T1200F/FB/H/HB
(No longer manufactured)

General Information

Part number:	T1200F - PA7044U (FCC ID# CJ69XAE871)
	T1200FB - PA7044UW (FCC ID# CJ69XAE871)
	T1200H - PA7048U (FCC ID# CJ69XAE248)
	T1200HB - PA7048UW (FCC ID# CJ69XAE248)
Dimensions:	T1200F, T1200H 12.2"W x 2.6"H x 12.0"D
	T1200FB, T1200HB 12.2"W x 2.9"H x 12.0"D
Weight:	T1200F - 9.4 lbs.
	T1200FB - 9.9 lbs.
	T1200H - 10.9 lbs.
	T1200HB - 11.4 lbs.
Voltage:	Computer DC input - 12 VDC, 2.2 A (+ = core; - = shell)
	AC adapter - 110/220 VAC 50/60 Hz 40W
Battery:	Removable rechargeable NiCD battery pack
CPU:	80C86-1 (9.54/4.77MHZ); 80C87 coprocessor socket
RAM memory:	1MB standard (640KB conventional; 384KB LIM EMS or HardRAM)
	Memory expandable to 2MB when optional 1MB LIM-EMS (3.2)/Hard Ram memory card is added
Video RAM:	16KB
Number of keys:	82
Keyboard type:	Selectable between 84 or 101-key keyboard compatible
Drives:	T1200H, T1200HB - One 20MB hard disk drive, One 720KB 3.5" floppy disk drive
	T1200F, T1200FB - Two 720KB 3.5" floppy disk drives
Standard features:	AutoResume
	HardRAM
	Intelligent power supply with "Gas Gauge"
Operating system included:	Toshiba MS-DOS 3.30

Software Compatibility

Compatible with software written for the IBM PC/XT using a color graphics adapter (CGA) display

Interfaces

RGB (CGA) color video port
Composite b&w monochrome video port
RS-232-C serial port
Parallel printer port
Numeric keypad port
External diskette drive port
Toshiba proprietary expansion slot - "A" form factor
Built-in dedicated modem slot - "C" and "D" form factors

Reflective Supertwist LCD Display (T1200F, T1200H)

Display area:	9.24" W x 4.2" H; 10" diagonal
Resolution:	640W x 200H
Viewing angle:	-15 to 40 degrees
Contrast:	Reflective supertwist display 5 : 1

Electroluminescent Backlit Supertwist LCD (T1200FB, T1200HB)

Display area EL backlit LCD:	9"W x 4.2"H; 9.75" diagonal
Resolution:	640W x 200H
Viewing angle:	-15 to 40 degrees

T1200F/FB/H/HB (continued)

3.5" 20MB Hard Disk Drive (T1200H/HB)

JVC HDD: JD-3244LOT1
Number of heads: 4
Number of cylinders: 615
Average access time: 68ms
Recording method: MFM
Interleave: 3:1

or

JVC HDD: JD-3824ROT1
Number of heads: 4
Number of cylinders: 612
Average access time: 78ms
Recording method: MFM
Interleave: 3:1

Battery Life (Time until low battery LED)

Tests w/ 10% FDD access, 20% HDD access, Temperature 25 degrees C

T1200F/T1200H	HDD	FDD	MODEM	Running Time
Off	----	----	----	~2 months *1
Off	----	----	----	~10 days *2
Off	----	----	----	~2 days *3
On	Off	Off	NI	7.5 Hours
On	Off	On	NI	6.0 Hours
On	On	On	NI	2.0 Hours
On	Off	Off	Off	6.2 Hours
On	Off	On	Off	5.7 Hours
On	On	On	Off	1.9 Hours
On	Off	On	On	4.4 Hours
On	On	On	On	1.7 Hours

T1200FB/T1200HB	HDD	FDD	MODEM	Running Time
Off	----	----	----	~2 months *1
Off	----	----	----	~10 days *2
Off	----	----	----	~2 days *3
On	Off	Off	NI	2.8 Hours
On	Off	On	NI	2.6 Hours
On	On	On	NI	1.4 Hours
On	Off	Off	Off	2.6 Hours
On	Off	On	Off	2.6 Hours
On	On	On	Off	1.3 Hours
On	Off	On	On	2.3 Hours
On	On	On	On	1.2 Hours

"NI" means not installed   Notes:
"~" - Approximately
*1 - Calendar/Clock battery maintaining time
*2 - Main Memory & EMS Memory maintaining time w/fully charged main battery
*3 - Main Memory & EMS Memory maintaining time using backup battery only

T1200F/FB/H/HB (continued)

Soft Switches
1) Change CPU speed

| Fn + PgUp | 9.54MHz CPU speed |
| Fn + PgDn | 4.77MHz CPU speed |

2) Character font
| Fn + Right arrow | Toggles display font |

3) Display select
| Fn + End | External display |
| Fn + Home | LCD display |

4) Pop-up window
| Fn + Sys Req | Toggles pop-up window |

5) Keypad overlay
| Fn + NumLock | Toggles keypad overlay |

6) Fn key
Fn + F1	F11
Fn + F2	F12
Fn + Ctrl	Simulate IBM enhanced keyboard Right Ctrl
Fn + Alt	Simulate IBM enhanced keyboard Right Alt
Fn + Enter	Simulate IBM enhanced keyboard numeric keypad Enter

Hardware Switches and Controls
1) Power on/off
Located on back of computer
2) Reset
Located on left side of computer
3) A/B/DIS switch
Located on left side of computer
With switch set to "A", external FDD is accessed as drive A; internal 3.5" FDD as drive B.
　　If computer has two internal floppy drives (T1200F, T1200FB) the bottom drive is disabled.
With switch set to "B", external FDD is accessed as drive B; internal 3.5" FDD as drive A.
　　If computer has two internal floppy drives (T1200F, T1200FB) the bottom drive is disabled.
If no external drives are being used switch should be set to DIS.
Computer must be re-booted for switch change to take effect.
4) LCD contrast dial
Located on left side of computer
5) LCD brightness dial -on models with backlit screen only
Located on front of display
6) HDD on/off switch - on T1200H and T1200HB only
Located on back of computer next to power switch

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 131 degrees F.   -20 to 55 degrees C. |
| Relative Humidity: | 5% to 95% non-condensing |

3) Acclimation
Needs no more than 60 min. warm up

T1200F/FB/H/HB (continued)
Options and Extra Accessories
PC-PA7139U	1MB LIM-EMS 3.2 memory card (Toshiba expansion slot) (no longer manufactured)
PC-PA7225U	5.25" 360KB external FDD with 18VDC adapter
PC-PA7310U	Expansion chassis & cable (requires expansion interface card) (no longer manufactured)
PC-PA7312ER	Expansion interface card (Toshiba expansion slot) (no longer manufactured)
PC-PA7354E	17-key numeric keypad

PC-PA7367E	Floppy Link to 5.25" desktop diskette drive (no longer manufactured)
PC-PA7438EB	300/1200 bps Hayes compatible Toshiba exp. slot modem (no longer manufactured)
PC5-PA7439E	T1200 300/1200 bps Hayes compatible dedicated built-in modem (no longer manufactured)
PC-T24A	2400 bps Hayes compatible Toshiba exp. slot modem w/serial port (no longer manufactured)
PC-T24C	2400 bps Hayes compatible dedicated built-in modem (no longer manufactured)
PC-T24D	2400 bps Hayes compatible dedicated built-in modem (Bell or CCITT) (no longer manufactured)
PC-T24D/F	2400bps data/9600bps send/receive FAX built-in modem
PC-T144D/F	14400 bps send/receive FAX built-in modem (no longer manufactured)
PC-T24D/X or	
PC-T24D/X2	2400 bps Hayes compatible dedicated built-in modem w/enhanced protocol (MNP5, V.42 bis) (both no longer manufactured)
PC-TCL24A	Audiovox Axsys cellular connection for use with T24D/X modem (no longer manufactured)
PC-TCL24M	Motorola Axsys cellular connection for use with T24D/X modem (no longer manufactured)
PC-TCL24N	NEC Axsys cellular connection for use with T24D/X modem (no longer manufactured)
PC-TCL24U	Uniden Axsys cellular connection for use with T24D/X modem (no longer manufactured)
PC5-PA7485U	12VDC Universal AC adapter (no longer manufactured)
PC-PA7487U	12VDC 2.5A Universal AC adapter (replaces PC5-PA7485U)
PC5-PA7490U	Battery pack recharger (requires AC adapter) (no longer manufactured)
PC5-PA7491URA	Battery pack
PC-PA748L	12VDC automobile power adapter (no longer manufactured)
PC-PA7486U	12VDC automobile power adapter (replaces PC-PA748L) (no longer manufactured)
PC-PA801L	Statpower Prowatt 125 auto adapter
PC-PA5462U	ToshibaLAN 8/16 bit Ethernet card & AC power adapter (no longer manufactured)
PC5-PA759L	Fabric carrying case (no longer manufactured)
PC15-PA8020U	Fabric carrying case (no longer manufactured)
PR-PA2750U	ExpressWriter 201 portable printer (no longer manufactured)
PC-SW008	Toshiba MS-DOS 3.30 (no longer manufactured)
PC-SW007	Toshiba MS-DOS 4.01 (no longer manufactured)
PC-SW004	Toshiba BASIC 3.30 (no longer manufactured)
PC5-PA7174U	Backlit upgrade (no longer manufactured)
PC5-PA7240E	20MB hard drive upgrade for T1200F/FB (no longer manufactured)

Interrupts

Level	Assigned To:
NMI	Power Supply; I/O Channel Check; 8087 Interrupt
0	Timer
1	Keyboard
2	(Reserved)
3	Secondary Communications (COM2)
4	Primary Communications (COM1)
5	Hard Disk
6	FDD
7	Parallel Printer

T1200F/FB/H/HB (continued)

System Memory Map

Start Address		Space	
Decimal	Hex	(Kilobytes)	Used For:
0	00000		
64K	10000		
128K	20000		
192K	30000		

256K	40000		System working
320K	50000	640	memory
384K	60000		
448K	70000		
512K	80000		
576K	90000		
640K	A0000		
704K	B0000	96	(Not Used)
736K	B8000	16	Video RAM
752K	BC000	32	(Not Used)
768K	C0000		
832K	D0000	192	Space for I/Os on I/O
896K	E0000		expansion slot
960K	F0000	2	Back-Up RAM
962K	F0800	30	(Not Used)
992K	F8000	32	System (BIOS) ROM

I/O Port Assignment

Port Address From / To	Device / Function
'000' / '01F'	82C37 : DMAC Device
'020' / '03F'	82C59 : PIC Device
'040' / '05F'	82C53 : PIT Device
'060' / '07F'	Programmable I/O Ports
'080' / '09F'	DMA Page Register
'0A0' / '0BF'	NMI Mask Register
'0E0' / '0FF'	Special Register
'1F0' / '1FF'	Hard Disk
'208' / '20F'	Expanded Memory Unit I/O - 1
'218' / '21F'	Expanded Memory Unit I/O - 2
'258' / '25F'	Expanded Memory Unit I/O - 3
'268' / '26F'	Expanded Memory Unit I/O - 4
'2A8' / '2AF'	Expanded Memory Unit I/O - 5
'2B8' / '2BF'	Expanded Memory Unit I/O - 6
'2C0' / '2DF'	Real Time Clock
'2E8' / '2EF'	Expanded Memory Unit I/O - 7
'2F8' / '2FF'	Secondary Communications (COM2)
'378' / '37F'	Parallel Printer
'3D0' / '3DF'	Display
'3F0' / '3F7'	FDC
'3F8' / '3FF'	Primary communications (COM1)