

Acer TravelMate 290/Extensa 2900 Series

Service Guide

Service guide files and updates are available on the ACER/CSD web; for more information, please refer to <http://csd.acer.com.tw>

Project Code: T44 for TravelMate 290

Please note that this model (also named TravelMate 290) is different model from previous TravelMate 290. These two models have the same names--TravelMate 290 with the same housing, but have different hardware specification. The part numbers on the notebooks initiates as LX.T44....

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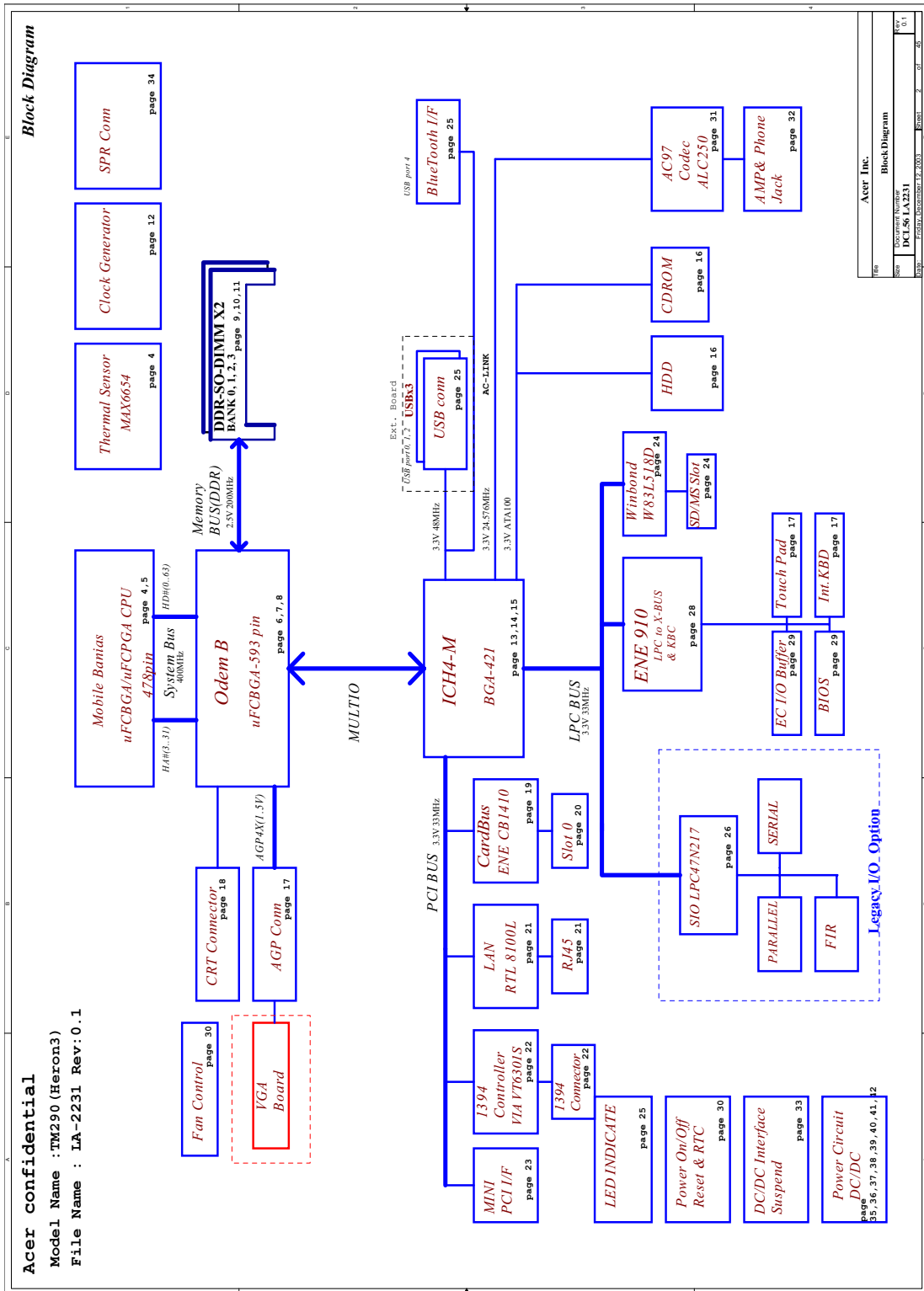
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System Block Diagram



-
1. **Charging:** Flashing 1 sec. and off 3 sec.
 2. **Low capacity (about 10% for 8-cell battery and about 15% for 4-cell battery):** Flashing 0.25 sec. and off 0.25 sec.
 3. **Critically low capacity (about 3% for 8-cell battery and about 5% for 4-cell battery):** Flashing 0.1 sec. and off 0.1 sec.
 4. **Fully charged:** Stead on

Hard Disc Drive Interface

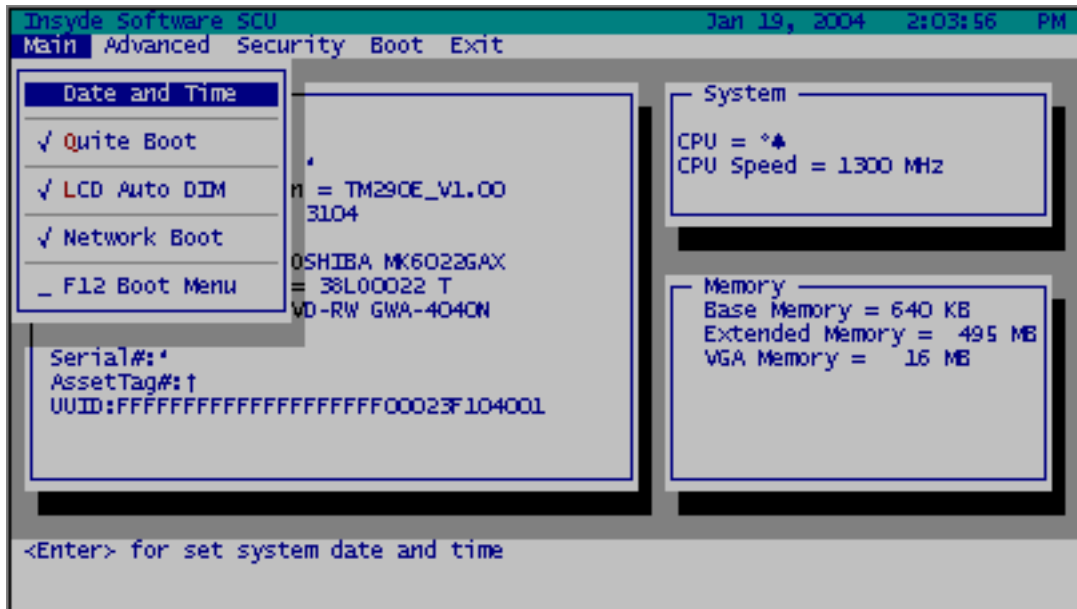
Item	Specification			
Vendor & Model Name	Toshiba MK2023GAS HGST IC25N020ATMR04-0	HGST IC25N030ATMR04-0 Toshiba MK3021GAS FJV MHT2030AT	HGST IC25N040ATMR04-0 Toshiba MK4021GAS Seagate ST94011A HGST HTS548040M9AT00	HGST IC25N060ATMR04-0 Toshiba MK6021GAS FJV MHT2060AT HGST HTS548060M9AT00 Toshiba MK6022GAX
Capacity (MB)	20000	30000	40000	60000
Bytes per sector	512	512	512	512
Data heads	2	2	3	4
Drive Format				
Disks	1	1	2	2
Spindle speed (RPM)	4200 RPM	4200 RPM	4200 RPM 5400 RPM for Seagate ST94011A HGST HTS548040M9AT00	4200 RPM 5400 RPM for HTS548060M9AT00 Toshiba MK6022GAX
Performance Specifications				
Buffer size	2048KB	2048KB	2048KB	2048KB
Interface	ATA-5	ATA-5	ATA-5	ATA-5
Max. media transfer rate (disk-buffer, Mbytes/s)	164.6~ 257.1	154.3~ 298.0	154.3~ 298.0	154.3~ 298.0
Data transfer rate (host-buffer, Mbytes/s)	100 MB/Sec. Ultra DMA mode-5	100 MB/Sec. Ultra DMA mode-5	100 MB/Sec. Ultra DMA mode-5	100 MB/Sec. Ultra DMA mode-5
DC Power Requirements				
Voltage tolerance	5V(DC) +/- 5%	5V(DC) +/- 5%	5V(DC) +/- 5%	5V(DC) +/- 5%

CD-ROM Interface

Item	Specification	
Vendor & model name	TEAC 24X CD-ROM CD-224E-C85 QSI 24X CD-ROM SCR-242	
Performance Specification	With CD Diskette	With DVD Diskette
Transfer rate (KB/sec)	(Mode1) 4X-5.7X PCAV 600-855KByte/s 10.3X-24X CAV 1552-3600KByte/s (Mode2) 4X-5.7X PACV 684.4-975.3KBytes/s 10.3X-24X CAV 1769-4104KByte/s	3.3X-8X CAV 4463-10820KByte/s
Data Buffer Capacity	192 KBytes	
Interface	IDE/ATAPI	

Main

This menu provides you the information of the system.



Parameter	Description
System BIOS Version	Displays system BIOS version
VGA BIOS Version	Displays VGA BIOS version
Serial #	Displays the serial number of the unit.
UUID Number	UUID=16bytes. This will be visible only when there is an internal LAN device present.
System Memory	This field reports the memory size of system base memory. The size is fixed to 640KB.
Extended Memory	This field reports the memory size of the extended memory in the system. Extended Memory size=Total memory size
CPU Speed	CPU Speed= Max speed
Date and Time	Sets the system time and date.
Quiet Boot	Control whether Customer Logo and Summary Screen are displayed or not.
LCD Auto DIM	Enabled: LCD brightness will automatically lower to save more power when AC is not present. Disabled: LCD brightness will NOT automatically lower to save more power when AC is not present.
Network Boot	Enables or disable PXE Boot from LAN during POST.
F12 Boot Menu	This field decides whether the OEM POST screen will have the following message: "Press <F12> Change Boot Device" or not during user's quiet boot.

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Machine Disassembly and Replacement

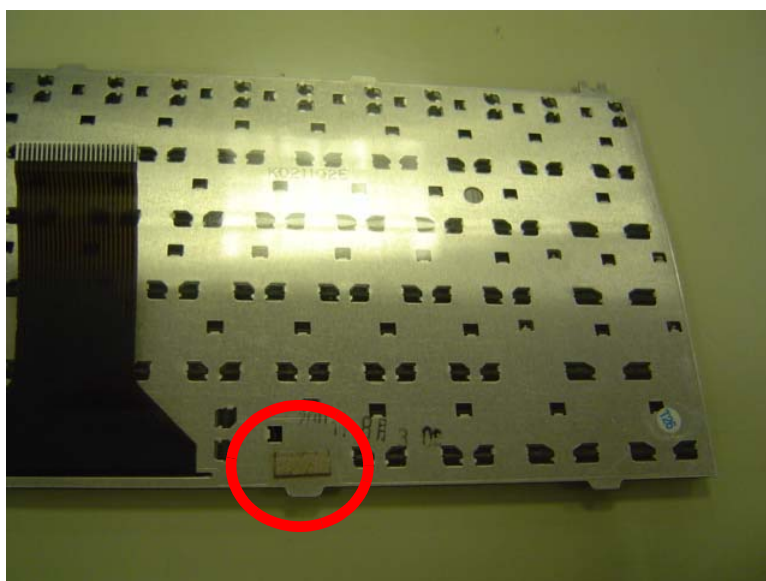
This chapter contains step-by-step procedures on how to disassemble the notebook computer for maintenance and troubleshooting.

To disassemble the computer, you need the following tools:

- Wrist grounding strap and conductive mat for preventing electrostatic discharge
- Plastic flat head screw driver
- Plastic tweezers
- Philips screw driver
- Any plastic tool can take off the middle cover

NOTE: The screws for the different components vary in size. During the disassembly process, group the screws with the corresponding components to avoid mismatch when putting back the components. When you remove the stripe cover, please be careful not to scrape the cover.

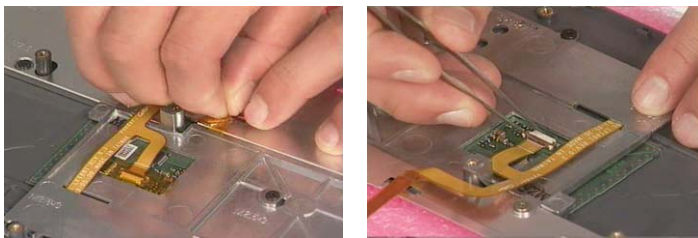
NOTE: Please pay special attention to TravelMate 290 (system part number will be LX.T44...) keyboard. This model is with VGA board, the keyboard needs to have the gasket on its back. Please do NOT use TravelMate 290/TravelMate 290E (system part number will be LX.T35.../LX.T40...) keyboard as substitute. The image below is keyboard with gasket on its back employed for this model.



23. Remove the 15 screws on the bottom panel.
24. Then detach the upper case assembly.



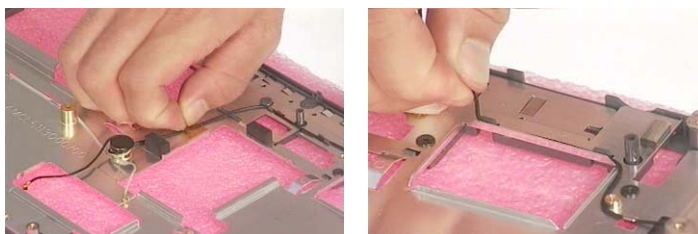
25. Tear off the capton fastening the touchpad FPC.
26. Disconnect the touchpad FPC.



27. Remove the four screws that secure the touchpad support bracket.
28. Then remove the touchpad support bracket.
29. Remove the touchpad.



30. Tear off all capton holding wireless LAN antenna.
31. Take out the wireless antenna from the small fastening hooks.



32. Remove the two screws that fasten the wireless antenna.
33. Then take out the wireless antenna.

Keyboard or Auxiliary Input Device Check

Remove the external keyboard if the internal keyboard is to be tested.

If the internal keyboard does not work or an unexpected character appears, make sure that the flexible cable extending from the keyboard is correctly seated in the connector on the main board.

If the keyboard cable connection is correct, run the Keyboard Test.

If the tests detect a keyboard problem, do the following one at a time to correct the problem. Do not replace a non-defective FRU:

1. Reconnect the keyboard cables.
2. Replace the keyboard.
3. Replace the main board.

The following auxiliary input devices are supported by this computer:

- Embedded Numeric Keypad
- External keyboard

If any of these devices do not work, reconnect the cable connector and repeat the failing operation.

Memory Check

Memory errors might stop system operations, show error messages on the screen, or hang the system. Currently, we do not provide memory test program. However, if you need to check memory but have no testing program or diagnostic utility at hand, please go to <http://www.passmark.com> to download the shareware "BurnIn Test V.3.0". You may test the memory with this program under Window XP environment.

NOTE: Make sure that the DIMM is fully installed into the connector. A loose connection can cause an error.

Power System Check

To verify the symptom of the problem, power on the computer using each of the following power sources:

1. Remove the battery pack.
2. Connect the power adapter and check that power is supplied.
3. Disconnect the power adapter and install the charged battery pack; then check that power is supplied by the battery pack.

If you suspect a power problem, see the appropriate power supply check in the following list:

- "Check the Power Adapter" on page 64
- "Check the Battery Pack" on page 65

Undetermined Problems

The diagnostic problems does not identify which adapter or device failed, which installed devices are incorrect, whether a short circuit is suspected, or whether the system is inoperative.

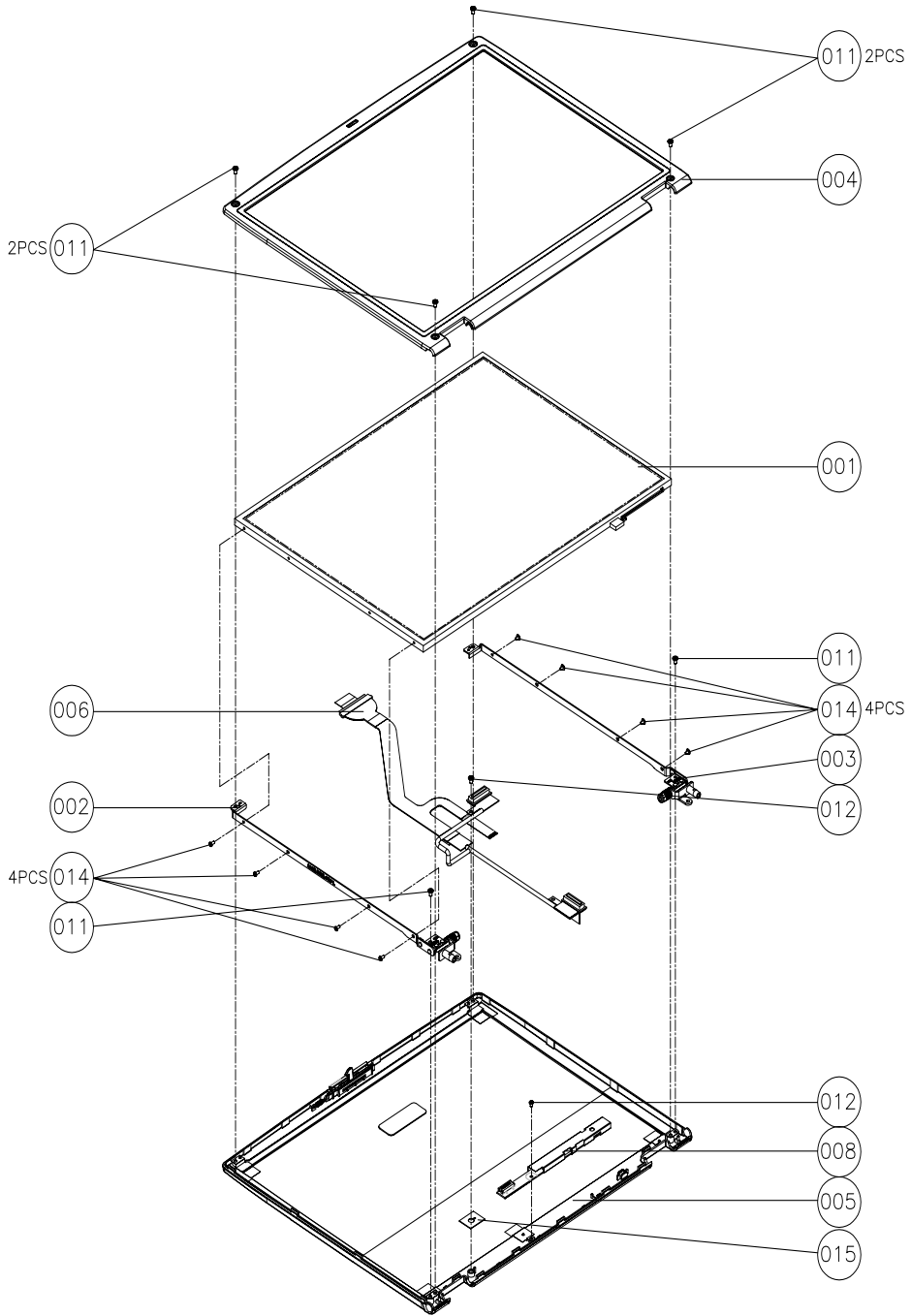
Follow these procedures to isolate the failing FRU (do not isolate non-defective FRU).


NOTE: Verify that all attached devices are supported by the computer.

NOTE: Verify that the power supply being used at the time of the failure is operating correctly. (See “Power System Check” on page 63):

1. Power-off the computer.
2. Visually check them for damage. If any problems are found, replace the FRU.
3. Remove or disconnect all of the following devices:
 - Non-Acer devices
 - Printer, mouse, and other external devices
 - Battery pack
 - Hard disk drive
 - DIMM
 - CD-ROM/Diskette drive Module
 - PC Cards
4. Power-on the computer.
5. Determine if the problem has changed.
6. If the problem does not recur, reconnect the removed devices one at a time until you find the failing FRU.
7. If the problem remains, replace the following FRU one at a time. Do not replace a non-defective FRU:
 - Main board
 - LCD assembly

LCD 15"



Picture	No.	Partname And Description	Part Number
	007-LOGIC UPPER ASSY	TOUCHPAD	56.T44V5.001
Speaker			
	NS	SPEAKER R & L	6K.T35V5.001
Screws			
	NS	SCREW BTP M1,7 x 3.5ZS	86.T35V5.001
	NS	SCREW BTP M2 x 4 ZS	86.T35V5.002
	NS	SCREW D-SUB NUT	86.T35V5.003
	NS	SCREW M1.7 x 2.5ZS	86.T35V5.004
	NS	SCREW M2 x 6 (B) & NI	86.T35V5.005
	NS	SCREW M2 x 10 (B)	86.T35V5.006
	NS	SCREW M2 x 2.3 (NL)	86.T35V5.007
	NS	SCREW M2 x 3 (NL)	86.T35V5.008
	NS	SCREW M2 x 4 (B)	86.T35V5.009
	NS	SCREW M2 x 6 (NL)	86.T35V5.010
	NS	SCREW M2.5 x 1.1 (NL)	86.T35V5.011
	NS	SCREW M2.5 x 15 (NL)	86.T35V5.012
	NS	SCREW M2.5 x 3 (NL)	86.T35V5.013
	NS	SCREW M2.5 x 3 (NL) -up	86.T35V5.014
	NS	SCREW M2.5 x 4 (NL)	86.T35V5.015
	NS	SCREW M2.5 x 6 (NL)	86.T35V5.016
	NS	SCREW M3 x 4 (NL)	86.T35V5.017
	NS	SAFETY SCREW M2.5 x 6	86.T44V5.001

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