

TECRA 750CDM Product Specifications

750CDM: PA1259U-T2C
5.1 Billion Bytes = 4.77 GB

PROCESSOR

Intel Pentium @233Mhz (1.8v/2.5v)	Yes: with MMX support
External data bus width	64 bit
External data/address bus speed	66 MHz
Integrated Coprocessor	Yes
Processor Cache (L1)	32KB: (16KB code; 16KB data)
Standards	ACPI v. 1.0 ready

LEVEL 2 (L2) CACHE

Data Bus Width/ Data Bus Speed	Yes: 512KB 64 bit/66 MHz
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DATA RAM:

2 Mbit Pipelined Burst Synchronous SRAM (64K x 32bit, 2.5V/3.3V) x 2 -- Access Time: 8ns

MEMORY: 64 Mbit EDO DRAM, 3.3V

Standard/ Maximum	32MB
Maximum	160MB
Speed	60ns
Hyper Page mode memory access	Yes
Data width/ Data Bus speed	64 bit/66 MHz

BIOS

Standards supported	Yes: (512KB 4Mbit FLASH EEPROM, 3.3V) APM v.1.2, PnP v.1.0A, VESA 2.0, DDC2B, DPMS, ACPI v.1.0
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SYSTEM ARCHITECTURE

Connecting Devices

PCI BUS (v.2.1): (32-bit, 33 MHz)	PC Card Slots, Expansion Bus, Graphics Controller, Modem DSP, Video Capture controller, CD-ROM, DVD-ROM decoder, HDD
ISA BUS: 16-bit, 8 MHz	BIOS ROM, KBC, FDD, Sound chip

STORAGE

Removable HDD (2.5" Enhanced IDE)	5.1 Billion Bytes = 4.77 GB (Read/Write: 12msec/13msec) , Buffer: 512KB
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SELECT BAY DEVICES

DESCRIPTION

WEIGHT

Second Battery	<i>Optional: Part# PA2446U</i>	
Battery Type	Li-Ion (10.8V, 3600mAH)	1.15 lbs.
Modular FDD (3.5" 1.44MB)	<i>Included/Swappable with CD-ROM</i>	
FDD Dimensions	4.57"L x 3.78"W x .5"H	.60 lbs.
Simultaneous FDD & CD-ROM Support	Yes: External FDD adapter included	
FDD Adapter Dimensions	7.0"L x 5.5"W	.25 lbs.
Modular HDD (2.5" Enhanced IDE)	<i>Optional/For use in SelectBay only: Part # PA2607U</i>	
Capacity	4.1 billion bytes = 3.82GB (Read/Write: 13msec/14msec), Buffer: 512KB	
Weight	.55 lbs.	
Modular CD-ROM: Toshiba XM-1602B	<i>Installed/ For use in SelectBay only</i>	
5.25" 20X Max. speed		
Weight	.70 lbs	
Interface	.ATAPI (Enhanced IDE)	
Random Access Time	135 ms @ 20X Max speed	
Average Sustained Transfer Rate	3420KB/sec @ 20X Max speed; 2394KB/sec @ 14X Average speed	
CD-ROM Compatibility	Red Book, Yellow Book, CD-ROM XA, CD-I Bridge (Photo-CD) CD-I, CD-I Ready, CD-G, Multisession (Photo-CD, CD-Extra), CD-RW	
Modular DVD-ROM: Toshiba SD-C2002	<i>Optional: Part# PA2613U</i>	
MPEGII video support	<i>Yes: Built into 750CDM. Not supported by Windows NT.</i>	
Dolby™ Digital Surround Sound AC-3	<i>Yes: Built into 750CDM. Not supported by Windows NT.</i>	
DVD Compatibility	DVD-ROM only (no DVD-RAM)	
Operation modes	<u>DVD-ROM</u>	<u>CD-ROM</u>
Access Speed	2X	16X
Random Access Time	180ms	120ms
Sustained Data Transfer rate	2,700 KB/sec	2,400 KB/sec
Storage space/disk	4.7 GB	4.7 GB

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DISPLAY

Type 13.3" Diagonal TFT Active Matrix
 Dot Pitch .26mm x .26mm
 Contrast Ratio 100:1 (min)

VIDEO

Memory: 16Mbit SGRAM, 3.3V 4 MB
 Access Speed 83 MHz *with Hyper-page mode support*
 Data Bus Width/Clock Speed 64-bit/33 Mhz
 Graphic Controller
 PCI Bus Architecture w/burst mode Yes: 32-bit, 33 MHz
 Standards supported DPMS, PnP v.1.0A, VESA 2.0
 DuoView™ Device support¹ Allows display of different images (or the same image) on following screen combinations: notebook/external monitor; notebook/TV; external monitor/TV
 Controller Chip S3 Virge MX 3D (= 86C260)
 64-bit BitBLT Engine Yes
 2D Supported Features BitBLT, H/W Cursor, DirectDraw
 3D Supported Features
 Modeling Fogging
 Shading Flat shading, Gouraud shading
 Rendering Bilinear/Trilinear texture mapping , Anti-aliasing, MIP mapping, Z-buffering
 Direct3D support Yes
 OpenGL Yes
 Digital Video Accelerator
 YUV Color Space Conversion Off-loads conversion from CPU for higher performance full motion video without compromising picture quality or frame rate.
 Scaling/ Interpolation Yes: vertical & horizontal
 Zoomed Video Port Support Yes: vertical & horizontal
 DirectVideo support Yes:w/Game SDK driver fr/Microsoft
 DirectMPEG Yes
 TV Encoder support Yes: NTSC/PAL video out, and S-Video out with flicker reducing filter

INTERNAL VIDEO SUPPORT

		<u>Colors</u>	<u>Refresh Rate (Non-Interlaced)</u>
Smaller Image	640 x 480	24-bit (16.7M)	N/A
Smaller Image	800 x 600	24-bit (16.7M)	N/A
Full Screen	1024 x 768	24-bit (16.7M)	N/A
Virtual Display Mode	1280 x 1024	16-bit (64K)	N/A
Virtual Display Mode	1600 x 1200	8-bit (256)	N/A

EXTERNAL VIDEO SUPPORT (CRT)

		<u>Colors</u>	<u>Refresh Rate (Non-Interlaced)</u>
	640 x 480	24-bit (16.7M)	85 Hz
	800 x 600	24-bit (16.7M)	85 Hz
	1024 x 768	24-bit (16.7M)	85 Hz
	1280 x 1024	16-bit (64K)	75 Hz
	1600 x 1200	8-bit (256)	42 Hz (Interlaced)

VIDEO CAPTURE SUPPORT

		<u>Colors</u>	<u>Fps (w/ZV Port/.AVI file)</u>
	160 x 120	Up to 16.7M	30
	320 x 240	Up to 16.7M	15
	640 x 480	Up to 16.7M	3

Input sources ZV Port-enabled PC Card or ZV Port-enabled External Camera unit
 Connected Bus type PCI bus (for ProShare/Video conferencing) and ZV port (normal capture)
 Supported file formats .BMP, .JPEG, .GIF (for still images), .AVI (for video)
 Maximum # of Still images to be stored 12
 Maximum time of video recording Varies by free space of main memory and HDD

1. Future operating systems may support simultaneous display of different resolutions on mutiple devices.

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CAMERA

Mount	External (hook on right edge of display panel)
Type	1/4-inch CCD
Effective pixels	640 x 480 (= 307.2K)
Lens (Manual Focus)	F2.8, f = 4.6 mm
Focusing range	> 10 cm, by manual focus
Viewing angle of Center	Horizontal: ± 22.5 degrees (45° total); Vertical: ± 16.9 degrees (33.8° total)
Minimum illumination	40 luxes
Tilting angle	-50 to +50 degrees
Panning angle	-45 to +225 degrees (horizontal)
Interface connector	Digital/26 pin proprietary connectory
Interface cable length	50cm
Automatic Light Control (ALC)	Yes: AGC (0 db~ +12db); ELC (1/60 ~ 1/10,000 sec)
White Balance ATW	Yes
Dimensions	5.63"L x 1.14"W x .79"D
Weight	.25 lbs.

SOUND SYSTEM

Chipsets:	Yamaha 3D sound effect-enabled OPL3-SA3 and Wavetable-enabled OPL4-ML2
Functions supported	
Dolby™ Digital Surround Sound AC-3	Yes: (w/Windows 95 only)
Sound formats supported:	SoundBlaster Pro™ v.3.01, MIDI, Windows Sound System v.2.0
16 bit stereo audio playback/record	Yes: w/48kHz maximum sampling rate
Full duplex function	Yes: including simultaneous playback and record
Mixing	CD-ROM audio, Zoomed Video audio (stereo), CardBus audio (monaural)
DirectSound support	Yes: with Windows 95 Game SDK driver from Microsoft
Volume control	Yes
Speaker system:	Two top-mounted stereo speakers (28mm, 16 Ω)

INTERNAL MODEM (All models)

DAA support	K56 Flex Upgradeable with DSVD, V.34 and V.80 support for Video Conferencing US/Canada and Euro/Australia
Data support	
Protocols supported	Bell-103/212A, CCITT-V.21/V.22, V.23, V.22bis, V.32, V.32bis, V.34
Error correction	MNP 1-4
Data compression	MNP 5 for upto 2X data compression, CCITT V.42 bis for upto 4X data compression
Fax support	Fax class 1, Class 1 ECM
Protocols supported	V.21 ch2, V.27 ter, V.29, V.17
Cellular support	<i>US Cellular support under Windows 95 only</i>
Protocols supported (Phone)	Bell-103/212A, CCITT-V.21/V.22, V.23, V.22bis, V.32, V.32bis, V.34
Protocols supported (Fax)	V.21 ch2, V.27 ter, V.29, V.17
Fax class	Fax class 1, Class 1 ECM
Phones supported ³	Motorola Micro TAC (DPC550, Alpha, Lite, and Ultralite) and Motorola Elite <i>only</i>
Telephony Functions (<i>Windows 95 only</i>)	
Standard software	Ring Zero RingCentral telephony software Speaker phone, Telephony Answering Machine, Ring Wake-up Resume Incoming Call Discrimination, Caller ID
DSVD protocols supported	ITU-T V.70 , V.75, V.76, G.729, V.80, V.25terA, V.34, V.8bis
Video Conferencing (<i>Windows 95 only</i>)	
Standard software	Intel Video Phone with Proshare Technology 2.0 and Microsoft Netmeeting 2.0
Protocols supported	ITU-T H.323 (Internet video conferencing); H.324 (POTS video conferencing); H.245; H.223; G.723; H.263; V.80 ; V.25terA; V.34 ; V.8bis
Data sharing support	T.120; T.121; T.122; T.123; T.124; T.125; T.126; T.127

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EXPANSION SLOTS

Two Stacked PC Card Slot²
 32-bit, 3.3V PC CardBus Support
 16-bit, 5.0V PC Card Support

LOCATION

Yes: Left side (*CardBus & ZV Card Ready*)
 Yes
 Yes

Two Internal Memory Slots

Yes: Below left-half of the palm rest (above main HDD)

EXPANSION PORTS

One 9-Pin Serial (16550 UART compliant)
 One 15-Pin RGB (SVGA video)
 One Expansion Bus
 One 25-Pin Parallel (8 bit ECP)
 One DC IN port
 Noteworthy security lock port
 Microphone (3.5mm mini jack, monoaural)
 Headphone (3.5mm mini jack, stereo, 16Ω min)
 Line-in (3.5mm mini jack, stereo, 2V rms)
 Line-out (3.5mm mini jack, stereo, 0.7V rms)

LOCATION

Yes: Rear of unit
 Yes: Rear of unit
 Yes: Rear of unit (*for use with Docking Station or Port Replicator*)
 Yes: Rear of unit
 Yes: Rear of unit
 Yes: Rear of unit
 Yes: Rear of unit (*stereo, common with Headphone/AC3 digital*)
 Yes: Rear of unit
 Yes: Rear of unit

Dolby AC3 Digital

Yes: Rear of unit (*5.1 channel, common with Headphone/AC3 digital*)

One (PS/2) 101 Keyboard/Mouse port
 One S-Video out port
 One NTSC/PAL out port
 Two Fast Infrared ports (front and back)
 One External Floppy Drive port
 Two Universal Serial Bus (USB) ports
 One Power switch
 One Reset Button
 Noteworthy security lock port
 One RJ-11 port for internal modem (supplied)
 One Cellular Modem port³
 One External Camera port

Yes: Rear of unit (*supports "Y" Connector*)
 Yes: Rear of unit
 Yes: Rear of unit
 Yes: Rear of unit (*IrDA 1.1:4 Mbps compatible*)
 Yes: Left side
 Yes: Left side (*Supports 127 devices. Throughput Rate: 12Mbits/sec.*)
 Yes: Left side
 Yes: Left side
 Yes: Left side (*Use when docked*)
 Yes: Right side
 Yes: Right side
 Yes: Right side (*Proprietary 26-pin connector*)

KEYBOARD

84keys, 3mm Travel
 Windows 95 support
 Keyboard tilt
 Numeric keypad (Integrated Overlay)

Yes: 12 dedicated function keys; Cursor control (8 Keys, Inverted "T")
 Yes
 Yes
 Yes

Integrated Pointing Device

AccuPoint™

Enhanced Port Replicator II (Optional)

Part# PA2716U

Two Type III CardBus ready PC Card slots
 Supported Interfaces

Yes: each slot supports one card
 Serial, parallel, PS/2 keyboard, PS/2 mouse, DC in, SVGA monitor, FDD port, lock slot, joystick/MIDI, audio line-in, line-out, headphone, microphone

Desk Station V Plus (Optional)

Part# PA2710U

Supported Interfaces

(2) Full length 32-bit PCI/16-bit ISA slots; (1) Half Length 32-bit PCI slot;
 (2) Type III PC Card slots; (1) SCSI II; (1) 5.25" half height drive bay;
 (1) Select Bay for Modular FDD or CD-ROM

Ports

Serial, parallel, PS/2 keyboard, PS/2 mouse, DC in, SVGA monitor, FDD port, lock slot, joystick/MIDI, audio line-in, line-out, headphone, microphone

Other features

Designed for Windows 95 and PNP; Hot Docking Support

2. Slot supports two Type II PC Cards or one Type III PC Card. 3.Requires the purchase of appropriate cellular cable: 991-40042.

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POWER

60W Autosensing External AC Adapter	5.51"L x 2.95"W x .98" --- .90 lbs. (Part#:NW2444U)		
Input (Voltage/Frequency)	100-240V; 50-60Hz		
Output (Voltage/Amps)	15 VDC; 4.0A (max)		
Battery Type: Li-Ion (3.6V 1200mAh, 12 cells)	Yes: Part# PA2445UR (2.83"W x 1.14"H x 6.61"L) -- 1.1 lbs.		
Battery Life	<u>One battery</u>	<u>Two batteries</u>	
Full Power mode	3.5 hrs.	7 hrs.	
Low Power mode	7 hrs.	8.5 hrs.	
Recharge Time: Main Battery ⁴ (Computer Off/On)	<u>Notebook alone</u>	<u>Docked In Port Replicator</u>	<u>Docked In Desk Station</u>
	3.8- 4.0 hrs./5-9 hrs.	3.8 - 4.0 hrs./5-12 hrs.	4-5 hrs./ 6-12 hrs.
Power Savings	MaxTime®; APM v.1.2 BIOS support		

DIMENSIONS

11.95"W x 9.45"D x 2.13"H

WEIGHT (includes 1.1 lbs. battery)⁵ 8.0 lbs. (with FDD installed); 8.3 lbs. (with DVD-ROM installed)

BUNDLED SOFTWARE: Windows 95; RingZero RingCentral v.4.xx Telephony application; Toshiba VidCap software; Puma Intellisync 97; Sarnoff Video Brush scanning software; Microsoft Netmeeting 2.0; Intel Video Phone w/Proshare Technology 2.0

Included on CD: Internet Explorer 4.0; LANdesk Client Manager 3.0, SystemSoft CardWorks; Intel Video Interactive (32-bit,v.4.0) Toshiba Fn-esse utility; Online manual. *Units ship with Recovery CD, Windows95 Companion disk, and Application CD.*

SECURITY

Lock slot, Password:power-on, supervisor, HDD access, Docking station eject

WARRANTY

3 YR Parts & Labor (battery 1 year)

ENVIRONMENTAL SPECIFICATIONS

	<u>Operating</u>	<u>Non-operating</u>
Temperature:	41°F (5°C) to 95°F (35°C)	-4°F (-20°C) to 149°F (65°C)
Thermal Gradient 20° C per hour (max.)	--	--
Relative Humidity: Operating	20% to 80% non-condensing	10% to 90% non-condensing
Altitude: Operating	-197 to 9,843ft. (-60 to 3000m)	-197 to 32,808ft. (-60 to 10,000m)
Shock: Operating	10G (11ms); 1.5G w/CD-ROM installed	60G (11ms); 50G w/CD-ROM installed
Vibration: Operating	0.5G; 0.25G (5~500Hz) w/CD-ROM	1G; 1G (5~500Hz) w/CD-ROM

4. Recharge time may vary depending on condition of battery, and consumption of power for function performed during recharge: eg. use of LCD, HDD/CD-ROM, sound and modem, CardBus card in Port Replicator or PCI card in Desk Station V Plus. 5. Optional 2nd battery PA2446UR weights 1.15 lbs.