

By: Nabeel Behr @ Gadgets Editor

## Olympus Pen E-P1 Digital Camera Review

### *A legend goes digital*

Despite the fact that the age of film photography is long gone, never to return, it's nice to see that, from time to time, some of the world's most important digital camera manufacturers come up with a product that brings back that age, at least in terms of design. This is exactly what Olympus has done with its Pen E-P1 digital camera, a rangefinder reminiscent of the original half-frame film Pen models, which were extremely popular products back in the 60's through mid-80's.

Now, even if you're no pro photographers, you'll be immediately struck by the retro, yet refined and elegant look of the E-P1, which certainly looks like taken out of the 70's. Regardless of just how the E-P1 might look on the outside, there's absolutely nothing retro about the technologies implemented within it - the most recent the world of digital photography has to offer.

The Olympus E-P1 is a fine example of what the Micro Four Thirds technology, jointly developed by Panasonic and Olympus, is all about. In fact, from many points of view, the E-P1 can be viewed as a slimmed-down, more compact version of the [E-620 DSLR](#) we reviewed a while back, albeit, to tell you the truth, we liked the E-P1 a lot more than the E-620, and not only because of the overall feeling it provides during normal use, but also due to the quality of the photos.

Of course, the E-P1 is by no means a perfect camera, and some users might believe, especially those who are not accustomed to the rangefinder concept and/or the idea of attaching a viewfinder, which usually comes built-in in the case of DSLRs. There are still some issues regarding the process of taking a photo as well, but, for all intended purposes, the E-P1 is one of the most interesting surprises to have arrived on this market this year, and, without a doubt, a device that will become a favorite for those people who would love to get themselves a Leica to parade around, for example, but have a significantly lower budget at their disposal.

[[BREAK=Aesthetics and Design]]

### *Overall design features*

As we've mentioned before, the overall design of the E-P1 is inspired by Olympus' 35-mm film cameras from the Pen series, and, in particular, the Olympus Pen F, which, at the time of its appearance (in mid 60's), was the world's first "half-frame" SLR camera. So, there are no "fancy" materials or design accessories, no unnecessary or "ergonomic" curves, everything being kept simple, straight and somewhat... Spartan, if you will. However, this retro design has a charm to it, and we're pretty sure quite a lot of people will appreciate it.

The model we tested featured the already "classic" color configuration (black + chrome), albeit the chrome is dominant, the black being mostly restricted to the right side of the camera (the grip placed on the front side and the control panel from the rear side). The quality of the finishing is absolutely superb and worthy of receiving the "premium" tag.

And since we're on the issue of the grip, we'll have to mention that, due to the size of the camera, the grip area has been significantly reduced, mostly consisting of a black plastic panel on the front side.

In spite of this shortcoming, let's call it that way, the overall handling of the E-P1 is still very good, even for people with larger hands, simply because the size of the camera is not small. Nevertheless, we'll say a bit more about this within the real-life experience part of our review.

Now, coming back to the design, we can't help but notice that some of the features people have come to expect from a digital SLR are missing in the case of the E-P1, the main reason being the desire to make this camera as small and portable as possible. Practically, there's no viewfinder or built-in flash module, but these can be attached via the shoe adapter on top of the camera. But it's impossible to attach both of these accessories at the same time, which, again, might be quite displeasing for some users.

### *Size and portability*

Despite its looks, the truth is that the E-P1 from Olympus is slightly bulkier and heavier than we might have expected. So, don't let the photos lead you to believe that this thing is as small and lightweight as all of the compact cameras available out there, because you'd be making a mistake.

Hence, the Olympus Pen E-P1 measures 120.6 mm x 69.9mm x 36.4 mm and weighs around 335 grams, which means that shooting with just one hand might be a little tougher than previously thought. Of course, one can easily attach a support strap to the camera for more comfort and anti-slip/anti drop protection, and doing so is highly recommended.

Now, in spite of its bulkiness (a negative aspect for some), we liked the E-P1 better this way. The size and weight provide a better grip of the camera and, even if you have bigger hands and longer fingers, it's very likely that you will have no major problems shooting photos and videos with the Pen digital camera. Plus, when you're done, you can slip it into your coat's or backpack's pocket, for easier transportation.

### *Button and slot placement*

The quest for portability and smaller body size has also led to a slight reduction in the number of available buttons and control options, accompanied by a couple of changes in their positioning. Nevertheless, you'll probably get the hang of it rapidly, and, who knows, maybe even learn to appreciate the way in which these options have been positioned.

Most of the control buttons are placed either on the top or rear sides, the only button found on the front side being used for releasing the lens. Plus, it's worth mentioning that most of the control options are placed on the right side, which means that one's right thumb will certainly have its work cut out when using the E-P1.

So, starting from the top, left side, the first control element we encounter is the main wheel, used for selecting the desired shooting mode. The wheel is in fact a bit unusual, since it's somewhat "buried" in the body, with only its rear, plastic side being accessible. Regardless of this rather unusual position, one shouldn't really have any problems operating it, since the indentations provide an extra level of grip for one's fingers.

Now, let's move on to the top, right side. Here, we've got the all-important power switch, the AE compensation button and, of course, the shutter button. We've really liked the fact that the buttons are pretty clearly "defined" and spaced, the chances of accidentally pressing the power switch of the AE compensation button while trying to take a photo being quite slim. Also worth noting is the that the On/Off switch has a nice green glow to it (when switched on), something that might be particularly useful during nighttime.

As mentioned above, the majority of shooting and playback control elements are placed on the right/rear side, where they can be easily operated with one's thumb. And although one might be tempted to believe that the buttons are simply too small to properly work with, that's not really the case, since they're large enough and positioned far enough from one another in order to prevent any "accidents" from occurring.

Moving from top to bottom, the first "button" to catch one's eye is, in fact, a vertical wheel, not exactly something you'd encounter in most digital cameras out there. Besides the rather unusual placement (which, however, offers better "grip" for one's thumb, especially since it features some slight indentations as well), there's also a very peculiar thing about the wheel, namely the fact that it tends to click when used, an audio

stimulus that can prove to be extremely useful, since it lets the user know that the respective setting has been adjusted, even when not looking directly at the camera's display.

[IMG=21][IMG=22]

Photographers can easily customize the wheel's functionality, but, in general, it is used for changing the exposure settings (such as the shutter speed, aperture, etc.) when in shooting modes. Moreover, it can also prove helpful when navigating through the menus and, during playback mode, it's used for zooming in to a certain photo.

Slightly to the right of the vertical wheel, we can find the Function (FN) button, which can be easily customized to carry out a variety of tasks during shooting mode, including One Touch White Balance, AF Home Position, Manual Focus, activate the face detection function, etc. In Playback mode, the FN button is used for quickly zooming in to a photo.

Underneath the FN button, there's the usual arrow-shaped control configuration found in most compact cameras and digital SLRs on the market. However, the E-P1 offers a pretty interesting twist in this area, because what we've really got here is an arrow-clickable wheel (or dial, as you prefer). So, practically, the wheel can be used for adjusting exposure settings (shutter speed, aperture, program shift, AE compensation) according to the options chosen in Custom Function menu B, but at the same time incorporates the four arrow keys.

[IMG=23][IMG=24]

As usual, the four arrow keys can be used to select AF points when employing the Single Area AF modes or can adjust the four functions assigned to them, but also for accessing the specific functions assigned to them, such as ISO level, AF mode, WB and drive mode.

The purpose of the central OK button is to modify various settings directly from the Live Control menu, but also to help with the menu navigation issue, via the included four-way controller, when it doubles as an Enter key. During Playback mode, it can be used for selecting/deselecting photos, for example.

[IMG=25][IMG=29]

Under the wheel, we can find the Info button, which is used for switching on or off the "Super Control Panel" when employing the Live Control menu implemented in the EP-1 and cycling through the available preview modes, as well as for selecting the photo information display options in playback mode.

The last four buttons of the Olympus Pen E-P1 are found right near the display, and provide access to the Auto Exposure / Auto Focus Lock functions (or Protect/Unprotect in playback mode), the Play button (activates/de-activates the playback mode), the Delete button and, finally, the menu button, used, quite obviously, for accessing the camera's menus.

Finally, after all that chatting about control buttons, it's time to talk about the camera's slots. In fact, there's nothing unusual here, apart from the fact that Olympus has decided to ditch its trademark xD memory card slot in the case of the E-P1, relying solely on SDHC memory cards for storage purposes. As in the case of most other digital cameras out there, the memory card is placed right under the battery slot, both of which are protected by a panel on the bottom of the Pen camera.

### *Connectivity options*

Keeping in line with the overall design concept (where simplicity is a very important factor), the E-P1 features only a couple of interfaces, some of which, however, carry out multiple functions. So, hidden behind a protective panel on the camera's right side, we can find a USB 2.0 port that can be used both for connecting to a computer in order to transfer photos and for hooking up the camera to a TV set for displaying the photos and video clips stored within (via a special cable included in the sales package). Next to the USB 2.0 port, there's a mini-HDMI port, also used for connecting the Olympus Pen E-P1 to an HDMI-equipped TV set (which is the case with most modern LCDs and PDPs).

[IMG=26][IMG=27][IMG=28]

Apart from these two connectors, mainly employed for data transfer, the E-P1 also sports a hot-shoe connector, placed on the top side and used for attaching external accessories, such as an electronic viewfinder or a flash unit (not included in the package and typically pretty pricey). Of course, there's a tripod screw mount placed on the bottom side, as well as the micro four thirds lens mount placed on the front side.

### *Display*

Given the fact that the Olympus E-P1 can be viewed as a premium product, we would have expected it to pack a top-range display; instead, we were surprised to notice that it's only got an "OK" one. I mean, sure, there's nothing wrong with the 230,000- dots, 3-inch LCD display, but we would have expected a better resolution from it.

Anyway, in its current form, the display behaves quite well, providing a very good refresh rate, good brightness/contrast and sharpness, plus some very wide viewing angles. However, the main problem is that it doesn't do great in direct sunlight (once again, it's "OK," but not "splendid"), which might be a problem, especially since the photographer can only rely on the Live View mode for taking photos (if he or she hasn't chosen to go for a separate Viewfinder just yet).

[[BREAK=Tech Facts]]

### *Product*

Product type - Interchangeable Lens Type Live View Digital Camera;  
Memory - SD Memory Card(SDHC compatible), Class 6 is recommended for Movie shooting; Screen size - 17.3 mm (H) x 13.0 mm (V); Lens mount - Micro Four Thirds Mount.

### *Effective pixels number*

Effective Pixels number - 12.3 million pixels.

### *Image Pick-up Unit*

Product type - High speed Live MOS Sensor;  
Total no. of pixels - Approx. 13.1 million pixels;  
Aspect ratio - 1.33 (4:3);  
Filter array - Primary color filter (RGB);  
LPF - Fixed type;  
IR cut filter - Hybrid type;  
Dust reduction - Supersonic Wave Filter (dust reduction system for image sensor). &nbsp;

[IMG=30][IMG=31]

### *Recording (Still)*

Recording format - DCF, DPOF compatible/Exif, PRINT Image Matching III; File format - RAW (12-bit lossless compression), JPEG, RAW+JPEG; Recording image size - [RAW] 4032 x 3024 pixels, [JPEG] 4032 x 3024 pixels - 640 x 480 pixels;  
File size (maximum) - RAW: 4032(H)x3042(V) (approx. 1/1.5 lossless compressed) - Approx. 13.9MB; File size (minimum) - 640 x 480 Basic (1/12 compressed) - Approx. 0.1MB.

### *Recording (Movie)*

Recording format - AVI Motion JPEG(30fps);  
Movie Mode - HD: 1280(H)x720(V), Aspect 16:9 / SD: 640(H)x480(V), Aspect 4:3(VGA); Compression Ratio - 1/12;

File Size - Max 2GB(limited by AVI format); Maximum Recording Time - HD: 7min, SD: 14min.

### *Recording (Sound)*

Recording format - Wave Format Base, Stereo PCM/16bit, 44.1kHz;

Maximum Recording Time - Picture with Sound: 30sec;

Movie: Depends on Movie Recording Time.

### *Live View*

Type - Image Sensor(High Speed Live MOS) type;

Field of view - 100%;

Display Mode - Normal Mode/Grid Line Mode/Histogram Mode (3 types)/Magnified View Mode/Comparable View Mode/OFF Mode (for OVF user);

Magnification Ratio - x7, x10;

View finder information - Aperture value, Shutter speed, Auto Bracket, AE Lock, AF mode, IS, Shooting Mode, Battery Check, My Mode, Internal Temperature Warning, Face Detection, Histogram, Number of storable still pictures, Record mode, ISO, Sequential shooting, Self-timer, White Balance, Metering Mode, AF confirmation mark, Exposure Compensation Value, Spot metering Area (Only when E-system Flash attached: Flash Mode, Flash Status, Flash intensity Control, Super FP);

Display of Face Detection - Max 8 frames of face detection can be displayed;

AF - High speed imager AF.

[IMG=33][IMG=34][IMG=35]

### *Image Stabilizer*

System - Built in (Imager shift image stabilizer);

Mode - 3 modes (2 dimensional activation, 1 dimensional activation in landscape frame to vertical direction moving, 1 dimensional activation in portrait frame to horizontal direction moving), OFF;

Manual Function - Input focal length 8, 10, 12, 16, 18, 24, 28, 30, 35, 40, 48, 50, 55, 65, 70, 75, 80, 85, 90, 100, 105, 120, 135, 150, 180, 200, 210, 250, 300, 350, 400, 500, 600, 800, 1,000;

Effective compensation range - Approx.4EV steps (in maximum effect with 50mm lens); Shutter speed range - 2 - 1/4000 sec. (Not available when Bulb is selected);

IS for Movie - Shifting electronic image (so-called Digital IS).

### *Monitor*

Product type - HyperCrystal LCD AR (Anti-Reflective) coating;

Size - 3.0 inches;

Total no. of pixels - Approx. 230,000 dots;

Playback field of view - 100%;

Brightness control - +7 levels and -7 levels;

Colour balance - A-B: +7 levels and -7 levels, G-M: +7 levels and -7 levels.

[IMG=36][IMG=37][IMG=38]

### *Focusing*

AF system - Imager Contrast Detection AF system/When non High-speed imager AF compatible lens is used, it works as AF assist;

Focus mode - Single AF (S-AF) / Continuous AF (C-AF) / Manual Focus (MF) / S-AF + MF; Focusing point - 11-area multiple AF with the contrast detection system (Auto, selectable in option);

Focusing point selection - Auto from all 11 area, Single area from 11 area, Auto from 25 area when Face detection is ON, Free selection (from 225 points) when Magnified View Mode is selected;

AF illuminator - Not available;

AF lock - Locked at first position of Shutter button in Single AF mode;

Focus tracking - Not available;

Manual Focus Assist - When rotation of focus ring is detected under S-AF+MF or MF mode, LV is magnified automatically.

### *Exposure control*

Metering system - TTL Image Sensor metering system, (1) Digital ESP metering (324-area multi pattern metering), (2) Center weighted average metering, (3) Spot metering (approx. 1% for the viewfinder screen. Highlight / shadow bases are available);

Metering range - EV 0 - 18 (Digital ESP metering, Centre weighted average metering, Spot metering) - (At normal temperature, 50mm f2, ISO 100);

Exposure mode - (1) i Auto (2) P: Programme AE (Programme shift can be performed) (3) A: Aperture priority AE (4) S: Shutter priority AE (5) M: Manual (6) Scene select AE (7) Art Filter;

Scene select AE - Portrait, Landscape, Macro, Sport, Night + Portrait, Children, High Key, Low Key, DIS mode, Nature, Documents, Panorama, Beach & Snow;

ISO sensitivity - AUTO: ISO 200 - 6400(customizable, Default 200-1600) / Manual ISO 100 - 6400, 1/3 or 1 EV steps, Movie ISO 160-1600;

Exposure compensation - &plusmn;3 EV in 1/3, 1/2, 1 EV steps selectable;

AE lock - Available;

Exposure bracketing - 3 frames in 0.3, 0.5, 0.7, 1EV steps selectable;

Metering standard value adjustment - 1/6 EV step, +/- 1EV range.

### *White balance*

Auto WB system - High speed Live MOS sensor;

Preset white balance - 8 settings (3000K - 7500K)/ Lamp (3000K), Fluorescent 1 (4000K), Fluorescent 2 (4500K), Fluorescent 3 (6600K), Daylight (5300K), Flash (5500K), Cloudy (6000K), Shade (7500K);

White balance compensation - &plusmn;7 steps in each A-B/G-M axis (in Auto WB / Preset WB mode / One touch WB); CWB (Kelvin setting) - 1 setting can be registered at Kelvin temperature (2000K - 14000K);

One-touch white balance - 1 custom setting can be registered;

White balance bracketing - 3 frames in 2, 4, 6 steps selectable in each A-B/G-M axis. &nbsp;

[IMG=69][IMG=70][IMG=71][IMG=72]

### *Color mode*

Color space - sRGB, Adobe RGB.

### *Picture mode*

Mode - Vivid, Natural, Portrait, Muted, Monotone;

Adjustment parameter - Contrast, Sharpness and Saturation level available in 5 steps for Vivid, Natural, Portrait and Muted / Contrast and Sharpness level available in 5 steps for Monotone;

Filter effect - Yellow, Orange, Red or Green filter available for Monotone;

Picture tone - Sepia, Blue, Purple or Green tone available for Monotone;

Gradation - 4 levels (Auto, High key, Normal, Low key).

[IMG=73][IMG=74][IMG=75][IMG=76]

### *Shutter*

Product type - Computerized focal-plane shutter;

Shutter speed - 60 - 1/4000 sec;

Bulb - up to 30 min. (selectable longest time in the menu. Default: 8 min), 1/3, 1/2, or 1EV steps selectable;

Self-timer - Operation time: 12 sec., 2 sec. (cancel available);

Remote cable release - Available (with optional RM-UC1 Remote cable);

Wireless remote control - Not available.

## *Drive*

Drive mode - Single-frame shooting, Sequential shooting, Self-timer;  
Sequential shooting speed - Approx. 3 frames/sec. in sequential shooting;  
Max. recordable pictures - RAW mode: Max. 10 frames on sequential shooting / JPEG mode: Depends on compression ratio and no. of pixels (Large normal mode: approx. 12 with Toshiba Super High Speed type "Class 6" 4GB).

[IMG=77][IMG=78][IMG=79][IMG=80]

## *Flash*

Built-in flash - Not available;

Compatible external flash - E-system Flash(FL-50R, FL-36R, FL-50, FL-36, FL-20, FL-14); External Flash

control mode - TTL Auto, Auto, Manual, FP-TTL-AUTO, FP-MANUAL;

Flash mode of External Flash - Auto, Red-eye reduction, Red-eye reduction slow sync., Slow sync at 1st

curtain, Slow sync at 2nd curtain, Fill-in, Manual (1/4, 1/16, 1/64), Off; Synchronization speed - 1/30-1/180;

Flash intensity control - Up to +3 EV in 0.3, 0.5, 1 EV steps.

## *Art filter*

Mode - Pop Art, Soft Focus, Pale&Light Color, Light Tone, Grainy Film, Pin Hole.

[IMG=81][IMG=82][IMG=83][IMG=84]

## *Multi exposure*

Number of pictures - 2 frames;

Functions - Auto gain, Live View, Exposing on Recorded picture.

## *Multi aspect*

Aspect Ratio - 4:3 (Default); 3:2; 16:9; 6:6;

Process - RAW: Aspect ratio is recorded as Exif data, JPEG: JPEG image is produced based on the aspect ratio.

## *Level gauge*

Detection - 2-axis;

Display - Rear LCD monitor.

## *Color universal design*

Only White version is approved by Color Universal Design Organization

[IMG=85][IMG=86][IMG=87][IMG=88]

## *Super control panel*

Information (shooting) - Battery information, Shooting mode, Shutter speed, Aperture value, Exposure compensation value / Exposure compensation indicator, Exposure indicator, Flash intensity compensation indicator, Date / NR setting, WB, WB compensation value, Record mode, Flash Status, Record mode, Image size / Drive mode, Flash intensity compensation value, Metering mode, Recordable still image number, Fo / AF frame, Colour space, Sharpness, Contrast, Saturation, Internal Temperature Warning / Gradation, IS activating mode, Face detection, My Mode, Multi Exposure, Aspect Ratio, Super FP.

## *Playback*

Playback mode - Single-frame / Information Display / Index Display(4/9/16/25/49/100 frames, Calendar) /

Close-up (2 - 14X) / Movie (w/sound, FF/REW/Pause) / Picture rotation (auto mode available) / Slideshow(Still/Movie/Still+Movie, Slide show w/BGM/BGM+Sound/Sound); Information display - Histogram (independent luminance / RGB available), Highlight / Shadow point warning, AF frame, Shooting information.

### *Reset and custom setting*

My mode - 2 settings recordable.

### *Image editing*

Erasing function - Single frame, All, Selected frames (from Index);  
Protect function - Single frame, Selected frames, All Frames, Release protect (Single/All selected);  
RAW picture editing - RAW development based on settings of the camera (including Art Filter);  
JPEG editing - Shadow adjustment, Red-eye fix, Trimming, Monotone, Sepia, Saturation (color depth),  
Resize (producing another file, 1280x960, 640x480, 320x240), e-portrait.

### *Image overlay*

Up to 3 RAW images.

[[IMG=89]][IMG=90]][IMG=91]][IMG=92]

*Print*

Print function - Print reservation (DPOF), Direct print (PictBridge compatible).

### *Input/Output*

PC interface - USB 2.0 High Speed for storage and camera control through Multi-connector (MTP mode is available);

TV interface - HDMI (HD/Stereo Sound), VIDEO-OUT (SD/Mono Sound);

USB/Video connector - Dedicated multi-connector (Video: NTSC/PAL selectable, Optional Remote cable RM-UC1 is available);

HDMI - Mini HDMI type-C (1080i/720p/576p/480p);

Flash attachment - Hot shoe; DC-in - No.

[[IMG=93]][IMG=94]][IMG=95]][IMG=96]

*Power requirements*

Battery - BLS-1 Li-ion battery (included);

Sleep mode - Available (1, 3, 5, 10 min., off selectable);

No. of recordable pictures - Approx. 300 shots (with BLS-1 and Toshiba Class 6 SDHC 4GB card under CIPA testing standard);

Power battery holder - Not Available.

### *Dimensions/Weight*

Dimensions - 120.6 mm (W) x 69.9mm (H) x 36.4 mm (D) (excluding protrusions);

Weight - 335g (body only).

[[BREAK=Real-life performance]]

As in the case of the previous Olympus product we tested, the E-620 DSLR, we've divided the real-life performance section of the review into two different chapters, one talking about the Pen E-P1 camera from the point of view of a more or less mainstream user, the other from that of a professional photographer, who can be a tad more critical about the camera's actual photo-taking capabilities.

## General considerations and handling issues

When taking the Pen E-P1 out of the box, one's first feeling is that of surprise, and that's because this is one elegant-looking camera, starting with the overall design and ending with the quality of the materials used. Also, as we've mentioned in a previous chapter of the review, when one picks up this thing, the first feeling will be that it's actually larger and heavier than expected.

[IMG=42][IMG=43]

Moreover, handling the device shouldn't really prove to be much of a problem, especially if you've used an Olympus DSLR before - in fact, I do believe that the overall control system of the E-P1 is much simpler and more intuitive than that of the E-620, for example. It took me a lot less to get accustomed to this device rather than the aforementioned DSLR.

So, accessing the shooting modes via the wheel or the various shooting modes via the corresponding menu options is a very fast and easy process, and after taking the E-P1 for a quick spin (at least two or three serious shooting sessions), you're likely to get the hang of it.

The E-P1 offers several pre-set shooting modes, namely iAuto, Programmed Auto (P), Shutter Priority Auto (S), Aperture Priority Auto (A), Full Manual mode (M), Video Recording, Pre-set Scene (SCN) and Art Filters, each of them providing their own adjustment options and characteristics.

Also, if you're patient enough to browse through all the available menus, you'll notice that you're provided with numerous options, no matter whether we're talking about certain features pertaining to the device itself (button assignment, display brightness, etc.), the quality of the photos and videos taken, the functionality, etc.

## Photo shooting

Before going deeper into certain issues related to the E-P1's shooting capabilities, I'd like to point out a little something about the display and the viewfinder. So, while people who're already accustomed to making serious use of the display while taking photos (previous compact camera owners, to be precise) will certainly love this feature, photographers who've used a viewfinder their entire life for actually framing a photo will be a little disappointed (and will also get themselves the optional viewfinder accessory).

[IMG=44][IMG=45][IMG=46][IMG=47]

As we've pointed out above, photographers are given access to several shooting modes, both automatic and manual. And the first such mode is iAuto, an "intelligent" photo shooting mode.

The iAuto feature is quite important, since it's very likely that many users (well, at least those who'll purchase the E-P1 for its "cool factor" rather than photo-shooting capabilities) will stick to this in order to get acceptable photos without fiddling with the controls too much. As Olympus indicates, this feature allows the camera to automatically select one of the six most common scenes and apply it automatically, according to the environment conditions, in order to help users attain better results.

[IMG=48][IMG=49][IMG=50][IMG=51]

Along the same lines, we'll have to mention the SCN (Scene) mode, by which photographers can choose one of the 14 built-in scene modes to fit their surrounding environment. Sure, it might take longer to select what you need (thumbs up, Olympus, for the documents shooting option from SCN, this will have all the secret agents out there go for the E-P1), but the results will also be significantly better.

Next in line comes the Program AE mode that allows users to select a certain exposure by turning the main command dial left or right. The shutter speed is also automatically adjusted during this process.

[IMG=52][IMG=53][IMG=54][IMG=55]

The Pen E-P1 provides an Aperture Priority Auto mode (during which users simply select the aperture and the camera will calculate the shutter speed for the exposure) and a Shutter Priority Auto mode

(photographers select the shutter speed and the E-P1 calculates the aperture), plus a full auto mode, where almost everything can be customized, according to the user's needs.

As mentioned above, another minus is the lack of a built-in flash module, which might cause certain problems in some cases, especially in low-light conditions. Of course, one can purchase an additional flash unit, attachable via the hot shoe, but the lighting unit is typically pretty expensive. On the other hand, this situation applies to most other rangefinders out there, so those who opt for such a model will be fully aware of what it can and cannot offer.

[IMG=56][IMG=57][IMG=58]

The Pen digital camera also sports a pretty advanced image stabilization system (imager shift image stabilizer), which tries to compensate for involuntary hand shaking or even some more violent hand movements. Additionally, the device offers quite a lot of pre-set white balance options, as well as several Color Mode options for taking photos (including here Vivid, Natural, Portrait, Muted and Monotone).

[IMG=59][IMG=60]

Similar to the E-620 DSLR (and several other Olympus cameras out there), the E-P1 offers photographers a couple of creative "Art Filters" that allow them to apply certain image filters right in the camera. We talked quite a lot about this feature in the case of the E-620, but we've noticed that, in the case of the Pen E-P1, this system is better implemented, since photographers can easily switch between previews of various filters before actually applying the modifications (without going back to the menus, which was a problem in other cameras).

[IMG=103][IMG=104][IMG=105][IMG=106]

Also, these Art Filters can be applied while shooting video, which leads us to the next sub-chapter of our review.

### Video recording

While Olympus has not exactly been pretty eager to adopt movie recording as an option for its digital cameras, it finally decided to go down this road with the E-P1. The fact that this is one of its first high-end cameras to feature a movie clip capture mode is quite visible in certain situations, especially when taking a look at the recording details.

[IMG=61][IMG=62][IMG=63][IMG=64]

First of all, it's important to mention that the E-P1 uses the standard shutter release to stop and start movie clip capture. Then, we have to point out that video clips can attain a maximum recording resolution of 1280 x 720 pixels at 30 fps (in other words, 720p), the resulting video clips being saved in AVI (Motion JPEG) format. However, the length of a video clip is limited at around 2GB, which can be translated into roughly 8 to 9 minutes of actual recording.

The device comes equipped with an internal microphone, which helps it record audio in PCM 44.1kHz Stereo format.

The quality of the resulting videos is pretty good (above that of consumer camcorders, anyway), and they'll manage to shine through when used together with an HDTV (or HD Ready TV, at least) via the HDMI interface. There are some problems when shooting videos in low-light conditions, but, then again, that's a problem plaguing even dedicated HD camcorders available on the market.

[IMG=65][IMG=66][IMG=67][IMG=68]

Another important issue worth mentioning as far as video recording is concerned is that users are provided with certain adjustment options (including the auto-focus option, the White Balance choice and also the degree of image stabilization, which, by the way, is all-digital in the case of video recording). Plus, when applying more processor-intensive Art Filters (such as Grainy Film or Pinhole), the frame rate will record a significant drop.

## Photo and video playback

Similar to any digital camera available on the market, the Olympus Pen E-P1 also offers users the possibility of reviewing the photos and/or videos they've taken right on its display.&nbsp;

[IMG=97][IMG=98][IMG=99]

As some of you might remember, we really liked the photo organization options provided by the Olympus E-620 DSLR, and we were quite happy to find out that some of them have managed to find their way onto the E-P1. So, as far as photos as concerned, besides the possibility to view, zoom-in and out or rotate the pictures, photographers are able to see increasingly small thumbnail collections, as well as a calendar-based organizer. Moreover, they can opt for a little slideshow, accompanied by music saved right within the camera's memory.

[IMG=100][IMG=101][IMG=102]

Video playback is pretty much similar, but don't expect some fancy playback options. No, in fact, in the case of the E-P1, everything's been kept pretty plain and simple, with very few options to get the user's mind bogged. Basically, it's a bit of just press play and enjoy.

### *A professional approach to the Olympus Pen E-P1*

It was about time to get to test the Olympus Pen E-P1 (right after the second model was released by the manufacturer), but let's see what the first model is capable of. I would like to start with the ergonomics, and even though I could have asked "what ergonomics?" I was rather impressed by the tiny shooter.

The camera feels very solid, well built, and fits very well in the hand, for its size, I mean. I was actually amazed that, for the first time, a camera of this size didn't feel like it was going to slip out of my hand and that's probably because the Pen has a very well balanced construction. Mind that my points are made on playing with the camera and the 14-42mm lens attached, which is considerably one of the lightest lenses I've ever got to touch. We were talking about the camera, so let's keep to the subject. I must admit that I absolutely loved the implementation of the multi-click wheel that gives one quick access to ISO speed, AF type, White Balance and, of course, the Drive mode, namely choosing from burst, timer and one picture.

One neat feature that users will enjoy finding directly in the menu of the Olympus E-P1 is something that a lot of cameras lack and need, namely pixel mapping. What the function does is scan for "dead pixels" and map them out by calculating average color values from the pixels in the closest surrounding vicinity. Do remember that you won't likely need this, for the first months or even more.

[IMG=107][IMG=108][IMG=109]

Also, I forgot to mention that as solid as it feels, and well-fitting in the hand as it might be, I would still always use it with the neck strap, just because unlike a full-size digital SLR, you can't grip it solid like a rock, so to say, so one little slap on the hand and you might drop it accidentally. Speaking of solid, when testing the ISO, I fitted the Olympus E-P1 on a full size tripod, as in one that will easily hold a DSRL with a big lens attached. Mind, I say, you just couldn't shake the little fellow, but also that with the 17mm F2.8 lens, the Pen is a lot lighter than many serious tripod heads.

Entering the menu, I first blinked a few times, then started looking through the menu rows - an overall user-friendly menu, but just because I say user friendly doesn't mean that it is also intuitive, for it is not - it took me a while to figure things out, especially on the single column on the left that only has pictures and no text, nor user configurable ones. Nevertheless, you have nothing to worry about, since anyone that has touched, played with or possessed more than two digital cameras is likely to comprehend the menu interface from the first time they use the E-P1.

[IMG=110][IMG=111][IMG=112]

Now, leaving the aforementioned size issues aside, it's time to talk about the real-life usage of the camera. And, right from the start and without any holdbacks, I can say that the auto focus worked fast, at least when using the 17mm F2.8 pancake lens and the central focusing point. Also, be aware that this is seriously influenced by the F2.8 aperture.

When I switched to the 14-42mm zoom lens, I did notice a lot more focus hunting than with the 17mm, while with both lenses, I kept experiencing even more focus hunting, as well as missing the focus completely sometimes. Nevertheless, it is very clear that the Olympus E-P1 is a much faster performer than the E-620 I played with a while ago.

There's not too much to tell about the six art filters, but the fact that one should try and do them in post processing, as some of them drastically reduce image quality, and the software that comes with the camera has quick actions for the filters anyway. I only added three samples, namely Pale & Light Color, Pinhole, and Grainy Film, because these are the ones that have a noticeable effect on the camera operation speed. When not using any of the filters, the camera operates quite fast and starts very fast too.

[IMG=113][IMG=114]

There's a reason why I didn't mention the LCD screen from the start, and that's Live View, which is continuously used, as the E-P1 is a rangefinder. Very nicely implemented, you will be able to use live view in any conditions, indoors or outdoors, thanks to the, dare I say, best LCD visibility I've yet to meet in a rangefinder-type camera. You will have absolutely no problem using Live View directly in the brightest sun light, nor will you experience difficulty while going through the menu in the same scenario.

[IMG=115][IMG=116]

Getting back to Live View - have Olympus with the implementation - users will enjoy an excellent exposure simulation on the LCD screen after they half press the shutter button. One brilliant (and I'm not referring to the brightness) feature is the exposure compensation that has real-time feedback in the simulated histogram, which means you can easily figure out whether you'll blow out any highlights and compensate for that.

Speaking of exposure, I should mention a tad downside of the Pen, mainly that using all metering modes will slightly blowout further away highlights, which is probably normal, and actually easy to come around given the sweet histogram on the Live View. While we are in the Live View area, let's take a quick look at the HD video recording issue a little, as this is one of the key highlights of the E-P1. Customers will benefit from an HD video recording interface smoothly implemented that will allow them to easily shoot just about any scenario.

[IMG=117][IMG=118][IMG=119]

As far as I played (cough "tested") with the E-P1, I noticed that the best, finest way of taking HD videos is to use both aperture control (user configurable, from the menu) and manual focus - I mean, don't even bother with automatic aperture or auto focus, because it will only draw you back from what you are concentrating on recording. In automatic movie exposure, users can choose from five settings, while modes can be chosen between Program and Aperture priority.

Just like in still image mode, the E-P1 can set the six art filter on movies too, but mind that some of them will drastically reduce performance. For example, the pinhole and grainy film filters will drop frame rate down to about 2 FPS (or at least something easy countable on one hand's fingers), while the soft focus filter will also interfere with performance - to a lower degree, but certainly noticeable.

Multiple shot will be found interesting by many, just another marketing-added feature by most and definitely loved by the film fans out there that actually might have an analog rangefinder. A major downside, especially for film fans that never cared about how many times one took pictures using the same 35mm frame, is the fact that multiple exposure is limited to just two shots. Nevertheless, it's very nice to have this feature around and, with a little practice, you could get really creative using this option.

[IMG=120][IMG=121][IMG=122]

Besides the native 4:3 aspect ratio, the E-P1 will provide users with the possibility of selecting among three other aspect ratios. Of course, 16:9, just in case one would like to embed some fine photography into HD videos they've recorded with the Pen, because it is a lot easier to frame the pictures directly to that aspect ratio, rather than cropping them in post processing.

Just like any other 4:3 native digital cameras, the Pen also has 3:2 aspect ratio enabled, which is the standard aspect ratio of photos that you print in digital photo labs, because 35mm film has that aspect ratio,

as well as the digital subdivisions APS-H and APS-C. Last but not least comes the aspect ratio that owners will enjoy, just like you have already guessed, you also get 6 x 6 format aspect ratio.

Finally, I'll get to the ISO tests, and I have to give it to Olympus, it really worked a lot on this issue. I will let you be the judge of the ISO samples, which I shot on a red leather-like material (a chair in the office) because, as well all know, in color cameras, more amplification is used in the blue color channel than in the green or red channel, thus by using a red toned material, I would equalize the noise in the color channels; as for the leather-like material, I find it ideal because of the fine detail in the pattern and sewing. Mind that the samples are 100% crops, with no noise reduction, nor interpolating.

[IMG=123][IMG=124][IMG=125][IMG=126]

I said I would let you be the judge, but I would also like to make a few points on the image quality. I will start with ISO100, which is as clear as day, if I may say so - I noticed very fine, low-contrast detail across the whole image and quite crisp edges with the sharpening on the camera's default. I will not bother you with detailing each and every ISO speed, but rather resume to saying that across the whole ISO range of the Olympus E-P1, I observed little to no chroma-noise, which is smoothly maintained under control by the brave in-camera processing, as well as an overall non-uniform distribution on the noise pattern, that is most noticeable when going over the ISO3200 point.

Mind, I say; however, I was really impressed with the ISO6400 quality, yet probably that's just my indifference to image noise - I learned what it is, how it can be reduced right from the start and I live with it, because I remember one thing an older fellow photographer told me - better noisy than shaken or blurred, yet better blurred than not at all. There's nothing worse than a sharp image of a fuzzy concept, so just enjoy photography, my friends. There are a lot of bulk cameras out there that I don't like at all and this one is really one of those nice exceptions one manages to come across from time to time.

[IMG=127][IMG=128][IMG=129][IMG=130]

Last but not least, you can also judge the skin tones that the Pen provides, minding that I kept the camera on semi-automatic mode, namely aperture priority and auto white balance, just like I use my camera when taking instant photos around the streets. Also, do not judge ISO noise here, as the priority was the simplest use, pointing out the skin tone. You can notice the slight blown further highlights, and, of course, underexposed subject, but I really don't know what to make about the subtle magenta tone.

The only thing I can think of is that the automatic white balance was tricked by the light blue t-shirt my colleague was wearing and compensated for that, which is actually good, for a landscape. If you notice too many variations, try using preset WB, or one of the two manual settings, namely one custom preset or Kelvin WB, that ranges between 2,000 and 14,000K, if the WB fine tuning doesn't help enough with its 7 steps for Red - Blue and Green - Magenta. If you're still not sure about that, there one more solutions available - WB Bracketing.

An overall impressive performer that will meet the needs of many, not only those that look for the best portability, but even those that are little to more discerning when talking about image quality, because even though the imaging sensor is smaller than the common APS-C, and twice smaller than 35mm FF, it will provide you with a level of quality that you never thought was possible from such a small camera.

[IMG=131][IMG=132][IMG=133][IMG=134]

As a conclusion, I must say that it was a very nice experience testing the Olympus E-P1 and that I was actually shocked about the ISO capability of it, the detail and versatility. It does have a fine detail at lower ISOs, speed and all, but there are some cases where you need a little more, and there are other options, but I tell you, my friends, this is one camera more than worthy of considering.

[[BREAK=Conclusions]]

## **The good**

- elegant and sturdy design;

- very good ISO capabilities, even at high values;
- good sharpness and detail in many conditions;
- 720p video recording;
- numerous pre-set shooting options, useful mostly for mainstream photographers;
- advanced manual mode;
- several in-camera photo-editing options;
- very good LCD display, even in direct sunlight;
- well-implemented LiveView function;
- advanced slideshow and image organization/playback functions;
- built-in Art Filters;
- relatively user-friendly, intuitive controls;
- no xD memory card support, just SDHC;
- multiple connectivity options (including miniHDMI).

[IMG=32][IMG=39]

### **The bad**

- a bit bulkier and heavier than expected;
- low FPS count when applying Art Filters to video recording;
- very expensive accessories;
- limited multiple exposure;
- relatively short battery life (especially when used in mixed modes - photo/video shooting and playback);
- still relatively slow auto-focus, in certain situations.

### **Overall impressions**

The overall impression Olympus' E-P1 rangefinder left us with, after almost three weeks of non-stop handling, is that of a very elegant digital camera, which can be used both as a trustworthy imager and a fashion accessory. The device has a very solid, sturdy body (pretty bulky, though, compared to a compact digicam), with a minimalistic, yet very attractive design, reminiscent of the original film-based PEN cameras.

Besides being able to provide good quality photos in a wide variety of lighting and environment conditions, the E-P1 can also shoot very decent 720p videos. In fact, what really makes this function attractive is not only the possibility of using the very good M.Zuiko Digital lenses for video shooting, but also the possibility of seriously tweaking the video recording parameters in order to obtain a better image. Unfortunately, in certain situations (for example, when applying the art filters), the "software effort" is simply too much for the E-P1's image processor, with the FPS count dropping significantly.

As far as the usability is concerned, the E-P1 can prove to be a good solution for beginners and advanced photographers alike, albeit the latter might have some issues with the lack of a built-in viewfinder and flash unit (after all, this comes with the rangefinder family territory).

The menus (even the Super Control Panel) are fairly intuitive and fast to get accustomed to, even by people with less experience in the field of digital photography. Unfortunately, pricing is quite an issue in the case of the E-P1 (not to mention its accessories), but the recently released E-P2 might do something about that, by bringing about a price drop for its predecessor.

[IMG=40][IMG=41]

### **Sales package**

- Olympus E-P1 body;
- Li-ion battery BLS-1;
- Li-ion battery charger BCS-1,
- USB/Video Multi cable,
- Shoulder strap,

- OLYMPUS Master CD-ROM,
- Instruction manual,
- Warranty card.