

## RECOMMENDATION REPORT ON ENTRY-LEVEL DIGITAL CAMERA

When digital cameras were first introduced, they were expensive and only produced photos in proprietary formats. Most manufacturers now use standardized memory and image formats, and camera prices have dropped low enough for first-time users to consider buying. This combination, of standardization and lowered prices, makes digital cameras a desirable alternative to film cameras.

For individuals, families, and small businesses considering the purchase of their first digital camera, this report compares four entry-level cameras along four points of comparison and recommends the camera with the best value for the money.

### Requirements for Inclusion

The only requirement for inclusion in this analysis was that the price of the camera be less than \$400.00, thereby excluding most of the high-end cameras that can produce quality equal to high-end 35-millimeter film cameras.

The four cameras compared here are:

1. Hewlett Packard (HP) PhotoSmart C30X1
2. Olympus D340R
3. Agfa ePhoto 780
4. Fuji DX-10

### Points of Comparison

All four cameras have useful features such as macro-focus, auto white balancing, digital viewfinders, and compatibility with PC and Apple computers. At first glance, they all look and act similarly. This report examines the sometimes subtle differences between them in the following four areas:

1. Photo quality
2. Features
3. Simplicity
4. Price

### Photo Quality

The quality of a digital photograph is expressed in terms of resolution, meaning the number of pixels, or points of color the camera uses to compose an image. It is expressed as the number of horizontal pixels times the number of vertical pixels. For

example, an image with a resolution of 1024×768 has 786,432 total pixels that make-up an image taken with that camera.

The Olympus D340R and the HP PhotoSmart provide the highest image quality at 1280×960 (1.3 megapixels) and 1152 x 872 (1 megapixel) respectively. The higher resolution produces very detailed photos, but uses more memory than is necessary for simple snapshots. Both of these cameras offer three resolution modes, giving the choice to save memory space if desired.

The Agfa and Fuji cameras produce nice photos with a maximum resolution of only 1024×768 (.8 megapixels), saving memory with little degradation of quality. The Agfa and the Fuji feature four quality modes for varying situations: "fine" and "normal" quality in both 1024x768 and 640x480 resolutions. This feature comes in handy when camera memory is limited or photo quality is not a priority.

The difference in photo quality at these levels is very subtle, and no real difference can be seen in prints even as large as 8" ×10". The Agfa and FUJI produce very crisp, colorful photos with less memory and are therefore the clear winners in this category.

## Features

Three features important to photographers are covered in this section and they are: camera recovery speed, small object photography, and zoom.

Camera recovery speed: Quick refresh speeds and multiple or fast-frame photography is useful when taking pictures of moving subjects such as an automobile, a golfer's swing, or an air show.

Of the cameras researched, the Agfa has a recovery time of two seconds for rapid fire photos. The Fuji is somewhat slower, depending on battery-strength, but compensates with its "multi-shot" feature that takes 9 photos in just two seconds, on one frame. The Olympus has a similar ability to take ten burst shots at half-second intervals. The camera with the slowest recovery time is the HP, sometimes taking as long as 20 seconds.

Small object photography: Built-in macro focusing makes close-up photos easy to take. Three of the cameras have this ability. The Fuji can focus from as little as 3.9 inches away; the HP and the Olympus can focus from four inches away. The Agfa has no macro capability.

Zoom: The HP, Fuji, and Olympus cameras all have zoom capability, but the Olympus only allows this feature in the high-resolution mode. The Agfa ePhoto 780 does not have a zoom mode.

## Simplicity

All four cameras are user-friendly, the only caveat being that the Afga does not have an auto-focus capability [5]. All of the cameras can connect to a television for presenting photos in a slide-show format and all come with cables necessary for uploading photos to a personal computer.

## Price

This report analyzes the best camera *value* available for entry-level consumers or small businesses with tight budgets. When all the feature comparisons are made, the four choices are very close in several of the categories, making price the differentiating factor. The following prices are the lowest found on the Internet, listed in descending order:

1. The HP PhotoSmart camera costs \$389.00. This camera is not a good choice for the money since it has no extraordinary features relative to its peers to justify the higher price.
2. The Olympus D340R is also a bit pricey at \$294.17. The included software is good, but does not justify the price either.
3. Even at only \$261.49, the Afga is a poor value due to its lack of zoom, auto-focus, and macro focusing capabilities.
4. Finally, at just under \$250, the Fuji is the lowest priced camera, making it the best value.

## Summary

Table 1 summarizes the analysis discussed above, illustrating the differences between each of the cameras in the categories examined:

Criteria	HP PhotoSmart C30X1	Olympus D340R	Agfa ePhoto 780	Fuji DX-10
Photo Quality (Resolution)	1152x872 (1 megapixel)	1280x960 (1.3 megapixels)	1024x768 (.8 megapixels)	1024x768 (.8 megapixels)
Simplicity	Auto-focus	4 inches	None	4 inches
Features Camera recovery speed	Up to 20 seconds	2 seconds or ten burst shots at half-second intervals	2 seconds	"Multi-shot" 9 photos in 2 seconds
Small object photography	8.2 inches [7]	4 inches	None	3.9 inches

Digital Zoom	2x	2x	None	1.6x
Price	\$389.95	\$294.17	\$261.49	\$248.99

*Table 1 – Comparison of Entry-Level Digital Cameras*

## Conclusions

- Unless you absolutely have to have a Hewlett-Packard, this camera is over-priced at \$389.00 and is a clear example of pricing based on brand name.
- If megapixels are important to you, several mid-priced cameras offer higher resolution at a better value than the Olympus.
- Without zoom, auto-focus, and macro-focusing capabilities, the Agfa is simply not a good choice for the money.
- Fuji has a good reputation for photographic quality and the DX-10 upholds that reputation. With a price tag of just under \$250.00, the features, versatility, and ease of use are comparable to the higher-priced cameras.

## Recommendation

For simplicity, versatility, and photo quality at an entry-level price, the Fuji DX-10 is clearly the best camera value for the entry-level or budgeted user.

## Sources

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