Information Media and Consumer Products

Digitization and spread of the Internet has accelerated the merging of information, communication, and images. The mobile information devices including mini-notebook type PC with camera and portable telephone with the latest Web browser function were released, and a slim PC that creates a new office environment was proposed. Element technology development has also been implemented enthusiastically such as large capacity HDD, CD-R/RW drive that enables DVD-ROM reproduction and the technology that enables wireless connection of PC with various image and information devices. New models such as flat screen television sets and digital still cameras were released as image devices. In the home appliance field, an easy-to-install home laundry model that can process from washing to drying within one unit with low noise and vibration was developed.

Personal Computer Family

DynaTop slim PC

DynaTop Slim PC

A new concept slim PC called DynaTop for the Japanese market and Equium 2000 for the European market aims to create a futuristic office environment. It has various technological features.

- A radical synthesis of desktop and notebook technologies
- Intel® Pentium®3 or Celeron™ processor
- High brightness and crystal-clear 15" TFT-LCD display
- Power consumption 1/3 to 1/4 lower than typical desktop PCs
- Low acoustic noise due to excellent thermal design technology
- SelectBay, 2 PC card slots, 2 USB ports and LAN are provided for adequate expandability

Libretto ff 1100V Mini-Notebook PC

Libretto ff 1100V is a mobile entertainment mini-notebook PC.

Libretto ff 1100V mini-notebook PC

Using the remote-control unit i.Shuttle™ with earphone, it is possible to capture still and moving pictures from the CMOS camera SCOOPY™ by LIVE MEDIA™, reproduce music files stored on the hard disk, read e-mail and view Web pages.

The MPEG-4 software encoder MobileMotion™ and the software image processor Object Picker are installed. Object Picker is capable of extracting objects such as people form moving pictures and place them against a different background.

Dynabook TECRA 8100 A4 Notebook PC

The main specifications are Intel®'s 450-MHz mobile Pentium®3 processor, 64 M byte of RAM, 14.1-inch TFT display (XGA), and 8 Mbyte Video RAM. Any of the following devices can be hot-swapped from the TECRA's single multipurpose drive bay: a CD-ROM drive, a floppy drive, a second battery, or second hard disk drive unit.
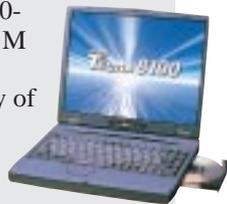
Dynabook TECRA 8100 A4 notebook PC

Furthermore, a LAN interface of supporting 10BASE-T/100BASE-TX is built in to facilitate a smooth connection with an internal network or intranet.

Intel, Pentium, and Celeron are registered trademarks of Intel Corporation.

PDR-M4 and PDR-M5 Digital Still Cameras

PDR-M4 digital still camera

PDR-M5 digital still camera

Toshiba introduced new digital still cameras Model PDR-M4 in May 1999 and Model PDR-M5 in October 1999, incorporating new features developed based on users' needs.

Features:
- Highly minute picture quality with 1/2" 2.14 million pixels CCD
- High speed response with an interval of just 1 second between frames
- Camera can be readily connected to the personal computer using a USB (Universal Serial Bus) connector

Model PDR-M5 offers following features in addition to the above:
- 3x zoom lens which enables versatile photography
- Movie function capable of filming up to a maximum of 120 seconds in maximum

## TLP651 LCD Data Projector

TLP651 LCD data projector

The real XGA LCD data projector TLP651 is the first mobile data projector in the industry to be equipped with a document-imaging camera.

- By employing a 150 W compact UHP (Ultra High Power) lamp and a compact 0.9-inches LCD panel with a micro lens, 1000ANSI-1m, the industry's highest luminosity, is realized in a compact A4-size (excluding the document-imaging camera) mobile projector.
- The projector is equipped with a function to automatically compensate for the trapezoid distortion on the projection screen that results when the main body of the projector is installed at a vertical tilt (automatic keystone correction).
- It is possible to display characters or diagrams through the document-imaging camera onto a PC screen or video image (overlay functions).

MP6400 2.5-inch Magnetic Disk Drive with High Recording Density
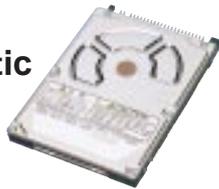
MP6400 2.5-inch magnetic disk drive with high recording density

MP6400, a 2.5-inch type hard disk drive for mobile applications has a platter with a formatted capacity of 6.4 Gbyte, which translates to an area density of 11.63 Gbpsi (bit per square inch), the highest data density on the market at that time. The recording density has been achieved by improving magnetic head and media as well as mechanical characteristics, and by employing the state-of-the-art read channel technology. The annual growth rate of area density is almost 100 %, since the 6.4 Gbyte model developed in Autumn 1998 has two platters.

SD-R1002 CD-RW/DVD-ROM Drive

SD-R1002 CD-RW/DVD-ROM drive

Toshiba developed a CD-R/RW drive with DVD-ROM playback capability and then introduced this new category drive into CD-R/RW markets.
Specifications:
• Half height form factor
• 4x CD-R/RW writing speed
• 24x CD-ROM playback speed
• 4.8x DVD-ROM playback speed
• ATAPI (AT Attachment Packet Interface)
• High-speed random access
  CD: 110 ms   DVD: 160 ms
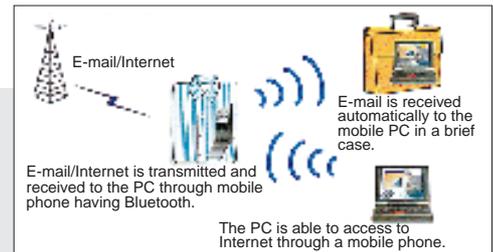
TPU3030 DVD Optical Pickup Using TWIN-LD

TPU3030 DVD optical pickup using TWIN-LD

TPU3030, a 7.3 mm-thick DVD and CD compatible optical pickup uses two wavelength integrated laser diodes (TWIN-LD).

By incorporating into the optical system the TWIN-LD that emits red and infrared laser beams from a single-chip of laser diode, the number of optical components can be reduced in comparison with conventional optical pickups. Toshiba has also developed a highly-efficient actuator to enable 8x DVD reading and 24x CD reading.

Bluetooth Wireless Technology Using Short Range Radio

E-mail/Internet

E-mail is received automatically to the mobile PC in a brief case.

E-mail/Internet is transmitted and received to the PC through mobile phone having Bluetooth.

The PC is able to access to Internet through a mobile phone.

Example of Bluetooth user model (the brief-case trick)

Bluetooth is a new wireless communication technology which will be able to connect not only mobile PCs and PC peripherals, but also mobile phones and various mobile devices, easily and simply without the need to connect cables. The Bluetooth transceiver is operating in the 2.4 GHz ISM (Industrial Scientific Medical) band that is a worldwide and unlicensed band. It will eliminate the need to purchase additional or proprietary cabling to connect individual devices. The standardization of the Bluetooth specification started in May 1998, and was then made public in July 1999 by the leading five companies. (Ericsson, Nokia, Intel, IBM, Toshiba) Read it at: **http://www.Bluetooth.com.**

Toshiba will develop a variety of mobile devices using Bluetooth, making good use of the Bluetooth characteristics: low-power, low-cost and compact.

Camesse petit Snapmail Tool

Camesse petit snapmail tool

Toshiba's new product, camesse petit, which was introduced by NTT DoCoMo in February 2000, is a picture-mail communication tool. It has a 110,000-pixel CMOS (Complementary Metal-Oxide Semiconductor) camera, 312 x 230 dots color LCD, and touch-sensitive panel to enable the user to take a picture and draw on it. This picture is stored in JPEG format and can be sent with text as an e-mail to another camesse petit or PCs over the Internet.

Though the e-mail is sent or received via cellular phone at a speed of 9,600 bps, the Snapmail system newly developed by NTT DoCoMo shortens the time required. For example, it takes approximately 26 seconds to send a 10 Kbyte picture-mail.

The camesse petit weighs only 170 g, and operates with 2 LR6 alkaline batteries.   The body is designed to appeal to young ladies.

Tri-Mode CDMA/AMPS Handheld Portable Cellular Telephone

To satisfy the emerging demand for seamless and flat-rate service in conjunction with the recent mergers among major US CDMA carriers, Toshiba has developed the triple mode phone (800 MHz CDMA/AMPS, 1.9 GHz CDMA) that will provide nationwide coverage with a single handset.

Equipped with micro-browser and asynchronous data functions for business and mobile users, this cellular/PCS phone also offers voice recognition dial and vibrator alert to provide an even higher level of user-friendly operation. Fully-loaded as it is, the phone weighs only 135 g (4.8 oz), yet offers 190 minutes of talk time and 170 hours of standby time.

Tri-Mode, Web browsing digital CDMA telephone

C301T cdmaOne Cellular Phone

C301T is a cdmaOne cellular phone for the Japanese market. Advanced functions supporting a micro Internet browser and high-speed packet communication ware realized with a weight of 73 g, putting it in the lightest weight class in the world.

C301T cdmaOne cellular phone

Using these new function, packet communication make it possible to efficiently view a variety of information on the Internet and access e-mail from one's cellular phone. It can also be connected with a notebook PC to create a 64 Kbps mobile high-speed packet communication environment.

The phone's highly sensitive design employs the world's first antenna switching diversity system to further improve on the features of the cdmaOne system, i.e. high quality sound and resistance to call interruptions.

FACE™ 32Z5P Flat-screen Wide Color TV

The TV's Digital Million Progressive Circuit doubles the density of the video signal in the horizontal dimension, adding to the vertical dimension that has already been doubled by existing progressive models. It also makes the density of the color signal equal to the density of the video signal. This makes the color signal about 4 times as fine in the circuit as in existing models. 32Z5P therefore provides dramatically improved detail and color reproduction. The three-dimensional DNR (Digital Noise Reduction) circuit reduces noise without loss of picture quality. It makes it possible to reproduce clear pictures from noisy sources.

FACE™ 32Z5P flat-screen wide color TV

Two new connectors make it convenient to connect various sources such as a digital broadcast STB (Set Top Box). The minimized design of audio system and mechanisms make it possible for the width of this set to be about the same as existing 28' models.

A-SB99 High Picture Quality Super-VHS Video Cassette Recorder

A-SB99 high picture quality super-VHS video cassette recorder

Model A-SB99 boasts high picture quality and high sound quality.

For the picture quality, it has a three-dimensional Y/C (luminance and color) signal separation circuit, three-dimensional digital noise reduction system and time base corrector (jitter noise reduction circuit), flying erase circuit and S-VHS expansion technology function that enables high quality video recording with VHS tape.

For sound quality, it has a recording level adjustment function and sound effect function.

In terms of operation, it has dual navigation function that enables single-touch program selection for recording or playback and 470 x fast rewind function. As consideration for the environment, it has a main power supply button which consumes a mere 0.1 W of power when the main power switch is set to the off position.

Home Laundry Model TW-F70 Automatic Washer Dryer with Direct Drive Inverter Motor

Liquid balancer

Direct drive inverter motor

Oil suspension

TW-F70 washer dryer

The following needs for washing work are increasing as a result of recent change to society:

- A reduction in the labor used in the washing work due to the increase in the number of aging households.
- Changes in the times that washing is done, demands for automation and for reductions in the time required for washing and drying to complete due to the increasing number working wives and single persons.
- Resolution of the problem of where to locate washers and dryers in terms of the housing environment.
- Demands of housewives to have their own time and to participate in society.

The washer dryer capable of washing and drying automatically, has been attracting attention as the answer to such needs. Conventional washer dryers had problems, however, in terms of vibration and noise, and their large size.

Reduction of noise, vibration and weight were attained by installing oil suspension, direct drive inverter motor and liquid balancer, which have a good track record in Toshiba's low-noise type fully-automatic washing machines.

The improvement in washing performance and preheating spin control which starts heating clothes from the spin cycle also resulted in a shortened time for the complete washing and drying cycle by optimum drum rotation control using the direct drive inverter motor.

These technologies were installed and the washer dryer TW-F70 put on the market as TOSHIBA HOME Laundry Ginga 21 in February 2000.
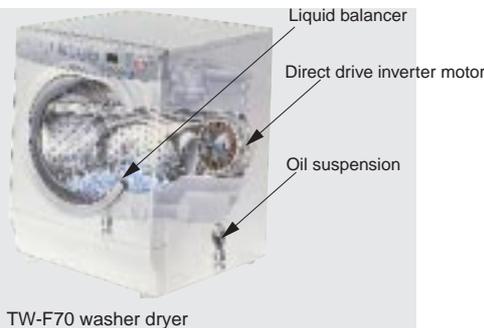
NEO BALL Z Compact Fluorescent Lamp

NEO BALL Z series compact fluorescent lamp

In 1998, Toshiba introduced the self-ballasted compact fluorescent lamp NEO BALL Z into the market as an alternative to 60 W incandescent lamps (IL). It is the most compact lamp in the world which can easily be attached directly to ordinary incandescent bulb fittings. Various kinds of NEO BALL Z for replacing 40 W-ILs and a 100 W-ILs have been developed and Toshiba has achieved top market share in Japan at this time.

Features:
- Aesthetic light-bulb shape
- Energy savings (only 1/4 of power consumption of conventional incandescent lamp with the same luminous output)
- Long life (6 times longer than incandescent lamps)
- Compact design (fits almost all light fittings)
- Quick start

Multimedia POS System Applied to EC Services

CV-711N new POS terminal

The new POS (Point Of Sales) system for Seven-Eleven Japan, which is aiming to explore a wealth of EC (Electronic Commerce) services through its own wide area network, has been developed based on the following 5 concepts: Multimedia, Open Architecture, Improved operation productivity, Reliable and Clean, Reduced operational cost.

Its main feature is to provide the operator and customer with dual large and very bright color TFT-LCDs (Thin-Film Transistor Liquid Crystal Displays) with sophisticated controls. To display moving pictures and contents based on the GUI (Graphical User Interface) with touch panel releases operators form thick printed manuals, enabling even part time workers to access the POS system very easily.