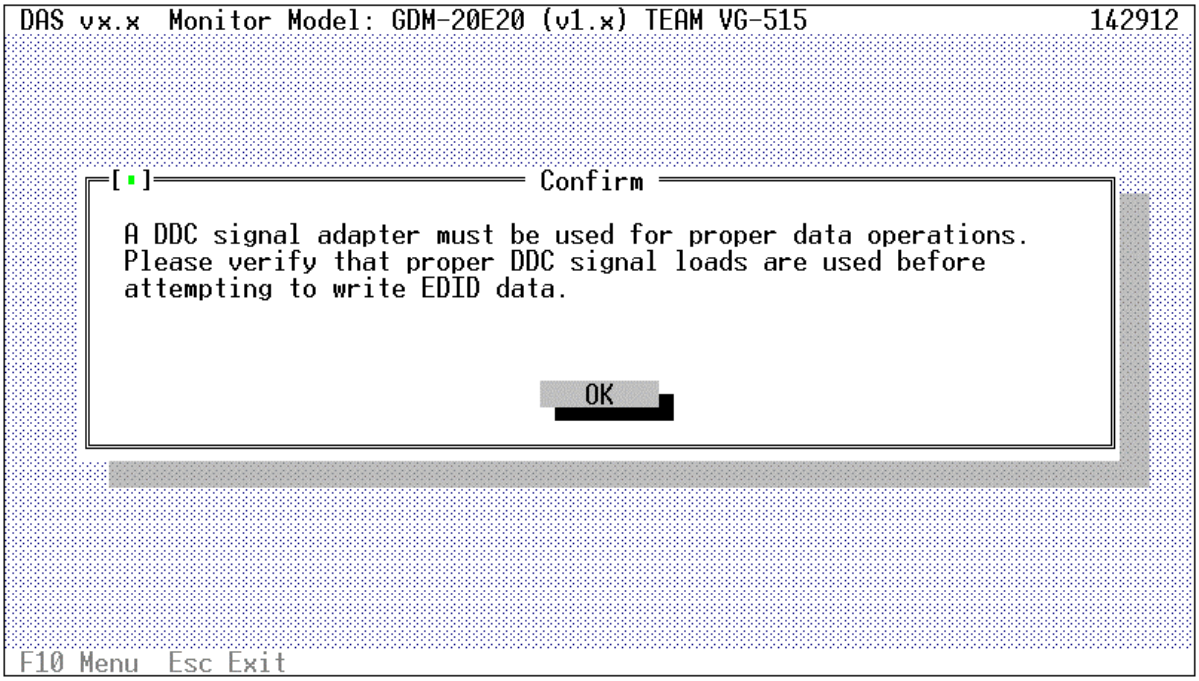
This menu is used to write the EDID data in the DAS database into a monitor. Before writing the EDID data, you can edit Serial number, Month of manufacture and Year of manufacture of the EDID data.



Screen 60: EDID Menu

16.1 EDID Editor

Select **EDID Editor** item of the EDID pulldown menu(Screen 60). The DAS program will confirm that a DDC(**D**isplay **D**ata **C**hannel) signal adapter is used(Screen 61). You must use the DDC signal adapter for proper EDID data operation.



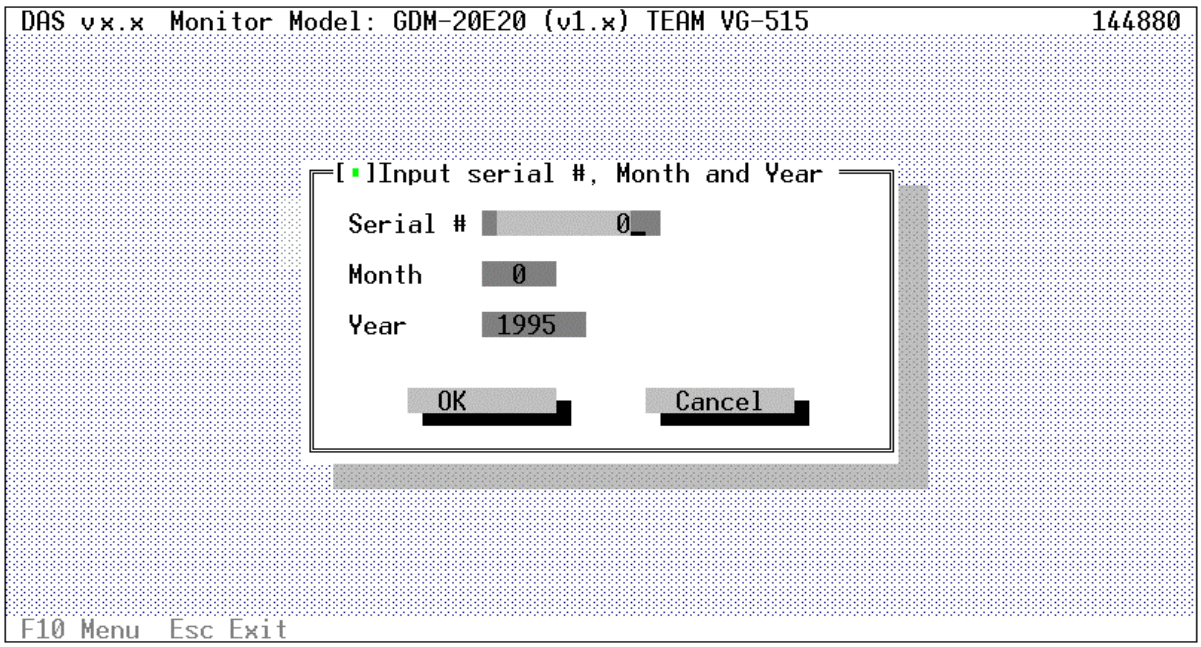
Screen 61: Confirmation for a DDC signal adapter

Press **[*OK*]** button after verifying about the DDC signal adapter. Then a dialog box(Screen 62) will display. On this screen, you can input Serial number, Month of manufacture and Year of manufacture in the EDID data.

Followings show the range of each value.

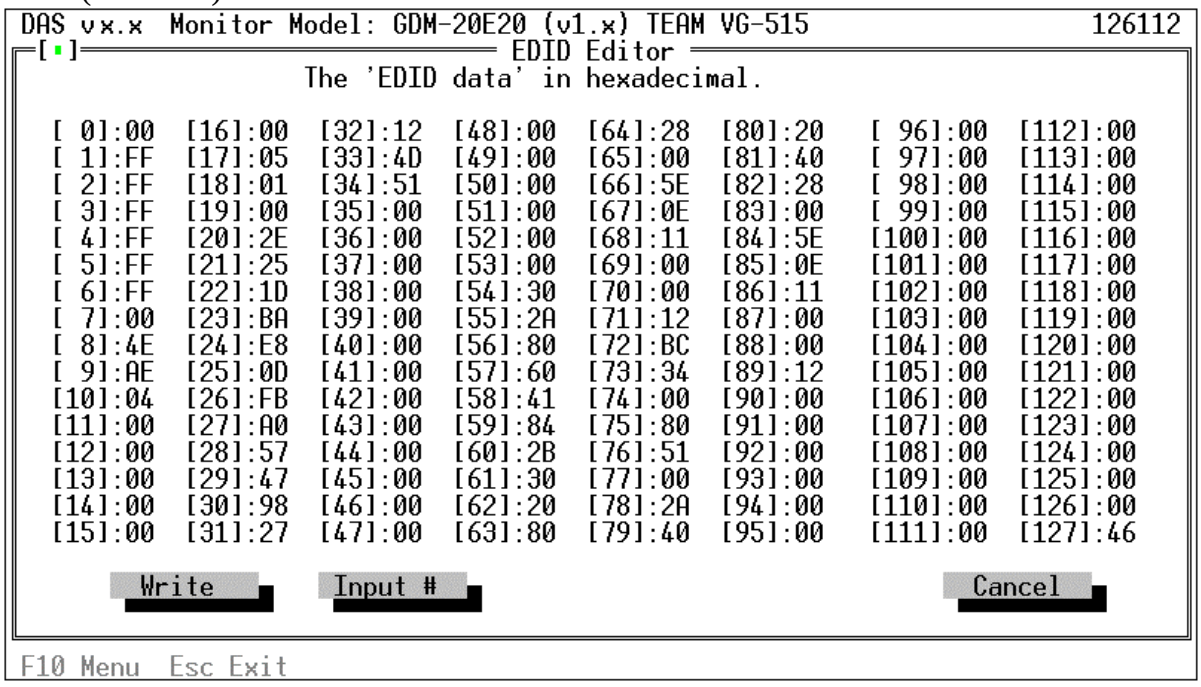
Serial Number	0	~	4,294,967,295
Month of manufacture	0	~	12
Year of manufacture	1990	~	2245

Press **[*Cancel*]** button to return to the main screen(Screen 20). Press **[*OK*]** button to proceed to the EDID Editor screen(Screen 63).



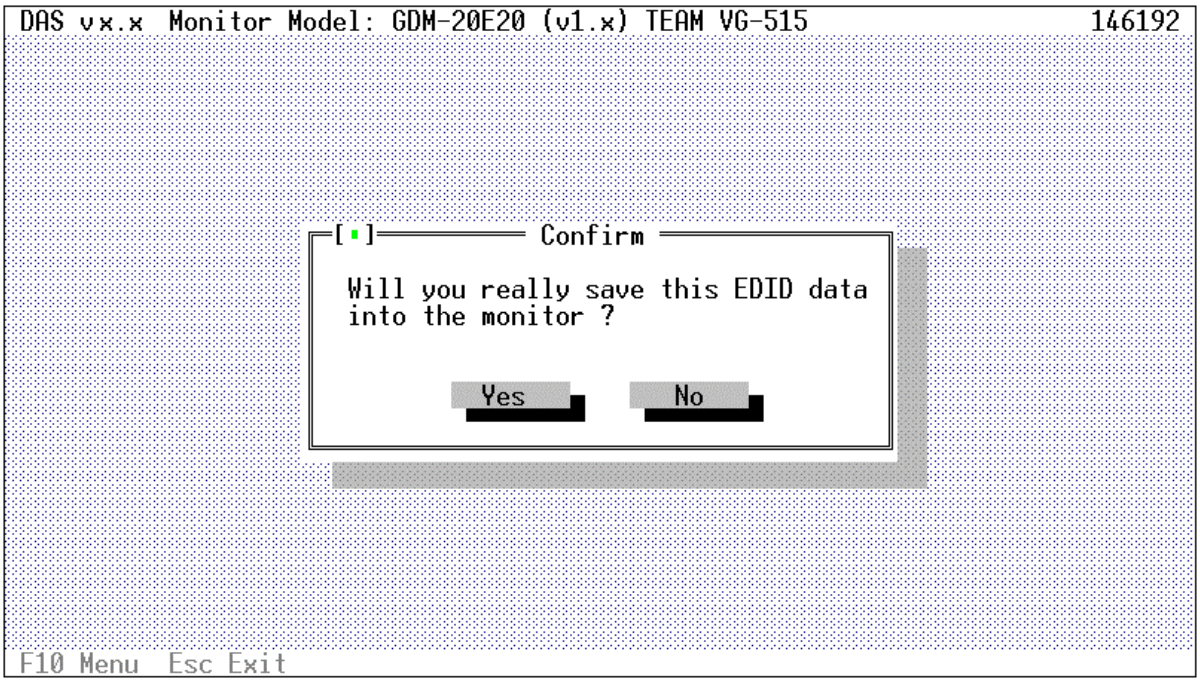
Screen 62: Input # Dialog

The EDID Editor(Screen 63) will add the results in Screen 62 to the EDID data of the database and display that EDID data(128 bytes) with each address. By pressing **[*Input #*]** button, you can input Serial number and Month & Year of manufacture again. Press **[*Cancel*]** button to return to the main screen(Screen 20).



Screen 63: EDID Editor

If the EDID data displayed on Screen 63 is correct, press **[*Write*]** button to write the EDID data into the monitor. Then Screen 64 will display. Press **[*Yes*]** button to write the EDID data or press **[*No*]** button to cancel.



Screen 64: Confirmation for saving the EDID data

17 Hints and Kinks

17.1 Hints

You might want to upload the monitor EEPROM to a computer disk file before you start an alignment. That way, if something goes wrong during the alignment, you can download the disk file back to the monitor EEPROM and start over.

If you turn off the monitor during an adjustment, the DAS will give you the opportunity to retry communications between the PC and the monitor. Usually by turning on the monitor and selecting **[*RETRY*]**, communications will be re-established.

The signal generator communications is handled in the same way.

Adjust distortion after entering the user reset mode. There are two ways to enter this mode:

1. turn the monitor off and on while pressing two adjustment buttons
2. press the reset button on the rear panel if so equipped.

Be sure to connect the composite, horizontal or vertical sync cables for modes that use external syncs.

17.2 Kinks

If you are having trouble, check the following.

Is the monitor correctly connected to the PC? See section 3.3.

Is the RS232 Interface Board correctly installed in the PC? See section 3.3.

If you are using a supported signal generator, have you connected it to the PC using a cable as described in section 3.5?

Is the signal generator correctly connected to the monitor? See section 3.4.

If the monitor won't sync, you may have to disconnect the Composite, Horizontal or Vertical sync cables for those modes that use "Sync on Green".

If you are using the Environment String 'set' command, have you correctly entered the port number?

Is the monitor plugged in and power turned on? (We are embarrassed to have to ask this question and you should be embarrassed if you answer no.)