megapixel .net

the digital camera review web magazine

Panasonic DMC-TZ1

Reviewed April 2006

Ergonomics

Panasonic's new DMC-TZ1 may not break new ground when it comes to its resolution, it offers a 5 megapixel image, a size that is quite common, but it breaks new ground when it comes to its optics.

The DMC-TZ1 is the first camera to integrate a retractive lens — the lens type that extends from the body as the zoom is used — with folded optics technology — the technology that uses a prism to fold the light path into the camera, allowing lens movements to take place internally. The result is a **10X stabilized zoom** that at maximum magnification barely extends less past the front of the camera than some 3X zooms.

Moreover, with the TZ1, where Panasonic's engineers leave off, its designers take over, dressing all this technology in a business-like metal body that is as dignified as it is functional.

Four major controls are grouped on the top right of the camera, starting with the **On-Off Switch**. To its left is the **Zoom Control**, and in the middle, the **2-stage Shutter release**. As is the case with most digital cameras nowadays, the zoom control also has a role when the camera is set to the Playback mode, offering a means of magnifying parts

of a captured image, or view images in ***index*** format, which presents photos as thumbnails on the **2.5 inch**, **207,000 pixel** monitor.

Pulling the zoom control towards the **T** side magnifies the image currently on the screen, up to 16X, allowing a reasonably close look at parts the image.

Pushing the zoom control towards the **W** side first displays a group of **9** images, then a screen full of 25 small images, then a calendar view that shows an entire month, and the days on which photos were captured.

To the right of the shutter release and zoom control, a small button serves to control the **Mega O.I.S.** — the name Panasonic has given to the **optical image stabilizer**. The reality of digital cameras is that both their compact size, and the fact that we tend to rely on the LCD monitor to frame shots — ideal for framing but which requires outstretched arms to see the screen — increase the likelihood of camera shake ruining the shot. To counteract image shake, the image stabilizer compensates movements by the use of gyro sensors that move a lens internally, thereby minimizing shake, or even vibration.

The image stabilizer can operate in either one of two modes, or be turned off:

In **Mode 1** the optical image stabilizer lens is always compensating for camera movement, so the image is stabilized when framing the shot, as well as the shot itself.

With **Mode 2** the system provides a slightly higher level of stabilization as it stabilizes the image only when the shutter is released.

The only remaining control on the top of the DMC-TZ1 is the **Mode Dial**. The Mode Dial of the TZ1 has 7 positions, one of which is the **Playback mode**, and the other **6** for capture modes:

- **Normal Picture Mode** is the same as the ***Program AE*** mode of other cameras. Aperture and shutter speed is selected by the TZ1, ensuring optimum exposure. However, the user has control over

the white balance, ISO sensitivity, and other settings.

Simple Mode makes all decisions automatically, and is a "point-and-shoot mode. All the user has to do is press the shutter release. Nevertheless, should the subject be too dark when shooting into a light source, pressing the up arrow of 4-direction control (see further), will compensate *automatically* for backlighting.

Macro mode allows the camera to focus on a subject that is as close as 5 cm (2 inches) from the front element of the lens at the wide angle end, and 2m (6.6 ft) at the telephoto end.

SCN1
SCN2

Either of these settings provide access to any one of the **18 Scene modes** available with the TZ1. SCN1 and SCN2 make it possible to have one scene mode available at one location, for instance SCN1, and another mode at the other, SCN2, as each will automatically recall the last used mode.

The available modes are:

Portrait	Self Portrait	Beach
Soft Skin	Food	Aerial Photo
Scenery	Party	Snow
Sports	Candle Light	High Sensitivity
Night Portrait	Fireworks	Baby 1 / Baby 2
Night Scenery	Starry Sky	Underwater

Motion Picture Mode is intended for use with SD memory cards and captures mono sound along with the video. Two aspect ratios are available, 4:3 and 16:9. Using the 4:3 format, 2 frame sizes are available:

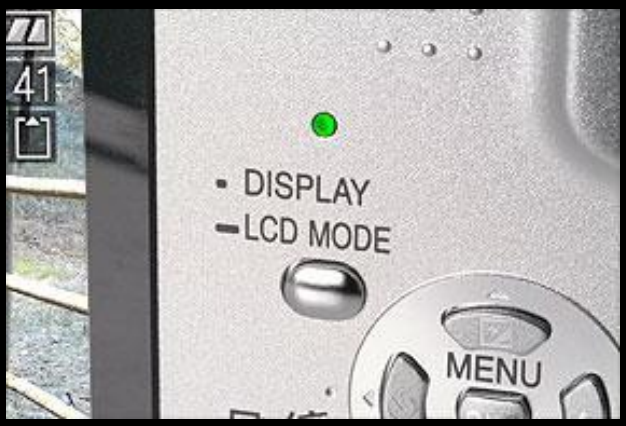
- **VGA**: 640 x 480 pixels at 30 frames per second, or at 10 frames per second.
- **QVGA**: 320 x 240 pixels at 30 frames per second or at 10 frames per second.

While when using the 16:9 aspect ratio, only 1 image size is available but it too can be set to 30 frames per second or 10 frames per second:

- **16:9 Aspect**: 848 x 480 pixel image size.

Due to the use of a new **Linear AF** system, the 10X optical zoom remains available when the camera is capturing a movie operating smoothly but at a reduced speed. The focus and aperture however, are locked at the first frame while the exposure is adjusted as necessary.

The other external controls of the TZ1 are clustered on the lower right side of the camera's back, which leaves the upper part to serve as a thumb rest.



The **DISPLAY** button, first at the top and directly below the small LED that indicates camera activity by lighting up green, controls the level of information that is superimposed on the monitor, cycling through each possible display mode as it is pressed. In addition, the button also controls the **LCD MODE** if it pressed and held for more than 1 second.

By default, the DMC-TZ1's monitor shows the image with some of the camera's current settings superimposed at the top and on the left side of the monitor. Pressing the DISPLAY button once adds a real-time histogram on the right side of the monitor, graphically representing the brightness of the subject. Pressing the button a second time removes all but the AF brackets, but adds a composition grid. A third press of the button removes the grid, leaving only the AF brackets.

Whatever the selected display mode, when the shutter release is pressed halfway the aperture and shutter speed are indicated on the lower part of the screen.

If the **DISPLAY** button is held down more that 1 second, the camera presents the **LCD Mode**, which provides control over the brightness of the monitor. Three settings are offered:

- **Off** (the default).
- **Power LCD** brightens up the display so it is easier to see outdoors.
- **High Angle** increases the brightness further, and is designed to make the monitor visible to the user when the camera is held above head, as when shooting in a crowd.

Next, a group of four buttons arranged in a circle serve to navigate the TZ1's menus and review images. A fifth button, labelled **SET** and **MENU** at the centre serves to confirm choices made in the menu, and call up the menu *(see the **Characteristics** section of the review for*

more information about the menus offered for each mode).

Each of the 4 directional buttons support an additional function:

The **up** button controls exposure compensation (± 2EV in 03EV increments); Auto Bracketing (over 3 frames and a range of ± 1EV in 0.3 EV increments); and fine-tuning a white balance other than Auto by adjusting the colour of the image towards either red or blue.

The **right** arrow serves to select the **Flash** mode: Auto, Auto with Red-eye Reduction, Forced On, Forced On with Red-eye Reduction, Slow Sync. with Red-eye Reduction, and Forced Off.

REV The **down** arrow starts the **Review** mode, which displays the last captured image for 10 seconds. And in this mode, while it is possible to magnify an image up to 8X, the Playback menu cannot be accessed.

And the **left** arrow starts the **Self-timer** with a 10-second delay with the first press and a 2-second timer when pressed a second time.

The last button on the TZ1 is to activate the **Burst** mode when the camera is in a capture mode, or **erase** (🗑) an image when the camera is in the **Review** mode or the **Playback** mode:

High Speed captures 3 images at the highest JPEG image quality and the highest resolution at **3 frames per second**.

Low Speed captures 3 images at the highest JPEG image quality and the highest resolution at **2 frames per second**.

Unlimited captures JPEG images at **1.5 frames per second** for as long as there is space on the memory card.

In and of itself, the stabilized and very compact 10X zoom of he DMC-TZ1 Panasonic should guarantee its success. But the fact that in addition the camera is also very user-friendly without being too overly simplistic, and well-finished and attractive should make it a favourite of the Panasonic line.

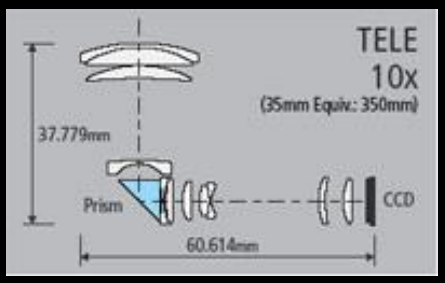
Panasonic DMC-TZ1

Reviewed April 2006

Characteristics

Equipped with a 1/2.5 inch, 5.36 million pixel CCD of which 5 million are effective, the TZ1 captures a maximum image size of **2560 x 1920** pixels. The CCD sensitivity starts at 80 ISO, but can also be set to 100, 200, 400 or 800 ISO. Furthermore, if the **High Sensitivity** scene mode which begins at 800 ISO is used, can increase — under the control of the camera — up to 1600 ISO.

Unlike any other current digital camera, the DMC-TZ1 is equipped with a **Leica DC Vario-Elmarit** 10X optical zoom with folded optics, a term that Panasonic uses to describe the fact that the greatest part of the optical elements that comprise the lens are mounted horizontally within the camera's body, while others extend from the camera in the traditional way. This lens configuration allows a 10X zoom to protrude no more than a 3X zoom, making it very practical.



Composed of 12 elements in 10 groups, the zoom includes 3 lenses with aspherical surfaces to minimize distortion, and has a focal length range of 5.2 to 52mm, the 35 mm equivalent of a 35 to 350 mm lens.

The DMC-TZ1 is a fully automatic camera, and in most modes controls both aperture and shutter speed. Nevertheless, apertures at the wide end are f2.8 or f5, while at the telephoto end, they become f4.2 and f71. This is combined with a shutter speed range that normally covers from 8 seconds to 1/2000 second, but which can be as long as 60 seconds when the **Starry Sky** scene mode is used for night photography.

As with some other of its recent models, Panasonic offers a non-interpolating digital zoom that simply crops the full 5 megapixel image the CCD captures to a field of view equivalent to that of an even longer zoom, as long as the image size to be captured is *less* than 5 megapixel. Called "Extended Optical Zoom," images sizes that can take advantage of that process are identified by the camera as "**EZ**".

As the DMC-TZ1 offers 3 image ratios — another feature that seems to be becoming a standard of Panasonic cameras — the TZ1 has a large array of possible image sizes:

4:3 Aspect Ratio	3:2 Aspect Ratio	16:9 Aspect Ratio
5M: 2560 x 1920 **3M** EZ: 2048 × 1536 **2M** EZ: 1600 × 1200 **1M** EZ: 1280 × 960 **0.3M** EZ: 640 x 480	**4.5M** EZ: 2560 × 1712 **2.5M** EZ: 2048 × 1360	**5.5M** EZ: 2560× 1440 **2M** EZ: 1920 × 1080

Images can be saved only with the JPEG format, but there is a choice of compression level: **Fine** which is the highest image quality, and **Standard** which compresses the image more and has a lower image quality, but which allows recording more images in the same memory space.

Image compression, image aspect ratio and image size are all set in the TZ1's menu, along with some other parameters. As is always the case with Panasonic cameras, the **Program** mode, identified by a red camera icon on the Mode Dial, provides the greatest number of user selectable settings, while the other menus (Scene modes, Simple mode and Movie mode) offer only some options, or very few in the case of the Simple mode *(see further)*. Moreover, aside from the Simple mode, all modes offer an access to the **Setup** section, identified by a wrench icon in the left margin. For more information about the Setup menu, please consult the ***Interface and Software*** section of the review.

The following are the options contained in the Program mode's REC. menu:

- **W. Balance** provides settings for: Auto, Daylight, Cloudy, Halogen (incandescent), White Set 1, and White Set which serves to set the white balance under ambient light that does not fit one of the preset, and store the setting.
- **Sensitivity**: Auto (reserved for the *Auto shooting mode* or the *Scene modes*) and 80, 100, 200, or 400 ISO.
- **Aspect Ratio**: serves to select from 4:3, 3:2, or 16:9 ratios
- **Pict. Size**: serves to select the image size *(see above)* and works in conjunction with the selected aspect ratio.
- **Quality**: offers a choice of two JPEG compression levels, Fine or Standard, as outlined above.

Program mode menu

- **Audio Rec.**: allows recording a 5-second sound bite that will be associated with the image immediately after capture (not available when the camera is set to the Starry Sky scene mode.
- **Metering Mode** offers a choice of three metering patterns: Multi, Centre-weighted or Spot.

- **AF Mode** allows selecting the number of focus point the autofocus uses: standard 1-point AF, 1-point and 3-point high-

Scene mode menu

speed AF for moving subjects, spot AF to focus on a selected area, 5 or 9-point AF.
- **Cont. AF**: On or Off. Controls the Continuous AF mode and operates when the focus mode is set to 1-area-focusing (High Speed), or 1-area-focusing, or spot-focusing.

- **AF Assist Lamp**: On or Off. Decides whether or not the lamp — the same lamp as is used for the Self-timer, located below the words "MEGA O.I.S." on the front of the camera — automatically comes on to help the AF when the ambient light is too low for the system to operate reliably by itself.
- **Slow Shutter**: allows changing the minimum shutter speed available to most camera modes from the default 1/8 second. Alternative choices are 1/4, 1/2, and 1 second.
- **Digital Zoom**: On or Off. In addition to the "Extended Zoom" option that is available when the image size is set to something *less* than the full 5 megapixel resolution, the TZ1 also has a standard *interpolating* digital zoom.
- **Colour Effect**: allows recording the image as Cool which increases the blue tones, Warm which increases the red content, Black and White, or Sepia.

- **Picture Adj.** controls the image sharpening in the camera prior to the image being saved: **Natural** is the default, and **Vivid** increases sharpness.
- **Flip Anim.**: allows capturing an animated sequence up to 20 seconds long and composed of up to 100 images, and which can be assembled into a animated sequence at either 5 or 10 frames per second.

Movie mode menu

Set to the **Motion Picture** mode, the menu contains some of the elements detailed above, but provides choices to set the movie frame size and the frame rate.

The shortest set of options presented in any menu occurs when the camera is set to the **Simple** mode. Then, the menu only contains 4 options:

- **Picture Mode** presents picture size choices by their intended output:
  - Enlarge: to make "enlargements" captures photos at a 2560 x 1920 pixels.
  - 4 x 6 / 10 x 15 cm:

Simple mode menu

captures an 3:2 format image measuring 2048 x 1360 pixels.
    - E-mail: captures a 640 x 480 image.
- **Auto Review**: On or Off, decides whether a image is displayed immediately post-capture.
- **Beep**: controls the camera sounds.
- **Clock Set** serves to set the internal clock and calendar of the TZ1.

When the DMC-TZ1 is set to the **Playback** mode the menu provides options to adjust images, or set printing parameters. The playback mode options are spread out over three screens:

- **Slide Show**: allows selecting photos to be included in a slide show, all or only those that have been selected as **Favorites**. In addition the on-screen time for the photos included in the show time can be specified (1, 2, 3 or 5 seconds or Manual) and should a sound be associated with an image, it can be allowed to play or not.
- **Favorite**: serves to select specific images so that only those marked as Favorites can appear in a slide show.
- **Rotate Disp.**: serves to display images captured vertically the correct way up.
- **Rotate**: allows rotating images in 90° increments to the left or right.
- **DPOF Print**: serves to select which photos will be printed on a DPOF or PictBridge compliant printer, or by a printing service. The number of prints to make of each photo can be specified, as well as whether or not the date will be superimposed on the photo.
- **Protect**: allows selecting and tagging images so they cannot be erased accidentally.
- **Audio Dub**: makes it possible to add a voice annotation lasting up to 10 seconds to any still image, unless it has been protected.
- **Resize**: allows resizing down an image to another size available in the same aspect ratio, and saving it over the original, or as a new image.

- **Trimming**: serves to crop an image and either over-write the original with the cropped version, or save it as a new image. Images that have an attached sound cannot be trimmed.
- **Aspect Conv.**: allows converting images captured using the 16:9 aspect ratio to a 3:2 or 4:3 ratio and either re saving them as new images, or overwriting the original image.
- **Copy**: serves to copy images or movies from the internal memory to a memory card, or vice versa.
- **Format**: serves to format the memory card or the internal memory.

The TZ1 is equipped with **13.4MB** of internal

memory, and in North America is not retailed with a memory card. It is nevertheless compatible with both **SD** (Secure Digital) and **MMC** (MultiMedia) memory cards, but offers better performance when used with SD cards. The card slot is located underneath the body, behind a door that also covers the battery compartment.

The chart below gives an idea of the number of images that can be stored using the 32MB card and an optional 512 MB SD card.

Memory	**13.4 MB Internal**		**512 MB SD card**	
Format	Fine	Standard	Fine	Standard
4:3 Aspect Ratio				
5M	4	10	203	399
3M EZ	7	16	314	611
2M EZ	13	26	503	975
1M EZ	20	38	761	1419
0.3 EZ	65	106	2402	3905
3:2 Aspect Ratio				
4.5M	5	11	227	445
2.5M EZ	9	17	354	678
16:9 Aspect Ratio				
3.5M	11	22	268	710
2M EZ	28	54	472	1720

Memory	**13.4 MB Internal**		**512 MB SD card**	
Frame Rate	30 fps	10 fps	30 fps	10 fps
4:3 Aspect Ratio				
640 x 480	0 sec.	0 sec.	5 min 42 sec.	17 min 1 sec.
320 x 240	25 sec.	1 min 18 sec.	17 min 1 sec.	49 min 31 sec.
16:9 Aspect Ratio				
848 x 480	0 sec.	0 sec.	4 min 53 sec.	14 min 36 sec.

The Lumix DMC-TZ1 is powered by a Lithium-Ion (**CGA-S007A**) rechargeable battery. The battery is kept in place by a spring loaded catch so it will not slide out if the memory card is extracted. The camera is supplied with a charger (**DE-A25**) which is able to recharge a fully depleted battery in approximately 170 minutes.

The two external connections of the TZ1, are on the left side of the camera, and are protected by a solid little door that springs shut. The upper connection serves both for USB and for AV out, depending on the cable used (both cables are included in the kit). The USB

connection is 2.0 Full Speed and **A/V Out** can be set to be either NTSC or PAL in the Setup menu *(see the **Interface and Software** section of the review)*.

The DC-IN jack is the second connection, and is designed for use with the optional AC Adapter (**DMW-AC5**) which makes it possible to run the camera off of regular household current.

Panasonic DMC-TZ1

Reviewed April 2006

Image Quality

Aperture: f3.9, shutter speed: 1/60 sec., 80 ISO.

If the number of innovative cameras that are appearing on the market is a guide, digital photography and the possibilities it offers have clearly inspired the engineers that design the cameras we use. With its use of "folded optics" the new Panasonic Lumix DMC-TZ1 is a case in point.

The principle behind folded optics turns out to be as elegant as it is practical. While at a glance the camera appears similar to many 3X zoom models, the unusually large front lens element is an indication that there is more to it.

Thanks to the folded optics system, the part of the Leica lens that extends past the front of the camera during zooming is approximately the same size as that of a 3X zoom. The rest of the lens is inside the camera, horizontal in the body, behind a prism that redirects the light at a 90° angle. The result is *very* portable 10X zoom camera, which even offers optical stabilization system, making it even more useable.

The lens design makes use of 3 aspherical elements to dissipate distortion, and indeed the photos of the TZ1 show little barrel distortion at the wide angle end, and none at the telephoto end. Similarly, even under high contrasts, the images show no trace of chromatic aberration, a phenomenon that often

afflicts long zoom lenses.

The range of the zoom — comparable to a 35 to 350 mm on a 35 mm camera — makes it very versatile. Still, the focal length is slightly biased towards the telephoto end, at the expense of a "narrower" wide angle.

Aperture: f3.9, shutter speed: 1/200 sec., 80 ISO.

However, the long reach of the zoom makes the TZ1 a great travel companion, and it is only indoors that its limited wide angle becomes noticeable as with its 35 mm wide angle it can be difficult to capture a group of people if there is insufficient room to back up; or capture the feeling of spaciousness one has in a large room.

Aperture: f4.2, shutter speed: 1/50 sec., 80 ISO.

The zoom, on the other hand, is excellent for close ups and portraits, making it possible to get artistically blurred backgrounds behind the subject, as it the case with the "lady" at left. Moreover this is a long focal length that is perfectly useable since it has a reasonably bright aperture at its maximum telephoto and its stabilizer is able to add 3 f-stops of latitude when shooting hand-held. The advantage of the stabilizer is obvious when it is set to Mode 1 as it stabilizes the image on the monitor, as well as when the photo is captured. But the most effective mode is Mode 2, which stabilizes the image *only* when the shutter is released, and it should be used as it allows even lower shutter speeds to yield sharp and clear images.

The DMC-TZ1 captures bright images and its metering is, under normal circumstances, quite effective. Yet, as is the case with so many other cameras, the TZ1 yields its best images when the light source is originating from the side, or is located behind the photographer.

Then, not only are the areas that are directly lit well exposed, so are the shadow areas. With backlit subjects however, it is advisable to switch to centre-weighted metering and place the subject at the centre of the frame so as to give that zone more importance when the camera evaluates the scene and sets the exposure parameters.

Aperture: f4.1, shutter speed: 1/500 sec., 80 ISO.

At low ISO settings, 80, or even 100 ISO, the TZ1 turns out low-noise or noise-free images. As the sensitivity increases, however, noise needs to be processed out of the image, and that results in a slight loss of sharpness in the image. And at 800 ISO, images show visible mottling.

Aperture: f5, shutter speed: 1/500 sec., 80 ISO.

Still, when the higher sensitivity levels are used to shoot in daylight, even an 800 ISO 5-megapixel image remains useable, particularly if it is printed out to 4 x 6 (10 x 15 cm) size.

Beyond this, the **High Sensitivity** scene mode is able to capture photos using an ISO range of 800 to 1600, but the resulting image looks heavily interpolated — as though it was shot with a digital zoom — and in our opinion, because of this, the value of the mode is somewhat limited.

As with its use of folded optics, the TZ1 breaks new ground with its AF system. The TZ1 uses a

Linear AF system that is both fast and accurate. In everyday use, the auto focus is quick and rarely lands on the wrong subject. Moreover, there is no noticeable shutter lag.

With flash photos however, the built-in flash turns out to be a bit underpowered unless the sensitivity is allowed to increase. Set to Auto ISO, the ability of the TZ1 to capture more distant subjects — 2 to 5 meters from the camera — is greatly enhanced, and generally with only a modest penalty in the noise content of the image.

Aperture: f3.6, shutter speed: 1/800 sec, 80 ISO.

One regret we have with the TZ1 is that it can only capture JPEG format images. A camera such as this, equipped with a 10X zoom and a 5-megapixel CCD should offer either a RAW mode or a true TIFF format as part of its panoply of talents.

This complaint aside, we fully expect the DMC-TZ1 to be one of the most successful Panasonic cameras to date. Its Leica zoom is clearly innovative and in combination with an effective optical image stabilizer, makes this one of the best long zoom compact cameras. And with the travel season nearing, a perfect vacation companion.

Panasonic DMC-TZ1

Reviewed April 2006

Interface & Software

Interface

If the Lumix DMC-TZ1 breaks new ground with its optics, it simply follows the path of previous Panasonic cameras when it comes to its interface, and the design of its menu system. The interface is very legible, displaying current camera settings on the periphery of the frame, and atop semi-transparent grey backgrounds that enhance their visibility. The menus are also very legible because of the use of a mix of colours — red, white and blue for the recording menus, and green, white and blue for the playback mode, for example — and well-defined, all-caps, black text.

The **Setup** menu accessible from all modes with the exception of the **Simple** mode, also uses sharp upper-case characters, but with more neutral background colours. Each option is clearly defined, and its current setting is indicated in a column on the right of the screen. The Setup menu contains basic configuration options:

- **Clock Set**: allows setting the time and date on the TZ1.
- **World Time**: serves to set an alternative time, useful when travelling.
- **Monitor**: makes it possible to adjust the brightness of the monitor over 7 steps (± 3 values and 0).
- **Travel Date**: makes it possible to record the date and the number of the day into a trip, along with the image data. The information, for example: 1st day, April 22, 2006, is shown superimposed on image in playback, but is not permanently embedded into the image itself.
- **Auto Review**: decides whether or not the image is displayed immediately post-capture, and for how long (Off, 1 or 3 seconds, or Zoom). When Zoom is selected the image appears full-screen for 1 second, and then zoomed to 4X for an additional 1 second so that its sharpness can be checked. The option is not available with images captured with the Burst or Bracketing modes, or that contain audio.
- **Power Save**: selects the time delay after which the camera turns itself off if it is unused (1, 2, 5, 10 minutes or Off).
- **Economy**: increases battery life by powering down the monitor:
  - **Level 1** turns off the monitor if the camera is not operated for more than 15 seconds in the recording mode.

Recording mode Setup menu

- **Level 2** turns off the monitor if the camera is not operated for more than 15 seconds in the recording mode, or 5 seconds after taking a photo.
- **Off**: cancels the Economy mode.

- **Beep**: serves to adjust volume of the sound produced by the camera when it is operated (Soft or Loud), or turn it off.
- **Shutter**: serves to set the volume of the shutter sound (Soft, Loud or Off).
- **Volume**: serves to adjust the playback volume for audio recordings or movies over a range of 7 steps.
- **No. Reset**: selects whether photo files will be incremented, or restart at 1.
- **Reset**: returns all menu options, with the exception of the date and time and the folder name, to their original factory settings.

- **USB Mode**: controls the USB protocol. Three settings are available:
  - **Select on Connection** allows the selection of the protocol to be made when the TZ1 is connected to a device or a computer.
  - **PC** is for use with a personal computer.
  - **PictBridge (PTP)** is to print photos when the camera is connected directly to a PictBridge compatible printer or to connect to a computer using PTP (Picture Transfer Protocol).

Playback mode Setup menu

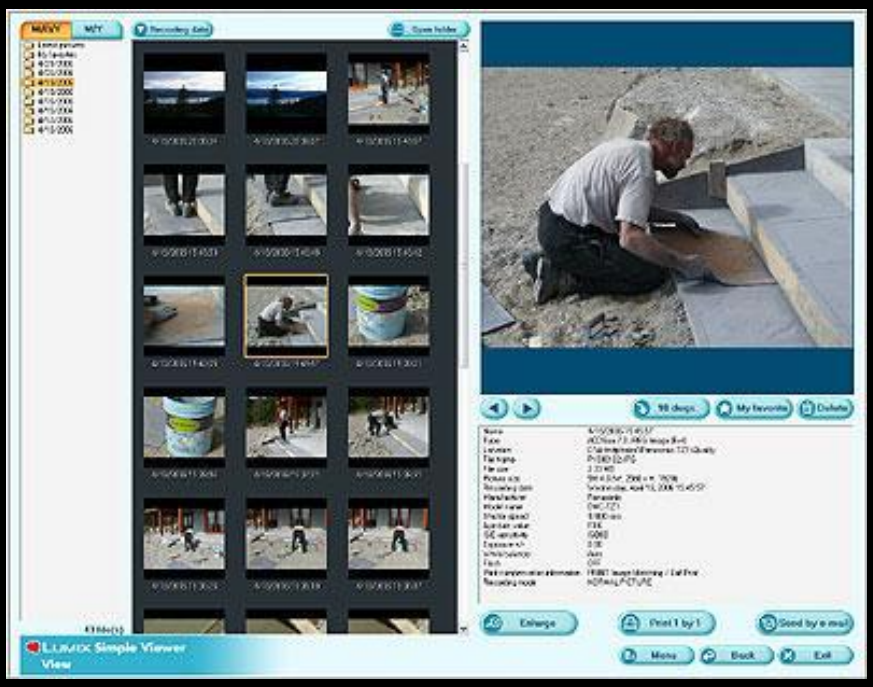
- **Highlight**: On or Off, decides whether or not potentially overexposed areas of an image are displayed as blinking when the camera is in Playback mode, or Review mode.
- **Video Out** (accessible in Playback mode only) decides the video out signal: **NTSC** or **PAL**.
- **TV Aspect** (accessible in Playback mode only): allows setting the output aspect to either 4:3 or 16:9, depending on the TV to which the camera is connected.
- **Scene Menu**: decides whether or not the scene menu is shown when the Mode dial is set to **SCN**1 or **SCN2**. Alternatively, pressing the Menu button once displays the Scene menu.
- **Language** serves to select the interface language: English, French, Italian, German,

Spanish, Traditional Chinese, or Japanese.

Over the last couple of years Panasonic has improved the quality of the instruction manuals they supply with cameras. The DMC-TZ1 comes with a printed manual which covers all the options and functions available on the camera, and which is generally clearly written.

Software

This North American model of the Panasonic DMC-TZ1 is supplied with a single CD containing **Lumix Simple Viewer**, **PHOTOFunSTUDIO Viewer**, **QuickTime**, **Acrobat Reader**, the USB drivers for older operating systems, ArcSoft's **PhotoImpression 5**, **Panorama Maker 3** and **PhotoBase 4.5**.



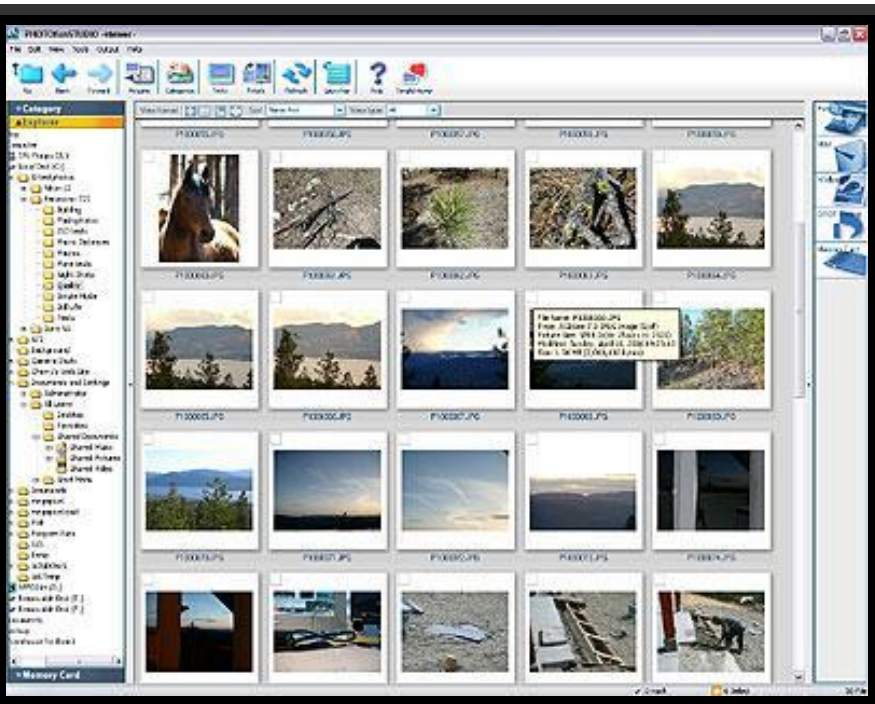
Lumix Simple Viewer is, as its name indicates, primarily an image viewer and does not allow any image editing. The program starts by presenting a menu which offers options to Acquire Images to PC, View, Print, or Send by E-mail. To view images, these must be "registered" with the program first, a process that involves either importing photos from a memory card or the camera while it is connected to the computer, or from the hard disk.

Once imported, images can be viewed easily, either in the presentation shown above, or in a slide show-like mode that even allows seeing the image at 100% scale.

PHOTOFunSTUDIO Viewer is also an image browser, but one with additional functions such as the ability to convert RAW format images, a format available on some Panasonic cameras, but not with the DMC-TZ1.

While PhotofunStudio is also a viewer, similar to Lumix Simple Viewer, it does not require images to be registered into its database, and is

surprisingly enough, a more user friendly program than the often overly cryptic Simple Viewer.



But aside from re-sizing or rotating photos neither of these Panasonic programs can be used to do serious image editing. That task is left to **PhotoImpression 5**.

PhotoImpression 5 allows retouching photos using tools to sharpen, brighten or change their contrast, saturation, or colour tone of images. The program can also be used to resize images, or add frames and text, and is capable of performing automatic red-eye correction. Finally it can also be used to create photo albums, and offers a wide range of templates.

PanoramaMaker 3 is designed to stitch together a series of contiguous photos so they can be assembled into a single large image horizontally, vertically or as a mosaic. Regrettably, the DMC-TZ1 does not offer a panoramic mode.

PhotoBase 4.5 is intended to organize still images and video clips, and manage them through a database. And finally, **QuickTime** is to view the video clips recorded with the DMC-TZ1.

Panasonic DMC-TZ1

Reviewed April 2006

Views

Panasonic DMC-TZ1

Reviewed April 2006

Test Photos

PLEASE NOTE:

Here are a few images that accurately reflect the abilities of any given camera model. The images are altered only in terms of size and sharpness after reduction and by the JPEG compression used. Unless otherwise mentioned, assume that any marbling or artifacts visible in the images are due to the compression required to display them here. We feel however, that they still faithfully represent the results we experienced.

STILL LIFE PHOTO

This subject is photographed in a room that has a mix of fluorescent and incandescent light, but which is not brightly lit. The camera's flash is used to add fill light. The backdrop is 1.95 m (6.5 ft) from the camera.

The DMC-TZ1 has a small built-in flash, and to help it along, the sensitivity is set to Auto, which allows the camera to increase it to enhance the brightness of the image. In this case however, the camera steadfastly stays at 80 ISO, and the resulting image is touch too dark so an +1 EV of exposure compensation is used to make the image a bit brighter.

Photo Information			
Format:	JPEG	Aperture:	f2.8
Exposure:	Program	Shutter Speed:	1/30 sec
Res.:	2560 x 1920	Flash:	On
Quality:	Fine	ISO:	80
File Size:	2.33 MB	Focal Length:	35 mm (35 mm Eq.)

Set to the **Fine** image quality, the TZ1 applies a compression that is in the range of 6:1, and the image retains a lot of detail.

ZOOM PHOTO

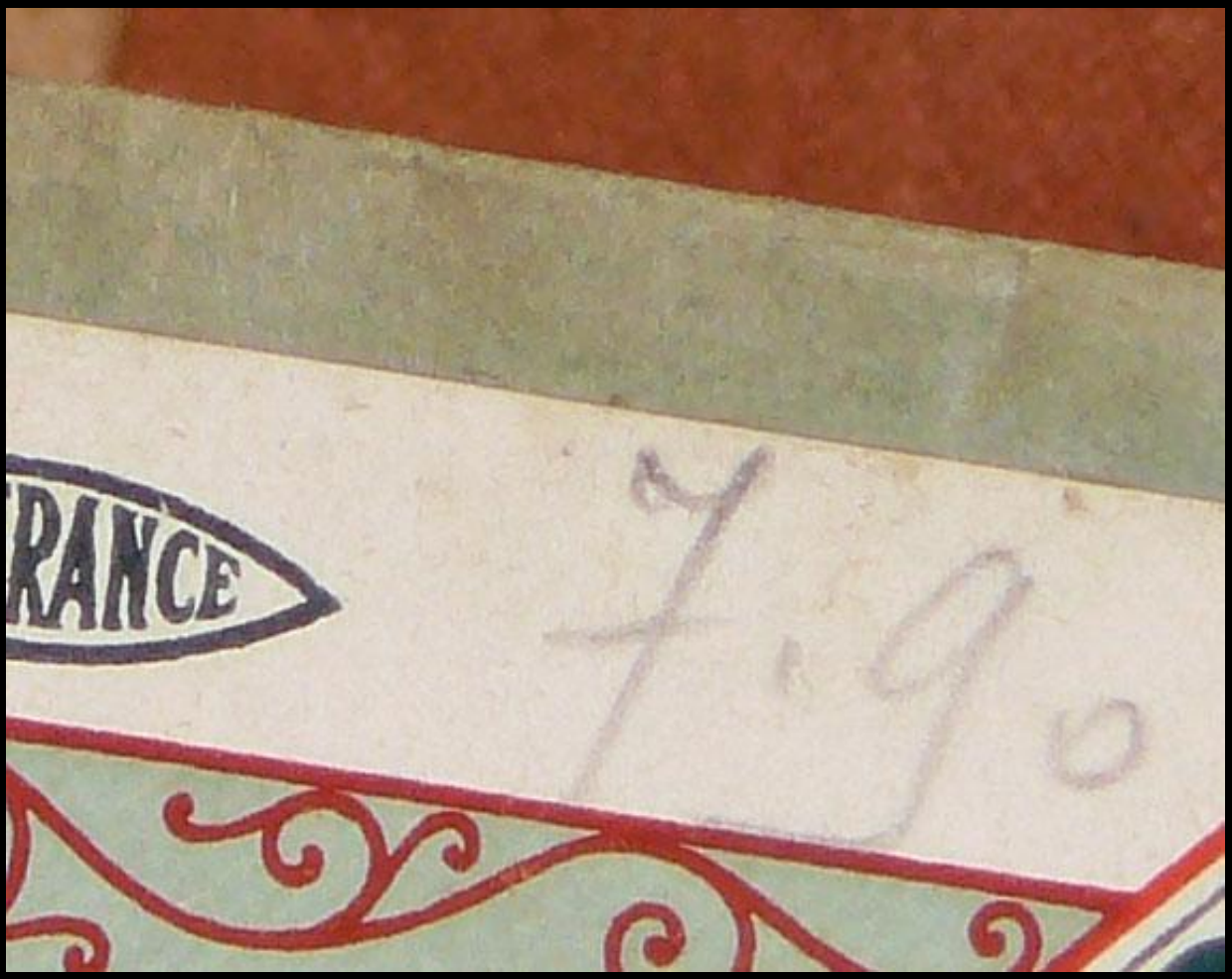
Now we zoom in on a specific area. The intent is to test the sharpness of the image at the zoom's maximum setting. The camera remains at the same distance as with the preceding photo.

At the maximum telephoto setting, and once again with the sensitivity set to Auto, the TZ1 increases it to 125 ISO to compensate for the slight loss of brightness of the f4.2 aperture. The result is a bright image and no compensation is necessary.

As can be seen below, the image is quite detailed,

Photo Information			
Format:	JPEG	Aperture:	f4.2
Exposure:	Program	Shutter Speed:	1/30 sec
Res.:	2560 x 1920	Flash:	On
Quality:	Fine	ISO:	125
File Size:	2.25 MB	Focal Length:	350 mm (35 mm Eq.)

although the depth of field is a bit shallow.



MACRO PHOTO

Aperture: f2.8, shutter speed 1/320 sec., 80 ISO.

The Macro mode, which is selected by the Mode Dial, is officially described as allowing the camera to focus on a subject thay is 5 cm (2 in.) from the front of the lens at the wide angle end. Yet, at this distance, the zoom can be used partially — to the equivalent of a 61 mm focal length — before the camera looses focus, and therefore the magnification effect is greater than stated. The result is that the TZ1 is able to capture a field of view of 3.8 cm (1.5 in.) and produce

very detailed images.

BUILDING PHOTO

This image is our outdoor test. The architecture of the building, in particular the angled girders, immediately show the presence of jaggies. The shadowed entrance can also often reveal the quality of the exposure.

Captured on a cloudy day, the building is photographed on a bright, nearly white backdrop that presents a serious challenge to the metering system as it must find a combination of aperture and shutter speed that will result in an image that avoids overexposing the sky or underexposing the building.

Photo Information			
Format:	JPEG	Aperture:	f2.8
Exposure:	Program	Shutter Speed:	1/160 sec

The TZ1 produces as good an image as can be expected, and only the branches of the trees in the distance show overexposure.

Resolution:	2560 x 1920	Flash:	Off
Quality:	Fine	ISO:	80
File Size:	2.34 MB	Focal Length:	35 mm (35 mm Eq.)

The building itself, however, dominant in the frame, is generally well exposed. Even under these demanding circumstances, it can be seen that there is no chromatic aberration in the image.

ZOOM PHOTO

Zooming in on the entrance of the building, the shadowed entrance takes on a greater importance for the metering and can cause an overexposure of sections that are directly lit.

At the maximum telephoto, the TZ1 can only capture a portion of the entrance.

Nevertheless, the deep shadows in the entrance combined with ambient glare has an impact on the metering and it produces a slightly over-bright image. To correct this, an exposure compensation of -1 EV is used to make more details visible.

The result is an image that is superbly detailed and which contains little noise.

Photo Information			
Format:	JPEG	Aperture:	f4.2
Exposure:	Program	Shutter Speed:	1/30 sec
Resolution:	2560 x 1920	Flash:	Off
Quality:	Fine	ISO:	80
File Size:	2.37 MB	Focal Length:	350 mm (35 mm Eq.)

NIGHT PHOTO

This camera is capable of long exposures, and an image captured late at night is presented to give an idea of its capabilities.

Aperture: f4.2; shutter speed: 8 sec., 80 ISO, Night Scenery mode.

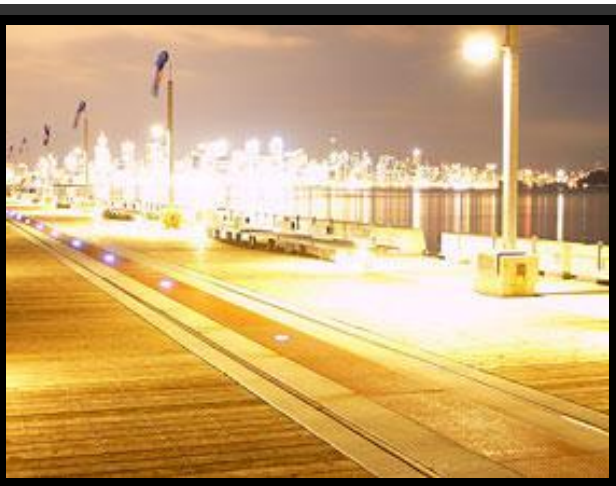
The DMC-TZ1 is a fully automatic camera: the user has no direct control over the selection of aperture or shutter speed. Moreover, in all but two of its shooting modes the maximum exposure time is 1 second, too short to allow for useable night shots.

Furthermore, of the two modes that offer a longer exposure — Night Scenery and Starry Sky — only the Starry Sky mode allows an extended shutter speed to be selected. The other, Night Scenery, is automatic, and limited to a maximum exposure time of 8 seconds.

The Starry Sky mode, however, only offers presets of 15, 30 or 60 seconds. And, without any means to tweaking the exposure by varying the aperture, the resulting images can turn out to be either too bright, or not bright enough, as can be seen in the images below. In addition, this mode is not white balanced for incandescent lighting, and the resulting images have a noticeable yellow cast.

Starry Sky mode: 15 sec.

Starry Sky mode: 30 sec.



Starry Sky mode: 60 sec.

With the limited exposure options of the TZ1, the Night Scenery modes turns out to produce the best image. An exposure time of 8 seconds is sufficient for this subject, and the white balance the mode uses tends to produce a more natural looking image.

The camera automatically processes the image for noise reduction, but the process clearly lowers the definition of the image as well *(see below)*. Worth noting, however, is that if the image is printed out to a 6 x 4 size, the blurring caused by the noise reduction process is not visible, and the image is very pleasant.

Panasonic DMC-TZ1

Reviewed April 2006

Specifications

Physical

Width	112 mm (4.4")	**Height**	58.1 mm (2.28")
Depth	40.2 mm (1.59")	**Weight**	262 g (9.24 oz) with battery and memory card
Power	Lithium-ion Battery Pack and Charger	**Supplied**	Battery, battery case, charger, lens cap, A/V and USB Cables, Strap, and CD-ROM

Photographic

LCD Screen	2.5" TFT 207,000 pixels	**Sensitivity**	Auto, 80, 100, 200, 400, 800 and 1600 ISO
Metering	Multiple, Centre Weighted and Spot	**White balance**	Auto, Daylight, Cloudy, Incandescent, White set
Exposure Modes	Program AE and 14 scene modes	**Focus**	1 point, 1 point high speed, 3 points high speed, 9 points, Spot
Shutter type	Mechanical and Electronic	**Shutter Speed**	60 to 1/2000 sec.
Viewfinder	None	**Exposure Compensation**	1/3 EV in ± 2 EV steps.
Flash	Built-in	**Flash Modes**	Auto, Auto with Red-eye Reduction, Slow Sync. with Red-eye Reduction
Self-Timer	2 or 10 sec.	**Flash Range (Auto ISO)**	30 cm - 3.7 m (1 - 12.1')

Technical

Sensor type	CCD	**Sensor Size**	1/2.5"
Number of pixels	5.36 million	**Effective pixels**	5.0 million
Image sizes	**4:3 ratio**	**3:2 ratio**	**16:9 ratio**

(resolution)	2560 x 1920 2048 x 1536 1600 x 1200 1280 x 960 640 x 480	2560 × 1712 2048 × 1360	2560 x 1440 1920 x 1080
Time between photos (High res. JPEG)	less than 1 secs. Between 1st 2nd	**Start time**	2 secs
Zoom Lens	10X optical 5.2 - 52 mm.	**35mm equivalent**	35 - 350 mm
Apertures	f2.8 / f4.2	**Normal Focusing distance**	Wide angle: 40 cm (1.31') - infinity Telephoto: 2 m (6.56') - inifinity
Macro Focusing distance	Wide Angle: 5 cm (2") - infinity Telephoto: 1 m (3.28') - infinity	**Interface**	USB 2.0 (Full Speed)
Still Image format	JPEG	**Memory**	13.4 MB of internal memory SD or MMC card slot, no card provided.
Movie	with monoral sound, 30 or 10 fps **4:3 ratio** 640 x 480 pixels 320 x 240 pixels **16:9 ratio** 848 x 480 pixels	**Audio Video Out**	NTSC or PAL
Image Capacity (13.4MB internal memory, High Quality)	**4:3 ratio** 2560 = 4 2048 = 7 1600 = 13 1280 = 20 640 = 65	**3:2 ratio** 2560 = 5 2048 = 9	**16:9 ratio** 2560 = 6 1920 = 12

Panasonic DMC-TZ1

Reviewed April 2006

Our Opinion

Class: 5 megapixel

• All cameras are rated according to their resolution class •

(1=poor, 5=average, 10=excellent)

Functionality

Body Ergonomics Combines design, sturdiness, layout of controls, comfort in use.	**9**
LCD Screen Combines visibility in daylight and indoors, colour accuracy, and image sharpness.	**9**
Interface Based on menu clarity, ease of access to menu functions.	**9**
Software Based on functionality of drivers and bundled software.	**6**
Power Usage Based on battery consumption	**9**
Total:	**8.4**

Photographic Qualities

Image Quality — Outdoor Based on sharpness, colour accuracy.	**10**
Image Quality — Flash Based on sharpness, colour accuracy.	**8**
Metering Reliability Based on quality of exposure with meter in automatic mode.	**8**
Focusing Based on focusing accuracy and speed.	**10**
Lens Quality Based on the presence of distortion, including any macro mode distortion.	**10**
Total:	**9.2**

Positives

- Very good to excellent image quality outdoors.
- Innovative, high quality 10X zoom.
- Very effective stabilization system.
- No chromatic aberration.
- No serious optical distortion.
- Good movie mode.
- Good value for money.

Negatives

- Built-in flash a bit weak unless sensitivity is set to Auto.
- No Manual or priority modes.
- No uncompressed format.

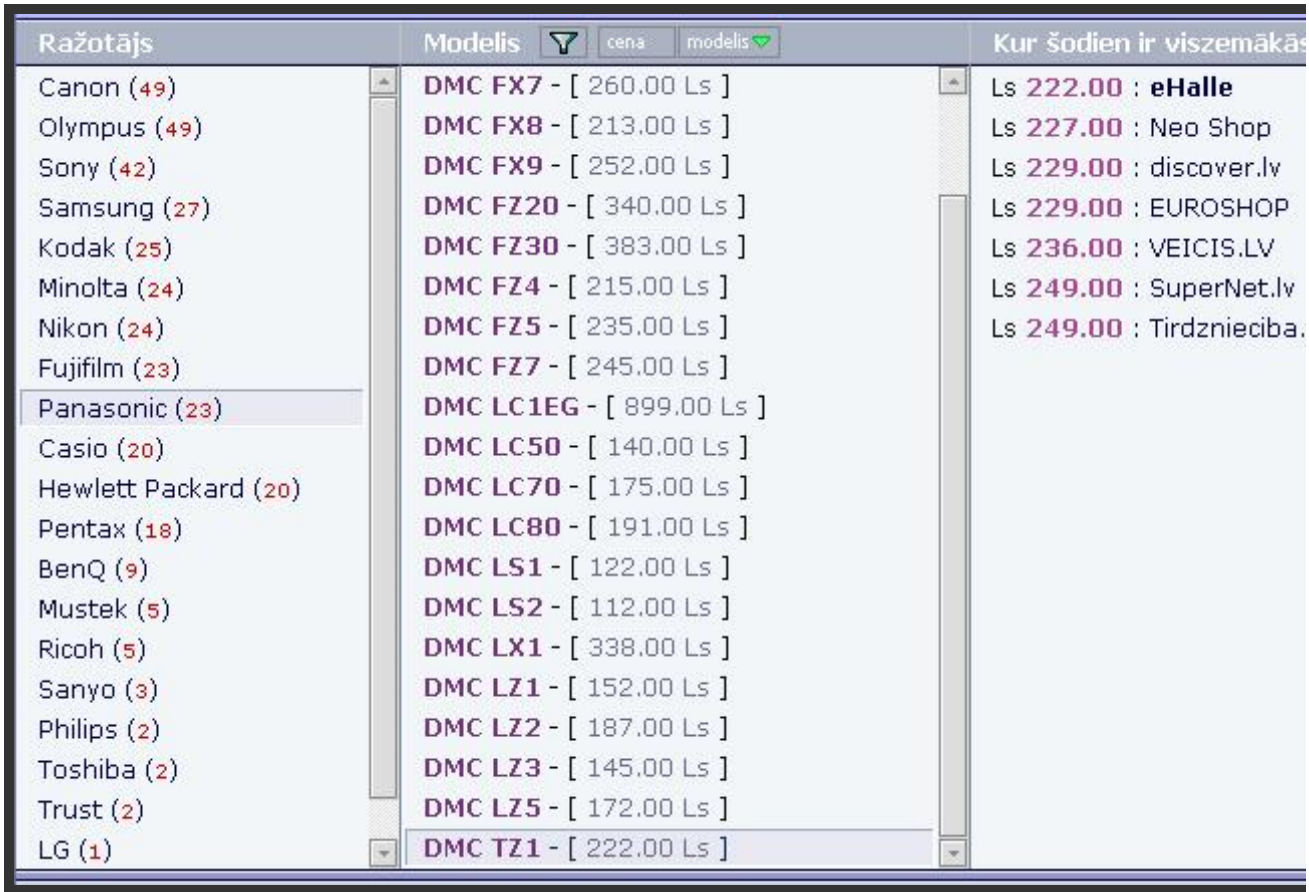
Approximate Retail Price: (April 2006)

Canada **$ 500**

United States Get Current Price

Europe Get Current Price

Use our message forums to ask questions, or express an opinion about this or any other camera review, and related topics!


Ražotājs
Modelis
cena
modelis
Kur šodien ir viszemākās
Canon (49)
Olympus (49)
Sony (42)
Samsung (27)
Kodak (25)
Minolta (24)
Nikon (24)
Fujifilm (23)
Panasonic (23)
Casio (20)
Hewlett Packard (20)
Pentax (18)
BenQ (9)
Mustek (5)
Ricoh (5)
Sanyo (3)
Philips (2)
Toshiba (2)
Trust (2)
LG (1)
DMC FX7 - [260.00 Ls]
DMC FX8 - [213.00 Ls]
DMC FX9 - [252.00 Ls]
DMC FZ20 - [340.00 Ls]
DMC FZ30 - [383.00 Ls]
DMC FZ4 - [215.00 Ls]
DMC FZ5 - [235.00 Ls]
DMC FZ7 - [245.00 Ls]
DMC LC1EG - [899.00 Ls]
DMC LC50 - [140.00 Ls]
DMC LC70 - [175.00 Ls]
DMC LC80 - [191.00 Ls]
DMC LS1 - [122.00 Ls]
DMC LS2 - [112.00 Ls]
DMC LX1 - [338.00 Ls]
DMC LZ1 - [152.00 Ls]
DMC LZ2 - [187.00 Ls]
DMC LZ3 - [145.00 Ls]
DMC LZ5 - [172.00 Ls]
DMC TZ1 - [222.00 Ls]
Ls 222.00 : eHalle
Ls 227.00 : Neo Shop
Ls 229.00 : discover.lv
Ls 229.00 : EUROSHOP
Ls 236.00 : VEICIS.LV
Ls 249.00 : SuperNet.lv
Ls 249.00 : Tirdznieciba.

Panasonic

Lumix DMC-TZ1

at a glance
2560 x 1920
10x digital zoom
2.5" lcd viewer
SD, MMC
li ion battery
4.4x2.3x1.6 8.2oz

Panasonic Lumix DMC-TZ1 review summary

camera date	Apr 06	
pixels / class	5.4M	compact digital camera
overall rating		5 reviews
image quality		
ease of use		
camera body		
digital features		
photogr. ctrls		
user profile	novice	pro
comments		

find the lowest prices for cameras

Panasonic Lumix DMC-TZ1 specifications

lens / zoom	35mm - 350mm (10x) (dig. 4x)
focus / macro	auto / 40cm / 5cm
metering mode	intelligent multiple, center-weighted, spot
aperture	auto / F2.8 - F5.0 (W) / F4.2 - F7.1 (T)
white balance	auto, 4 presets, adjustable +/- 1500K in 150 K steps
shutter	auto / 8s - 1/2000s
exposure	+/- 2EV in 1/3EV steps
flash / mode	internal - 5 modes / 0.3m - 3.7m
viewfinder	lcd screen
iso ratings	80 / 100 / 200 / 400 (800 / 1600 in high sensitivity mode)
image size	2560x1920 / 2560x1712 / 2560x1440 / 2048x1536 / 2048x1360 / 1920x1080 / 1600x1200 / 1280x960 / 640x480
image format	jpeg (exif 2.2)
image compr.	fine / standard
lag/cycle times	
remote control	self timer 10s / 2s
video options	Qt m-jpeg 640x480; 320x240; 848x480 (30fps | 10fps)
audio options	available
connectivity	usb / video (PAL/NTSC)
storage	13.4MB internal, secure digital, multimedia (still image only)
platform	
extra features	optical image stabilizer histogram display PictBridge compatible
miscellaneous	extended optical zoom range (up to 438mm) in 3MP mode

Reviews for novices to shutterbugs

22Apr06	Panasonic DMC-TZ1 review at Megapixel.net
22Apr06	Panasonic DMC-TZ1 review at Megapixel.net (fr)
21Apr06	Panasonic DMC-TZ1 review at PhotographyBLOG

Introductions, previews and other reviews

10Apr06	Panasonic DMC-TZ1 review at DigitalKamera (de)
04Apr06	Panasonic DMC-TZ1 preview at LetsGoDigital

News, guides, hints & tips

14Feb06	Panasonic Lumix DMC-TZ1 press summary

Related forum discussions

dcviews - Who can help me with ...
dpreview.com Panasonic Talk Forum
steves-digicams.com Panasonic Forum

Panasonic Lumix DMC-TZ1 announcement clippings

The LEICA DC wide angle lens of the DMC-FX01 allows photographers to easily capture a large group of people, or expansive architectural structures and landscapes with dynamic width and rich perspective. The lens part comprises of seven elements in six groups, incorporating four aspherical lenses to generate high optical performance. The zoom ratio can be extended up to 5x in 3megapixel resolution mode with minimal deterioration thanks to the Extra Optical Zoom. By using the central part of the CCD, this powerful zooming function allows you to easily capture and magnify distant subjects.