



## Roteiro de Testes no Modo PHD ou Modo PHD FORÇADO

### 1. PCI Local Bus Test

- 1.1 PHD Self-Test
- 1.2 Read PHD PCI Header test
- 1.3 Read/Write Configuration Space Test
- 1.4 Detect PCI BIOS Test
- 1.5 Scan PCI Bus Test
- 1.6 PCI Bus PERR# Test
- 1.7 PCI Bus SERR# Test
- 1.8 PCI Bus Interrupt Test
- 1.9 PCI Bus Burst Transaction Test
- 1.A PCI to ISA Bridge - Hummer I.P. specific
- 1.B 64-bit PCI Slot Test

### 2. DMA Page Register Test

- 2.1 ISA Low Byte (Bits.....) Hummer I.P. specific
- 2.2 ISA High Byte. Hummer I.P. specific
- 2.4 DMA Page Register - Data bits stuck HIGH test
- 2.5 DMA Page Register - Data bits stuck LOW test
- 2.6 DMA Page Register - Data lines shorts test
- 2.7 DMA Page Register - Address lines test

### 3. Master DMA Controller (#1) Test

- 3.1 Data bits stuck HIGH Test
- 3.2 Data bits stuck LOW Test
- 3.3 Data lines shorts test
- 3.4 Address lines test

### 4. Slave DMA Controller (#2) Test

- 4.1 Data bits stuck HIGH Test
- 4.2 Data bits stuck LOW Test
- 4.3 Data lines shorts test
- 4.4 Address lines test

### 5. Keyboard Controller and Keyboard Test

- 5.1 Input buffer empty test
- 5.2 Output buffer empty test
- 5.3 Self-test AA - 55h test
- 5.4 Interface test
- 5.5 Video setting test
- 5.6 Keyboard lock test
- 5.7 Keyboard self-test
- 5.8 Keyboard stuck keys test

### 6. Master Interrupt Controller (#1) Test

- 6.1 Interrupt mask register stuck high test
- 6.2 Interrupt mask register stuck low test
- 6.3 In service register stuck high test
- 6.4 Interrupt request register stuck high test
- 6.5 Timer channel 0 interrupt (IRQ0) test
- 6.6 Keyboard controller interrupt (IRQ1) test
- 6.7 COM 2 interrupt (IRQ3) test
- 6.8 COM 1 interrupt (IRQ4) test
- 6.9 LPT 2 interrupt (IRQ5) test
- 6.A Diskette controller interrupt (IRQ6) test
- 6.B LPT 1 interrupt (IRQ7) test

### 7. Slave Interrupt Controller (#2) Test

- 7.1 Interrupt mask register stuck high test
- 7.2 Interrupt mask register stuck low test
- 7.3 in service register stuck high test
- 7.4 Real time clock interrupt (IRQ8) test
- 7.5 Redirected to IRQ2 interrupt (IRQ9) test
- 7.6 Reserved (IRQ10) test
- 7.7 Reserved (IRQ11) test

### 7.8 Reserved (IRQ12) test

- 7.9 Coprocessor interrupt (IRQ13) test
- 7.A Hard disk controller interrupt (IRQ14) test
- 7.B Reserved (IRQ15) test

### 8. CMOS RAM & Real Time Clock Test

- 8.1 CMOS Battery test
- 8.2 CMOS RAM 0Eh to \_\_ h bytes test
- 8.3 CMOS RAM data lines test
- 8.4 CMOS RAM address lines test
- 8.5 Real time clock test
- 8.6 Real time clock alarm test

### 9. Port B and System Signals - Hummer IP. tests

- 9.1 Refresh bit toggle - Hummer I.P. specific
- 9.2 System Port B
- 9.3 Self Test of Latch Circuit
- 9.4 Refresh Signal (Slot)
- 9.5 Address Enable (AEN) (Slot)
- 9.6 System Byte High Enable (SBHE) (Slot)
- 9.7 Buffered Address Latch Enable (BALE) (Slot)
- 9.8 OSC (Slot)
- 9.9 System Clock (SCLK) (Slot)

### A. DMA Data Transfers - Hummer IP

- A.1 DMA 8-bits Port
- A.2 DMA 16-bit Port
- A.3 Drive DRQ Lines
- A.4 DRQ & Memory Control Lines
- A.5 DMA Channel 0 (8 Bit Transfer)
- A.6 DMA Channel 1 (8 Bit Transfer)
- A.7 DMA Channel 2 (8 Bit Transfer)
- A.8 DMA Channel 3 (8 Bit Transfer)
- A.9 DMA Channel 5 (16 Bit Transfer)
- A.A DMA Channel 6 (16 Bit Transfer)
- A.B DMA Channel 7 (16 Bit Transfer)

### B. RAM 0-640k, 1024k-1088k Test

- B.1 Enable/disable address A20 test
- B.2 Bit stuck HIGH test
- B.3 Bit trick LOW test
- B.4 Data Integrity test
- B.5 Address lines test
- B.6 Refresh test

### C. Timer/Counter test

- C.1 Channel 0 stuck HIGH test
- C.2 Channel 1 stuck HIGH test
- C.3 Channel 2 stuck HIGH test
- C.4 Channel 0 stuck LOW test
- C.5 Channel 1 stuck LOW test
- C.6 Channel 2 stuck LOW test

### D. Color Video Card Test

- D.1 Verify video BIOS checksum test
- D.2 1st 64K data & address test
- D.3 2nd 64K data & address test
- D.4 3rd 64K data & address test
- D.5 4th 64K data & address test
- D.6 Cursor registers test
- D.7 DAC registers test

### E. Main BIOS Socket(s) Test

- E.1 BIOS data lines test
- E.2 BIOS address lines test