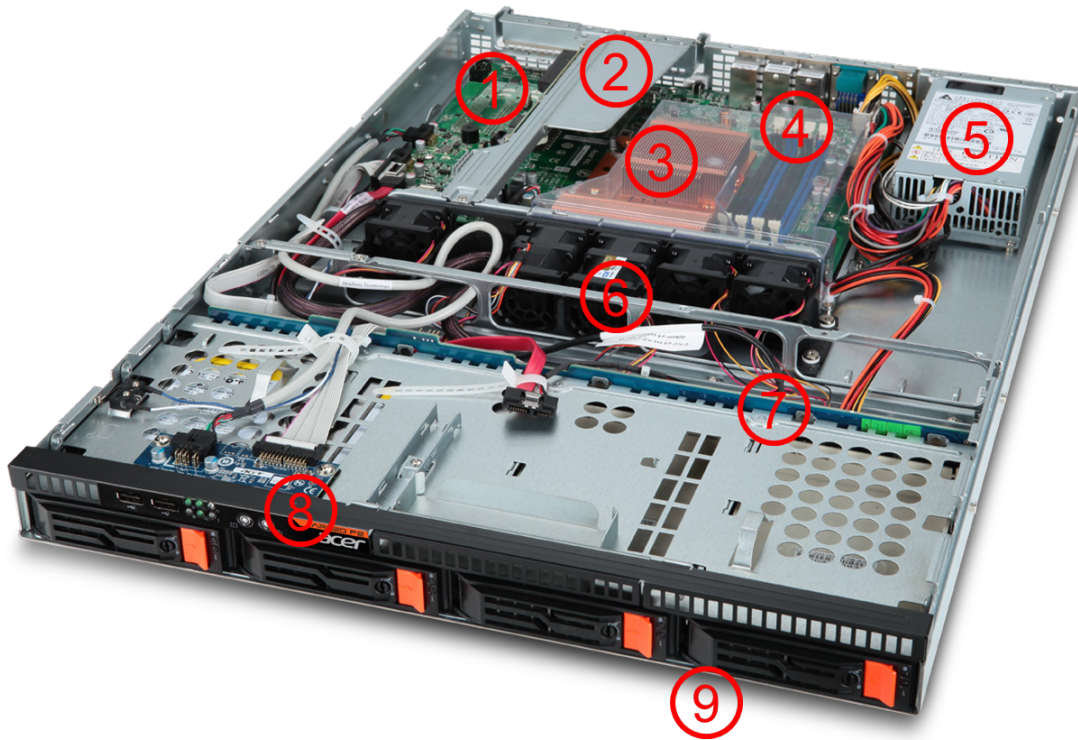


What Product overview

The AR320 F2 single-socket server delivers great performance and enterprise-level scalability in a space-saving design. Proactive management utilities effectively handle SMB as well as enterprise business operations, including departments and branch offices.

Internal view

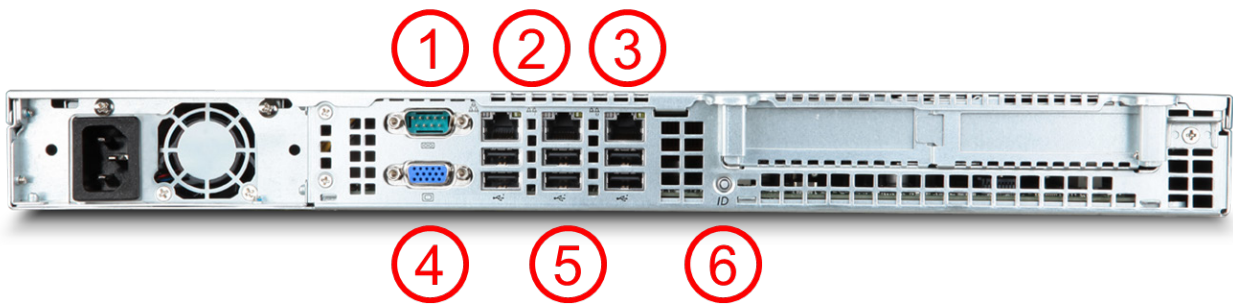
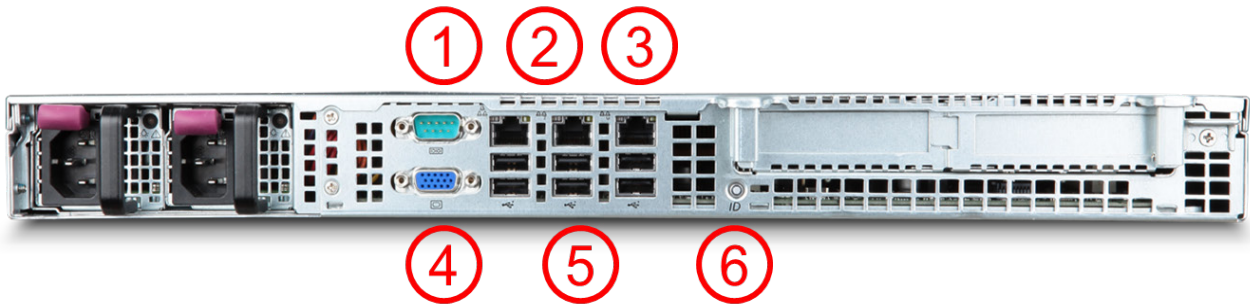


- 1&2 Riser card supporting PCIe, expansion
- 3 Intel® Xeon® processors E3-1200 v2 series, or Intel® Core™ i3 support
- 4 4 x DDR3 unbuffered DIMMs, ECC support
- 5 400W 80 PLUS Gold-level efficient fixed PSU
Optional 2 x 400W 80 PLUS Gold-level (1+1 redundant, hot-swappable)
- 6 N+1 redundant system fans
- 7 SAS/SATA backplane
- 8 Front status indicators, power, and optional slimline optical drive
- 9 4 x hot-swap 3.5" SAS/SATA HDDs, embedded RAID 0, 1, 5, 10 support

Front View



Rear View



Front I/O

- 1 2 x USB ports
- 2 Status indicators
- 3 ID and Power button

Rear I/O

1	Serial port
2	2 x Ethernet LAN Ports (RJ-45)
3	Management port (RJ-45)
4	Video port
5	6 x USB ports
6	System ID LED light

What's New

- New Intel® Xeon® E3-1200 v2 series processors
- Hot-pluggable/redundant power supply with 80 PLUS® gold-level efficiency
- Smart Server Manager v1.1 with improved management functionality

Product Specifications

Processors and Chipset

- One Intel® Xeon® E3-1200 v2 series processor
- Chipset: Intel® C204

Memory

- Up to 4 x unbuffered DDR3 ECC DIMMs

Network Controllers

- 2 x single-port Intel® Gigabit Ethernet controllers

Storage

- Hard disk form factor: 3.5"
- Type: SAS / SATA with hot-swap capability
- Max 4 HDDs

Storage Controllers

- Integrated Intel® C204 chipset, I/O co- controller (4 x 3 Gb/s and 2 x 6 Gb/s SATA ports) with RAID 0, 1, 5 or 10 support
- **Note:** Raid 5 only available for Windows OS
- Optional PCIe 4-/8-port SAS RAID card

Expansion slots

- PCIe® 3.0 x16 slot (x8 link) low profile (right)
- PCIe® 3.0 x8 slot (x8 link) low profile (left)

Note: PCIe® 3.0 only supported with Intel® Xeon® E3-1200 v2 processors

Management

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

BIOS

- UEFI

Deployment/Serviceability

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

Operating Systems

- Windows Server® 2012 (available Q4 2012)
- Windows Server® 2008 SP2
- Windows Server® 2008 R2 SP1
- Red Hat® Enterprise Linux® 5.6
- Red Hat® Enterprise Linux® 6.1
- SuSE® Linux® Enterprise Server 10 SP4
- SuSE® Linux® Enterprise Server 11 SP1

Optical drive

- Optional slimline optical drive bay

Graphics

- Aspeed 2150 controller
- Max resolution: 1600x1200@60Hz
- 32 MB dedicated memory

Chassis/Form Factor

- 1U rack optimized

Power Supply

- 400 W 80 PLUS® gold-level fixed
- Optional 2 x 400 W 80 PLUS® gold-level efficient, easy-swap power supply (1+1 redundant, hot-pluggable)
- Energy Star® certified

Regulatory Compliant Standards

EMC

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

Safety

- MET
- CB
- Nemko/GS

Environmental Specifications

Dimensions	444 (W) x 638 (D) x 43 (H) mm (17.5 x 25.1 x 1.7 inches)
Weight	Maximum 12.7 kg (28.7 lbs.)
	Minimum (includes a single HDD, CPU and 10.3 kg (23.27 lbs.)

Acer AR320 F2 Specifications

	RAM, and PSU)	
System inlet temperature	Operating	0° - 35° C (32° - 95° F)
	Non-operating	-20° - 60° C (-4° - 140° F)
Relative humidity	Operating	8 - 90 %
	Non-operating	5 - 95 %
Acoustics	Idle	
	LWAd	LWAd: 5.1 BA
	LpAm	LpAm: 40 dBA
	Operating	
	LWAd	LWAd: 5.7 BA
	LpAm	LpAm: 44 dBA
Power	Rated Steady –state power	400 W
	Maximum Peak Power	398.77 W
	BTU rating	1518.268 BTU/hr (at 100 VAC)
		1487.135 BTU/hr (at 220 VAC)

Technical specifications

PCIe® specifications

The primary I/O bus for the main board is PCIe Gen3. The following table lists the characteristics of the PCI-E bus segments. Details about each bus segment follow the table.

NOTE: The signaling bit rate of PCI Express is 2.5Gbit/s for Gen 1, 5.0Gbit/s for Gen 2, and 8.0Gbit/s for Gen 3.

Expansion slot	Number	Type	Bus width ¹	Voltage	Connector	Location	Length
PCIe x16	1	PCIe Gen3	x8	3.3V	x16	right side	Low profile
PCIe x8	1	PCIe Gen3	x8	3.3V	x8	left side	Low profile

NOTE:

1. Indicates the number of physical electrical lanes running to a PCIe® connector.
2. Default bus assignment (in decimal). 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.
4. PCIe® 3.0 support with Intel Xeon® E3-1200 v2 processors and select Intel® Core™ i3 and Intel® Pentium® processors.



Onboard storage specifications

Item	Description
Controller	Integrated Intel® C204 chipset
Simultaneous drive transfer channels	6 onboard SATA ports (4 via mini-SAS connector)
Max throughput per channel	2 x 6 Gb/s, 4 x 3 Gb/s
Data transfer method	<ul style="list-style-type: none"> • Non-RAID mode • RAID mode
Drive type supported	Serial ATA
RAID levels support	<ul style="list-style-type: none"> • RAID 0, 1, 10, 5 (Intel software RAID) • RAID 0, 1, 10 (LSI software RAID)
RAID function support	<p>NOTE: Intel software RAID only supports Windows OS</p> <ul style="list-style-type: none"> • Supports multiple logical volumes • Setup through ROM based Array Configuration Utility Installation scripting support <p>NOTE: This controller does not support LED functions</p>
RAID OS support	<ul style="list-style-type: none"> • Windows Server 2012 • Windows Server 2008 • Windows Server 2008 R2 • Red Hat Enterprise Linux 6 • Novell SuSE Linux Enterprise Server 11
Additional features	<ul style="list-style-type: none"> • NCQ (Native Command Queuing) • AHCI (Advanced Host Controller Interface)

Onboard LAN specifications

Item	Description
Controller	2 x single-port Intel® 82574L/ 82579LM PHY Gigabit Ethernet controllers
Network interface	10Base-T / 100Base-TX / 1000Base-T
Compatibility standards	<ul style="list-style-type: none"> • IEEE 802.3 Ethernet interface for 10BASE-T • IEEE 802.3ab Ethernet interface for 1000BASE-T • IEEE 802.3u Ethernet interface for 100BASE-TX
Manageability	<ul style="list-style-type: none"> • NC-SI, SMBus • PXE, iSCSI boot
Connector	RJ-45
Supported cable type	CAT 5e wire

Memory specifications and population

Item	Description
Supported memory types	<ul style="list-style-type: none"> Unbuffered ECC DDR3 1066 / 1333 / 1600 MHz
Population	Acer’s validated memory populations are listed below. NOTE: Support for 8 GB UDIMMs may vary by regional availability.

Memory configuration guide

DIMM #	DIMM 1B	DIMM 1A	DIMM 2B	DIMM2A
1		X		
2		X		X
4	X	X	X	X

Memory Identification

Generally, there are some memory information printed on the label of DIMM, but different vendor may have different format. For example:

4GB 2Rx4 PC3-10600R xx xx xxx

1. Density

- 1GB, 2GB, 4GB, 8GB

2. Rank

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

3. Bit Organization

- This platform supports x8
- Note: It’s not recommend to mix DIMM with different bit organization in one system

4. Speed

- PC3 – 8500 => DDR3- 1066
- PC3 – 10600 => DDR3- 1333
- PC3 – 12800 => DDR3- 1600

Graphics Specifications

ASpeed 2150 controller

Modes	DCLK (MHz)	Color Depth	CRT Bandwidth	KVM Bandwidth	DRAM Bandwidth	CRT only	CRT + KVM
640x480x8bpp	60Hz	25	25	100	638.4	TRUE	TRUE
640x480x8bpp	72Hz	31.5	31.5	126	638.4	TRUE	TRUE
640x480x8bpp	75Hz	31.5	31.5	126	638.4	TRUE	TRUE
640x480x8bpp	85Hz	36	36	144	638.4	TRUE	TRUE
800x600x8bpp	56Hz	36	36	144	638.4	TRUE	TRUE
800x600x8bpp	60Hz	40	40	160	638.4	TRUE	TRUE
800x600x8bpp	72Hz	50	50	200	638.4	TRUE	TRUE
800x600x8bpp	75Hz	49.5	49.5	198	638.4	TRUE	TRUE
800x600x8bpp	85Hz	56.25	56.25	225	638.4	TRUE	TRUE
1024x768x8bpp	60Hz	65	65	260	638.4	TRUE	TRUE
1024x768x8bpp	70Hz	75	75	300	638.4	TRUE	TRUE
1024x768x8bpp	75Hz	78.75	78.75	315	638.4	TRUE	TRUE
1024x768x8bpp	85Hz	94.5	94.5	378	638.4	TRUE	TRUE
1280x1024x8bpp	60Hz	108	108	432	638.4	TRUE	TRUE
1280x1024x8bpp	75Hz	135	135	540	638.4	TRUE	FALSE
1280x1024x8bpp	85Hz	157.5	157.5	630	638.4	TRUE	FALSE
1600x1200x8bpp	60Hz	162	162	648	638.4	TRUE	FALSE
1280x800x8bpp	60Hz	83.5	83.5	334	638.4	TRUE	TRUE
1440x900x8bpp	60Hz	106.5	106.5	426	638.4	TRUE	TRUE
1680x1050x8bpp	60Hz	146.25	146.25	585	638.4	TRUE	FALSE
640x480x16bpp	60Hz	25	50	0	638.4	TRUE	TRUE
640x480x16bpp	72Hz	31.5	63	0	638.4	TRUE	TRUE
640x480x16bpp	75Hz	31.5	63	0	638.4	TRUE	TRUE
640x480x16bpp	85Hz	36	72	0	638.4	TRUE	TRUE
800x600x16bpp	56Hz	36	72	0	638.4	TRUE	TRUE
800x600x16bpp	60Hz	40	80	0	638.4	TRUE	TRUE
800x600x16bpp	72Hz	50	100	0	638.4	TRUE	TRUE
800x600x16bpp	75Hz	49.5	99	0	638.4	TRUE	TRUE
800x600x16bpp	85Hz	56.25	112.5	0	638.4	TRUE	TRUE
1024x768x16bpp	60Hz	65	130	0	638.4	TRUE	TRUE
1024x768x16bpp	70Hz	75	150	0	638.4	TRUE	TRUE
1024x768x16bpp	75Hz	78.75	157.5	0	638.4	TRUE	TRUE
1024x768x16bpp	85Hz	94.5	189	0	638.4	TRUE	TRUE
1280x1024x16bpp	60Hz	108	216	0	638.4	TRUE	TRUE
1280x1024x16bpp	75Hz	135	270	0	638.4	TRUE	TRUE
1280x1024x16bpp	85Hz	157.5	315	0	638.4	TRUE	TRUE
1600x1200x16bpp	60Hz	162	324	0	638.4	TRUE	TRUE
1280x800x16bpp	60Hz	83.5	167	0	638.4	TRUE	TRUE
1440x900x16bpp	60Hz	106.5	213	0	638.4	TRUE	TRUE

Acer AR320 F2 Specifications

1680x1050x16bpp	60Hz	146.25	16	292.5	0	638.4	TRUE	TRUE
640x480x32bpp	60Hz	25	32	100	0	638.4	TRUE	TRUE
640x480x32bpp	72Hz	31.5	32	126	0	638.4	TRUE	TRUE
640x480x32bpp	75Hz	31.5	32	126	0	638.4	TRUE	TRUE
640x480x32bpp	85Hz	36	32	144	0	638.4	TRUE	TRUE
800x600x32bpp	56Hz	36	32	144	0	638.4	TRUE	TRUE
800x600x32bpp	60Hz	40	32	160	0	638.4	TRUE	TRUE
800x600x32bpp	72Hz	50	32	200	0	638.4	TRUE	TRUE
800x600x32bpp	75Hz	49.5	32	198	0	638.4	TRUE	TRUE
800x600x32bpp	85Hz	56.25	32	225	0	638.4	TRUE	TRUE
1024x768x32bpp	60Hz	65	32	260	0	638.4	TRUE	TRUE
1024x768x32bpp	70Hz	75	32	300	0	638.4	TRUE	TRUE
1024x768x32bpp	75Hz	78.75	32	315	0	638.4	TRUE	TRUE
1024x768x32bpp	85Hz	94.5	32	378	0	638.4	TRUE	TRUE
1280x1024x32bpp	60Hz	108	32	432	0	638.4	TRUE	TRUE
1280x1024x32bpp	75Hz	135	32	540	0	638.4	TRUE	TRUE
1280x1024x32bpp	85Hz	157.5	32	630	0	638.4	TRUE	TRUE
1600x1200x32bpp	60Hz	162	32	648	0	638.4	FALSE	FALSE
1280x800x32bpp	60Hz	83.5	32	334	0	638.4	TRUE	TRUE
1440x900x32bpp	60Hz	106.5	32	426	0	638.4	TRUE	TRUE
1680x1050x32bpp	60Hz	146.25	32	585	0	638.4	TRUE	TRUE

***NOTE:** Supported graphics resolutions may vary with monitor model and operating system

Acer AR320 F2 Specifications



Power specifications

Fixed 400W Power Supply

	100-127 / 200-240							
	60 / 50							
Nominal Input Voltage (Vrms)	100	120	200	208	220	230	240	
Max. Rated Output Wattage	398.44	398.17	398.77	398.27	398.39	398.45	398.55	
Nominal Input Current (Arms)	4.66	3.89	2.29	2.17	2.01	1.95	1.85	
Max. Rated Input Wattage Rating	445.24	444.16	437.71	436.88	436.11	435.68	434.12	
Max. Rated VA (Volt-Amp)	600	720	600	624	660	690	720	
Efficiency (%) at Max. Rated Output Wattage	0.894888	0.896456	0.911037	0.911623	0.913508	0.914547	0.918064	
Power Factor	0.999	0.999	0.999	0.999	0.999	0.999	0.999	
Leakage Current (mA)	L:0.34 N: 0.34	L:0.37 N:0.37	L: 0.6 N:0.6	L: 0.61 N:0.61	L: 0.63 N: 0.63	L: 0.63 N:0.63	L: 0.66 N:0.65	
Max. Inrush Current (A peak)	20.1	20.6	45.85	46.11	46	46.11	46.78	
Max. Inrush Current Duration (ms)	10	10	10	10	10	10	10	
Max. British Thermal Unit Rating (BTU/hr)	1518.268	1514.586	1492.591	1489.761	1487.135	1485.669	1480.349	

Acer AR320 F2 Specifications



Redundant 400W Power Supply

Operational Input Voltage Range (Vrms)	100-127 / 200-240						
Frequency Range (Nominal) (Hz)	60 / 50						
Nominal Input Voltage (Vrms)	100	120	200	208	220	230	240
Max. Rated Output Wattage	403.21	403.15	448.72	448.22	448.37	448.43	448.52
Nominal Input Current (Arms)	4.61	3.81	2.58	2.47	2.34	2.24	2.14
Max. Rated Input Wattage Rating	450.92	449.89	492.66	491.63	490.93	490.52	488.42
Max. Rated VA (Volt-Amp)	650	780	600	624	660	690	720
Efficiency (%) at Max. Rated Output Wattage	0.8942	0.8961	0.9108	0.9117	0.9133	0.9142	0.9183
Power Factor	0.985	0.982	0.952	0.954	0.952	0.951	0.953
Leakage Current (mA)	L:0.20 N: 0.19	L:0.21 N:0.22	L: 0.32 N:0.32	L: 0.33 N:0.34	L: 0.34 N: 0.35	L: 0.35 N:0.35	L: 0.38 N:0.37
Max. Inrush Current (A peak)	6	6.3	15.6	15.9	15.8	16	16.5
Max. Inrush Current Duration (ms)	4.5	4.3	4.3	4.5	4.5	4.3	4.3
Max. British Thermal Unit Rating (BTU/hr)	1537.637	1534.125	1679.971	1676.458	1674.071	1672.673	1665.512

Acer server software utilities

- Smart Setup 2.X 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 2 Web-based management utility to simplify system management with embedded iBMC, system monitoring and alerting, event handling, remote power control & monitoring, and KVM-over-IP. Smart Console is OS independent and offers virtual media through floppy, ODD, and removable disk.
- Smart Server Manager v1.2 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
 - Remote firmware deployment and scheduled updates
 - Customizable BIOS settings and deployment to networked nodes
 - Optional power-capping functionality for Acer servers with Intel® Xeon processors E3 or E5 families

Available options

Processors (up to 1)

Intel® Xeon® E3-1200 v2 Processors

- E3-1280 v2 (8 MB L3 cache, 3.60 GHz, DDR3 1600/1333/1066 MHz, 69 W, quad core)
- E3-1270 v2 (8 MB L3 cache, 3.50 GHz, DDR3 1600/1333/1066 MHz, 69 W, quad core)
- E3-1240 v2 (8 MB L3 cache, 3.40 GHz, DDR3 1600/1333/1066 MHz, 69 W, quad core)
- E3-1230 v2 (8 MB L3 cache, 3.30 GHz, DDR3 1600/1333/1066 MHz, 69 W, quad core)
- E3-1220 v2 (8 MB L3 cache, 3.10 GHz, DDR3 1600/1333/1066 MHz, 69 W, quad core)

Intel® Xeon® E3-1200 Processors

- E3-1280 (8 MB L3 cache, 3.50 GHz, DDR3 1333/1066 MHz, 95 W, quad core)
- E3-1270 (8 MB L3 cache, 3.40 GHz, DDR3 1333/1066 MHz, 80 W, quad core)
- E3-1240 (8 MB L3 cache, 3.30 GHz, DDR3 1333/1066 MHz, 80 W, quad core)
- E3-1230 (8 MB L3 cache, 3.20 GHz, DDR3 1333/1066 MHz, 80 W, quad core)
- E3-1220 (8 MB L3 cache, 3.10 GHz, DDR3 1333/1066 MHz, 80 W, quad core)

Intel® Core™ i3 Processors

- Intel® Core™ i3-2130 processor (3 MB L3 cache, 3.40 GHz, DDR3 1333/1066 MHz, 65 W, dual core)
- Intel® Core™ i3-2120 processor (3 MB L3 cache, 3.30 GHz, DDR3 1333/1066 MHz, 65 W, dual core)
- Intel Core i3-2100 processor (3 MB L3 cache, 3.10 GHz, DDR3 1333/1066 MHz, 65 W, dual core)

Memory

- Memory type Unbuffered DDR3 ECC memory
- Capacities 1 / 2 / 4 / 8 GB DIMMs
- DIMM number 4
- Max memory 32 GB unbuffered

Note: 8 GB UDIMMs availability may vary by region

Hard drives

Type	Interface, bandwidth	Capacities (RPM)
Enterprise SATA, 3.5"	3 Gb/s	250 GB (7.2K)
		500 GB (7.2K)
		1 TB (7.2K)
	6 Gb/s	2 TB (7.2K)
		500 GB (7.2K)
		1 TB (7.2K)
		2 TB (7.2K)

Consumer SATA, 3.5"	6 Gb/s	3 TB (7.2K) 500 GB (7.2K) 1 TB (7.2K) 2 TB (7.2K) 3 TB (7.2K)
Nearline SAS, 3.5"	6 Gb/s	500 GB (7.2K) 1 TB (7.2K) 2 TB (7.2K)
Enterprise SAS, 3.5"	6 Gb/s	300 GB (15K) 450 GB (15K) 600 GB (15K)

NOTE: SAS drives require an add-on RAID card

Optical drives

Slimline DVD

RAID cards

Model	Port number	RAID support
LSI® SAS 3041E-R	4 internal ports	0, 1, 10
LSI® MegaRAID SAS 9240-4i	4 internal ports	0, 1, 5, 10
LSI® MegaRAID SAS 9260-8i** (512 MB DDR2 cache)	8 internal ports	0, 1, 5, 6, 10, 50, 60
LSI® MegaRAID SAS 9271-8i** (1 GB DDR3 cache)	8 internal ports	0, 1, 5, 6, 10, 50, 60

**Battery Backup Unit BBU08 available

Ethernet network cards

Model	Port number	Bandwidth
Intel® Gigabit CT desktop adapter	1	10/100/1000 Mbps
Intel® Gigabit CT2 desktop adapter	2	10/100/1000 Mbps

Tape Backup Unit (TBU)

Model	Tape capacity	Form factor
DAT72 SATA/USB TBU	36 GB 72 GB	External
DAT160 USB TBU	80 GB	External

160 GB

TPM module

TPM module with STMicro chip

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.

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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NOTE: Extension warranty services may vary by country. Please contact Acer authorized resellers for more information.