T3200
(No longer manufactured)

General Information

Model number:	PA7039U (FCC ID# CJ69XAE492)
Dimensions:	14.6"W x 15.6"D x 3.9"H
Weight:	19 lbs.
Voltage:	115 (104 to 127) VAC, 2.5A
	230 (207 to 253) VAC switch selectable
Frequency:	50/60 (49 to 61) Hz
CPU:	80286-12 (12/6MHz); 80287-8 coprocessor socket
RAM memory:	1MB RAM standard (640K Conventional; 384K LIM-EMS 3.2)
	Memory expandable to 4MB when optional 3MB memory card is added
Video RAM:	256KB
Number of keys:	85
Keyboard type:	Internal PC, external 101-key enhanced keyboard port
Drives:	One 1.44MB 3.5" floppy disk drive (later models) or
	One 720KB 3.5" floppy disk drive (earlier models)
	One 40MB hard disk drive
Operating system included:	Toshiba MS-DOS 3.2, 3.30, or 4.01

Software Compatibility

Compatible with software written for the IBM PC/XT/AT using MDA, EGA, CGA, Hercules monochrome, or T3100/AT&T 6300 640 x 400 high resolution graphics mode

Interfaces

RGB color video port (CGA, EGA, MDA, Hercules monochrome)
RS-232-C serial port
101-key keyboard port
Parallel printer/external diskette or tape drive port
Toshiba proprietary memory slot
2 expansion interface slots (one IBM PC/ XT/286 compatible full length low profile 16 bit ISA slot, one IBM PC/XT compatible half length low profile 8 bit ISA slot)

Orange Gas Plasma Display

Display area:	8.5"W x 5.75"H; 10.25" diagonal
Resolution:	720 x 400
Gray scales:	4
Contrast:	10 : 1

3.5" 40MB Hard Disk Drive

Fujitsu HDD:	M2227DT
Number of heads:	8
Number of cylinders:	615
Average access time:	38 ms
Recording method:	MFM
Interleave:	3 : 1
TEST3 setup type:	4

T3200 (continued)

IBM Compatible Expansion Slots
One full length IBM PC/XT/286 16-bit slot low profile ISA slot; One IBM PC/XT half length low profile 8-bit ISA slot
Combined power for both slots: + 5 V   2A
                                       +12 V   0.6A
                                       - 5 V and -12 V total of 0.2A

Maximum card sizes:

                 16-bit long slot   333.502mmL +/- .5mm x 106.68mmW
                 99.06mmW +/- .3mm w/o connector
                 33mmH or 13mmH if short slot used
                 8-bit short slot   140mmL x 13mmH, width same as 16 bit

Soft Switches
1) Change CPU speed
Fn + Ctrl + PgUp   12MHz CPU speed
Fn + Ctrl + PgDn   6MHz CPU speed
2) Character font
Fn + Right arrow   Toggles display font
3) Display select
Fn + End   External display
Fn + Home   Plasma display
4) Extending the display area
Fn + Down arrow Toggles between 350 and 400 rows

Hardware Switches and Controls
1) Power on/off
Located on back of computer
2) A/B/PRT switch
Located on back of computer
With switch set to "A", external FDD port is accessed as drive A; internal 3.5" FDD as drive B.
With switch set to "B", external FDD port is accessed as drive B; internal 3.5" FDD as drive A.
Switch is set to "PRT" for parallel printer output.
Computer must be re-booted for switch change to take effect.
3) Plasma display brightness and contrast dials
Located on right side of display/computer
4) 6 DIP switch bank
Located on back of computer
Power off computer before changing switch settings
Factory default settings all off

SW1	OFF	IBM EGA compatible	ON	Auto-Switched display mode
SW2	OFF	PRT output only	ON	PRT bidirectional
SW3	OFF	Serial port COM 1	ON	Serial Port COM 2
SW4	OFF	Single dot font	ON	Double dot font
SW5	OFF	Enable Internal video controller	ON	Disable internal video controller
SW6	OFF	American Font	ON	North European font

SW7	**SW8**	**SW9**	**SW10**	**Tables for Monitor**
OFF	OFF	ON	OFF	Monochrome (720 x 350)
ON	OFF	OFF	ON	Standard RGB (40 col.)(320 x 200)
OFF	OFF	OFF	ON	Standard RGB (80 col.)(640 x 200)
ON	ON	ON	OFF	Enhanced RGB (640 x 200)
OFF	ON	ON	OFF	Enhanced RGB (640 x 350 EGA)
OFF	OFF	OFF	OFF	Toshiba high resoultion mode (640 x 400)

5) 110V or 220V
Move metal plate for appropriate voltage. Default in USA will show 115V with 230V label covered by metal plate.

T3200 (continued)

Environmental Specifications

1) Operating condition
Ambient temperature: 41 to 95 degrees F.   5 to 35 degrees C.
Relative Humidity: 20% to 80% non-condensing

2) Non-Operating condition
Ambient temperature: -4 to 140 degrees F.   -20 to 60 degrees C.
Relative Humidity: 5% to 90% non-condensing

Options and Extra Accessories

PC6-PA7137U	3MB LIM-EMS 3.2/extended memory card (no longer manufactured)
PC-PA7225U	5.25" 360KB external FDD with 18VDC adapter
PC-PA7367E	Floppy Link to 5.25" desktop diskette drive (no longer manufactured)
PC6-PA5466U	Toshiba LAN Ethernet card (IBM/XT compatible 1/2 card, 8 bit) (no longer manufactured)
PC-PA722L	TD80 external tape drive (no longer manufactured)
PC-PA801L	Statpower Prowatt 125 auto adapter
PC-PA7598	Leather carrying case (no longer manufactured)
PC-PA7597E	Fabric carrying case (no longer manufactured)
PR-PA2750U	ExpressWriter 201 portable printer (no longer manufactured)
PC-SW004	Toshiba BASIC 3.30 (no longer manufactured)
PC-SW008	Toshiba MS-DOS 3.30 (no longer manufactured)
PC-SW007	Toshiba MS-DOS 4.01 (no longer manufactured)
PC-SW013	Toshiba MS-DOS 5.0 (no longer manufactured)
PC-SW015	Toshiba MS-DOS 5.0 (no longer manufactured)
PC-SW012	Toshiba MS OS/2 operating system 1.21 (1.44MB FDD) (no longer manufactured)
Contact CP+	1.44MB Floppy drive upgrade

System Memory Map

Start Address Decimal	Hex	Space (Kilobytes)	Used For:
0	00000		System working
64K	10000		memory (Conventional)
128K	20000		
192K	30000		
256K	40000	640	
320K	50000		
384K	60000		
448K	70000		
512K	80000		
576K	90000		
640K	A0000	128	Video RAM
704K	B0000		
768K	C0000	32	EGA ROM
800K	C8000	32	(Not Used)
832K	D0000	64	LIM-EMS window
896K	E0000	64	(Not Used)
960K	F0000	64	System BIOS ROM

T3200 (continued)

Interrupts

Interrupts	Level	Assigned To:
--	NMI	RAM parity error; I/O channel error;
		Auto mode switching by display controller
	0	Timer
	1	Keyboard
	2	Interrupt controller 2 for levels 8 to 15
1	3	Secondary Communications (COM 2)
	4	Primary Communications (COM 1)
	5	PRT 2
	6	FDC
	7	PRT 1
	8	RTC
	9	Software Redirect to INT '0A'
2	10	(Reserved)
	11	(Reserved)
	12	(Reserved)
	13	Coprocessor
	14	HDC

I/O Port Assignment

Port Address

From / To	Device / Function
'000' / '01F'	82C37 : DMA Controller 1
'020' / '03F'	82C59A : Interrupt Controller 1
'040' / '05F'	82C54 : Timer
'060' / '06F'	8742 : Keyboard
'070' / '07F'	RTC and NMI
'080' / '09F'	DMA Page Register
'0A0' / '0BF'	8259 : Interrupt Controller 2
'0C0' / '0DF'	8237A : DMA Controller 2
'0E0' / '1EF'	(Reserved)
'1F0' / '1F8'	HDC
'200' / '2D7'	Game I/O
'278' / '27F'	Parallel PRT 2
'2F8' / '2FF'	Serial Port 2 (COM2)
'300' / '31F'	Prototype card
'360' / '36F'	(Reserved)
'378' / '37F'	Parallel PRT 1
'380' / '38F'	SDLC, Bisync 2
'3A0' / '3AF'	Bisync 1
'3B0' / '3BF'	Monochrome Display
'3C0' / '3CF'	Color Graphics
'3D0' / '3DF'	Color Graphics
'3F0' / '3F7'	FDC
'3F8' / '3FF'	Serial Port 1 (COM1)