Compaq iPAQ Desktop Personal Computer

Maintenance & Service Guide

Compaq iPAQ Desktop
Series of Personal Computers

COMPAQ

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Part Number: 221459-001

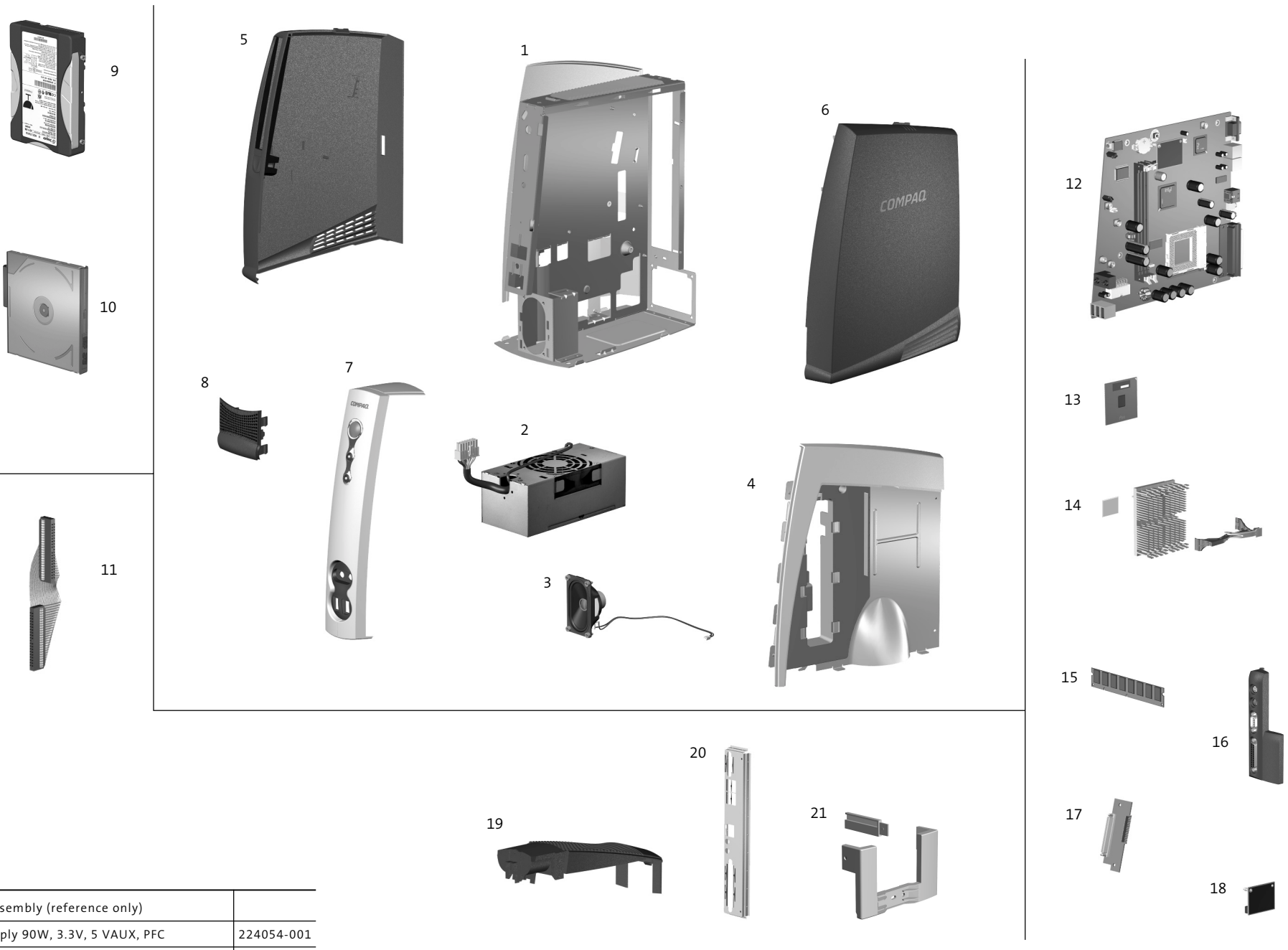
Spare Part Number: 231877-001

Documentation (Not shown)

Service Reference Guide	225698-001
Illustrated Parts Map/Maintenance & Service Guide	231877-001

Keyboards (Not shown)

Keyboard, USB, Carbon	222860-xx1
Keyboard, Internet, Carbon	164996-xx1
United States	-00x
French Canadian	-12x
Japanese (Kanji)	-29x
Latin American Spanish	-16x
Spanish (LA MERCO)	-C9x
PRC Chinese	-AAx
Taiwanese	-ABx
HK Chinese	-ACx



System Unit

1	Chassis assembly (reference only)	
2	Power supply 90W, 3.3V, 5 VAUX, PFC	224054-001
*	Power supply 90W, 3.3V, 5 VAUX	218980-001
3	Speaker	192518-001
4	Inner access panel (reference only)	

Plastics Kit

	Plastics Kit, includes:	228743-001
5	Left access panel	
6	Right access panel	
7	Front bezel	
8	Speaker grill	

Mass Storage Devices

9	10-GB hard drive with 4 screws	203139-001
*	10-GB hard drive (MultiBay)	220994-001
10	24X CD-ROM drive (MultiBay)	228746-001
*	LS 240 Diskette drive (MultiBay)	228747-001
*	250-MB ZIP drive (MultiBay)	221759-001
*	CD RW (MultiBay)	153992-001
*	8X DVD drive (MultiBay)	173949-001

Cables

11	Hard drive cable	228741-001

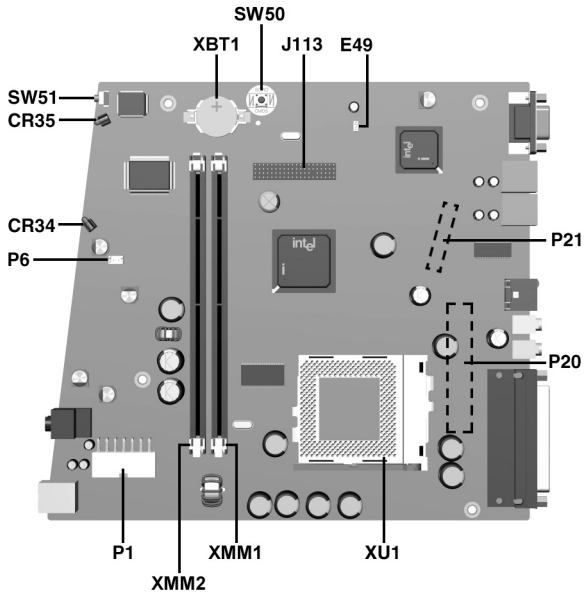
Standard and Optional Boards

12	System board (Legacy free)	226786-001
13	Processor, Intel, Celeron 700/66 with alcohol cleaning pad	230788-001
*	Processor, Intel PIII, 866/133 with alcohol cleaning pad	231784-001
14	Heatsink, clip, and thermal pad	230005-001
15	Memory module, 64 MB/133 MHz	170080-001
*	Memory module, 128 MB/133 MHz	170081-001
*	Memory module, 256 MB/133 MHz	192014-001
16	Legacy module	231611-001
17	MultiBay board	218593-001
18	Video cache board	226615-001
*	V92 Modem, USB, domestic	228196-001
*	V92 Modem, USB, international	228196-002

Miscellaneous Parts

*	Bezel, blank (MultiBay)	231612-001
*	RTC battery (CR2032)	153099-001
*	Mouse	165000-001
*	Mouse, USB	164999-001
*	Rubber foot (10 ea.)	141332-001
19	Top vent and lift handle (reference only)	
20	I/O panel assembly (reference only)	
21	Security bracket kit, includes bracket assembly, extension bar, security wrench, and two screws	230008-001
*	Return kit with buns and cardboard inserts	191439-001

** Not shown*



Connectors and Jumpers

CR34	Hard drive activity LED
CR35	Power On LED
E49	Clear password jumper
J113	Display cache connector
P1	Power supply connector
P6	Internal speaker connector
P20	Primary IDE connector
P21	Multibay connector
SW50	Clear CMOS switch
SW51	Power switch
XBT1	Internal battery socket
XMM1-2	Memory slots
XU1	Processor socket

System Interrupts (IRQ)

IRQ	System Resource
NM1	I/O channel check
0	Reserved, interval timer
1	Reserved, keyboard buffer full
2	Reserved, cascade interrupt from slave PIC
3	COM2* (user available if COM2 is not present)
4	COM1*
5	LPT2 (Plug and Play option)/audio/user available
6	Diskette drive controller

IRQ	System Resource
7	LPT1*
8	Real-time clock
9	User available
10	User available
11	User available
12	Onboard mouse port (if present, else user available)
13	Reserved, math coprocessor
14	Primary IDE (if present, else user available)
15	Seondary IDE (Multibay)

** Default, but can be changed to another IRQ.*

Clearing the CMOS

The computer's configuration (CMOS) may occasionally be corrupted. If it does, it is necessary to clear the CMOS memory using push button switch SW50.

To clear and reset the configuration, perform the following procedure:

1. Prepare the computer for disassembly.
2. Remove the right access panel.
3. Insert the eraser end of a pencil into the hole in the green plastic panel and press the CMOS switch. Keep the switch depressed for 5 seconds.
4. Replace the right access panel.
5. Turn the computer on.
6. Run F10 Computer Setup to reconfigure the system.

Pushing the CMOS button will reset CMOS values to factory defaults and will erase any customized information including passwords, asset numbers, and special settings.

Disabling or Clearing the Power-On Passwords

1. Turn off the computer and any external devices, and disconnect the power cord from the power outlet.
2. Disconnect the keyboard, monitor and any other external devices connected to the computer.
3. Remove the outer and inner right access panels.
4. Locate the header and jumper labeled E49.
5. Remove the jumper from pins 1 and 2. Place the jumper over one of the two pins only, in order to avoid losing it.
6. Replace the inner and outer right access panels.
7. Reconnect the external equipment.
8. Plug in the computer and turn on power. Allow the operating system to start. This clears the current passwords and disables the password features.
9. To re-enable the password features, repear steps 1-4, then replace the jumper on pins 1 and 2.
10. Repeat steps 6-8, then establish new passwords.

Refer to the Computer Setup (F10 Setup) instructions to establish new passwords.

Setting the Setup and Power-On Passwords

A. Setting the Setup Password provides access protection for the Computer Setup utility.
   1. Turn on the computer. When the <F10=setup> prompt appears in the right corner of the screen, press the F10 key.
   2. Select "Setup Password" and follow screen instructions.
   3. The password will be enabled after saving settings, exiting the utility, and rebooting the system.

B. Setting a Power-On Password.
   1. Turn on the computer. When the <F10=setup> prompt appears in the right corner of the screen, press the F10 key.
   2. Select "Power-On Password" and follow screen instructions.
   3. The password will be enabled after saving settings, exiting the utility, and rebooting the system.

System Memory Map

Address Range	Memory Address	Size	Description
1024K–524288K	100000–1FFFFFFF	511MB	Extended memory
960K–1024K	F0000-FFFFF	64KB	Runtime BIOS
896K–960K	E0000-EFFFF	64KB	Reserved
800K–896K	C8000-DFFFF	96KB	Available high DOS memory (open to PCI bus)
640K-800K	A0000-C7FFF	160KB	Video memory and BIOS
639K-640K	9FC00-9FBFF	1KB	Extended BIOS data (movable by memory manager software)
512K-639K	80000-9FBFF	127KB	Extended conventional memory
0K-512K	00000-7FFFF	512KB	Conventional memory

DMA

Hardware DMA	Data Width	System Function
0	8- or 16-bits	Audio
1	8- or 16-bits	Audio/Parallel port
2	8- or 16-bits	Diskette drive
3	8- or 16-bits	Parallel port (for ECP or EPP)/audio
4		DMA controller
5	16-bits	Open
6	16-bits	Open
7	16-bits	Open

I/O Map

Address (hex)	Size	Description
0000-000F	16 bytes	DMA controller
0020-0021	2 bytes	Programmable Interrupt Control (PIC)
0040-0043	4 bytes	System timer
0060	1 byte	Keyboard controller byte-reset IRQ
0061	1 byte	System speaker
0064	1 byte	Keyboard controller, CMD/STAT byte
0071-0071	2 bytes	System CMOS/Real Time Clock
0072-0073	2 bytes	System CMOS
0080-008F	16 bytes	DMA controller
0092	1 byte	Fast A20 and PIC
00A0-00A1	2 bytes	PIC
00B2-00B3	2 bytes	APM control
00C0-00D0	32 bytes	DMA
00F0	1 byte	Numeric data processor
0170-0177	8 bytes	Secondary IDE channel
01F0-01F7	8 bytes	Primary IDE channel
One of these ranges: 0200-0207 0208-020F 0210-0217 0218-021F	Can vary from 1 byte to 8 bytes	Audio/game port
One of these ranges: 0220-022F 0240-024F	 16 bytes 16 bytes	Audio (SoundBlaster Pro+ compatible)
0228-022F*	8 bytes	LPT3
0278-027F*	8 bytes	LPT2
02E8-02EF*	8 bytes	COM4/video (8514A)
02F8-02FF*	8 bytes	COM2
One of these ranges: 0320-0327 0330-0337 0340-0347 0350-0357	8 bytes	MPU-401(MIDI)
0376	1 byte	Secondary IDE Channel command port
0377, bit 6:0	7 bits	Secondary IDE Channel status port
0378-037F	8 bytes	LPT1
0388-038B	6 bytes	AdLib+(FM synthesizer)
03B0-03BB	12 bytes	Intel 82810e-DC100 Graphics/Memory Controller Hub (GMCHE)
03C0-03DF	32 bytes	Intel 82810e Graphics/Memory Controller Hub (GMCHE)
03E8-03EF	8 bytes	COM3
03F0-03F5	6 bytes	Diskette channel 1
03F6	1 byte	Primary IDE channel command port
03F8-03FF	8 bytes	COM1
04D0-04D1	2 bytes	Edge/level triggered PIC
One of these ranges: 0530-0537 0E80-0E87 0F40-0F47	8 bytes	Windows Sound System
LPTn+400h	8 bytes	ECP port, LPTn base address+400h
0CF8-0CFB**	4 bytes	PCI configuration address register
0CF9***	1 byte	Turbo and reset control register
0CFC-0CFF	4 bytes	PCI configuration data register
FFA0-FFA7	8 bytes	Primary bus master IDE registers
FFA8-FFAF	8 bytes	Secondary bus master IDE registers

Size and address	Description
96 contiguous bytes starting on a 128-byte divisible boundary	ICH (ACPI+TCO)
64 contiguous bytes starting on a 64-byte divisible boundary	Motherboard resource
64 contiguous bytes starting on a 64-byte divisible boundary	Onboard audio controller
32 contiguous bytes starting on a 32-byte divisible boundary	ICH (USB)
16 contiguous bytes starting on a 16-byte divisible boundary	ICH (SMB)
4096 contiguous bytes starting on a 4096-byte divisible boundary	Intel 82810AA PCI bridge

** Default, but can be changed to another address range.*

*** Dword access only*

**** Byte access only*

NOTE: Some additional I/O addresses are not available due to ICH addresses aliassing.