Illustrated Parts & Service Map

HP RP7 Retail System Model 7800

Key Specifications

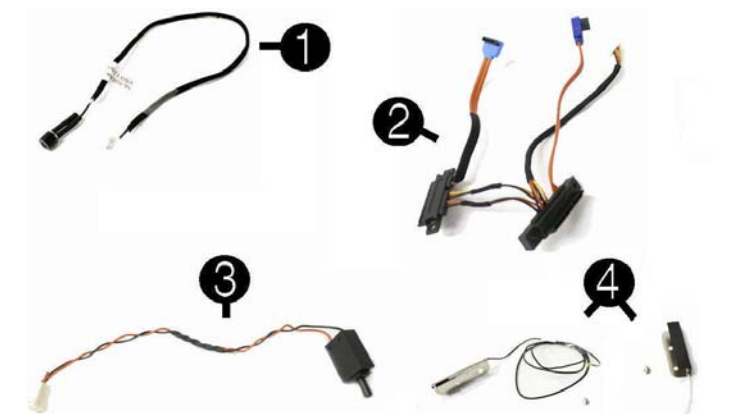|	
Processor Type	Intel® Core i5, i3, Pentium, Celeron
RAM Type	Non-ECC DDR3 PC3-12800 (1666 MHz) & PC3-10600 (1333 MHz)
Maximum RAM	16 GB
Display Options	• HP RP7 15 inch Resistive AFD Display • HP RP7 15 inch Capacitive AFD Display • HP RP7 17 inch Capacitive AFD Display
Chipset	Intel Q67 Express
Graphics Adapter	Integrated Intel HD graphics
Options	• HP Retail Integrated Fingerprint Reader • HP Retail Integrated Dual-Head MSR • HP Retail Integrated Webcam • HP RP7 10.4-inch CFD Display • HP RP7 VFD Customer Display • HP RP7 **Adjustable Stand**
I/O Interfaces	• 6 USB 2.0 • 2 USB+PWR 12V (1 available if VFD Customer Display installed) • 1 USB+PWR 24V (Printer) • 1 USB in lockable compartment • 1 RJ-12 Cash Drawer (dual drawers via optional Y cable) • 2 RS-232 Powered (+5V/+12V, F-10 Setup Configurable) • 1 Parallel port • 1 PS/2 (supports keyboard or mouse, both through a splitter) • 1 DVI-I for Secondary Display (not available if 10.4-inch CFD installed) • 1 RJ-45 10/100/1000 LAN • 1 Audio line-in • 1 Audio line-out (not available if 10.4-inch CFD installed and audio connected) • 1 DC-in (for power supply) • 1 DC-out (for HP RP7 10.4-inch CFD only) • 4 connectors for select HP integrated peripherals
Preinstalled Operating Systems	• Windows 7 Professional (32-bit or 64-bit) • Windows Embedded POSReady 2009 • Genuine Windows® Embedded POSReady 7 (32-bit or 64-bit)

Spare Parts

Plastics

1	Display head back panel	702769-001
2	Rear I/O cover	709678-001
3	Power supply cover	702787-001
4	Top panel, small (for top rear of display)	702770-001
5	VESA plate cover	716045-001
	In Mold Decoration (IMD; customizable) covers:	
6	Panel with hole (for bottom rear on models with VFD)	702781-001
7	Panel without hole (for bottom rear on models without VFD)	702786-001
*	Power adapter, 180W (does not include power cord, not illustrated)	702778-001
*	Power adapter, 180W (includes 6 ft power cord, not illustrated)	736170-001

* Not shown

Cables

1	Hard drive LED cable assembly	702777-001
2	Hard drive harness cable assembly	702776-001
3	Hood sensor	702772-001
4	Antenna kit	702771-001

*Not shown

Mass Storage Devices (not illustrated)

500 GB, 7200 rpm SATA hard drive	686217-001
320 GB, 7200 rpm SATA hard drive	639135-001
256 GB Solid State Drive (SSD)	661842-001
128 GB Solid State Drive (SSD)	665961-001
64 GB Solid State Drive (SSD)	711906-001
32 GB MLC Flash, 2.5-in (mSATA SSD)	686616-001

System Boards, Memory, Processors (not illustrated)

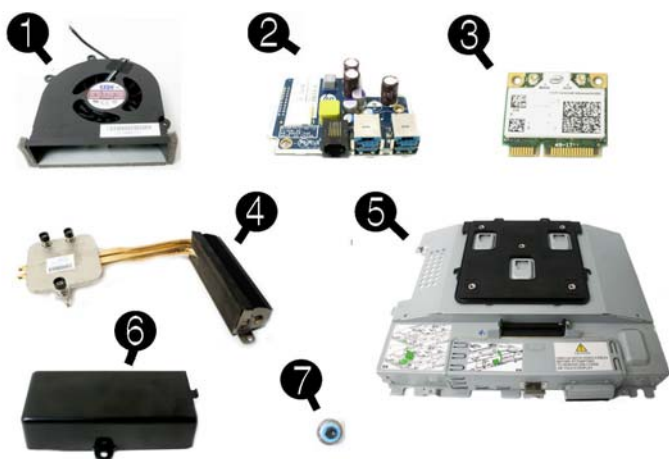|		
System board (includes replacement thermal material)		
*	System board for use in models without Windows 8 operating systems	674783-001
*	System board for use in models with Windows 8.1 Professional	674783-601
*	System board for use in models with Windows Embedded 8.1 Industry	674783-701
Memory modules (PC3-12800, CL11, SODIMM)		
*	8 GB	689374-001
*	4 GB	689373-001
*	2 GB	689372-001
Processors (include thermal replacement material)		
*	Intel Core i5 2400S processor, 2.5 GHz, 65W	640953-001
*	Intel Core i3 2120 processor, 3.3 GHz, 65W	638629-001
*	Intel Pentium Dual-Core G850 processor, 2.9 GHz, 65W	655973-001
*	Intel Celeron G540 processor, 2.5 GHz	665119-001

System Board

System Board Connectors and Jumpers (component location may vary)

P181	Display connector	PAR	External parallel port connector
CR59	Power connector	USB/RJ45	External network/USB connector
PSWD	Password header	USB	External USB connectors
CMOS	CMOS button	PWRCOMB	External powered serial port
SATA0	1st hard drive	PWR	Main external power connector
XBT	RTC battery slot	+24VUSB1	External powered USB connector
SATA1	2nd hard drive	USB	External USB connectors
SATA PWR0	SATA drive power connector	F13:4A/30V	USB+PWR 24V and Cash Drawer port daughter card connector
X1PCIEXP1	PCIe X1 slot	HSENSE	Hood sensor connector
XU1	Processor socket	CPUFAN	Main fan connector
SPKR	Speaker connector	XMM3	Memory socket - Channel B
IN/OUT	Audio connectors	XMM1	Memory socket - Channel A
DVI	External DVI connector		

Accessories

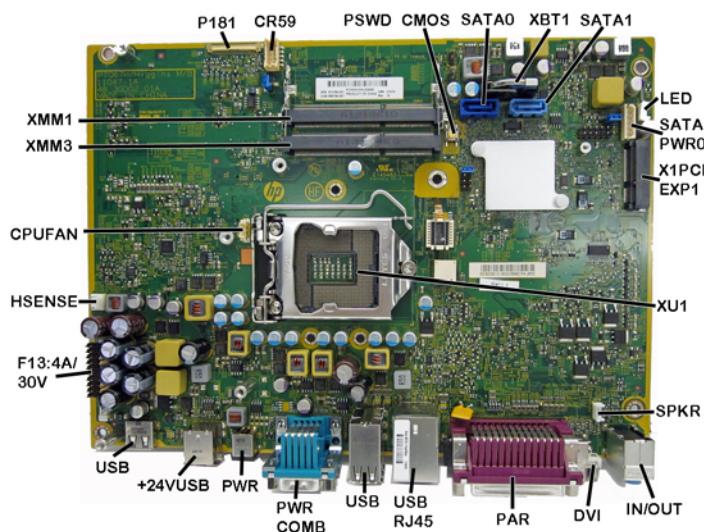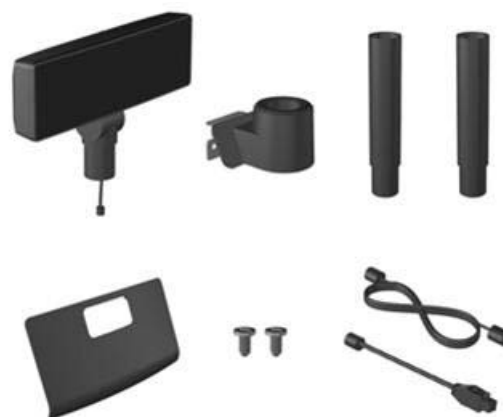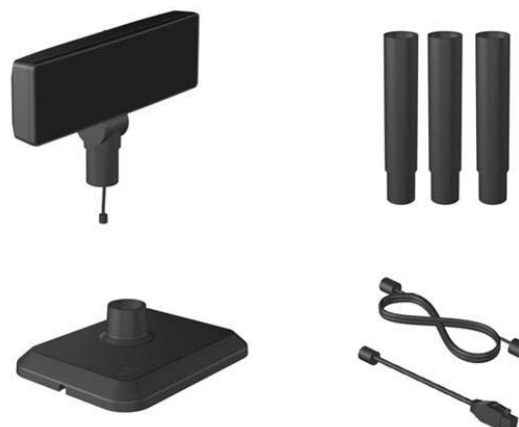| 1	Base	not spared
2	VFD customer display, pole	702783-001
3	Retail integrated webcam for live video functions	695661-001
4	Retail integrated fingerprint reader to add security identification functions	739189-001
5	Retail integrated dual-head magnetic stripe reader for card data read	690685-001
6	VFD customer display, bracket	702784-001
7	Display, customer-facing (CFD), 10.4 inch	667837-001
*	Display, associate-facing (AFD), 15 inch capacitive	667839-001
*	Display, associate-facing (AFD), 15 inch resistive	667838-001
8	Display, associate-facing (AFD), 17 inch capacitive	667841-001
9	Bracket for HP Retail RP7 10.4" Customer Display	703269-001
10	Cable kit for HP Retail RP7 10.4" Customer Display, includes: - USB A cable - DC-in cable - DVI-D cable - Audio cable	702782-001
11	VFD customer display, cable kit - USB power cable - VFD cable	702785-001
*	HP Retail Integrated Barcode Scanner (not illustrated)	733520-001

VFD Kit

VFD Kit

VFD kit, includes the follow parts: - VFD customer display - Display bracket - Poles (2) - IMD panel - Screws - Cable kit	695662-001

Stand-alone VFD Kit

Stand-alone VFD Kit

Stand-alone VFD kit, includes the follow parts: - VFD customer display - Poles (3) - Stand - Cable kit	695665-001

Miscellaneous Parts

1	Blower	702774-001
2	USB+PWR 24V and Cash Drawer port daughter card	702775-001
3	HP WLAN 802.11 a/b/g/n 2x2 PCIe module	695915-001
*	Intel 640x 802.11 a/b/g/n PCIe module	717382-001
4	Heat sink (includes replacement thermal material)	702773-001
5	EMI shield (metal plate), display head	702780-001
6	USB security cover for secured USB port on I/O panel	702779-001
7	Grommet, hard drive	594220-001
*	Speaker	730571-001
*	Rubber foot and screw kit	702788-001
*	HP Value Stand	739188-001

Not shown

Password Security

Establishing a Setup or Power-On password:

1. Turn on or restart the computer.
2. As soon as the computer turns on, press the **Esc** key while "Press the ESC key for Startup Menu" message is displayed at the bottom of the screen.
3. Press the **F10** key to enter Computer Setup.
4. To establish Setup password, select **Security > Setup Password** and follow the instructions. To establish a Power-On password, select **Security > Power-On Password** and follow the instructions on the screen
5. Before exiting, click **File > Save Changes and Exit**.

Resetting a Setup or Power-On password:

1. Turn off the computer and disconnect the power cord from the power outlet.
2. Remove the access panel.
3. On the system board, locate the header labeled PSWD.
4. Remove the jumper from the header.
5. Replace the jumper.
6. Replace the chassis access panel and reconnect the power cord.
7. Turn on the computer and allow it to start.

Clearing CMOS

1. Turn off the computer and disconnect the power cord from the power outlet.
2. Slide the rear cover off the computer.
3. Open the memory door.
4. Reach in, press, and hold the CMOS button in for five seconds. You can access the CMOS button after removing the memory door.
5. Close the memory cover, replace the rear cover, and reconnect the power cord.
6. Turn on the computer and allow it to start.

Common POST Error Messages

Screen Message	Probable Cause	Recommended Action
101-Option ROM Error	1. System ROM checksum error. 2. Expansion board option ROM checksum	1. Verify ROM, reflash if required 2. Remove suspected card, reboot 3. Clear CMOS memory, reboot 4. Replace system board
103-System Board Failure	DMA, timers	1. Clear CMOS memory. 2. Remove expansion boards. 3. Replace system board.
163-Time & Date Not Set	Invalid time or date in configuration memory. RTC battery may need to be replaced.	Reset the date and time under Control Panel (Computer Setup can also be used). If the problem persists, replace the RTC battery.
164-Memory Size Error and 201-Memory Error	Incorrect memory configuration	1. Run Setup (F10). 2. Check DIMMs for proper seating, type, and HP compatibility. 3. Remove DIMMs singularly and reboot to isolate faulty DIMM. 4. Replace system board.
214-DIMM Configuration Warning	Populated DIMM configuration is not optimized	Rearrange the DIMMs so that each channel has the same amount of memory.
301-, 304-Keyboard error	Keyboard failure.	Check keyboard connection or keys. Check connector for bent of missing pins. Replace keyboard. If 304, possible system board problem.
501-Display Adapter Failure	Graphics display controller.	1. Reseat graphics card. 2. Clear CMOS. 3. Check monitor connection. 4. Replace graphics card.
1720-SMART Hard Drive Detects Imminent Failure	Hard drive is about to fail.	1. Determine if hard drive is giving correct error message. Enter Computer Setup and run the Drive Protection System test under **Storage > DPS Self-test**. 2. Apply hard drive firmware patch if applicable. 3. Back up contents and replace hard drive.

Diagnostic LEDs

LED	Color	LED Activity	State/Message
Power	Green	On	Computer on
Power	Green	1 blink every 2 seconds.	Normal Suspend Mode.
Power	Red	1 blink every second followed by a 2 second pause.	CPU thermal shutdown.
Power	Red	3 blinks, 1 blink every second followed by a 2 second pause.	Processor not installed.
Power	Red	4 blinks, 1 blink every second followed by a 2 second pause.	Power failure (power supply overload).
Power	Red	5 blinks, 1 blink every second followed by a 2 second pause.	Pre-video memory error.
Power	Red	6 blinks, 1 blink every second followed by a 2 second pause.	Pre-video graphics error.
Power	Red	7 blinks, 1 blink every second followed by a 2 second pause.	System board failure (ROM).
Power	Red	8 blinks, 1 blink every second followed by a 2 second pause.	Invalid ROM based on Checksum.
Power	Red	9 blinks, 1 blink every second followed by a 2 second pause.	System powers on but is unable to boot.
Power	Red	12 blinks, 1 blink every second followed by a 2 second pause.	Health timer expired.
none	none	System does not power on and LEDs are not flashing.	System unable to power on.

System Setup and Boot

Access the Setup Utility during the computer boot sequence by pressing the **F10** key at boot

Computer Setup Menu

Heading	Option/Description
File	System Information - Lists the following main system specifications: • Product name • System BIOS • SKU number (some models) • Chassis serial number • Processor type/speed/stepping • Asset tracking number • Cache size (L1/L2/L3) • ME firmware version • Installed memory size/speed/chan • ME Management mode • Integrated MAC Address
	About - Displays copyright notice.
	Set Time and Date - Allows you to set system time and date.
	Flash System ROM - Allows you to select a drive containing a new BIOS.
	Replicated Setup - Save to Rmvble Media and Restore from Rmvble Media
	Default Setup: • Save Current Settings as Default • Restore Factory Settings as Default
	Apply Defaults and Exit - Applies the selected default settings and clears any established passwords.
	Ignore Changes and Exit - Exits Computer setup without saving changes.
	Save Changes and Exit - Saves changes to system configuration or default settings and exits Computer Setup.
Storage	Device Configuration - Lists all installed BIOS-controlled storage devices. The following options are available: • Hard Disk - Let you view drive size, model, firmware version, serial number, connector color, SMART. Also lets you set Translation Mode (Automatic, Bit-Shift, LBA Assisted, User, and Off). • SATA Defaults - lets you set Translation Mode (Automatic, Bit-Shift, LBA Assisted, User, and Off).
	Storage Options • SATA Emulation - IDE, RAID, or AHCI. • Removable Media Boot - Enables/disables ability to boot the system from removable media.
	DPS Self-Test - Allows you to execute self-tests on ATA hard drives.
	Boot Order - Allows you to specify boot order. • Shortcut to Temporarily Override Boot Order
Security	Setup Password - Allows you to set and enable the setup (Admin) password.
	Power-On Password - Allows you to set and enable power-on password.
	Password Options - When any password exists allows you to lock legacy resources, enable/disable Setup Browse Mode, set password prompt, enable/disable network server mode, specify password requirement for warm boot, and set stringent passwords.
	Smart Cover (some models) - Allows you to lock/unlock cover lock and set status of cover removal sensor.
	Device Security - Allows you to set Device Available/Device Hidden for: embedded security devices, serial and parallel ports, system audio, network controller, and SATA ports.
	USB Security - Allows you to set Device Available/Device Hidden for front monitor/USB hub ports, rear RJ45/USB ports and 4 stack USB ports, and accessory power USB ports.
	Slot Security - Allows you to disable the PCI Express x1 slot.
	Network Boot - Enables/disables boot from OS (NIC models only).
	System IDs - Allows you to set Asset tag, Ownership tag, UUID, and keyboard locale setting.
	Master Boot Record Security - Enable/disable master boot record security.
	System Security (some models) - Allows you to enable/disable: • Data Execution Prevention (enable/disable) • Virtualization Technology (VTx) (enable/disable) • Virtualization Technology Directed I/O (VTd) (enable/disable) • Intel TXT (LT) (enable/disable) • Embedded Security Device Support (enable/disable) • OS management of Embedded Security Device (enable/disable) • Reset of Embedded Security Device through OS (enable/disable)
	DriveLock Security - Allows you to assign or modify a master or user password for hard drives.
Power	OS Power Management - Allows you to enable/disable Runtime Power Management, Idle Power Savings, Unique Sleep State Blink Rates.
	Hardware Power Management - Allows you to enable/disable SATA bus power management and S5 maximum power savings.
	Thermal - Allows you to control minimum fan speed.
Advanced	Power-On Options - Allows you to set: • POST mode-QuickBoot, FullBoot, Clear Memory, FullBoot every x days • POST messages - Enable/disable • Press the ESC key for Startup Menu - Enable/disable • Option ROM prompt - Enable/disable • After Power Loss - Off/on/previous state • POST Delay - None, 5, 10, 15, or 20 seconds • System Recovery Boot Support - Enable/disable • Remote Wakeup Boot Source - Remote server/local hard drive • Bypass F1 Prompt on Configuration Changes - Enable/disable
	BIOS Power-On - Allows you to set the computer to turn on at a preset time.
	Onboard Devices - Allows you to set: • resources or disable Legacy devices • powered serial port voltage settings - set to 0V, +5V, +12V
	Bus Options (some models) - Allows you to enable/disable PCI SERR# Generation and PCI VGA palette snooping.
	Device Options - Allows you to set: • Turbo Mode - enable/disable • Printer Mode - Bi-Directional, EPP & ECP, Output Only • Num Lock State at Power-on - off/on • Integrated Video - enable/disable • Internal Speaker - enable/disable • NIC Option ROM Download - enable/disable • Multi-Processor - enable/disable • System Health Timer - enable/disable • Cash Drawer Port - Enable/disable • Hard Drive Activity LED - enable/disable
	VGA Configuration - Displayed only if there are multiple PCI video adapters in the system. Allows you to specify which VGA controller will be the "boot" or primary VGA controller.
	AMT Configuration - Allows you to set: • AMT-enable/disable functions of the embedded Management Engine (ME) such as Active Management Technology (AMT). • Unconfigure AMT/ME-unconfigure any provisioned management settings for AMT. • Watchdog Timer-set amount of time for a operating system and BIOS watchdog alert to be sent if the timers are not deactivated.