

In the field of mobile devices, personal information/image devices, Toshiba leads the ubiquitous age with various fusion products centering on "Broadband", "Digital" and "Wireless" products. In the field of home appliances and office products, we aim to continue manufacturing products taking into account IT (Information Technology), energy conservation and the global environment.

## PORTÉGÉ™ 3500 Tablet PC

Toshiba has developed the PORTÉGÉ™ 3500 tablet PC (Personal Computer) that extends the boundaries of performance and productivity for today's mobile workforce.



The PORTÉGÉ™ 3500 tablet PC

Together, Toshiba and Microsoft® technologies bring enhanced functionality and capabilities to the PORTÉGÉ™ 3500 allowing customers to experience their PC in a new and exciting way.

The PORTÉGÉ™ 3500 incorporates the intuitive fusion of pen and paper into the notebook experience allowing users to communicate with their notebook in a more natural way. The robust dual-action swivel hinge easily guides the transformation from notebook to tablet. It also features Wi-Fi® (IEEE 802.11b), Bluetooth™ and 10/100 networking, so users can share information and access the Internet in more locations, such as hotels, airports, at home or in the field. It also includes an Intel® Pentium® III-M processor 1.33 GHz, secure digital (SD) media slot as well as integrated Compact Flash® to maximize workforce productivity. The large 12.1-inch diagonal display provides easy viewing. The generous screen size easily supports everyday use as a notebook, as well as the comfort of the tablet for handwritten notes.

Users write directly on the screen with a digital pen to create drawings, write handwritten notes, annotate documents and send e-mail—all in their own handwriting. Users can then save their handwritten messages as is, or convert them to typed text.



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*"Bluetooth" is a trademark of Bluetooth SIG, Inc., U.S.*

*"Compact Flash" is a registered trademark of SanDisk Corporation.*

## PORTÉGÉ™ R100



The PORTÉGÉ™ R100

Toshiba has developed the PORTÉGÉ™ R100, which is the consummate ultra portable productivity tool for the highly mobile executive.

For ease of portability, the PORTÉGÉ™ R100 is designed at 14.9 mm (0.6 inches) thin and 1.09 kg (2.4 pounds). Realizing this goal required the integration of many advanced technologies, which include a magnesium shell, a 1.8-inch HDD (Hard Disk Drive) (up to 40 Gbyte), a new slim 12-inch polycrystalline-silicon (poly-Si) TFT (Thin Film Transistor) display and a flat lithium-ion-polymer battery.

The PORTÉGÉ™ R100 includes Intel® Centrino™ mobile technology for greater processing power, wireless LAN, and optimized battery life (up to 6.5 hours total battery time with primary and high capacity batteries).

The Trident XP4™ m32 LP graphics controller with 32 Mbyte DDR VRAM (Double Data Rate Video Random Access Memory) provides faster performance.

Moreover, the PORTÉGÉ™ R100 supports communication anytime, anywhere with integrated Wi-Fi® (IEEE 802.11b wireless LAN), a 10/100 Ethernet port and an international V.92/V.90 modem.

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*"XP4" is a trademark of Trident Microsystems, Inc.*

## CDMA2000® 1X Cellular Phone and Motion Picture Technology

### A5301T CDMA2000® 1X Cellular Phone

Toshiba has developed a new A5301T cellular phone for the "au" cellular phone service by KDDI CORPORATION.

The A5301T is a high-end model and provides a mail service with motion picture data called MOVIE MAIL promoted by "au". Toshiba has also developed an MPEG-4 (Moving Picture Experts Group-phase 4) software encoder and decoder, and the A5301T has a built-in SD slot to get the most out of MOVIE MAIL.



The A5301T CDMA2000® 1X cellular phone

### T618X CDMA2000® 1X Cellular Phone



The T618X CDMA2000® 1X cellular phone

Toshiba has developed the T618X cellular-phone for the CDMA2000® 1X Network in the People's Republic of China based on the A5301T domestic model.

This phone has a 260 thousand color LCD (Liquid Crystal Display), and 300 thousand pixel CCD (Charge Coupled Device) camera, the best on the market in China, and motion picture mail function for China Unicom's new service. The T618X has MPEG-4 and the advertising appeal of Toshiba is Toshiba motion picture technology on the Chinese market as in Japan.

*"CDMA2000" is a registered trademark of the Telecommunications Industry Association(TIA).*

*"MOVIE MAIL" is a trademark of KDDI CORPORATION.*

## GENIO e Series Pocket PC



The GENIO e550G Pocket PC



The GENIO e550G, which was released on the market in June 2002, is an extremely well designed PDA (Personal Digital Assistant) in terms of portability, usability, extensibility and PC compatibility.

This device carries Microsoft® Pocket PC 2002 Software (Operating System) with an Intel® PXA250 400 MHz Application processor inside.

The 4-inch low-temperature poly-Si TFT-LCD has an original frontlight developed by Toshiba and delivers a bright high quality picture that is very easy on the eyes.

The GENIO e550G also manages to house both an SD slot and Compact Flash® type II slot in the compact body (15.9 mm thickness, about 170 g mass) by integrating advanced technology such as high-density mounting technology. The GENIO e550GX, which features further enhanced functionality with expanded memory was released on the market in November 2002.

## New 14/20VL43P LCD TV

### Hi-Brightness LCD Panel;

The monitor screen incorporates a new VGR (Video Graphic Recorder) display panel designed and manufactured especially for LCD TVs.



The new 14/20VL43P LCD TV

Boasting high luminance of  $500 \text{ cd/m}^2$  (14VL43P), the new panel entertains the viewer with brilliant, clear pictures while cutting out the irritating reflections from things like fluorescent ceiling lights, thanks to its new black coating.

This coating is a special surface treatment that has successfully decreased the diffused reflection from the screen surface and presents a deep, clear, solid black.

In addition, the monitor screen has a wide-angle viewable range—160 degrees right/left, up/down.

Featuring quick-response liquid crystal, the LCD TV monitor screen is among the top class of current LCD screens, boasting response time of only 16 ms (0.016 s). The screen produces clear-cut images of objects in rapid motion.

Achieving a dynamic sound you just would not expect from such a slim appearance.

The box-style, large-diameter speakers and the SRS WOW bring you hi-fi, highly realistic sound from the compact monitor body. SRS technology realizes a three dimensional surround sound field from a two-channel stereo source. A much wider sweet spot area is created as a consequence.

The monitor is thin, light in weight, and graceful in design. In addition, the remote controller is slim and no trouble to carry around with you.

On top of all this, the monitor will look good anywhere you place it in your home. It makes a nice interior feature.

## D-R1 DVD Video Recorder



The D-R1 DVD video recorder

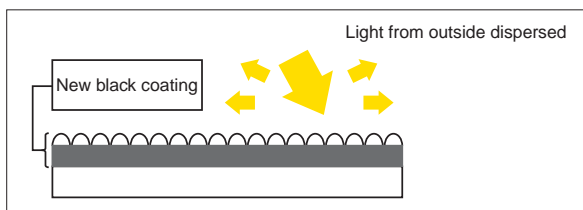
The DVD video recorder D-R1 has now been introduced; video playback and recording device equipped with a DVD-Multi Drive for DVD-RAM, DVD-R (Recordable) and DVD-RW (Rewritable).

With this innovative advancement, the D-R1 gives users a hassle-free solution for more flexibility in their home recording and viewing choices.

The new recorder also incorporates the time slip function, which offers the ability to simultaneously record, and playback; enabling consumers to pause live TV as well as to begin viewing a program recording that is already in progress.

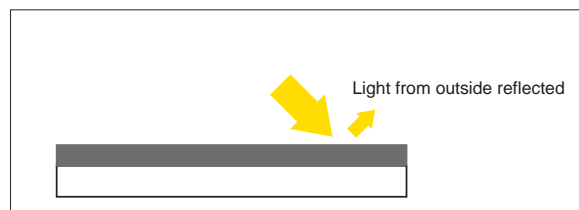
With multi-format compatibility, ease of use and convenient features such as a variety of front A/V inputs, including A/V composite and S-Video, the D-R1 is at the forefront of the growing DVD recorder market.

The D-R1 features unique, top operational buttons for versatility in home theater set-up and user-friendly operability. The stylish unit is slim, with an intuitive design.



### New black coating

This screen cuts out the distracting reflections from outside light and fluorescent ceiling light while maintaining a clear solid black in the images displayed.



### Traditional coating

The traditional screen coating does produce a clear solid black, but reflects fluorescent ceiling and other light from outside.

## Speech Synthesis Technology



**N.U.D.E.@**  
Natural Ultimate Digital Experiment

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Image of N.U.D.E.@™ Natural Ultimate Digital Experiment

Toshiba is a leader in speech synthesis software. The Japanese-language speech synthesis systems we have delivered set new standards for high-fidelity sound and reduced demands on memory. It has already been applied in a wide range of products, and in particular it is an integral part of the recently released game software “N.U.D.E.@™ Natural Ultimate Digital Experiment” for the Japanese market from Microsoft Corporation.

Toshiba has developed multi-language speech synthesis middleware that delivers text-to-speech with a clarity and natural intonation that approximates that of the human voice. The middleware supports 9 languages—Japanese, American English, British English, French, German, Spanish, Italian, Dutch and Chinese—and makes only limited demands on memory and processing power.

Toshiba is determined to reinforce its leadership in speech processing systems on a global basis, and supports this resolve with an international network of research and development bases working in this area.

*“N.U.D.E.@” is a trademark of RED ENTERTAINMENT in Japan and other countries.*

## e-STUDIO 210c/310c Digital Color Plain Paper Copier

Toshiba has commercialized a 4 consecutive tandem system digital color plain paper copier in order to respond to the increasing demand for document colorization in the office and to the desire for higher screen quality in the DTP (Desk Top Publishing) market.

The concept of commercialization focuses on 3 points, which are high productivity, high screen quality and improvement of paper readiness.

Toshiba has developed an original image compression technique in order to process vast amounts of color image data at high speed, and furthermore we have achieved high productivity by including electronic sorting as standard equipment. We have realized clear and sharp screen quality, which can respond to the needs of the graphic arts field. The e-STUDIO 210c is capable of copying 21 sheets/min, and the e-STUDIO 310c is capable of 31 sheets/min.



The e-STUDIO 210c/310c digital color plain paper copier



## FEMINITY™ Series Network Home Appliances

With the recent advances in the information technology (IT) and communication fields, market demand is shifting from hardware orientation to software orientation seeking value in the provision of content and services.

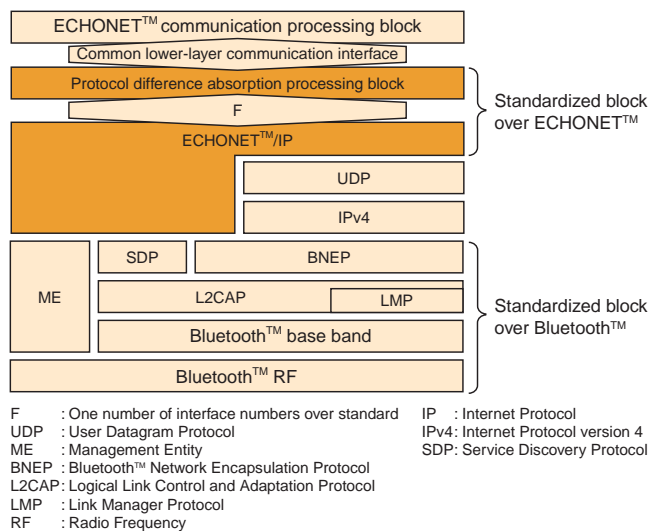


FEMINITY™ series network home appliances

Toshiba has adopted Bluetooth™ technology for home appliances for the first time in the world, and produced home digital appliances that can send and receive information such as new operation modes and recipes based on the user's lifestyle. The name of these products is the FEMINITY™ series.

All content sent to these network home appliances is supplied from the "FEMINITY™ Club" Web site on the Internet. Toshiba has adopted a communication protocol, conforming to "ECHONET™" specifications, which was approved in August 2002 by the ECHONET™ CONSORTIUM.

Toshiba will continue to develop content that satisfies market needs and further improves the convenience of network home appliances.



### ECHONET™ over Bluetooth™

"ECHONET" is a trademark of ECHONET CONSORTIUM.

## SENZOHKO™ GR-NF424K Nonfluorocarbon, Energy-Saving Refrigerator



The GR-NF424K refrigerator

In January 2002, Toshiba became the first company in Japan to develop a nonfluorocarbon refrigerator, adopting a hydrocarbon system refrigerant instead.

In April 2002, we were awarded the Nikkei BP technical grand prix, and in September 2002, the Ozone layer protection grand prix was also awarded to Toshiba in recognition of our engagement in solving the earth's environmental problem with our work on refrigerators.

Furthermore, the Technical award of the Japan Society of Refrigeration and Air Conditioning Engineers was presented to Toshiba in May 2003 for our technology and the actual results we have achieved.

Toshiba's technology evolved further in September 2002 when the GR-NF424K was developed as a representative model of the nonfluorocarbon refrigerator series named Energy Saving SENZOHKO™.

Toshiba advanced energy saving performance with a 3 compartment-3 evaporator system which improved efficiency using a new-type compressor and evaporator, and food freshness preservation performance with the HIKARI PLASMA & ION™ unit, in addition to the Nonfluorocarbon system that forms the basis of Toshiba's technology.

Furthermore, a food storage revolution in the large refrigerator was realized with the ORIRUNDANA™ slide-down shelf, an epoch-making device located at the top of the refrigeration compartment of tall refrigerators for the more petite Japanese woman, and this device contributes to energy saving in the field of food handling by decreasing the amount of food material disposed of as well.

## Digital Inverter, Light Commercial Inverter Air Conditioner for the Overseas Market



4-way cassette indoor unit



5.6 kW outdoor unit



8.0 kW outdoor unit



11.2, 14.0 kW outdoor unit

Digital Inverter, light commercial inverter air conditioner

Toshiba Carrier Corporation introduced a light commercial inverter air conditioner called the Digital Inverter for the overseas market.

In the Japanese market, these have gained recognition under the name Smart Eco, adopting a new refrigerant R410A that does not deplete the ozone layer, improves energy saving efficiency, and makes outdoor units the most compact and lightweight among competing products.

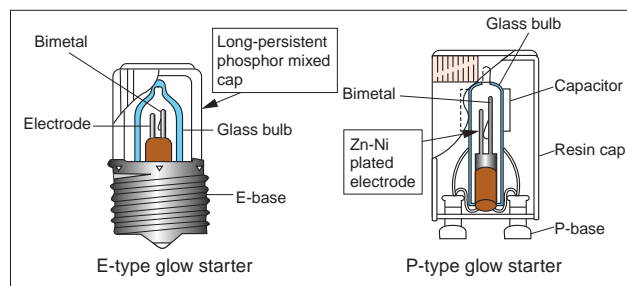
These products improve energy efficiency by using established technologies i.e. DC twin compressor, vector control inverter technology, and R410A control technology, and are price competitive compared with fixed speed type air conditioners, which have been popular on the overseas market.

For the launch onto the overseas market, electrical parts such as the inverters and indoor unit controllers were modified to meet local power supply specifications, and products were modified according to various European standards in order to gain certificates of approval.

Four kinds of indoor units, 4-way cassette, ducted, high wall, and console/ceiling type combined with two capacity ranks of outdoor units, 5.6 kW (2 HP) and 8.0 kW (3 HP), have been available on the market since February 2003.

The 11.2 kW (4 HP) and 14.0 kW (5 HP) rank models will be launched this September. The completion of the product lineup makes our image "Toshiba the inverter air conditioner brand" on the market and will lead to the expansion of sales.

## Development of Environment-Conscious Lamp Products



Section of glow starter

Toshiba Lighting & Technology Corporation has grappled with the development of environment-conscious products for global environmental preservation. The following environment-conscious lamp products were developed and introduced in 2002.

### RI-free glow starters

Until now, a radioactive isotope (RI) was used in glow starters to improve starting characteristics in dark locations. Toshiba Lighting & Technology Corporation developed a new substitutive technology for RI applicable to the E-type and P-type glow starters, and introduced RI-free glow starters, which can start securely even in a dark place.

Features:

- Substitute technology for RI
  - Long-persistence phosphor is incorporated in the resin cap.(E-type glow starter)
  - Zn-Ni plated electrode is newly adopted. (P-type glow starter)
- Compatible with conventional glow starters, and compliant with JIS (Japanese Industrial Standard)

### Fluorescent lamp with recycled material (first in Japan)

Toshiba Lighting & Technology Corporation developed a fluorescent lamp with tri-band phosphor collected and regenerated from used fluorescent lamps. This lamp was introduced by Japan Recycling Light Technology & Systems on November, 2002.

Features:

- Rapid start fluorescent lamp (40 W type) in which about 30 % regenerated tri-band phosphor is mixed with calcium halo phosphate phosphor.
- Luminous flux is 2,900 lm (almost equal to the conventional type).
- General color rendering index has increased from 61 to 69 due to the mixed tri-band phosphor.
- Rated life is 12,000 h (equal to the conventional type).