Digital Products

In the digital products field, Toshiba will continue to produce new products worth being called "Digital Life Partners" that offer new services and functions from the users' viewpoint. We have produced the world's thinnest, lightest and longest battery life notebook PC, a digital high-definition LCD-TV which allows interoperation with digital devices, a cellular phone which has high picture quality and greater PC compatibility, and so on.

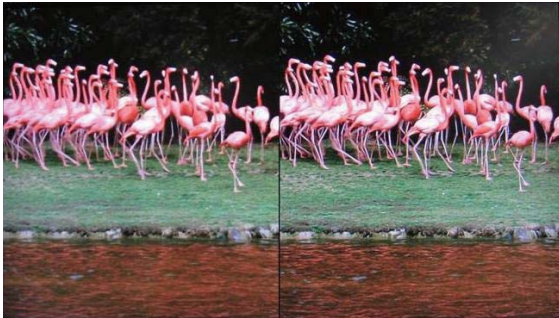## AV Appliances Powered by Cell Broadband Engine™

Image up-scaled by image super-resolution
(compared with image up-scaled by a conventional up-scaling filter)

Simultaneous playback of multiple video streams

Toshiba has developed several inspiring features for AV appliances using the high-performance Cell Broadband Engine™ (Cell B.E.), which is a heterogeneous multi-core processor. Some of these were exhibited at 2008 International Consumer Electronics Show (CES).

One feature demonstrated there was image super-resolution. This technology converts a standard definition image to a high-definition image more clearly than conventional up-scaling filters. On the other hand, it needs much processing power because it iterates the calculation of pixels to make the image clearer. Using the high performance of Cell B.E. and the optimization technique on it, real-time execution of the image super-resolution has been achieved. The top display compares images up-scaled with a conventional up-scaling filter (left side) and with the image super-resolution (right side).

The other feature is multiple video playback. The software video decoder optimized for Cell B.E. can decode many video streams simultaneously. The bottom display shows the simultaneous playback of 48 standard definition video streams, a feature never before achieved on conventional AV appliances.

"Cell Broadband Engine" is a trademark of Sony Computer Entertainment Inc.

REGZA™ Z3500 Series Digital High-Definition LCD TV that Supports REGZA LINK™

REGZA™ Z3500 digital high-definition LCD TV

Toshiba has commercialized five models of REGZA™ Z3500 (57V/52V/46V/37V types) as the flagship series of the REGZA™ digital high-definition LCD TV.

The newly developed POWER meta brain™ image processor was adopted, and all models feature the 10-bit full high-definition television panel with a drive speed of 120 Hz.

Moreover, abundant new features such as REGZA LINK™ with HDMI-CEC (High Definition Multimedia Interface-Consumer Electronics Control) technology interoperating with digital devices are supported.

Digital devices such as the hard disk &DVD recorder VARDIA™, AV note PC Qosmio™, high-definition movie camera gigashot™, ONKYO AV receiver, and YAMAHA surround system can easily be operated by the remote controller as if they were built-in devices. The interoperating features include remote playback, recording, power supply synchronization, and amplifier volume adjustment.

Especially, we have achieved the world's first[*] interoperation.

LCD: Liquid Crystal Display
(*) As of September 2007 (as researched by Toshiba)

POWER meta brain™ image processor

REGZA LINK™ (HDMI/USB/LAN)   USB: Universal Serial Bus

TDP- EW25/EX20 Ultra-Wide-Angle Projector

TDP-EX20 data projector

Toshiba has launched two DLP® model projectors, TDP-EW25 and TDP-EX20, featuring ultra-wide-angle extreme short throw projector (ESP) technology, in which we have reduced the throw distance to just 50 cm. In addition, when a projector is mounted on a ceiling, the high offset angle which is another feature of the TDP-EX20 ensures that the speaker is not obscured by the lamp light.

The TDP-EW25 is capable of projecting WXGA (1 280 × 800 pixels) resolution images on a large 100-inch screen within a short throw distance of 1.2 m. The TDP-EX20 can project XGA (1 024 × 768 pixels) resolution images on a large 100-inch screen within a throw distance of 1.5 m. The brightness is 2 300 lumens for the TDP-EX20 and 2 600 lumens for the TDP-EW25.

The new Brilliant Color™ technology developed by Texas Instruments and Toshiba's unique Natural Color Enhancer 4 (NCE4) color technology are integrated into these products to enhance the original color, while maintaining the natural bright color of the data output from a PC or DVD player.

Furthermore, Windows® Embedded CE 6.0 is incorporated in these new models, and Network Projector, a feature of Windows Vista® is supported. This allows users to operate a projector easily with a Windows Vista® compatible PC without having to make complicated network settings. They also contain a wireless LAN module, which can offer a wide range of use with the wired LAN (RJ-45) input terminal.

WXGA: Wide Extended Graphics Array
XGA: Extended Graphics Array

"Windows" and "Windows Vista" are resistered trademarks of Microsoft Corporation in the United States and other countries.

"DLP" is a registered trademark of Texas Instruments Inc.

Industry's Largest Capacity 320-Gbyte 2.5-inch HDDs and 160-Gbyte 1.8-inch HDDs

2.5-inch HDD MK3252GSX (left), MK2049GSY (right)

1.8-inch HDD MK1626GCB (left), MK8022GAA (right)

Toshiba has launched nine new 2.5-inch hard disk drive (HDD) products. The top-line MK3252GSX features the industry-largest[*1] capacity of 320 Gbytes and the MK2049GSY improves performance with a 7 200 rpm rotational speed. The improved read-write head and enhanced magnetic layer have boosted the recording density. The new drives provide system manufacturers great storage solutions with a broad range of capacity and performance to support diverse applications such as large-capacity data storage for movies and digital photos on high-end notebook PCs. Both models support an optional free-fall sensor function, which detects when the HDD is falling and parks the head before impact.

Mass production of two advanced 1.8-inch HDDs was started: the MK1626GCB offers a storage capacity of 160 Gbytes, the industry's largest[*2] in this form factor, while the thin and light MK8022GAA has a capacity of 80 Gbytes. Both drives are designed for mobile devices such as portable media players. The MK1626GCB adopts CE-ATA, an HDD interface that optimizes performance in consumer electronics applications.

(∗1) As of August 21, 2007 (as researched by Toshiba)
(∗2) As of September 6, 2007 (as researched by Toshiba)

PORTÉGÉ™ R500 Ultimate Thin & Light Mobile Notebook PC

PORTÉGÉ™ R500 mobile notebook PC

Toshiba has launched the PORTÉGÉ™ R500. This is the world's best[*] in the three categories of thinnest, lightest, and longest battery life, and the world's first[*] in the four characteristics of transflective LCD, 7 mm ODD, 64-Gbyte SSD, and WiMAX. It started shipping in June 2007.

This model embodied 22 years of Toshiba's cutting-edge technology and technical know-how to resolve all concerns of mobile users to create a truly mobile PC which can be used anywhere, anytime, safely, and securely.

This is the world's lightest and thinnest full-specification PC with ODD, better visibility under sunlight thanks to the transflective LCD, outstanding performance, and the longest battery life with a dual core CPU and flash memory drive. It also offers maximum security with the combination of fingerprint, data encryption and password protection. A port replicator expands scalability on the desk.

This product has a magnesium case, spill-resistant keyboard, and a three-dimensional (3D) accelerator to protect the HDD. It has passed severe tests and can be used by anybody with a sense of security.

ODD : Optical Disc Drive
SSD : Solid State Drive
WiMAX: Worldwide Interoperability for Microwave Access
CPU : Central Processing Unit

(∗) As of June 2007, as mobile notebook PC (as researched by Toshiba)

Qosmio™ G40 New AV Notebook PC

Qosmio™ G40 AV notebook PC

The Qosmio™ G40 is the flagship AV notebook PC of the Qosmio™ series, featuring a 17-inch wide full HD WUXGA (1 920×1 200 pixels) LCD that can display HD movies with a feeling of depth and presence. The new REGZA LINK™ with HDMI-CEC technology allows HD movies to be easily displayed on a large REGZA™ screen.

Qosmio™ AV controller

To deliver high quality sound, the Qosmio™ G40 has two big-diameter harman/kardon™ bass-reflection stereo speakers that improve the reproduction power in the bass region as well as two tweeter speakers and one subwoofer. The sound system of the Qosmio™ G40 packs a total of 14 W and Dolby Home Theater™ provides 5.1-ch surround sound for that live performance feeling.

The Qosmio™ G40 has a Qosmio™ AV controller on the right side of the keyboard and allows quick searching of large amounts of stored data.

The Qosmio™ G40 also has an integrated ISDB-T TV tuner (dual tuner) for Japan and DVB-T/Analog hybrid TV tuner for Europe, Australia and Asia.

HD: High Definition
WUXGA: Wide Ultra Extended Graphics Array
ISDB-T: Integrated Service Digital Broadcasting-Terrestrial
DVB-T: Digital Video Broadcasting-Terrestrial

"harman/kardon" is a trademark of Harman International Industries, Incorporated.

"Dolby Home Theater" is a trademark of Dolby Laboratories Licensing Corporation.

Satellite X205 Gaming Model

Satellite X205

Glossy LCD lid of Satellite X205

The Satellite X205 is a gaming model notebook PC and a top-end model of the Satellite series, which supports the NVIDIA® high-end graphics chips.

The Satellite X205 supports both the NVIDIA® SLI Dual GeForce® 8600GT and NVIDIA® GeForce® 8700M GT graphics chips. This model also supports Microsoft DirectX® 10, which enables more beautiful and realistic drawing. Especially, NVIDIA® SLI Dual GeForce® 8600M GT adopts scalable link interface (SLI) technology which uses two graphics chips to deliver high-end graphics performance.

The glossy and red-themed design of the LCD lid achieved by using 3D paint technology increases the product's appeal to gaming users.

For the sound, the Satellite X205 supports four high-quality speakers and one sub-woofer. The four speakers provide powerful spatial sound and the sub-woofer reproduces bass sound, for powerful gaming action.

"NVIDIA" is a registered trademark of NVIDIA Corporation.

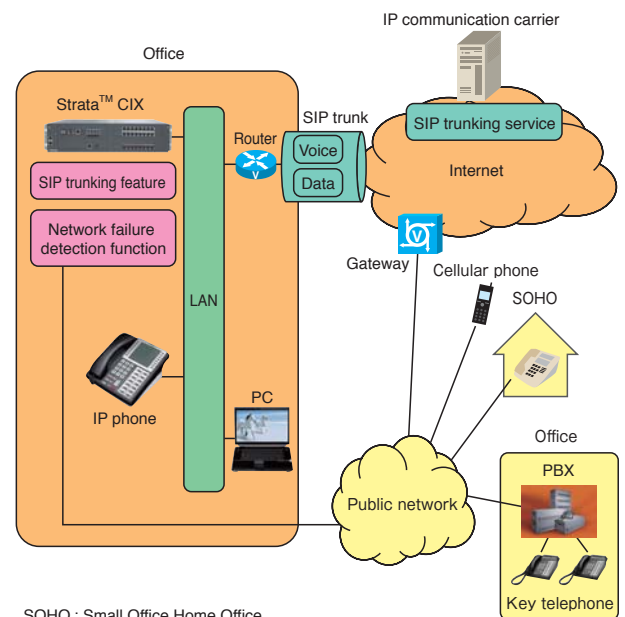*"GeForce" is a registered trademark of NVIDIA Corporation.*

"DirectX" is a registered trademark of Microsoft Corporation.

SIP Trunking Feature in IP Business Communication System

Toshiba has developed, in its Strata™ CIX series IP (Internet Protocol) business communications system, a feature to connect with the session initiation protocol (SIP) trunking service operated by major IP communication carriers for North America.

This feature is an IP telephony service based on the SIP protocol, which is the de facto standard for telephony and multimedia communication. Total cost of ownership (TCO), including communication cost, can be reduced by unifying communication services such as data, voice, and Internet.

Also, even if a network failure occurs, a call can be generated through another trunk by a proprietary network failure detection function, allowing users to enjoy various services of the Strata™ CIX without interference. The demand for this SIP trunking feature is growing fast.

SOHO : Small Office Home Office
PBX   : Private Branch Exchange

SIP trunking feature in IP business communication system

W56T CDMA2000 Cellular Phone

W56T cellular phone

Toshiba has developed a new CDMA2000 model with KCP+(∗) for au by KDDI Corporation, the W56T, released in February 2008.

The W56T is one of the first models which is installed on the newest KDDI platform. This platform provides a "multi-window" which can show two features such as e-mail and one-segment broadcasting (1SEG) DTV, and an "au one gadget" which provides easy access to often-used features from the wallpaper.

The body shape is called the "reversible style", which wakes up 1SEG by rotating the upper part to 360 degrees. The side "Σ shape" provides a suitable angle for watching 1SEG when the phone is placed sideways, and also enables the body to be opened smoothly.

The display is a 2.8-inch wide size VGA (640×480 pixels) using an organic electro-luminescence (EL) for the first time in a Toshiba cellular phone. The organic EL has properties of higher contrast, higher color reproduction and faster driving than the conventional LCD, and so provides excellent vividness for visual services and content such as 1SEG, video clips, and photos. In addition, the imaging technique developed by REGZA™, Toshiba's brand of LCD TVs, can be selected for the best image quality of 1SEG. A lot of content can be stored in the large-capacity 800-Mbyte data folder.

Additional features such as a maximum download speed of 3.1 Mbps, fast communication, 3.2 megapixel autofocus (AF) camera, videophone, Bluetooth™, and FeliCa, are packed into this compact body as an all-in-one high-performance handset.

DTV : Digital TV
CDMA : Code Division Multiple Access
VGA : Video Graphics Array

(∗) An integrated platform created by KDDI Corporation in cooperation with Qualcomm Incorporated.

The Bluetooth word mark and logos are owned by Bluetooth SIG, Inc. and any use of such marks by Toshiba is under license.

921T W-CDMA Cellular Phone

(When turnovered)

921T W-CDMA cellular phone

Toshiba has developed a W-CDMA model for the first time with an organic EL display in the main LCD for SOFTBANK MOBILE Corporation, the 921T, released in March 2008.

The 921T is a turnover-type terminal with a 2.8-type (inch) wide-QVGA (480×800 pixels) organic EL display which carries a maximum of 260 000 colors. The organic EL display offers better contrast and color reproduction than the conventional LCD, and a faster response speed of the image. The 921T, which supports 1SEG services, features the outstanding image quality of organic EL displays, and the advanced imaging techniques of the REGZA™ digital high-definition televisions. It has also functions including an image quality setting that can be chosen according to the image content and the situation, and edge enhancement.

W-CDMA : Wideband Code Division Multiple Access
QVGA : Quarter Video Graphics Array

822T W-CDMA Cellular Phone

822T W-CDMA cellular phone

Toshiba has developed a new 3rd-generation (3G) waterproof model for SOFTBANK MOBILE Corporation, the 822T, released in February 2008.

The 822T has a waterproof rating equivalent to IPX5 (JIS IP Code) [*1] and IPX7 (JIS IP Code) [*2]. It can thus be used without concern in daily life such as near water and by the pool, and is safe to use with wet hands.

The 822T has a 2.4-type (inch) clear screen QVGA (240 × 320 pixels) LCD for displaying photos and e-mail with high resolution. It also sports a 1.96-megapixel camera with auto-focus function that delivers high-quality photos and videos.

The 822T has a twinkle light function which can set or create various illumination patterns of twinkle lights to notify incoming calls or messages, etc.

Furthermore, the large-scale keys make dialing and e-mailing even easier.

IP: Ingress Protection

(*1) The handset will continue to function even if sprayed with water from a 6.3-mm diameter nozzle at a distance of 3 m for more than 3 minutes at a rate of 12.5 liters per minute from any direction.

(*2) The inside of the handset will remain dry and it will continue to function even if submerged in a tank of still tap water at room temperature to a depth of 1 m for approximately 30 minutes.

PORTÉGÉ G910/G920 Windows Mobile® 3G Smartphone for the European Market

PORTÉGÉ G910/G920, Windows Mobile® 3G smartphone for the European market

The PORTÉGÉ G910/G920, a new 3G smartphone with Windows Mobile® 6 Professional, hits the European market.

The PORTÉGÉ G910/G920 supports not only 3G and GSM but also high-speed data services (W-CDMA2100/GSM1900/1800/900 and HSDPA & EDGE) used worldwide, has a large WVGA (800 × 480 pixels) LCD with a touch panel of a landscape clam shell shape and a large full keyboard, improves the user interface in messaging and Web browsing, and yet is just 19 mm thick.

The PORTÉGÉ G910/G920 is the world's first[*1] Windows Mobile® handset which has a sub LCD with a landscape clam shell shape, thus making it possible to make or receive phone calls with the clam shell closed.

The PORTÉGÉ G910/G920 also supports wireless LAN (IEEE 802.11b/g), Bluetooth™, and USB (Universal Serial Bus) for connecting with external devices such as PCs and external networks.

Since the PORTÉGÉ G910/G920 comes with a global positioning system (GPS) antenna, it can be used as a car navigation system while driving. Furthermore, the PORTÉGÉ G920 supports the Assisted GPS[*2] function, and improves location-based services on the Web.

GSM　　: Global System for Mobile Communications
HSDPA : High Speed Downlink Packet Access
EDGE　 : Enhanced Data rates for GSM Evolution
WVGA : Wide Video Graphics Array

(*1) As of March 2008 (as researched by Toshiba)

(*2) Assisted GPS: The positioning system which processes the global positioning system signals received on the mobile phone at a dedicated server with a high degree of accuracy.

"Windows Mobile" is a registered trademark of Microsoft Corporation in the United States and other countries.

ST-A10 High-Performance Touch-Panel POS Terminal

ST-A10 high-performance touch-panel POS terminal with 15-inch screen

The ST-A10, a high-performance touch-panel POS terminal, enables easy checkout operation by touching a monitor panel without using a keyboard. The ST-A10 is a small-footprint terminal having a vertically slim chassis so that it can be installed in small spaces in the target markets such as restaurants and specialty stores. There are two models, either a 12-inch or 15-inch screen, with well-matched black colors.

To ensure ease of use, the screen of the ST-A10 has an adjustable tilting mechanism and the user can adjust the touching sound effect to match their taste. To make it suitable for restaurants, specialty stores, etc., the ST-A10 has a splash-proof construction complying with the Ingress Protection code IPX2 of International Standard IEC60529.

In addition, for improved serviceability, the ST-A10 is designed for easy maintenance of worn or damaged parts without needing basic tools such as screw drivers.

The ST-A10 won the Year 2007 Good Design Award in Japan for user-friendliness and good functionality suitable for store environments.

POS: Point of Sale

e-STUDIO 5520c/6520c/6530c Digital Color Multifunctional Peripherals

Toshiba TEC Corporation has launched a series of high-end digital full-color multifunctional peripherals (MFPs) featuring high image quality, high productivity, total system high reliability, environmental durability and user-friendly operation. They output 65 pages per minute (full-color ppm), which is today's industry-leading productivity among full-color MFPs for office use[*].

The newly developed fine granular toner and image processing technology render high image quality, and the newly developed technology of the high-speed finisher, high-speed paper feeder and high-speed CPU ensures high productivity of the system as a whole. Furthermore, the self refresh developing system ensures high reliability, the external induction heating fixing unit improves environmental durability, and the large-sized LCD monitor with new user interface offers user-friendly operation. In addition, the most recent control technology has been developed to ensure collaborative solutions for systems and applications, high security and ease of management such as department management.

(∗) As of June 2008 (as researched by Toshiba)

e-STUDIO 6530c color MFP