

7. Fit the new board and carefully press it into the motherboard connector making sure that it seats firmly into both rows of EISA contacts.
8. Reconnect the two grey ribbon cables and then replace the board retaining screw.
9. Refit the I/O board (and the ethernet board also if this was removed) and reconnect its ribbon cables.

Table 7.6 - Processor Card Jumper Functions

| JUMPER | FUNCTION | SETTING | DESCRIPTION |
|--------|-----------------------------|---------|--------------------------|
| E1 | Processor Clock Frequency | 2-3 | } 200MHz |
| E2 | Processor Clock Frequency | 1-2 | |
| E3 | BUS Clock Frequency | Off | } 66MHz |
| E4 | BUS Clock Frequency | On | |
| E5 | BUS Clock Frequency | Off | |
| E6 | Microprocessor Reset | N/C | No Switch Connected |
| E7 | Dual Processor | On | Enabled |
| E8 | System Monitor Port | On | Set to DTE |
| E9 | System Monitor | Off | Disabled |
| E10 | BIOS Flash Programming | 2-3 | Enabled |
| E11 | VGA Display Type | On | Set to Colour |
| E12 | DTI Manufacturing Test Mode | Off | Set to Normal Mode |
| E13 | Keyboard Type | Off | PS/2 or AT Keyboard |
| E14 | Board Bracket Ground | On | Bracket Connected to GND |

7.3 BIOS Setup

First of all the BIOS settings should be checked:

1. Access the 'SETUP' program while the system is carrying out its power-on self-test by pressing the <F2> key as soon as the following message appears after power-on:

Press <F2> to run the Setup Utility

► **If a message "EISA CMOS Checksum failure" appears, this will be corrected later when the EISA settings are configured (see below).**

2. From the menu, select each of the following setup options, checking that each of the parameters are set as shown below. If any of them are incorrect, they should be changed using the keys indicated in the window at the bottom of the screen.

System Setup:

```

System time:           <current time>
System date:          <current time>
Video System:         EGA/VGA
System memory:        (detected)
Extended memory:      (detected)
Compatibility mode:   Disabled
Diskette A:           1.44Mb, 3.5"
Diskette B:           Not installed

```

Hard Disk Setup:

```

                                HARD DRIVE 0 HARD DRIVE
1
Type                            None           None
LBA mode                         Disabled    Disabled
Multi-sector xfers Disabled    Disabled

```

3. Select each of the following 'BIOS Options' sub-sections in turn:

BIOS options:

```

Disc drive boot sequence        A: then C:
System summary screen at boot  Enabled
Display SETUP during POST      Enabled
Pause on POST errors           Enabled
Floppy seek                     Enabled
Primary cache                   Enabled
Secondary cache                 Enabled
Cache Video BIOS area          Enabled
Gate A20 at boot               Enabled

```

Keyboard options:

```

Keyclick                        Disabled
Keyboard typematic rate        30 / sec
Keyboard typematic delay       1/2 sec
Numlock                         Off

```

4. Set the 'Security/virus' options as follows:

Security / virus:

```

Password on boot                Disabled
Diskette access                 Supervisor
Fixed disk boot sector         Normal
System backup reminder         Disabled
Virus check reminder           Disabled

```

5. Select each of the following 'Miscellaneous config' sub-sections in turn:

Memory Shadow:

| | |
|-----------------------|-----------------|
| Video shadow | Enabled |
| System shadow | <Cannot be set> |
| Shadow memory regions | |
| C800 - CBFF | Disabled |
| CC00 - CFFF | Disabled |
| D000 - D3FF | Disabled |
| D400 - D7FF | Disabled |
| D800 - DBFF | Disabled |
| DC00 - DFFF | Disabled |

Chipset Control:

| | |
|--------------------------|---------|
| DRAM Parity/ECC Mode | ECC |
| DRAM Timing | Slow |
| EISA to PCI Line Buffer | Enabled |
| Reset Configuration Data | No |
| Large disk access mode | DOS |

System monitor:

Not used

Thermal manager:

| | |
|--------------------|-----|
| Thermal management | OFF |
|--------------------|-----|

► **Do not select the 'Load Setup from ROM' option as most of the options (factory pre-sets) will be incorrectly set.**

6. Once all the settings are correct, save them to the CMOS memory (<F9>) and reboot the machine.

7.4 EISA Setup

Once the motherboard BIOS and hardware control have been configured using the on-board setup utility, the machine should be rebooted. The EISA system now has to be configured correctly for certain EISA boards (this includes the plug-in processor card):

1. When the machine reboots, choose 'MS-DOS' from the boot menu.

► **If the EISA system has not yet been configured correctly for the SCSI controller card (Adaptec 2742) then the machine will probably not boot from the C: drive. In this case you will need to put the V.I.P Boot Floppy into the A:drive and allow the machine to boot from it.**

2. At the DOS prompt type: `CD\ECU <Enter>`
3. Now type `CF <Enter>` to run the EISA Configuration Utility.
4. Press `<Enter>` to step through the introduction screens and you will then get to the Main Menu:

```
Steps in configuring your computer

Step 1: Important EISA configuration information
Step 2: Add or remove boards
Step 3: View or edit details
Step 4: Examine required switches
Step 5: Save and exit

Select=ENTER <Cancel=ESC>
```

Figure 7.50 - The ECU Main Menu

5. Select **Step 3** from the Main Menu and check that the list of installed EISA boards matches that shown in *Figure 7.51*.

► **If any of the boards are not listed or are shown in the wrong slots then go back to the Main Menu and select Step 2. Use <Insert> to add a board and to remove a board which is shown in the wrong slot.**

```

Step 3: View or edit details Help=F1

Press UP and DOWN arrows to see all information.
To edit the functions of the highlighted item, press ENTER.
To edit its resources (IRQs, DMAs, I/O ports, or memory), press F6.
When you have finished this step, press F10.

System - DTI ESP3521 SMP Pentium EISA System
System Board Memory Functions
Base Memory..... 640k
System BIOS
Cacheability..... Non-Cacheable
Size..... 128K at E0000h - FFFFFh
Extended Memory from 1M-256M..... Press <F6> to set memory size.
Memory Space Gap Enable..... Disabled
Keyboard Type..... /AT
Manufacturing Test..... Disabled
Display Type..... Colour (CGA)

Tek Video Group
Tek Genlock..... Enabled

Slot 1 - SMC Ether 10/100
Line speed selection..... 10 Mbps
IRQ..... 5, Edge triggered
DMA channel..... DISABLE
ROM base address..... ROM disabled

Slot 2 - Adaptec AHA-2740/2742 SCSI Host Adapter
Host Adapter Interface Definitions
Interrupt Level..... IRQ 9 LEVEL
Bus Release Time..... 44 BCLKS
Data FIFO Threshold..... 100%
Host Adapter BIOS Base Address..... CC000H

SCSI Channel A Configuration
SCSI Channel Interface..... Dual Channel, Single Ended SCSI
Host Adapter SCSI ID..... 7
SCSI Bus Parity Check..... Enabled
SCSI Selection Timeout..... 256 milliseconds
SCSI Bus Reset at Power-on..... Enabled
SCSI Bus Termination..... Enabled
SCSI Channel B Configuration
Host Adapter SCSI ID..... 7
SCSI Bus Parity Check..... Enabled
SCSI Selection Timeout..... 256 milliseconds
SCSI Bus Reset at Power-on..... Enabled
SCSI Bus Termination..... Enabled
Primary Channel Selection..... B
BIOS and Device configuration..... Press <Enter> to configure
Utilities..... Press <Enter> to access

Slot 10 - OLE Grafix Card
Grafix Card Resources
DMA Channel Selection..... DMA Channel 6 (Fixed)

More: PgUp/PgDn
Edit=ENTER <Edit Resources=F6> <Advanced=F7> <Done=F10>

```

Figure 7.51 - EISA Config Settings

| Press F6 to set memory size | |
|--|--------------|
| These are the resources used by this choice. Use the PLUS (+) and MINUS (-) keys to change items marked with a plus/minus symbol | |
| Memory Address | 1M |
| Memory Amount | 63M system |
| Memory Address | 64M |
| Memory Amount | 0 system |
| Memory Address | 128M |
| Memory Amount | 0 system |
| Done=F10 | <Cancel=ESC> |
| | PgUp/PgDn |

Figure 7.52 - Memory Configuration Settings

6. Check the memory configuration - scroll down to highlight “Extended Memory from 1M-256M” then press <F6>. Another box will appear showing the current EISA system memory size(s). Make sure that they are as shown in *Figure 7.52*.

Note that for V.I.P systems fitted with more than 64Mb RAM, the Memory Amount for Memory Address 64M will be different - for example, this setting will be “32M system” for a system with 96Mb RAM and “64M system” for 128Mb RAM.

7. Once the correct memory resources are shown, press <F10> to return to the list of EISA slots and set up all the remaining cards.
8. Finally, return to the main menu and save the settings into EISA CMOS by selecting **Step 5**. The machine should now be rebooted to install the new settings.

► **If the machine was booted from the V.I.P Boot Floppy, then remove the disk and allow the system to boot from the C: drive. From the boot menu select “MS-DOS” and then follow steps 2 to 4 above to re-run the ECU program from the C: drive. You don’t need to change any of the settings again, but select Step 5 to re-save the settings. This will ensure that they are saved into a backup file on the C: drive. Now reboot the machine once again.**

9. The EISA system has now been configured to correctly control the necessary boards.

► **You may need to update the Graphics Board driver if the Main Crate was originally fitted with an ESP3520 Processor board.**