



# What's Driving DIGITAL?

## TI/CEA Surveys Reveal Current 35mm Users Are Key to Digital Growth

By Kanika Ferrell

**T**exas Instruments (TI) is not a name you normally associate with digital cameras. That's because we are not a camera manufacturer. But we are very actively involved in the digital photography business, building the most up-to-date digital processors—processors that go into some very popular camera brands. Because of the long lead times required to develop these next-generation processors, TI constantly takes the pulse of digital camera users and prospective buyers. Our research is not only extensive, but accurate as well. That was confirmed once again when we compared the results of our own research to the Consumer Electronic Association's (CEA) market research findings released in September, 2004.

TI also takes an active role in promoting digital photography through educational articles in trade and consumer publications. As a member of CEA's Digital Imaging Special Interest Group (SIG), we're pleased to have this opportunity to discuss the lat-

est survey findings, examine some trends, and help you map out a strategy for increasing your sales of digital cameras.

**IN THIS STORY:** Texas Instruments certainly has a lot at stake in the digital camera game and a recent study they did on the changing digital camera consumer revealed some important data retailers might find quite useful.

### Taking It Out For a Spin

In almost every respect, digital camera first adopters mirror the demographics of buyers of other high-tech products. So, it's not surprising that current digital camera owners who use their digital cameras as their primary camera tend to be online and married, with a higher level of education and a correspondingly higher income.

Digital camera sales grew by a whopping 60 percent in 2003, primarily from these first adopters. When all the numbers are in, it's likely that this same group will grow the market by another 19 percent in 2004. The surveys reveal that 50 percent of first adopters like to purchase new technology immediately or within the first year of introduction. Given the fact that megapixel counts are up considerably since 2003, it is reasonable to conclude that

first adopters are due for a digital camera upgrade in 2005. But will that be enough to bring back 60-percent growth rates?

### Shifting Gears

Regardless of how many first adopters upgrade this year, the surveys also reveal that the time has come for manufacturers and retailers to target segments beyond shutterbugs and first adopters. In other words, we must focus our attention on current film camera users and give them a reason to cross the digital divide. That's where the real growth potential lies.

What's the key to converting these buyers? Our research shows they are motivated by image quality, feature sets, ease of use and price. The CEA survey confirms that but goes a step further in highlighting consumers' disappointment with the level of sales reps' knowledge. Therein lies the challenge.

"Sales staff have tremendous influence on digital camera purchases," says CEA Director of Industry Analysis Sean Wargo. "The trouble today is that a number of consumers who consulted retail sales staff when considering a purchase were not able to get the information they needed to feel secure in their decisions to buy. This is a key area for improvement the industry should target to further propel digital camera adoption rates."

As we improve digital image quality and add the feature sets that customers want, we also have to educate retail sales people on how to sell the benefits on these exciting improvements. Here are some selling tips.

### She's a Beauty

Both the TI and CEA surveys confirm that picture quality is the most important driver in the digital camera race. It's not only at the top of every customer's list, but it beats out megapixel count and optical zoom by a substantial margin. Certainly megapixel count plays a role in image quality, but it's important that your sales staff understand that there's a lot more to digital photography than just raw pixels.

Metering is probably the single most important factor in determining picture quality. Yet contrast and lighting extremes have always been a problem for camera meters. Traditional camera meters look at a bride and groom and expose for the bride, leaving the groom in the dark. Or, the meter looks at Uncle Joe sitting on the sofa in front of the living room picture window and is overwhelmed by the outside light, giving a poor exposure of Joe. Just as important, lighting extremes play havoc with color balance. A bright horizon, for example, can result in a washed out blue sky. Not anymore.

Cameras manufacturers are mastering the art of exposure with the help of digital image processors and image enhancing software. Many of the new digital cameras are smart enough to recognize extreme lighting and contrast situations and correct them right away, in the camera. So, consumers not only get the proper exposure of the bride, the groom, and Uncle Joe, but the true colors of the

Barbados coast as well. That's the kind of camera intelligence the mass market has been waiting for, and it's a feature that should be actively promoted by resellers.

### Driving With Depth Perception

Edge definition is the ability of a digital camera to separate the subject from its background. Sharper edge definition creates a picture with more depth and adds to the overall feel of a sharper picture. But too much edge definition can make the photo appear as if the subject was cut out with a scissors and pasted onto the background. Unfortunately, edge definition is not a one-setting-fits-all proposition. It depends on subject versus background texture, color and lighting. The right amount of edge definition for one scene might be too much for another. Digital cameras equipped with in-camera image enhancement software are able to analyze the shot and alter edge definition sharpness to match the background. These new cameras are just reaching the shelves and they promise to bring a whole new level of depth and sharpness to point-and-shoot digitals. Like intelligent metering, this feature is one that will demand more than a casual mention during the sales pitch.

### This Baby Needs Shocks

Camera shake is not unique to digital. It's been with us since the early days of film. But, with the least expensive digital cameras now offering a 3X optical zoom and higher end cameras at the 10X level, a steady hand might be too much to ask. To combat the problem, manufacturers are adding image stabilization on some of their models. This year only a few manufacturers have it. Within five years, we predict that all manufacturers will be offering this important feature.

While there are several different image stabilization techniques, most rely on a digital processor and specialized software to track camera movement and counteract it. On the high-end models, the digital processor analyzes camera movement and determines how fast, how much, and in which direction it has to physically move either the lens or the imaging sensor to eliminate blur. On mid-priced models, the image tracking process is the same, but instead of physically moving the lens or imaging sensor, the processor applies corrective software fixes to the image itself to digitally sharpen the blur. At the lowest end of the price range, the camera will simply prevent the user from shooting a picture that it knows will be blurry. That will force them to steady the camera or zoom out a bit.

The surveys show that mass market consumers are likely to spend less than \$200 for their first digital camera. So it's important not to oversell the capabilities of entry-level image stabilization. On the other hand, demonstrating the differences between entry-level and mid-level systems may encourage some buyers to reach deeper into their

pockets to upgrade.

### Getting Up-to-Speed on Red-eye Correction

In-camera red-eye correction hit the digital camera



The "Smart Cam": Image processors are now "smart" enough to recognize extreme lighting conditions and correct them right away, inside the camera.

market in 2004. So far, it's only available in a few upscale makes and models, but you'll be seeing more manufacturers incorporating it into their lower priced product lines in the near future. It's a major improvement over the older technique of red-eye reduction and it's important that your sales staff and your customers understand the differences between the two techniques.

Red-eye correction and red-eye reduction may sound alike, but that's where the similarity ends. Digital red-eye correction operates on an entirely different principle. Where red-eye reduction relies on pre-flashes to reduce pupil size and retinal reflection, digital red-eye correction software just assumes that red-eye will be present in every flash shot. The in-camera editing software analyzes the post-exposure image, looking for the tell-tale signs of red-eye. Current cameras that have this feature require user intervention. The user recognizes the red-eyes in the photo and invokes software inside the camera to retouch and remove red-eyes from the image. In the future, the red-eye will be immediately retouched after exposure and saved to memory, freeing the user to get the next shot. The entire process will occur automatically and require no special knowledge or user intervention.

This technique does more than just eliminate red-eye, however. It greatly improves the customers' photographic experience. By eliminating the entire pre-flash-induced shutter delay, users can capture more action shots—more babies' smiles, more bridal bouquet tosses, and more surprise birthday parties. They'll get not only better pictures, but more of them, making this a very strong selling feature.

### Fun Behind the Wheel

Digital cameras have always held the potential to radically transform amateur photography. That transformation kicks into overdrive this year with in-camera editing. To understand what's driving in-

camera editing, you only have to look at the CEA respondent's answers regarding bundled software. When it comes to moving, editing and printing digital images, 84 percent of current owners use the photo editing software bundled with their camera. If the majority of first adopters are using bundled software, and bundled software provides mainly basic editing features, it only makes sense to move those basic features into the camera and eliminate the PC process entirely.

But will "non-techies" go for that concept? Our research shows that of the survey participants who intend to buy a digital camera, a clear majority, 65 percent, view in-camera editing as either very important or extremely important. More telling than the raw percentages is the fact that the majority of those favoring in-camera editing are female—just the demographic we believe will fuel the next growth spurt.

In-camera editing will allow users to not only crop their photos, but have some fun with them as well. They can choose fun borders from an in-camera library, add thought balloons, and even stitch several photos together to form panoramic shots—all in-camera, all without special editing skills. When they're done, they can output those images to a home printer or drop the memory card off at a photo finisher.

In-camera editing eliminates the most frustrating bottleneck for mass market buyers—the PC. It gives them true portability, allowing them to output edited pictures without being tethered to a PC. That frees them to shoot and output while on vacation, immediately following special events, or on business.

### Your License to Drive

If the CEA survey offers any one special piece of advice on how to capture more digital camera buyers, it is that consumers want more knowledgeable sales reps. New concepts like red-eye correction, image stabilization, image enhancement and in-camera editing will sell themselves, but only if customers understand the benefits of those features. To drive home those benefits, resellers should start with ample sales training, backed up by POP displays, literature and comparison photos.

You're in the driver's seat when it comes to introducing the mass market to digital photography. Just make sure you've got the lay of the land before you hit the open road. It's going to be a fun and financially rewarding trip. ■

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