

FIC KW15 PCI/AMR SYSTEM BOARD BOARD LEVEL COMPATIBILITY TEST REPORT

Product Version: *V 1.2*
BIOS Version: **VD411**
Report Date: **10/05/2000**
Revision: **1.03**



Revision History

| Document Release | Date | Change Item | ECN |
|------------------|------------|---|--------------|
| Revision 1.01 | 2/23/2000 | <ol style="list-style-type: none">1. Add support Intel Pentium III 667/700MHz (FC-PGA) CPU.2. Add support Intel Celeron 566MHz(FC-PGA) CPU3. Microsoft WHQL PC99 Logo Ready. | |
| Revision 1.02 | 6/23/2000 | <ol style="list-style-type: none">1. Add support Intel Pentium III 733/750MHz (FC-PGA) CPU.2. Add support Intel Celeron 600/667/700MHz (FC-PGA) CPU3. Add PCI SCSI card list: Adaptec PCI SCSI card 29160 Adaptec PCI SCSI card 391604. Add support SCO UNIX/Linux Operation System5. Add support Microsoft Windows 2000 Professional6. Update BIOS version to VD411 | M99901-E-009 |
| Revision 1.03 | 10/05/2000 | <p>Add support Intel Pentium III 800MHz (FC-PGA) CPU.</p> <p>Add support Windows ME (Millennium Edition)</p> | |



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Suites

Word Processor

Communication

CAD

Database

Graphics

Presentation

Program

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Tools

Time Management

Scan

Internet

CD Title Game



1. Introduction

FIC's motherboards undergo a comprehensive suite of stringent software and hardware compatibility tests to ensure that they can not only run a complete range of operating systems and software packages, but that they can also be installed with a full selection of add-on cards and peripheral devices, such as SCSI and network adapters as well as HDDs, FDDs, CD-ROM Drives and Fax/Modems. A board is deemed to have passed the compatibility testing suite when it has met the following criteria:

- All application software available for IBM compatible products works properly.
- All common internal and external hardware available to the IBM AT-Bus and PCI compatible systems functions properly.
- All hardware and software can be installed according to the instructions provided to the user.
- All legal configurations (IRQ , I/O addresses, DMA levels) function properly.
- All applications have been tested with and without drivers provided on the support disk.
- All operating systems have been installed and tested with each processor, with and without the most critical mode selected by setup.



2. Mainboard Features

Model Name : KW15 PCB Rev 1.2
Product Name : Intel 810E chipset Based Mainboard
System BIOS : Award BIOS Version VD411
PCI IDE : Internal PCI Mastre dual IDE
I/O : ITE IT8712F-A

3. Mainboard CPU Supports:

3.1 Slot 1:

| Intel Processors | Bus | Package | Status |
|----------------------------------|-----|------------|--------|
| Pentium II 233MHz | 66 | SECC | Pass |
| Pentium II 266MHz | 66 | SECC | Pass |
| Pentium II 300MHz | 66 | SECC | Pass |
| Celeron 266MHz | 66 | SEPP | Pass |
| Celeron 300MHz (without cache) | 66 | SEPP | Pass |
| Celeron 300MHz (with 128K cache) | 66 | SEPP | Pass |
| Celeron 333MHz | 66 | SEPP | Pass |
| Celeron 366MHz | 66 | SEPP | Pass |
| Celeron 400MHz | 66 | SEPP | Pass |
| Celeron 433MHz | 66 | SEPP | Pass |
| Pentium II 333MHz (Deschute) | 66 | SECC | Pass |
| Pentium II 350MHz (Deschute) | 100 | SECC/SECC2 | Pass |
| Pentium II 400MHz (Deschute) | 100 | SECC/SECC2 | Pass |
| Pentium II 450MHz (Deschute) | 100 | SECC/SECC2 | Pass |
| Pentium III 450MHz (Katmai) | 100 | SECC2 | Pass |
| Pentium III 500MHz (Katmai) | 100 | SECC2 | pass |
| Pentium III 533MHz (Katmai) | 133 | SECC2 | pass |
| Pentium III 550MHz (Katmai) | 100 | SECC2 | pass |
| Pentium III 600MHz (Katmai) | 133 | SECC2 | pass |
| Pentium III 667MHz (Coppermine) | 133 | SECC2 | pass |
| Pentium III 700MHz (Coppermine) | 100 | SECC2 | pass |
| Pentium III 733MHz (Coppermine) | 133 | SECC2 | pass |



3.2 Socket 370:

| Intel Processors | Bus | Package | Status |
|---------------------------------|-----|-------------|--------|
| Celeron 333MHz | 66 | PPGA | Pass |
| Celeron 366MHz | 66 | PPGA | Pass |
| Celeron 400MHz | 66 | PPGA | Pass |
| Celeron 433MHz | 66 | PPGA | Pass |
| Celeron 466MHz | 66 | PPGA | Pass |
| Celeron 500MHz | 66 | PPGA | Pass |
| Celeron 533MHz | 66 | PPGA/FC-PGA | Pass |
| Celeron 566MHz | 66 | FC-PGA | Pass |
| Celeron 600MHz | 66 | FC-PGA | Pass |
| Celeron 667MHz | 66 | FC-PGA | Pass |
| Pentium III 600MHz (Coppermine) | 100 | FC-PGA | Pass |
| Pentium III 667MHz (Coppermine) | 133 | FC-PGA | Pass |
| Pentium III 700MHz (Coppermine) | 100 | FC-PGA | Pass |
| Pentium III 733MHz (Coppermine) | 133 | FC-PGA | Pass |
| Pentium III 750MHz (Coppermine) | 100 | FC-PGA | Pass |
| Pentium III 800MHz (Coppermine) | 100 | FC-PGA | Pass |

4 System Specification for Hardware and Software Utilities

The mainboard hardware portion was configured as follows :

| Item | Description |
|-------------------|---|
| System Core Logic | KW15 use Intel 810E chipset (with 4MB Display Cache) |
| System Memory | Maximum : 512MB SDRAM 168 pins single RAS and Double RAS DIMM RAM Module |
| System Slots | 5 PCI / 1 AMR / 1 ISA(Optional) slots |
| System Audio | Intel 810 AC'97 Audio with AD1881 codec |
| IO Corelogic | ITE IT8712F-A Support Normal,EPP,ECP mode and IR interface |
| PCI IDE | Intel 810E ICH internal Bus Master PCI IDE. |

4.1 Main Functionality Test:

| Num. | M/B function | Result |
|------|--|--------|
| 1 | ACPI Ready (under Win 98 SE/Win 2000) | PASS |
| 2 | APM 1.2 | PASS |
| 3 | Wake On LAN/Ring | PASS |
| 4 | RTC Alarm Function | PASS |
| 5 | AMR interface ready | PASS |
| 6 | Power On by Keyboard/PS2 mouse feature | PASS |
| 7 | Ultra ATA-33/66 Enhanced IDE Interface | PASS |
| 8 | Logo Genie | PASS |
| 9 | BIOS Easy Kit | PASS |
| 10 | Overclock Partner | PASS |
| 11 | USB Function | PASS |
| 12 | Year 2000 Compliance | PASS |



4.2 Main Software Utilities Test:

| Num. | M/B function | Version | Result |
|------|--|--------------|--------|
| 1 | Intel 810E patch file for Win 98 | 2.1 | PASS |
| 2 | Intel 810E AGP driver for Win 98 | 4.11.01.1321 | PASS |
| 3 | AD1881 AC'97 Audio codec driver for Win 98 | 5.00.2229 | PASS |
| 4 | Award BIOS Flash ROM Utilities | 7.13B | PASS |
| 5 | Award DMICFG Utilities for DOS | 2.3Du | PASS |

5. Jumper Function Verification

| Description | Jumper Name | Default Option | Status |
|-----------------------|-------------|----------------|--------|
| Speaker Connector | SPEAKER | Open | Pass |
| Power LED | PW_LED | Open | Pass |
| Suspended Switch | SP_SW | Open | Pass |
| IDE LED Connector | HDDLED | Open | Pass |
| Reset Switch | RST_SW | Open | Pass |
| Remote Power Switch | RPW_SW | Open | Pass |
| Message LED | MSG_LED | Open | Pass |
| CPU FAN Connector | CPU_FAN | Open | Pass |
| Chassis FAN Connector | CHS_FAN | Open | Pass |
| Clear CMOS | JP8 | 1-2 | Pass |
| Audio Codec | JP9 | 1-2 | Pass |
| IR interface | IR1 | Open | Pass |
| Processor Select | JP2/JP10 | Both Close | Pass |
| FWH write protect | JP3 | Open | Pass |
| LAN Wake Up | WOL | Open | Pass |
| CPU Ratio | JP4 | Open | Pass |



6. Stability Test

6.1 Worst Case Test :

| System Configuration | |
|--|---|
| CPU : Pentium III 500 | CD ROM : TEAC CD-532EA 32X CD-ROM |
| Cache Memory : 512 K | Mouse : Microsoft PS/2 mouse |
| On Board Memory : SDRAM 128MB | O.S. Environment : WIN 95, WinNT, SCO Unix |
| HDD : Quantum Fireball EX 6.4GB | Chamber : KATO SE-47CRT |
| FDD : Mitsumi D353F3 1.44MB | |

1. Temperature Strife Margin Test : (1.5 days)

DC voltage: 3.3V and 5V fixed

Temperature range: -20 ~ 90C ° (Out side)

Frequency test on 66MHz frequency

Diagnostic Program: AMIDdiag program will be ran at each different temperature ranges.

| NO. | Test Engineer | Test Result | Remark |
|-----|---------------|-------------|--------|
| 1. | Jason Chen | PASS | |

2. Full Loading Test : (1 days)

Full loading test condition:

- All memory banks loaded.
- All available slots occupied.
- Both IDE channels are used.

DC voltage: 3.3V and 5V fixed.

Temperature range: Ambient Temperature (about 25°C)

Frequency tested are on 66MHz, 68MHz with a ±10% frequency variation.

Diagnostic Program: Win NT HCT Stress test and SCO UNIX burn in.

| NO. | Test Engineer | Test Result | Remark |
|-----|---------------|-------------|--------|
| 1. | Jason Chen | PASS | |

3. Power Cycling test (Power On/Off Test): (1days)

DC voltage: change power voltage 3.0V/5.0 V ± 0.5% (Vcc)

Power on and off test using both 110V/230V input .

Temperature range: -30°C to 90°C

Power On/Off ten times in each condition

Diagnostic Program: Win 95/98

| NO. | Test Engineer | Test Result | Remark |
|-----|---------------|-------------|--------|
| 1. | Jason Chen | PASS | |

**6.2 Field (Stress) Test: Dynamic Burn-in Tests**

| Software Name | Duration | Result |
|---|---|---------------|
| BAPCO for Windows NT | 24 hr. | <i>Pass</i> |
| Test Configurations for NT | Intel Pentium III 600MHz Intel 810E (GMCH) integrated AGP VGA 128MB SDRAM Memory Adaptec AHA 2940U2W Quantum Atlas III Ultra Wide SCSI 9.1GB SCSI HDD | |
| Novell Server version 4.11 | 48 hr. | <i>Pass</i> |
| Test Configurations for Novell | Intel Pentium III 533MHz Adaptec AHA 3940 Quantum Fireball SE 8.4GB SCSI HDD (SE8400S) 3COM 3C905B-TX PnP PCI 100Mbps Netware card (Connect to 4-6 workstation) SEC 64MB SDRAM Memory Intel 810E (GMCH) integrated AGP VGA Test Program : Netware 4.11 | |
| SCO UNIX Open Desktop 5.04 | 24 hr. | <i>Pass</i> |
| Test Configurations for SCO | Intel Pentium II 450MHz Adaptec AHA-2940UW SONY CDU-625 24X SCSI CD-ROM Seagate ST-34555N 4.5GB Ultra SCSI Disk 128MB Memory Intel 810E (GMCH) integrated AGP VGA Test Program : Create a batch file | |
| Winstone 99 Under WIN98 | 24 hr. | <i>Pass</i> |
| Test Configurations for Win 98 | Intel Pentium III 600MHz IBM DJNA-370910 Ultra DMA66 9.1GB HDD Intel 810E (GMCH) integrated AGP VGA Fujitsu 64MB SDRAM Memory | |
| Winstone 99 Under WIN98 SE | 24hr. | <i>Pass</i> |
| Test Configurations for Win 98 | Intel Pentium III 600MHz Quantum Fireball KA Ultra DMA66 13.6GB HDD Buffalo 128MB SDRAM Memory.(SEC) Intel 810E (GMCH) integrated AGP VGA | |
| BAPCO for Windows NT 4.0 | 24hr. | <i>Pass</i> |
| Test Configurations for SYSmark 32 under Windows NT 4.0 | Intel Pentium III 600MHz IBM DTTA-371010 Ultra DMA33 10.2GB IDE HDD Apacer 128MB SDRAM Memory. Intel 810E (GMCH) integrated AGP VGA | |



7. Base Operating Systems HCT Tests For PC99

| Operating System | Company | HCT Name | Result |
|-------------------------|--|------------------------|---------------|
| Windows 98 SE with ACPI | Microsoft | Microsoft WHQL HCT 9.3 | <i>Pass</i> |
| Test Configurations | Intel Pentium III 600MHz 64MB Memory. Intel 810E (GMCH) integrated AGP VGA Lite-On LTN-403L 40X CDROM Onboard AD1881 Codec AC97' Audio | | |
| Windows 2000 RC3 | Microsoft | Microsoft WHQL HCT 9.2 | <i>Pass</i> |
| Test Configurations | Intel Pentium III 600MHz 64MB Memory. Intel 810E (GMCH) integrated AGP VGA Lite-On LTN-403L 40X CDROM Onboard AD1881 Codec AC97' Audio | | |



8. Hardware Compatibility Test Suite

8.1 Memory

Test Configuration:

OS Ver Win 98 SE Ver: 4.10.2222A .
 Win NT Ver: 4.0 + SP6

CPU Intel Celeron 533MHz (Bus clock 66MHz) Intel
 Intel Pentium III 533MHz (Bus clock 133MHz)
 Intel Pentium III 700MHz (Bus clock 100MHz)

HDD Quantum Fireball KA 9.1GB IDE PIO4 UDMA/33 UDMA/66
 Channel: PM PS SM SS

VGA Intel 810E (GMCH) AGP VGA PCI_Slot: ____ . Onboard AGP

CD-ROM Pioneer DR-502S 24X IDE Channel: PM PS SM SS

Sound Intel 810E AC'97 ISA_Slot: ____ . Onchip AC97

Mouse Microsoft IntelliMouse PS/2 Mouse COM PS/2

The following SDRAM module test Winstone 99 / BAPCO under Windows 98/NT with BIOS set up default value and set to the follow condition 1024 x 768 x 16bit colors, resolution refresh rate of 85Hz, small font.

8.1.1 SDRAM DIMM Module (PC66)

| Vender | IC Part No. | ECC | Size | Side | Module No. |
|------------|------------------|-----|-------|------|------------------------|
| Fujitsu | 81117622A-100FN | No | 16MB | S | |
| | 81117822E-100FN | No | 32MB | D | |
| | 81164842A-100FN | Yes | 128MB | D | |
| HYUNDIA | HY57V168010A-10 | No | 16MB | S | HYM7V64200 TFG-10 |
| | HY57V168010A-10 | No | 16MB | S | MEMDIMO12AAWW |
| | HY57V168010A-10 | Yes | 32MB | D | HYM7V72A400 TFG-10 |
| | HY57V658020TC-10 | Yes | 64MB | S | HYM7V72A801 |
| | HY57V658020TC-10 | No | 128MB | D | U8 |
| Micron | MT48LC2M8A-10 | No | 16MB | S | MTBLSDT264AG |
| | MT48LC2M8A1-10 | No | 16MB | S | MT8LSDT264AG-662C1 |
| | MT48LC2M8A1-10 | No | 32MB | S | MT16LSDT464AG-66CL2 |
| | MT48LC2M8A1-10 | Yes | 32MB | D | MT16LSDT472A6-662C1 |
| Mitsubishi | M5M4V16S30CTP-12 | No | 16MB | S | MH2S64CZTJ-15 |
| | M5M4V16S30CTP-12 | No | 32MB | D | MH4S64CZTJ-16 |
| | M5M4V16S30DTP | Yes | 32MB | D | M04B032M2EE72208-C3100 |
| SEC | KM48S2020AT-G12 | No | 16MB | S | MDS163S-28 |
| | KM48S2020AT-G12 | No | 16MB | S | KMM366S203AT-G2 |
| | KM48S2020BT-G10 | No | 16MB | S | KMM366S203BTN-G0 |
| | KM48S2020BT-G10 | Yes | 32MB | D | KMM374S403BTN-G0 |
| | KM416S4030AT-G10 | No | 64MB | D | KMM366S824AT-G0 |
| | KM48S8030AT-G10 | No | 64MB | S | KMM366S823AT-G0 |
| SIEMENS | HYB39S16800T-10 | No | 16MB | S | NYS64V2000GU-10 |
| Toshiba | TC59S1608AFT-12A | No | 16MB | S | THMY640231AEG-12A |
| | TC59S1608AFT-12A | No | 16MB | S | |
| | TC59S1608AFT-12A | No | 32MB | D | THMY644041AEG-12A |

**8.1.2 SDRAM DIMM Module (PC100)**

| Vender | IC Part No. | ECC | Size | Side | Module No. |
|----------|----------------------|-----|-------|------|------------------------|
| NEC | D4564841G5-A80-9JF | Yes | 128MB | D | BUFFALO VSJ-ED128M2 |
| Winbond | W981216AH-75 | No | 64MB | S | VSJ-S64M2 |
| Fujitsu | 81F16822D-102LFN | Yes | 32MB | D | M04B032M2EE72208-C2100 |
| | 81F64842B-103FN | Yes | 64MB | S | M04B064MIHE72224-C3100 |
| SIEMENS | HYB39S64800BT-8 | No | 64MB | S | HYS64V8200GU-8 |
| | HYB39S64800BT-8 | Yes | 128MB | D | HYS72V16220GU-8 |
| | HYB39S64800CT-8 | No | 64MB | S | HYS64V8300GU-8-C |
| | HYB39S64800CT-8 | Yes | 128MB | D | HYS72V16220GU-8-C |
| SEC | KM48S8030BT-GH | Yes | 64MB | S | BUFFALO VSJ-ES64M2 |
| | KM48S8030BT-GH | No | 128MB | D | BUFFALO VSJ-D128M2 |
| | KM48S16030T-GL | Yes | 256MB | D | |
| Hyundia | HY57V658020B-10P | No | 128MB | D | VSJ-D128M2 |
| KingMAX | KSV884T4A1A-08A | No | 64MB | S | MPC643S-882 |
| | KSV884T4A1A-08A | No | 128MB | D | MPCA83S-882 |
| Apacer | GM72V66841XT7J | No | 64MB | S | 71.63320.065 (HYUNDAI) |
| | GM72V66841ET7K | No | 128MB | D | 71.73323.065 (HYUNDAI) |
| SIMONS | D45128163G5-A10B-9JF | No | 64MB | S | |
| KingSton | PTT3S128081T-8 | No | 128MB | S | DT100128M8-T01151 |
| | TC59SM716FT-80 | No | 64MB | S | KGM100X64C2/64 |

8.1.3 SDRAM DIMM Module (PC133)

| Vender | IC Part No. | ECC | Size | Side | Module No. |
|----------|---------------------|-----|-------|------|----------------------|
| SIEMENS | HYB39S64800BT-7.5 | No | 64MB | S | HYS64V8300GU-7.5 |
| | HYB39S64800BT-7.5 | No | 128MB | D | HYS64V16220GU-7.5 |
| MICRON | MT48LC8M8A2-75B | No | 64MB | S | MT8LSDT864AG-133B4 |
| | MT48LC8M8A2-75B | Yes | 64MB | S | MT9LSDT872AG-133B4 |
| | MT48LC8M8A2-75B | No | 128MB | D | MT16LSDT1664AG-133B4 |
| Buffalo | 5264805FTT75 | No | 64MB | S | VS133-64M |
| | 5264805FTT75 | No | 128MB | D | VS133-128M |
| | GM72V66841ET7K | No | 128MB | D | VS133-128M |
| | GM72V66841ET7K | No | 64MB | S | VS133-64MB |
| KingMAX | KSV884T4A1A-07 | No | 128MB | D | MPGA83S-883 |
| Apacer | HYB39S64800BT-7.5 | No | 64MB | S | 71.63350.114 |
| | AM2V648C2T75 | No | 64MB | S | 71.63350.034 |
| | HYB39S64800BT-7.5 | No | 128MB | D | 71.73350.114 |
| | HYB39S64800AT-7.5 | No | 128MB | D | 71.73350.114 |
| | AM2V648C2T75 | No | 128MB | D | 71.73350.034 |
| V-TEC | GM72V66841ET75 | No | 64MB | S | |
| KingSton | TC59SM708FT-75 | No | 128MB | S | KGM133X64C3/128 |
| | HYB39S64800BT-7.5 | No | 64MB | S | KVR-PC133/64 (8X64) |
| | HYB39S64800BT-7.5 | No | 128MB | D | KVR-PC133/128 |
| SIMONS | D45128841G5-A80-9JF | No | 128MB | S | |
| Hyundai | HY57V658020B TC-75 | No | 64MB | S | HYM7V63801BTFG-75 |
| | HY57V658020B TC-75 | No | 128MB | D | HYM7V631601BTFG-75 |



| | | | | | |
|-----|--------------------|-----|-------|---|---------------------|
| | HY57V658020B TC-75 | Yes | 128MB | D | HYM7V73A1601BTFG-75 |
| NEC | D4564841G5-A75-9JF | No | 64MB | S | MC-458CB647LF-A75 |

8.2 Add-on Cards

8.2.1 Display Adapter Products

Test Configuration:

OS Ver Win 98 **SE Ver:** 4.10.2222A .
CPU Intel Pentium III 600MHz Intel
Memory Hyundai 128MB (HY57V658020B) **Total:** 128 MB PC66 PC133
HDD IBM DJNA-352030 20.3GB IDE PIO4 UDMA/33 UDMA/66
CD-ROM TEAC CD-532EA 32X IDE **Channel:** PM PS SM SS
Sound Intel 810 AC'97 **Channel:** PM PS SM SS
Mouse Logitech MouseMan Mouse ISA_Slot: Onchip AC97
 COM PS/2

The following PCI VGA cards test WinBench 99 under Windows 98 with their respective VGA drivers installed and set to the follow condition 1024 x 768 x 16bit colors, resolution refresh rate of 85Hz, small font.

| Vendor | VGA Chip | Product Description |
|-----------|----------------|---------------------|
| ATI | ATI Mach64 | ATI Mach64 VT |
| | ATI Rage II | ATI Rage II 3D |
| Diamond | S3 968 | Stealth 64 Video |
| Creative | Cirrus CL-5462 | |
| | 3dfx Voodoo2 | 3D Blaster Voodoo2 |
| Cardex | S3 Virge/DX | S3 Virge |
| ELSA | S3 Virge/VX | Winner 3000L 3D |
| | S3 Virge | Victory 3D-4 |
| Number #9 | LSI 128 | Image 128 |
| Matrox | MGA-1064SG | Mystique 4MB SGRAM |
| 3dfx | Voodoo3 -2000 | Voodoo3 -2000 |

8.2.2 SCSI Adapter Products

Test Configuration:

OS Ver Win 98 **SE Ver:** 4.10.2222A .
 Win NT Ver: 4.0 . + SP6
CPU Intel Celeron 533MHz Intel
Memory SEC 128MB (KM48S8030BT-GH) **Total:** 128 MB PC66 PC100
VGA Intel 810E (GMCH) AGP VGA PCI_Slot: Onboard AGP
HDD IBM DCAS34330 4.5GB SCSI HDD Ultra SCSI Ultra Wide
 Viking II 4.5GB SCSI HDD Ultra SCSI Ultra Wide
CD-ROM Plextor PX-32Tsi 32X SCSI Ultra SCSI Ultra Wide
Sound Intel 810 AC'97 ISA_Slot: Onchip AC97

**Mouse** Logitech MouseMan MouseCOM PS/2

The following PCI SCSI cards test HCT Stress under Windows 98/NT with their respective SCSI drivers installed and set to the follow condition 1024 x 768 x 16bit colors, resolution refresh rate of 85Hz, small font.

| Vendor | Model Name | Product Description | Bus I/F |
|----------|---------------|-----------------------------------|---------|
| Adaptec | AHA-2940 | Adaptec AHA-2940 PCI SCSI | PCI |
| | AHA-2940UW | Adaptec AHA-2940UW PCI SCSI card | PCI |
| | AHA-2940U2W | Adaptec AHA-2940U2W PCI SCSI card | PCI |
| | ASC-29160 | Adaptec ASC-29160 PCI SCSI card | PCI |
| | ASC-39160 | Adaptec ASC-39160 PCI SCSI card | PCI |
| BusLogic | FlashPoint LT | Buslogic BA81C15 PCI SCSI | PCI |
| | BT-958 | Buslogic BT-958 Narrow SCSI | PCI |
| Initio | INI-9100HA/W | Initio INI-9100HA/W PCI SCSI | PCI |
| Tekram | DC-390U2W | Tekram DC-390U2W PCI SCSI | PCI |

8.2.3 Network Card Products

Test Configuration:

OS Ver Novell Netware Ver: 4.11 .
 Win 98 SE Ver: 4.10.2222A .

CPU Intel Celeron 400MHz

Intel

Memory Toshiba 64MB (TC59S6408FTL-80H)

Total: 64 MB PC66 PC100

VGA Intel 810E (GMCH) AGP VGA

PCI_Slot: _____ Onboard AGP

HDD IBM DTTA-351010 10.1GB IDE

PIO4 UDMA/33

Channel: PM PS SM SS

CD-ROM TEAC CD-523S 32X IDE

Channel: PM PS SM SS

Mouse Logitech MouseMan Mouse

COM PS/2

The following PCI LAN cards test Nwtest under Novell Netware and tset NetBench 5.01 under Windows NT Server with their respective LAN drivers installed .



| Vender | Model | Specification | Bus | Result |
|---------|-------------|-------------------------|-----|--------|
| 3COM | 3C905B | ETHERNET 100Mbps (WOL) | PCI | Pass |
| | 3C905C | ETHERNET 100Mbps (WOL) | PCI | Pass |
| | 3C339 | PnP Token-Ring | PCI | Pass |
| ACCTON | EN1203 | ETHERNET 10 Mbps | PCI | Pass |
| | EN1207 | ETHERNET 100 Mbps (WOL) | PCI | Pass |
| IBM | TR900 | Token-Ring | PCI | Pass |
| | TR701 | Token-Ring (WOL) | PCI | Pass |
| INTEL | PRO10+ | ETHERNET 10Mbps | PCI | Pass |
| | E100B 82557 | ETHERNET 100 Mbps | PCI | Pass |
| | E100B 82558 | ETHERNET 100 Mbps (WOL) | PCI | Pass |
| | E100B 82559 | ETHERNET 100 Mbps (WOL) | PCI | Pass |
| OLICOM | OC-2185 | ETHERNET 10Mbps | PCI | Pass |
| | OC-3136 | TOKEN RING 4/16Mbps | PCI | Pass |
| | OC-2325 | ETHERNET 100 Mbps | PCI | Pass |
| Thomas | TC4048 | TOKEN RING | PCI | Pass |
| D-Link | DFE-540TX | ETHERNET 100 Mbps (WOL) | PCI | Pass |
| SMC | SMC9332 | ETHERNET 100Mbps | PCI | Pass |
| | SMC9432TX | ETHERNET 100Mbps (WOL) | PCI | Pass |
| | SMC1211 | ETHERNET 100Mbps | PCI | Pass |
| | SMC1211TX | ETHERNET 100Mbps | PCI | Pass |
| GENIUS | GE2500 | ETHERNET 10Mbps | PCI | Pass |
| COMPAQ | | ETHERNET 100Mbps | PCI | Pass |
| NetMate | CATC | USB to Lan 10BASE-T | USB | Pass |

8.2.4 FAX / Modem Products

Test Configuration:

OS Ver Win 98 Ver: 4.10.2222A .

CPU Intel Pentium III 500MHz

Memory Toshiba 64MB (TC59S6408FTL-80H)

VGA Intel 810E (GMCH) AGP VGA

HDD Fujitsu MPD 3084AT 8.4GB IDE

CD-ROM Hitachi CDR-8430 32X IDE

Sound Intel 810 AC'97

Mouse Logitech MouseMan Mouse

Intel

Total: 64 MB PC66 PC100

PCI_Slot: . Onboard AGP

PIO4 UDMA/33 UDMA/66

Channel: PM PS SM SS

Channel: PM PS SM SS

ISA_Slot: . Onchip AC97

COM PS/2

The following External/AMR slot modem test includes connecting to the internet and download files under Windows 98 with their respective modem drivers installed .



| Vendor | Product Description | Bus I/F |
|----------|---------------------------------|----------|
| ADI | CommuPack 56K SVD | External |
| USR | Sportster 56K Faxmodem | External |
| Motorola | VoiceSURFR 56K | External |
| GVC | 56K/K56 FLEX ASVD | External |
| Askey | Smartlink (56K) | AMR slot |
| Archtek | Smartlink (56K) | AMR slot |
| TAICOM | MP56A-FCC 56K BPS FCC Fax/Modem | AMR slot |
| AboCom | MR560M (56K) - Motorola | AMR slot |
| | MR560S (56K) | AMR slot |

8.3 Storage

8.3.1 SCSI Peripheral Products

Test Configuration:

OS Ver Win 98 Ver: 4.10.2222A .
 Win NT Ver: 4.0 .

CPU Intel Celeron 433MHz

Intel

Memory LGS 64MB (GN72V661641CT7J)

Total: 128 MB PC66 PC100

VGA Intel 810E (GMCH) AGP VGA

PCI_Slot: . Onboard

AGP

SCSI AHA -2940U2W Ultra Wide

ISA PCI_Solt: 2 .

Mouse Logitech First Mouse+ Mouse

COM PS/2

The following SCSI devices test HCT Stress and WinStone 99 under Windows 98/NT with their respective SCSI drivers installed and set to the follow condition 1024 x 768 x 16bit colors, resolution refresh rate of 85Hz, small font.

| ITEM | Vendor | Model Name | Product Description |
|----------------|-----------|---------------------------|--------------------------------|
| SCSI Hard Disk | Quantum | Fireball SE | Ultra SCSI HDD 8.4GB |
| | | Viking II | Ultra2 Wide SCSI HDD 4.5GB |
| | | Atlas II | Ultra SCSI HDD 4.5GB |
| | | Atlas III | Ultra Wide SCSI HDD 9.1GB |
| | Seagate | ST-34555N | Ultra SCSI HDD 4.5GB |
| | | ST-32272W | Ultra Wide SCSI HDD 2.2GB |
| | | ST-39173W | Barracuda 9LP Ultra Wide 9.1GB |
| | | ST-34502LW | Cheetah 9LP Ultra2 Wide 4.5GB |
| | IBM | DCAS34330 | 4.5GB Ultra SCSI HDD |
| | | DCAS34330 | 4.5GB Ultra Wide SCSI HDD |
| WD | WDE2170 | 4.3GB Ultra Wide SCSI HDD | |
| CD-ROM | Plextor | PX-32Tsi | Ultra SCSI CD-ROM 32X |
| | Panasonic | CR-508 | SCSI-II CD-ROM 24X |
| | NEC | CDR-1910 | Ultra SCSI CD-ROM 32X |
| | SONY | CDU-625 | SCSI-II CD-ROM 24X |
| | TEAC | CD-523S | Ultra SCSI CD-ROM 32X |
| | Toshiba | XM-6210B | Ultra SCSI CD-ROM 32X |
| | Pioneer | DR-533 | Narrow SCSI II CD-ROM 24X |



8.3.2 IDE Fixed Disk Drive Products

Test Configuration:

OS Ver Win 98 SE Ver: 4.10.2222A . Win NT Ver: 4.0 + SP6

CPU Intel Pentium III 700MHz

 Intel

Memory SEC 64MB (KM48S8030BT-GH)

Total: 128 MB PC66 PC100

CD-ROM Panasonic CDR-587D 32X IDE

Channel: PM PS SM SS

VGA Intel 810E (GMCH) AGP VGA

 PCI_Slot: . Onboard AGP

Sound Intel 810 AC'97

 ISA_Slot: . Onchip AC97

Mouse Logitech First Mouse+ Mouse

 COM PS/2

The following IDE devices test HCT Stress and WinStone 99/Winbench 99 under Windows 98 with High-Point IDE Bus Master drivers installed and set to the follow condition 1024 x 768 x 16bit colors, resolution refresh rate of 85Hz, small font.

8.3.2.1 IDE UDMA/33 HDD:

| Vendor | Model Name | Mode | Capacity |
|---------|-------------------------|--------------|----------|
| Maxtor | Diamond 88400D8 | Ultra DMA 33 | 8.4GB |
| | Diamond 86480D6 | Ultra DMA 33 | 6.4GB |
| | Diamond 84320D4 | Ultra DMA 33 | 4.3GB |
| | Diamond 91000D8 | Ultra DMA 33 | 10.0GB |
| Fujitsu | MPA3052AT | Ultra DMA 33 | 5.2GB |
| | MPA3043AT | Ultra DMA 33 | 4.3GB |
| | MPB3064AT | Ultra DMA 33 | 6.4GB |
| | MPB3032AT | Ultra DMA 33 | 3.2GB |
| | MPC3064AT | Ultra DMA 33 | 6.4GB |
| | MPC3102AT | Ultra DMA 33 | 10.2GB |
| Quantum | Fireball SE | Ultra DMA 33 | 4.3GB |
| | Fireball EL | Ultra DMA 33 | 5.1GB |
| | Fireball EX | Ultra DMA 33 | 6.4GB |
| | Fireball EX | Ultra DMA 33 | 12.7GB |
| | Bigboot TX | Ultra DMA 33 | 4.0GB |
| | Bigboot TX | Ultra DMA 33 | 12.0GB |
| Seagate | Medialist pro ST-34342A | Ultra DMA 33 | 4.3GB |
| | Medialist pro ST-39140A | Ultra DMA 33 | 9.1GB |
| | Medialist pro ST-36530A | Ultra DMA 33 | 6.5GB |
| WD | Caviar AC36400 | Ultra DMA 33 | 6.4GB |
| | Caviar AC38400 | Ultra DMA 33 | 8.4GB |
| IBM | DTTA-371010 | Ultra DMA 33 | 10.1GB |

**8.3.2.2 IDE UDMA-66 HDD:**

| Vendor | Model Name | Mode | Capacity |
|---------|-------------|--------------|----------|
| WD | AC28400 | Ultra DMA 66 | 8.4GB |
| | AC310200 | Ultra DMA 66 | 10.2GB |
| | AC313000 | Ultra DMA 66 | 13GB |
| Seagate | ST-36421A | Ultra DMA 66 | 6.4GB |
| | ST-313032A | Ultra DMA 66 | 13GB |
| | ST-317242A | Ultra DMA 66 | 17.2GB |
| Fujitsu | MPD3064AT | Ultra DMA 66 | 6.4GB |
| | MPD3084AT | Ultra DMA 66 | 8.4GB |
| | MPD3108AT | Ultra DMA 66 | 10.8GB |
| Quantum | Fireball CR | Ultra DMA 66 | 4.3GB |
| | Fireball CR | Ultra DMA 66 | 8.4GB |
| | Fireball CX | Ultra DMA 66 | 10.2GB |
| | Fireball CX | Ultra DMA 66 | 13GB |
| | Fireball KA | Ultra DMA 66 | 9.1GB |
| | Fireball KA | Ultra DMA 66 | 13.6GB |
| IBM | DJNA-370910 | Ultra DMA 66 | 9.1GB |
| | DJNA-352030 | Ultra DMA 66 | 20.3GB |
| Maxtro | 90845U3 | Ultra DMA 66 | 8.4GB |
| | 91024U4 | Ultra DMA 66 | 10.2GB |
| | 91360U4 | Ultra DMA 66 | 13.6GB |
| | 92040U6 | Ultra DMA 66 | 20GB |
| | 92720U8 | Ultra DMA 66 | 27GB |

8.3.3 Floppy Disk Drive Products**Test Configuration:**OS Ver Win 98 SE Ver: 4.10.2222A . Win NT Ver: 4.0 + SP6

CPU Intel Celeron 433MHz

 Intel

Memory Toshiba 64MB (TC59S6408FTL-80H)

Total: 64 MB PC66 PC100

VGA Intel 810E (GMCH) AGP VGA

 PCI_Slot: . Onboard AGP

HDD Quantum Fireball EX 12.7GB IDE

 PIO4 UDMA/33Channel: PM PS SM SS

CD-ROM Pioneer DR-502S 24X IDE

Channel: PM PS SM SS

Sound Intel 810 AC'97

 ISA_Slot: . Onchip AC97

Mouse Logitech MouseMan Mouse

 COM PS/2

The following Floppy devices were tested by format disk, boot and read/write file under under Windows 98/NT with High-Point IDE Bus Master drivers installed .



| Vendor | Model Name | Product Description |
|-----------|------------|---------------------------|
| Mitsumi | D359T3 | 1.44MB Floppy Disk Drive |
| Panasonic | JU-257 | 1.44 MB Floppy Disk Drive |
| TEAC | FD-235HG | 1.44 MB Floppy Disk Drive |

8.3.4 ATAPI CD-ROM /DVD-ROM Device Product

Test Configuration:

OS Ver Win 95 Ver: SR2 2.5 .
 Win 98 Ver: 4.10.2222A .
 CPU Intel Pentium III 533MHz Intel
 Memory SIEMENS 128MB (HYB39S64800BT) Total: 128 MB PC66 PC133
 HDD Maxtro 91360U4 13.6GB IDE PIO4 UDMA/66
 Channel: PM PS SM SS
 VGA Intel 810E (GMCH) AGP VGA PCI_Slot: . Onboard AGP
 Sound Intel 810 AC'97 ISA_Slot: . Onchip AC97
 Mouse Logitech First Mouse+ Mouse COM PS/2

The following IDE devices test ZD CDWinbench 99/HCT Stress and play VCD over night under Windows 95/98 with High-Point IDE Bus Master drivers installed and set to the follow condition 1024 x 768 x 16bit colors, resolution refresh rate of 85Hz, small font.

8.3.4.1 ATAPI CD-ROM:

| Vendor | Model Name | Product Description |
|-----------|-------------|------------------------|
| Panasonic | CR-587-D | ATAPI CD-ROM 32X Mode4 |
| Mitsumi | CRMC-FX320S | ATAPI CD-ROM 32X Mode4 |
| NEC | CDR-1900A | ATAPI CD-ROM 32X Mode4 |
| Wearnes | CDS-32X | ATAPI CD-ROM 32X Mode4 |
| Acer | 650P | ATAPI CD-ROM 50X UDMA2 |
| LITE-ON | LTN-301 | ATAPI CD-ROM 32X UDMA2 |
| Creative | CD2421E | ATAPI CD-ROM 24X Mode4 |
| A-Open | CD-940E/AKU | ATAPI CD-ROM 40X UDMA2 |
| ASUS | CD-S400 | ATAPI CD-ROM 40X UDMA2 |
| | CD-S500/A | ATAPI CD-ROM 50X UDMA2 |
| Vuego | 624A-304 | ATAPI CD-ROM 24X Mode4 |
| TEAC | CD-532EA | ATAPI CD-ROM 32X Mode3 |
| SONY | CDU-611 | ATAPI CD-ROM 24X Mode4 |
| | CDU-711 | ATAPI CD-ROM 32X UDMA2 |
| Pioneer | DR-502S | ATAPI CD-ROM 24X Mode4 |
| BTC | BCD 48SB | ATAPI CD-ROM 48X UDMA2 |

**8.3.4.2 ATAPI DVD-ROM:**

| Vendor | Model Name | Product Description |
|-----------|-------------|---------------------|
| Panasonic | SR-8582B | ATAPI DVD-ROM 2.0X |
| | SR-8583-BXX | ATAPI DVD-ROM 5.0X |
| Toshiba | SD-M1202 | ATAPI DVD-ROM 4.8X |
| SONY | DDU-220E | ATAPI DVD-ROM 5.0X |
| Afreey | DD-4008E | ATAPI DVD-ROM 8.0X |
| Hitachi | GD-2500 | ATAPI DVD-ROM 6X |
| Pioneer | DVD-102 | ATAPI DVD-ROM 2.6X |
| | DVD-A03S | ATAPI DVD-ROM 6X |

8.3.5 ATAPI Disk Drive (IDE Interface)**Test Configuration:**

OS Ver MS-DOS Ver: 6.22 .
 Win 98 SE Ver: 4.10.2222A .
 CPU Intel Celeron 533MHz Intel
 Memory SIEMENS 64MB (HYB39S64800AT-8) Total: 64 MB PC66 PC100
 VGA Intel 810E (GMCH) AGP VGA PCI_Slot: Onboard AGP
 HDD WD Caviar AC38400 8.4GB IDE PIO4 UDMA/33
 Channel: PM PS SM SS
 CD-ROM TEAC CD-532EA 32X IDE Channel: PM PS SM SS
 Sound Intel 810 AC'97 ISA_Slot: Onchip AC97
 Mouse Logitech First Mouse+ Mouse COM PS/2

The following Floppy devices were tested by format disk, boot and read/write file (large file) under DOS 6.22/Windows 98 with High-Point IDE Bus Master drivers installed .

| Vendor | Product Description |
|------------|-------------------------------|
| Mitsubishi | MF357G-111MA LSA-120 |
| Panasonic | LKM-F434-105 LS-120 |
| Zip | Z100 Zip IDE DRIVE 29ms 100MB |



8.4 Peripherals

8.4.1 Parallel/Serial Port Products (Including IR)

Test Configuration:

OS Ver Win 95 Ver: SR2 2.5 Win 98 Ver: 4.10.2222A

CPU Intel Celeron 400MHz

 Intel

Memory Fujitsu 32MB (81F16822D-102LFN)

Total: 64 MB PC66 PC100

HDD Quantum Fireball ST 6.4AT 6.4GB IDE

 PIO4 UDMA/33Channel: PM PS SM SS

CD-ROM NEC CDR-1900A 32X IDE

Channel: PM PS SM SS

VGA Intel 810E (GMCH) AGP VGA

 PCI_Slot:____. Onboard

AGP

Sound Intel 810 AC'97

 ISA_Slot:____. Onchip AC97

Mouse Logitech TrackMan Marble Mouse

 COM PS/2

The following Parallel/Serial devices be tested under Windows 95/98 with High-Point IDE Bus Master drivers installed.

| Vendor | Model Name | Product Description | Bus I/F |
|-------------|-----------------|--------------------------------------|---------|
| HP | LaserJet III | HP LaserJet III | LPT |
| | LaserJet 6P | HP LaserJet 6P support IR Interface | LPT |
| Mustek | 1200CP | Mustek 1200CP Scanner | LPT |
| Parallel | Universal Cable | DirectParallel universal cable | LPT |
| Road Runner | Express T305 | External Parallel Port Tape Backup | LPT |
| | Express FD144 | External Parallel Port Floppy Drive | LPT |
| | Express CD-4X | External Parallel Port CD-ROM Driver | LPT |
| | Express XD | External Parallel Port Hard Driver | LPT |
| Actisys | ACT-IR210L | InfraRed Computer Link | IR |
| | ACT-IR220L | InfraRed Computer Link | COM(IR) |
| IRwave | IRwave320S | InfraRed Computer Link | COM(IR) |
| | IRwave320F | InfraRed Computer Link | IR |
| Kodak | DC210 | InfraRed/Serial port Digital camera | COM(IR) |



8.4.2 Mouse Products

Test Configuration:

OS Ver Win 95 Ver: SR2 2.5 Win 98 SE Ver: 4.10.2222A .
CPU Intel Celeron 466MHz Intel
Memory Apacer 64MB (AM2V168A1T8) **Total: 128 MB** PC66 PC100
HDD Seagate ST-310240A 10.2GB IDE PIO4 UDMA/33
CD-ROM NEC CDR-1900A 32X IDE **Channel:** PM PS SM SS
VGA Intel 810E (GMCH) AGP VGA **Channel:** PM PS SM SS
Sound Intel 810 AC'97 PCI_Slot: ____. Onboard AGP
 ISA_Slot: ____. Onchip AC97

The following Mouse devices test Office 97 and Game under Windows 95/98 with Mouse drivers installed.

| Vendor | Model Name | Product Description | Bus I/F |
|-----------|-----------------|--|-------------|
| Microsoft | Microsoft Mouse | Microsoft IntelliMouse Serial - PS/2 Mouse | Serial/ PS2 |
| Logitech | MouseMan | Logitech MouseMan Serial - PS/2 Mouse | Serial/ PS2 |
| | First Mouse+ | Logitech First Mouse+ Serial - PS/2 Mouse | Serial/ PS2 |
| | Wheel Mouse | Logitech Wheel Mouse PS/2 Mouse | PS2 |
| | MouseMan Wheel | Logitech MouseMan Wheel PS/2 Mouse | PS2 |
| | TrackMan Marble | Logitech TrackMan Marble Serial - PS/2 Mouse | Serial/ PS2 |

8.4.3 USB Device Products

Test Configuration:

OS Ver Win 98 Ver: 4.10.2222A .
CPU Intel Pentium III 533MHz Intel
Memory Mitsubishi 32MB (M5M4V16S30DTP) **Total: 64 MB** PC66 PC100
HDD Quantum Fireball CR 8.4GB IDE PIO4 UDMA/33 UDMA/66
CD-ROM TEAC CD-532EA 32X IDE **Channel:** PM PS SM SS
VGA Intel 810E (GMCH) AGP VGA **Channel:** PM PS SM SS
Sound Intel 810 AC'97 PCI_Slot: ____. Onboard AGP
 ISA_Slot: ____. Onchip AC97
Mouse Microsoft IntelliMouse Mouse COM PS/2

The following USB devices be tested under Windows 98 with Win 98 default driver installed.



| Type | Vendor | Description |
|----------|--------------|---------------------------|
| Mouse | Logitech | M-UA34 |
| | | M-UB48 |
| | | USB Wheel Mouse |
| | | USB MouseMan Wheel |
| | Twinhead | S-Mouse |
| | Macally | USB Mini Mouse |
| | Cypress | 7-895 Mouse |
| HUB | Belkin | Express Bus F5U001 |
| Camera | Kodak | DVC323 |
| | AXIS | PCAM-QU |
| Faxmodem | USRobotics | 56K Voice Faxmodem |
| Keyboard | BTC | 8113W |
| | Chicony | KU-8933 |
| Printer | EPSON | Stylus Color 740 |
| Ethernet | CATC | USB to Lan 10BASE-T |
| Scanner | HP | ScanJet 4200C |
| Speaker | Philips | MAGNAVOX DSS350 |
| Monitor | Viewsonic | Professional Series PS775 |
| Joystick | Genius | Flight2000 F-22X |
| | Thrustmaster | TOP Gun |

8.4.4 Joystick & Game Pad

Test Configuration:

OS Ver Win 98 Ver: 4.10.2222A

CPU Intel Celeron 400MHz Intel

Memory SIEMENS 32MB (HYB39S64160AT-8) Total: 64 MB PC66 PC100

HDD Maxtor 86480D6 6.4GB IDE PIO4 UDMA/33

Channel: PM PS SM SS

CD-ROM Vuego 624A-304 24X IDE

Channel: PM PS SM SS

VGA Intel 810E (GMCH) AGP VGA

PCI_Slot: ____ Onboard

AGP

Sound Intel 810 AC'97

ISA_Slot: __ Onchip AC97

Mouse Microsoft IntelliMouse Mouse

COM PS/2

The following Joystick & Game Pad devices test Game under Windows 98 with themselves default driver installed.

| Vendor | Product Description |
|-----------|--|
| Microsoft | SideWinder 3D Pro joystick |
| | SideWinder force feedback pro joystick |
| Logitech | Wing Man Extreme digital joystick |
| | CyberMan 2 Game Pad |
| | WingMan Force joystick |



| |
|--------------------------------|
| WingMan Formula Force joystick |
|--------------------------------|

8.5 Power Supply Products

The following Power Supply devices test power On/Off 10 times in the Chamber .

| Vendor | Model Name | Product Description |
|-----------|---------------|------------------------------|
| HIPRO | HP-200NLXAG | 200W ATX Remote Power Supply |
| | HP-200NLXAA | 200W ATX Remote Power Supply |
| | HP-200ATXAG | 200W ATX Remote Power Supply |
| Seventeam | ST-250GL | 250W ATX Remote Power Supply |
| | ST-301HR | 300W ATX Remote Power Supply |
| DELTA | DPS-200PB-103 | 250W ATX Remote Power Supply |
| Leadman | LP-6100ATX | 250W ATX Remote Power Supply |
| Sea Sonic | SSG-200GTX | 200W ATX Remote Power Supply |
| Tiger | TG-2006-B | 200W ATX Remote Power Supply |
| | TG-2007-B | 200W ATX Remote Power Supply |

8.6 MPEG-2 DVD Display Products

Test Configuration:

OS Ver Win 98 SE Ver: 4.10.2222A .
 CPU Intel Pentium III 533MHz Intel
 Memory NEC 64MB (D4564841G5-A75) Total: 128 MB PC66 PC133
 HDD Seagate ST-317242A 17.2GB PIO4 UDMA/66
 Channel: PM PS SM SS
 VGA Intel 810E (GMCH) AGP VGA PCI_Slot:____. Onboard AGP
 Sound Intel 810 AC'97 ISA_Slot:____. Onchip AC97
 Mouse Microsoft IntelliMouse Mouse COM PS/2

The following DVD player over night under Windows 98 with their respective DVD drivers installed and set to the follow condition 1024 x 768 x 16bit colors, resolution refresh rate of 85Hz, small font.

| Vendor | VGA Chip | Product Description |
|-----------|----------------------|-----------------------|
| Realmagic | Sigma Designs EM8300 | DVDmagic Pro DVD card |
| Triplex | LuxSonorLS220 | Secret-Lover DVD card |
| Formosa | Sigma Designs EM8300 | DVD8300 DVD card |



9. Software Compatibility Test Suite

9.1 Base Operating System

9.1.1 Microsoft MS-DOS/Win 3.1:

Test Configuration:

CPU Intel Celeron 533MHz
Memory Hyundai 32MB (HY57V168010A-10)
HDD Quantum Fireball CR 8.4GB IDE

VGA Intel 810E (GMCH) AGP VGA
Sound Intel 810 AC'97
CD-ROM TEAC CD-524EA 24X IDE
Mouse Logitech TrackMan Marble Mouse

Intel
Total: 64 MB PC66 PC100
 PIO4 UDMA/33 UDMA/66
Channel: PM PS SM SS
 PCI_Slot:____. Onboard AGP
 ISA_Slot:__. Onchip AC97
Channel: PM PS SM SS
 COM PS/2

| Test Item | Result | Remark |
|--|--------|--------|
| FDISK (FAT16) | PASS | |
| Install DOS | PASS | |
| Format FDD | PASS | |
| Format HDD | PASS | |
| Boot from FDD | PASS | |
| Boot from HDD | PASS | |
| HIMEM | PASS | |
| EMM386 | PASS | |
| XCopy | PASS | |
| Diskcopy | PASS | |
| Power.exe | PASS | |
| USB Keyboard working (Only) | PASS | |
| Install Windows 3.1 | PASS | |
| Qaplus 5.52 for DOS | PASS | |
| Check It 5.01 for DOS | PASS | |
| Norton Utility 8.0 for DOS/Win 3.1 (Sysinfo) | PASS | |
| AMIDdiag 5.42a | PASS | |
| Speedcom | PASS | |
| Speedy for Win 3.1 | PASS | |
| ICU 1.43 test | PASS | |
| NSTL Y2K tools test | PASS | |
| PM function (H/W & BIOS) | PASS | |
| LS-120/ZIP install & working | PASS | |
| GAME play (name: Mech Warrior 2 Mercenaries) | PASS | |

The board is tested to ensure that it runs a complete a range of Operating Systems and thus operate in all network environments The board Power Management and Remote functions are



also tested.

| Operating System | Version | Language | Company | Status |
|------------------------|---------|----------|-----------|--------|
| MS DOS | 6.22 | English | Microsoft | Pass |
| Windows for Workgroups | 3.11 | English | Microsoft | Pass |

9.1.2 Microsoft Windows 95/98/98 SE:

Test Configuration:

CPU Intel Pentium III 600MHz Intel
Memory SIEMENS 128MB (HYB39S64800BT-7.5) Total: 128 MB PC66 PC133
HDD IBM DJNA-352030 20.3GB IDE PIO4 UDMA/33 UDMA/66
VGA Intel 810E (GMCH) AGP VGA PCI_Slot: ____ Onboard AGP
Sound Intel 810 AC'97 ISA_Slot: ____ Onchip AC97
CD-ROM Pioneer DR-502S 24X IDE Channel: PM PS SM SS
Mouse Microsoft IntelliMouse Mouse COM PS/2

| Test Item | Result | Remark |
|--|--------|--------|
| FDISK (FAT32) | PASS | |
| Install Win 98 | PASS | |
| Format FDD | PASS | |
| Diskcopy | PASS | |
| Large file Copy | PASS | |
| USB device test | PASS | |
| Trend Anti-Virus Install & Test | PASS | |
| LDCM Install & Test (LDCM Ver: <u>3.30</u>) | PASS | |
| Device Management check (No Caution) | PASS | |
| Sound/VGA/LAN IRQ change (PnP function) | PASS | |
| VGA Resolution/Color change | PASS | |
| Install Office 97 | PASS | |
| Auto Shutdown (system power off) | PASS | |
| Defrag test | PASS | |
| LS-120/ZIP install & working | PASS | |
| Norton Utility 3.0 | PASS | |
| CheckIt 98 | PASS | |
| Qaplus 7.1 for Win 98 | PASS | |
| Year 2000 test | PASS | |
| DVD Video CD play (name: <u>BATMAN & ROBIN</u>) | PASS | |
| Video CD play (name: <u>TOP GUN</u>) | PASS | |
| ACPI test (HCT 8.0) | PASS | |
| Drive Converter (FAT32) | PASS | |
| PM function by WIN98 (H/W) | PASS | |
| GAME play (name: <u>TOMB RAIDER II</u>) | PASS | |
| WinStone 98/99 | PASS | |
| WinBench 98/99 | PASS | |
| 3D Winbench 98/99 | PASS | |



The board is tested to ensure that it runs a complete a range of Operating Systems and thus operate in all network environments The board Power Management and Remote functions are also tested.

| Operating System | Version | Language | Company | Status |
|------------------------------|---------|---------------|-----------|--------|
| MS Windows 95 OSR2.5 | 950C | English | Microsoft | Pass |
| | 4.0a | Japanese | Microsoft | Pass |
| | 950C | German | Microsoft | Pass |
| | 950C | French | Microsoft | Pass |
| | 950C | Chinese | Microsoft | Pass |
| MS Windows 98 | 1998 | English | Microsoft | Pass |
| MS Windows 98 Second Edition | 2222A | English | Microsoft | Pass |
| | 2222A | Chinese | Microsoft | Pass |
| MS Windows 98 OEM | 1998 | German | Microsoft | Pass |
| | 1998 | Japanese | Microsoft | Pass |
| | 1998 | French | Microsoft | Pass |
| | 1998 | Chinese(trad) | Microsoft | Pass |
| | 1998 | Chinese(simp) | Microsoft | Pass |

9.1.3 Microsoft Windows NT 4.0+Service Pack 6:

Test Configuration:

CPU Intel Pentium III 550MHz Intel
Memory SEC 64MB (KM48S8030BT-GH) **Total: 196 MB** PC66 PC100
HDD Seagate ST-313032A 13GB IDE PIO4 UDMA/33 UDMA/66
Channel: PM PS SM SS
VGA Intel 810E (GMCH) AGP VGA PCI_Slot: ____. Onboard AGP
Sound Intel 810 AC'97 ISA_Slot: ____. Onchip AC97
CD-ROM Mitsumi CRMC-FX320S 32X IDE **Channel:** PM PS SM SS
Mouse Logitech Mouse+ Mouse COM PS/2

| Test Item | Result | Remark |
|----------------------------------|--------|--------|
| Install Win NT (NTFS/FAT) | PASS | |
| Format FDD | PASS | |
| Diskcopy | PASS | |
| IDE Bus Master install | PASS | |
| VGA Resolution/Color change | PASS | |
| Shutdown | PASS | |
| Shutdown & Restart | PASS | |
| LS-120/ZIP install & working | PASS | |
| Year 2000 test | PASS | |
| WinBench 98 | PASS | |
| BAPCO for Win NT 4.0 (SYSmark32) | PASS | |
| HCT 8.0 Stress test | PASS | |
| PM function (H/W & BIOS) | PASS | |



The board is tested to ensure that it runs a complete a range of Operating Systems and thus operate in all network environments The board Power Management and Remote functions are also tested.

| Operating System | Version | Language | Company | Status |
|-------------------------------------|---------|----------|-----------|--------|
| Windows NT Advance Server | 3.51 | English | Microsoft | Pass |
| Windows NT Workstation | 3.51 | English | Microsoft | Pass |
| Windows NT Workstation | 4.0 | English | Microsoft | Pass |
| | 4.0 | Japanese | Microsoft | Pass |
| | 4.0 | German | Microsoft | Pass |
| | 4.0 | French | Microsoft | Pass |
| | 4.0 | Chinese | Microsoft | Pass |
| Windows NT Workstation Service Pack | 5.0 | English | Microsoft | Pass |
| | 6.0 | English | Microsoft | Pass |

9.1.4 IBM OS/2 4.0:

Test Configuration:

CPU Intel Celeron 533MHz Intel
Memory Toshiba 64MB (TC59S6408FTL-80H) **Total: 64 MB** PC66 PC100
HDD WD Caviar AC313000 13GB IDE PIO4 UDMA/66
VGA Intel 810E (GMCH) AGP VGA **Channel:** PM PS SM SS
PCI_Slot:____. Onboard AGP
Sound Intel 810 AC'97 ISA_Slot:____. Onchip AC97
CD-ROM Philips PCA323CD 32X IDE **Channel:** PM PS SM SS
Mouse Logitech Mouse+ Mouse COM PS/2

| Test Item | Result | Remark |
|-----------------------------|--------|--------|
| Install OS/2 (HPFS) | PASS | |
| Format FDD | PASS | |
| XCopy | PASS | |
| Diskcopy | PASS | |
| VGA Resolution/Color change | PASS | |
| DOS Windows | PASS | |
| OS/2 Windows | PASS | |
| Boot from A: feature ready | PASS | |
| Stress test | PASS | |
| PM function (H/W & BIOS) | PASS | |

The board is tested to ensure that it runs a complete a range of Operating Systems and thus operate in all network environments The board Power Management and Remote functions are also tested.

| Operating System | Version | Language | Company | Status |
|------------------|---------|----------|---------|--------|
| IBM OS/2 Warp | 4.0 | English | IBM | Pass |
| | 3.0 | English | IBM | Pass |

**9.1.5 UNIX/LINUX :****Test Configuration:**

CPU Intel Pentium III 600MHz Intel
Memory Apacer 64MB (HYB39S64800BT-7.5) **Total: 128 MB** PC100 PC133
HDD Seagate ST-36530A 6.5GB IDE PIO4 UDMA/33
Channel: PM PS SM SS
VGA Intel 810E (GMCH) AGP VGA PCI_Slot:____. Onboard AGP
CD-ROM Afreey DD-4008E 8X DVD-ROM **Channel:** PM PS SM SS
Mouse Logitech Mouse+ Mouse COM PS/2

| Operating System | Version | Language | Status |
|---------------------|---------|----------|--------|
| SCO UNIX (UnixWare) | 7.0 | English | Pass |
| Open Linux | 2.4 | English | Pass |

9.1.6 Microsoft Windows 2000:**Test Configuration:**

CPU Intel Pentium III 750MHz Intel
Memory SIEMENS 128MB (HYB39S64800CT-7.5) **Total: 256 MB** PC66 PC100
HDD Seagate ST-317242A 17.2GB IDE PIO4 UDMA/33 UDMA/66
Channel: PM PS SM SS
VGA Intel 810E (GMCH) AGP VGA PCI_Slot:____. Onboard AGP
Sound Intel 810 AC'97 PCI_Slot:____. Onchip AC97
CD-ROM TEAC CD-532EA 32X IDE **Channel:** PM PS SM SS
Mouse Microsoft IntelliMouse Mouse COM PS/2

| Test Item | Result | Remark |
|--|--------|--------|
| Install Win 2000 with NTFS (boot from CD) | PASS | |
| Format FDD | PASS | |
| Cool boot 2 times under every combination | PASS | |
| Reboot 2 times under every combination | PASS | |
| VGA Resolution/Color change (800x600x32bit / 1024x768x16bit) | PASS | |
| Auto Shutdown (system power off) | PASS | |
| Defrag test | PASS | |
| Year 2000 test | PASS | |
| DVD Video CD play (name: <u>Deep Blue Sea</u>) | PASS | |
| Hibernate (Suspend To Disk) | PASS | |
| PM function by Win2000 (H/W & Time out & Stand by) | PASS | |
| Sound/VGA/LAN IRQ change (PnP function) | PASS | |
| Install Office 2000 | PASS | |



| | | |
|-------------|------|--|
| WinStone 99 | PASS | |
| WinBench 99 | PASS | |

The board is tested to ensure that it runs a complete a range of Operating Systems and thus operate in all network environments The board Power Management and Remote functions are also tested.

| Operating System | Version | Language | Company | Status |
|------------------------------|-----------|----------|-----------|--------|
| MS Windows 2000 Professional | 5.00.2195 | English | Microsoft | Pass |

9.1.7 Microsoft Windows ME:

Test Configuration:

CPU Intel Pentium III 800MHz Intel
Memory SEC 256MB (KM48S16030T-GL) **Total: 512 MB** PC100 PC133
HDD Quantum Fireball LC 20.4GB IDE PIO4 UDMA/33 UDMA/66
VGA Intel 810E (GMCH) AGP VGA PCI_Slot:____. Onboard AGP
Sound Intel 810 AC'97 PCI_Slot:____. Onchip AC97
CD-ROM Pioneer DVD-105S 16X DVD **Channel:** PM PS SM SS
Mouse Microsoft IntelliMouse Mouse COM PS/2

| Test Item | Result | Remark |
|---|--------|--------|
| FDISK (FAT32) | PASS | |
| Install OS | PASS | |
| Format FDD | PASS | |
| Device Management check (No Caution) | PASS | |
| VGA Resolution/Color change | PASS | |
| Large file Copy (one file Over 500MB) | PASS | |
| Install Office 2000 | PASS | |
| Media Player 7.0 (play MIDI/MP3/CD Audio) | PASS | |
| LS-120/ZIP install & working | PASS | |
| VCD/DVD play (name: Mercury Rising) | PASS | |
| Power Management | PASS | |
| Hibernate (Suspend To Disk) | PASS | |
| System Restore | PASS | |
| WinStone 99 (Business WS99) | PASS | |
| WinBench 99 (BD/BG/CPU/FPU/HD/HG) | PASS | |
| 3D WinBench 2000 | PASS | |

The board is tested to ensure that it runs a complete a range of Operating Systems and thus operate in all network environments The board Power Management and Remote functions are



also tested.

| Operating System | Version | Language | Company | Status |
|------------------|-----------|----------|-----------|--------|
| MS Windows ME | 4.90.3000 | English | Microsoft | Pass |

9.2 Software Applications

| Item | Descriptions | Version | O.S. | Language | Status |
|----------------------|----------------------------|---------|------------|----------|--------|
| Suites | Lotus SMART Suites 96 | 1.0 | Windows 95 | English | Pass |
| | MS Work for Windows | 3.0 | Windows | English | Pass |
| | MS Work for Windows95 | 4.0 | Windows 95 | English | Pass |
| | MS Office for Windows | 4.3 | Windows | English | Pass |
| | MS Office for Windows | 4.3 | Windows | Chinese | Pass |
| | MS Office 97 for Windows95 | 7.0 | Windows 95 | English | Pass |
| WordProcessor | AMI Pro for Windows | 3.1 | Windows | English | Pass |
| | Word Pro for Windows96 | | Windows | Chinese | Pass |
| | MS Word for Windows | 6.0 | Windows | English | Pass |
| | MS Word for Windows | 6.0 | Windows | Chinese | Pass |
| | Word Perfect for Windows | 6.0 | Windows | English | Pass |
| | WordPerfect | 6.0 | Windows | English | Pass |
| | MS Office 97 | 7.0 | Windows | English | Pass |
| Communication | cc: Mail/Add-on | | Windows | English | Pass |
| | BITWare | 3.30 | Windows 95 | English | Pass |
| | Delrina CommSuite | 1.0 | Windows 95 | English | Pass |
| | WinFAX Pro for Win 95 | 4.0 | Windows 95 | English | Pass |
| | LapLink | 7.0A | Windows 95 | English | Pass |
| | Norton Anywhere | 1.0 | Windows | English | Pass |
| CAD | 3D Disign Plus | 2.0 | Windows | English | Pass |
| | AutoCAD | R13 | Windows 95 | English | Pass |
| | 3D Studio | 4.0 | DOS | English | Pass |
| | Micro Station | 5.0 | Windows | English | Pass |
| Database | Approach 96 | 1.0 | Windows 95 | English | Pass |
| | Lotus Notes | 4.0 | Windows 95 | English | Pass |
| | Borland Visual Dbase | 5.5 | Windows 95 | English | Pass |
| | Visual Foxpro | 3.0A | Windows 95 | English | Pass |
| | Visual dBASE Compiler | 5.5 | Windows 95 | English | Pass |
| | FoxBase Microsoft | 2.1 | Windows | English | Pass |
| | FoxPro Microsoft | 6.0 | Windows | English | Pass |
| Graphics | Corel Draw | 6.0 | Windows 95 | English | Pass |
| | Fractul Design Painter | 4.0 | Windows 95 | English | Pass |
| | Windows Draw | 3.0 | Windows | English | Pass |
| | MS PowerPoint | 4.0 | Windows | English | Pass |
| | Pagemaker | 6.5 | Windows 95 | English | Pass |
| | Visio HOME | 4.0 | Windows 95 | English | Pass |
| | Photo Shop Pro | 3.05 | Windows 95 | English | Pass |
| Presentation Program | MS PowerPoint | 7.0 | Windows 95 | English | Pass |
| | MS Visual Basic | 4.0 | Windows 95 | English | Pass |
| | MS Visual C++ | 4.0 | Windows 95 | English | Pass |



| | | | | | |
|--------------------|--|-------|---------------|---------|------|
| | Borland C++ | 4.0 | Windows | English | Pass |
| | Borland C++ | 5.0 | Windows 95 | English | Pass |
| | Turbo C++ | 3.1 | Windows | English | Pass |
| | Borland Delphi | 2.0 | Windows 95 | English | Pass |
| Diagnostic Program | Bapco95 for Win NT | 4.0 | Windows NT | English | Pass |
| | ZD 3D Winbench 98/99 | 1.0 | Windows 95/98 | English | Pass |
| | PC Magazine Winstone 98/99 | 1.0 | Windows 95/98 | English | Pass |
| | Speed for Win95 | 3.0 | Windows | English | Pass |
| | QAPLus | 5.52 | DOS | English | Pass |
| | QAPLus | 7.01 | Windows 95/98 | English | Pass |
| | Landmark(Speedcom) | 2.0 | DOS | English | Pass |
| | Check IT Pro | 5.01 | Windows 95/98 | English | Pass |
| | CheckIt 98 | | Windows 95/98 | English | Pass |
| | Intel LANDesk Client Manager | 3.0 | Win95/Win NT | English | Pass |
| Tools | AfterDark for Win95 | 3.0 | Windows 95 | English | Pass |
| | Xing Soft MPEG Player | 3.2 | Windows 95 | English | Pass |
| | Norton Commander | 5.04 | DOS | English | Pass |
| | Norton Desktop | 3.0 | Windows | English | Pass |
| | Norton Utility | 3.0 | Windows 95 | English | Pass |
| | QEMM386 | 8.00 | Windows 95 | English | Pass |
| TimeManagement | MS Project | 4.1 | Windows 95 | English | Pass |
| | Organizer | 2.1T | Windows | Chinese | Pass |
| Scan | PC-cillin 97 | 3.0 | Windows 95 | English | Pass |
| | PC-cillin 98 | 4.021 | Windows 95/98 | English | Pass |
| | Norton Antivirus | 5.0 | Windows 95/98 | English | Pass |
| Internet | Winsock | 1.0 | Windows 95 | English | Pass |
| | Netscape | 3.01 | Windows 95 | English | Pass |
| | Internet Explore | 4.0 | Windows 95 | English | Pass |
| CD Title Game | 3D Ultra Pin Ball | 1.0 | Windows 95 | English | Pass |
| | Duke Nukem 3D | 1.0 | DOS | English | Pass |
| | Toy Story | 1.0 | Windows | English | Pass |
| | Mech Warrior2 | 1.0 | Windows 95 | English | Pass |
| | AH-64D longbow | 1.0 | DOS | English | Pass |
| | NFL Football Trivia Challenge | 1.0 | DOS | English | Pass |
| | Wing Commander III | 4.0 | DOS | English | Pass |
| | MYST | 1.0 | Windows 95 | English | Pass |
| | Indy Car II Racing | 1.0 | DOS | English | Pass |
| | International Tennis Open | 1.0 | DOS | English | Pass |
| | Escape from Cyber City | 1.0 | DOS | English | Pass |
| | HAVOC | 1.0 | Window 95 | English | Pass |
| | Flight Unlimited | 1.0 | DOS (CD) | Chinese | Pass |
| | Poker Cowboy Casino MPEG Version | 1.0 | Window 95 | English | Pass |
| | MDK (Exclusive North American Version) | 1.0 | Window 95 | English | Pass |
| | Master of Orion II Battle at Antares | 1.0 | Window 95 | English | Pass |
| | The Lion King | 1.0 | Window 95 | English | Pass |



| | | | | |
|-------------------------------|-----|---------------|---------|------|
| DIABLO BLIZZARD (CD) | | Win95 / NT4.0 | English | Pass |
| WARCRAFT II TIDES OF DARKNESS | | DOS/WIN95 | English | Pass |
| DOOM II | 1.0 | Window 95 | English | Pass |
| Command & Conquer Red Alert | | | English | Pass |
| Command & Conquer | | | English | Pass |
| Broken & Word | | | English | Pass |
| War Wind | | WIN95 | English | Pass |
| Magic 2 Carpet | | | English | Pass |
| YAMARAJA | | Window 95 | English | Pass |
| TOMB RAIDER II | | Window 95 | English | Pass |
| Lands of Lore II | | Window 95 | English | Pass |
| The Magic School Bus | | | English | Pass |
| Flight Simulator 98 | | Window 95 | English | Pass |
| Dagger fall | | Window 95 | English | Pass |
| Sky NET | | Window 95 | English | Pass |
| THE NEED FOR SPEED SE | | | English | Pass |
| Quake II | | Window 95 | English | Pass |
| Test Drive 4 | | Window 95 | English | Pass |
| AGE of EMPIRES | | Window 95 | English | Pass |
| Mech Warrior 2 Mercenaries | | | English | Pass |
| Blood & Magic | | DOS/WIN95 | English | Pass |
| Wing Commander III | | DOS/WIN95 | English | Pass |
| Wing Commander IV | | Window 95 | English | Pass |
| Descent II | | | English | Pass |
| TOMB Raider III | | Window 95/98 | English | Pass |
| AGE of EMPIRES(Expansion) | | Window 95/98 | English | Pass |
| Moto Racer 2 | | Window 95/98 | English | Pass |
| Need for Speed III | | Window 95/98 | English | Pass |
| Klingon Honor Gurd | | Window 95/98 | English | Pass |