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## 4. Troubleshooting

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### 4 – 1. General spec

#### Tools used for repairing the product

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- System Diagnostics Disk
- MS-DOS Booting Disk
- System Diagnostics Card
- Screwdrivers (+, -)
- Tweezers
- Multi-meter

#### Replaceable Units (FRU: Field Replaceable Unit)

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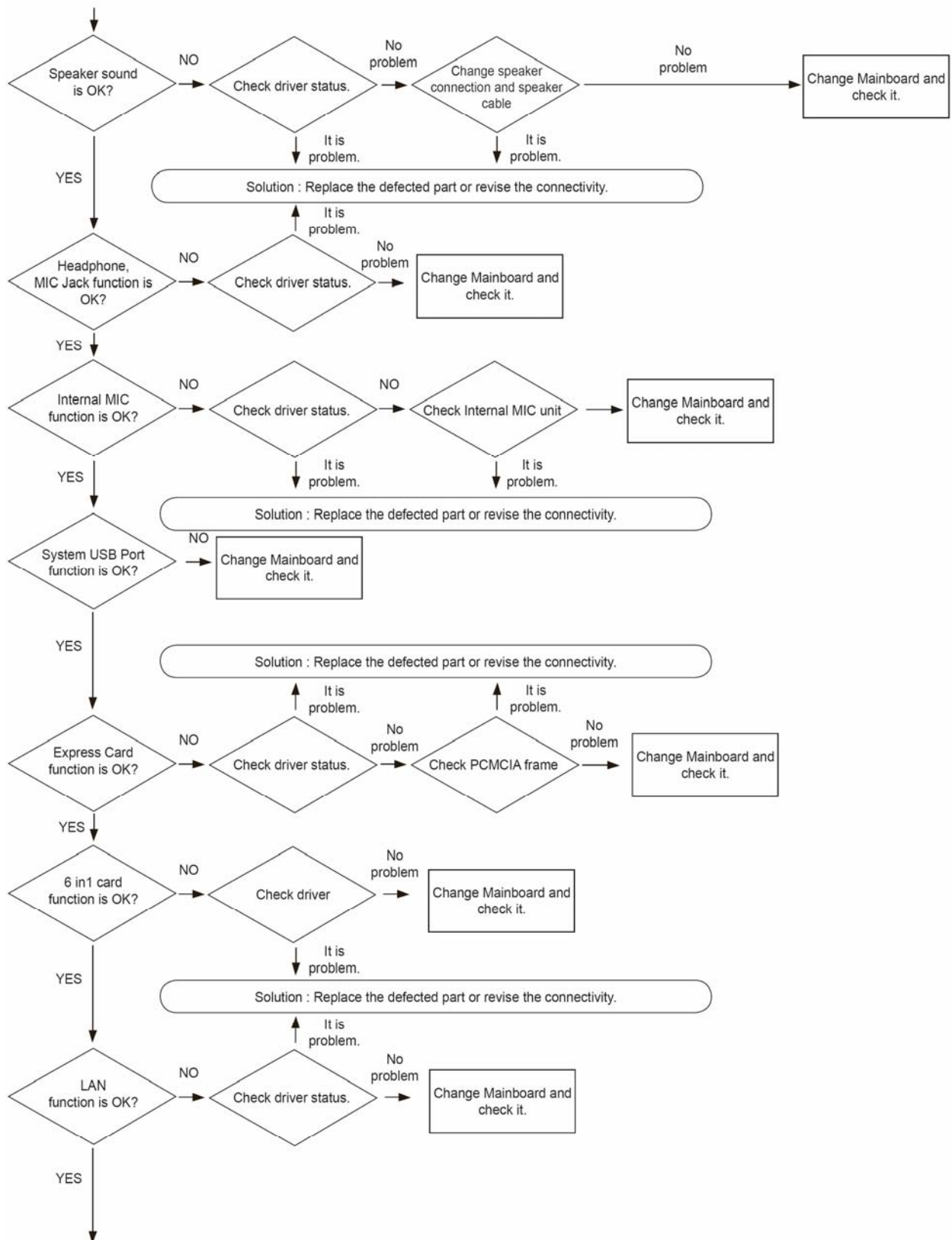
- DDR3 RAM Module
- 1.8" SATA HDD
- Wireless LAN Module
- Bluetooth Module
- Keyboard
- System Fan
- Touchpad
- LCD Panel
- Main Board
- Sub Board
- Express Card Frame
- Speaker
- Harness Cable- Touchpad FPC, Finger cable, Right Sub Board FPC, Left Sub Board FPC, LAN FPC, DC Cable, Bluetooth Cable, Camera Cable, LCD Cable, Wireless LAN Antenna(Three case)

## 4. Troubleshooting

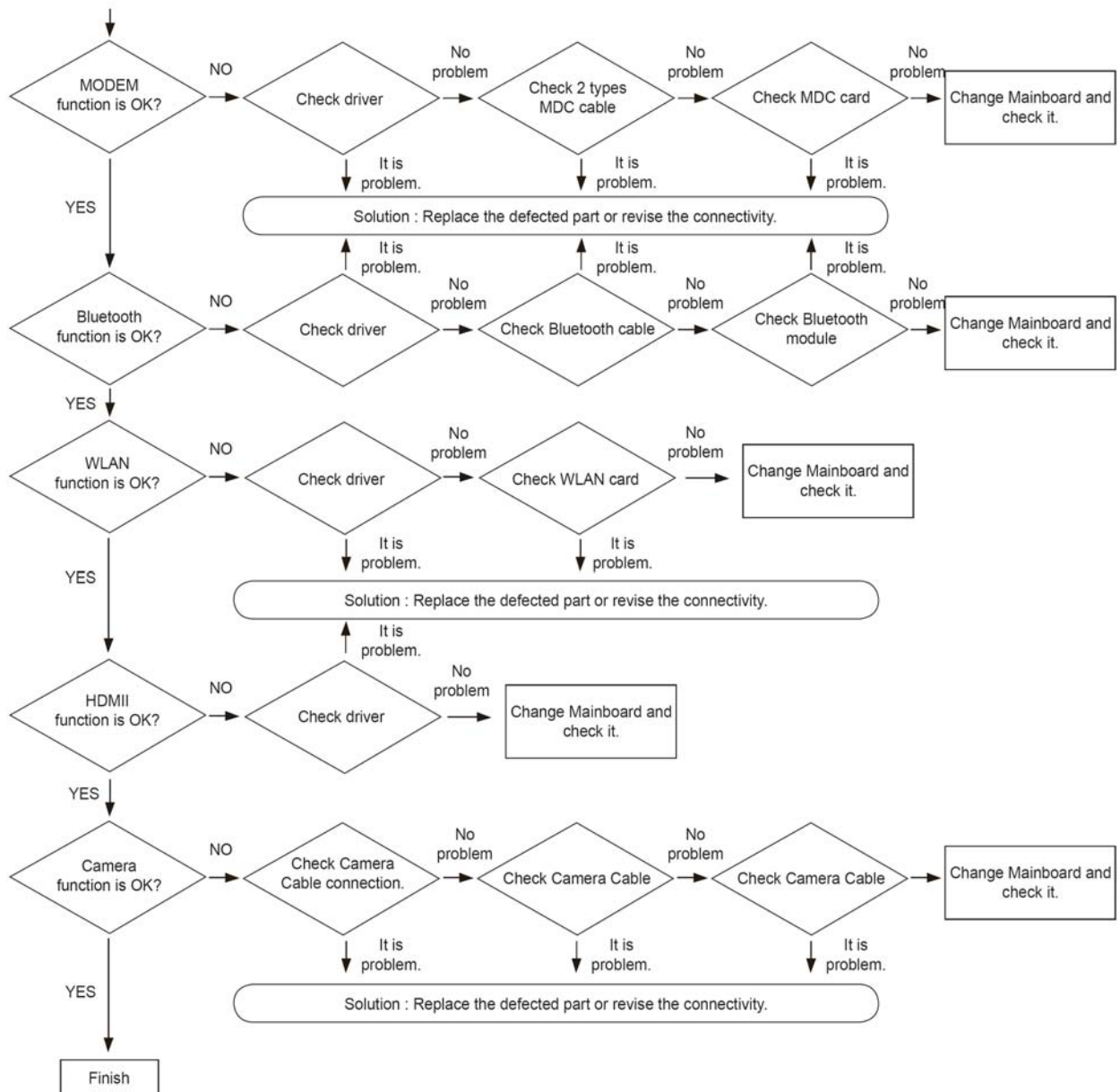
### 4-2. Debugging Flow Chart



## 4. Troubleshooting



## 4. Troubleshooting



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## 4. Troubleshooting

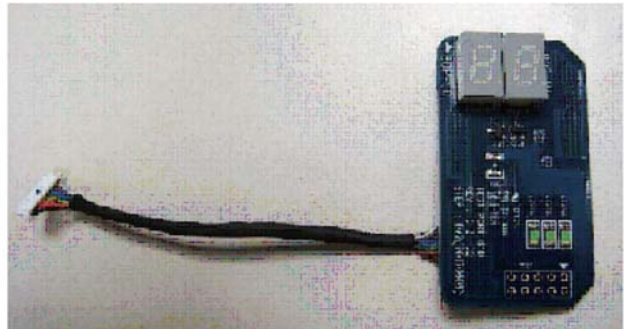
### 4 – 3. System Diagnosis

#### System Diagnostics Card

The Diagnostics Card shows the system operations during the POST (Power On Self Test) in a 2 digit hexadecimal number by connecting the cable to the 10 pin connector below the PCMCIA slot after separating the Top part. The card is used to evaluate the reason for the malfunction without disassembling the system when the system malfunctions and to test if the system operates normally after replacing a defective FRU. X360 use Diagnostics card that is used for UMPC series.

#### Debugging Code

In general, if a defect of the circuit or part is detected during the system test, the system stops at a particular code. The error codes for each part of the system are listed in the following table.



| Code | Beeps   | POST Routine Description (POST 절차 설명)   |
|------|---------|---|
| 00h  |         | Early Microcode update for CAR (CPU MCU Update)   |
| 02h  |         | CAR Done, initial stack (CAR 완료, 스택 초기화)  |
| 09h  |         | Set IN POST flag ( POST용 플래그 설정)  |
| 0Bh  |         | Enable CPU cache (CPU 캐시 사용설정)  |
| 0Fh  |         | Initialize the local bus IDE (IDE 버스 초기화)   |
| 10h  |         | Initialize Power Management (전원 관리 초기화)   |
| 14h  |         | Initialize keyboard controller (키보드 컨트롤러 초기화)   |
| 1Ah  |         | 8237 DMA controller initialization (8237 DMA 컨트롤러 초기화)                                  |
| 20h  | 1-3-1-1 | Test DRAM refresh (DRAM 리프레쉬 테스트)   |
| 20h  |         | DXE starts (DXE 시작)   |
| 22h  | 1-3-1-3 | Test 8742 Keyboard Controller (8742 키보드 컨트롤러 테스트)                                       |
| 24h  |         | Set ES segment register to 4 GB (ES 세그먼트 레지스터를 4GB로 설정)                                 |
| 29h  |         | Initialize POST Memory Manager (POST 메모리 관리장치 초기화)                                      |
| 30h  |         | BIOSPSM   |
| 32h  |         | Test CPU bus-clock frequency (CPU 클럭 주파수 테스트)   |
| 33h  |         | Initialize Phoenix Dispatch Manager (피닉스 Dispatch 관리장치 초기화)                             |
| 3Ah  |         | Auto size cache (캐시 크기 자동 설정)   |
| 3Ch  |         | Advanced configuration of chipset registers (칩셋 레지스터 고급 설정) → RTC 배터리를 제거하여 CMOS 초기화 점검 |
| 3Dh  |         | Load alternate registers with CMOS values   |
| 42h  |         | Initialize interrupt vectors (인터럽트 벡터 초기화)  |
| 45h  |         | POST device initialization (POST 장치 초기화)  |
| 46h  | 2-1-2-3 | Check ROM copyright notice (ROM copyright 확인)   |
| 48h  |         | Check video configuration against CMOS (비디오 cmos 설정값 확인)                                |
| 49h  |         | Initialize PCI bus and devices (PCI 버스와 장치를 초기화) → PCI Device 제거 후 증상 확인                |

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| Code | Beeps   | POST Routine Description (POST 절차 설명)                                     |
|------|---------|---|
| 49h  |         | pciRootBridge driver entry (PCI 루트 브릿지 드라이버 시작)                           |
| 4Ah  |         | Initialize all video adapters in system (비디오 어댑터 초기화) → 그래픽 칩 주변회로 점검     |
| 4Bh  |         | Quiet Boot start (optional) (Quiet boot 시작)                               |
| 4Ch  |         | Shadow video BIOS ROM (Video BIOS를 RAM에 복사)                               |
| 4Eh  |         | Display BIOS copyright notice (BIOS copyright 보여줌)                        |
| 50h  |         | Display CPU type and speed (CPU 타입과 속도 보여줌)                               |
| 51h  |         | Initialize EISA board (EISA 초기화)  |
| 52h  |         | Test keyboard (키보드 테스트) → 키보드 교체 후 증상 확인. 개선 안될 시 마이크업 칩 교체 후 확인          |
| 54h  |         | Set key click if enabled (키클릭 설정)   |
| 55h  |         | USB Initialization (USB 초기화)  |
| 58h  | 2-2-3-1 | Test for unexpected interrupts (돌발 인터럽트에 대한 테스트)                          |
| 59h  |         | Initialize POST display service (POST display service 초기화)                |
| 5Ah  |         | Display prompt "Press F2 to enter SETUP" (F2 셋업 진입 메시지 표시)                |
| 5Bh  |         | Disable CPU cache (CPU 캐쉬 미사용 설정)   |
| 5Ch  |         | Test RAM between 512 and 640 KB (512~649KB의 RAM 테스트) → 메모리 교체 후 증상 확인     |
| 60h  |         | Test extended memory (extended 메모리 테스트) → 메모리 교체 후 증상 확인                  |
| 62h  |         | Test extended memory address lines (extended 메모리 라인 테스트) → 메모리 교체 후 증상 확인 |
| 64h  |         | Jump to UserPatch1 (Userpatch1으로 분기)                                      |
| 66h  |         | Configure advanced cache registers (캐쉬 관련 레지스터 고급설정) → RTC Reset 후 증상 확인  |
| 67h  |         | Initialize Multi Processor APIC (멀티 프로세서 초기화)                             |
| 68h  |         | Enable external and CPU caches (External 및 CPU cache 설정)                  |
| 69h  |         | Setup System Management Mode (SMM) area (SMM 영역 설정)                       |
| 6Ah  |         | Display external L2 cache size (L2 cache 사이즈 표시)                          |
| 6Bh  |         | Load custom defaults (optional) (기본값 로드)                                  |
| 6Ch  |         | Display shadow-area message (shadow-area 메시지 표시)                          |
| 70h  |         | Display error messages (에러 메시지 표시)  |
| 72h  |         | Check for configuration errors (설정 에러 확인)                                 |
| 76h  |         | Check for keyboard errors (키보드 에러 확인)                                     |
| 7Ch  |         | Set up hardware interrupt vectors (하드웨어 인터럽트 설정)                          |
| 7Eh  |         | Initialize coprocessor if present (co-processor 초기화)                      |
| 80h  |         | Disable onboard Super I/O ports and IRQs (시스템상의 I/O, IRQ 사용안함 설정)         |
| 80h  |         | A PEIM found (PEI 모듈 발견)  |
| 81h  |         | Late POST device initialization (POST 후반기 디바이스 초기화)                       |
| 82h  |         | Detect and install external RS232 ports (RS232 port 확인 및 설정)              |
| 83h  |         | Configure non-MCD IDE controllers (non-MCD IDE 컨트롤러 설정)                   |
| 84h  |         | Detect and install external parallel ports (병렬포트 확인 및 설정)                 |
| 85h  |         | Initialize PC-compatible PnP ISA devices (PnP ISA 디바이스 초기화)               |
| 86h  |         | Re-initialize onboard I/O ports. (시스템 I/O 포트 재 초기화)                       |
| 87h  |         | Configure Mother board Configurable Devices (optional) (MCD 디바이스 설정)      |
| 88h  |         | Initialize interrupt controller (인터럽트 제어기 초기화)                            |
| 88h  |         | Executing a PEIM (PEI 모듈 실행)  |
| 89h  |         | Enable Non-Maskable Interrupts (NMIs) (NMI 설정)                            |
| 8Ah  |         | Initialize Extended BIOS Data Area (BIOS 확장 데이터 영역 초기화)                   |
| 8Ah  |         | Processing notify event for newly installed PPI (새로이 설치된 PPI 통지)          |
| 8Bh  |         | Test and initialize PS/2 mouse (PS/2 마우스 테스트/초기화)                         |



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| Code | Beeps | POST Routine Description (POST 절차 설명)                                |
|------|-------|--|
| 8Ch  |       | Handing off to next phase (DXE) (DXE 페이지 진입)                         |
| 8Ch  |       | Initialize floppy controller (플로피 컨트롤러 초기화)                          |
| 8Fh  |       | Determine number of ATA drives (optional) (ATA 드라이브 개수 결정)           |
| 90h  |       | Initialize hard-disk controllers (하드디스크 컨트롤러 초기화)                    |
| 90h  |       | All PEIM dispatched! Going to DxePl (모든 PEIM 수행후, DxePl 호출)          |
| 91h  |       | Initialize local-bus hard-disk controllers (로컬버스 하드 디스크 컨트롤러 초기화)    |
| 92h  |       | Jump to UserPatch2 (UserPatch2로 분기)                                  |
| 93h  |       | Build MPTABLE for multi-processor boards (다중 프로세서 보드를 위한 MPTABLE 구성) |
| 95h  |       | Install CD ROM for boot (부팅을 위한 CD-ROM 설치)                           |
| 96h  |       | Clear huge ES segment register (ES 세그먼트 레지스터 초기화)                    |
| 97h  |       | Fixup Multi Processor table (멀티 프로세서 테이블 고정)                         |
| 98h  | 1-2   | Search for option ROMs. One long, two short beeps on (옵션롬 검색)        |
| 99h  |       | Check for SMART Drive (optional) (SMART 드라이브 확인)                     |
| 9Ch  |       | Set up Power Management (파워 매니지먼트 설정)                                |
| 9Dh  |       | Initialize security engine (optional) (보안엔진 초기화)                     |
| 9Eh  |       | Enable hardware interrupts (하드웨어 인터럽트 설정)                            |
| 9Fh  |       | Determine number of ATA and SCSI drives (ATA/SCSI 드라이브 갯수 결정)        |
| A0h  |       | Set time of day (날짜/시간 설정)   |
| A2h  |       | Check key lock (key lock 확인)   |
| A4h  |       | Initialize Typematic rate (키입력 속도 초기화)                               |
| A8h  |       | Erase F2 prompt (F2 메시지 지움)  |
| AAh  |       | Scan for F2 key stroke (F2 입력여부 확인)                                  |
| ACH  |       | Enter SETUP (셋업으로 들어감)   |
| Aeh  |       | Clear Boot flag (부트 플래그 초기화)   |
| B0h  |       | Check for errors (에러 확인)   |
| B2h  |       | POST done-prepare to boot operating system (POST 끝. 부팅준비)            |
| B5h  |       | Terminate QuietBoot (optional) (quiteboot 종료)                        |
| B6h  |       | Check password (optional) (비밀번호 확인) → RTC Reset후 증상 확인               |
| B7h  |       | Initialize ACPI BIOS (ACPI BIOS 초기화)                                 |
| B9h  |       | Prepare Boot (부팅 준비)   |
| BAh  |       | Initialize DMI parameters (DMI 값 초기화)                                |
| BCh  |       | Clear parity checkers (패리티 체크 초기화)                                   |
| BDh  |       | Display Multi Boot menu (멀티부트 메뉴 표시)                                 |
| BEh  |       | Clear screen (optional) (화면 초기화)                                     |
| BFh  |       | Check virus and backup reminders (바이러스 체크 및 잔여부분 백업)                 |
| C0h  |       | Try to boot with INT 19(INT 19 부팅시도) → 바이오스 셋업에서 부팅순서 변경확인/OS재설치     |
| C1h  |       | Initialize POST Error Manager (PEM) (PEM 초기화)                        |
| C2h  |       | Initialize error logging (에러 로깅 초기화)                                 |
| C3h  |       | Initialize error display function (에러 표시함수 초기화)                      |
| C4h  |       | Install the IRQ vectors (IRQ 벡터 설치)                                  |
| C5h  |       | PnP dual CMOS (optional) (PnP 듀얼 CMOS)                               |
| C6h  |       | pciBusDriver entry (PCI 버스드라이버 시작)                                   |
| E0h  |       | BDS entry (BDS 시작주소)   |
| E3h  |       | First Legacy BIOS Task table for legacy reset (레거시 BIOS Task 시작 위치)  |
| E4h  |       | Last Legacy BIOS Task before hand off to UEFI/DXE                    |





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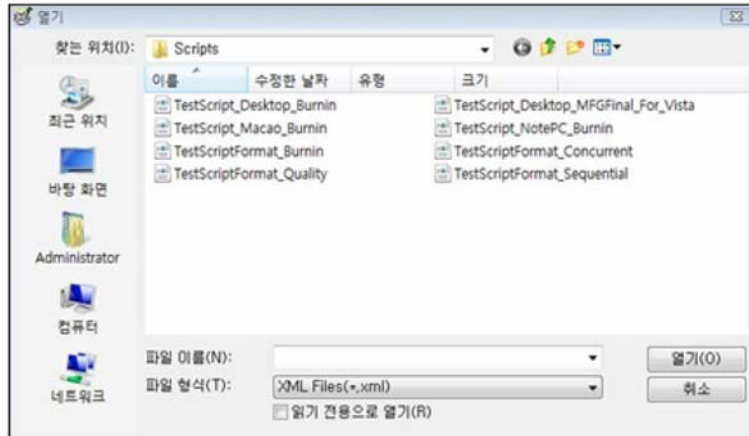
## 4. Troubleshooting

3. Click "Open" to open Script file.

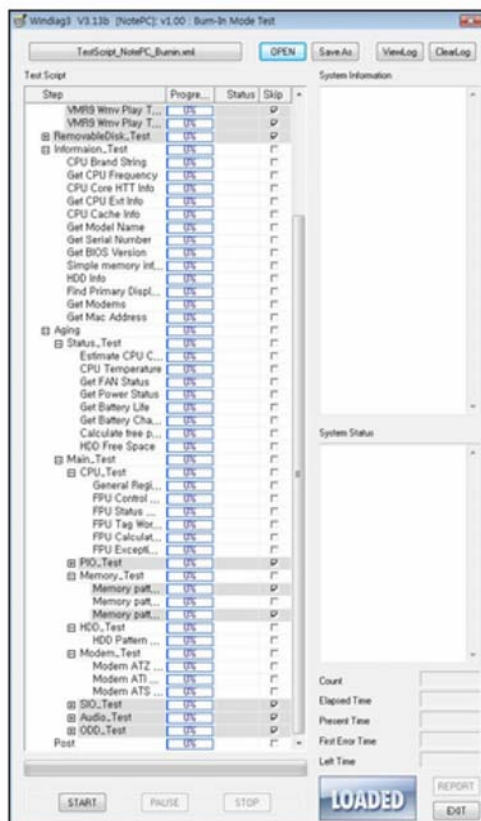
In case of Note PC, click TestScrip\_NotePC\_Burnin.xml.

In case of Desktop, click의 TestScript\_Desktop\_Burnin.xml

When you would like to execute each item for only once : Select the testScriptFormat\_Concurrent.xml.



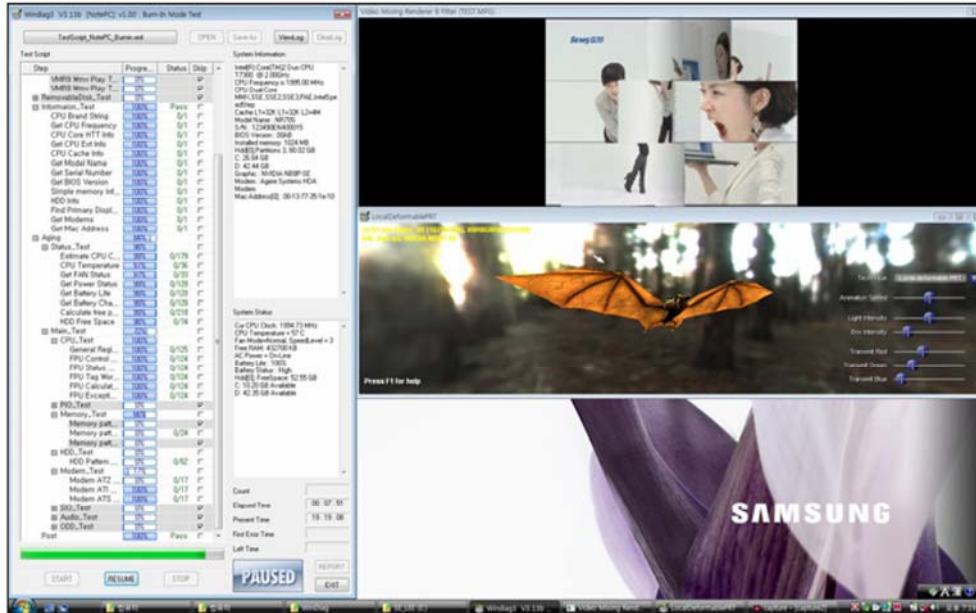
4. After that, OperatorInterface shows the following scripts on the left of the display.



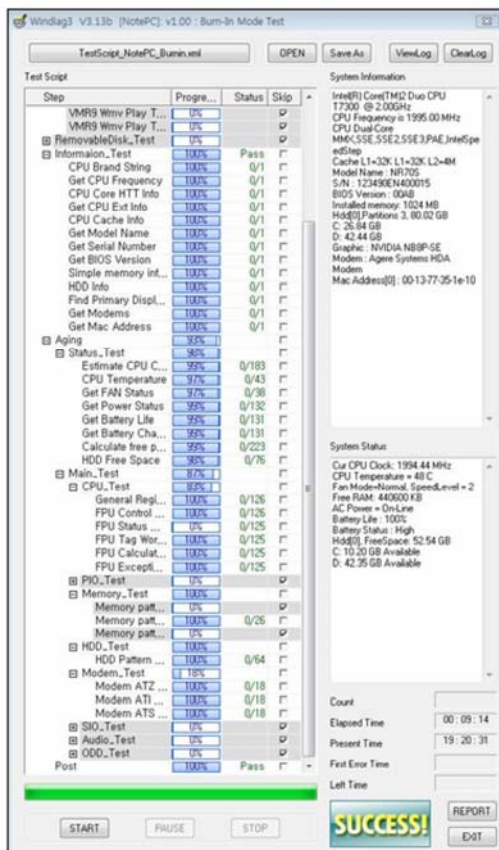
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- Click "Start" button, then test begins.



- If you want to stop this, click "stop" button. If all modules don't stop in 2 minutes 30 seconds, message window will ask you about a forced stop. At that time, by selecting "yes", it can be ended by force.

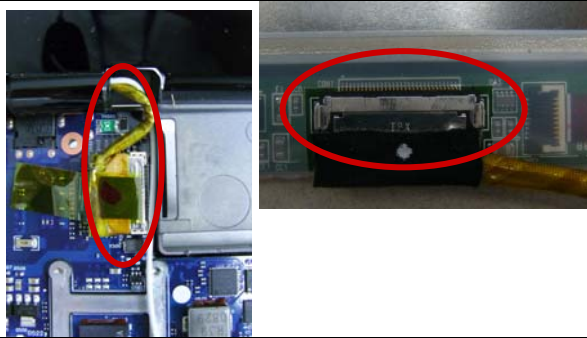

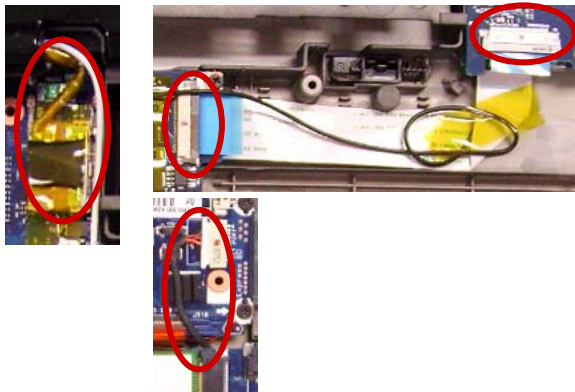



- Click "EXIT", then it will be closed.

## 4. Troubleshooting

### 4- 5. Hardware Troubleshooting

#### LCD related trouble


| #1. The screen is dark or the colors of the screen are distorted. |   |   |
|---|---|---|
| 1   | Check the connection status<br>- LCD Module LCD Cable<br>- LCD Cable and Main board LCD Connector<br>→ Re-fixation Cable and Connector              |   |
| 2   | Replace the LCD cable   | Defectiveness confirmation  |
| 3   | Check if there is a part of the LCD that is bent or broken due to impact<br>→ Replace the LCD   |  <div style="border: 2px solid red; padding: 5px; display: inline-block;"><b>LCD Check</b></div>                 |
| #2. No picture appears on the screen.                             |   |   |
| 1   | Check the connection status<br>- USB_Modem FFC<br>- LCD Cable<br>- PCI-E POWER Cable<br>→ Re-fixation Cable and Connector<br>→ FPC or Cable replace |   |
| 2   | Check if the System LED of the main board is blinking   |  <div style="border: 2px solid red; padding: 5px; display: inline-block;">Check if it is operating or not</div> |
| 3   | Check if the memory module is out of order  | Re-fixation or Replacement other Memory Card  |
| 4   | Check if the Power button can be normally pressed.  | Check operating or not  |

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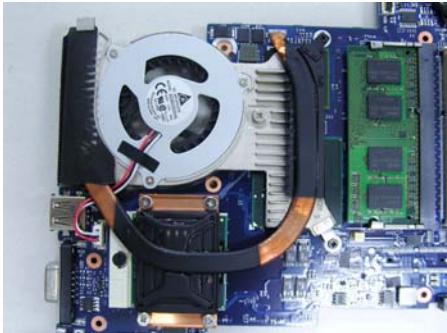
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| #3. The LCD blinks while the system is in operation. |  |   |
|--|--|---|
| 1  | Check if there is a magnetic body near the touch pad button or the system or check if there is an exterior defect to the LCD |  |
| 2  | LCD cable  | Replace the new one.  |

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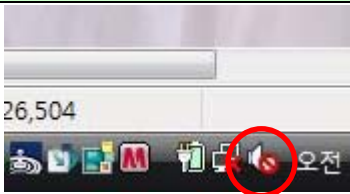
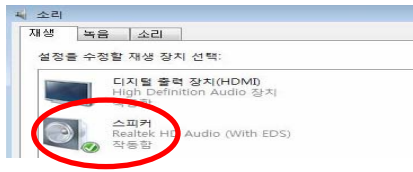
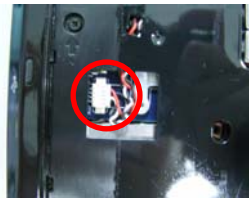

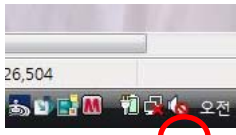
## 4. Troubleshooting

### Main System Related Troubles

| #1. The system is not turned on.   |  |   |
|--|--|---|
| 1  | Check if the AC adapter LED is lit and if the adapter is properly connected to the system.   | Check the adapter LED.  |
| 2  | If the AC adapter is not connected, check the charge status of the battery. Even if the battery is charged, if the remaining battery charge is too low, the system may not be turned on. | <p>As the following figure shows, press the PUSH button on the battery and check the remaining</p>  |
| 3  | Check if there are any alien substances in the Power switch. if have, change the LED.  |    |
| 4  | Replace Main Board   | Check operating or not.   |
| #2. the system does not boot or immediately turns off after being turned on. |  |   |
| 1  | Since this may be a short circuit in the system  | Disconnect the power immediately, disassemble the system and check if there are any conducting alien objects such as a screw inside.  |
| 2  | Check the connection status between the CPU and the RHE  |   |
| 3  | Replace the memory module.   | *Check if it is out of order.   |
| 4  | RTC Reset.   | *Check if it is out of order.   |
| 5  | Replace Main Board.  | *Check if it is out of order.   |

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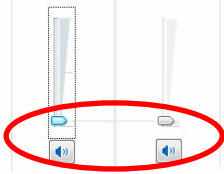

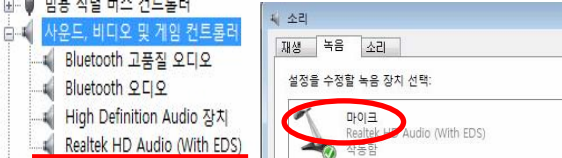
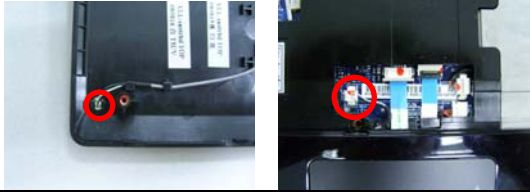


## 4. Troubleshooting

| #3. The PCMCIA Card is not inserted or the Eject button does not work.   |  |  |
|--|--|--|
| 1  | This may occur when the insulator within the Express card slot is enwrapped.               |    |
| 2  | Replace the Express card slot frame.   | *Check if it is out of order.  |
| #4. There is no sound from the speaker.<br>(Insert the figure of the audio jacks so that the reader can check via the figure.) |  |  |
| 1  | Check if the sound is muted after booting up Windows.<br>→Fn + F6 (Mute cancellation)      |    |
| 2  | Control panel confirmation.<br>→Speaker Setting.   |   |
| 3  | Check the connection status of the speaker cable and check if the speaker is out of order. |  |
| 4  | Check if there is a magnetic object near the speaker.                                      |  |
| 5  | Replace Main Board.  | *Check if it is out of order.  |
| #5. I cannot hear sound through the headphones.  |  |  |
| 1  | Check if the sound is muted after booting up Windows.<br>→Fn + F6 (Mute cancellation)      |  |






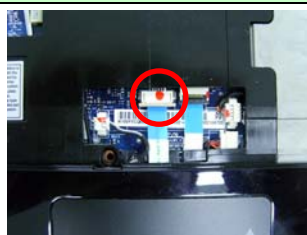
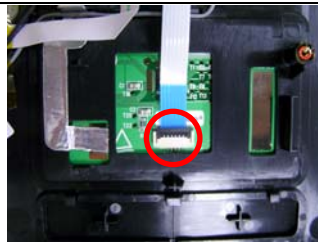
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## 4. Troubleshooting

|   |   |  |
|---|---|--|
| 2   | Control panel confirmation<br>→Speaker Setting.   |    |
| 3   | Turn the volume up.<br>→ Fn key volume adjustment   |    |
| 4   | Check the Headphone jack.   |    |
| 5   | Replace Main Board.   | *Check if it is out of order.  |
| <b>#6. External/Internal microphone does not work normally.</b> |   |  |
| 1   | Check the audio driver settings and change them if necessary.   |   |
| 2   | Check the connection status of the MIC connector and check if the speaker is out of order.              |  |
| 3   | Check the Mic jack.   |  |
| 4   | Replace Main Board.   | *Check if it is out of order.  |
| <b>#7. HDMI port does not work normally.</b>                    |   |  |
| 1   | System manager confirmation .<br>(Video / Sound / Controller confirmation)<br>→ HDMI driver Re-install. |  |

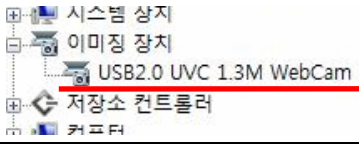


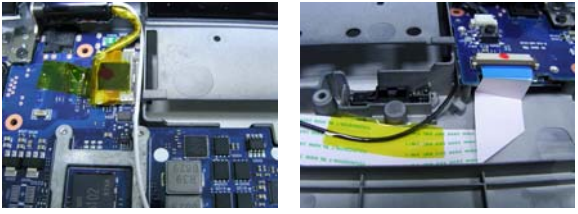
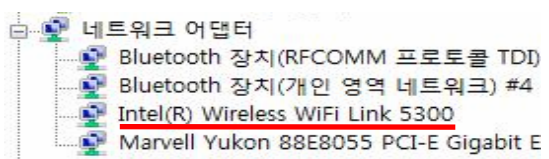

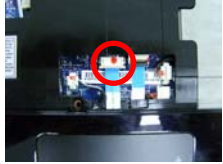
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## 4. Troubleshooting

|                                       |  |  |
|---------------------------------------|--|--|
| 2                                     | Check the Display Manager work normally.<br>→ Display Manager program Re-install.  |    |
| 3                                     | Check the Control panel .<br>→ Check HDMI section enable.  |    |
| 4                                     | Replace Main Board.  | *Check if it is out of order.  |
| #8. The HDD is not recognized.        |  |  |
| 1                                     | Check the connection status of the HDD connector.<br>(Refer Disassembly and Reassembly Chapter.)   |   |
| 2                                     | If the 'Operating system not found' message appears during the booting process even though the HDD is recognized by CMOS, the operating system of the HDD may be corrupted or the HDD is out of order. | Format the HDD and reinstall the operating System.                                   |
|                                       |  | Replace the HDD with a new one.  |
| #9. Touch Pad does not work normally. |  |  |
| 1                                     | Check the connection status of Touch Pad FFC.  |  |
| 2                                     | Check the connection status of Touch Pad cable   |  |
| 3                                     | Check the connection status of Touch Pad I/F B'D.  |  |
| 4                                     | Check the connection status of Touch Pad Module.   |  |
| 5                                     | Replace Touch-Pad Module.  |  |
| #10. Camera does not work normally.   |  |  |



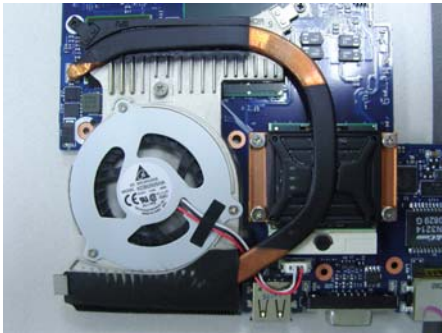
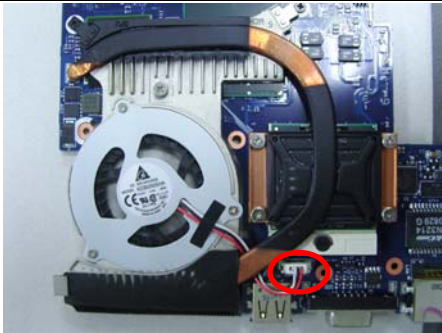
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|   |  |  |
|---|--|--|
| 1   | Check the driver status of Camera<br>( Check the system manager )  |    |
| 2   | Check the connection status of camera cable between Main board.    |    |
| 3   | Check the connection status of camera cable between Camera module  |    |
| 4   | Replace Camera module  | *Check if it is out of order.  |
| 5   | Replace Main Board   | *Check if it is out of order.  |
| <b>#11. WLAN does not work normally.</b>      |  |  |
| 1   | Check the damage status of WLAN Cable<br>→ Replace WLAN Cable      |  |
| 2   | Check the driver status of WLAN<br>→ Re-Install WLAN driver.       |  |
| 3   | Check the damage status of WLAN Jack<br>→ Replace WLAN module.     |  |
| 4   | Replace Main Board.  | *Check if it is out of order.  |
| <b>#12. Bluetooth does not work normally.</b> |  |  |
| 1   | Check the connection status of Bluetooth cable between Main board. |  |

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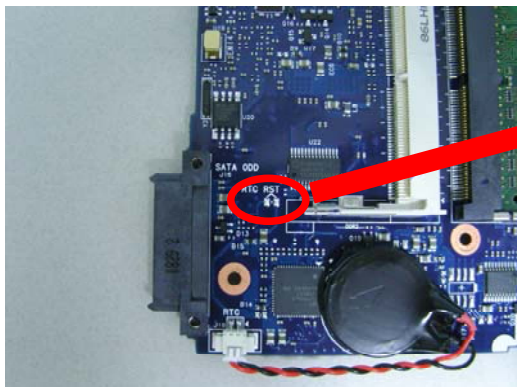
|   |  |  |
|---|--|--|
| 2   | Check the cutting status of Bluetooth cable and connector<br>→ Replace Bluetooth cable |    |
| 3   | Check the connection status of Bluetooth cable between Module.                         |    |
| 4   | Replace Bluetooth Module   |  |
| <b>#13. The Fan does not work normally.</b> |  |  |
| 1   | Check the system by using SAFC(Samsung Advanced Fan Control)program.                   | *Tool Program reference  |
| 2   | Check the connection status of Heat sink<br>→ Screw fixation 7EA (Ref. chapter 3)      |   |
| 3   | Check the connection status of FAN   |  |
| 4   | Replace FAN  | *Check if it is out of order.  |
| 5   | Replace Main Board.  | *Check if it is out of order.  |

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## 4. Troubleshooting

### Others

| # When turn on computer   |   |
|---|---|
| "Invalid System disk Replace the Disk and then press any key"                         | >Cause : USB memory stick or CD title deos not have a boot image.<br>- Check HDD connection<br>- Check if CMOS can detect HDD or not.<br>- Re-install windows (OS broken)   |
| " Press <F1> to resume, <F2> to setup."   | - Press <F2> to enter BIOS setup.<br>- Check date & time and so on. (Refer "BIOS Setup Guide".)<br>- Save & exit.   |
| "CMOS Checksum error"   | > Cause : RTC battery discharged.<br>- Replace RTC battery and configure date & time in CMOS setup.   |
| Boot in Safe mode   | Cause: If shutdown system abnormally, This screen can appear.<br>- When turn off system, use "Start > Shutdown" menu.<br>- Scan disk. (Run "chkdsk" utility.)   |
| Can not boot in USB floppy drive or USB memory stick                                  | - Configure boot device priority in CMOS setup.<br>- Check if the disk is bootable.   |
| # When turn off Windows, and display issues   |   |
| Can not turn off computer   | - If it is impossible to turn off system normally, can turn off system by pressing power button for 4 seconds.  |
| System halts on windows   | - Press <Ctrl> + <Alt> + <Del> to run "Windows task manager."<br>- Find the application program which can not respond.<br>- Select the program and press <Alt> + <E> to quit the program.<br>- If task manager can not load for a while, press power button for 4 seconds to shutdown computer. |
| Can not display on CRT  | - Press <Fn> + <F4> several times to select output devices.<br>- Refer "LCD Related Troubles" to check H/W defects.   |
| USB devices and Sleep mode  | - It is possible that system can not detect USB devices on Sleep mode.<br>- It is possible that system lost USB devices after waking up from Sleep mode. In this case, re-connect USB devices after remove.   |
| If system enters Sleep mode during runs "Dos window", after resuming can not display. | - Press <Alt> + <Tab> to display screen again.  |



RTC Reset

Remove Keyboard, There is CMOS Clear Point below left Memory socket. Short this point with tweezers during 20~30 seconds. After do this, CMOS will be clear.



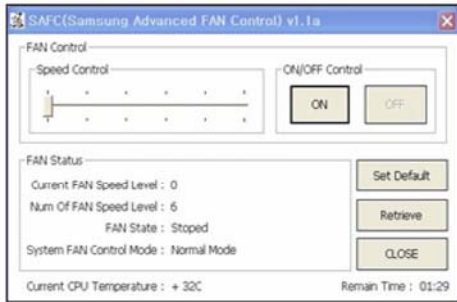
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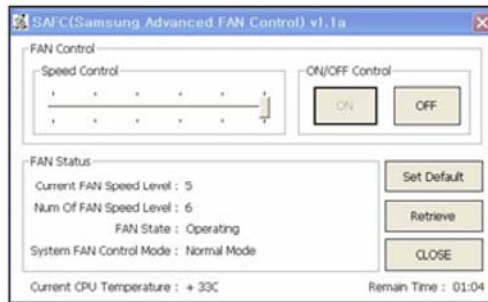
### 4 – 6. CPU Fan control

#### Checking the Work of FAN

One can turn the fan on & off and check the fan's operational conditions without system disassembly



Pic (1) Fan off status



Pic (2) Fan off status

- SAFC's default setting is "Fan off" or "Minimum Fan Speed".
- Press "ON" in "ON/OFF Control" Fan is turned on to maximum fan speed.
- Press "OFF" in "ON/OFF Control" Fan returns to default setting.

#### Checking the Normal Working State of FAN Control

##### (1) Normal mode

CPU fan control

| CPU<br>SPEED | Stage | Address<br>(Hexa) | RPM  | EMC2102<br>Count(HEX) | Noise | For CPU temperature<br>CPU Sensor(on/off) |
|--------------|-------|-------------------|------|-----------------------|-------|---|
| I 단계         | OFF   | -                 | -    | -                     | 20dBA | -   |
|              | 1     | -                 | 2000 | 3D                    | 23dBA | 45/30                                     |
|              | 2     | -                 | 2200 | 37                    | 25dBA | 55/50                                     |
|              | 3     | -                 | 2400 | 33                    | 27dBA | 65/60                                     |
|              | 4     | -                 | 2700 | 2E                    | 29dBA | 70/65                                     |
|              | 5     | -                 | 3000 | 29                    | 32dBA | 75/70                                     |
|              | 6     | -                 | 3300 | 25                    | 35dBA | 80/75                                     |
| II 단계        | 6     | -                 | 3300 | 25                    | 35dBA | 87/80                                     |
| III 단계       | 6     | -                 | 3300 | 25                    | 35dBA | 92/87                                     |
|              |       | OS Throttling     |      |                       |       | 95  |
|              |       | ACPI Notify       |      |                       |       | 98  |
|              |       | Dos Throttling    |      |                       |       | 95/90                                     |
|              |       | Shutdown          |      |                       |       | 100                                       |



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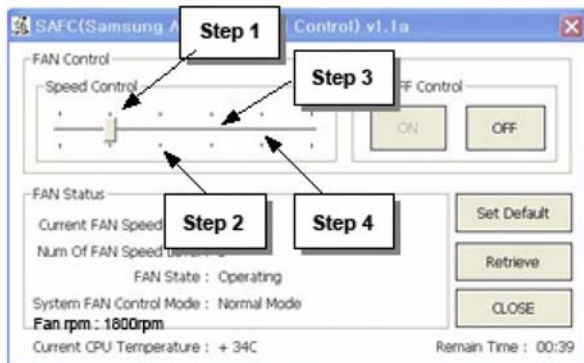
## 4. Troubleshooting

### (2) Etiquette mode

| CPU   | Voltage | Address        | RPM  | EMC2102<br>Count(HEX) | Noise | For CPU temperature |
|-------|---------|----------------|------|-----------------------|-------|---------------------|
| SPEED | (Volt)  | (Hexa)         |      |                       |       | CPU Sensor(on/off)  |
|       | OFF     | -              | -    | -                     | 20dBA | -                   |
|       | 1       | -              | 2000 | 3D                    | 23dBA | 60/55               |
|       | 1       | -              | 2000 | 3D                    | 23dBA | 65/60               |
|       | 1       | -              | 2000 | 3D                    | 23dBA | 70/65               |
|       | 2       | -              | 2200 | 37                    | 25dBA | 75/70               |
|       | 3       | -              | 2400 | 33                    | 37dBA | 80/75               |
|       | 4       | -              | 2700 | 2E                    | 32dBA | 85/80               |
|       | 5       | -              | 3300 | 25                    | 35dBA | 90/85               |
|       |         | OS Throttling  |      |                       |       | 95                  |
|       |         | ACPI Notify    |      |                       |       | 98                  |
|       |         | Dos Throttling |      |                       |       | 95/90               |
|       |         | Shutdown       |      |                       |       | 100                 |

### (3) Battery mode

| CPU   | Stage | Address        | RPM  | EMC2102<br>Count(HEX) | Noise | For CPU temperature |
|-------|-------|----------------|------|-----------------------|-------|---------------------|
| SPEED |       | (Hexa)         |      |                       |       | CPU Sensor(on/off)  |
|       | OFF   | -              | OFF  | -                     | 20dBA | -                   |
|       | 1     | -              | 2000 | 3D                    | 23dBA | 50/40               |
|       | 2     | -              | 2200 | 37                    | 25dBA | 65/60               |
|       | 3     | -              | 2400 | 33                    | 27dBA | 70/65               |
|       | 4     | -              | 2700 | 2E                    | 32dBA | 75/70               |
|       | 5     | -              | 3300 | 25                    | 35dBA | 80/75               |
|       | 6     | -              | 3300 | 25                    | 35dBA | 85/80               |
|       |       | OS Throttling  |      |                       |       | 95                  |
|       |       | ACPI Notify    |      |                       |       | 98                  |
|       |       | Dos Throttling |      |                       |       | 95/90               |
|       |       | Shutdown       |      |                       |       | 100                 |



Pic (3) Adjust FAN State

#### [ Fan Voltage Measurement ]

- Read Fan RPM indicated in SAFC.

#### [ Fan Voltage Pass/Fail determination ]

- If Fan RPM satisfies "rpm spec +/-10%", then Fan test is "PASS".

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## 4. Troubleshooting

### 4 - 7. Battery Use Time

Check the following check lists for systems where the battery use time is too short to diagnose problems.

#### Check the battery

Check if the battery is out of order referring to the Battery check program distributed to Service Centers and the 'Battery Check Manual' included in the 'Note-PC A/S Guide'

##### (1) Battery Check List

Please mark "✓" in the box (□) of each applicable items, after checking the battery status with the "battery checking program"

1. Does the battery communicate normally with system?

☐ PASS

☐ FAIL

2. Is the battery charged normally?

☐ PASS

☐ FAIL

3. Is the battery discharged normally?

☐ PASS

☐ FAIL

4. Is the battery still in warranty?

☐ Excess than 6 months : Out of warranty

☐ Excess than 300 Cycles : Out of warranty

☐ Less than 6 months : PASS

☐ Less than 6 months : FAIL

##### (2) Criteria for each of the check lists.

1. Does the battery communicate normally with system?

☐ PASS

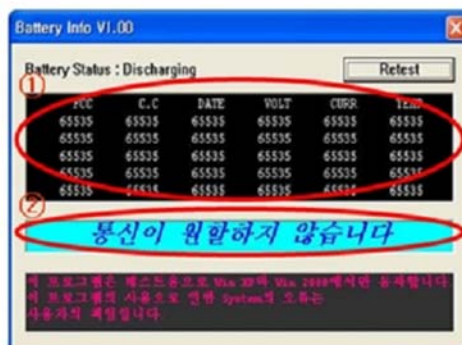
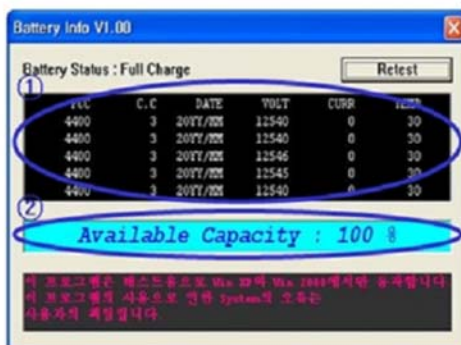
☒ FAIL

①: Data displayed in the data window.

①: The code 65535 displayed

②: Available capacity displayed : 0 ~ 100%

②: Displayed the error message in Korean  
"통신이 원활 하지 않습니다"



☞ recommended : When the communication failed, please set a normal battery to the system and check first which -battery or system- has the problem.

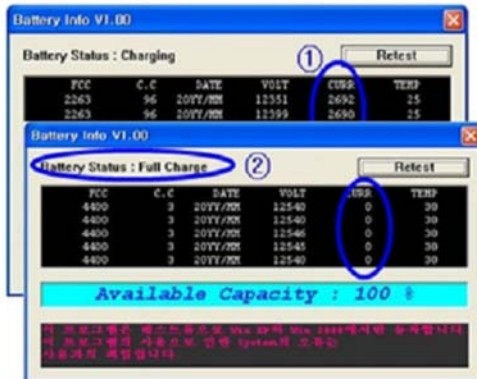
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### 2. Is the battery charged normally?

☐ PASS

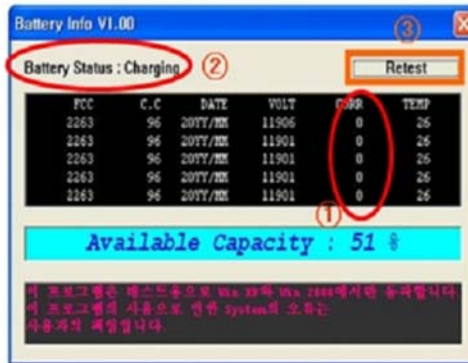
①: Pass, if the CURR values are within 35 ~ 3500



②: Pass, even if the CURR value is 0 but the battery is in status of Full Charge

☐ FAIL

①,②: Fail, if the CURR values are 0 and the battery status is in Charging.

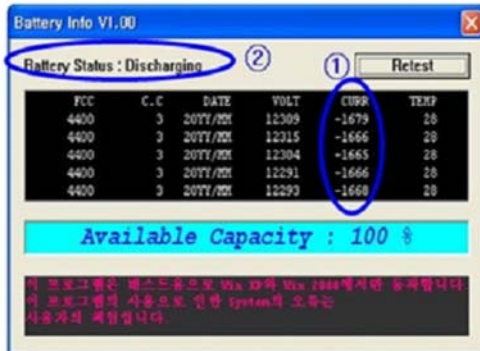


③: if the CURR value is 0 and in status of Charging, please reconfirm the "fail" after 2-3 times of Retest.

### 3. Is the battery discharged normally?

☐ PASS

①,②: Pass, if the CURR values are within -50 ~ -5000 and the battery status is in Discharging.



☐ FAIL

Fail, if the System is off status when the adaptor is removed from the System

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## 4. Troubleshooting

### 4. Is the battery still in warranty?

☐ Excess than 6 months : Out of warranty

☐ Excess than 300 cycles : Out of warranty

☒ **Warranty period : Within 6 months after sales date, more than 60% of initial electric capacity after 300 cycles.**

\* **Reference** : If a battery is out of warranty, the battery can not be considered as "defected". So if a customer requests to exchange his battery in this case, the battery should be provided **onerously with sales price**. So please persuade customer to use continuously his battery, with the explanation of effective capacity of his battery, if the battery have no defect but only small decrease of capacity.

☐ Less than 6 months : PASS

☒ **Less than 6 months : FAIL**

☒ **①Please refer to "Capacity Standard Table" (or ②Capacity Standard Graph). Please judge Pass or Fail after checking the sales date of a battery. Pass, if the capacity of the battery is over than the value of corresponded date of "Available Capacity" column in the Table. Fail, if the capacity is lower than the value.**

\* **Reference** : The battery capacity can have individual error according to the user's circumstance of the battery. So it is recommended that the battery should be checked (with Battery Check Program) after calibration (Smart Battery Calibration: Full charge/discharge or Full discharge/charge)

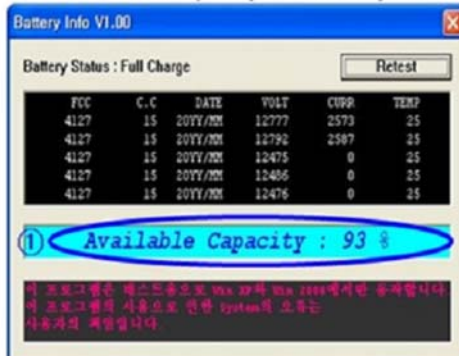
### [Example]

☐ Less than 6 months: PASS

①: Available Capacity: 93%

Duration of Use : 1month(30days)

Available Capacity of warranty: 87.8%

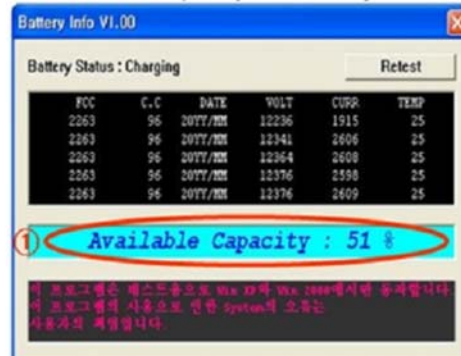


☒ **Less than 6 months: FAIL**

①: Available Capacity: 51%

Duration of Use : 1month(30days)

Available Capacity of warranty: 87.8%



\* **Reference** : If the sale date is 2004.5.10 and service receipt date is 2004.6.10, the Duration of Use is regarded as 1 month(30days)



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### (3) Battery capacity Table

| Duration of Use           | Available Capacity(%) |
|---------------------------|-----------------------|
| Within 0.5month (15days)  | More than 93.6 %      |
| Within 1.0month (30days)  | More than 87.8 %      |
| Within 1.5month (45days)  | More than 82.5 %      |
| Within 2.0month (60days)  | More than 77.8 %      |
| Within 2.5month (75days)  | More than 73.6 %      |
| Within 3.0month (90days)  | More than 70.0 %      |
| Within 3.5month (105days) | More than 66.9 %      |
| Within 4.0month (120days) | More than 64.4 %      |
| Within 4.5month (135days) | More than 62.5 %      |
| Within 5.0month (150days) | More than 61.1 %      |
| Within 5.5month (165days) | More than 60.3 %      |
| Within 6.0month (180days) | More than 60.0 %      |

#### \* Reference

**Duration of Use** : The using period from the sales date of the system (with battery)

**Available Capacity(%)** : The real capacity of the battery, decreased from the design capacity by the user's circumstance, keeping status or etc.

### (4) Battery Check Program

**Battery Info V1.00**

① Battery Status : Full Charge [Retest]

| FCC  | C.C | DATE    | VOLT  | CURR | TEMP |
|------|-----|---------|-------|------|------|
| 4400 | 3   | 20YY/MM | 12540 | 0    | 30   |
| 4400 | 3   | 20YY/MM | 12540 | 0    | 30   |

② ③ ④ ⑤ ⑥ ⑦

⑧ Available Capacity : 100 %

Password: SECAS

Retest button

Program caution note

이 프로그램은 테스트용으로 Min 30의 Min 2000명씩만 설치됩니다.  
이 프로그램의 사용으로 인한 system의 오류는  
사용자의 책임입니다.

① **Battery Status**: Full Charge, in Charging, Full Discharge, in Discharging  
 ② **FCC**: Full Charge Capacity. Expected capacity when the battery will be charged fully.  
 ③ **C.C**: The times of full discharge after full charge  
 ④ **DATE**: Sales date of the System year/month  
 ⑤ **VOLT**: The voltage of charge or discharge of the battery  
 ⑥ **CURR**: The current of charge or discharge of the battery  
 ⑦ **TEMP**: The temperature of battery  
 ⑧ **Available Capacity**: The percentage of present maximum available capacity compared to design capacity. Or “통신이 원활 하지 않습니다”: the error message when System MICOM can not communicate with battery.

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## 4. Troubleshooting

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### Check the battery use environment

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1. Generally, the battery usage time in advertisements by notebook manufacturers refers to the maximum battery use time. Since the system specifications and the usage environment may differ, the user's battery usage time may differ from the advertisement even if there is no problem with the system.
2. Conditions for the company's maximum battery use time
  - a. Minimum LCD brightness, base system, the wireless LAN R/F is turned off, Battery Manager- Maximum Battery Mode
  - b. Measuring Tool: Battery Mark v.4.0.1
3. If a customer complains about the battery usage time, let them know that the battery usage time may differ depending on the model specifications and the usage environment and recommend the following usage environment for longer battery time.
  - a. Use the company's power-saving program, Battery Manager, and set Battery Manager to Maximum Battery Mode.
  - b. LCD brightness: Set to the minimum level as long as the user does not experience inconvenience.
  - c. Disable unnecessary devices
    - : Turn the wireless LAN R/F switch off and disable USB devices (DMB, fingerprint recognition and Bluetooth)



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## 4. Troubleshooting

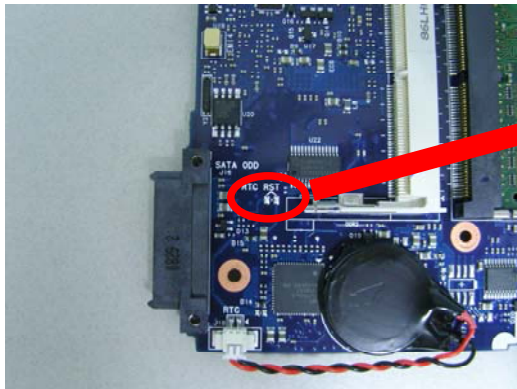
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### 4 – 8. Bios & Micom Update

#### Set – up Method

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- 1) Dos Mode Update
  - A. Make a Boot disk → Copy Packing file (copy → boot DOS → Bios Update : c:\Wphlash16 XXXX.wph /c /s /X / mode=3 /bbl)
  - B. Micom Update : c:\Wup113 XXXX.bin
  - C. Packing file : c:\WXXXX.exe /c /s
- 2) Windows Mode Update : Boot Windows → Run Samsung Update plus program
- 3) Reset security Number



RTC Reset

Remove Keyboard, There is CMOS Clear Point below left Memory socket. Short this point with tweezers during 20~30 seconds. After do this, CMOS will be clear.

## 4. Troubleshooting

### 4 - 9. Q & A

#### Display Related

**Q** The LCD screen is too dark or too bright.

**A** Turn the LCD backlight on or adjust the LCD brightness.

Press **Fn** +  to turn the LCD backlight on or press **Fn** +  or **Fn** +  to adjust the LCD brightness.


**Q** The screensaver is activated while Media Player is playing a movie or video clip.


**A** Unselect **Library > More Options > Player > Allow screen saver during playback** in the Media Player.

**Q** In the following cases, the screen blinks or there is noise for a short time.

● Click the **Graphics Related** tab, **Change Resolution**, **Change Display Device**, **Remove the AC Adapter**, **Restart the System**, **Change Power Scheme**.

**A** This may happen while the video driver is examining the connected device. While the detection process is busy, any connected display devices may blink or some noise may occur.

**Q** When I connect a projector, and change the settings to display the screen image on both the LCD and the projector by pressing the **Fn** + , the screen is not displayed properly.

**A** Press the **Fn** +  keys again.

If the problem continues even after pressing the key combination, this is because the current resolution is too high and is not supported by the projector. In this case, change the resolution to 1024x768 pixels.

**Q** When I connect a projector, the taskbar at the bottom of the screen is not displayed on the projector.

**A** This occurs because a WXGA LCD supports a resolution of 1280x800 pixels but the resolution is not supported by the projector. In this case, change the resolution to 1024x768 pixels (recommended).

**Q** The shortcut icons are not displayed on the screen even if I press the shortcut key.

**A** The shortcut icons only appear when the Easy Display Manager program is installed.

**Q** I have connected a monitor (or projector) to the computer, but the colors on the monitor are abnormally displayed.

**A** Check if the monitor and computer are properly connected with the signal cable and reconnect the cable if necessary.

**Q** I am trying to view the screen through a TV by connecting it through the HDMI port, but the edge of the screen is not displayed.

**A** It is recommended using a notebook computer screen or monitor for documents and Internet pages. Although connecting via the HDMI port is recommended when watching video, it may be inappropriate for displaying documents and Internet pages because most TVs that support HDMI fail to display the edge of the screen or the characters on the screen properly.

**Q** I cannot configure the Image Sharpness in the NVIDIA Control Panel of [NVIDIA Graphics].

**A** The **NVIDIA Control Panel > Adjust desktop Color Settings > Image Sharpening** item is set to **None** and will not be configurable. This is normal. This function is only available for old graphic chipsets.

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## 4. Troubleshooting

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### Modem Related

#### **Q** I cannot hear the modem

- A1** Check if the phone line is properly connected to the modem.
- A2** Check if the modem driver is properly installed.
- ❶ Click **Start > Control Panel > System and Maintenance > Device Manager > Modem** and then check if the model is not marked with a yellow exclamation mark. If it is marked with an exclamation mark, it means that the modem driver is not properly installed. In this case, remove the installed driver and install the driver again.
  - ❷ If the modem is not marked with a yellow exclamation mark, double-click the installed modem and select **Diagnosis tab > Query modem** to diagnose the modem. If there is no reaction to the command, it means the modem is out of order. In this case, restart the system or reinstall the modem driver and then diagnose the modem again. (Close all applications using the modem before diagnosing the modem.)

#### **Q** When using the modem overseas

- A1** Check if the country setting of the modem is set to the current country.
- Since each country has slightly different telecommunication values, if the location is not set to the corresponding country, the modem may fail to make a phone call.
- ❶ Click **Start > Control Panel > Hardware and Sound**.
  - ❷ Click on **Phone and Modem Options**.
  - ❸ In the **Dialing Rules** tab, click **Edit**.
  - ❹ In the **General** tab of the Edit Location window, set the Country/Region to your current country, enter the region code and then click the **OK** button.
- A2** Since the shape of the phone line connector may differ depending on the country you are in, you may have to buy a phone line connector to make a phone call from that country.

#### **Q** When you are unable to make a call when using a switchboard

- A** In general, the dial tone of a switchboard or a digital phone switching system is not continuous unlike that of a PSTN line. Therefore, the modem may not make a phone call as it misreads the dial tone as a busy tone. In this case, perform the following.
- **Use the AT Command**  
Add the ATX3 command for initialization.  
Alternatively, enter the ATX3 command first before making a phone call.  
The modem will not check the dial tone before making a phone call.
  - **Configuring the Model in the Control Panel**
    - ❶ Click **Start > Control Panel > Hardware and Sound**.
    - ❷ Click on **Phone and Modem Options**.
    - ❸ In the **Modem** tab, select an installed modem and click **Properties**.
    - ❹ In the **Modem** tab of the Modem Properties window, unselect the **Make a phone call after waiting for a dial tone** option.
    - ❺ When the settings are complete, click the **OK** button.

If you cannot make a phone call starting with a 0, such as 01432, 01421, 01433, etc., this is because the private switching system is set to block long distance calls. Ask your switching system administrator.

## 4. Troubleshooting

### Q How can I receive a FAX in Sleep mode (Standby Mode)?

**A** To receive a FAX when the computer is in Sleep Mode (Standby Mode), the computer must be configured as follows.

The FAX program must be configured so that it receives FAXES automatically referring to the FAX program manual.

- ❶ Click **Start > Control Panel > Hardware and Sound**.
- ❷ Click on **Phone and Modem Options**.
- ❸ In the **Modem** tab, select an installed modem and click **Properties**.
- ❹ In the **Power Management** tab of the Modem Properties window, select the **Wake up the computer with this device** option and click the **OK** button.

**(If the Power Management tab does not appear, select Change Settings in the General tab.)**

When the modem is configured as above, and a FAX arrives, the computer wakes up from Sleep Mode and receives the FAX.

### Wired Network (LAN) Related

### Q The <Wake On LAN> function

**A1** <Wake On LAN> is a function that activates the system from Sleep mode when a signal (such as a ping or magic packet command) arrives over the network (wired LAN).

#### ● Using the <Wake On LAN> Function

❶ Click **Start > Control Panel > Network and Internet > Network and Sharing Center > Manage Network Connections**.

❷ Right-click on the Local Area Connection and select **Properties**.

❸ Click **Configure > Power Management** tab. Select **Allow this device to bring the computer out of standby**, then click **OK**. Restart the system.

- If the system wake up from Sleep mode even though there is no received signal, use the system after disabling the <Wake On LAN> function.

- The LAN LED may not be turned off if System is shutdown without disabling the WOL (Wake on LAN) option.

- Connecting a wired LAN while using a wireless LAN may not activate the <Wake On LAN> function. Set the Wireless LAN to **Disable** to use the <Wake On LAN> function.

❶ Click **Start > Control Panel > Network and Internet > Network and Sharing Center > Manage Network Connections**.

❷ Right-click on the Wireless Network Connections and select **Disable**.

### Q When I am connected to a 100Mbps/1Gbps wired LAN and the computer exits Sleep/hibernation mode, a message appears informing you of a connection to a 10Mbps/100Mbps wired LAN.


**A** When the computer exits standby/hibernate mode, restoring the network takes about 3 seconds.

When the network is restored, it operates at 100Mbps/1Gbps.

## 4. Troubleshooting

### Wireless Network (WLAN) Related

#### Q I cannot find an AP.

- A** Verify whether the Wireless LAN LED is on.  
If it is turned off, turn it on by pressing the Wireless LAN On/Off button (**Fn** + ).

If the network does not provide DHCP, you have to specify the correct IP address by asking your network administrator.

Even if the network provides DHCP, the server may not allocate an IP address to the client properly, and the client station cannot connect to the network.


#### Q The Wireless LAN device is operating properly, but I cannot connect to the Internet or to another computer.

This is due to an incorrect configuration, or a configuration error. Check the following:

- A1** When connecting to a wireless Ad-Hoc network, check if the network name (SSID) is the same.
- A2** If a network key (encryption key) is used, the AP (Access Point) and wireless Ad-Hoc network keys must be the same.  
The AP network key can be configured using an AP management program. For more detailed information, ask your network administrator or product provider.
- A3** Check that the device driver is installed properly. If the driver is not properly installed, you will find a yellow exclamation mark on the network icon by clicking **Start > Control Panel > System and Maintenance > Device Manager > Network Adapter**.

#### Q The signal strength is excellent, but I cannot connect to the network.

Even if the signal strength is excellent, the network connection may not operate properly if the TCP/IP properties are not properly configured, or the network key (encryption key) is incorrect.

- A** Check that the TCP/IP properties are configured properly. When connecting to an AP, right-click the **Network Connections**  icon on the taskbar and select **Network and Sharing Center**. If you click the **View Status** next to a connected wireless network device and then click the **Detail** button, you can view the IP information. If the IP is not allocated properly, the IP address will be displayed as follows (e.g. 169.254.xxx.xxx).

#### Q I cannot connect to the AP.

##### ● Check the Computer Settings

- A1** Select **Start > All Programs > Accessories > Windows Mobile Center** and check the wireless device status.

##### ● When it is represented as Disconnected

This means the computer is not connected to the AP. Check the status of the AP, referring to the descriptions of the **Checking the SP Settings** section below. Check the encryption key configured in the AP and retry to the connection.

##### ● When it is represented as Connected, but you cannot connect to the Internet

This means the computer is connected to the AP, but the AP or external network connected with the AP may have a problem.

##### ● When the 'There is no wireless LAN adapter' message appears or there is no wireless LAN icon

This means the wireless LAN device is set to **Do Not Use** or the device is not recognized.

Check if the wireless device is properly recognized in the Device Manager window. If the device is set to **Do Not Use**, right-click and select **Use** from the pop-up menu.

- A2** Verify whether the same network key (encryption key) has been entered for both the AP and the computer. The network key is an encryption key for encrypting the data transmitted between the AP and the computer. It is recommended setting the network key manually.



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## 4. Troubleshooting

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### ○ Check the AP Settings

For the AP settings, refer to the User Guide provided by the AP manufacturer.

- A3** Verify whether the environment is suitable for using a wireless LAN. The use of a wireless LAN may be restricted according to the environment and distance. Obstacles such as walls or doors affect the use of a wireless LAN. Install the AP in a high and open space, 50cm from the wall and far removed from any other radio signal sources.
- A4** Verify whether the AP is operating properly.
- When the AP is not operating normally, turn off the AP, wait a short while, and turn it on again.
  - Verify whether the AP's firmware is the most recent version. (Contact the AP manufacturer or the place where you purchased the AP for details of the AP firmware.)
- A5** Verify whether the AP has been properly connected to the network. Verify whether the network is operating normally by connecting the wired network cable, which has been connected to the AP, to your computer.
- A6** Check the network key settings (encryption key) again. When automatic code conversion (a passphrase function) has been selected and data communication is not functioning even with a normal wireless connection, it is recommended entering the network key (encryption key) manually.
- A7** Check the AP settings as follows. (The following is recommended for a standard environment and thus may differ according to the specific wireless network environment.)
- When several APs are present simultaneously, check the channel settings for each AP. When different APs are using nearby channels, interference may occur between the electronic waves. Set the AP channels further apart from each other. (Ex: Ch1, Ch5, Ch9, Ch13)
  - When an AP's SSID (Service Set ID) option is set to "Hide", you cannot search for that AP on the computer. We recommend unselecting the "Hide" option for the AP. The SSID is a name used for distinguishing one wireless LAN from another wireless LAN.
  - It is recommended using Long Preamble. Preamble is a signal for data transmission synchronization. Short Preamble may be supported by some types of APs but may cause compatibility problems.
  - It is recommended using a static IP.
  - Since static channel selection is more reliable than auto channel selection, it is recommended using a static channel.

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### Q I cannot connect to a computer connected to the Ad-Hoc network.

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- A1** Check the security settings and network name of the wireless Ad-Hoc network.
- A2** Check the TCP/IP settings of the computers connected to the wireless Ad-Hoc network. The IP addresses of the computers to be connected to a wireless Ad-Hoc network must be set to the same sub-network address.
- For example, if the TCP/IP setting is configured to a fixed IP address, select Use the following IP address in the TCP/IP Properties of the wireless adapter, configure the items as follows and try again.  
IP: 10.0.0.1~10.0.0.254, Subnet Mask: 255.255.255.0.  
It is recommended using a fixed IP address for wireless Ad-Hoc network connections.
- A3** You have to register the IP address allocated for the wireless adapter as a 'Trusted IP' in McAfee SecurityCenter.
- Click **McAfee SecurityCenter > Advanced menu > Configure > Internet and Network > Advanced > Trusted and Banned IPs**, and register the IP address or IP address range as a Trusted IP address.

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### Q During the wireless Ad-Hoc network operation, the AP (Access Point) is intermittently not found.

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- A** This problem occurs intermittently during the wireless Ad-Hoc network operation. Even if this problem occurs, the wireless Ad-Hoc network operation is working properly and is not affected. Click Refresh to update the AP list.

---

### Q I have set the same IP address for both the wireless and wired connections, but they do not work properly.

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- A** You cannot use wireless and wired connections using the same IP address. To sequentially use both the wired and wireless connections with the same IP address, you need to set the currently not needed connection to Do Not Use in the Network Connections of the Control Panel.



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## 4. Troubleshooting

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**Q** The wireless LAN does not work properly when there is a device operating on an adjacent frequency in the vicinity of the product.

- A1** Channel interference may occur when a wireless video transceiver or a microwave oven is being used. If you experience channel interference from other equipment, we recommended changing the channel for connecting to the AP. For more information about AP settings, refer to the User Manual supplied by the AP manufacturer.
- A2** Since IEEE802.11g equipment operates in hybrid mode when there is active IEEE802.11b equipment, the data rate may be degraded.

### Game and Program Related

Windows Vista may not provide some functions properly when performing some applications especially games, or may cause a problem due to a device driver compatibility issue. For the latest device drivers and bug fixes, please refer to the respective company's website.

**Q** A 3D game does not work, or some functions are not working.

- A** Change the graphics settings of the game to '2D' or 'Software Renderer', then run the program again.

**Q** The game is not displayed smoothly on the screen.

- A** For 3D games, the texture data for the 3D screen display is saved to the system memory.  
If there is insufficient system memory, the data is saved to the hard disk drive and loaded to memory when required. This operation may temporarily stop displaying the picture on the screen.  
In this case, lower the game resolution or the screen settings.

**Q** The picture on the screen is displayed as a broken image for some games.

- A** A part of the picture on the screen may be broken when playing some games that require a high-specification graphics card.  
In this case, set the 3D function setting for the game to a lower value or set the game resolution to a lower value.

## 4. Troubleshooting

### Bluetooth

#### When no headset is found or cannot be connected

- A1** If the headset is already connected to another device, you will not be able to find the headset and cannot connect to the headset even if the headset is found. Disconnect the connection to the other device and then start the search again.
- A2** If the headset is connected to a power adapter, you cannot make a Bluetooth connection.  
Disconnect the power adapter and then retry.
- A3** In general, a Bluetooth headset has 2 operating modes, On/Off mode and Pairing mode.  
To connect the headset to another Bluetooth device such as a PC or cell phone, the headset must be in Pairing mode.  
Switch the headset to Pairing mode and then retry the search operation.  
In general, the headset in Pairing mode automatically returns to On/Off mode after a certain period of time.

#### There is no sound or sound is intermittently interrupted after connecting a headset

- A1** If your headset is a **mono headset**, check if a mono headset connection has been made. In this case, to resolve the problem, complete the procedures below.
- 1 Double-click over the Bluetooth icon on the Taskbar, select the **Audio** tab and check the connection status of the **Bluetooth Hands-Free Audio** for the headset in the connected device list. If it is not connected, right click over the device and select **Connect** from the pop-up menu.
  - 2 Right-click over the Speaker icon on the Taskbar, select **Playback Devices**, and make sure that the **Bluetooth Hands-free Audio** is enabled. If not, right-click over **Bluetooth Hands-free Audio** and select **Set as Default Device**.
- A2** If your head set is a **stereo headset**, you have to check if the headset is connected as a stereo headset.  
To resolve the problem, complete the procedures below.

- 1 Double-click the Bluetooth icon on the Taskbar, select the **Audio** tab and check the connection status of the **Bluetooth Stereo Audio** that corresponds to the corresponding headset in the connected device list. If it is not connected, right-click over the device and select **Connect** from the pop-up menu.
- 2 Right-click over the Speaker icon on the Taskbar, select **Playback Devices**, and make sure that the **Bluetooth Hands-free Audio** is enabled. If not, right-click over **Bluetooth Hands-free Audio** and select Set as **Default Device**.



After changing the Bluetooth or sound settings, you must exit and re-run the audio/video player program (such as Windows Media Player) to apply the changed settings.

### Other

#### The User Controls window appears when installing or running a program in Windows Vista.

- A** In this case, click **Allow** (or **OK**) to install or run the program. However, if you do not have an administrator account, you have to enter the administrator password in the User Controls window and then click **Allow** (or **OK**). If no administrator password is set you can click **Allow** (or **OK**) without entering a password.