ASUS Customer Service Center

RMA Pretest user Manual

Motherboard

Rev. 1.0

Contents

ASUS Pretest Fixtures Pack Rev. 1.00

Please read this document carefully; it contains important information about the "ASUS Pretest Fixtures Pack (Rev. 1.00)". Topics include:

- Customer Benefit
- Customer Responsibility
- Package Contents

Customer Benefit

Customers who have purchased the "ASUS Pretest Fixtures Pack" will obtain the advantage as shown below:

1. Process RMA pretest on-site.
2. Process troubleshooting efficiently.
3. Reduce NDF(No Defect Found) rate and save shipping cost.
   Save TAT(Turn Around Time). ASUS will keep auditing the return NDF rate monthly. If it keeps under 10%, ASUS will provide higher RMA priority and 10 working days of TAT for customers who have done the Pretest.
4. ASUS will provide one year non-periodical software update.

Customer Responsibility

Any documents, software, fixtures or know-how, which relates to the "ASUS Pretest Fixtures Pack" are belong to ASUS confidential information. Customers must follow the items to purchase this package and than get the advantage from it:

1. Sign the NDA(Non-Disclosure Agreement) before purchasing it.
2. Following ASUS RMA return procedure and fill in the necessary documents to send the RMA products back to ASUS.
3. Provide test report to ASUS for future analysis.
4. All testing fixtures are forbidded to be resold.

Notice:

Customers who doesn't follow the instruction to fill in & provide the necessary documents won't get

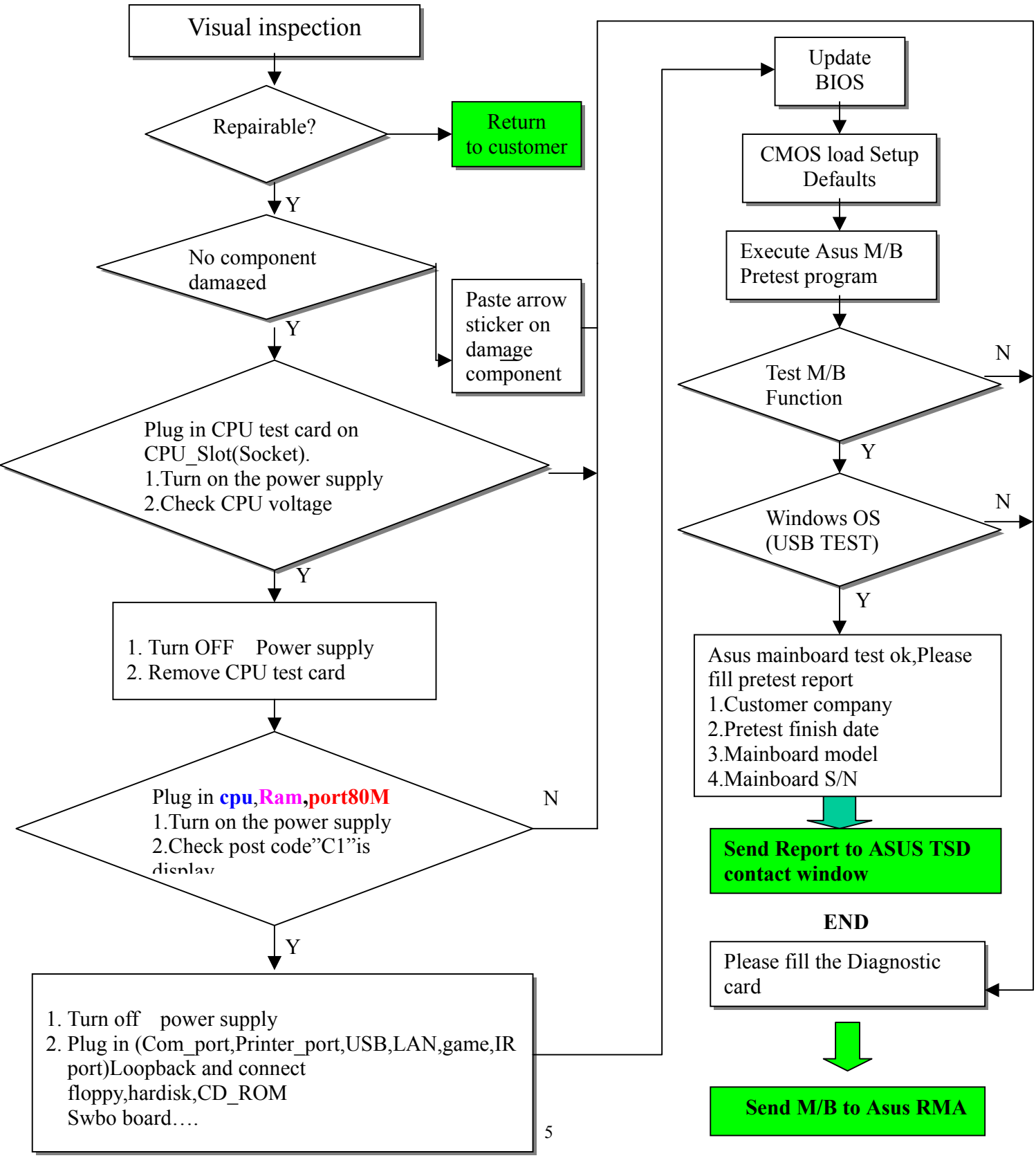
higher RMA priority.ASUS have the right to decide whether to stop providing software updates to customers.

Package Contents

User Manual		*1
Test Program CD		*1
Test Fixtures		
15-093004001	M017 CD-ROM TX97 Test CD	*1
22-060000210	CABLE 20P IDC (L:100mm)	*1
22-060000310	PGA 296P SOCK	*1
22-060000320	PGA 370P SOCK	*1
22-060001031	PGA 423P SOCK	*1
22-060001020	PGA 462P SOCK	*1
08-900006600	KLAMATH SIGNAL CARD (1.6m/m,2L,14*4.5cm)	*1
08-900009900	ENG_K7-S2K PIN TO NAME TEST (R1.00,4L,1.6mm,5670*2331)	*1
20-521048260	IR LOOP BACK (1*5)	*1
20-521048270	IR LOOP BACK (2*5)	*1
20-521048280	LAN Fixture	*1
04-220150100	MR MODEM CARD WS-5614DML (SOFTWARE MODEM CARD FCC)	*1
20-201100075	ATX TO AT Cable	*1
22-060001280	AUDIO CABLE (HOUSING*3(BLACK))	*1
22-060001290	AUDIO CABLE (HOUSING*1B+HOUSING*2W)	*1
70-C1OG10-01	COM PORT-1 (REV1.00)	*1
70-C1OG14-02	SWBO-OEM (REV2.00)	*1
70-C1OG15-02	SWBO-ASUS (REV2.00)	*1
80-C1G002-0202	ENG_PRT (R2.02)	*1
80-C1G024-0100	ENG_GPORT_A (R1.00)	*1
80-C1OG29-0100	PORT80M (R1.00)	*1

WARNING! Computer components are extremely sensitive to electrostatic discharge (ESD). Before handling any components, be sure to wear an anti-static wrist strap (not included) and touch a grounded object, like the your computer case or any other metal object, to release any built-up static charge.

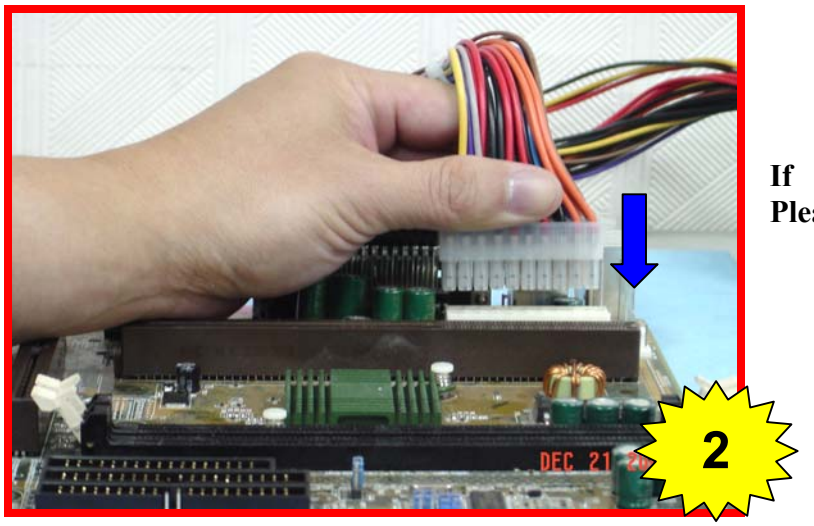
Customer Pretest flow chart



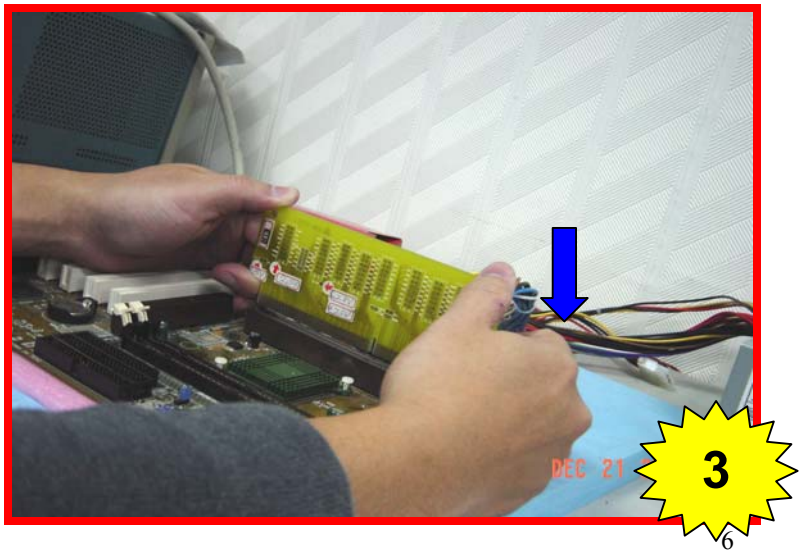
Pretest operate description

Visual inspection:

1. **Inspect M/B have broken,oxidized…..**
   (Please refer Visual inspection description)
2. **Customer induce or not.**
   (Please refer Customer Induce Description)
3. **If any M/B components failed to work after inspection,please paste the arrow stacker and write on Diagnostic Card**

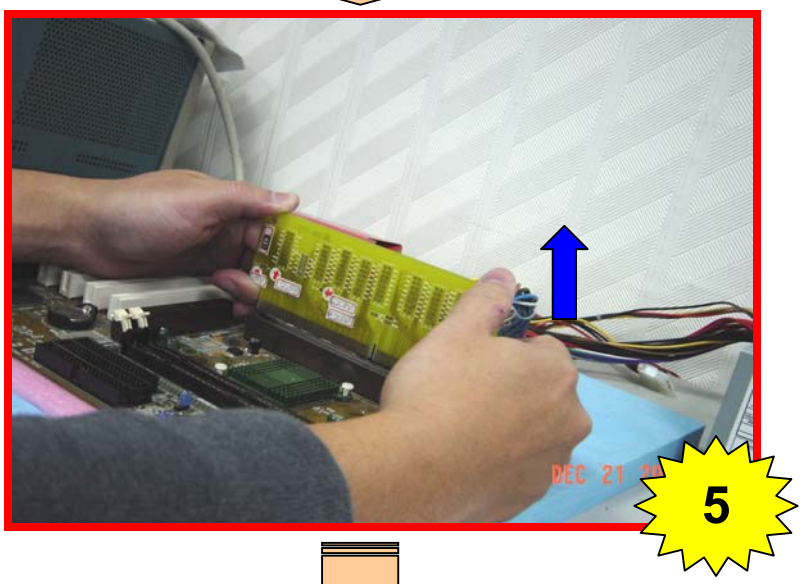


If Visual inspection is OK.
Please plug in the power connector on Motherboard

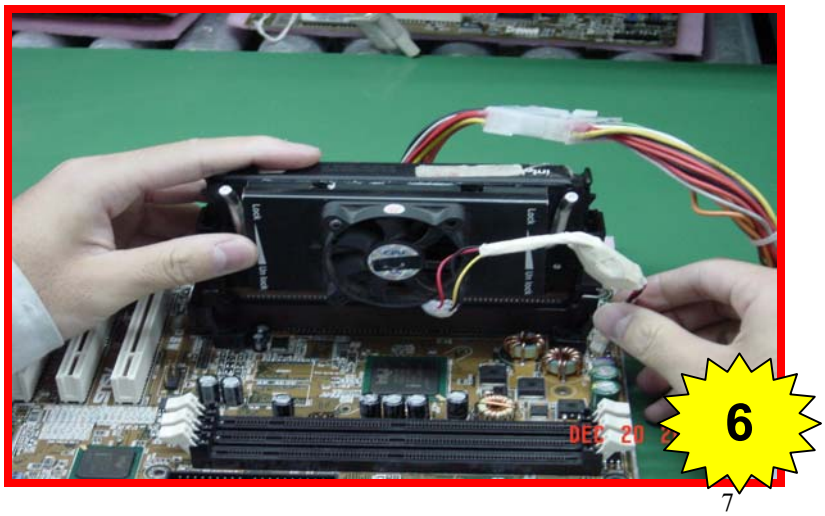


Plug in CPU test Card on CPU_Slot(Socket) and Turn on power supply.

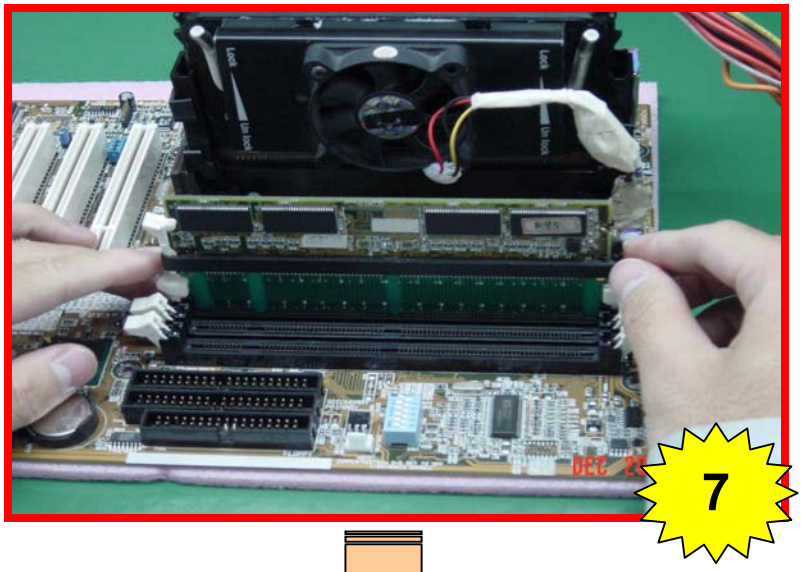
Check CPU voltage on CPU test card



Turn OFF Power supply and Remove CPU Test Card

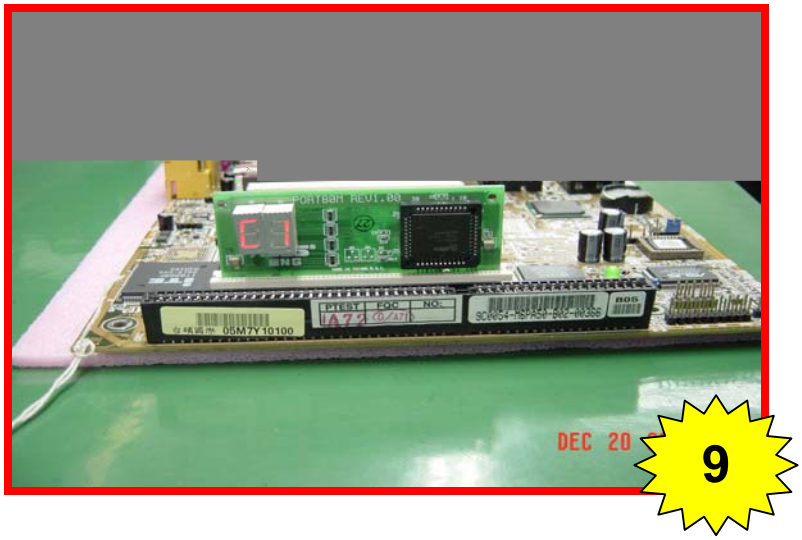


Plug in CPU on Motherboard CPU Slot and CPU FAN connector

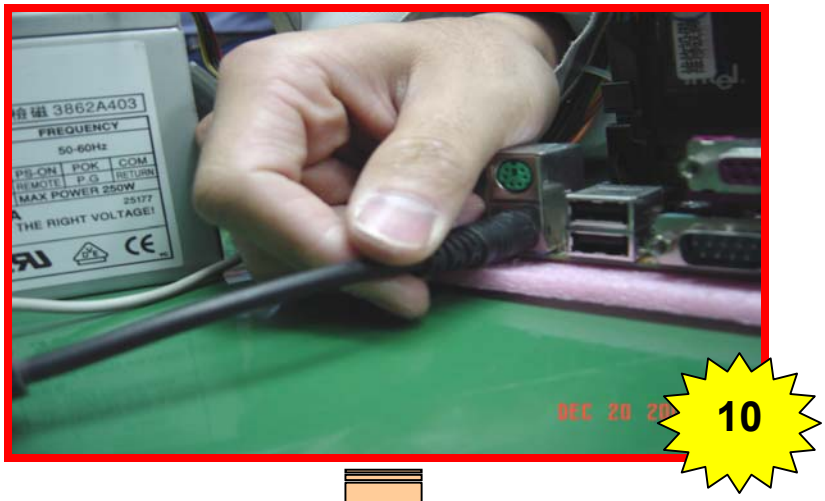


Plug in memory on Motherboard DIMM Slot

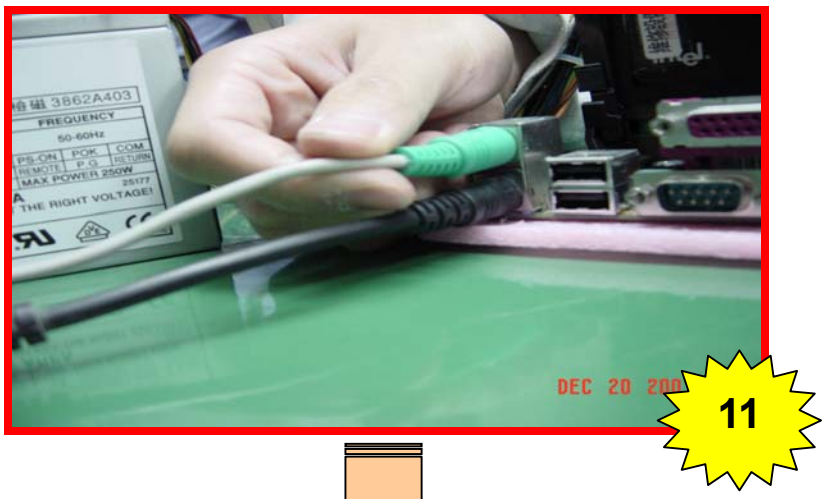
Plug in Port80M on Motherboard PCI Slot



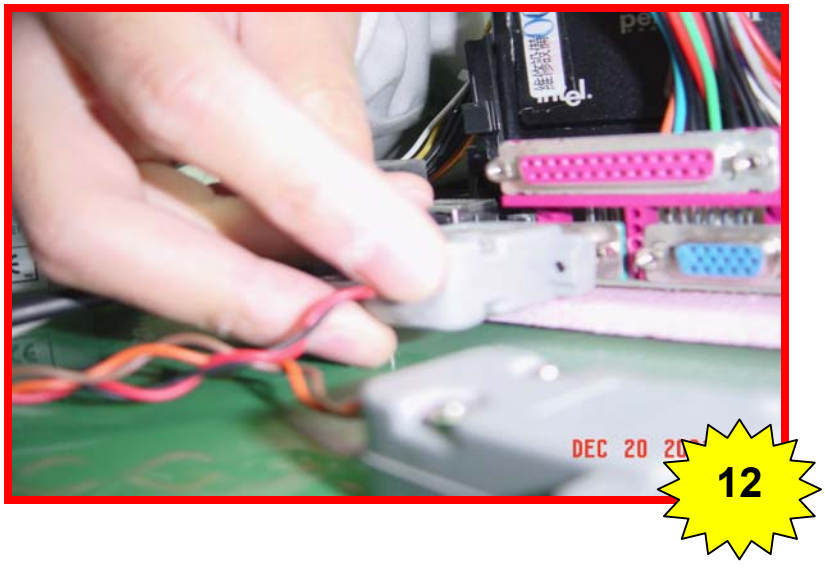
1. **Turn on the power supply**
2. **Check post code “C1” is display**



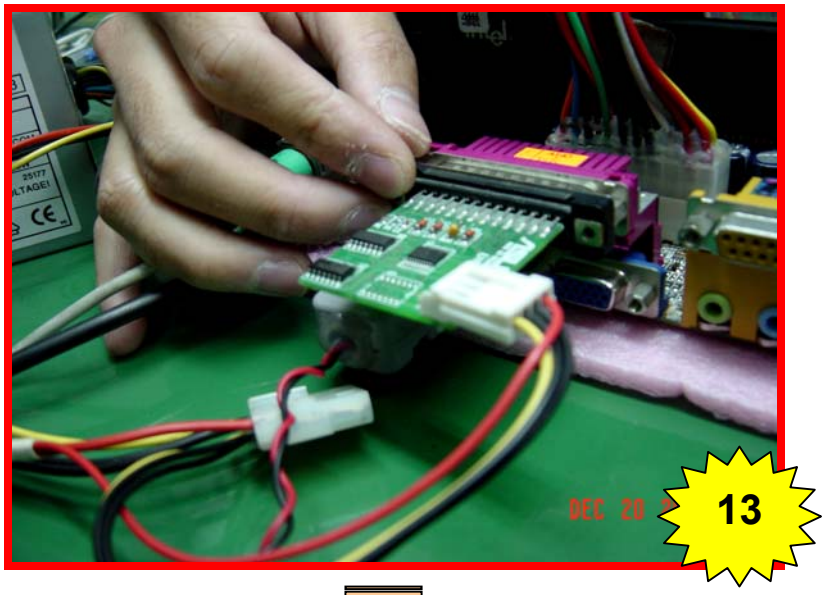
1. **Turn OFF the power supply**
2. **Plug in PS2 Keyboard**



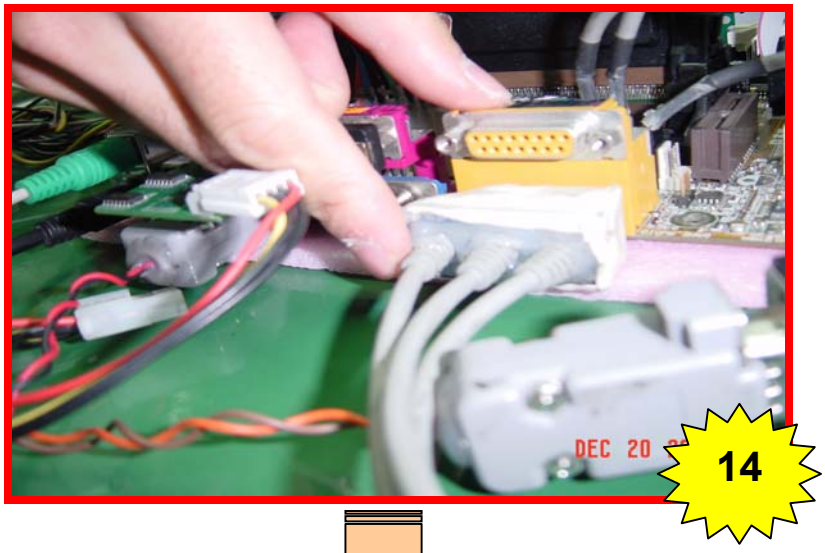
Plug in PS2 Mouse



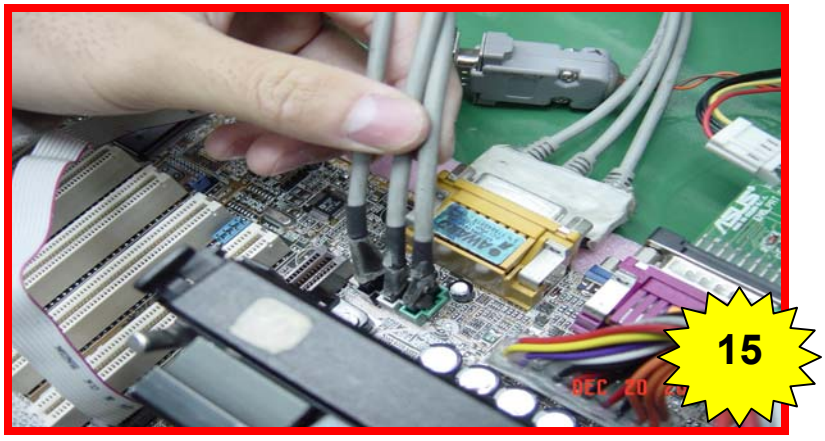
Plug in COM_ports



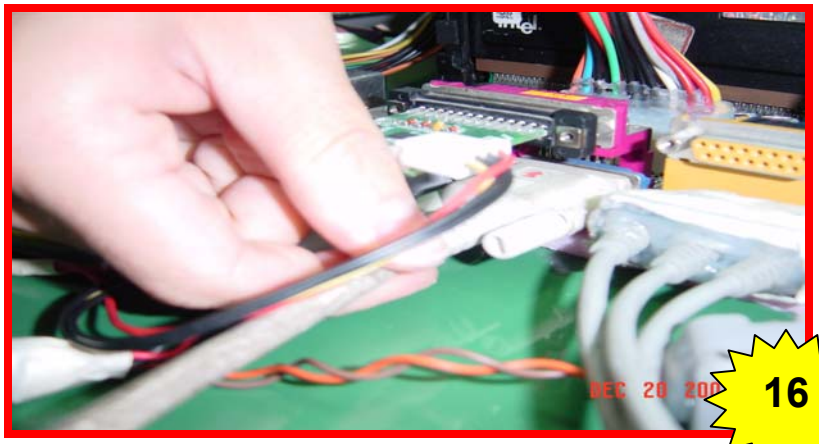
Plug in Printer_port



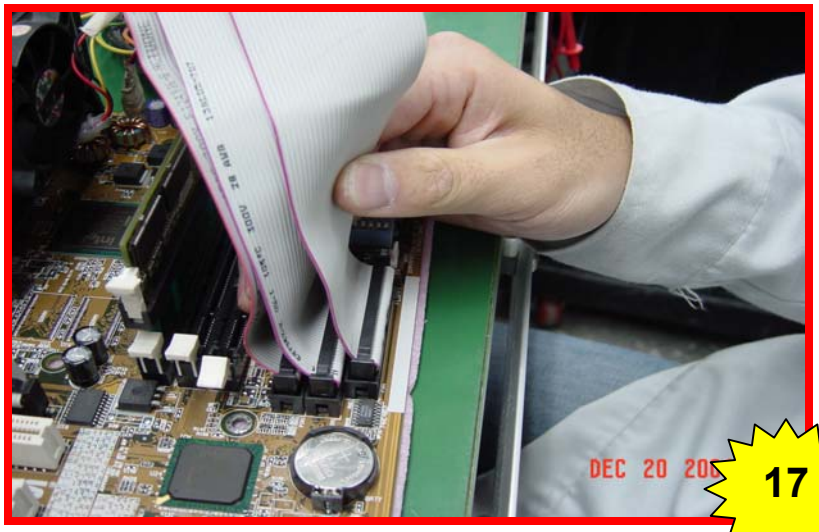
Plug in Audio_port



Plug in Audio_port Loopback tail on Motherboard audio connectors



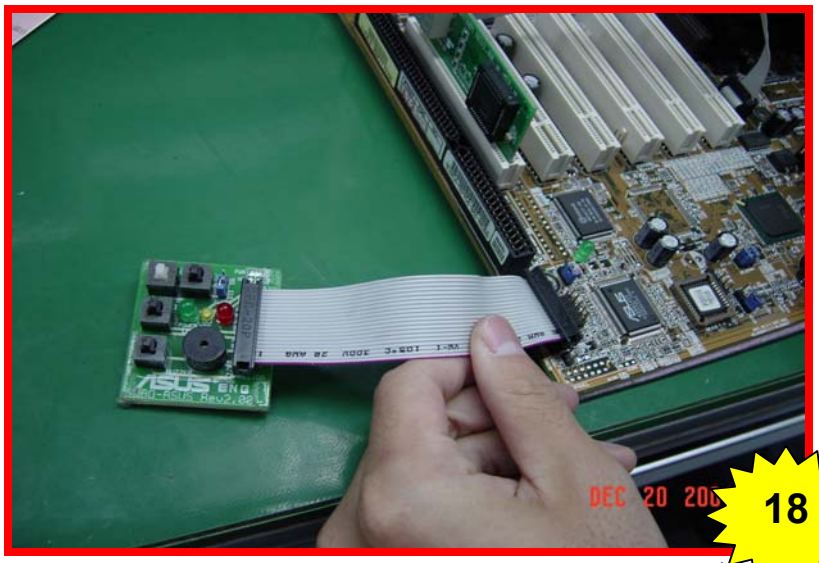
Plug in VGA_port on Motherboard VGA Connector or VGA Card



Plug in Floppy,Hardisk and CD_ROM on Motherboard Connector

NOTE:

Primary IDE connect Hardisk
Secondary IDE connect CD_ROM



Plug in SWBO_ASUS on Motherboard Panel Connector

NOTE:

Orient the red markings on the PANEL ribbon cable to PIN 1

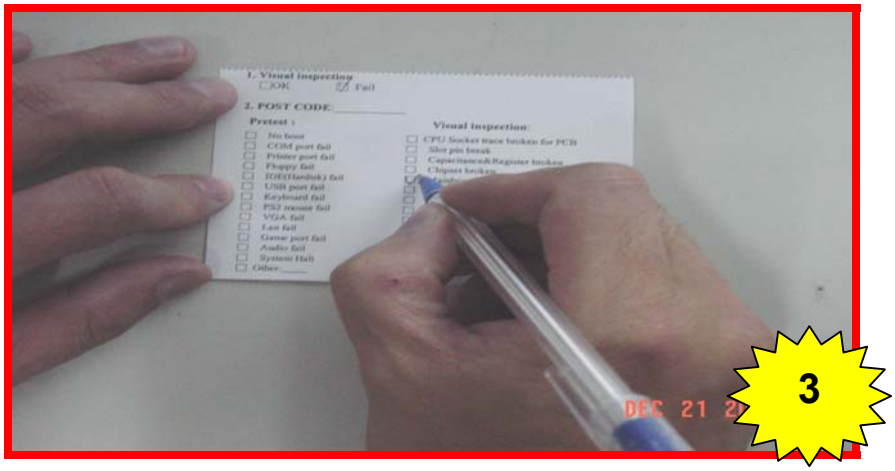
Push (SWBO_ASUS) the PWR.SW switch button once will switch on the system and test motherboard function.

Visual inspect fail description

Visual inspection:

4. **Inspect M/B have broken,oxidized…..**
   (Please refer Visual inspection description)
5. **Customer induce or not.**
   (Please refer Customer Induce Description)
6. **If any M/B components failed to work after inspection, please paste the arrow stacker and write on Diagnostic Card**

Paste arrow sticker on damage component



Fill in the Diagnostic card

4

Paste Diagnostic Card on PCI Solt

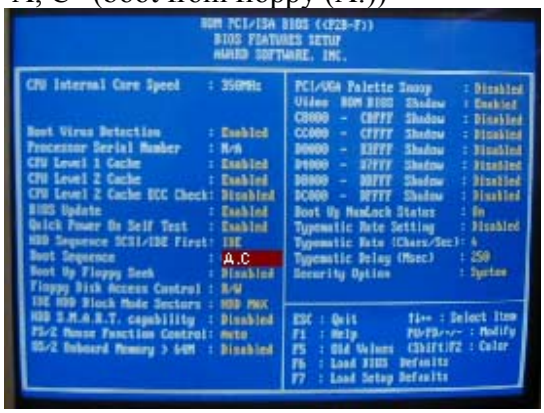
Send M/B to Asus RMA 5

ASUS TEST PROGRAM INSTALLATION GUIDE

1. **Necessary equipments:**
   - Disk1(Boot disk) for Windows 98 or Windows ME
   - Disk2 with Ghost v6.0 program
   - Hard drive (at least 2GB)
   - One PC with CD_ROM

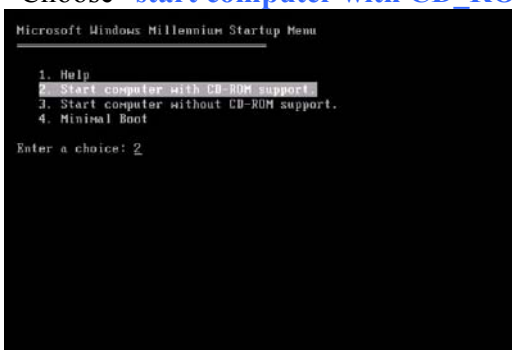
2. Load the Ghost image to the Hard Drive

a. Get into BIOS Setup and set "Boot Sequence" to "A, C" (boot from floppy (A:))



b. Restart and boot from FDD with Disk1 (Boot Disk).

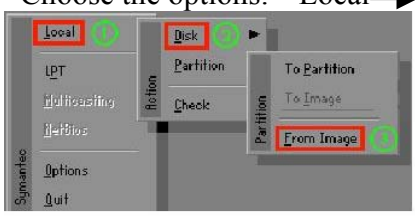
c. Choose "**start computer with CD_ROM support**"



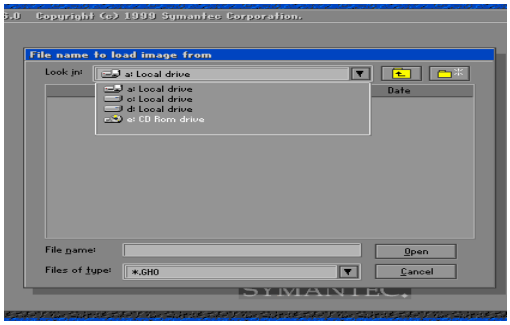
d. Change floppy to Disk2 (with "Ghost v6.0").

e. Typing "ghost" to execute "Ghost" program.

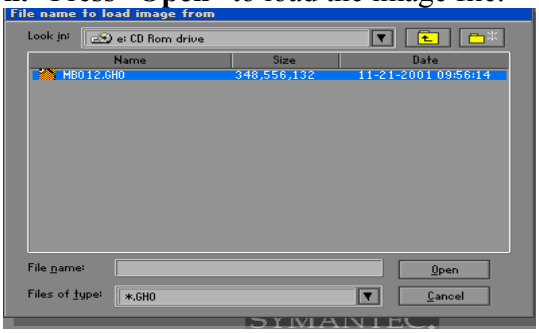
f. Choose the options: " Local→ Disk→ From Image"



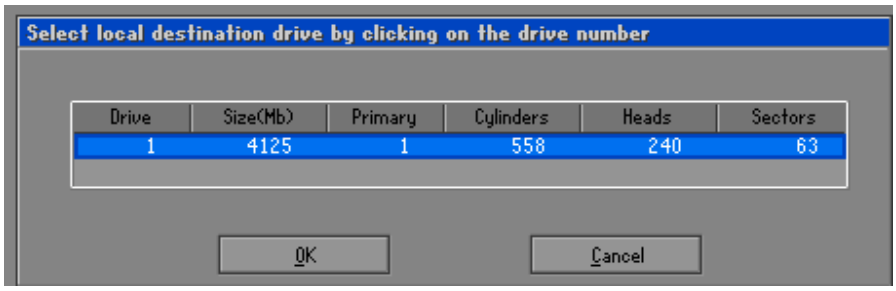
g. Choose "local drive"(CD_ROM drive) to find out the image file.



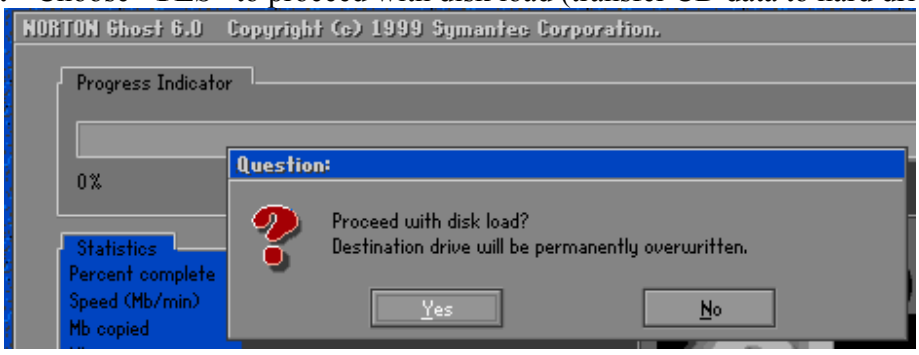
h. Press "**Open**" to load the image file.



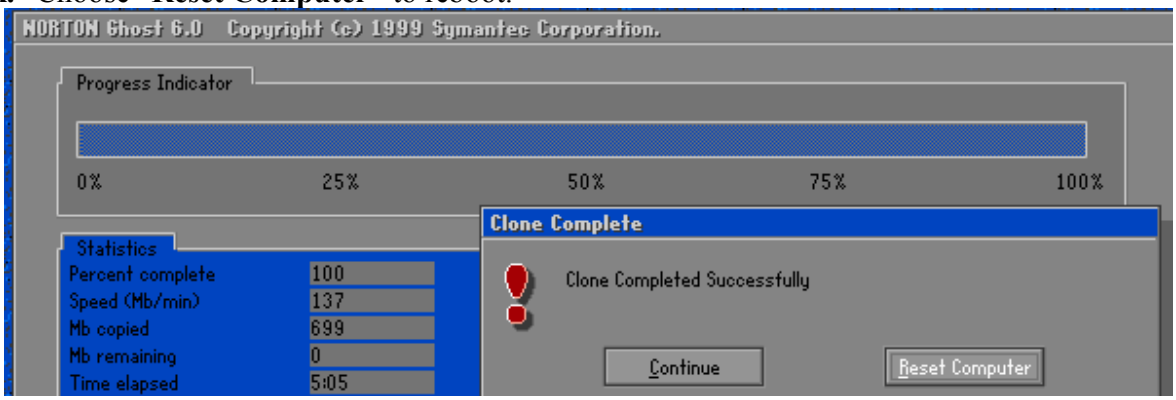
i. Select "local destination drive" and choose "**OK"**



j. Choose "**YES"** to proceed with disk load (transfer CD data to hard drive)



k. Choose "**Reset Computer"** to reboot.



l. Restart and change “Boot Sequence” to “C, A” (boot from hard drive(C:)).

m. If you can see the screen below, it means the data has been copied to hard drive successfully.

2. Visual Inspection should be implemented before Pretest.

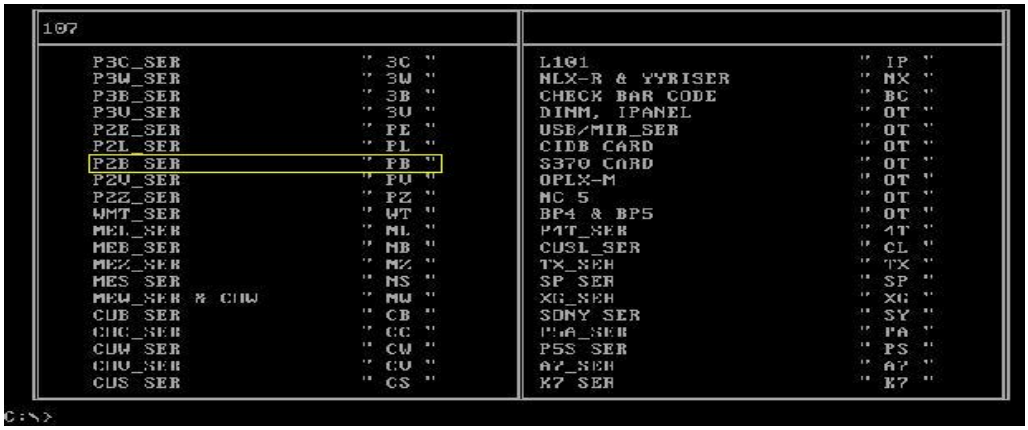
3. Execute the Pretest Program

a. Plug in the proper CPU voltage tools and check M/B power supply if it’s OK.

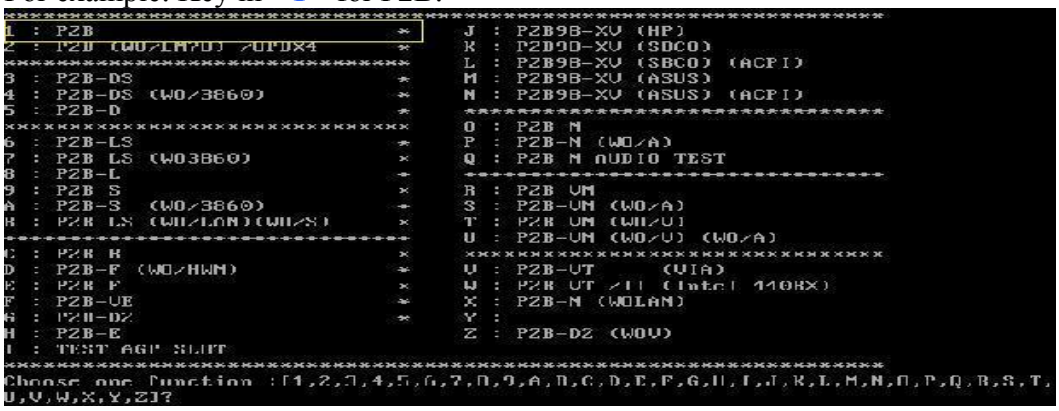
b. If the M/B voltage is OK, plug in all the M/B test fixtures and equipments such as CPU, Memory…etc.

c. Power ON your test system and choose the “**HIMEM_CDROM”** option

d. Choose the motherboard hot key to execute the proper program for the motherboard series you want to test.
For example: **P2B,** Please key in” **PB**” to execute the P2B series pretest program.

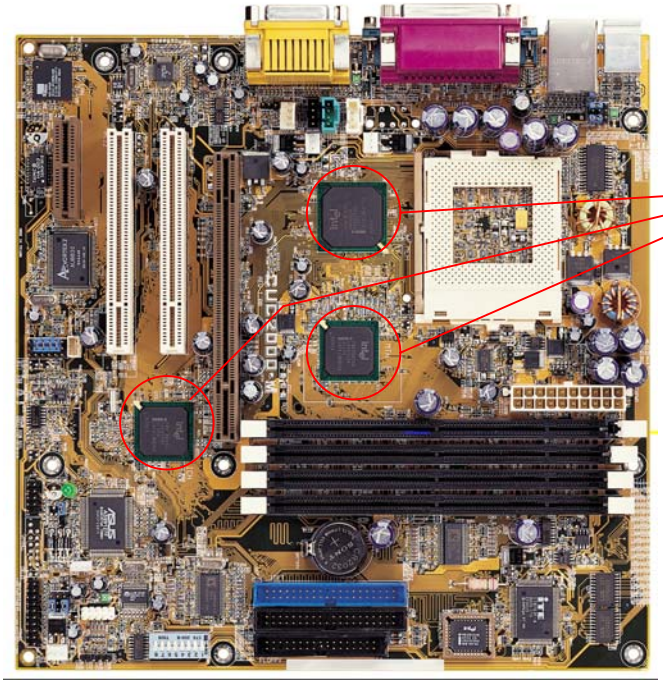


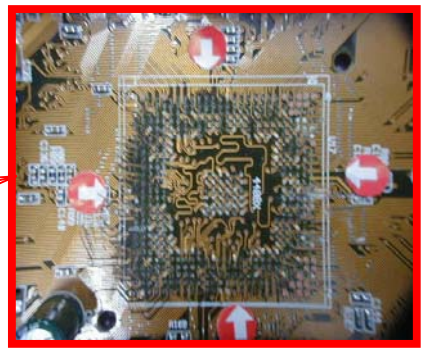
e. Choose the proper model name to execute the pretest program.
For example: Key in " **1** " for P2B.



Visual Inspection

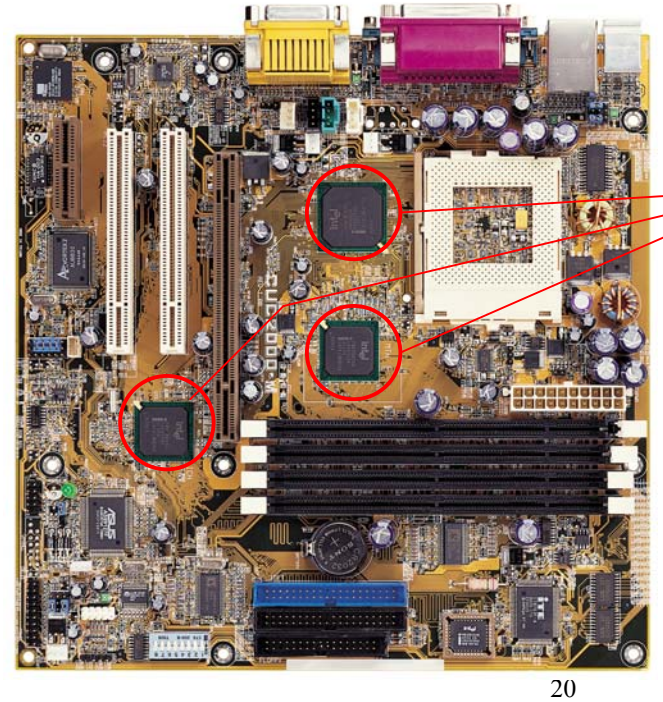
INSPECT BGA CHIPSET

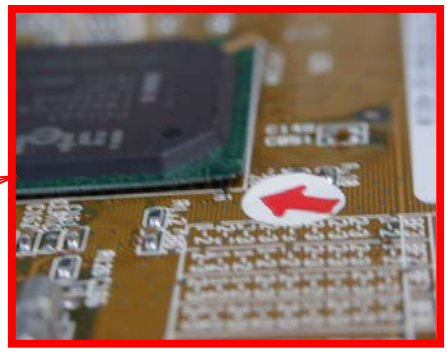




Check if the BGA chipset has been pulled out by end user.

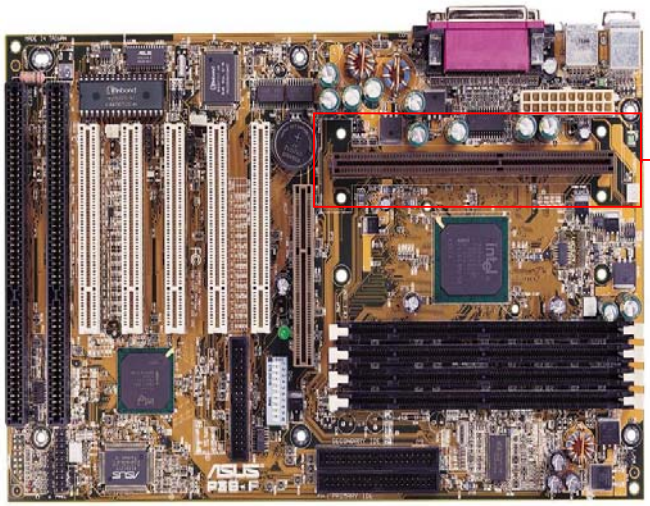
INSPECT BGA CHIPSET

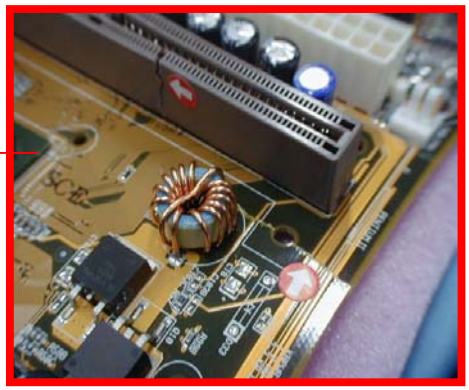




Check if the M/B BGA chipset is lifted.

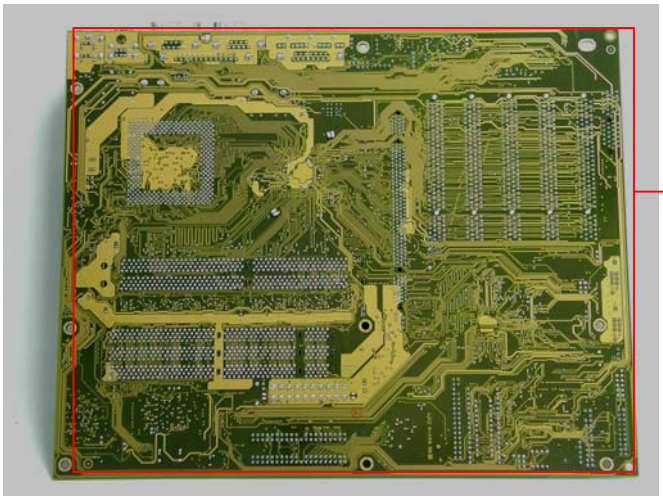
INSPECT M/B PCB

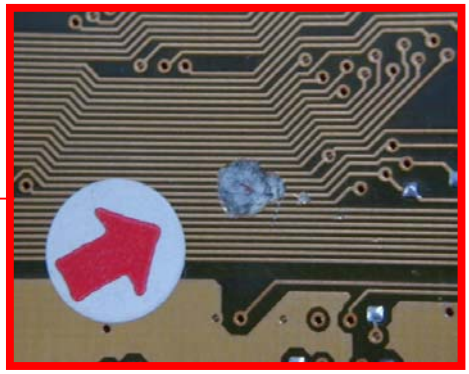




Check if the M/B PCB is broken.

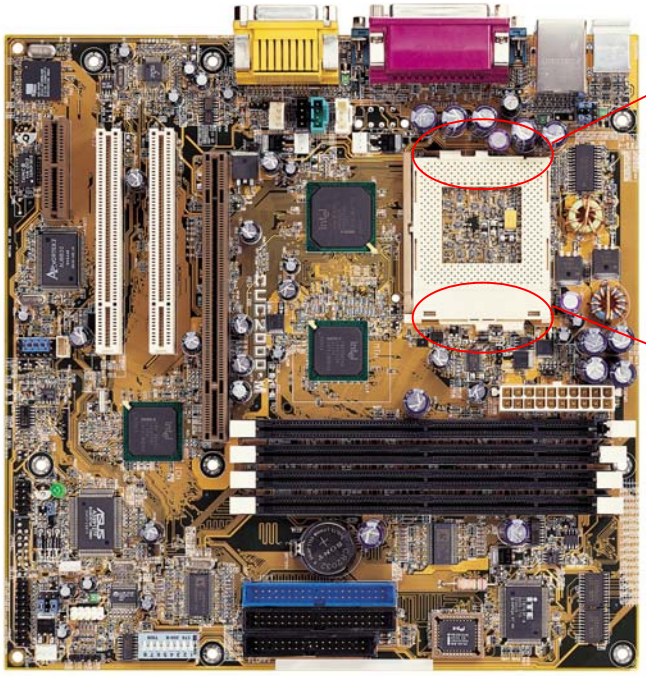
INSPECT M/B BACK PCB

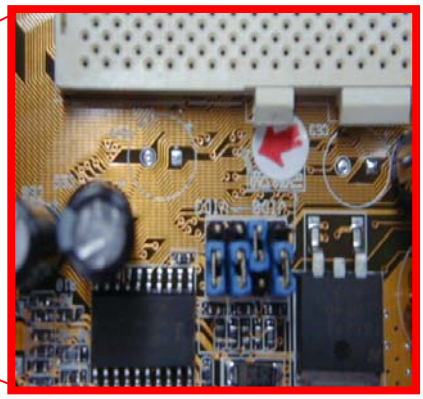




Check if the PCB trace is broken.

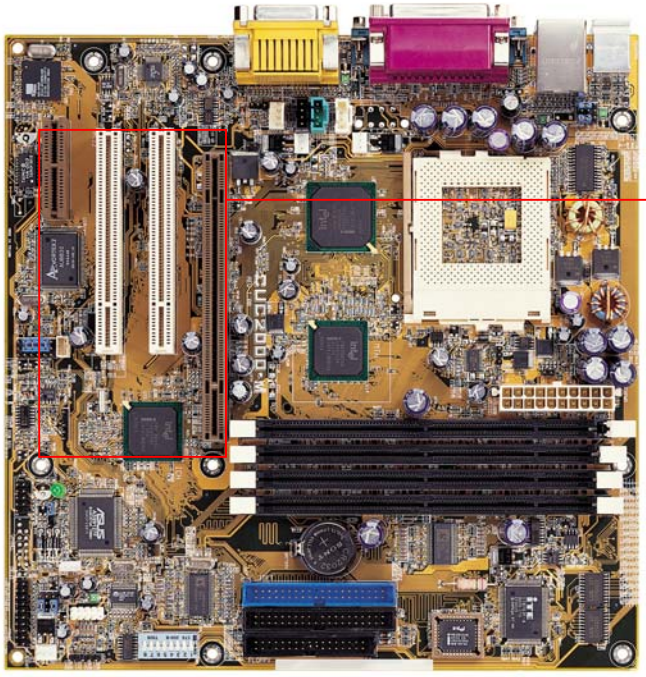
INSPECT CPU SOCKET

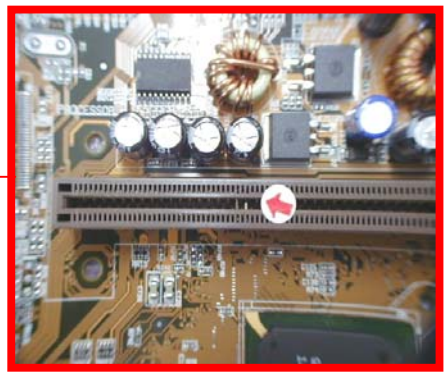




Check if the PCB trace around the CPU socket is broken.

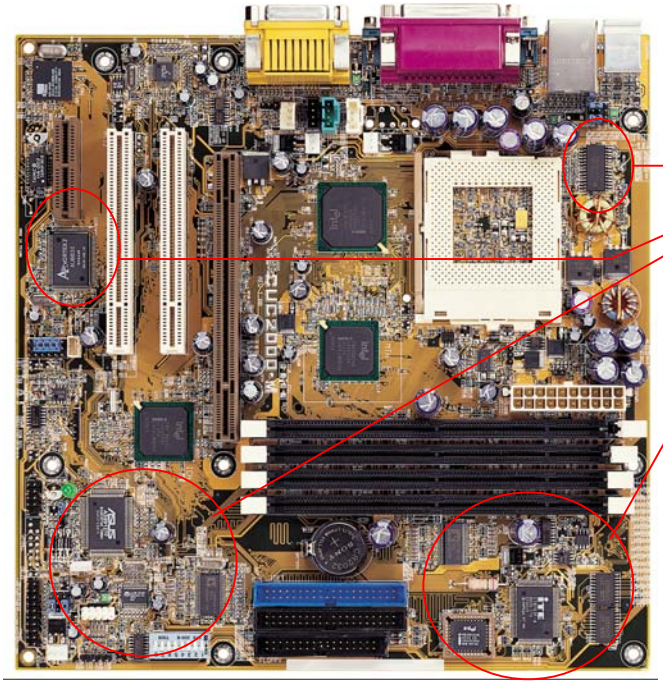
INSPECT M/B SLOT

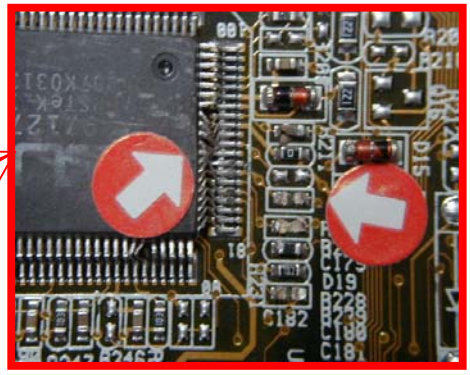




Check is any PIN on the SLOT is damaged

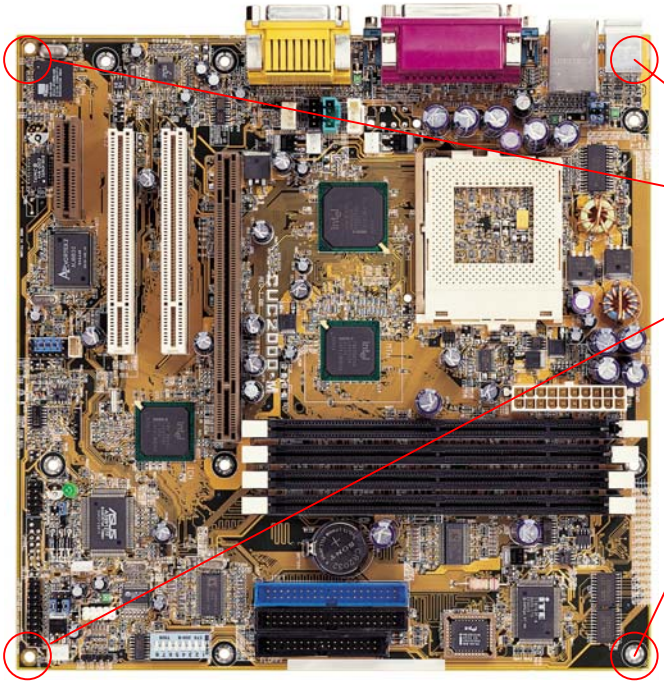
INSPECT SMD CHIPSET AND Capacitance & Register

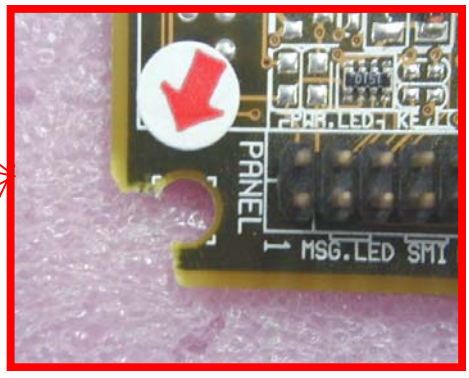




Check if any SMD chips, capacitance or register is damaged.

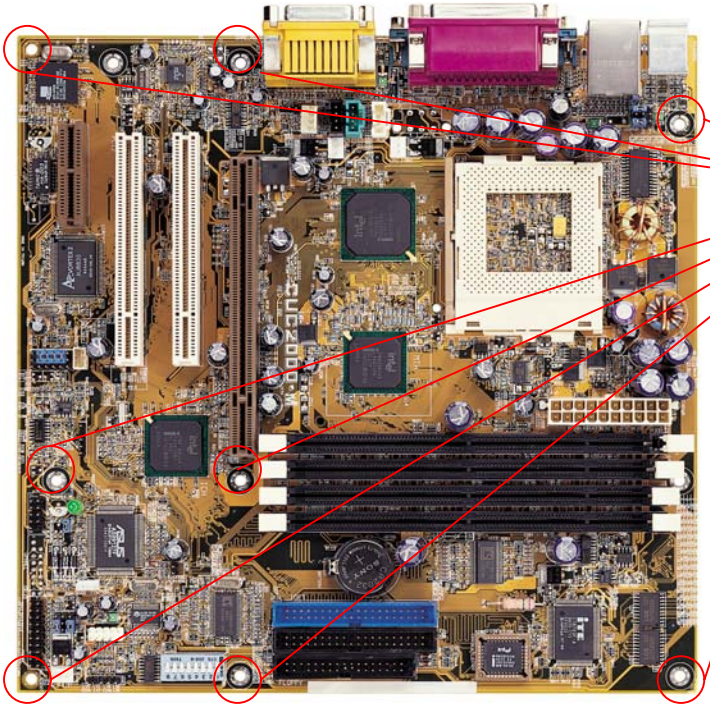
INSPECT M/B PCB

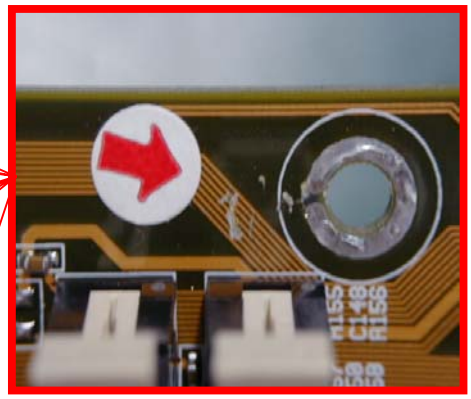




Check if the M/B PCB is broken

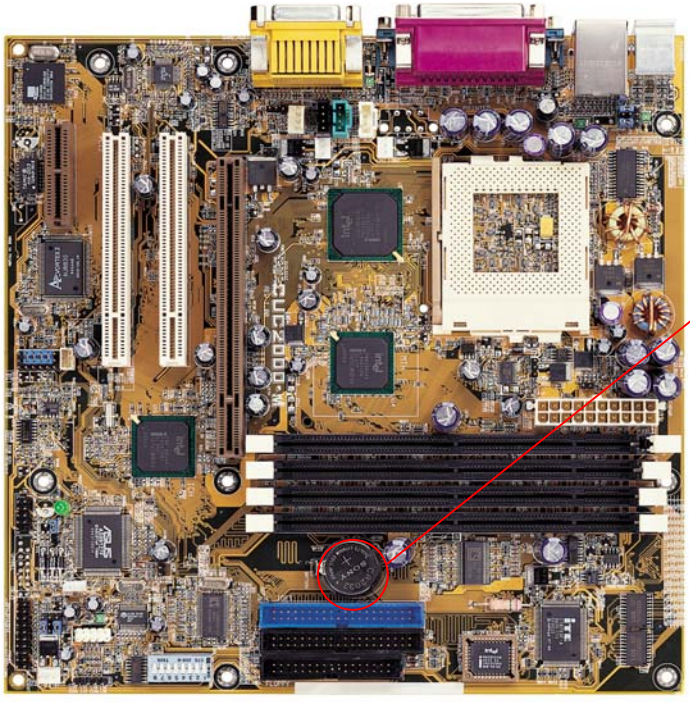
INSPECT M/B SCREW HOLE

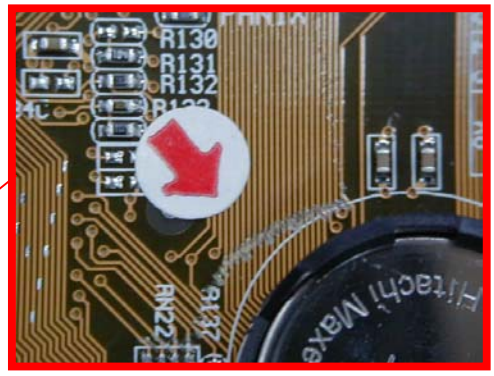




Check if any trace around the screw hole is broken.

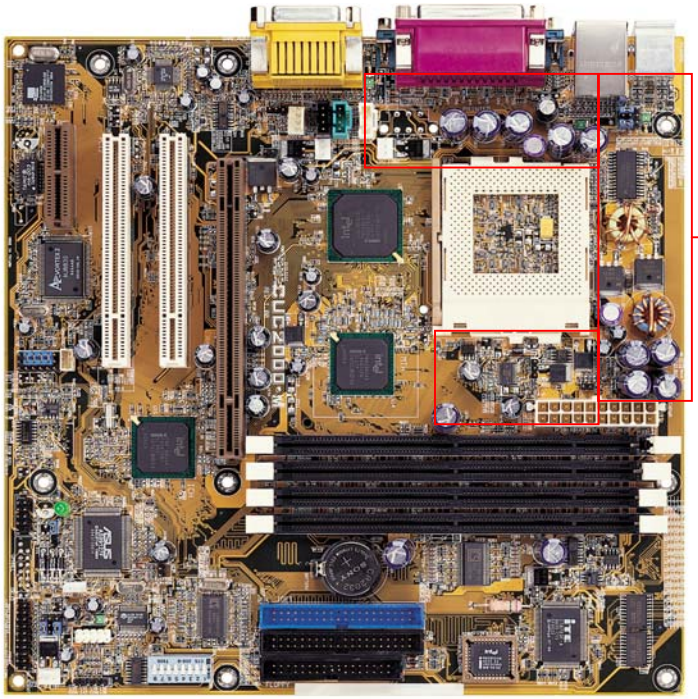
INSPECT M/B CONNECTOR

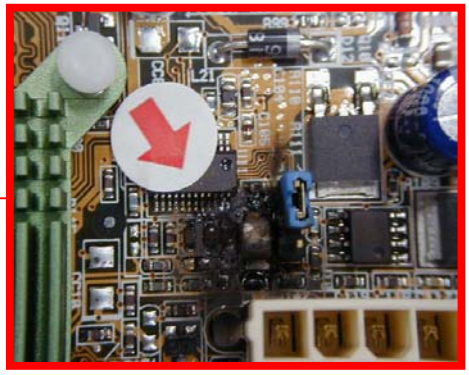




Check if any trace around the battery is broken.

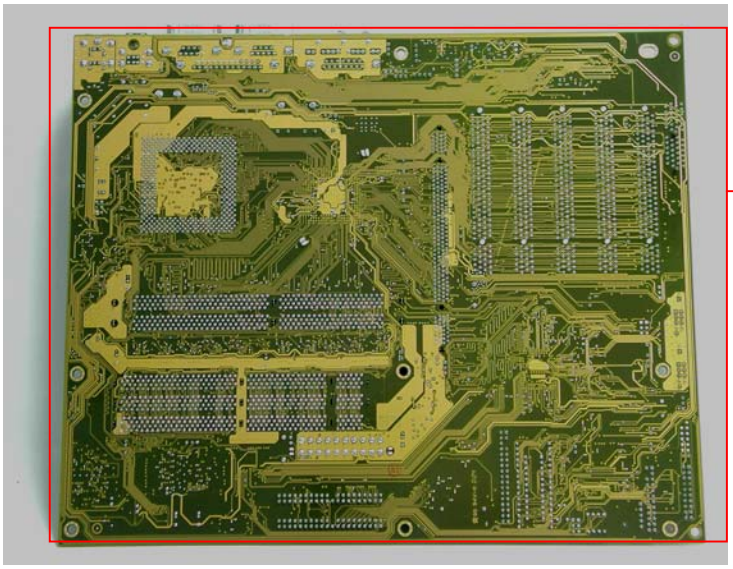
INSPECT M/B COMPONENT

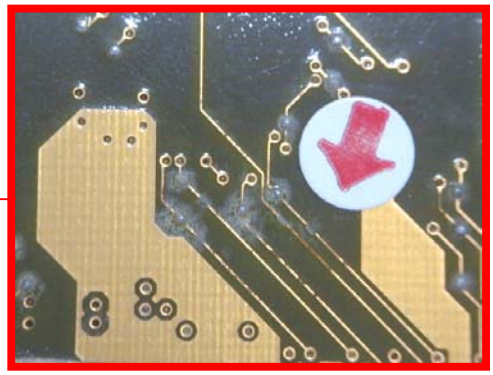




Check if there is any component burnout.

INSPECT M/B PCB Oxidize



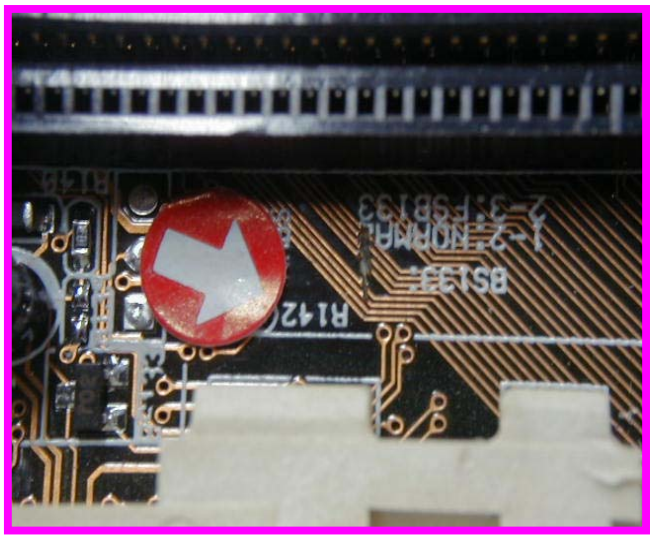


Check if the PCB is oxidized.

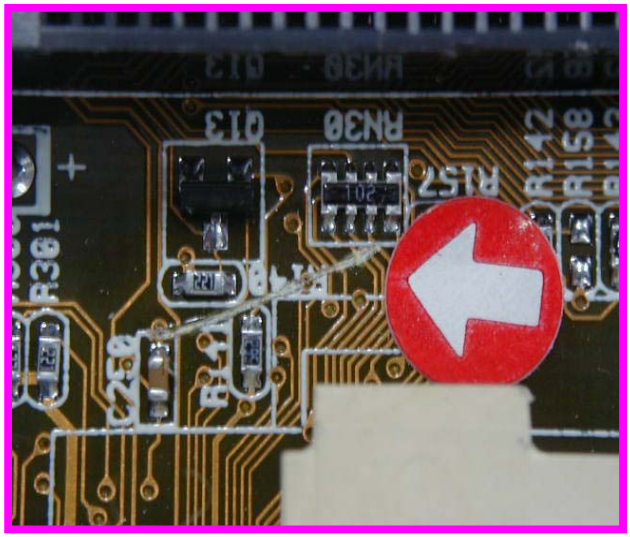
Customer Induce Description

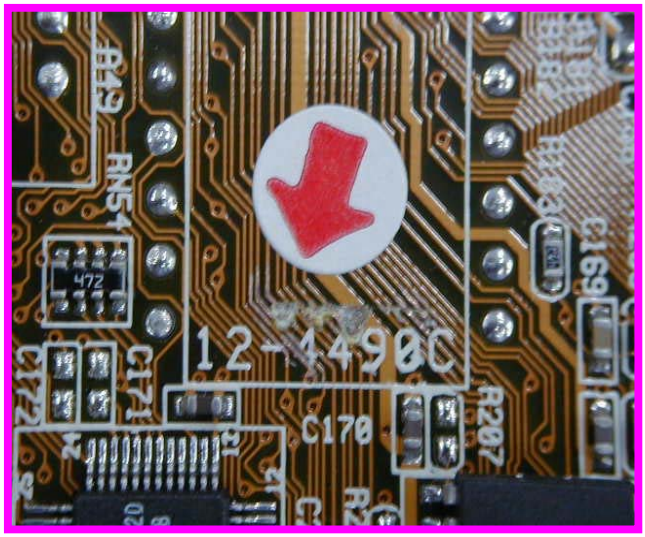
(If the motherboard belongs to “Customer Induce”, it will be returned to the customer without repairing.)

PCB Trace Scratched (1)



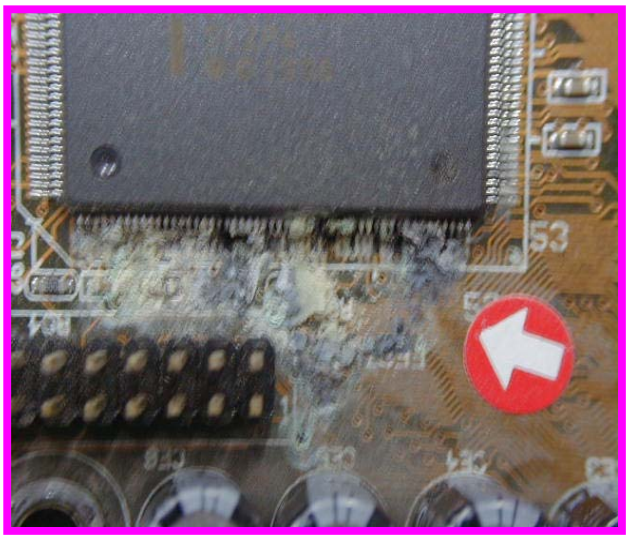
PCB Trace Scratched (2)

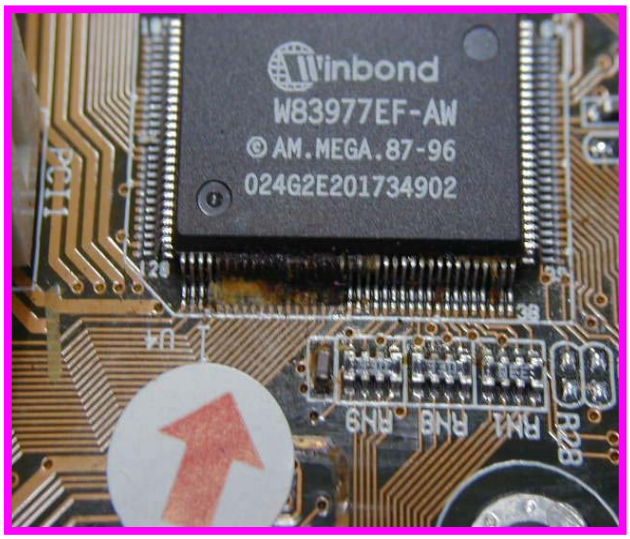




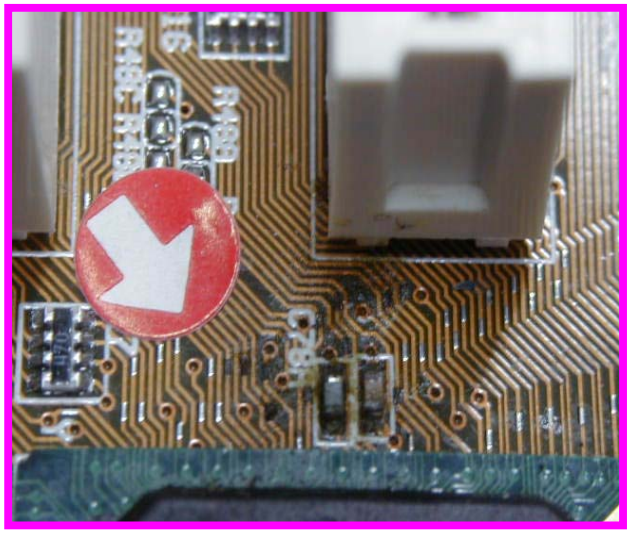
Consecutively three or more traces scratched

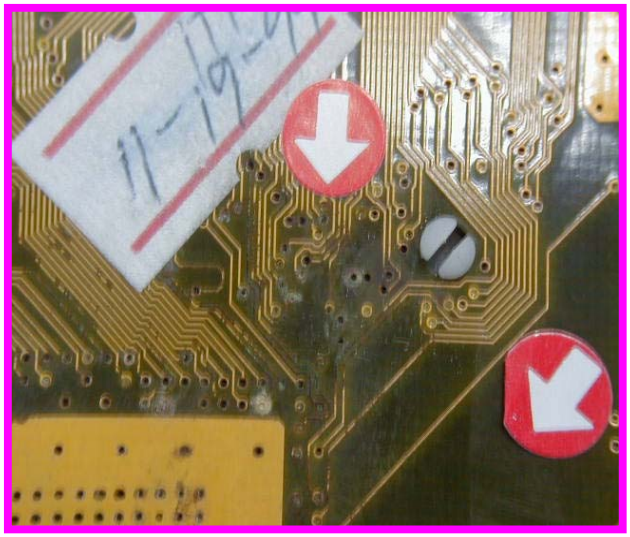
PCB Oxidation (1)





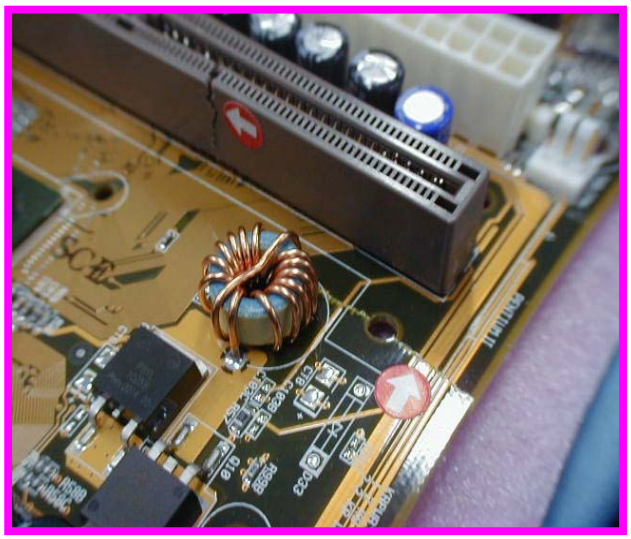
PCB Oxidation (2)

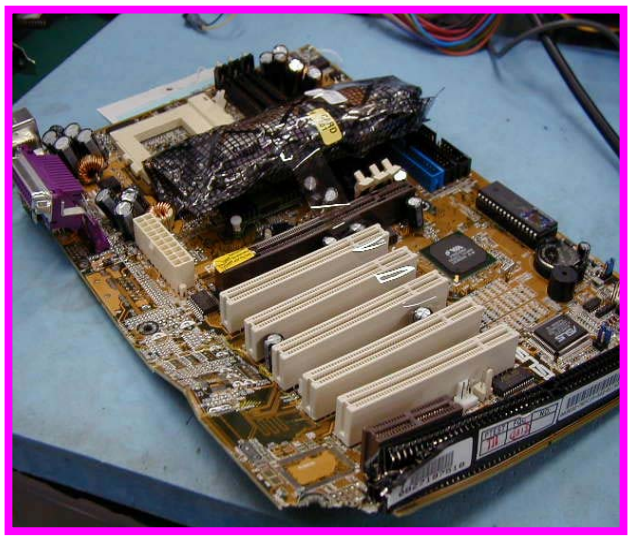




If the PCB is oxidized by end user.
Ex:Drinks,coffee.....

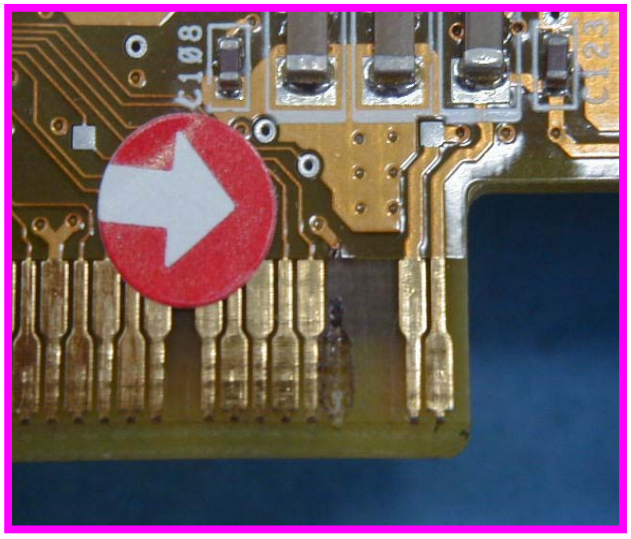
PCB Breakage

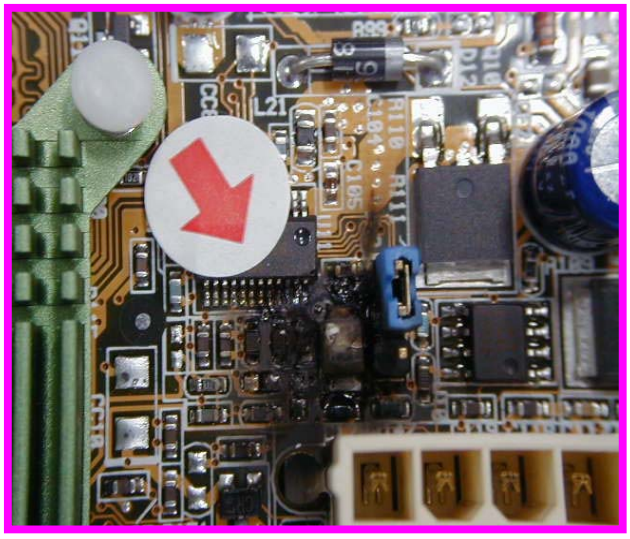




If the M/B PCB is broken by end user.

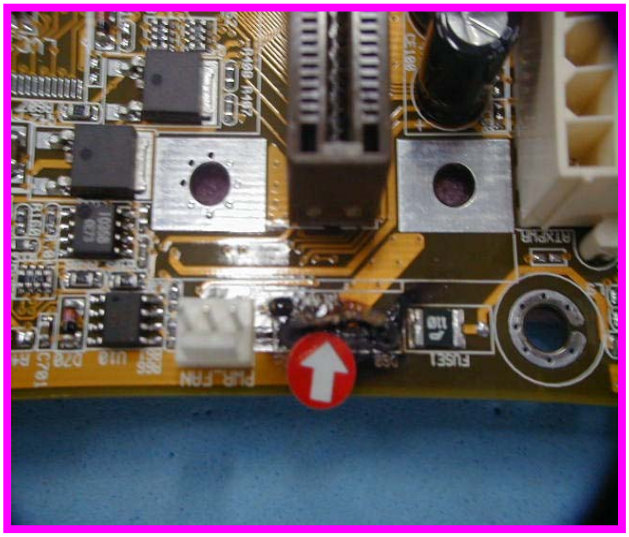
PCB Burning (1)

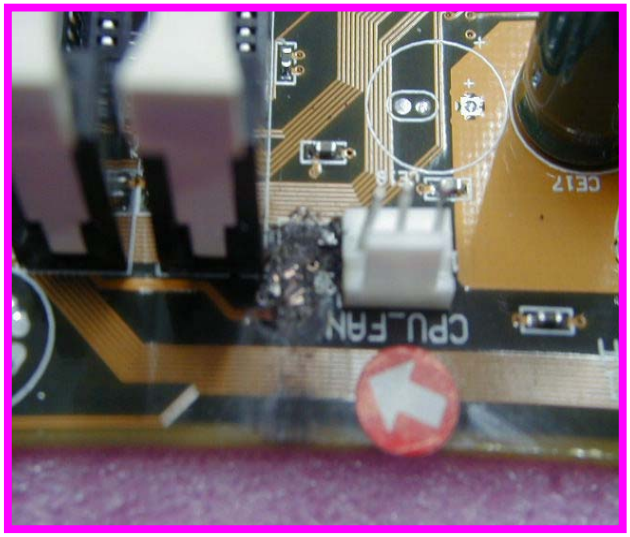




If the M/B or VGA PCB is broken by end user.

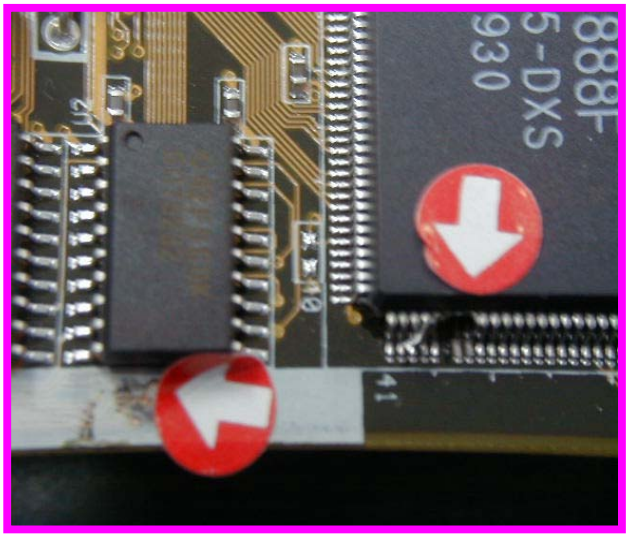
PCB Burning (2)

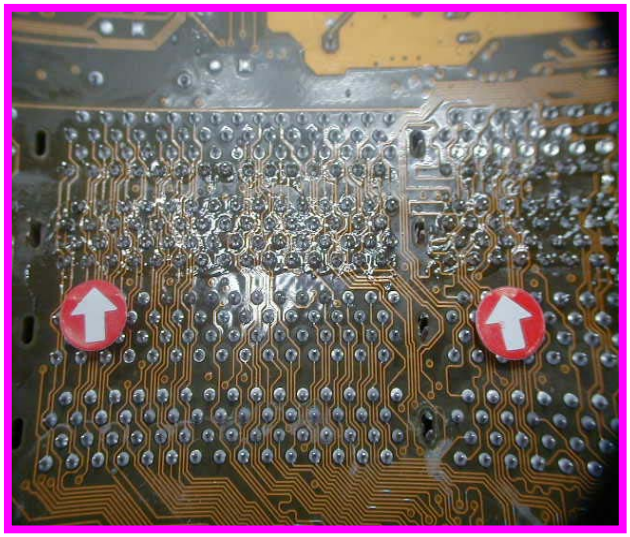




If there is any component burnout by end user.

Customer Induced



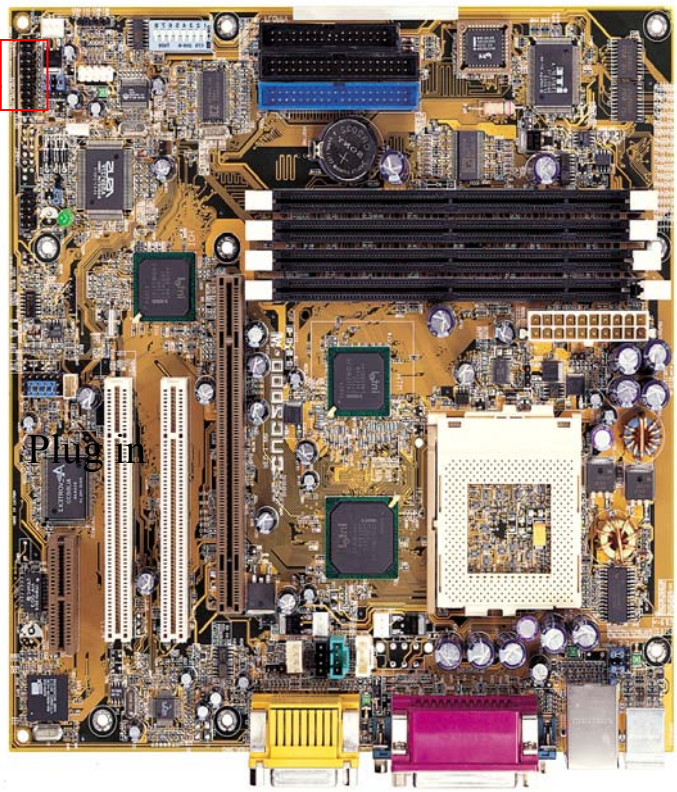


Flaws caused by Customers Self-Repairing or removing parts from PCB.

Test Tools Introduction

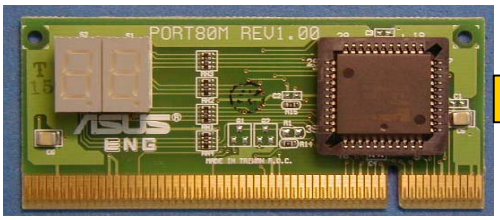
SWBO-ASUS

CONNECTOR

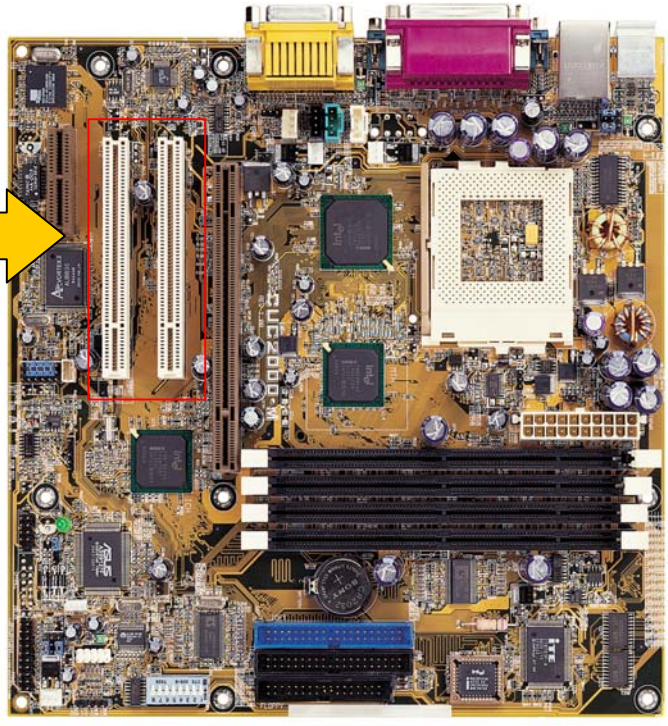


Name: SWBO-ASUS
Part Number: 70-C1OG15-02
Function: Check message LED & Reset,SMI,Keylock, PWRON

PCI PORT 80M CARD

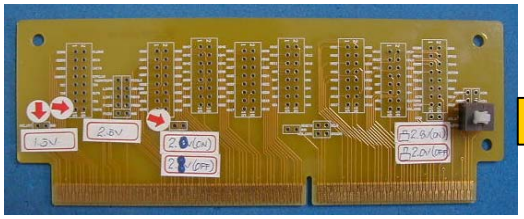


Plug in

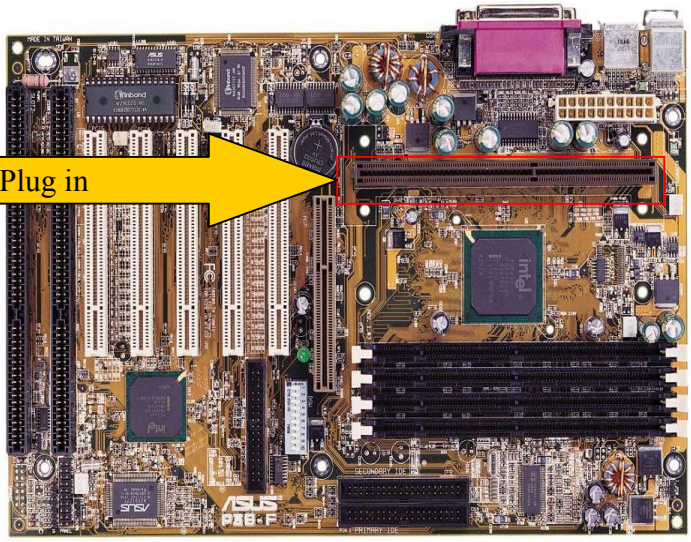


Name： PCI PORT 80M
Part Number： 80-C1PO40-01.02
Function： POST Code Display

KLAMATH SIGNAL CARD (SLOT 1) CPU

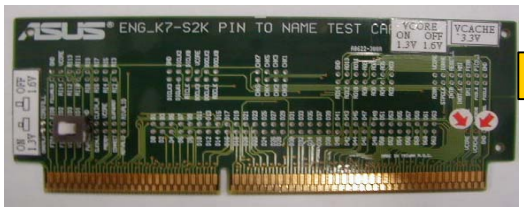


Plug in

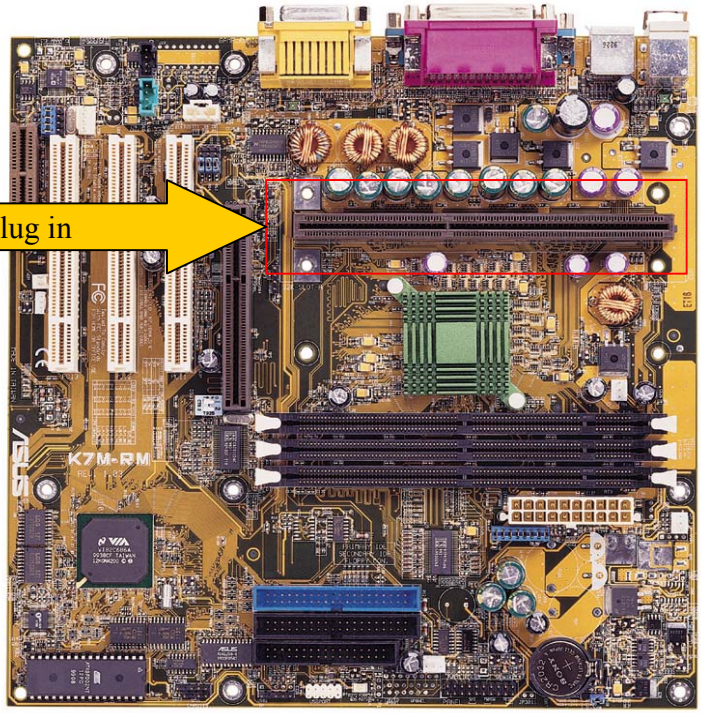


Name：KLAMATH SIGNAL CARD
Part Number：08-900006600
Function:check CPU Voltage&CPU Signal

K7 S2K-PIN TO NAME TEST (SLOT A) CPU

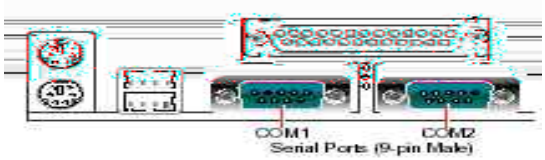


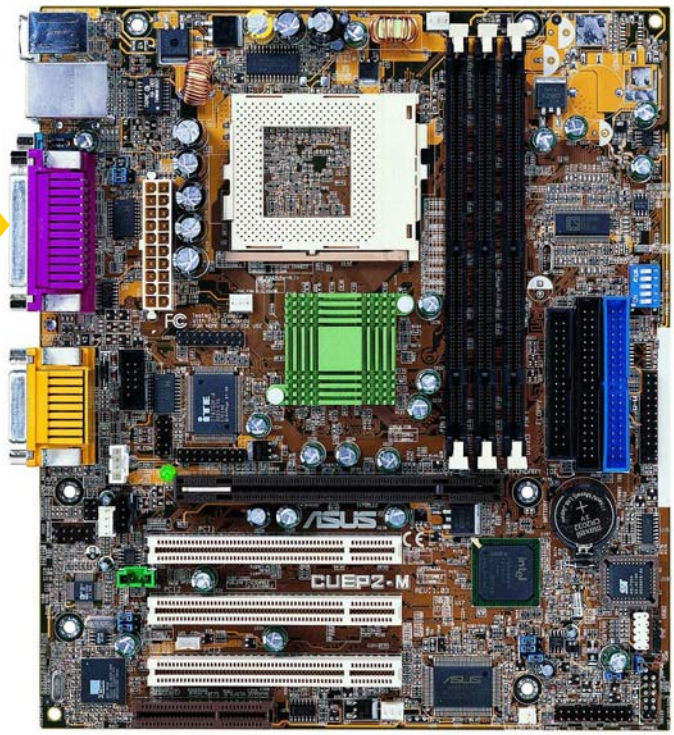
Plug in



Name：K7_S2K-PIN TO NAME TEST
Part Number：08-900009900
Function：check CPU Voltage&CPU Signal

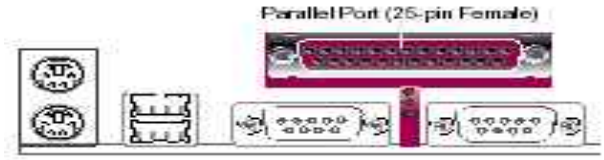
COM-Port Loopback

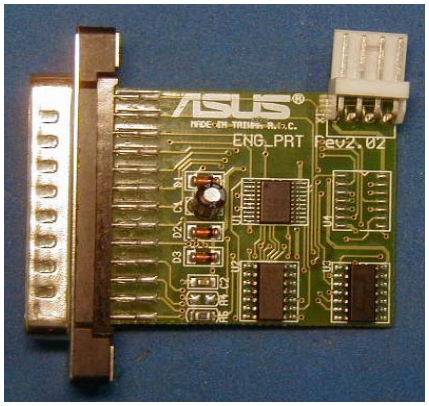




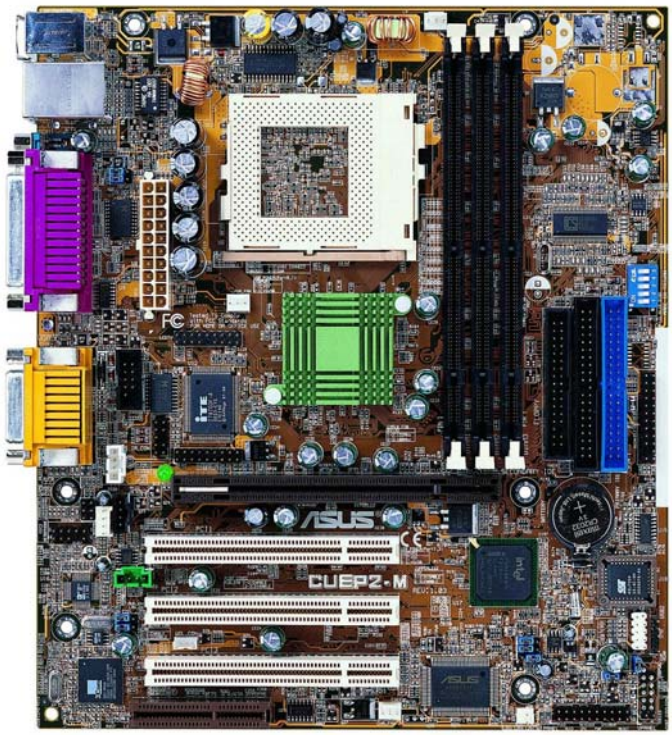
Name：COM PORT-1oopback
Part Number：70-C1OG10-01
Function：Com-Port test

Printer Port Loopback



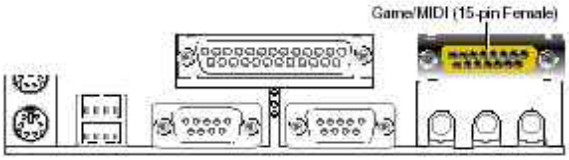


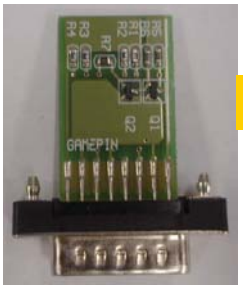
CONNECTOR



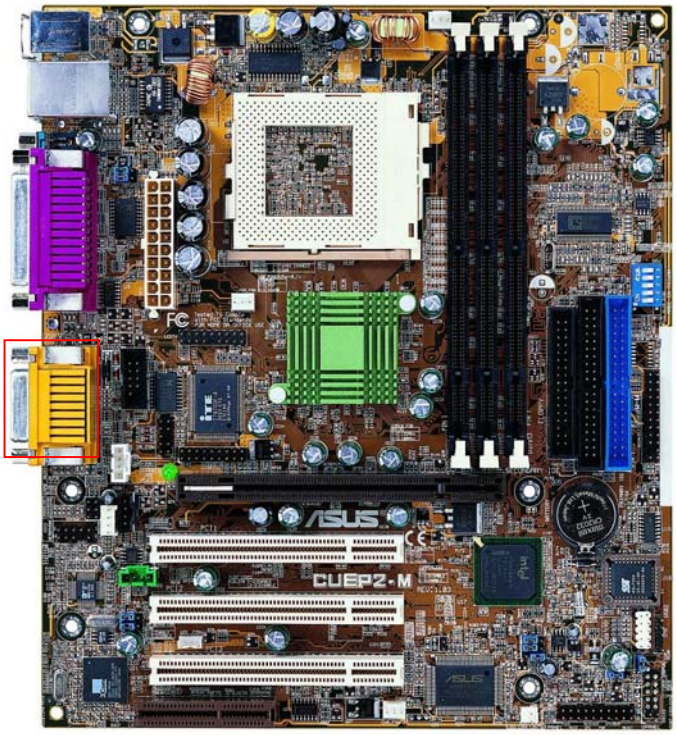
Name：ENG_PRT
Part Number：80-C1G002-0202
Function：Printer port test

ENG_GPORT-A



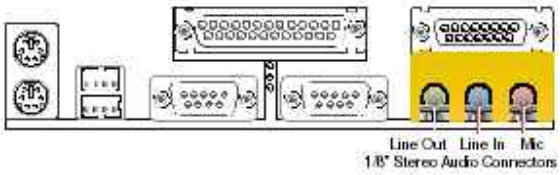


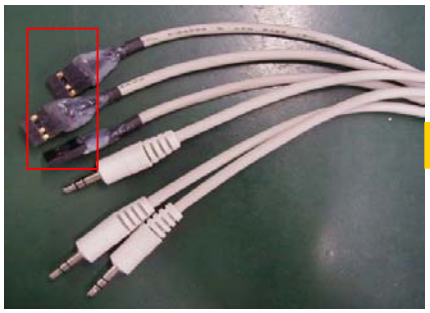
CONNECTOR



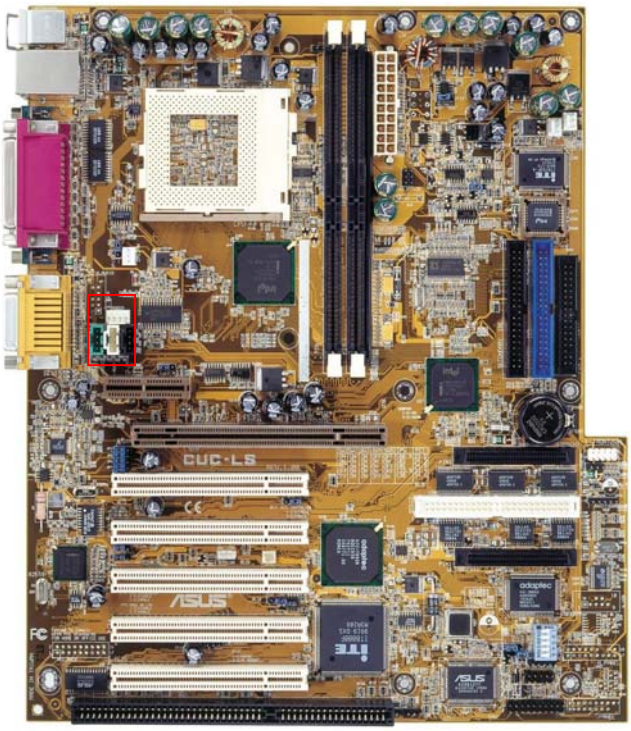
Name：ENG_GPORT-A
Part Number: 70-C1G024-01
Function: Game-Port test

AUDIO LOOP-BACK (3 Black)



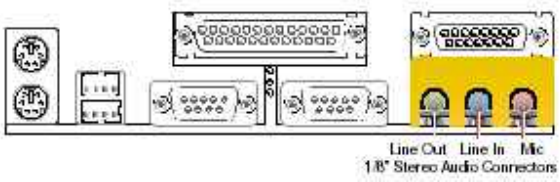


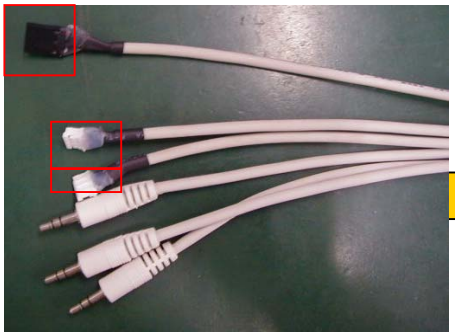
CONNECTOR



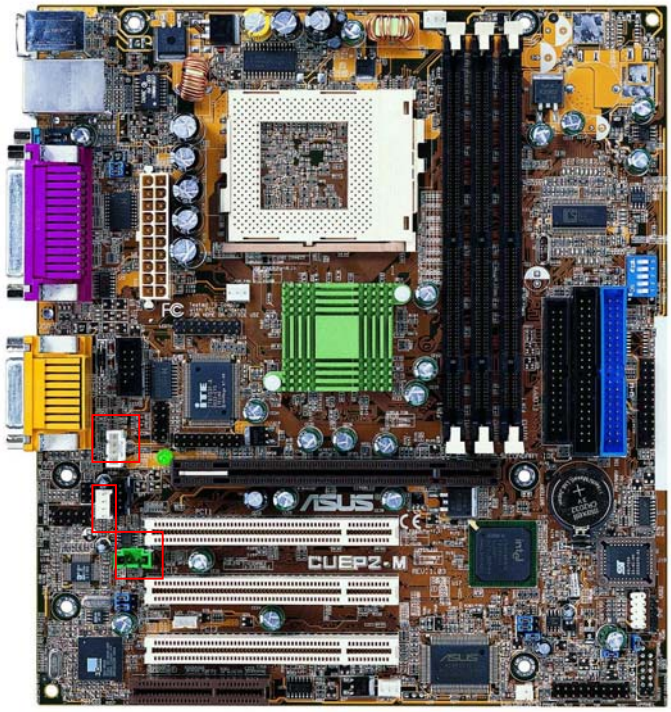
Name：AUDIO LOOP-BACK
Part Number：22-060001280
Function：AUDIO Loop-back test

AUDIO LOOP-BACK(2W+1B)





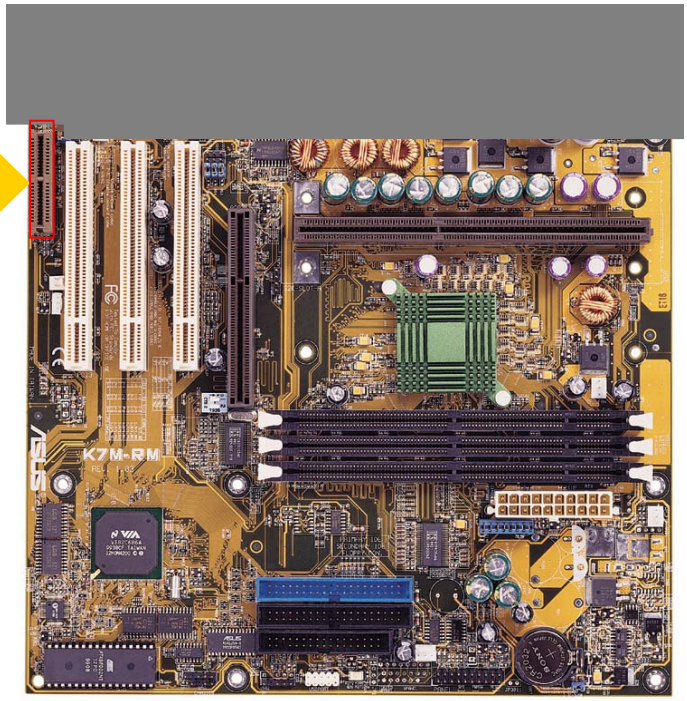
CONNECTOR



Name：AUDIO LOOP-BACK
Part Number：22-060001290
Function：AUDIO Loop-back test

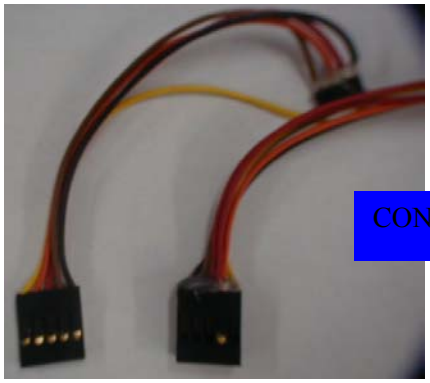
MR MODEM CARD

CONNECTOR

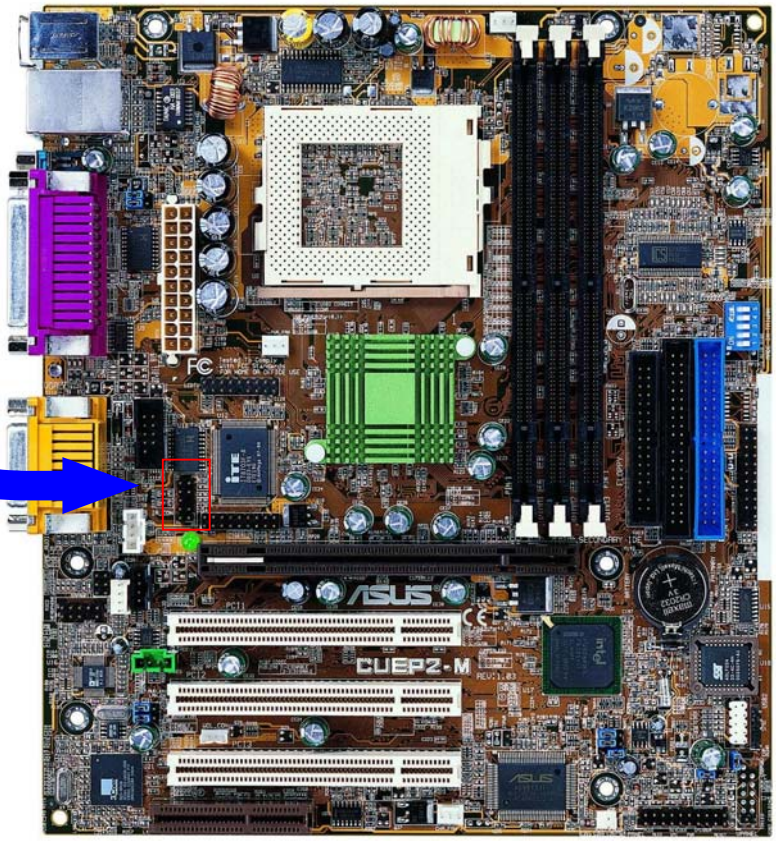


Name：MR MODEM CARD
WS-5614DML
Part Number：04-220150100
Function：Check AMR Interface

IR LOOP-BACK

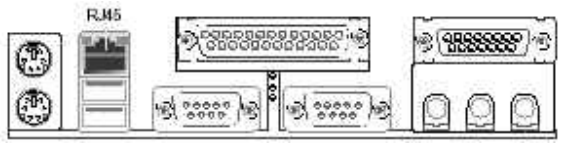


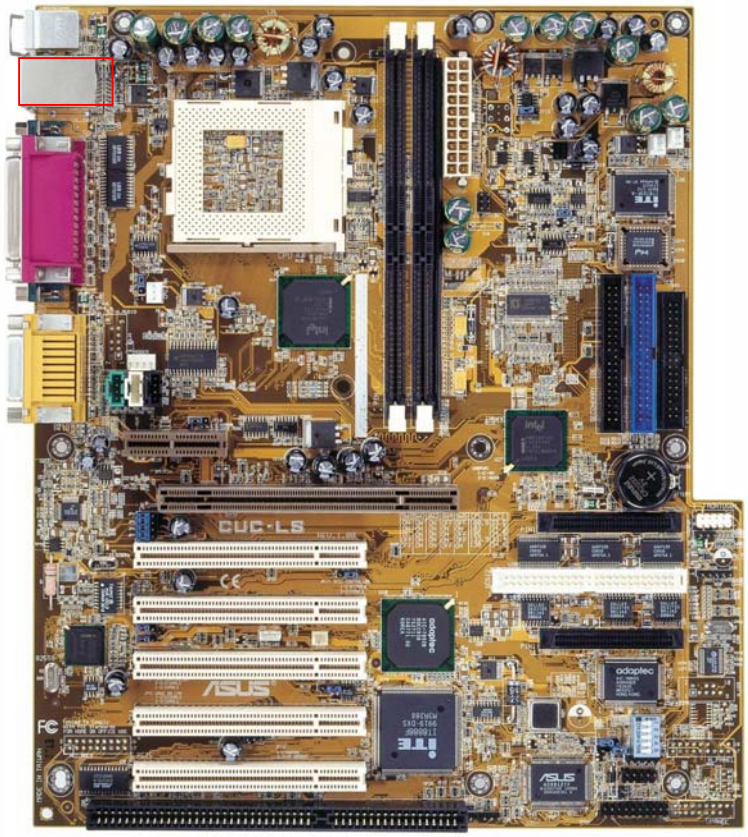
CONNECTOR



Name：IR LOOP WS-5614DML BACK (1*5)
Part Number：20-521048260
Name：IR LOOP-BACK (2*5)
Part Number：20-521048270
Function：IR Loop-back test
Yellow line-Pin 1

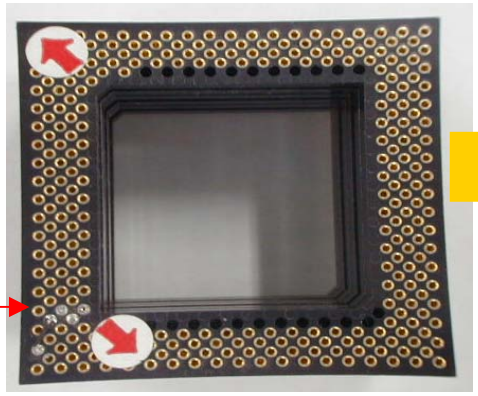
LAN LOOP-BACK





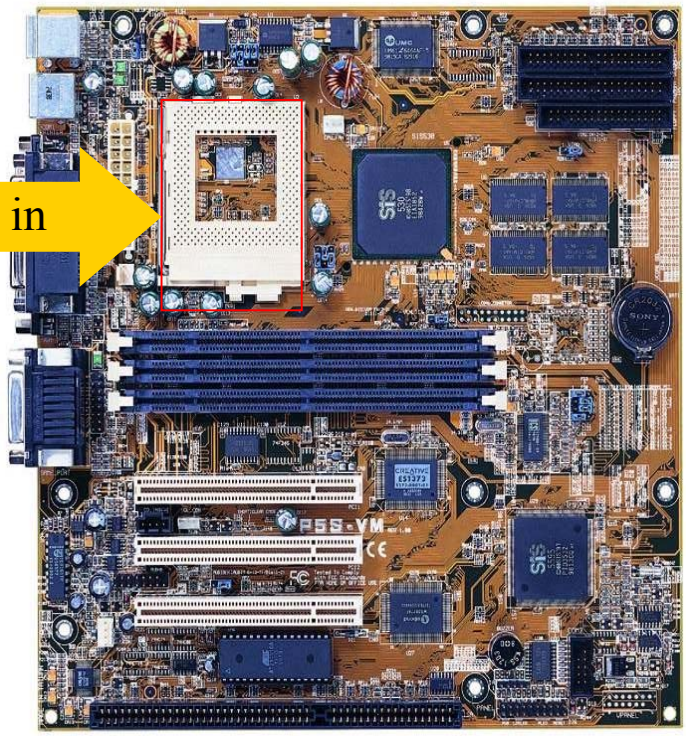
Name：LAN LOOP -BACK
Part Number：20-521048280
Function：LAN Loop-back test

Socket 7 CPU Voltage Test Tools



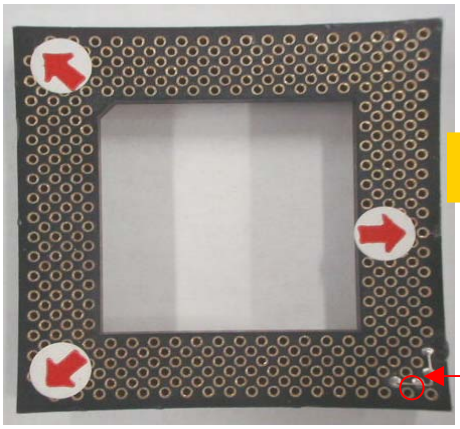
Vcore
(2.0~3.5)

Plug in



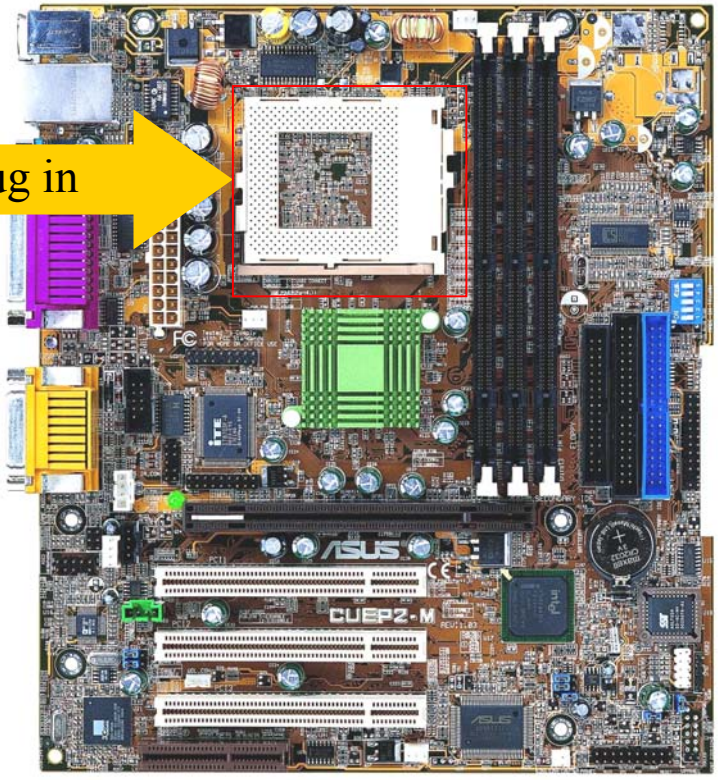
Name：PGA 296P SOCK
Part Number：22-060000310
Function: CPU Voltage test

SOCKET 370 CPU Voltage Test Tools



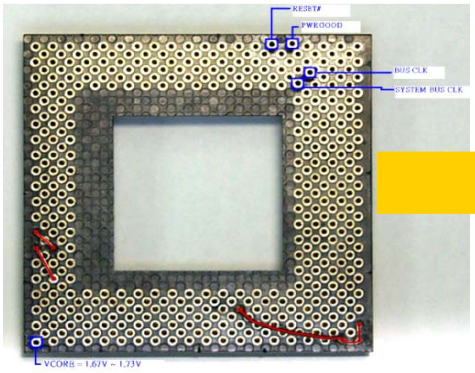
Vcore
(2.0v)

Plug in

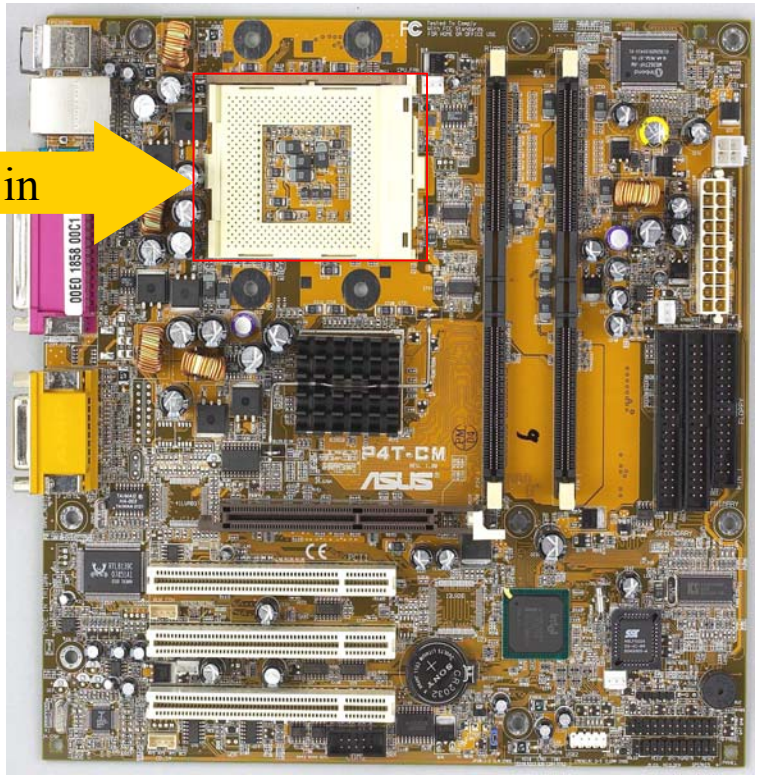


Name：PGA 370P SOCK
Part Number：22-060000320
Function: CPU Voltage test

P4 CPU Voltage Test Tools

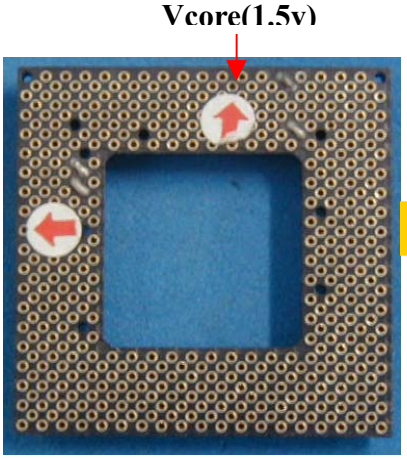


Plug in

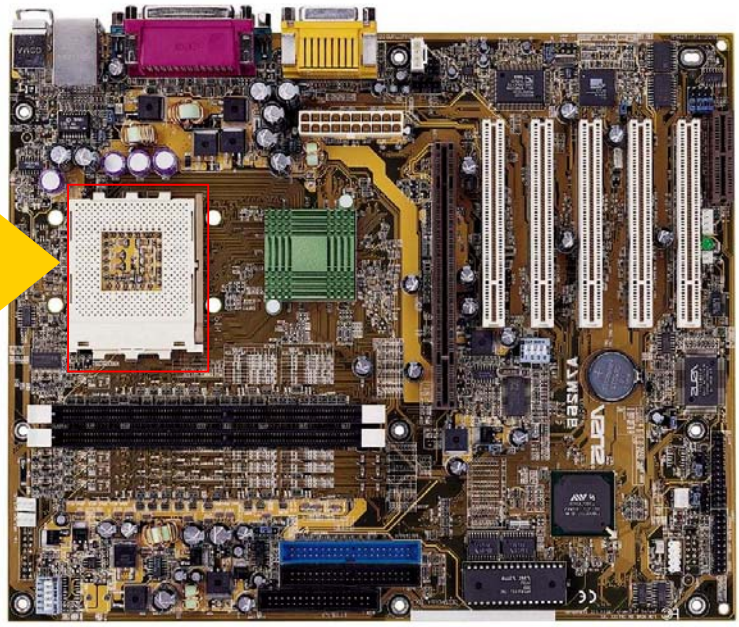


Name：PGA 423 SOCK
Part Number：22-060001031
Function：CPU Voltage test

SOCKET A CPU Voltage Test Tools

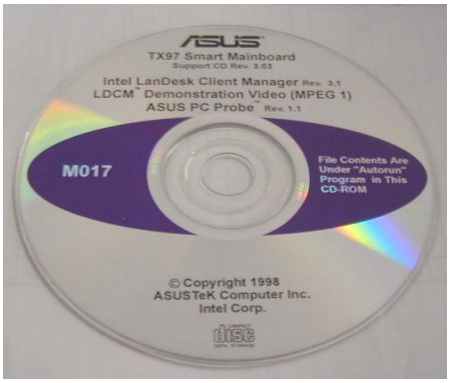


Plug in



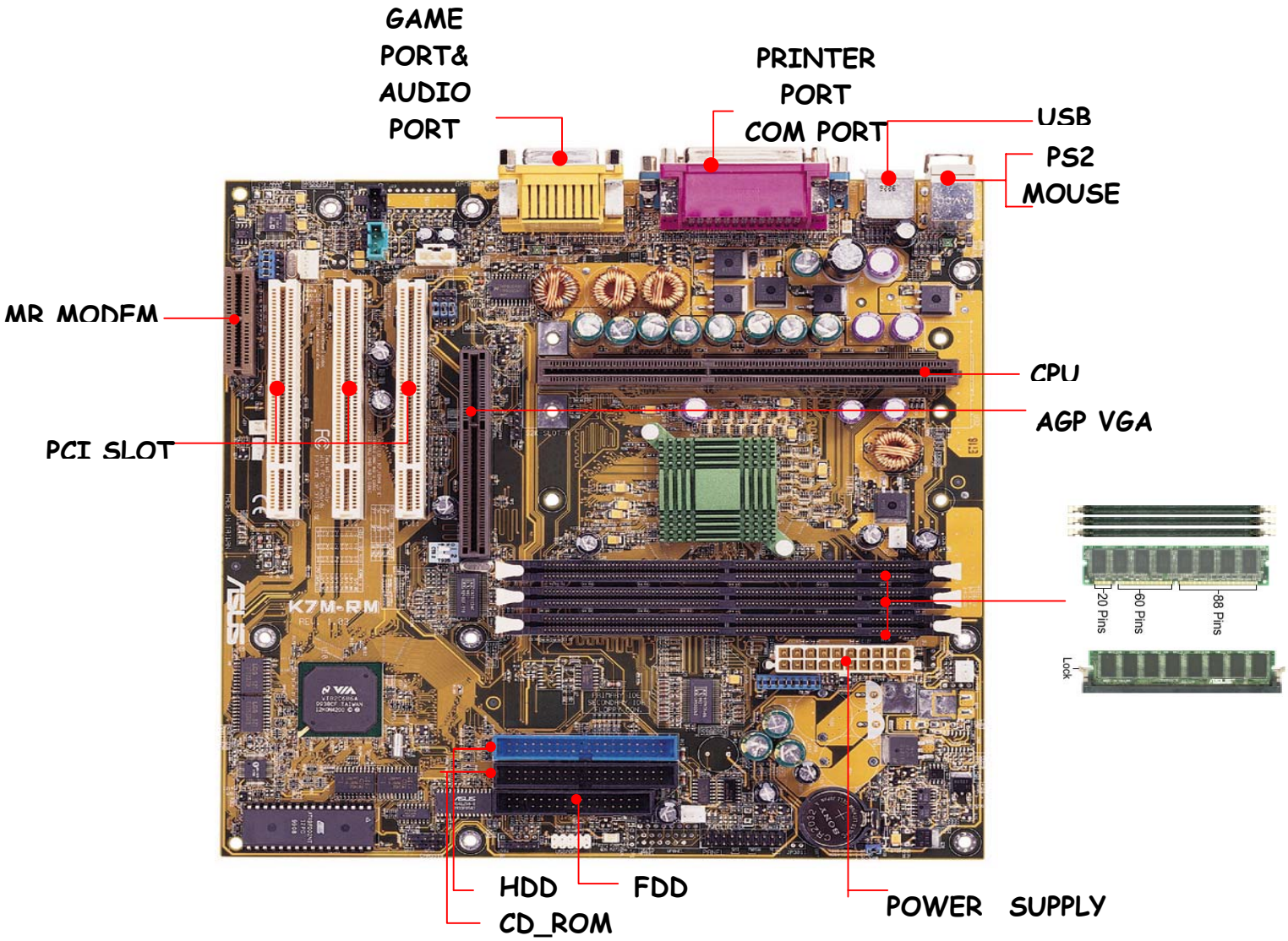
Name：PGA 462 SOCK
Part Number：22-060001020
Function： CPU Voltage test

CD-ROM Test Tools



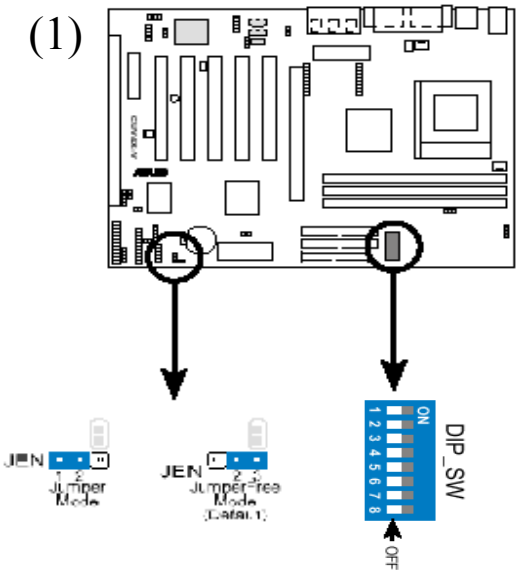
Name: M017 CD_ROM TX97
Part Number:15-093004001

M/B FUNCTION TEST



CAUTION!

(1)



Please check Mainboard **JUMPER SETTING** before testing.

(1)**CPU frequency jumper setting:**

a. **Jumper Mode**: Set the jumpers following the information printed on the motherboard or on the user manual.

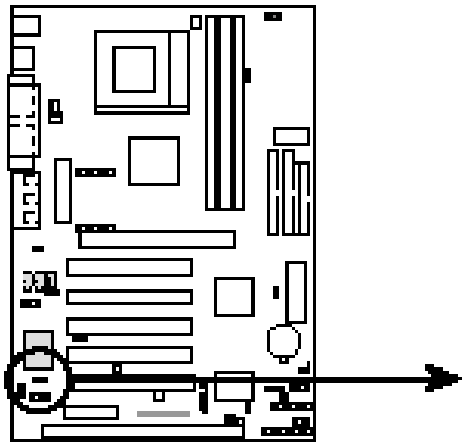
b. **Jumper Free Mode**: Make sure the JEN jumper is on the position of Jumper Free Mode and set all the DIP Switches to OFF.

(2)**Other Motherboard Function Setting** :

Check the onboard Lan ,Audio,SCSI…etc. jumpers and make sure they are **ENABLE .**

PS:If the jumper doesn't be set properly, it'll cause test failure.

(2)



CUV4X-V Audio Codec Setting