

Additional Information – PowerShot S90

Printing

The PowerShot S90 features a dedicated Print menu for quick access to direct print options. Full PictBridge support means users can print directly to any PictBridge compatible printer without the need for a PC. A Print button allows one-touch printing. Print list (DPOF) makes it easy to pre-order prints from your camera.

Language

The PowerShot S90 features a user interface that supports 26 languages: English, German, French, Dutch, Danish, Finnish, Italian, Norwegian, Swedish, Spanish, Simplified Chinese, Traditional Chinese, Japanese, Russian, Portuguese, Korean, Greek, Polish, Czech, Hungarian, Turkish, Thai, Arabic, Romanian, Ukrainian and Farsi.

Memory Card Support

In addition to SD, SDHC and MMC memory cards, the PowerShot S90 supports MMC*plus* and HC MMC*plus* card formats.

Software and CANON iMAGE GATEWAY¹

The PowerShot S90 comes bundled with the following Canon Software:

- ZoomBrowser EX 6.4 (Windows), ImageBrowser 6.4 (Macintosh): For organising and editing images, movies and slideshows, or creating and printing digital photo albums.
- PhotoStitch 3.1 (Windows), PhotoStitch 3.2 (Mac): For creating panoramic photos from multiple images.
- Digital Photo Professional 3.7 for advanced RAW development now including lens correction for PowerShot S90 such as Lens Distortion, Peripheral Illumination

The bundled software supports Windows Vista (including SP1 and SP2) / XP SP2-3 and Macintosh OS X v10.4-10.5. The camera supports PTP for driverless transfer to Windows XP and Macintosh OS X, along with MTP for image and movie transfers to Windows Vista.

Owners of the PowerShotS90 are eligible for free membership of CANON iMAGE GATEWAY, an online photo sharing service. Users can take advantage of great new features like the increase in storage capacity to 2GB in October, allowing the

¹ CANON iMAGE GATEWAY is not available in all European countries. Please see www.cig.canon-europe.com for available countries. Movie upload requires users to download and install the movie upload task, available after registration.



upload and sharing of hundreds of high-quality images. Friends and family can also enjoy viewing your online photo albums from their mobile phones with the new mobile phone browsing feature.

Optional Accessories

The following accessories are available for the PowerShot S90:

- Soft Case DCC-1400
- Waterproof Case (40m) WP-DC35
- Waterproof Case Weight WW-DC1
- AC Adapter Kit ACK-DC40
- Battery Charger Kit CB-2LYE
- Canon HDMI Cable HTC-100
- High Power Flash HF-DC1

Technologies Explained

f/2.0, 28mm, 3.8x Wide-angle lens

The f/2.0 lens of the Canon PowerShot S90 allows twice as much light into the camera as a regular f/2.8 lens. This makes it possible to take blur-free images in darker conditions (1-stop darker) than with other cameras. A wider aperture also allows for an ever shallower depth of field effect to be obtained.

The PowerShot S90 lens is a 3.8x zoom lens with a focal length range of 28 to 105 mm* (*35mm file equivalent)

Lens Control Ring

A key new feature of the PowerShot S90 is the lens Control Ring at the base of the lens barrel. This is an intuitive new control that provides ultimate ease of use and versatility. Depending on the function chosen using the Ring Function Button, on the top of the camera, the Control Ring can be rotated freely clockwise or anti-clockwise to change settings such as ISO, Aperture, Shutter Speed, Step Zoom, White balance Correction, Self-timer setting, Manual focus, Direct jump in playback and new Nostalgic Mode.

The combination of the lens Control Ring with the Multi Control Dial on the back of the camera can also be customised to change settings. For example, focus can be adjusted via the lens Control Ring whilst the Multi Control Dial can control exposure compensation.

Dual Anti Noise System

The Dual Anti-Noise System represents a collaboration between the new High Sensitivity sensor and the high performance DIGIC 4 image processor.

The area of each pixel within the new sensor is 45% larger than the sensor previously used (from 14.7MP in previous comparable products). When this factor is combined with the latest sensor technology the result is a marked improvement in signal/noise ratio.

When used with the advanced DIGIC 4 Noise Reduction technology - which has been optimised for the new sensor - the overall result is a maximum noise reduction advantage of 2-stops.

Put simply, the user will benefit from a noise level that's as low as a $\frac{1}{4}$ of the noise produced from previous comparable products at the same ISO sensitivity. Alternatively

the user can shoot up to an ISO sensitivity level 2-stops higher with the same noise performance.

This leap in noise performance has allowed some significant changes to the camera operation:

- **In Auto ISO:** the maximum high ISO speed chosen by the camera has been raised to ISO 1600 (ISO 400 in previous comparable products). This means that camera shake and subject blur is reduced when shooting in Auto modes in dark scenes.
- **When using the flash with Auto:** the maximum ISO has increased to ISO 800 (ISO 250 in previous comparable products) thus extending the flash effective distance and allowing brighter backgrounds in dark situations with flash.
- **Dynamic range:** the dynamic range has been greatly expanded to a level approximately four times greater than the previous comparable products. This means great improvements in shadow details and reduction of highlight blowout in scenes with large differences in contrast.
- **Low Light Mode:** the shooting mode previously named ISO 3200 Scene Mode has been changed to Low Light mode with a number of enhancements. In a reduced 2.5MP resolution, the camera chooses from ISO between ISO 320 and ISO 12800 to enable you to shoot in darker scenes than ever before without having to use flash. In Low Light mode, the PowerShot S90 can also shoot continuously at a fast 2.1 fps.

DIGIC 4

Canon's DIGIC 4 (Digital Imaging Core) image processor manages all of the camera's primary functions to optimize operating efficiency. Advanced image processing algorithms deliver superb image detail and colour reproduction with accurate white balance. High-speed processing results in outstanding responsiveness, rapid auto focus and extended continuous shooting ability.

DIGIC 4 also powers advanced Noise Reduction Technology within the Dual Anti-Noise System, i-Contrast, Face Detection AF/AE/FE/WB and Scene Detection Technology.

Optical Image Stabilizer (4-stops)

The PowerShot S90 uses a lens shift-type Image Stabilizer (IS) system to detect and correct slight camera shakes that can cause image blur. The IS delivers a 4-stop advantage for improved performance in low-light conditions, when shooting at the

telephoto end of the lens and when vibrations are more severe. It also features increased sensitivity to low frequency vibration, such as the rocking of a boat.

Minute vibration gyros detect camera movement caused by hand shake. These signals – at 8,000 per second, twice the speed of signals in conventional IS – are processed to discriminate between hand shake and intentional camera movements. The IS unit moves one of the lens elements accordingly to re-align the light rays and cancel out the effects of shake.

For improved accuracy and responsiveness, the moving lens element is supported on tiny ceramic spheres. In addition to minimising friction, ceramic spheres avoid some of the problems that can affect metal systems, such as thermal expansion and magnetism.

Enhanced i-Contrast

The improved Intelligent Contrast Correction technology (i-Contrast) now includes dynamic range expansion. Available in either shooting or playback mode, i-Contrast function analyses the exposure, dynamic range and other image characteristics of a shot, then adaptively increases the gain in dark areas – to produce heightened detail in darker regions, without blowing out correctly-exposed parts of the image. The noise reduction function of DIGIC 4 ensures minimal noise in adjusted areas.

Smart Auto Mode with Scene Detection Technology

Available in Smart Auto mode, Canon's Scene Detection Technology analyses the shooting scene by taking into account subject brightness, contrast, distance, overall hue and now face movement. The optimum settings are then automatically selected for each scene from a choice of 22 possible variables. A colour icon indicating the type of scene detected – and the lighting conditions of the scene - is shown on the LCD monitor.

Smart Auto mode gives users the reassurance that the camera will take care of settings and deliver great results - even when shooting moving subjects, backlit scenes, night shots, sunsets, and shots taken at very close range.

Smart Auto mode also increases image dynamic range to reduce highlight blow-out when shooting bright scenes, reduces dynamic range to improve contrast in low-contrast scenes, and automatically enhances blue saturation for blue skies.

RAW and DPP Capabilities

Digital Photo Professional is a Canon image browsing and RAW image editing application tailored to the workflows of professionals and high-end amateurs.

Sharing the same editing environment with EOS, it allows a range of processing options for the RAW files produced by the PowerShot S90, including Picture Style, contrast, brightness, sharpness, noise reduction, white balance, exposure, tone and dynamic range. A lens correction tool is also included with the PowerShot S90 allowing the user to correct RAW files for lens distortion, peripheral illumination, chromatic aberration and colour blur.

Face Detection AF/AE/FE/WB, Face Select & Track, FaceSelf-Timer

Canon's Face Detection AF/AE/FE/WB system automatically detects up to 35 faces within a frame before adjusting focus, exposure, flash and white balance to ensure optimal results. It is able to determine which faces are intended to be the subject, instantly reverting to the partnering 9-point AiAF system if no face is the primary subject.

Face Detection can now detect faces on most angles, and incorporates Blink Detection technology, which alerts the user to portrait shots in which a subject's eyes are closed. Face Select & Track allows the user to select a particular face to be the main subject of a photograph and track it, for the best possible results.

FaceSelf-Timer detects faces in the scene releasing the shutter in response to the appearance of another face in the shot – excellent for self portraits or group photos where the user wants to be in the frame.

Motion Detection and Servo AE/AF

The smart auto mode now includes motion detection – a combination of the continuing focussing mode of Servo AF and now Servo AE, which continually adjusts the exposure as the subject moves in the frame. When Servo AF activates, Servo AE will now also activate (except when in manual mode is set or when the shooting scene is dark) ensuring that the focus and exposure are locked onto the moving subject.