2009 (G)

High-Definition Camcorders

HDC-HS300/HDC-TM300
HDC-HS200/HDC-TM200
HDC-HS20/HDC-TM20/HDC-SD20

Panasonic NEWS

Press Release

High-Definition Camcorders

HDC-HS300 (in black & silver : ASP RM 4,999.) /

HDC-TM300 (in black & silver : ASP RM 4,499.)

HDC-HS200 (in black & silver : ASP RM 3,999.) /

HDC-TM200 (in black & silver : ASP RM 3,799.)

Featuring the Newly Developed 3MOS System!

This 3-sensor system, which is commonly used in professional camcorders, assures high image quality for both motion and still images.

1) The use of three full-HD sensors provides the world's highest* total pixel count of 9,150,000 pixels** (3,050,000 pixels x 3).
2) Equipped with a newly developed, large-aperture Leica Dicomar Lens (filter diameter: 43 mm) with 1/4.1-inch image sensor.
3) Records still images with 10.6-megapixel resolution. Also features high 8.3-megapixel resolution for still images when recording simultaneously with motion images.
4) Minimum required luminance of 1.6 lx, the best in the industry (as of January 7, 2009).
5) Features the Advanced O.I.S. (optical image stabilizer) with high-speed operation of 4,000 times per second and 3 times*** the conventional stabilization area.

* For home-use camcorders, as of 7 January 2009.

** Effective motion image pixels: 6,210,000 (2,070,000 pixels x 3).

*** Compared with the HDC-SD9/HDC-HS9.

More Advanced iA (Intelligent Auto)!

1) The most suitable shooting mode is automatically activated according to the subject. By taking full advantage of the camcorder's capabilities, this high performance rivals many professional models.
2) The AF Tracking function has been added! Once it locks on a subject, it keeps the subject in focus even if the subject's face turns away from the camcorder.
3) Special still-image iA functions have been added! A scene selector designed for

the still-image mode, and an optical image stabilization technology exclusively designed for still images are provided.

New HS300/TM300 Flagship Models Come Equipped with a Manual Ring, an Electronic Viewfinder, and a Mic Terminal to Meet the Needs of Semiprofessionals.

High-Definition Camcorders

HDC-HS20 (in black : ASP RM 3,399.) /HDC-TM20 /
HDC-SD20 (in black, silver & red : ASP RM 2,499.)

Basic Models with an Optical 16x Zoom, Leica Dicomar Lens, and iA (Intelligent Auto) Allow Easy Enjoyment of High-Definition Video Recording.

As broadcasting technology continues to advance, many video products are shifting to high definition. The high definition trend is also spreading steadily throughout the camcorder market. Responding to these market needs, Panasonic announces seven full-HD camcorders ranging from basic models to high-end models for semiprofessionals.

HDC-HS300/TM300

The HDC-HS300/HDC-TM300 are semiprofessional models ideal for users who are looking for more expressive video shooting. These models allow delicate and precise fingertip control of the zoom, focus, aperture, shutter speed and white balance. They are also provided with an electronic viewfinder (EVF) and a mic terminal to bring a more enjoyable shooting experience to video enthusiasts.

The image sensor size has been increased from the previous 1/6 inch to 1/4.1 inch. The 3MOS system with three full-HD sensors has the world's highest* total pixel count of 9,150,000 pixels** (3,050,000-pixel x 3). While a higher pixel count tends to make noise more noticeable when shooting under dim light conditions, Panasonic's new models solve this problem by using three high-sensitivity MOS sensors to

reduce noise. They record beautiful images even under dim lighting while maintaining a high pixel count, thus making it possible to shoot under minimum luminance of 1.6 lx, the best performance in the industry.***

The iA (Intelligent Auto) function that automatically sets the most suitable Scene mode according to shooting conditions is now even further advanced. The new iA is provided with separate modes for motion images and still images, and features an AF Tracking function, which is an enhanced version of the popular face detection function in the iA mode of previous models. Once the user touches a selected subject on the touch-screen -- the subject can be at the centre of the screen or at an edge -- and locks the focus on the subject, AF Tracking keeps the subject in focus even if it moves or turns to one side. This records the subject with the optimal AF/AE (auto focus/auto exposure) settings.

The special still-image mode records with resolution up to 10.6 megapixels, and also allows simultaneous recording of motion images and still images with 8.3 megapixels. And to ensure beautiful results in still-image shooting, the camcorders are equipped with separate iA and O.I.S. (optical image stabilizer) functions that are dedicated to still images. The iA automatically selects the most suitable mode from among the same five modes**** that are found in Panasonic LUMIX digital still cameras. The O.I.S. has two modes (Mode1/Mode2). Mode 1 continuously adjusts the optical axis. And Mode2 corrects the optical axis at the instant the shutter button is pressed, to provide even higher image stabilization performance especially for still image shooting.

* For home-use camcorders, as of 7 January 2009.

** Effective motion image pixels: 6,210,000 (2,070,000 pixels x 3).

*** For an HD camcorder, as of January 7, 2009. In Low Light mode and 1/25 shutter speed.

**** Portrait, Scenery, Macro, Night Portrait, and Night Scenery modes.

HDC-HS200/HDC-TM200

The HDC-HS200/HDC-TM200 were designed with the main emphasis on compactness. They are virtually identical to the HS300/TM300 models in camera performance, but without the manual functions and electronic viewfinder, thus providing the same high image quality. The smaller dimensions add to their easy portability and provide added convenience for users who want easy shooting wherever they go.

HDC-HS20/TM20/SD20

The HDC-HS20/TM20/SD20 are basic high-definition models recommended for users who want easy shooting with an HD camcorder. The HDC-HS20 is a hybrid model capable of recording onto its internal 80-GB hard disk or an SDHC/SD Memory Card (optional). The HDC-TM20 is a twin-memory model that can record onto its built-in 16-GB memory or an SDHC/SD Memory Card (optional). The HDC-SD20 uses the SDHC/SD Memory Card as a recording media and offers extra compactness and light weight, it comes in three body colours: black, silver and red. With the newly developed Leica Dicomar lens, which enabled the optical 16x zoom, these models give users dynamic zooming in full HD image quality. The iA (Intelligent Auto) function with AF Tracking makes it very easy to record beautiful images.

All of Panasonic's seven new models are equipped with Advanced O.I.S. and the Leica Dicomar lens to produce clear, beautiful results in full-HD quality. All models also support the AVCHD format, for 1920 x 1080-pixel full-HD recording,* which is the highest HD image quality possible.

* "Full-HD video with 1920 x 1080 pixels" in Panasonic home-use camcorders refers to video recordings with 1,920 pixels in the horizontal direction and 1,080 pixels in the vertical direction.

- Inclusion of an SDHC/SD Memory Card varies by market.

SD/HDD Hybrid Recording
(HDC-HS300/HDC-HS200/HDC-HS20)

The HS300's internal 120-GB HDD can store 50 hours of recording (in HE mode). The HS200/HS20 has an 80-GB HDD for a long 33 hours and 20 minutes of recording (in HE mode). When combined with a 32-GB SDHC Memory Card (optional), these camcorders provide an additional recording time of 12 hours. The camcorder can copy recorded video images from the SDHC/SD Memory Card to the hard disk, or vice versa, with easy operation. Users can easily transfer finished recordings onto whichever media best suits their intended use.

- Inclusion of an SDHC/SD Memory Card varies by market.

Twin Memory Recording and Relay Recording [New]
(HDC-TM300/HDC-TM200HDC-TM20)

Panasonic's twin-memory camcorders record full-HD images onto the built-in memory or an SDHC/SD Memory Card (optional), and feature a Relay Recording function. When the built-in memory being used to record images becomes full, this function automatically switches the recording media to the SDHC/SD Memory Card to provide uninterrupted recording.
For example, when the TM300 with a 32-GB built-in memory is mounted with a 32-GB SDHC Memory Card, it has a total storage capacity of 64 GB to allow extended recording without interruption. Also, because the camcorders with a built-in memory are lighter and smaller than the HDD models, they are easier and more comfortable to take on long trips.
When a video clip is recorded continuously by being split onto two media types, the data in two different locations can be merged in the camcorder and saved to an SDHC/SD Memory Card.* Data can also be automatically merged when saved onto a DVD using a PC/DVD burner,** thus allowing seamless playback.

The TM300 has a 32-GB built-in memory for 12 hours of recording (in HE mode), while the TM200/TM20 comes with a 16-GB built-in memory for 6 hours of recording (in HE mode). When combined with an SDHC/SD Memory Card, these models enable even longer recording.

* The SDHC/SD Memory Card must have memory space available that is larger than the data in the built-in memory to be merged.

** Automatic merging is possible only when data is saved in AVCHD format.

- Inclusion of an SDHC/SD Memory Card varies by market.

SDHC/SD Memory Card Recording

(HDC-SD20)

The SD20 is highly resistant to impacts because it records onto SD and SDHC Memory Cards and thus has no drive mechanism. This combines with the compact size to make the SD20 ideal for easy shooting while walking around. It also supports the VIERA Image Viewer function, so, after a day of shooting, users can simply take the SDHC/SD Memory Card from the SD20 and slip it into the card slot on a Panasonic VIERA* TV for playback on its large screen. Similarly, recordings can be easily played back using a Panasonic Blu-ray Disc™ player.**

* PZ800

** DMP-BD55/BD35

- The model availability varies depending on the country and region. JPEG format still images can be viewed with other SD Memory Card Slot-equipped models.

Explanation of Features

iA (Intelligent Auto) with AF Tracking [New]

The iA function automatically activates convenient functions during shooting.

These include the new AF Tracking, which keeps the subject in focus even if it moves around to ensure continuously beautiful image quality. The standard auto mode focuses on the subject at the center of the screen, but AF Tracking allows the user to lock the focus on a subject even if it is at an edge of the screen. This is done by simply touching the selected subject on the touch-screen. AF Tracking ensures that the subject stays in focus even if it moves or turns away from the camcorder, thus recording images with the most suitable AF/AE (auto focus/auto exposure) settings. A total of five functions, including Face Detection, Advanced O.I.S., Intelligent Contrast Control and Intelligent Scene Selector that were inherited from previous models, produce outstanding results under virtually all shooting conditions.

Touch Screen Operation [New]

All models feature a touch-screen that allows icons displayed on the LCD to be easily operated by touching them with a fingertip. The touch-screen lets users operate a variety of functions intuitively without taking their eyes off of the subject on the LCD.

Advanced O.I.S. (Optical Image Stabilizer)

In Panasonic's Advanced O.I.S., gyrosensors detect hand-shake and a lens unit shifts to correctly align the optical axis, so that images are sharp and blur-free. This happens at a remarkable rate of 4,000 times per second. Users can capture clear, sharp images even when shooting long-distance zoom shots, where hand-shake is typically a big concern. The HS300/TM300/HS200/TM200, which can record still images with 10.6-megapixel resolution, has two O.I.S. modes designed exclusively for still-image shooting: Mode 1 and Mode 2. The default setting, Mode 1, continuously adjusts the optical axis. This mode shows a blur-free image on the LCD even while zooming to enable easy framing. Mode 2, on the other hand, corrects the

optical axis at the instant the shutter button is pressed, to provide even higher image stabilization performance.
Because Panasonic's system is optical, there is no loss of quality – images are captured in their full original beauty. Advanced O.I.S. is truly necessary in an age when large-screen, high-resolution TVs can make even minor blurring a major problem.

Highlight Playback [New]

The Highlight Playback function is designed for users who want to view recorded images as quickly as possible. It detects zooming, panning, scene changes, increases and decreases in sound level, faces, etc., in recorded images as "highlights" by using the I.I.S. (Intelligent Index System). Then, it automatically plays back the detected highlight scenes according to a set time interval. It even allows the user to select music stored in the camcorder and plays it together with the video as background music. Because this function plays only highlight scenes, it makes not only playback but also recording more fun.

Auto Power LCD [New]

The Auto Power LCD automatically adjusts the brightness of the LCD screen according to the shooting conditions. In dark indoor places such as a theater, it reduces the LCD brightness to 1/3 the normal level to help prevent the screen light from disturbing people near the camcorder. In bright outdoor locations, it makes the LCD twice as bright as the normal level, to make the image on the LCD easier to see in the bright surroundings. Since this convenient function requires no manual adjustment, it adds extra comfort to video shooting under all conditions.

* Manual adjustment is also possible.

Time Lapse Recording [New]
(HS300/TM300)

Fast-forward playback is used in some TV programs to show the setting of the sun or the blossoming of a flower in an abnormally short period of time as a special effect. Time Lapse Recording is able record unique scenes like these. This function is provided in the HS300/TM300. By setting the recording interval to 1 sec, 10 sec, 30 sec, 1 min or 2 min, the user can view an otherwise long recording in a reduced time period. For example, when a scene is recorded at the 1-sec interval setting, a 10-minute sunset scene can be played back in 24 seconds, making the slow change in the subject appear as if it were taking place in a very short time.

1.9-sec* Quick Power-On Helps Catch Sudden Shooting Opportunities

Switch the power on and the camcorder is in recording standby and ready to shoot in just 1.9 seconds. Because this function lets the user start recording quickly when a shooting opportunity suddenly arises, it helps to save energy. When combined with Quick Start mode, the camcorder can start up in just 0.6 second.** In addition, when Eco mode is used, the power can be turned on or off by opening or closing the LCD. When the camcorder is not operated for more than five continuous minutes, the power automatically turns off, thus reducing wasteful use of energy and saving battery power.

* Recording onto an SDHC/SD Memory Card or built-in memory only. In the HS300/TM300/HS200/TM200, depending on the recording conditions, start time may be longer than 1.9 seconds in still picture recording mode.

** This mode can be selected from the menu. Set to ON when shipped from the factory. In the HS300/TM300/HS200/SD200, depending on the recording conditions, start time may be longer than 0.6 seconds in still picture recording mode.

5-Microphone, 5.1-Channel Surround Sound System

The camcorder features a 5.1-channel surround sound system with 5 microphones. When the recording is played on a 5.1-channel home cinema system, viewers are surrounded by clear, detailed sound that makes them feel as if they are right in the middle of the action. A Zoom Mic function links the microphone's action to the camera's action. When zooming in on a bird in the distance, for example, the microphones also zoom in and record the bird's chirping. There is also a Focus Mic function that picks up the sounds from sources in the area in front of the camcorder, regardless of whether the lens is focusing on a near or distant object.

50 Frames/Sec High-Speed Burst Shooting [New]

This function lets the camcorder snap up to 50 consecutive 0.9-megapixel still images in a second, or up to 180 consecutive shots about in 3.6 seconds. It can be used to analyze a golf swing, tennis stroke or other motion. It can also be used to get good shots of subjects in fast motion. The user can fire off a number of shots without stopping, then keep the best ones and delete the rest.

Networking

VIERA Link™

The camcorder is compatible with Panasonic's VIERA Link™. Connect it to a VIERA TV via an HDMI mini cable, and operate the camcorder using the TV remote control and following on-screen prompts. This adds extra ease and convenience to the fun of viewing full-HD videos.

SD Networking with VIERA and Blu-ray Disc™ Player

The VIERA Image Viewer Function lets the user view recorded images on the large screen of a Panasonic VIERA* TV by simply inserting the SD Memory Card into the SD Memory Card Slot on the TV. This allows instant playback of video clips recorded in the AVCHD format in full-HD quality. Similarly, video recordings can be easily played by using a Panasonic Blu-ray Disc™ Player.**

* PZ800

** DMP-BD55/BD35

- The model availability varies depending on the country and region. JPEG format still images can be viewed with other SD Memory Card Slot-equipped models.

Editing and Archiving

One-Touch Copy of Videos to DVD in Selected Format and Easy Playback [New]

Most people use their camcorders for three main purposes: to shoot, play, and archive video recordings. They want each of these to be as easy as possible. The camcorder is equipped with a number of functions designed to do exactly that. In the past, copying video recordings from an SDHC/SD Memory Card, a built-in memory or a hard disk to a DVD disc was a two-step process that involved transferring the data to a PC, then copying from PC to disc. The camcorder does away with all that, thanks to a one-touch function that makes it easy to copy video recordings onto DVD discs for easy playback and storage. Connecting the camcorder via USB cable to a VW-BN1 DVD Burner (optional) and pressing a single button is all it takes to copy recorded video clips from an SDHC/SD Memory Card, built-in memory or hard disk to a DVD disc (DVD-RAM/-RW/-R/-R DL). The camcorder lets the user select either the AVCHD or MPEG-2 recording format according to the playback environment. Select the AVCHD format for HD playback

on a large-screen TV using a Blu-ray Disc™ player or DVD burner. Or choose MPEG-2 for easy playback using a DVD player. This makes video archiving and playback much more convenient.

Quick Data Copying

(HS300/TM300/HS200/TM200/HS20/TM20)

Recorded videos can be copied from an SDHC/SD Memory Card to the HDD/built-in memory, or vice versa, inside the camcorder. This makes it easy to switch storage media even after shooting. The user can select from three copying methods: Copy All copies all motion and still images, Select Copy copies only selected scenes, and Copy by Date copies only images recorded on a specified day. Once images are recorded onto an SDHC/SD Memory Card, just slip the card into the card slot of a Panasonic VIERA TV*, or a Blu-ray Disc™ player**, and you're ready for spectacular large-screen HD viewing.

* PZ800

** DMP-BD55/BD35

- The model availability varies depending on the country and region. JPEG format still images can be viewed with other SD Memory Card Slot-equipped models.

PC Editing

Each camcorder comes with "HD Writer AE 1.0" PC editing software (for Windows OS). HD Writer AE 1.0 has a new function that allows easy uploading of video clips to the YouTube website. After shooting, simply connect the camcorder to a PC installed with HD Writer AE 1.0 using a USB cable, and wait for the software to automatically start up. A recorded video clip can be uploaded easily by following the specified procedure. Because this software requires no cumbersome processes, even people without prior experience can easily post video clips on YouTube. Using HD Writer AE 1.0 software together with the camcorder's

Intelligent Shooting Selection Playback function, scenes determined to be seriously flawed (for example, from overly severe hand-shake or backlighting) are automatically extracted. The user can then delete them easily, without the usual troublesome operation. HD Writer AE 1.0 also lets the user specify which image files are uploaded to the PC, eliminating the bother and waste of time that occurs with programs that automatically upload all scenes, including the ones you don't want. HD Writer AE 1.0 even remembers which image files have been uploaded to the PC, so there is no worry about uploading the same file again later. This is convenient when users have recorded large amounts of data on a hard drive or built-in memory and upload it over several sessions. When copying images to a DVD disc, users can select either the full-HD AVCHD format or the DVD-Video format. Use AVCHD for images that will be viewed using a Blu-ray Disc™ player, and DVD-Video (standard-definition) for discs that will be played on a DVD player. All 2009 camcorder models enable the transfer of recorded data to an Apple Mac computer so that recorded video clips can be edited in HD image quality using iMovie software.

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