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## Trimble unveils GPS for small mobile devices

Published Jun 22, 2000 | dpreview staff

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This could turn into interesting news for digital camera owners, Trimble Navigation today announced FirstGPS, a chipset solution to enable small portable devices to "know where they are". Featured in Epson's Japanese "Locatio" product which is a PDA, phone, navigator, digital camera with built-in Internet access. FirstGPS has the lowest power consumption of any GPS receiver, requiring only 30-50 milliwatts at 3.3 volts. It's likely we'll see digital cameras of the future with built in GPS locators.



[Trimble press release:](#)

### Trimble Unveils Innovative GPS Architecture for Mobile Devices

SUNNYVALE, Calif., June 22 /PRNewswire/ -- With the goal of providing the smallest and lowest power Global Positioning System (GPS) receiver for mobile devices, Trimble (Nasdaq: TRMB - news) unveiled today its new FirstGPS(TM) architecture. Trimble's FirstGPS architecture is specifically developed for power-sensitive mobile information devices such as laptops, PDAs, digital cameras, smart phones, pagers and automobile navigation systems. The architecture allows high-volume manufacturers of consumer products to add GPS location with minimal impact on the device's size or battery life.

Trimble's FirstGPS architecture is a proven technology already in use in Japan. Partnering with Seiko Epson, Trimble's pre-production architecture was first implemented in the Locatio. Seiko Epson's Locatio is the world's first combination PDA, wireless phone, personal navigator and digital camera capable of accessing the Internet. Additional information in Japanese can be found at <http://www.i-love-epson.co.jp/locatio/>.

"Trimble's new architecture enables a broader range of high-volume mobile information platforms to add GPS functionality where size, power, flexibility and cost are key factors," said Dennis Workman, Trimble's vice president of Component Technologies. "We have a mission to make location technology a part of everyday life. These technology advances will make a greater number of consumer applications possible."

### Ultra-low Power Consumption

Trimble's FirstGPS architecture offers the lowest power consumption of any GPS receiver on the market today. Requiring only 1/3 the power of most receivers (30-50 milliwatts at 3.3 volts when updating positions every second), FirstGPS is ideal for power-sensitive applications. For devices that only need location-on-demand, several sleep and low-power



Epson Locatio:  
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## FEATURED VIDEOS

**DPReview TV: Tamron 35mm F2.8 (\$349) vs Sony/Zeiss 35mm F2.8 (\$800)**

modes allow for further power savings and longer battery life.

### Host-based Architecture

Trimble's FirstGPS is the only host-based architecture on the market today that allows flexible integration of GPS with other real-time software tasks. Without burdening the other applications running on the mobile device, FirstGPS leverages the host microprocessor (CPU) and memory to calculate the GPS position, velocity and time solutions. This innovative architecture, which is microprocessor and real-time operating system (RTOS) independent, eliminates redundant CPUs and memory thereby reducing overall component count and product cost.

The FirstGPS architecture continues Trimble's tradition of superior and reliable performance in urban canyons and other weak-signal environments. While FirstGPS is designed for autonomous operation, this flexible architecture can also take advantage of server-based techniques for faster signal acquisition, higher position accuracy and enhanced sensitivity.

### Compact Form Factor

FirstGPS architecture is extremely compact. Its high level of integration and low component count enables a footprint as small as one square inch (25mm x 25mm). This small footprint facilitates the integration of GPS functionality into a variety of mobile devices without adversely affecting product form factor and size.

### Availability

Trimble will offer 8 and 12 channel versions of the FirstGPS chipset. Samples for OEM evaluation will be available in the third quarter of 2000.

[VIEW COMMENTS \(0\)](#)

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May 20, 2003



**Just posted! Canon PowerShot S400 review**  
Apr 28, 2003



**Just posted! Olympus C-50 Zoom review**  
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### Latest sample galleries

**DPRReview TV: Firmware 1.4 for the Canon EOS R significantly improves eye-AF**

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Maternal love by Deadfisheye  
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**VSCO acquires Rylo for its advanced mobile video editing software**

Mobile photography app company VSCO has acquired camera maker Rylo to bring advanced video editing tools to its users.

Dec 10, 2019 | 0

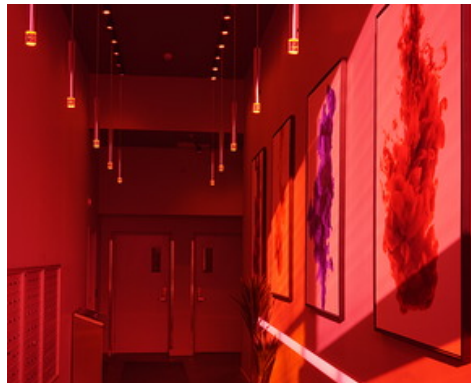


**Nikon F 60th anniversary sale includes a special wristwatch with shutter speed dial**

Nikon is celebrating its first SLR, the Nikon F, with



Canon RF 15-35mm F2.8L IS sample gallery



Sony 35mm F2.8 ZA Carl Zeiss Sonnar T\* (DPReview TV)



Tamron 35mm F2.8 Di III OSD M1:2 (DPReview TV)



Nikon Z50 review sample gallery

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## Latest in-depth reviews



### Sony a6600 review: Amazing autofocus, acceptable ergonomics

388

REVIEW Nov 27, 2019 at 15:00

Sony's flagship APS-C camera, the a6600, is a refinement of its predecessor and now includes industry-leading autofocus and battery life. But is that enough to earn it top marks? We think Sony could have pushed the boundaries a little further - find out how in our full review.



### Canon EOS M6 Mark II review: Our favorite Canon mirrorless camera yet

1412

REVIEW Nov 25, 2019 at 15:08

With the EOS M6 Mark II, Canon has taken its midrange mirrorless game up a notch. Offering the highest-res APS-C sensor on the market, 4K video, super-fast burst shooting and comfortable ergonomics, the M6 II is compact and a real pleasure to shoot with. Get all the details in our full review.

### Canon PowerShot G7 X III review: the compact camera that lets you broadcast to the world

REVIEW Nov 19, 2019 at 15:00

The PowerShot G7 X Mark III doesn't stray from the formula

a new Nikon Museum sale that includes a limited-edition wristwatch with a dial watch face.

Dec 10, 2019 | 28



### Nikon is killing off its authorized repair program in March 2020

Repair website iFixit reports that Nikon has contacted more than a dozen independent repair shops that they will no longer be a part of its authorized repair program after their agreement is up in March 2020.

Dec 10, 2019 | 102



### Kodak Ektachrome E100 film will be available in 120, 4x5 formats 'within the next 10 days'

Kodak Alaris confirmed Ektachrome E100 will be available to purchase globally in 5-roll 120 'propacks' and 10-sheet boxes of 4x5 film 'within the next 10 days.'

Dec 10, 2019 | 7



### Canon RF 15-35mm F2.8L IS USM sample gallery

Take a look at what this fast, wide-angle zoom for Canon's full-frame mirrorless system is capable of.

Dec 10, 2019 | 43 SAMPLE GALLERY

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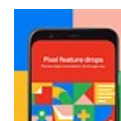
Member FDIC



### Adobe Lightroom for iOS, iPadOS gets direct import, advanced export and more

Adobe has added direct photo importing and advanced photo exporting to Lightroom for iOS and iPadOS, as well as updated the shared album feature in its desktop apps.

Dec 10, 2019 | 8 MOBILE



### Google Pixel 4 'Feature Drop' brings post-capture Portrait Blur and more

Google Pixel users will soon be able to apply background blur to portrait image that were taken in standard photo mode.

Dec 9, 2019 | 15 MOBILE

**Lensrentals teardown reveals the inside**



that made its predecessors well-liked, at least on the outside. Its feature set, however, has been greatly improved, with live YouTube streaming being the highlight.

167



## Fujifilm X-Pro3 review: living in the moment, not a screen in sight

1419

REVIEW Nov 12, 2019 at 14:45

The Fujifilm X-Pro3's new viewfinder, new screen and titanium construction all make for an appealing camera, but perhaps only for a certain type of photographer.



## Review: The DJI Mavic Mini is the tiny drone you want in your Xmas stocking

208

REVIEW Nov 9, 2019 at 15:00

Weighing in at just 249g, the Mavic Mini fits in the palm of your hand. You give up a few features in exchange for that tiny size, but we still found it to be a solid performer.

[Read more reviews »](#)

## Latest buying guides



### Best instant cameras of 2019

Dec 5, 2019 at 22:12

Looking to get in on the instant camera fun? We tried every model and think the Fujifilm Instax Mini 70 strikes the right balance between price and feature - the Instax Wide 300 is our choice if you crave a larger format.



### 2019 Buying Guide: Best enthusiast long zoom cameras

214

Dec 3, 2019 at 18:32

Long-zoom compacts fill the gap between pocketable cameras and interchangeable lens models with expensive lenses, offering a great combination of lens reach and portability. Read on to learn about our favorite enthusiast long zoom cameras.

### Best mirrorless cameras of 2019

### Best mirrorless cameras of 2019

Nov 27, 2019 at 23:45

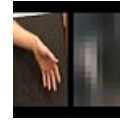
'What's the best mirrorless camera?' We're glad you asked.



### of the 'Strong like Bull' Canon RF 70-200mm F2.8 lens

Roger Cicala and his team at Lensrentals have taken apart Canon's RF 70-200mm F2.8 IS lens to reveal what engineering feats are hidden within.

Dec 9, 2019 | 201



### MIT project uses camera and AI to 'record' hidden objects using the shadows they cast

MIT CSAIL's latest AI project uses a camera and algorithm to 'record' videos of hidden objects, including their color and motion, based only on their shadows.

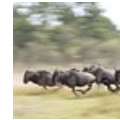
Dec 9, 2019 | 27



### Apple confirms its new Mac Pro, Pro Display XDR monitor will be available to order tomorrow

Six months after first announcing the redesigned Mac Pro and Pro Display XDR monitor on stage at WWDC, Apple is opening up orders starting tomorrow, December 10.

Dec 9, 2019 | 105



### Interview: Award-Winning Wildlife Photographer Buddy Eleazer on why he chose the Olympus OM-D E-M1X

Recently, we spoke to award-winning photographer and Olympus shooter Buddy Eleazer about his work, what inspires him, and what he needs from his camera gear when shooting wildlife on safari.

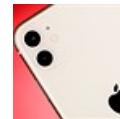
Dec 9, 2019 | SPONSORED



### TTArtisans releases its 21mm F1.5 prime lens for Leica M-mount camera systems

The 21mm F1.5 for Leica M-mount is a fully-manual prime lens with a clicked aperture and 10-blade aperture diaphragm that's currently available for \$429.

Dec 9, 2019 | 41 LENS NEWS



### Gear of the Year 2019 - Allison's choice: iPhone 11

After nearly a decade of using Apple phones, Managing Editor Allison Johnson jumped ship and became the happy owner of a Pixel device. But the iPhone 11 might just tempt her back.

Dec 9, 2019 | 103



### Video: How Photoshop's 'Color Adaptation' setting can improve Content Aware



## 2019 buying guide: Best cameras for kids

Nov 23, 2019 at 17:46

Whether you're looking for a toddler-proof rugged camera or something for an older child learning about photography, we've identified several options that won't break the bank.



## Best drones of 2019

Nov 23, 2019 at 14:00

The holiday season is upon us. If you're looking for the perfect drone for yourself, or to gift someone special, we've selected a handful of models at every price point.

59

[Check out more buying guides »](#)

## Fill accuracy

This 60-second tutorial from Adobe shows how changing the 'Color Adaptation' setting within the Content Aware Fill tool can create better edits in different situations.

Dec 8, 2019 | 17 VIDEO



## These are the 20 most important cameras of the decade (and one phone)

Yep, we're doing it.

Dec 8, 2019 | 565



## DPReview TV shootout: New Tamron 35mm F2.8 vs. Sony's 35mm F2.8 ZA for E-mount

The new Tamron 35mm F2.8 Di III OSD M1:2 lens has an attractive price, but how does it stack up against Sony's own 35mm F2.8? According to Chris and Jordan, pretty darn well.

Dec 7, 2019 | 148 VIDEO



## Tamron 35mm F2.8 and Sony 35mm F2.8 sample galleries (DPReview TV)

In this week's episode of DPReview TV, Chris and Jordan did a shootout between the new Tamron 35mm F2.8 lens for E-mount and Sony's own 35mm F2.8 ZA Carl Zeiss lens. Check out the galleries from both lenses and tell us what you think.

Dec 7, 2019 | 32 SAMPLE GALLERY



## Sandmarc brings its anamorphic, tele, wide-angle and macro lenses to iPhone 11 devices

The new cases ensure Sandmarc's anamorphic, tele, wide-angle and macro lenses will work on the latest iOS devices.

Dec 6, 2019 | 10



## Photokina confirms Canon, Panasonic and Sony will be at 2020 expo

Three months after it confirmed Leica, Nikon and Olympus wouldn't be returning to Photokina, the event organizers have put out a press release confirming Canon, Panasonic and Sony will 'promise a fireworks display of new products at Photokina.'

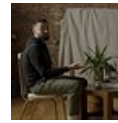
Dec 6, 2019 | 132



## Sigma's new Classic Art Prime Cine and /i Technology PL lens kits to sell for \$44K

Sigma announces that its upcoming Classic Art Prime Cine lenses will be available as a full 10-lens set starting next month for \$43,999.

Dec 6, 2019 | 41



### Photography podcast 'The Group Chat' launches with critical look at the preset market

A new photography podcast has kicked off with an episode that looks critically at the photo preset market, detailing the negative impact it has on photographers and the wider industry.

Dec 6, 2019 | [61](#) VIDEO



### Sigma Japan confirms the release date for its L-mount 40mm F1.4, 105mm F1.4 'Art' lenses

As promised earlier this year, Sigma will be releasing the L-mount versions of its 40mm F1.4 DG HSM and 105mm F1.4 DG HSM lenses by the end of the year.

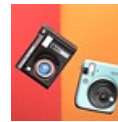
Dec 6, 2019 | [76](#) LENS NEWS



### Gear of the Year 2019 - Carey's choice: Sigma 45mm F2.8

Over months of using Sigma's 45mm F2.8 Contemporary lens, Reviews Editor Carey Rose rediscovers that there's so much more to a lens than speed and sharpness.

Dec 6, 2019 | [157](#)



### Best instant cameras of 2019

Looking to get in on the instant camera fun? We tried every model and think the Fujifilm Instax Mini 70 strikes the right balance between price and feature - the Instax Wide 300 is our choice if you crave a larger format.

Dec 5, 2019



### This Chrome extension makes Instagram 'likes' visible again

Chrome users can now 'unhide' Instagram likes on the Web using a new browser extension called The Return of Likes.

Dec 5, 2019 | [27](#)



### Profoto A1X studio light and Off-Camera Kit now support Fujifilm cameras

Profoto has announced its compact A1X studio light now supports Fujifilm camera systems.

Dec 5, 2019 | [39](#)



### The Motorola One Hyper tosses a 64MP main cam, 32MP selfie cam inside a \$400 phone

The new Motorola One Hyper has a 64MP sensor in its main camera, and even the pop-up selfie camera produces 32MP pictures that can be display across the full area of the 6.5in screen.



### Down in Nuawluns: Nikon Z50 sample gallery

The Thanksgiving break gave us a chance to take the Nikon Z50 on a tour of New Orleans. See how it did with both the kit zoom and the new Nikkor Z 24mm F1.8 S.

Dec 5, 2019 | 171 [SAMPLE GALLERY](#)

### Canon releases minor 1.6.0 firmware update for its EOS R full-frame mirrorless camera

The update adds support for Canon's new RF 85mm F1.2L USM DS lens and addresses a number of bugs throughout the system.

Dec 5, 2019 | 26



### Interview: Aki Murata of Olympus - 'Full-frame isn't for everybody'

Among the topics of discussion with Mr. Murata were the new OM-D E-M5 III and his company's strategy to attract professional photographers.

Dec 5, 2019 | 900

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