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maintenance & service guide

Presario 1800/1800T Series Models: XL280, XL380, XL381, and XL390

Specifications

Physical and Environmental

Specification	U.S.	Metric
Height	1.63 in.	4.14 cm
Depth	12.99 in.	33.00 cm
Width	11.02 in.	28.00 cm
Weight with 14.1-in. Display with 15.0-in. Display	7.8 lb	3.54 kg
Battery Power Requirements Nominal Operating Maximum Average Peak Operating	Li-ion 3.2 Ahr W @ 14.8 V W @ 14.8 V W @ 14.8 V	Li-ion 3.6 Ahr W @ 14.8 V W @ 14.8 V W @ 14.8 V
AC Power Requirements Operating Voltage Operating Current Operating Frequency Maximum Transient	100-240 V 0.8/0.4 A RMS 47-63 Hz (Meets IEC801-4 & -5) 1kV for 50 ns	
Temperature* Operating Non-operating	41 - 131°F -4 - 140°F	5 - 55 C -20 - 60 C
Relative Humidity (noncondensing) Operating Non-Operating (wb = 38.7 C max)	8% - 90% 5% - 95%	
Altitude Operating Non-operating	-1000 - 10000 ft -1000 - 40000 ft	-300 - 3000 m -300 - 12000 m
Shock Operating Non-operating	150 G / 2 ms (half sine) 700 G / 1 ms (half sine)	
Vibration Operating Non-Operating	1 G 5 G	

**Applicable safety standards specify thermal limits for plastic surfaces. Presario 1800XL Notebooks operate well within this temperature range.*

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System Interrupts

Hardware IRQ	System Function	Hardware IRQ	System Function
IRQ 0	System timer	IRQ 10	Available
IRQ 1	Standard 101/102-key or Microsoft Natural Keyboard	IRQ 11	Intel® Pro/100S Mobile LAN on Motherboard
IRQ 2	Programmable Interrupt Controller	IRQ 11	Texas Instruments PCI-1410 CardBus Controller
IRQ 3	Lucent 56K V.90 PCI DF Modem	IRQ 11	ACPI IRQ Holder for PCI IRQ Steering
IRQ 3	ACPI IRQ Holder for PCI IRQ Steering	IRQ 11	Intel® 82371AB/EB PCI to USB Universal Host Controller
IRQ 4	Communications Port (COM1)	IRQ 11	ACPI IRQ Holder for PCI IRQ Steering
IRQ 5	ESS SOLO-1 PCI AudioDrive	IRQ 12	Synaptics PS/2 TouchPad
IRQ 5	ACPI IRQ Holder for PCI IRQ Steering	IRQ 13	Numeric Data Processor
IRQ 5	RAGE Mobility AGP (English)	IRQ 14	Intel® 82371AB/EB PCI Bus Master IDE Controller
IRQ 6	Standard Floppy Disk Controller	IRQ 14	Primary IDE Controller (Dual FIFO)
IRQ 7	Printer Port (LPT1)	IRQ 15	Intel® 82371AB/EB PCI Bus Master IDE Controller
IRQ 8	System CMOS/Real Time Clock	IRQ 15	Secondary IDE Controller (Dual FIFO)
IRQ 9	SCI IRQ used by ACPI Bus		

System DMA

Hardware DMA	System Function
DMA 1	ESS SOLO-1 DOS Emulation
DMA 2	Standard Floppy Disk Controller
DMA 4	Direct Memory Access Controller



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System I/O Addresses

I/O Address	System Function (Shipping Configuration)
0000h-000Fh	Direct Memory Access Controller
0020h-0021h	Programmable Interrupt Controller
0040h-0043h	System Timer
0060h-0060h	Standard 101/102-Key or Microsoft Natural Keyboard
0061h-0061h	System Speaker
0062h-0062h	ACPI Embedded Controller
0064h-0064h	Standard 101/102-Key or Microsoft Natural Keyboard
0066h-0066h	ACPI Embedded Controller
0070h-0071h	System CMOS/Real Time Clock
0081h-008Fh	Direct Memory Controller
00A0h-00A1h	Programmable Interrupt Controller
00C0h-00DFh	Direct Memory Access Controller
00F0h-00FEh	Numeric Data Processor
0170h-0177h	Intel® 82371AB/EB PCI Bus Master IDE Controller
0170h-0177h	Secondary IDE Controller (Dual FIFO)
01F0h-01F7h	Intel® 82371AB/EB PCI Bus Master IDE Controller
01F0h-01F7h	Primary IDE Controller (Dual FIFO)
0200h-0203h	Gameport Joystick
0220h-022Fh	ESS SOLO-1 DOS Emulation
0330h-0331h	ESS SOLO-1 DOS Emulation
0376h-0376h	Secondary IDE Controller (Dual FIFO)
0376h-0376h	Intel® 82371AB/EB PCI Bus Master IDE Controller
0378h-037Fh	Printer Port (LPT1)
0388h-038Bh	ESS SOLO-1 DOS Emulation
03B0h-03BBh	RAGE Mobility AGP (English)
03C0h-03DFh	RAGE Mobilty AGP (English)
03F0h-03F5h	Standard Floppy Disk Controller
03F6h-03F6h	Intel® 82371AB/EB PCI Bus Master IDE Controller



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I/O Address	System Function (Shipping Configuration)
03F6h-03F6h	Primary IDE Controller (Dual FIFO)
03F7h-03F7h	Standard Floppy Disk Controller
03F8h-03FFh	Communications Port (COM1)
04D0h-04D1h	Motherboard Resources
0CF8h-0CFFh	PCI Bus
1000h-10FFh	Lucent 56K V.90 PCI DF Modem
1400h-143Fh	ESS SOLO-1 PCI AudioDrive
1440h-147Fh	Intel® PRO/100 S Mobile LAN on Motherboard
1480h-149Fh	Intel® 82371AB/EB PCI to USB Universal Host Controller
14A0h-14A7h	Primary IDE Controller (Dual FIFO)
14A0h-14AFh	Intel® 82371AB/EB PCI Bus Master IDE Controller
14A8h-14AFh	Secondary IDE Controller (Dual FIFO)
14B0h-14BFh	ESS SOLO-1 PCI AudioDrive
14C0h-14CFh	ESS SOLO-1 PCI AudioDrive
14D0h-14D7h	Lucent 56K V.90 PCI DF Modem
14D8h-14DBh	ESS SOLO-1 PCI AudioDrive
14DCh-14DFh	ESS SOLO-1 PCI AudioDrive
2180h-218Fh	Motherboard Resources
8000h-803Fh	Motherboard Resources
9000h-9FFFh	Intel® 82443BX Pentium® II Processor to AGP Controller
9000h-90FFh	RAGE Mobility AGP (English)



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System Memory Catalog

Memory Address	System Function
000A0000h-000AFFFFh	RAGE Mobility-M1 AGP (English)
000B0000h-000BFFFFh	RAGE Mobility-M1 AGP (English)
000C0000h-000CFFFFh	RAGE Mobility-M1 AGP (English)
04000000h-04000FFFh	Texas Instruments PCI-1410 CardBus Controller
04001000h-04001FFFh	Intel® PRO/100 S Mobile LAN on Motherboard
04100000h-F041FFFFh	Intel® PRO/100 S Mobile LAN on Motherboard
F4101000h-F41010FFFh	Lucent 56K V.90 PCI DF Modem
F4200000h-F4200FFFh	RAGE Mobility-M3 AGP (English)
F4200000h-F5FFFFFFh	Intel® 82443BX Pentium® II Processor to AGP Controller
F4220000h-F423FFFFh	RAGE Mobility AGP (English)
F5000000h-F5FFFFFFh	RAGE Mobility AGP (English)
F8000000h-FBFFFFFFh	Intel® 82443BX Pentium® II Processor to PCI bridge
FFF80000h-FFFFFFFFh	Motherboard Resources

Memory Expansion

System Memory	Expansion Board Memory	Total Memory
64 MB	None	64 MB
64 MB	32 MB	96 MB
64 MB	64 MB	128 MB
64 MB	128 MB	192 MB
64 MB	256 MB	320 MB

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Display

Specification	15.0-in. TFT with LVDS	15.0-in. TFT/SXGA with LVDS	14.1-in. TFT with LVDS
Unit Height	9.48 in. (24.05 cm)	9.48 in. (24.05 cm)	8.92 in. (22.65 cm)
Unit Width	12.43 in. (31.55 cm)	12.43 in. (31.55 cm)	11.76 in. (29.85 cm)
Display Height	8.99 in. (22.81 cm)	8.99 in. (22.81 cm)	8.44 in. (21.43 cm)
Display Width	11.98 in. (30.41 cm)	11.98 in. (30.41 cm)	11.26 in. (28.57 cm)
Weight	24.36 oz (690 g)	24.36 oz (690 g)	19.94 oz (565 g)
Contrast Ratio	150:1		150:1
Brightness	120 cd/mm ³	120 cd/mm ³	120 cd/mm ³
Response Time	50 ms or less		50 ms or less
Refresh Rate	60 Hz or better	60 Hz or better	60 Hz or better
Power	4.5 mA or less	4.5 mA or less	4.5 mA or less

Diskette Drive

Specification	Value
Capacity per Diskette (High/Low)	1.44 MB/720 KB
Diskette Size	3.5 in.
Number of LED Indicators (Read/Write)	0
Number of Drives Supported	1
Drive Rotation (rpm)	300
Transfer Rate (Kbps)	500
Bytes per Sector	512
Sectors per Track (High/Low)	18/9
Tracks per Side (High/Low)	80



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Hard Drive

Specification	6.0 GB	10.0 GB	12.0 GB
Drive Type	Ultra DMA	Ultra DMA	Ultra DMA
Height	9.5 mm	9.5 mm	9.5 mm
Width*	69.85-70.0 mm	69.85-70.0 mm	70.0 mm
Depth	100.0 mm	100.0 mm	100.0 mm
Weight*	92-98 g	94-98 g	92-98 g
Seek Times* (typical):			
Read/Write (incl. settling)	13 ms	13 ms	13 ms
Single Track	3 ms	1.5-3 ms	3 ms
Full Stroke	24 ms	23-24 ms	24 ms
Transfer Rate at Interface			
Ultra DMA mode (max)	66.6 MB/s	66.6 MB/s	66.6 MB/s
Rotational Speed	4200 rpm	4200 rpm	4200 rpm
Interface*	ATA-2/3/4/5	ATA-2/3/4/5	ATA-2/3/4/5
Buffer Size*	256-512 KB	512-1024 KB	512 KB

Specification	15.0 GB	20.0 GB	32.0 GB
Drive Type	Ultra DMA	Ultra DMA	Ultra DMA
Height	9.5 mm	9.5 mm	9.5 mm
Width*	70.0 mm	69.85-70.0 mm	70.0 mm
Depth	100.0 mm	100.0 mm	100.0 mm
Weight*	92-98 g	99.0 g	99.0 g
Seek Times* (typical):			
Read/Write (incl. settling)	13 ms	12.0-13.0 ms	12.0 ms
Single Track	3.0 ms	2.5-3.0 ms	2.5 ms
Full Stroke	24 ms	23.0-24.0 ms	23.0 ms
Transfer Rate at Interface			
Ultra DMA mode (max)	66.6 MB/s	66.6 MB/s	66.6 MB/s
Rotational Speed	4200 rpm	4200 rpm	5411
Interface*	ATA-2/3/4/5	ATA-2/3/4/5	ATA-5
Buffer*	512 KB	1024-2048 KB	2048 KB

*Specifications vary by vendor/brand.

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Battery Pack

Specification	3.2 AHr Li-ion	3.6 AHr Li-ion
Type	Lithium Ion Enhanced	Lithium Ion Enhanced
Height	0.8 in. (20.3 mm)	0.8 in. (20.3 mm)
Length	5.7 in. (145 mm)	5.7 in. (145 mm)
Width	3.1 in. (78.7 mm)	3.1 in. (78.7 mm)
Weight	0.90 lb (408.2 g)	0.90 lb (408.2 g)
Operating Lifetime	>3 hr*	>3 hr*
Nominal Open Circuit Voltage	14.4 V	14.4 V
Capacity	3.2 Ahr	3.6 Ahr
Power	43.2 WH	43.2 WH
Temperature Requirements		
Operating	0-50 C	0-50 C
Non-operating	-20-60 C	-20-60 C
Charging	5-45 C	5-45 C

*The battery operating lifetime depends on your power management settings, system components, options, and applications.

CD/CD-RW/DVD Drive

Specification	6X DVD	8X DVD	CD-RW	24X CD-ROM
Dimensions	128 x 129 x 12.7 mm	128 x 126.1 x 12.7 mm	128 x 129 x 12.7 mm	128 x 129 x 12.7 mm
Weight	280 g	265-270 g	300 g	180-270 g
Rotational Speed Approx.*		1200-4670 rpm	4200 rpm (CD)	4225-5200 rpm
Sustained Data Transfer Rate (typical)*		4463-10820 KB/s	2100 KB/s	1545-3600 KB/s
Random Access Time (Avg.)	140 ms	90-100 ms	150 ms	90-180 ms
Spin Up time	<15 s	2.0-2.5 s	<10 s	2.7-2.8 s
Data Buffer Capacity	512 KB	128 KB	2 MB	128 KB

*Specifications vary by vendor/brand.