



Dell System 310/310R

Specifications

Processor

- Intel 80386/20

Memory

- 1MB standard, expands to 16MB

I/O Expansion Slots

- 2-8 bit and 6-16 bit expansion slots

Diskette Drive

- 1.2MB diskette drive

Integrated Features

- Parallel, 2-serial, keyboard, VGA, speaker

Internal Expansion Bays

- 2-user accessible bays, 2-internal bays

I/O Architecture

- Industry Standard Architecture ISA

Power Supply

- 200 watts

Diagnostics

- Normal Post Diags performed on Power UP of system.
- Instead of Dell system support diskette use QAPlus/FE.
- 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

Jumper Settings WD1003-WA2 Card

Jumper	Function
E2 -E3*	Selects primary addresses
E5-E6*	Selects primary addresses
E1-E2	Selects secondary address
E4-E5	Selects secondary address
E7-E8	BIOS selects data transfer rate, controller supports all data rates
E8-E9	300Kbps data rate not supported, controller automatically switches to 250Kbps when 300Kbps rate is selected

* Do not remove primary address jumpers unless the OS is configured to accept two hard disk drive controllers.

Jumper Settings WD1007A-WA2/WAH Card

WA2 Jmpr	Pin	WAH Jmpr	Pin	Function
W1	2-3	W1	2-3	BIOS addr (C8000-C9FFF)
W2	2-3	W2	2-3	BIOS addr (C8000-C9FFF)
W3	jmpr	W3	jpr	BIOS shadow RAM on
W4	no jpr			Dsktte drv cntrlr on
W5	no jpr			single spindle speed on
W6	2-3			Dsktte drv addr (3FX)
W7	1-2			Dsktte drv type
W8	no jpr	W8	no jpr	WD1007 mode
W9	no jpr	W9	no jpr	Chassis not connected
W10	no jpr	W10	no jpr	Digital input unlatched
W11	jpr	W11	no jpr	Dsktte change on
W12	no jpr	W12	no jpr	Secondary addr (1FX)
W13	uncut			Dsktte drv cntrlr on etch
W14	no jpr	W14	no jpr	Sector translation on
W15	no jpr	W15	no jpr	ECC length (4 bytes)

Note: WD1007A-WA2 supports up to 2 diskettes & 2 hard drives. The WD1007A-WAH supports up to 2 hard drives.

Address Select

Jumper Settings WD1003-WAH/WA2 Card

W1	W2	W3	Function
2-3	2-3	Jumper	BIOS addr. C8000-C9FFF
2-3	1-2	Jumper	BIOS addr. CA000-CBFFF
1-2	2-3	Jumper	BIOS addr. CC000-CDFFF
1-2	1-2	Jumper	BIOS addr. CE000-CFFF
		W6 1-2 2-3	diskette range 37X diskette range 3FX
		W12 No jpr Jumper	Pri/Sec HD addr 1FX Pri/Sec HD addr 17X

Configuration Switches

Name	Bit	Function
A20GATE	0	controls protected mode
FLUSH_CACHE	1	directs the 82385 cache cntrlr
SLOWMODE	2	switches speed from 4.77-8MHz
COLORCRT	3	turns on primary display adap.
ENCOM1	4	turns on COM1
ENCOM2	5	turns on COM2
ENLPT1	6	turns on LPT1
Reserved	7	Reserved

I/O Address Map System Board

HEX	Function
000-01F	DMA controller 1, 82C206
020-03F	Interrupt controller 1, 82C206
040-05F	Programmable interval timer, 82C206
060-06F	keyboard controller, 8742
070-07F	RTC,NMI
080-09F	DMA page register, 82C206
0A0-0BF	Interrupt controller 2, 82C206
0A4, 0A5	Configuration register
0C0-0DF	DMA controller 2, 82C206
0F0	80387 busy
0F1	80387 reset
0F8-0FF	80387 ports

Removal Procedures

Before beginning removal complete the following steps.

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

Field Replaceable Units

Memory	OEM Part	IBM Part
1MB SIMM (4-256K)	20908	22H3466
4MB SIMM (4-1MB)	20510	22H2668
Memory Exp. Bd.	60549	68H3962

Diskette Drives	OEM Part	IBM Part
3.5 (5.25) w/o cable	42756	22H2673
5.25MB	26590	22H3146
5.25 360KB	40154	22H3452

Controller	OEM Part	IBM Part
IDE Dual Cntrlr	60548	49H3809
Dual HD/FD ESDI	16194	22H2857
SCSI Cntrlr	35837	22H2816
Dual 1003V-MM2	42059	48H2558
Dual HD/FD ESDI 1007	41531	48H2568
Dual WD 1003-WA2 ST506	40145	11F9145
ESDI 120MHz 15bps	42761	22H2865
FD ext 5.25 w/ cbl	41776	22H3697
MD ESDI Single	40427	22H3463
SCSI	63612	22H3579

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
150/250 Wangtek	42757	22H2736
320/525MB int	14259	22H2738
4GB DAT int w/o cntrlr	19994	22H2739
2/4GB DAT int w/o cntrlr	16741	22H2808
4GB DAT ext w/o cntrlr	19992	22H3606
2/4GB DAT ext w/o cntrlr	16742	22H2809

Internal Hard Drive Size	OEM Part	IBM Part
Dell drive rails	62320	49H3925
90MB ESDI half height	41626	48H1905
150MB ESDI	40426	48H1934
330MB ESDI 5.25	42449	47H8330
650MB ESDI 5.25	42448	22H3012
20MB ST506 5.25	40194	11F9101
40MB CDC MFM	40300	48H1915
40MB IDE 3.5	18816	22H2677
40MB IDE 5.25	42069	47H3875
40MB 5.25 IDE 1:1	42425	48H1903
80MB IDE Conner	43200	68H2692
80MB IDE 5.25	19880	49H4942
100MB IDE 5.25 Quantum	19882	22H2685
100MB 5.25 IDE	42070	47H3863
120MB IDE 5.25	27547	22H2687
170MB IDE 5.25	27542	22H2689
190MB IDE Maxtor	43450	22H2692
230MB IDE	32814	22H2698
320MB IDE	30803	22H2700
320MB IDE	30666	48H7156
330MB IDE	29067	22H2710
500MB IDE 5.25	19539	22H2706
200MB SCSI 5.25	43122	22H2712
700MB SCSI	35512	22H2714

System Bds.	OEM Part	IBM Part
310	60512	22H3561
310 BIOS 1MB	60360	22H3562
310 BIOS 1MB	60366	49H3801
310R W/O BIOS/MEM	60626	22H3559
310R W/BIOS/1MB	62963	22H3563
310R W/BIOS/4MB	62964	68H4185

Video Boards	OEM Part	IBM Part
1024/256 color	43072	22H2726
1024/256 opt. card	43071	22H2726
1024/16 color card	43073	22H2552
ATI Ultra video board	17696	22H2798
Vantage Video Board	18692	22H3457
Number 9 GXI	30472	22H2729
VGA 16-bit sigma	63589	22H2730
Monographics CD	40385	68H2344
EGA w/ chip Video 7	40395	68H2356
VGA 8-bit Paradise	41638	22H2730
VGA 16-bit Paradise	41764	49H1416

Video Boards	OEM Part	IBM Part
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
3167-25MHz	20871	22H3550
80387-10 Sys 310	21396	22H3551
WTK3167-20 Sys 310	20525	22H3564

Cables	OEM Part	IBM Part
4 wire	40012	49H0670
Floppy drive	40471	49H0846
Hard drive IDE 40 pin	41755	49H1390
hard drive	40470	49H0845
hard drive IDE	42087	49H1509
SCSI LG chassis	43263	66H9848
SCSI MDT	43352	66H9849
Tape/cont 40MB int	42061	49H1504

Miscellaneous	OEM Part	IBM Part
Pwr Supply 200W	40403	22H3458
Alkaline 4.5V	20409	48H7821
9600bd int. w/ sw	29801	22H2822
9600 bd external	22300	22H2823