



Dell System 220/220e

Specifications

Processor

- Intel 80286/20/8MHz

Memory

- 1MB standard, expands to 16MB

I/O Expansion Slots

- 3-16 bit slots

Diskette Drive

- 1.2MB diskette drive

Integrated Features

- Parallel, 2-serial, keyboard, VGA

Internal Expansion Bays

- 220: 2-user accessible drives bays, 1-internal
- 220e: 1-user accessible, 1-internal drive bay

I/O Architecture

- Industry Standard Architecture ISA

Power Supply

- 220: 85 or 100 watt, 220e: 85 watt

Diagnostics

- Normal Post Diags performed on Power UP of system.
- Dell system support diskette or QAPLus/FE software
- Troubleshoot according to errors found during test

CMOS Access

- QAPLus/FE

Tools and Software Requirements

- Flat bladed screwdriver
- Needle nose pliers
- Anti-static wrist strap
- Diagnostics and formatted blank diskettes

Removal Procedures

Before beginning removal complete the following steps.

1. Turn off the computer and any peripheral devices.
2. Disconnect AC power cord from outlet and system
3. Disconnect all peripheral devices from computer

System Cover

How to remove the cover:

1. Unlock the security key lock
2. Remove 3 screws on each side of the cover
3. Pull the cover towards the front of the system

System Board -- Jumper Settings - System 220

Function	Jmpr	Jmpr	Jmpr
----------	------	------	------

Base Memory	W10	W12	W13
640KB	1	1-2	2-3
256KB	1-2	2-3	1-2

Ports	W4		
Serial 1	3-4		
Serial 2	1-2		
Parallel 1	7-8		
Parallel 2	5-6		

Diskette Drive Controller	W6		
Enabled	1-2		
Disabled	1 only		

On-Board Video	W11		
Enabled	1 only		
Disabled	1-2		

Adapter Card	W1		
Color	1-2		
Mono	1 only		

Hard Disk Drive Support	W5		
Enabled	1-2		
Disabled	1 only		

Hard Disk Drive Interrupt	W7		
1:1 interleave	2-3		
3:1 interleave	1-2		

Math Coprocessor	W15	W16	
8MHz	1-2	1 only	

System Board -- Jumper Settings - System 220e

Jumper	Settings	Function
--------	----------	----------

Memory		
W13	1-2 unjumpered *	XMA input to Port 92 PAL
W15	1-2 * 2-3	Turns on all memory Turns off memory to 256K
W16	1-2 2-3 *	Turns off memory to 256K Turns on all memory

Video		
W1	1-2 * unjumpered	Color monitor installed Monochrome mon. Installed
W10	1-2 * 2-3	VGA turned on VGA turned off

Reset/Maintenance		
W2	1-2 unjumpered *	Maintenance test mode on Maintenance test mode off
W12	1-2 unjumpered *	Short causes system reset Normal operation

BIOS ROM Size		
W14	1-2 * 2-3	512KB ROMs 256KB ROMs

Base Memory		
W10	unjumpered 1-2	640KB 256KB
W12	1-2 2-3	640KB 256KB
W13	2-3 1-2	640KB 256KB

Ports	W4
Serial 1	3-4
Serial 2	1-2
Parallel 1	7-8
Parallel 2	5-6

Diskette Drive Controller	W6
Enabled	1-2
Disabled	1 only

On-Board Video	W11
Enabled	1 only
Disabled	1-2

Adapter Card	W1
Color	1-2
Mono	1 only

Hard Disk Drive Support	W5
Enabled	1-2
Disabled	unjumpered

Hard Disk Drive Interrupt	W7
1:1 interleave	2-3
3:1 interleave	1-2

Math Coprocessor	W15	W16
8MHz	1-2	1 only

Diskette Drive C	
Enables	1-2
Disabled	1 only

Hard Disk Drive Support		
W6	1-2* unjumpered	Turns on hard drive support Turns off hard drive support
W8	1-2 2-3 *	Drive pulled low to GND Drive pulled high to VCC
W9	1-2 * 2-3	1:1 type B drives 3:1 type A drives
W11	1-2 unjumpered *	Master slave no support Single hard drive

Diskette Drive Support		
W7	1-2 unjumpered *	Turns on diskette drv support Turns off diskette drv support

Ports		
W3	unjumpered *	Port input to P82C604 Pin4
W4	unjumpered *	Reads status port C
W5	1-2 * 3-4 * 5-6 7-8 *	640KB 256KB 640KB 256KB

* Default

Field Replaceable Units

Memory	OEM Part	IBM Part
2MB SIMM	27594	22H3480
2MB SIMM	20510	22H2668

Controller	OEM Part	IBM Part
IDE Dual Cntrlr	60548	49H3809
FD ext 5.25 w/ cbl	41776	22H3697

Internal Hard Drive Size	OEM Part	IBM Part
40MB IDE 3.5	18814	22H2871
40MB IDE 3.5	42081	47H3875
50MB IDE 3.5	17694	49H7627
80MB IDE 3.5	19879	22H2759
80MB IDE 3.5 Quantum	29278	49H3951
80MB IDE 3.5	28880	49H6950
80MB IDE 3.5 Conner	42725	47H3866
100MB IDE 3.5	43203	68H2694
100MB 3.5 IDE 1:1	42082	47H3863
100MB IDE 3.5 Quantum	43322	49H6323
120MB IDE 3.5	27546	22H2882
120MB IDE GNRC	28881	22H2923
170MB IDE 3.5	27543	22H2772
190MB IDE 3.5 Maxtor	42762	93F5800
230MB IDE	32813	49H0102
230MB IDE 3.5 Quantum	23540	22H2767
320MB IDE 3.5	30802	22H3291
320MB IDE 3.5	30665	47H7591

System Bds.	OEM Part	IBM Part
220 w/o BIOS/mem	60516	22H3498
220 w/BIOS/1MB	60370	49H3802
220E w/o BIOS/MEM	60551	22H3499
220E w/BIOS/1MB	60375	22H3500

Tape Drives	OEM Part	IBM Part
150/250MB int. cntrlr	42062	22H2737
TBU 40/120MB CMS cntrlr	19496	22H2555
150/250MB tape drive	14861	22H2735
150/250MB external	17392	22H2518
Adapter f/ 40MB int/ext	41650	22H2519
40MB archive external	41685	49H1326

Diskette Drives	OEM Part	IBM Part
3.5 (3.5) Sys 220 w/o cbl	41585	22H2755
5.25MB	26590	22H3146
5.25 ext drive w/ cbl	41775	49H1418

Miscellaneous	OEM Part	IBM Part
Pwr Supply 85W	14944	22H3256
Lithium (chip bd. mount)	20610	47H4786
Lithium (round bd mount)	20438	48H7830
2400bd internal	43154	22H2740
9600 bd int. w/ sw	29801	22H2822
9600 bd external	22300	22H2823

Video Boards	OEM Part	IBM Part
1024/256 color	43072	22H2726
ATI Ultra video board	17696	22H2798
Vantage Video Board	18692	22H3457
Number 9 GXI	30472	22H2729
Ultrasaca	27239	47H5917
Monographics CD	40385	68H2344
EGA w/ chip Video 7	40395	68H2356
VGA 8-bit Paradise	41638	22H2730
VGA 16-bit Paradise	41764	49H1416
VGA 16-bit Video 7	41779	49H1420
VGA w/ Dell BIOS	43088	68H2685
CGA/Mono PVC2 Paradise	41700	31F0747
CGA/Mono PVC4 Paradise	40491	49H0848

Microprocessors	OEM Part	IBM Part
80287-8	20041	68H0302
80287XL	21938	22H3451

Cables	OEM Part	IBM Part
4 wire	40012	49H0670
Data, low profile chassis	42124	49H1511
Floppy drv.	41605	66H9694
Floppy drv.	14644	48H6783
GPX/VGA Assy	42357	49H1535
Hard drive IDE 40 pin	41755	49H1390
hard drive data	41604	49H1284
keylock microswitch	42123	49H1510
LED low profile chassis	41765	49H1417
LED SDT CR	43383	49H1588
LED Sys 220	41603	49H1283
LED low profile chassis	41765	49H1417
Parallel printer	40019	55H1157
Ribbon Wangtek	16637	48H7167
TBU 40MB ext. 34 pin	41788	66H9745
Tape/cont 40MB int	42061	49H1504