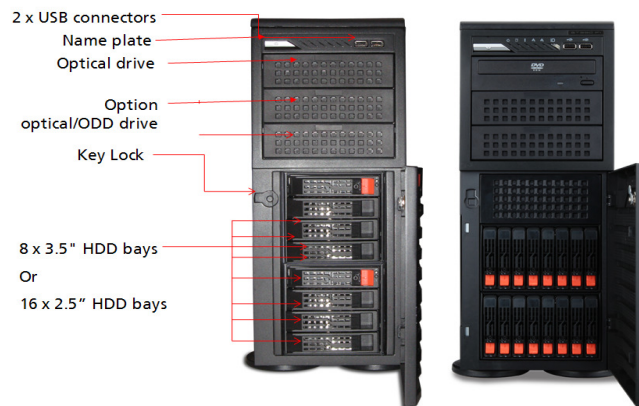


## Acer AT350 F1 Specifications

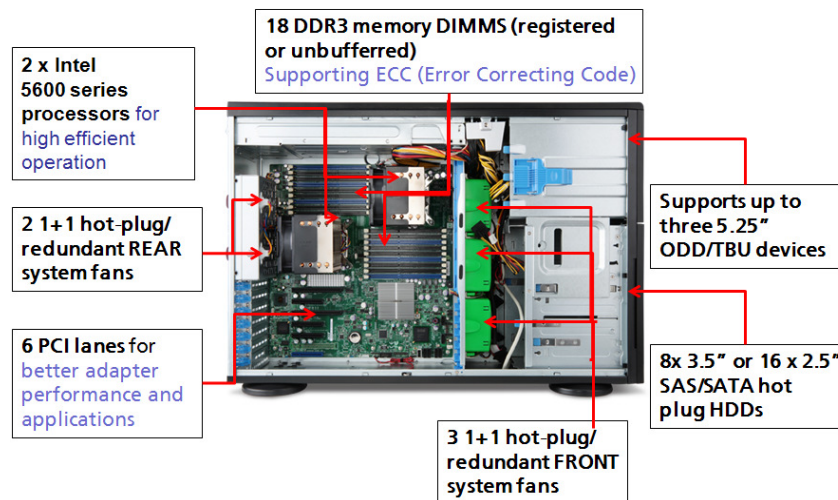
### Product Overview

The Acer AT350 F1 is a dual socket Tower Server that can be converted to rack mount use for flexible deployments requiring blazing performance and exceptional expansion capability. Offering high reliability features, leading edge technologies, cost-effective scalability features, and a comprehensive list of management features the Acer AT350 F1 delivers high-availability with optimal power efficiency for demanding departmental and medium enterprise deployments.

### Product Front View



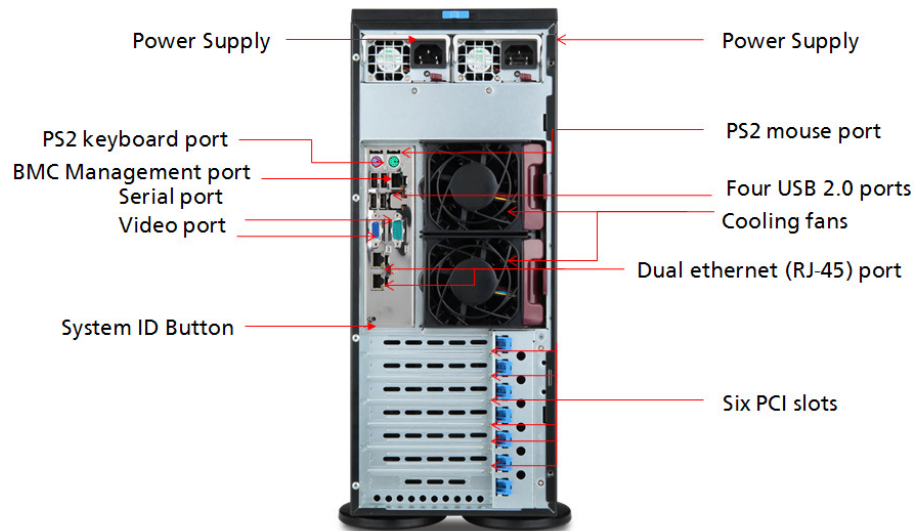
### Product Inside View



### Product Inside View

1. 18 x ECC DDR3 1066/1333 MHz registered or unbuffered memory slots
2. 2 x Intel® Xeon® 5600 series processors supporting up to 6-cores per processor
3. Hot-plug redundant system cooling fans
4. 2 x USB 2.0 Front-mounted connectors
5. Power button, System ID button, LED indicators (Power, HDD activity, LAN 1-2 status, system ID/status/fault)
6. Support for up to sixteen 2.5" or eight 3.5" hot-plug SATA or SAS hard disk drives
7. 3 x Optical drive bays
8. 6 x PCI Express® slots with risers

## Product Rear View



1. PS2 keyboard connector
2. PS2 mouse connector
3. 4 x USB 2.0 connectors
4. Management IPMI LAN connector
5. COM (Serial) connector
6. Video connector
7. 2 x Gigabit LAN connectors
8. ID LED

## What's New

- New Intel® Xeon® 5600 Series processors
- 2 x 720 W 80PLUS® gold-level efficient power supply units (1+1 redundant, hot-pluggable)
- DDR3 memory
- Energy Star Certified

## Product Specifications

### Processors and Chipset

- Up to two Intel® Xeon® 5600 series processors
- Chipset: Intel® 5520

### Memory<sup>1</sup>

- Memory capacity:
  - Registered DIMM: 2, 4, 8, 16 GB<sup>2</sup>
  - Unbuffered DIMM: 2, 4 GB
- Up to 192 GB registered DIMMs when fully populated with 2 DIMMs per channel in 12 slots
- Up to 48 GB unbuffered DIMMs when fully populated with 2 DIMMs per channel in 12 slots

### Network Controllers

- Integrated Intel® 82576EB dual-port Gigabit Ethernet Controller (2 ports total)

<sup>1</sup> Mixed use of registered memory and unbuffered ECC memory not supported.

<sup>2</sup> 16 GB memory modules available by special request only.

## Acer AT350 F1 Specifications

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### Storage

- Hard disk form factor: 2.5" or 3.5"
- Type: SAS/ SATA/ SSD with hot plug capability
- HDD Capacity (enterprise level):
  - 3.5" SAS HDD capacity: 300 GB, 450 GB, 600 GB
  - 3.5" SATA HDD capacity: 250 GB, 500 GB, 1TB, 2TB
  - 2.5" SAS HDD capacity: 73 GB, 146 GB, 300 GB, 450 GB, 600 GB
  - 2.5" SATA HDD capacity: 150 GB, 300 GB, 500 GB
  - 2.5" SSD capacity: 32 GB and 64 GB
- 3.5" Maximum capacity:
  - Up to 16 TB SATA HDD (2 TB 3.5" x 8 HDDs)
  - Up to 4.8 TB SAS (600 GB 3.5" x 8 HDDs)
- 2.5" Maximum capacity:
  - Up to 8 TB SATA HDD (500 GB 2.5" x 16 HDDs)
  - Up to 9.6 TB SAS (600 GB 2.5" x 16 HDDs)

### Storage Controllers

- Integrated Intel® ICH10R Serial ATA host controller (six 3 Gb/s SATA ports) with RAID 0, 1, 5, 10 support
- Optional PCIe® 4-port/8-port and 16-port 6Gb/s SAS RAID card (standard on some models)

### Expansion slots

- Two full height PCI-E 2.0 x16 slot (with x8 link)
- Two full height PCI-E 2.0 x8 slots (with x4 link)
- One full height PCI-E 1.0 x8 slot (with x4 link)
- One Acer Flex I/O (PCI-E 2.0 x8) slot

### Management

- Acer Smart Server Manager
- System ID LED buttons, System Health LED
- Acer Smart Console for server management and KVM over IP remote management

### Deployment/Serviceability

- Acer Smart Setup
- BIOS Update Tool
- IPMI Firmware Update Tool

### Operating Systems

- Windows Server® 2008
- Windows Server® 2008 R2
- Windows Server® 2003
- Red Hat® Enterprise Linux 5.4
- SUSE® Linux Enterprise Server 11
- VMware ESXi™ 4
- VMware ESX™ 4

## Acer AT350 F1 Specifications

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### Input/output interface

#### Front

- One Power/off button
- LED indicators: power, HDD activity, LAN port 1 through 2, and ID
- Two USB ports

#### Rear

- PS2 keyboard port
- PS2 mouse port
- Four USB 2.0 ports
- Two RJ-45 ports (dual Gigabit NIC) with activity and link indicators
- RJ-45 port (dedicated for management NIC) with activity and link indicators
- Serial (DB-9) port
- SVGA (DB-15) port
- ID LED

### Optical drive

- 5.25" half height SATA DVD/RW

### Chassis/Form Factor

- Tower/ 4U (convertible for rack mounting)

### Power Supply

- 1 Power Supply Standard, 2nd optional
- Up to 2 x 720 W 80 PLUS<sup>®</sup> Gold-level efficient hot-swap power supplies (1+1 redundant)

### Regulatory Compliant Standards

#### EMC

- FCC (Class A)
- CE (Class A)
- BSMI (Class A)

#### Safety

- UL/cUL
- CB
- Nemko/GS

## Technical Specifications

<b>Dimensions (with bezel)</b>	434 (W) x 648 (D) x 178 (H) mm (17.2 x 25.5 x 7 inches)	
<b>Form factor</b>	4U tower, rack mountable	
<b>System inlet temperature</b>	Operating	10° - 35° C (50° - 95° F) at sea level with an altitude derating of 1° C per 305 m (1.8° F per 1000 ft.) above sea level to a maximum of 3050 m (10,000 ft.) no direct sustained sunlight. Maximum rate of change is 10°C/hr. (18°F/hr.). The upper limit depends on the type and number of options installed. System performance may be reduced if operating with a fan fault or above 30°C (86°F).
	Non-operating	-40° - 70° C (-40° - 158° F) Maximum rate of change is 20°C/hr. (36°F/hr.).
<b>Relative humidity (non-condensing)</b>	Operating	8 - 90 % relative humidity (Rh), 28° C (82.4° F) maximum wet bulb temperature, non-condensing
	Non-operating	5 - 95 % relative humidity (Rh), 38.7° C (101.7° F) maximum wet bulb temperature, non-condensing
<b>Emissions classification (EMC)</b>	FCC rating	Class A
	Normative standards	EN55022, EN 61000-3-2, EN 61000-3-3, CISPR 22 Class A
<b>Power supply</b>	Rated Steady –state power	720 W
	Maximum Peak Power	728 W
	BTU rating	2456.64 BTU/hr. at 100 - 240 VAC

## Standard Features

### Processors

#### Intel® Xeon® Six-Core processor

X5675 (12 MB L3 cache, 3.06 GHz, 6.4 GT/s, DDR3-1333 MHz, 95 W)

#### Intel® Xeon® Quad-Core processor

E5620 (12 MB L3 cache, 2.40 GHz, 5.86 GT/s, DDR3-1066 MHz, 80 W)

L5630 (12 MB L3 cache, 2.13 GHz, 5.86 GT/s, DDR3-1066 MHz, 40 W)

E5606 (8 MB L3 cache, 2.13 GHz, 4.8 GT/s, DDR3-1066 MHz, 80 W)

### Chipset

Intel® 5520

<b>Memory<sup>3</sup></b>	<b>Type</b>	DDR3 1066/1333 MHz Registered memory DDR3 1066/1333 MHz Unbuffered ECC memory
	<b>DIMM sockets</b>	18
	<b>Capacity</b>	Registered DIMM: 2 / 4 / 8 / 16 GB <sup>4</sup> Unbuffered ECC DIMM: 2 / 4 GB
	<b>Maximum capacity</b>	Registered DIMM: 192 GB Unbuffered DIMM: 48 GB

**Memory protection** ECC, Mirroring, Sparing, Lockstep Mode, x4/x8 SDDC

**Network controller** Integrated dual Intel® 82576EB Gigabit Ethernet Controller (two ports)

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<sup>3</sup> Mixed use of registered memory and unbuffered ECC memory not supported.

<sup>4</sup> 16 GB memory modules available by special request only.

## Acer AT350 F1 Specifications

### Expansion slots

The primary I/O bus for the main board is PCIe® Gen2. The following table lists the characteristics of the PCI-E bus segments.

### PCI express® Bus Segment Characteristics of PCI Express® Topology

Expansion Slot #	# of slots	Type	Bus Width <sup>1</sup>	Vol.	Con. Width	Length
PCIe®	2	PCIe® Gen 2	x8	3.3V	x16	Full height
PCIe®	2	PCIe® Gen 2	x4	3.3V	x8	Full height
PCIe®	1	PCIe® Gen 1	x4	3.3V	x8	Full height
Acer Flex I/O	1	PCIe® Gen 2	x8	3.3V	x8	

#### NOTE:

1. Indicates the number of physical electrical lanes running to a PCIe® connector.
2. Inserting cards with PCI™ bridges may alter the actual bus assignment number.
3. Slots are enumerated differently based on the operating system. Microsoft® operating systems enumerate Device ID by bus starting from the lowest bus to the highest.

**Storage controllers** Intel 82801JR (ICH10R) I/O Controller Hub

**Note:** Onboard SATA software RAID cannot be enabled when add-on SAS RAID is enabled.

<b>Integrated Serial ATA controller</b>	<b>Simultaneous drive transfer channels</b>	6 channels
	<b>Transfer rate synchronous (maximum theoretical)</b>	3 GB/s per channel
	<b>Data transfer method</b>	non-RAID mode RAID mode
	<b>Drive support</b>	Serial ATA
	<b>Data transfer modes</b>	Legacy mode Combined mode
	<b>Protocol</b>	Serial ATA
	<b>Feature</b>	NCQ (Native Command Queuing) AHCI (Advanced Host Controller Interface)
	<b>RAID levels supported</b>	0, 1, 5, 10 (Windows®) 0, 1, 10 (Linux)
	<b>RAID features</b>	<ul style="list-style-type: none"> <li>• Supports multiple logical volumes</li> <li>• Supports setup through ROM based array configuration utility installation scripting</li> </ul> <p><b>NOTE:</b> This controller requires the software RAID driver to support hot-plug functions.</p>
	<b>RAID OS support</b>	Windows Server® 2008 Windows Server® 2008 R2 Red Hat® Enterprise Linux 5.4 SUSE® Linux Enterprise Server 11

<b>Embedded dual-port Gigabit server adapter (Intel® 82576EB)</b>	<b>Network interface</b>	10Base-T 100Base-TX 1000Base-TX	
	<b>Compatibility</b>	IEEE 802.3 10Base-T IEEE 802.3ab 1000Base-T IEEE 802.3u 100Base-TX	
	<b>Data transfer method</b>	Four lane (x4), 100 MHz PCI Express reference clock	
	<b>Network transfer rate</b>	10Base-T (half-duplex)	10 Mb/s
		10Base-T (full-duplex)	20 Mb/s
		100Base-TX (half-duplex)	100 Mb/s
		100Base-TX (full-duplex)	200 Mb/s
		1000Base-TX (half- and full-duplex)	2000 Mb/s
	<b>Connector</b>	RJ-45	
	<b>Cable support</b>	CAT 5e wire	
<b>Virtualization acceleration</b>	Intel® I/O Acceleration Technology Virtual Machine Device Queues (VMDq) PCI-SIG® SR-IOV implementation		
<b>Manageability</b>	NC-SI SMBus, PXE, iSCSI boot		

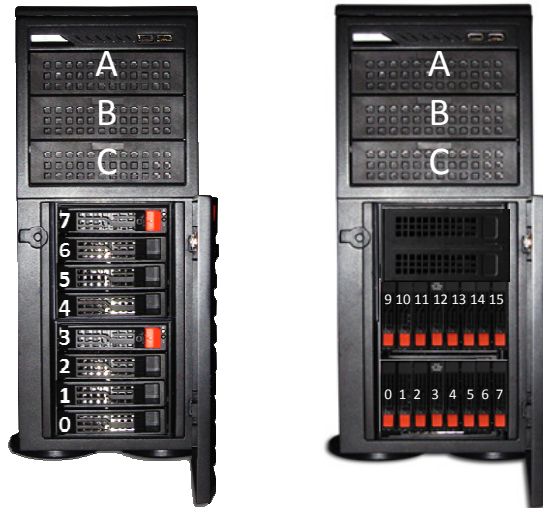
## Storage

<b>Maximum internal storage</b>	<b>Hard disk drive</b>	<ul style="list-style-type: none"> <li>• Up to 8 hot-pluggable 3.5" SATA/SAS HDD</li> <li>• Up to 16 hot-pluggable 2.5" SATA/SAS/SSD HDD</li> </ul>
	<b>3.5" Maximum capacity</b>	<ul style="list-style-type: none"> <li>• Up to 16 TB SATA</li> <li>• Up to 4.8 TB SAS</li> </ul>
	<b>2.5" Maximum capacity</b>	<ul style="list-style-type: none"> <li>• Up to 8 TB SATA</li> <li>• Up to 9.6 TB SAS</li> </ul>
		<ul style="list-style-type: none"> <li>• Up to 1 TB SSD</li> </ul>



## Acer AT350 F1 Specifications

### Drive Support – Optical and Hard Disk Drive



#### Optical drive support

Drive	Quantity Supported	Bay Supported	Required Controller
5.25" SATA DVD/RW Optical Drive	Up to 3	A, B, C	Integrated SATA controller

#### Hard Disk Drive Support

Drive	Quantity Supported	Bay Supported	Required Controller
2.5" SATA/SAS/SSD hard drive	Up to 16	0 – 15	Integrated SATA controller for up to 4 SATA HDD's 4-port SAS RAID card for up to 4 SAS/SATA/SSD HDD's* 8-port SAS RAID card for up to 8 SAS/SATA/SSD HDD's* 16-port SAS RAID card for up to 16 SAS/SATA/SSD HDD's*

## Acer AT350 F1 Specifications

3.5" SATA/SAS hard drive	Up to 8	0 – 7	Integrated SATA controller for up to 4 SATA HDD's  4-port SAS RAID card for up to 4 SAS/SATA HDD's*  8-port SAS RAID card for up to 8 SAS/SATA HDD's*
<p>*standard on some models.</p> <p><b>NOTE:</b> Transfer rates of drives are dependent on the maximum transfer rate supported by the host bus adapter (HBA) or controller.</p>			

### Tape Backup Support

Drive	Bay Supported	Required Controller
LTO-3 1U SAS Rackmount (external) Tape Drive kit	External	SAS card
LTO-4 1U SAS Rackmount (external) Tape Drive kit	External	SAS card
160/320 GB, DAT320, 5.25", internal half height, USB interface	B and C	Internal USB 2.0 ports
80/160 GB, DAT160, 5.25", internal half height, USB interface	B and C	Internal USB 2.0 ports
36/72 GB, DAT72 (DDS Gen-5), 5.25", internal half height, USB interface	B and C	Internal USB 2.0 ports

## Acer AT350 F1 Specifications

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<b>Graphics</b>	BMC chip embedded <ul style="list-style-type: none"><li>• 1280 x 1024</li><li>• 16 M colors</li><li>• 16 MB video memory</li></ul>
<b>Industry standard compliance</b>	IPMI 2.0 Compliant (iBMC) APM 1.2 compliant SMBUS 2.0 SMBIOS 2.61 compliant ACPI v3.0b Compliant PCI-E 1.1 for Gen 1 and PCI-E 2.0 for Gen 2 PXE 2.1 support TPM cer1.2 compliance (through optional module) WOL support Microsoft Windows® Hardware Logo Program Requirements Energy Start 1.0 Compliant
<b>Security</b>	HDD carrier mechanical lock Chassis intrusion alert Administrator / user password Keyboard password Power-on password USB port control TPM controller (TPM v1.2 compliant) (manufacturing option)
<b>System cooling</b>	<ul style="list-style-type: none"><li>• 2 x CPU heat sinks supporting Intel® Xeon® processors with up to TDP 95 W</li><li>• Two 1+1 hot-plug/redundant system rear fans with PWM control</li><li>• Three 1+1 hot-plug/redundant system front fans with PWM control on fan wall</li></ul>
<b>Operating systems and virtualization software support</b>	Windows Server® 2008 Windows Server® 2008 R2 Windows Server® 2003 R2 Red Hat® Enterprise Linux 5.4 SUSE® Linux Enterprise Server 11 VMware ESX™ 4

### Server Management Utilities and Applications

Comprehensive management solutions deliver powerful and intuitive management features to simplify server set ups, configuration, management, monitoring, and reporting for the entire lifecycle of servers. Centralized administration and automatic management with remote access control free the IT resources and meet the complex business environment. Proactive monitoring and notification lead higher customers' satisfaction and higher levels of operational efficiency.

- Smart Setup 2.0** Easy deployment via the latest version of Acer's Smart Setup. Smart Setup is available both in box as a driver packed installation DVD or a downloadable file to be put into a USB 2.0 device, and eases the deployment of Acer servers for any certified OS. Through its unique interface, users may select to have all the correct drivers be pre-deployed for the OS of their choosing, as well as setup hardware RAID devices, BMC settings (where available), and even clone the pre-settings to a bootable USB device to ease mass server deployments.
- Smart Console** Web-based management utility to simplify system management with embedded iBMC, system monitoring and alerting, event handling, remote power control and KVM-over-IP. Smart Console is OS independent and offers virtual media through floppy, ODD, and removable disk.
- Smart Server Manager v1.1** Offering 24-7 monitoring for system health and performance. Delivers proactive event management features including system event logging, event handling from e-mail and SNMP Trap (PET) alerting. Monitors onboard hardware, operating systems and virtual machines. Allows remote control from KVM and Power control. Satisfies management in web-based UI, role-based administration, and automated management scripts.
- Intelligent manageability**
- Automatic Server Recovery (ASR)
  - Integrated Management Log
  - Front and Rear Unit ID (UID) button/LED
  - BIOS Update tool for DOS supporting DOS and Windows OS
  - IPMI Firmware Update tool supporting DOS and Windows OS
  - Backplane firmware update tool, supporting DOS and Windows OS
- Environment-friendly products and approach** Acer offers end-of-life product return, trade-in, and recycling programs in many geographic areas. Products returned to will be recycled, recovered or disposed of in a responsible manner.

### Memory Support Specification

Registered Type      DDR3 1066/ 1333 MHz  
Capacity: 2, 4, 8, 16 GB  
Voltage: 1.5 V  
Maximum: 192 GB (16 GBx12 DIMMs)

Unbuffered Type      DDR3 1066/ 1333 MHz  
Capacity: 2, 4 GB  
Voltage: 1.5 V  
Maximum: 48 GB (4 GB x 12 DIMMs)

Memory protection    ECC, Mirroring, Sparing, Lockstep Mode, x4/x8 SDDC

Note: Mixing of registered memory and unbuffered ECC memory is not supported.  
16 GB memory modules available by special request only.

### Memory Population

The systems have eighteen DIMM slots. Each CPU controls nine slots. The DIMM slots support DDR3-1333 registered/unbuffered ECC memory modules. For single rank and dual rank RDIMM the system supports a maximum of 3 DIMMs per channel and a total of 18 DIMMs can be supported. For UDIMM and quad rank RDIMM, the system supports 2 DIMMs per channel and a total of 12 DIMMs can be supported.

- Each CPU has three memory channels (channel 1, 2 and 3).
- Each channel has 3 slots.

To maximize the memory performance, the DIMM modules should be installed as balanced as possible among processors and memory channels. Slots with the same slot number across memory channels should be populated with identical DIMMs.

## Acer AT350 F1 Specifications

### Independent mode (please refer to the User Guide for more information)

- In this mode all memory is accessible and ECC protected

### Single processor configuration

No. of DIMMs	P1 DIMM 1C	P1 DIMM 1B	P1 DIMM 1A	P1 DIMM 2C	P1 DIMM 2B	P1 DIMM 2A	P1 DIMM 3C	P1 DIMM 3B	P1 DIMM 3A
1			X						
2			X			X			
3			X			X			X
4		X	X		X	X			
6		X	X		X	X		X	X
9*	X	X	X	X	X	X	X	X	X

\* Single Ranked(SR)/Double Ranked(DR) RDIMM only.

Total Memory	P1 DIMM 1C	P1 DIMM 1B	P1 DIMM 1A	P1 DIMM 2C	P1 DIMM 2B	P1 DIMM 2A	P1 DIMM 3C	P1 DIMM 3B	P1 DIMM 3A
2GB			2GB						
4GB			2GB			2GB			
6GB			2GB			2GB			2GB
8GB		2GB	2GB		2GB	2GB			
12GB		2GB	2GB		2GB	2GB		2GB	2GB
18GB	2GB	2GB	2GB	2GB	2GB	2GB	2GB	2GB	2GB
4GB			4GB						
8GB			4GB			4GB			
12GB			4GB			4GB			4GB
16GB		4GB	4GB		4GB	4GB			
24GB		4GB	4GB		4GB	4GB		4GB	4GB
36GB	4GB	4GB	4GB	4GB	4GB	4GB	4GB	4GB	4GB
8GB			8GB						
16GB			8GB			8GB			
24GB			8GB			8GB			8GB
32GB		8GB	8GB		8GB	8GB			
48GB		8GB	8GB		8GB	8GB		8GB	8GB
16GB*			16GB						
32GB*			16GB			16GB			
48GB*			16GB			16GB			16GB
64GB*		16GB	16GB		16GB	16GB			
96GB*		16GB	16GB		16GB	16GB		16GB	16GB

\* 16 GB memory modules available by special request only.

# Acer AT350 F1 Specifications

## Dual processor configuration

No. of DIMMs	CPU1									CPU2								
	P1 1C	P1 1B	P1 1A	P1 2C	P1 2B	P1 2A	P1 3C	P1 3B	P1 3A	P2 1C	P2 1B	P2 1A	P2 2C	P2 2B	P2 2A	P2 3C	P2 3B	P2 3A
2			X									X						
4			X			X						X			X			
6			X			X			X			X			X			X
8		X	X		X	X					X	X		X	X			
9		X	X		X	X		X	X			X			X			X
12		X	X		X	X		X	X		X	X		X	X		X	X
18*	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

\*Single Ranked (SR)/Double Ranked (DR) RDIMM only.

Total Memory	CPU1									CPU2								
	P1 1C	P1 1B	P1 1A	P1 2C	P1 2B	P1 2A	P1 3C	P1 3B	P1 3A	P2 1C	P2 1B	P2 1A	P2 2C	P2 2B	P2 2A	P2 3C	P2 3B	P2 3A
4GB			2									2						
8GB			2			2						2			2			
12GB			2			2			2			2			2			2
16GB		2	2		2	2					2	2		2	2			
18GB		2	2		2	2		2	2			2			2			2
24GB		2	2		2	2		2	2		2	2		2	2		2	2
36GB	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
8GB			4									4						
16GB			4			4						4			4			
24GB			4			4			4			4			4			4
32GB		4	4		4	4					4	4		4	4			
36GB		4	4		4	4		4	4			4		4	4			4
48GB		4	4		4	4		4	4			4		4	4		4	4
72GB	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
16GB			8									8						
32GB			8			8						8			8			
48GB			8			8			8			8			8			8
64GB		8	8		8	8					8	8		8	8			
72GB		8	8		8	8		8	8			8		8	8			8
96GB		8	8		8	8		8	8		8	8		8	8		8	8
144GB	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
32GB*			16									16						
64GB*			16			16						16			16			
96GB*			16			16			16			16			16			16
128GB*		16	16		16	16					16	16		16	16			
144GB*		16	16		16	16		16	16			16		16	16			16
192GB*		16	16		16	16		16	16		16	16		16	16		16	16

\* 16 GB memory modules available by special request only.

### **Mirroring mode:**

- In mirroring mode, the memory contains a primary image and a copy of the primary image therefore the effective size of memory is reduced by one half.
- Channel 3 has no function in these modes.
- Follow the population rules described in independent mode.
- Mirroring mode needs the channel 1 & channel 2 DIMMs to be identical. DIMM slot populations within a channel do not have to be identical but the same DIMM slot location across channel 1 and channel 2 must be the same. DIMM1A and DIMM2A should be the same type, size and manufacturer. DIMM1B and DIMM2B memory should be the same type, size and manufacturer. DIMM1C and DIMM2C memory should be the same type, size and manufacturer.
- Same rules apply to CPU2.
- 3 DIMMs per channel configuration is only available for single/dual rank RDIMM.
- Please refer to the User Guide for complete population rules for both single and dual processor configurations.

### **Lockstep mode:**

- In Lockstep Channel Mode, each memory access is 128-bit data access that spans Channel 1 and Channel 2. This is done to support SDDC for DRAM devices with 8-bit wide data ports. The same address is used on both channels such that an address error on any channel is detectable.
- Lockstep Channel mode is the only RAS mode that supports x8 SDDC.
- Channel 3 has no function in these modes.
- Follow the population rules described in independent mode.
- Lockstep mode needs the channel 1 & channel 2 DIMMs to be identical. DIMM slot populations within a channel do not have to be identical but the same DIMM slot location across channel 1 and channel 2 must be the same. DIMM1A and DIMM2A should be the same type, size and manufacturer. DIMM1B and DIMM2B memory should be the same type, size and manufacturer. DIMM1C and DIMM2C memory should be the same type, size and manufacturer.
- Same rules apply to CPU2.
- 3 DIMMs per channel configuration is only available for single/dual rank RDIMM.
- Please refer to the User Guide for complete population rules for both single and dual processor configurations.

### **Sparing mode:**

- In sparing mode, if the system detects degrading memory, the data in the failed channel will be copied to the spare channel. The failed channel is then isolated and the spare channel becomes active. Any uncorrectable error detected before the isolation will cause the system to stop normal operation.
- Channel 3 is the spare channel. Therefore, the effective size will be reduced by one-third.
- Follow the population rules described in independent mode.
- Sparing mode needs all three channels to utilize identical DIMMs. 1A, 2A and 3A should be the same type, size and manufacturer. 1B, 2B and 3B memory should be the same type, size and manufacturer. 1C, 2C and 3C memory should be the same type, size and manufacturer.
- Same rule is applied to CPU2.
- 3 DIMMs per channel configuration is only available for single/dual rank RDIMM.
- Please refer to the User Guide for complete population rules for both single and dual processor configurations.



### Memory Identification

Generally, there is memory information printed on the label of the DIMM, but different vendors may have different formats. For example:

4GB 2Rx4 PC3-10600R xx xx xxx

#### 1. Density

- 2GB, 4GB, 8GB, 16GB
- Intel® Xeon® 5600 series processors support DIMMs organized by 1Gb, 2Gb or 4Gb DRAM chips

#### 2. Rank

- 1R = Single Rank
- 2R = Dual Rank
- 4R = Quad Rank
- Note: if any quad rank DIMM is used, maximum only 2 DIMMs per channel can be supported

#### 3. Bit Organization

- This platform supports x4 and x8
- Note: It is not recommended to mix DIMMs with different bit organizations in one system

#### 4. Speed

- PC3 – 6400 => DDR3- 800
- PC3 – 8500 => DDR3- 1066
- PC3 – 10600 => DDR3- 1333

### Power Supply Specification

<b>720W Power Supply</b>							
Operational Input Voltage Range (Vrms)	100 to 240 VAC						
Frequency Range (Nominal) (Hz)	50 / 60						
Nominal Input Voltage (Vrms)	<b>100</b>	<b>120</b>	<b>208</b>	<b>200</b>	<b>220</b>	<b>230</b>	<b>240</b>
Max. Rated Output Wattage	720	720	720	720	720	720	720
Nominal Input Current (A rms)	8.6114	7.0132	3.951	4.0993	3.7458	3.5995	3.4697
Max. Rated Input Wattage Rating (Watts)	851.6	837.58	811.51	811.88	809.78	808.82	807.77
Max. Rated VA (Volt-Amp)	859.0739	841.0282	822.7821	821.1591	825.2115	828.9638	834.0423
Efficiency (%) at Max. Rated Output Wattage	84.55%	85.96%	88.72%	88.68%	88.91%	89.02%	89.13%
Power Factor	0.9913	0.9959	0.9863	0.9887	0.9813	0.9757	0.9685
Leakage Current (mA)	Less than 3.5	Less than 3.5	Less than 3.5	Less than 3.5	Less than 3.5	Less than 3.5	Less than 3.5
Max. Inrush Current (A peak)	Less than 25A	Less than 25A	Less than 25A	Less than 25A	Less than 25A	Less than 25A	Less than 25A
Max. Inrush Current Duration (mS)	Less than 10	Less than 10	Less than 10	Less than 10	Less than 10	Less than 10	Less than 10
Max. British Thermal Unit Rating (BTU/hr.)	2903.956	2856.148	2767.249	2768.511	2761.35	2758.076	2754.496

1 KW = 3412 BTU/hr.

## Hardware Key Options

- CPU**
  - Intel® Xeon® 5600 series
- HDD**
  - SAS 2.5": 73 GB, 146 GB, 300 GB, 450 GB, 600 GB
  - SAS 3.5": 300 GB, 450 GB, 600 GB
  - SATA 2.5": 150 GB, 300 GB, 500 GB
  - SATA 3.5": 250 GB, 500 GB, 1TB, 2 TB
  - SATA SSD 2.5": 32GB, 64GB
- Memory**
  - DDR3 1333 MHz Unbuffered ECC 2/ 4 GB
  - DDR3 1333 MHz Registered ECC 2/ 4/ 8/ 16 GB
- SAS HBA**
  - SAS HBA, internal 2-ports/external 2-ports, PCI-E x1 interface
- SAS RAID**
  - MegaRAID® SAS 9240-4i, 4 internal ports, PCIe x8, supporting RAID 0/1/10/5
  - MegaRAID® SAS 9260-8i, 8 internal ports, 512 MB PCIe x8, supporting RAID 0/1/10/5/50/6/60
  - MegaRAID® SAS 9260-16i, 16 internal ports, 512 MB PCIe x8, supporting RAID 0/1/10/5/50/6/60
  - LSI® BBU07/ Battery Backup Unit for MegaRAID® SAS 9260-8i and 9260-16i
- Networking**
  - Gigabit CT Desktop Adapter, Gigabit Adapter 10/100/1000 Mbps
  - Gigabit ET Server Adapter, Gigabit 10/100/1000 Mbps, PCIe, dual-port
  - Gigabit ET2 Server Adapter, Gigabit Adapter 10/100/1000 Mbps, PCIe, quad-port
  - Ethernet Server Adapter X520-DA2, 10 Gb, Dual ports, direct attach
  - Ethernet Server Adapter X520-LR1, single port, LR
  - Ethernet Server Adapter X520-SR1, single port, SR
  - Ethernet Server Adapter X520-SR2, dual ports, SR
- Fibre Channel HBA**
  - Qlogic SANblade® QLE2460 single port fibre channel to PCI express host bus adapter, 1 ch, 8 Gb FC HBA, PCIe x8, single LC port (std & low-profile bracket)
  - Qlogic SANblade® QLE2462 dual ports fibre channel to PCI express host bus adapter, 2ch, 8 Gb FC HBA, PCIe x8, dual LC port (std & low-profile bracket)

## Server Additional Options/Accessories

- TPM**
  - TPM module (TPM 1.2)
- Optical Drive**
  - Half height SATA DVD/RW
- Flash memory**
  - USB low profile flash memory for VMware embedded
- HDD cage/  
backplanes**
  - 2.5" 4-bay HDD cage (std in some models)
  - 3.5" 6-bay HDD cage (std in some models)
- Tape & Disk based  
backup**
  - LTO-3 1U SAS Rackmount (external) Tape Drive kit
  - LTO-4 1U SAS Rackmount (external) Tape Drive kit
  - 36/72 GB, DAT72 (DDS Gen-5), 5.25", internal half height, USB interface
  - 80/160 GB, DAT160, 5.25", internal half height, USB interface
  - 160/320 GB, DAT320, 5.25", internal half height, USB interface
- Rackmount kits**
  - Sliding rails for 4U rack conversion

### Service and Support

Acer Servers offer a comprehensive service suite to take care of daily IT needs. Users can select the 3-year standard warranty or choose extended warranties and services<sup>5</sup>.

The standard warranty for the AT350 F1 includes three years Parts coverage only.

Warranty repairs may be accomplished through the use of Customer Replacement Unit (CRU) parts. CRU parts include: Hot Plug Hard Drives and Hot Plug Power Supplies. These parts are designed for easy replacement without tools. Travel and labor charges may apply if customers decline to replace a CRU part.

In a continuing effort to improve the quality of our products, information in this document is subject to change without notice. Images shown are only representations of some of the configurations available for this model. Availability may vary depending on region.

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<sup>5</sup> Extension warranty services may vary by country. Please contact Acer authorized resellers for more information.

## Acer AT350 F1 Specifications

<b><u>Acer Standard Server Models</u></b>	<b>Part Number</b>
<b>Acer AT350 LFF Models</b>	
Acer AT350F1 Xeon E5606, 1x4GB DDR3 Reg, No HDD, 4x3.5" HDD bay (second optional), onboard SATA, DVD-RW, 1x720W 80+ Gold PSU (second optional), 2x GBit LAN onboard, Acer Smart Setup, Acer Smart Manager, US Power Cable, USB Mouse, USB Keyboard	TT.R5900.085
Acer AT350F1 Xeon E5620, 2x4GB DDR3 Reg, No HDD, 4x3.5" HDD bay (second optional), 4 Port 6G SAS RAID Controller , DVD-RW, 1x720W 80+ Gold PSU (second optional), 2x GBit LAN onboard, Acer Smart Setup, Acer Smart Manager, US Power Cable, USB Mouse, USB Keyboard	TT.R5900.082
<b>Acer AT350 SFF Models</b>	
Acer AT350F1 Xeon E5620, 2x4GB DDR3 Reg, No HDD, 8x2.5" HDD bay (second optional), 8 Port 6G SAS RAID Controller with 512MB Cache, DVD-RW, 1x720W 80+ Gold PSU (second optional), 2x GBit LAN onboard, Acer Smart Setup, Acer Smart Manager, US Power Cable, USB Mouse, USB Keyboard	TT.R5900.081
Acer AT350F1 Xeon L5630, 2x4GB DDR3 Reg, No HDD, 8x2.5" HDD bay (second optional), 8 Port 6G SAS RAID Controller with 512MB Cache, DVD-RW, 1x720W 80+ Gold PSU (second optional), 2x GBit LAN onboard, Acer Smart Setup, Acer Smart Manager, US Power Cable, USB Mouse, USB Keyboard	TT.R5900.083
Acer AT350F1 Xeon E5645, 2x4GB DDR3 Reg, No HDD, 8x2.5" HDD bay (second optional), 8 Port 6G SAS RAID Controller with 512MB Cache, DVD-RW, 1x720W 80+ Gold PSU (second optional), 2x GBit LAN onboard, Acer Smart Setup, Acer Smart Manager, US Power Cable, USB Mouse, USB Keyboard	TT.R5900.101
Acer AT350F1 Xeon X5675, 2x4GB DDR3 Reg, No HDD, 8x2.5" HDD bay (second optional), 8 Port 6G SAS RAID Controller with 512MB Cache, DVD-RW, 1x720W 80+ Gold PSU (second optional), 2x GBit LAN onboard, Acer Smart Setup, Acer Smart Manager, US Power Cable, USB Mouse, USB Keyboard	TT.R5900.086
<b><u>Acer Key Options</u></b>	
<b>Part Number</b>	
<b><u>Acer CPU Heatsink</u></b>	
<b>Note: one heatsink required for each processor option kit</b>	
Acer Intel CPU heat-sink (TDP 95W supported) for DP tower server	TC.34900.006
<b><u>Acer Processor upgrade kits</u></b>	
<b>Note: one heatsink required for each processor option kit</b>	
<b>Note: all processors in a system must match</b>	
Acer Intel® Xeon® processor E5606 (B-1) Kit	TC.32500.041
Acer Intel® Xeon® processor E5620 (B-1) Kit	TC.32500.024
Acer Intel® Xeon® processor L5630 (B-1) Kit	TC.32500.026
Acer Intel® Xeon® processor E5645 (B-1) Kit	TC.32500.037
Acer Intel® Xeon® processor X5675 (B-1) Kit	TC.32500.039
<b><u>Acer Memory</u></b>	
<b>Note: cannot mix Unbuffered memory with Registered memory</b>	
<b>Note: please refer to "Memory Support" Section for details on configuring memory</b>	
<b><u>Acer Unbuffered Memory</u></b>	
Acer 2GB DDR3-1333 Unbuffered Memory Kit (1 pc.)	TC.33100.035
Acer 4GB DDR3-1333 Unbuffered Memory Kit (1 pc.)	TC.33100.037
<b><u>Acer Registered Memory</u></b>	
Acer 2GB DDR3-1333 Registered Memory Kit (1 pc.)	TC.33100.029
Acer 4GB DDR3-1333 Registered Memory Kit (1 pc.)	TC.33100.031
Acer 8GB DDR3-1333 Registered Memory Kit (1 pc.)	TC.33100.042
<b><u>Acer Storage</u></b>	
<b><u>Acer SATA Hot Plug LFF (3.5-inch) Midline (MDL) Drives</u></b>	
<b>Note: LFF drives are supported only on AT350 models with the 6x3.5" HDD Bay</b>	
Acer 250GB 3Gb/s 7.2K 3.5-inch Enterprise SATA HDD Kit	TC.32700.068
Acer 500GB 3Gb/s 7.2K 3.5-inch Enterprise SATA HDD Kit	TC.32700.066
Acer 1TB 3Gb/s 7.2K 3.5-inch Enterprise SATA HDD Kit	TC.32700.064
Acer 2TB 3Gb/s 7.2K 3.5-inch Enterprise SATA HDD Kit	TC.32700.062

## Acer AT350 F1 Specifications

<b><u>Acer SAS Hot Plug LFF (3.5-inch) Enterprise Drives</u></b>	
<b>Note: LFF drives are supported only on AT350 models with the 6x3.5" HDD Bay</b>	
Acer 300GB 6Gb/s 15K 3.5-inch Enterprise SAS HDD Kit	TC.32700.079
Acer 450GB 6Gb/s 15K 3.5-inch Enterprise SAS HDD Kit	TC.32700.077
Acer 600GB 6Gb/s 15K 3.5-inch Enterprise SAS HDD Kit	TC.32700.075
<b><u>Acer SATA Hot Plug SFF (2.5-inch) Midline (MDL) Drives</u></b>	
<b>Note: SFF drives are supported only on AT350 models with the 8x2.5" HDD Bay</b>	
Acer 150GB 3Gb/s 10K 2.5-inch Enterprise SATA HDD Kit	TC.32700.090
Acer 300GB 3Gb/s 10K 2.5-inch Enterprise SATA HDD Kit	TC.32700.088
Acer 500GB 3Gb/s 7.2K 2.5-inch Enterprise SATA HDD Kit	TC.32700.046
<b><u>Acer SAS Hot Plug SFF (2.5-inch) 10K Enterprise Drives</u></b>	
<b>Note: SFF drives are supported only on AT350 models with the 8x2.5" HDD Bay</b>	
Acer 146GB 6Gb/s 10K 2.5-inch Enterprise SAS HDD Kit	TC.32700.083
Acer 300GB 6Gb/s 10K 2.5-inch Enterprise SAS HDD Kit	TC.32700.081
Acer 450GB 6Gb/s 10K 2.5-inch Enterprise SAS HDD Kit	TC.32700.072
Acer 600GB 6Gb/s 10K 2.5-inch Enterprise SAS HDD Kit	TC.32700.070
<b><u>Acer SAS Hot Plug SFF (2.5-inch) 15K Enterprise Drives</u></b>	
<b>Note: SFF drives are supported only on AT350 models with the 8x2.5" HDD Bay</b>	
Acer 73GB 6Gb/s 15K 2.5-inch Enterprise SAS HDD Kit	TC.32700.087
Acer 146GB 6Gb/s 15K 2.5-inch Enterprise SAS HDD Kit	TC.32700.085
<b><u>Acer SATA Hot Plug SFF (2.5-inch) Enterprise SSD Drives</u></b>	
<b>Note: SFF drives are supported only on AT350 models with the 8x2.5" HDD Bay</b>	
Acer 32GB SLC SATA 2.5-inch Enterprise SSD Kit	TC.33900.003
Acer 64GB SLC SATA 2.5-inch Enterprise SSD Kit	TC.33900.004
<b><u>Acer SAS Storage Controllers</u></b>	
Acer 4-port (2 int., 2 ext.) 3Gb/s SAS HBA	TC.32300.008
Acer 4-port 6Gb/s SAS RAID Adapter (w/ mSAS-mSAS cable) Kit	TC.32300.028
Acer 8-port 6Gb/s SAS RAID Adapter (w/ mSAS-mSAS cable) Kit	TC.32300.034
Acer 16-port 6Gb/s SAS RAID Adapter (w/ mSAS-mSAS cable) Kit	TC.32300.042
Acer Battery Backup Kit for Cache module in 8port/16port SAS RAID Card	TC.34800.006
<b><u>Acer Redundant Power Supply</u></b>	
Acer 720 W Power Supply Module (GOLD level)	TC.33600.005
<b><u>Acer Fibre Channel Storage Controllers</u></b>	
Acer 8Gb/s Single Port Fibre Channel HBA Kit	TC.32300.024
Acer 8Gb/s Dual Port Fibre Channel HBA Kit	TC.32300.026
<b><u>Acer Tape Drives</u></b>	
Acer 36/72GB, DAT72 (DDS Gen-5), 5.25", internal, half-height, default USB cable	TC.34000.026
Acer 80/160GB, DAT160, 5.25", internal, half-height, interface USB, default USB cable	TC.34000.028
Acer 160G/320G ,DAT 320, 5.25" Internal Half-Height ,interface USB, default USB cable	TC.34000.030
Acer LTO-3/LTO-4 1U Rackmount (ext.) Chassis Kit	TC.34000.040
Acer LTO-3 HH (int.) Tape Drive Kit - Compatible with Acer Servers which support Internal LTO drives (or) 1U external Rackmount chassis kit	TC.34000.022
Acer LTO-4 HH (int.) Tape Drive Kit -Compatible with Acer Servers which support internal LTO drives (or) 1U external Rackmount chassis kit	TC.34000.024

## Acer AT350 F1 Specifications

<b>Acer Additional Upgrades</b>	
Acer 4-bay 3.5-inch Hot-plug HDD Cage Kit	TC.32800.004
Acer 8-bay 2.5-inch Hot-plug HDD Cage Kit	TC.32800.006
Acer DVD-SuperMultidriveKit	TC.33500.002
Acer Sliding Rail (AT150 F1/AT350 F1) Kit (900mm or 1000mm Rack required)	TC.33700.012
Acer Gigabit Single Port LAN Adapter Kit	TC.32200.011
Acer Gigabit Dual Port Server LAN Adapter Kit	TC.32200.009
Acer Gigabit Quad Port Server LAN Adapter Kit	TC.32200.010
Acer 10 Gigabit Dual Port (DA) Server LAN Adapter Kit	TC.32200.012
Acer 10 Gigabit Single Port (SR) Server LAN Adapter Kit	TC.32200.014
Acer 10 Gigabit Single Port (LR) Server LAN Adapter Kit	TC.32200.013
Acer 10 Gigabit Dual Port (SR) Server LAN Adapter Kit	TC.32200.015
<b>Acer Operating Systems</b>	
<b>Windows Server Enterprise 2008</b>	
Acer ROK Windows SVR 2008 R2 Enterprise (64bit,25Clt,EN)	TC.34400.035
Acer ROK MICROSOFT Win SVR 2008 64bit Ent R2 10 Clt EN W/COA W/CD/DVD ACER 1-8CPU	TC.34400.034
<b>Windows Server Standard 2008</b>	
Acer ROK MICROSOFT Win SVR 2008 64bit Std R2 5 Clt EN W/COA W/CD/DVD ACER 1-4CPU	TC.34400.033
<b>Microsoft Windows SBS Server Standard</b>	
Acer ROK MICROSOFT Win SBS 2008 64bit Std w/SP2 5 Clt EN W/COA W/CD/DVD ACER 1-4CPU	TC.34400.041
Acer ROK MICROSOFT Win SBS 2008 64bit Prem w/SP2 5 Clt EN W/COA W/CD/DVD ACER 1-4CPU	TC.34400.043
Acer ROK Win SBS 2011 Standard (64bit, 5Clt, EN) Kit	TC.34400.136
Acer ROK Win SBS 2011 Premium (64bit,5Clt,EN) Kit	TC.34400.138
<b>Microsoft CAL's</b>	
Acer Windows Server 2008 CAL EN (5 Device)	TC.34400.061
Acer Windows Server 2008 CAL EN (5 User)	TC.34400.063
Acer Windows SBS 2008 Prem CAL EN (5 Device)	TC.34400.065
Acer Windows SBS 2008 Prem CAL EN (5 User)	TC.34400.066
Acer Windows SBS 2008 Std CAL EN (5 Device)	TC.34400.067
Acer Windows SBS 2008 Std CAL EN (5 User)	TC.34400.068
<b>Acer Services</b>	
Acer Upgrade from 3 years Parts only to 3 years Parts/Labor/On-site Service (AT310/AR320/AT350)	146.AD314.001
Acer Upgrade from 3 years Parts only to 3 years Parts/Labor/On-site Service w/4hr response (AT310/AR320/AT350)	146.AD316.004
Acer Upgrade from 3 years Parts only to 5 years Parts/Labor/On-site Service w/4hr response (AT310/AR320/AT350)	146.AD317.004

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