The **RED** ONE and EPIC cameras have raised the bar for thousands of productions, even those shoots with modest budgets. But what about the little guy who wants to shoot digital on a shoestring budget? A great solution for that scenario is RED’s new SCARLET-X camera. The price for the SCARLET-X brain plus a solid-state disc drive (SSD) is $9,750. (For a kit with battery, controller and LCD, the cost will be around $14,000, depending on the options.)

The SCARLET-X’s 5K Bayer-type sensor enables the capture of 4K and 4K HD (16: 9) RED RAW at 24 and 30 fps; 3K at up to 48 fps; 2K at up to 60 fps and 1K at up to 120 fps. You can even capture 5K at a maximum frame rate of 12 fps, but this is a bit frustrating as it is close yet not close enough to 24 fps to be useful. For that you’ll have to pay for an EPIC (at several times the price). The SCARLET-X does have many other features from the EPIC, like its high dynamic range (HDR) in which the highlights are protected to achieve an exposure latitude of up to 18 stops. To achieve this, the camera captures two streams of video: one exposed for the highlights and the other for shadow. The tradeoff is that maximum frame rates are cut in half (for example, 30 fps vs. 60 fps maximum in 2K mode). The SCARLET-X can be operated and powered via the RED pistol grip for a minimum of a half-hour by 37/Wh RED volt batteries; for two hours by brick-style 153/Wh RED Li batteries; or by various capacities and brands Li batteries hooked to its power port.

Lens-wise, the SCARLET-X can be outfitted with either a standard cinema PL mount or standard **Canon** EF mount. The camera is unique in that it enables some auto functions, like auto-exposure and focus, with many of Canon’s latest EOS prime and zoom (DSLR) lenses. The mounts can readily be switched by loosening a few screws, and the same will soon be true with other brands, like **Nikon**. Audio-wise, the SCARLET-X can record up to four channels of 44/48 kHz (PCM) audio via a pair of mini-plug inputs on the front plate and monitored via a mini-plug headphone jack. Color-coded audio levels are adjustable through a touch-activated VU meter on the LCD screen. Color-coded audio levels are displayed in the lower-right corner of the viewfinder, but you’ll need to find your own mic mount and utility shoe to mount it on.

The camera’s audio and video are recorded to solid-state RED magazines available in sizes from 16, 32, 64, 128 and 256GB at up to 180mb/s. The RED mags can be offloaded several times faster than standard CF cards. Once on the desktop, the RAW files can be color corrected and even edited (cuts only) as well as exported to other **Apple** Mac or PC-based editing/effects apps, including Final Cut Pro and
Avid
programs.

I tested the SCARLET-X with RED’s Canon EOS package, including a RED side handle, two 37/Wh
RED volt batteries, RED View 5-inch LCD VF monitor and a RED arm
for secure, easy handling. I had two 153/Wh brick batteries and a charger, plus a brick belt-pack adapter, and I used my Canon 100–400mm EOS and Tamron 10–24mm lenses. (Unfortunately, neither auto-exposure nor autofocus worked with the Tamron, but they did work with the Canon 100–400.)

For ENG-style shooters, it’s worth noting that the SCARLET-X and other RED cameras are very

menu-driven with only a handful of external controls. However, the user interface is fairly user-friendly and should be familiar to RED users as well as DSLR shooters. With nary a glance at the over-270-page user manual, I began shooting in earnest after a half-hour phone tutorial with RED tech support. Key functions, like exposure, resolution, frame rate and shutter speed, are all at your fingertips via the camera’s two-stage menu, which can be activated by tapping directly on the VF or via the simple controls on the side handle.

My **Miller** Compass 25 tripod package (with its 30.9-pound maximum capacity) easily handled the 12–14-pound SCARLET-X package. It enabled me to pan very slowly and smoothly for exceptionally crisp imagery in 3K and 4K along with some useable shots in 5K at 12 fps. I also shot handheld at 24 fps using the RED arm — and I had to remind myself that I wasn’t on sticks. The SCARLET-X has enough mass for excellent stability with handheld shots, especially when firing with the side arm and grasping it with the RED arm while braced against a wall (this is much more comfortable than it sounds).

I also shot a variety of subjects outdoors at 60 fps at 2K resolution and was impressed at the clean, smooth, slow-motion effect of swimming and walking waterfowl when played back at 24 fps. The slow-mo shots of waterfowl, herons, fish eagles and muskrats that I shot at 1K HD resolution at 89 fps were even more impressive. Played back at 24 fps, much of their movements took on a dreamy slowness, most notably in the shots of my dog bounding after thrown sticks and such. Moreover, the 1K imagery looked HD sharp and easily intercut with the 2K shots.

I was also really impressed with the camera’s exposure latitude when using the HDR mode, even when shooting faces backlit in the midday sun. Tweaking exposure and color correction was also surprisingly easy and fast using a RED cine 3.2 lens, as was doing a cuts-only rough cut. I found it much faster and more satisfying than capturing a camera codec to Final Cut before color correcting. After hearing so much about the difficult RED workflow in its early days,

I was blown away by how easy-breezy it was (once I mastered the basics) and how impressive and juicy the video was even at 2K and 1K, at least in good lighting situations. On the down side, the SCARLET-X isn’t as light-sensitive as one would hope. Its native ISO has been estimated as low as 5-600, which is plenty in daylight but marginal in low light. However, in those situations you can use HDR to boost detail in the darks.

In many respects, the SCARLET-X has exceeded my expectations by packing its 1K–5K capability at a better price point than most Pro 1080p cameras. Its modular design makes it feasible to scale it to your needs and budget. For those expecting the SCARLET-X to be an “almost-EPIC” camera, it will fall short in some key ways. But if changing frame rates isn’t quite as important as exposure, color latitude, crispness and an overall clean, great “film look” captured at 3K and 4K resolution, the SCARLET-X may well fulfill most if not all of your needs, provided that you light adequately.

For me, one issue was the SCARLET-X’s limited frame rates, particularly at higher resolutions with a max of 60 fps at 2K (versus a maximum of 120 fps at 4K with the RED EPIC). Nevertheless, the SCARLET-X is cut from much of the same cloth as the EPIC sensor-wise, and it could deliver 90 percent or more of what the EPIC does for a fraction of the cost. The SCARLET-X isn’t suited for ENG-style shooting, as it lacks basics like XLR inputs and a mic mount and has temperature-range restriction, but if you’re ready to take the plunge with a small-crew production — on a feature, reality show, documentary, music video or anything else — the RED SCARLET-X may be your best option to achieve cinema-screen resolution at ENG costs.