865453_paste.eps ¬

Entry Number:
Title: **The Intel GX Professional**
Entry Date: **10 June 1993**

Product Vendor: **Intel Corporation**
Vendor Contact Information:

Hardware Platform: **Intel Processor Family**
Reported in Software Version: **NEXTSTEP Release 3.1**
Keywords: **Intel, GX, Professional**

Usage Commentary:

The Intel GX Professional displays 1024 x 768 in 16 bit color under NEXTSTEP. The system's footprint is similar to that of a NeXTstation and offers a high degree of integration on the motherboard including video (the ATI Mach 32 chipset), sound, SCSI and IDE. The integrated sound and SCSI are not currently supported under NeXTSTEP. The GX has three slots - two EISA and one ISA.

Setup and Installation:

The Quality Assurance Group successfully installed NEXTSTEP Release 3.1 onto a Revision 3 Intel GX Professional configured in the following manner. Our system was running off of a SCSI hard disk. Use the EISA Configuration Utility provided with your system to confirm that your system's settings match those shown below where applicable.

System - Intel L486 Series System Board

System Board Options

```
    Microprocessor : 33 MHz Intel 486DX2 - OverDrive
```

Secondary Cache Module: Installed
System Board Extended Memory: 15MB
System Base Memory Option: 640KB Base Memory
User Definable Hard Drives: Types 2 and 3
Cache Control = CacheEnabled

Diskette Drive Group

Onboard Floppy Controller = Enabled
Diskette A = 3.5 inch 1.44 MB Drive

Hard Disk Options Group

Onboard IDE Hard Disk Controller = Disabled
Onboard SCSI Controller = Disabled
Hard Drive 1 = Disabled
Hard Drive 2 = Disabled

Parallel Port = Enabled -- Compatible

Serial Port Group

Serial Port 1 = Enabled
Serial Port 2 = Enabled

Video Options Group

Video Type = VGA/EGA
Offboard VGA/EGA Video Adapter = Yes - Disable Onboard Video Controller via Jumper
Onboard Video BIOS Mapping = To C0000h

Keyboard Control = Keyboard Enabled
Onboard Mouse Control = Mouse Enabled
Speaker Control = Speaker Enabled
CPU Speed = FAST
NumLock Boot State = OFF at Boot

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Onboard Audio          = Disable Onboard Audio Controller
Shadow Control         = Enabled at Defined Locations
POST Memory Test Prompt   = Enabled
BIOS Setup Control     = Enabled - Suppress setup prompt
Boot Device Control    = Boot from floppy or hard drive

Reserved System Resources
    Configuration File and Overlay Version 1.00
```

Known Problems:

- The Corsair cache can become loose and may need to be reseated. If the system boots with the cache disabled, but refuses to boot with the cache enabled, reseat the cache.

- The IDE IRQ has changed on new versions of the Intel GX Professional (revision 3), and NEXTSTEP will attempt to access the IDE drive through the incorrect DMA channel. The solution below will allow you to install the software onto an IDE disk on new Intel GX Professional, however it will not allow NEXTSTEP to run with IDE DMA on these systems.

  Symptom

  - Booting with the installation floppy works normally.
    During the boot process the system displays "`IDE using multi-sector mode`." The installation process continues and successfully completes the first phase.
  - Rebooting off the IDE hard disk for the second installation phase produces the message: "`IDE using DMA mode`" when registering file systems. The installation process then fails while checking disks and displays the following messages - looping on the last two.
    ```
    "Ide Dma Error Count = 0x1e00"
    "Ide: ideFlushIntMsgs: Stray Interrupt :ideReset"
    "Ide: softResetIde diagError = 0x1"
    "Ide: Timeout while waiting for interrupt Cmd = 0ca"
    ```

  Solution

  - Follow the regular installation process through phase one. When prompted to remove the boot floppy before the begining of phase two leave it in the floppy drive. During the second

boot process when the "`boot:`" prompt is displayed quickly enter:

`fd()mach_kernel rootdev=hd0 -s`

- Back up the IDE configuration default table. When the "**#**" prompt is displayed, enter: (Enter this command as a single line inserting a space where line breaks occur. Ignore that it is broken into multiple lines here.)

  `mv /usr/Devices/IDE.config/Default.table`
  `/usr/Devices/IDE.config/Default.table~`

- Edit `/usr/Devices/IDE.config/Default.table`. This will require either knowledge of an editor program such as vi or emacs or entering the command below. (Enter this command as a single line inserting a space where line breaks occur. Ignore that it is broken into multiple lines here.)

  `/bin/sed -e '/Channels/s/"3"/""/'`
  `</usr/Devices/IDE.config/Default.table~`
  `>/usr/Devices/IDE.config/Default.table`

  This command will alter the two lines shown below in `/usr/Devices/IDE.config/Default.table` from:

  `"DMA Channels" = "3";`
  `"Valid DMA Channels" = "3";`

  to:

  `"DMA Channels" = "";`
  `"Valid DMA Channels" = "";`

- After completing the process outlined above enter "**`halt`**" at the "`#`" prompt. When a message appears saying that it is safe to power off your computer, eject the boot floppy and then press the reset button. Your system should then be able to successfully complete the installation process.