

# Specifications

This page provides the specifications for the basic model CF-29LTLGZBM/CF-29LTQGZBM/CF-29L3LGZBM. The model number will change depending on the configuration of the unit, such as, CPU speed, memory size, HDD size, Operating System, LCD type, and whether a wireless LAN is built in or not.

- To check the model number:

Check the bottom of the computer or the box the computer came in at the time of purchase.

- To check CPU speed, memory size and the hard disk drive (HDD) size:

Run the Setup Utility (☞ Reference Manual “Setup Utility”).

Confirm the required information by checking the following items.

- [Information] menu  
CPU speed: [CPU Speed]      Memory size: [System Memory]      Hard disk drive size: [Primary Master]
- [Advanced] menu  
Wireless LAN: [Wireless LAN] is displayed only if a wireless LAN is built in.

## ● Main Specifications

<b>Model No.</b>	CF-29LTQGZBM	CF-29L3LGZBM	
<b>CPU</b>	Intel® Pentium®M Processor Low Voltage 778 (1.60 GHz, 2 MB*1 L2 cache, 400 MHz FSB)		
<b>Memory</b>	512 MB*1 (1536 MB*1 Max.)	256 MB*1 (1280 MB*1 Max.)	
<b>Video Memory</b>	UMA (128 MB*1 Max.)*2		
<b>LCD</b>	<b>Type</b>	13.3 XGA type (TFT) with Touchscreen	
	<b>Displayed Colors*3</b>	13.3 XGA type (TFT) 65,536/16,777,216 colors (800 x 600 dots/1024 x 768 dots)	
<b>External Display</b>	65,536/16,777,216 colors (800 x 600 dots/1024 x 768 dots/1280 x 1024 dots/1600 x 1200 dots)*4		
<b>Hard Disk Drive</b>	80 GB*5	60 GB*5	
<b>Keyboard</b>	87 keys		
<b>Floppy Disk Drive</b>	720 KB/1.44 MB (two-mode)		
<b>PC Card Slot</b>	Two Type I or Type II, or one Type III		
	<b>Allowable current (total for two slots)</b>	3.3 V: 400 mA 5 V: 400 mA	
<b>RAM Module Slot*6</b>	200 pin, 1.8 V, SO-DIMM, DDR2 SDRAM, PC2-3200 Compliant		
<b>SD Memory Card Slot*7</b>	SD Memory Card		
<b>Interface</b>	<b>Parallel Port</b>	Dsub 25-pin female	
	<b>External Display Port</b>	Mini Dsub 15-pin female	
	<b>Serial Port</b>	Dsub 9-pin male	
	<b>Microphone Jack*8</b>	Miniature jack, 3.5 DIA	
	<b>Headphone Jack</b>	Miniature jack, 3.5 DIA, Impedance 32 Ω, Output Power 4 mW x 2	
	<b>Expansion Bus Connector</b>	Dedicated 80-pin female	
	<b>USB Port</b>	4-pin x 2, USB 2.0	
	<b>Modem</b>	RJ-11 jack, Data: 56 kbps (V.92 & K56flex*9) FAX:14.4 kbps	
	<b>LAN</b>	RJ-45 jack, IEEE 802.3 10Base-T, IEEE 802.3u 100Base-TX, IEEE 802.3ab 1000Base-T	
	<b>Wireless LAN</b>	Built-in Intel® PRO/Wireless 2915 ABG (☞ page 43)	
<b>External Antenna Connector</b>	Dedicated 50 W coaxial connector		
<b>Pointing Device</b>	Touch Pad		
	Touchscreen (Anti-Reflection, Stylus (included) touch capable)		
<b>Sound</b>	WAVE and MIDI playback, Monaural Speaker (built in)		

\*1 1 MB = 1,048,576 bytes

\*2 A segment of the main memory is allotted automatically depending on the computer's operating status. The size of the Video Memory cannot be set by the user.

\*3 A 16,777,216 color display is achieved by using the dithering function.

\*4 Maximum resolution depends on the specifications of the external display.

\*5 1GB = 1,000,000,000 bytes. Your operating system or some application software will report as fewer GB.

\*6 Only a RAM module designed for PC2-3200 can be added.

\*7 This slot does not support the MultiMedia card.

Operation has been confirmed for Panasonic SD Memory Cards with up to 1 GB capacity.

\*8 Use only a monaural condenser microphone.

\*9 The settings for the K56flex modem need to be changed according to the AT command.

## ● Main Specifications

<b>Model No.</b>		CF-29LTQGZBM	CF-29L3LGZBM
<b>Battery Pack</b>		Li-ion 11.1 V, 7.65 Ah	
	<b>Operating Time</b> <sup>*10</sup>	Main battery: Approx. 5 hours - 8 hours <sup>*11</sup> (Approx. 7 hours <sup>*12</sup> ) Main battery + Second battery: Approx. 8 hours - 13.5 hours <sup>*11</sup> (Approx. 10.5 hours <sup>*12</sup> )	
	<b>Charging Time</b> <sup>*10</sup>	<b>Power On</b>	Main battery: Approx. 7 hours Main battery + Second battery: Approx. 11 hours
		<b>Power Off</b>	Main battery: Approx. 4.5 hours Main battery + Second battery: Approx. 7 hours
<b>Clock Battery</b>		Coin type lithium battery 3.0 V	
<b>AC Adaptor</b> <sup>*13</sup>	<b>Input</b>	100 V - 240 V AC, 50 Hz/60 Hz	
	<b>Output</b>	15.6 V DC, 5.0 A	
<b>Power Consumption</b> <sup>*14</sup>		Approx. 35 W <sup>*15</sup> / Approx. 60 W (maximum when recharging in the ON state)	
<b>Environment</b>	<b>Operation</b>	<b>Temperature</b>	5 °C to 35°C {41 °F to 95 °F}
		<b>Humidity</b>	30% to 80% RH (No condensation)
	<b>Storage</b>	<b>Temperature</b>	-20 °C to 60 °C {-4 °F to 140 °F}
		<b>Humidity</b>	30% to 90% RH (No condensation)
<b>Physical Dimensions (W x H x D)</b>		302 mm x 64.3 mm x 273 mm (excluding protrusion) {11.9 " x 2.6 " x 10.7 "}	
<b>Weight (including the carrying handle)</b>		Approx. 3.69 kg {Approx. 8.14 lb.}	Approx. 3.56 kg {Approx. 7.85 lb.}

<sup>\*10</sup> Varies depending on the usage conditions, CPU speed, etc.

<sup>\*11</sup> Measured using BatteryMark™ Version 4.0.1 (LCD brightness: Maximum - Minimum)

<sup>\*12</sup> Measured using MobileMark™ 2002 (LCD brightness: 60 cd/m<sup>2</sup>)

<sup>\*13</sup> <Only for North America>

The AC adaptor is compatible with power sources up to 240 V AC adaptor. The computer is supplied with a 125 V AC compatible AC cord.

<sup>\*14</sup> Approx. 0.9 W when the battery pack is fully charged (or not being charged) and the computer is off.

Approx. 1.5 W when the Wake up from LAN function has been enabled.

<sup>\*15</sup> Rated power consumption

## ● Wireless LAN

<b>Data Transfer Rates</b> <sup>*16</sup>	IEEE802.11a: 54/48/36/24/18/12/9/6 Mbps (automatically switched)
	IEEE802.11b: 11/5.5/2/1 Mbps (automatically switched)
	IEEE802.11g: 54/48/36/24/18/12/9/6 Mbps (automatically switched)
<b>Standards Supported</b>	IEEE802.11a/IEEE802.11b/IEEE802.11g
<b>Transmission Method</b>	OFDM system, DS-SS system
<b>Wireless Channels Used</b>	IEEE802.11a: Channels 36/40/44/48/52/56/60/64/149/153/157/161/165
	IEEE802.11b/IEEE802.11g: Channels 1 to 11
<b>RF Frequency Band</b>	IEEE802.11a: 5.18~5.32 GHz, 5.745~5.825 GHz
	IEEE802.11b/IEEE802.11g: 2412~2462 MHz

<sup>\*16</sup> These are speeds specified in IEEE802.11a+b+g standards. Actual speeds may differ.

## ● Software

<b>Operating System</b>	Microsoft® Windows® XP Professional Service Pack 2 with Advanced Security Technologies	
<b>Utility Programs</b>	Setup Utility	Hard Disk Data Erase Utility <sup>*18</sup>
	DMI Viewer	SD Utility
	Microsoft® Windows® Media Player 10	Icon Enlarger
	Adobe Reader	Loupe Utility
	Intel® PROSet/Wireless Software <sup>*17</sup>	Hotkey Settings
	Panasonic Hand Writing	Battery Recalibration Utility
	PC Information Viewer	Wireless LAN Switch
	Hard Disk Backup Utility <sup>*18</sup>	Wireless Switch Utility

<sup>\*17</sup> Only for models with wireless LAN

<sup>\*18</sup> The Product Recovery CD-ROM is required.