TECRA 750DVD Product Specifications

750DVD: PA1259U-T2D
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	Yes: 512KB
Data Bus Width/ Data Bus Speed	64 bit/66 MHz
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	64MB (32 MB on board + 32MB in memory slot)
Maximum	160MB
Speed	60ns
Hyper Page mode memory access	Yes
Data width/ Data Bus speed	64 bit/66 MHz
BIOS	Yes: (512KB 4Mbit FLASH EEPROM, 3.3V)
Standards supported	APM v.1.2, PnP v.1.0A, VESA 2.0, DDC2B, DPMS, ACPI v.1.0

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, DVD-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

SELECT BAY DEVICES	DESCRIPTION	WEIGHT
Second Battery	*Optional: Part# PA2446U*	
Battery Type	Li-Ion (10.8V, 3600mAH)	1.15 lbs.
Modular FDD (3.5" 1.44MB)	*Included/Swappable with CD-ROM*	
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)	*Optional/For use in SelectBay only: Part # PA2607U*	
Capacity	4.1 billion bytes = 3.82GB (Read/Write: 13msec/14msec), Buffer: 512KB	
Weight	.55 lbs.	
Modular DVD-ROM: Toshiba SD-C2002	*Installed/ For use in SelectBay only*	
Dimensions/Weight	.66"H x 5.0"W x 5.25"D/..84 lbs	
Interface	.ATAPI (Enhanced IDE)	
Average Power Consumption	3.0 W	
Constant Angular Velocity (CAV)	Yes	

	DVD Media	CD-ROM Media
Performance		
Access Speed	2X	16X
Average Random Seek Time	110 ms	110 ms
Average Random Access Time	180 ms	120 ms
Sustained Data Transfer rate	2,700 KB/sec	2,400 KB/sec

	Single-sided	Dual-sided
Capacity		
Single-layered	4.7 GB	9.4 GB
Dual-layered	8.5 GB	17 GB

MPEGII video support	*Yes: (w/Windows 95 only)*
Dolby™Digital Surround Sound AC-3	*Yes: (w/Windows 95 only)*
DVD Compatibility	DVD-ROM only (no DVD-RAM)
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-R,CD-RW

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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 support[2]	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

INTERNAL VIDEO SUPPORT		**Colors**	**Refresh Rate (Non-Interlaced)**
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)

EXTERNAL VIDEO SUPPORT (CRT)	**Colors**	**Refresh Rate (Non-Interlaced)**
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

VIDEO CAPTURE SUPPORT	**Colors**	**Fps (w/ZV Port/.AVI file)**
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

2. 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)	K56 Flex Upgradeable *with DSVD, V.34 and V.80 support for Video Conferencing*
DAA support	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	*US Cellular support under Windows 95 only*
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 *only*
Telephony Functions *(Windows 95 only)*	
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 *(Windows 95 only)*	
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	LOCATION
Two Stacked PC Card Slot[4]	Yes: Left side *(CardBus & ZV Card Ready)*
32-bit, 3.3V PC CardBus Support	Yes
16-bit, 5.0V PC Card Support	Yes
Two Internal Memory Slots	Yes: Below left-half of the palm rest (above main HDD)

EXPANSION PORTS	LOCATION
One 9-Pin Serial (16550 UART compliant)	Yes: Rear of unit
One 15-Pin RGB (SVGA video)	Yes: Rear of unit
One Expansion Bus	Yes: Rear of unit *(for use with Docking Station or Port Replicator)*
One 25-Pin Parallel (8 bit ECP)	Yes: Rear of unit
One DC IN port	Yes: Rear of unit
Noteworthy security lock port	Yes: Rear of unit
Microphone (3.5mm mini jack, monoaural)	Yes: Rear of unit
Headphone (3.5mm mini jack, stereo,16Ω min)	Yes: Rear of unit *(stereo, common with Headphone/AC3 digital)*
Line-in (3.5mm mini jack, stereo, 2V rms)	Yes: Rear of unit
Line-out (3.5mm mini jack, stereo, 0.7V rms)	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	Yes: Rear of unit *(supports "Y"Connector)*
One S-Video out port	Yes: Rear of unit
One NTSC/PAL out port	Yes: Rear of unit
Two Fast Infrared ports (front and back)	Yes: Rear of unit *(IrDA 1.1:4 Mbps compatible)*
One External Floppy Drive port	Yes: Left side
Two Universal Serial Bus (USB) ports	Yes: Left side *(Supports 127devices. Throughput Rate: 12Mbits/sec.)*
One Power switch	Yes: Left side
One Reset Button	Yes: Left side
Noteworthy security lock port	Yes: Left side *(Use when docked)*
One RJ-11 port for internal modem (supplied)	Yes: Right side
One Cellular Modem port	Yes: Right side
One External Camera port	Yes: Right side *(Proprietary 26-pin connector)*

KEYBOARD	
84keys, 3mm Travel	Yes: 12 dedicated function keys; Cursor control (8 Keys, Inverted "T")
Windows 95 support	Yes
Keyboard tilt	Yes
Numeric keypad (Integrated Overlay)	Yes

Integrated Pointing Device	AccuPoint™

Enhanced Port Replicator II (Optional)	Part# PA2716U
Two Type III CardBus ready PC Card slots	Yes: each slot supports one card
Supported Interfaces	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

3. Requires the purchase of appropriate cellular cable: NWMICROTAC or NWELITE.   4. Slot supports two Type II PC Cards or one Type III PC Card.

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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	One battery	Two batteries	
Full Power mode	3.5 hrs.	7 hrs.	
Low Power mode	7 hrs.	8.5 hrs.	
Recharge Time: Main Battery[4]	Notebook alone	Docked In Port Replicator	Docked In Desk Station
(Computer Off/On)	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	**Operating**	**Non-operating**
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:	20% to 80% non-condensing	10% to 90% non-condensing
Altitude:	-197 to 9,843ft. (-60 to 3000m)	-197 to 32,808ft. (-60 to 10,000m)
Shock:	10G (11ms); 1.5G w/CD-ROM installed	60G (11ms); 50G w/CD-ROM installed
Vibration:	0.5G; 0.25G (5~500Hz) w/CD-ROM	1G; 1G (5~500Hz) w/CD-ROM

4. Recharge time may be longer than indicated, 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.