

Research & Development



Industrial Systems

Consumer Products

Digital Media Devices
Consumer Appliances



Third-generation Slim and Small DVD Camcorders

Hitachi, Ltd. has introduced two new third-generation DVD camcorder models. In these models, the DZ-MV350 and DZ-MV380, the size of the camcorder chassis has been reduced by roughly half the size of previous models. Both models also include a USB 2.0 high-speed mode interface for fast uploading and downloading of information to and from PCs and for still images on flash memory card slots.

New DVD camcorder models maintain the same 2002 breakthrough design for recording 80-mm DVD-R and DVD-RAM while making recording more convenient and carrying easier. With DVD-R format discs compatible with most DVD players*¹ on the market, consumers can make the recording and simply drop the disc into a DVD player to watch their home movies instantaneously.

Along with the camcorders' slim, sleek design, consumers will find operation easier with a new color viewfinder and high resolution 120-k pixel 2.5" LCD screen.

Additionally, the camcorders' intuitive disc navigation system provides random access to clips without the danger of accidentally erasing information. Thumbnail images guide the user through each clip segment without the need to fast forward or rewind.

When recording onto a DVD-RAM disc, users can edit their movies in the camera. This sophisticated system allows consumers to reorder scenes and add special transition effects, including fades and wipes, without the need for a computer. Additionally, with the USB 2.0 high-speed mode connection, video can be uploaded to a PC and edited with the included PC software. After editing, the video can be transferred back to the camcorder and burned onto a DVD-R for playback on most DVD players*¹.

Hitachi added a major new step-up feature for still photo management. A flash memory card slot provides a well-situated and easy to use method for storing and transferring images to a PC and printer.

2003 DVD camcorders continue to use high quality and high efficiency MPEG-2 video recording technology. Using the DVD-RAM function, the camcorder utilizes either the variable bit rate (VBR) or constant bit rate recording (CBR) formats. With a double-sided DVD-RAM disc inserted, the camcorders record approximately up to 120 minutes of video. The DVD-RAM disc can also hold 1,998 recorded still images.

For DVD-R discs, recordings can be played on most DVD players*¹ and DVD-ROM drives*². The camcorder's DVD-R function shoots up to 60 minutes of high quality DVD.

DZ-MV350 features a 680-k pixel CCD, a 10× optical zoom lens with 240× digital zoom expander, and electronic image stabilization (EIS).

Fitted with a 120-k pixel 2.5-inch color monitor, the unit has a 113-k pixel color viewfinder and digital stereo sound. In addition to the USB 2.0 high-speed mode connection, the camcorder includes an S-video output and an A/V input/output and microphone jack.

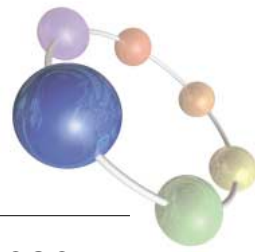
In addition to the features listed for the DZ-MV350, the DZ-MV380 features a 1 mega pixel CCD, 1,280 × 960 still picture capability, a hot shoe for flash and an S-video input.

*¹ DVD-R may not be compatible with some DVD players.

*² Some DVD-ROM drives may not be compatible with 8-cm DVD-R disc.



Third-generation slim and small DVD camcorder: DZ-MV350



New Lineup of High-definition Plasma TVs in Japanese Market

Plasma TVs have taken the leading position in next-generation flat-panel displays. Hitachi's past lineup of plasma TVs featured 32-, 37-, and 42-inch models.

Hitachi's recently developed products incorporate an ALIS (alternating lighting of surfaces) panel that provides even higher brightness and sharper contrast. They also feature a DIPP (digital image pixel processor) newly developed with original Hitachi digital-image processing technology achieving a high level of picture quality as demanded by high-definition broadcasts.

In addition, Hitachi's new lineup of plasma TVs is now on sale featuring nine combinations with three screen sizes (32-, 37-, and 42-inch) and three types of AVC (audio visual controller) stations based on plus one 50-inch type that takes up a total of 10 sets. This lineup provides optimal solutions where users can select the desired screen and media based on their life styles and interior settings.



Hitachi's new lineup of high-definition TVs

Projection TV Supporting Digital Terrestrial Broadcasting in North America

The market for projection TVs in the United States is expected to increase at an annual rate of 15% and to reach a scale of 3-million units in 2004. In addition, the FCC (Federal Communications Commission) has stipulated that large-screen TVs must be equipped with a function for receiving digital terrestrial broadcasts from 2004, and it is therefore essential that digital television be supported by projection TVs. Hitachi, Ltd. has developed a projection TV for digital terrestrial broadcasts making use of Japan's domestic BS digital receiver platform.

Main features:

- (1) Supports both digital television and digital cable.
- (2) Displays high picture quality by converting all 18 video formats prescribed by ATSC (Advanced Television Systems Committee) into 1080i format.
- (3) Supports digital closed captioning.
- (4) Incorporates an IEEE1394 interface.



Projection TV supporting digital terrestrial broadcasting in North America



A5303H Cell Phones Feature Video Mail Support and SH-mobile High-performance CPU

The "A5303H" series of Hitachi cell phones feature a built-in camera and support for CDMA2000 1x, a third-generation cellular telephone system. The camera is an "angle-free" type that can rotate up to 180° at the unit's folding hinge, and maximum 15 seconds of video with audio can be taken. Both the main display and sub-display employ a super-fine-color TFT liquid crystal displaying 260,000 colors, which results in bright and vivid color video.

Hitachi's SH-Mobile special processor for multimedia applications makes for smooth operation of Web or video games. It also enables a service that enables users to set songs with vocals as ring tones and a service that enables user-taken video to be played back when receiving a call.



A5303H series of cell phones with video mail support



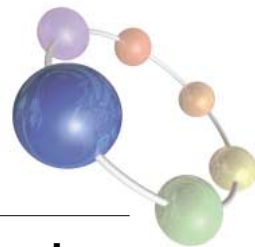
Fully Automatic Washing Machine with Heater-less Drying Function



Fully automatic washing machine with heater-less drying function

Hitachi Home & Life Solutions, Inc. released in October 2002 the fully automatic washing machine series that provides a heater-less drying function which can tumble-dry a 2-kg load of machine-washable laundry. These washers are designed to conserve energy and tumble-dry even those delicate clothes that are sensitive to heat.

These newly developed washers with the heater-less drying function have been designed to meet the specific needs of those customers who wish to dry laundry quickly after it is washed as well as those who wish to dry a small amount of laundry. The air drying system can dry a 2-kg load of laundry, without using an electric heater by delivering an air stream into the washing tub and blowing it onto the laundry while at the same time extracting the moisture. Laundry shrinks less in the drying stage, and delicate clothes that are sensitive to heat can be tumble-dried safely. This washer is economical to use as it consumes less electricity than other drying systems that use an electric heater. In addition, it provides the "Washing-tub drying program" and the "Washing-tub washing program" that can prevent blackish mold growth and keep the tub clean.



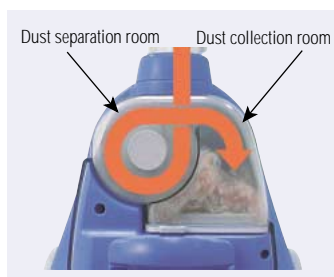
New Paper Bagless Type Vacuum Cleaner with Minus Ion and Cyclonic Dust Compression Technology

Hitachi's original cyclonic dust compression technology that doesn't require paper bags consists of two rooms. The "dust separation room" rolls up dust from the bottom and separates it from the air using centrifugal force. The other room is the "dust collection room" that collects the dust.

The dust separation room cannot be dirty due to the self-cleaning effect of the centrifugal stream. It can therefore remain highly efficient in dust collection and power use. A consistent and strong dust compression system can press the dust volume into half the initial volume.

The main features are as follows:

- (1) Easy to clean and wash the dustcase with one touch dust disposal.
- (2) The suction head has equipment that generates minus ions and improves the dust collection efficiency by neutralizing the positive charged tiny dust on the floor.
- (3) A number of filters, including the "HEPA clean filter" in the body, can make the air clean and exhaust it softly.
- (4) Lightweight at 3.4 kg, compact design, and easy to use.



Structure of dust compression system



Power head type CV-SF9 (top) and air turbine head type CV-SF8 (bottom)

New Slim-type Refrigerator: R-KF40RPAM

To meet the need for a large-capacity but space-saving refrigerator for even very small kitchens, the R-KF40RPAM features a depth of only 60 cm* while providing a total capacity of 401 liters. All sides of the refrigerator can achieve a "snug fit" with a 60-cm-deep kitchen counter enabling unencumbered workflow, and the "twin door" outward-opening system makes it easy to open and close doors even in a small kitchen. In addition, freon-free hydrocarbon materials have been adopted for the refrigerant and gas-forming agent used in heat insulation as part of Hitachi's ongoing efforts to ease environmental load.

* From the back of the product to door corner.



New slim-type refrigerator

New PAM Air Conditioner

Hitachi's new PAM (pulse amplitude modulation) air conditioner eliminates unpleasant airstream and features a design in harmony with modern interiors.

Main features:

- (1) Adjusts air flow in the wintertime to achieve effective heating from your feet without unpleasant airstream hitting your face.
- (2) Controls humidity in the summer to achieve smooth, dehumidified air agreeable to the skin.
- (3) Dehumidifies air throughout all four seasons without a cold feeling.
- (4) Controls mold through clean air flow.
 - Controls mold generation through a dehumidifying function that keeps humidity at about 40% to suppress ticks and mold and through automatic operation based on room temperature and humidity.
 - Improves air quality by eliminating mold spores and smell and by generating negative ions.
 - Exhausts clean air through the adoption of an internal-dry function that suppresses internal molds and smells, and an epochal structure that enables easy corner-to-corner cleaning.



Hitachi's new PAM air conditioner (top) and its structure (bottom)

New Powerful Driving Unit for New-generation Rotary Shaver: RM-TX880

Early this year Hitachi launched the new-generation rotary shaver RM-TX880 equipped with a powerful driving unit.

This new unit achieved 20%*¹ of torque increase by changing the gear ratio and 30%*¹ increase in transmission efficiency by reducing the number of transmission points. As a result we accomplished the total cutting power increase to about one and a half times*¹ when compared with our former model. This offers users with a more powerful and invigorating shave, with the inner blades revolving more powerfully. Due to this new driving unit, the RM-TX880 features a "Turbo Mode" function that causes its power for a full shave of even long, coarse and thick beards.

The new-generation RM-TX880 offers a comfortable, clean and hygienic shave with the following functions: "Arched-Center Trimmer" using EF² (electro fine forming) technology, "3-D Moving Head" and "Swing Head," "Intelligent Shaving with Beard Sensor," "Waterproof Body," an easy to wash cleaning system with the "Rotary Washer," etc.

The body was ergonomically designed and we adopted stainless steel as the body material for the first time in industry*² to ensure higher quality.

*¹ Comparison with RM-TX860

*² As of Feb. 21, 2003



New powerful driving unit

Spiral inner blades

New-generation rotary shaver: RM-TX880