



Whilst visiting IBC I was witness to an interesting event whereby two employees of Sony entered the Red Booth, looked at what Red was offering and then boldly proclaimed that it was impossible to achieve. They seemed to think the technology was too advanced and the price too low – an opinion I gathered was shared by quite a few others who passed through the tent. On a messageboard recently someone told me “most of the post community seems to believe that it [Red] is some kind of bizarre hoax!”

It's an attitude that I had thought had started to dwindle as more details of Red had become available (and certainly since the 4k showing at IBC) but a lot of comments I'm reading and opinions I'm hearing still seem very sceptical, and very much along the lines of “it's too big a task”, “it'll never reach the market” or “the price will be doubled when it's available”. As I'm writing this it's the end of September and Red are stating they expect the first working prototype to be ready in December and the first deliveries to reservation holders in early 2007. It made me wonder why there is such a prevailing level of scepticism in certain quarters and, when we're this close to a useable camera, the notion “it's just not possible” still seems so common.

Part of it I guess is down to experience. A lot of camera manufacturers, both small and large, have hyped up their latest offerings with promises of great features at certain price-points, to be delivered by such-and-such a date. They've then delivered months (if not years) late, priced higher than they'd originally stated and with “new features” that are not all they were cracked up to be. It then turns out that the cameras in question are limited in other crucial areas making the whole package somewhat disappointing.

Red's problem is that they're offering a lot. In fact they're offering a helluva lot more than anyone else has up till now and at such an affordable price that it seems faintly ridiculous. With the kind of broken promises and disappointment that professionals are used to, it's hardly surprising that the scepticism remains. But there are a lot of us jumping on board, taking the promises at face value and expecting that this upstart new company will deliver where others have failed. Are

we just naïve, buying into the clever marketing and wish-fulfilment, or is there more to it?

For me the concept of Red was never a case of technology revolution, but a paradigm shift in philosophy, creativity and motivation. What do I mean? Well, think about the technology that Red will be using. At the front end are the optics, specifically 35mm film lenses – hardly revolutionary. Then there's the sensor – in Red's case the Mysterium, a bespoke CMOS designed by the team and manufactured specifically for the camera. Many may look at this as a major technological breakthrough but (without knowing the specifics of it) I hardly think so. CMOS sensors have been around for over 40 years, in the last decade or so they have grown in popularity relative to traditional CCD's and now are common in digital SLR cameras and telecine scanners (in fact the CMOS in the [Arriflex D20](#) is taken from an Arriscan). What it seems Red have done in creating their own is to push the technology a bit and create a CMOS with exceptional quality (hi-res, low noise, large dynamic range and good frame-rate) – but it's only a development of what's come before.

Then the rest of the camera? There's some cutting-edge technology on it (the 720p EVF for example) but if you're from a computing background then there's nothing on there that will surprise you. And this is the thing – the Red One is a digital camera, essentially a portable computer. The CMOS converts photons into analogue voltage and a converter changes those voltages into data – one's and zero's. How you process that data, what infrastructure you pass it through, what storage medium you use doesn't matter, the fact is it remains data. Look at the outputs – HD-SDI, eSATA, Firewire, USB – and you won't find anything new. Onboard storage is by way of a flash mag or HD recorder (probably a RAID of 2.5” drives), again nothing that the computing world hasn't been using for years.

I'm in danger of belittling the work of the Red Team here, which is certainly not what my intention. Firstly it takes someone with the vision, abilities and resources of Jim Jannard to make a project like this a reality. Then he's recruited a team who are experts in their various fields to make the camera, to integrate the technology and find ways to make it work the best it can and, importantly, to build an end-to-end workflow that will make it easy and attractive for us end-users. They are pushing boundaries, they are doing new stuff, my point is none of

it's a massive step beyond currently available technology. It's just they've brought it all together, the real genius is in the very simple idea that it should be done at all.

If it's that simple, why hasn't it been done already? Well actually it has. Jeff Kreines announced the 1080p [Kinetta](#) camera over two years ago (though sadly it's never actually materialised). Silicon Imaging are expected to start shipping their [SI-2k](#) camera soon. [Colorspace](#) have two cameras in the pipeline (2k & 720p). They've all seen the same problem, all identified the same opportunity and all attempted to do something about it. In fact, it's an idea that occurred to Jim Jannard as long ago as 1999 (have you noticed the [Red Logo](#)?)

So why do some find it hard to believe? In short, it's called propaganda. The big camera manufacturers could build a camera like Red in their sleep – but they won't. The reason they won't is that they make a lot of money from expensive proprietary systems that tie the end-user into expensive proprietary workflows. All that data that comes off the sensor is processed and recorded to an expensive and antiquated system called video tape. It then costs a lot more to transfer it from that medium into the computer world for editing. And yet it never stops being data, it's always one's and zero's as surely as if it'd been recorded straight to a computer readable device (like, say, a hard drive) in the first place. But if you're a big company, there's no money in allowing fast and easy access to that data. They don't just want to sell you a camera, they want to sell you their expensive media and a VERY expensive edit deck to access your data from. And then they have a big range of products, from consumer DV level right up to Hi-Def, sold in an increasing range of prices, with technology that is incrementally updated every 12-18 months to keep new features and thus “fresh” products to tempt the industry with. Unfortunately, while they've been incrementally updating their products the technology in the “real” world has far outpaced them. And so we get the likes of Red and Silicon Imaging breaking into the market with new products that are vastly superior but that, when you inspect them in detail, are using commonly available components and can therefore charge dramatically lower prices. And because they don't have a massive product range to protect, the only people they're undercutting are the traditional manufacturers.

Yet some people find it hard to accept this, to grasp that what they're currently

offered is overpriced and based on increasingly outdated technology. Why? Because they're used to having to wait for small advances, told that "we're spending hundred's of millions in R&D" for a 5% increase in picture quality and being spoonfed what the manufacturers want them to have. And because those same manufacturers make it so long, painful and complicated to take these small steps forward, people are cynical of any advance. They've had the wool pulled over their eyes for so long that they don't want to look at the light 'cause it hurts.

OK, so Red isn't here yet and it's possible that it will fail. Or that it won't live up to expectation, or maybe it'll take a bit longer than some people hope. But even if any or all of these occur the fact remains that the technology exists to make it happen. Red isn't magic.

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