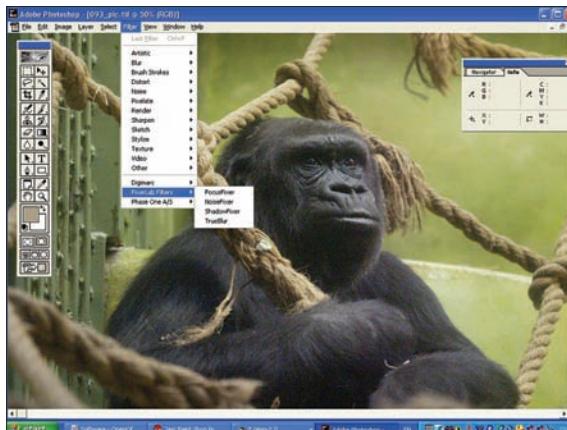
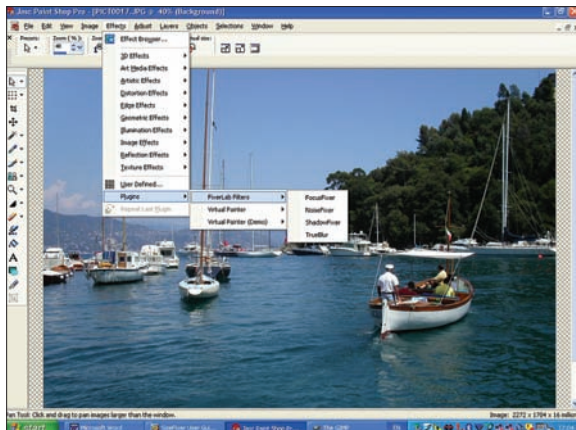


SOFTWARE |



Left: FixerLabs' four modules are accessed via the usual routes in Paint Shop Pro and Photoshop. All photographs © Jon Tarrant.

by non-imaging data.

This process is made simpler if the digital picture's EXIF fields are richly populated with information that can be used to model the likely distortion that could have occurred. In the absence of this information the software uses a generic model to produce results that, according to FixerLabs, 'will not be as good but will still be an improvement over Unsharp Masking'. Whereas USM simply creates a visual impression of greater sharpness through exaggerated edge contrast, FocusFixer actually increases the amount of high frequency (fine detail) information in an image based on the pattern of frequencies that already exists.

Seasoned users of Photoshop and similar programs know that USM has to be applied carefully for optimum effect, and that it must be used in proportion to the size at which the final image will be viewed. The idea of a plug-in that is both better and more versatile than USM is therefore very attractive indeed.

The disadvantage of a system such as FocusFixer is that it will also reveal the true extent of any artifacts in an image caused by compression, for example. For this reason FixerLabs recommends that the software is best used on files converted directly from raw with all of the EXIF data kept in tact. I agree with this recommendation: when I tried using FocusFixer on a typical out-of-the-camera JPEG with low compression I found that the software improved the appearance of the image when it was viewed from a distance but the resulting picture did not withstand closer inspection.

Following the FixerLabs recommendation to process only converted raw files produced vastly superior results but I had great difficulty finding images that provided the information necessary for the LensFIT model to be employed. Some of the digital images that I have on file are full of EXIF information and it is not clear precisely which pieces are needed to get the best results from FocusFixer. I strongly suggest that FixerLabs should compile

Getting out of a fix

Sharpening noise compensation and image enlargement are handled extremely well by FixerLab's software, says [Jon Tarrant](#)

Trying to download tens-of-megabyte files using a dial-up modem connection is a real pain. It may well be, as a press photographer friend replied when I mentioned this gripe, that everybody who is anybody has broadband, but if I were in the market for software and found that my desired download amounted to 50MB and I did not have access to broadband then I could become extremely agitated. There is at least one *BJP* reader who agrees with me because he got in touch to explain his experiences running around the houses (literally) trying to find a colleague who could download Microsoft's Raw Thumbnailer and Image Viewer (*BJP*, 26 October) on his behalf.

With that in mind, I am delighted to report that although my review copy of FixerLabs software came on a CD, it is possible to download a trial version of FixerBundle in a file that is less than 2MB big. As a former programmer myself, it always warms my heart to find a piece of software that crams a lot of power into a small module – and FixerLabs certainly has succeeded on this point. Great though the likes of Photoshop, Paint Shop Pro and GIMP undoubtedly are, there is no denying the fact that users who simply confine themselves to these software giants can easily miss out on other programs that provide better (or at least

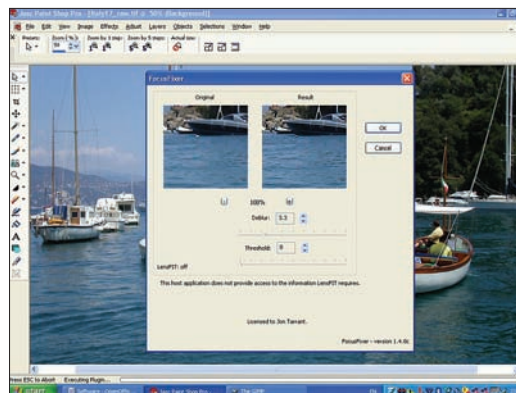
alternative) ways of carrying out critical tasks.

FixerBundle complements Adobe Photoshop and Jasc Paint Shop Pro by providing plug-ins that address sharpness, noise, shadow detail and creative blur. The sharpness plug-in sells for \$57 online (at www.fixerlabs.com), while the other three are just \$27 each. Rather than worrying about conversion rates, UK readers will be pleased to know that Colour Confidence, FixerLabs' UK distributor, is currently offering the entire suite on a CD for just £39.95.

All that needs to be done to use the software is to install it in a plug-in folder. Although the installer defaults to Photoshop CS it is a simple matter to browse elsewhere if a different version of Adobe's software is installed – or if Paint Shop Pro is preferred instead. The modules can also be accessed by both programs, if the two co-exist on the same platform, simply by adding a new destination to the plug-ins search list. Interestingly, the software is said to be compatible with only Photoshop 7+ under Mac OS but also supports Photoshop 6 under Windows. This review was undertaken on a Windows XP system using both Photoshop 6 and Paint Shop Pro 8.

Look sharp

Probably the most important component of FixerBundle is FocusFixer, which uses a



deconvolution technique to remove the softness that was introduced into an image by the lens and sensor. In essence, the task is to distinguish the effects of the two separate parts of the system in order to purify the image.

The best analogy in conventional photography would be to think about taking a picture through a lens that had tiny rain-drops on the front element. The resulting pictures would show a dot pattern in out-of-focus areas where the rain-drops become visible even though they are not normally evident in sharp areas of the image. Exactly the same technique is sometimes exploited by wedding photographers who place a black diagonal stripe across a plain glass filter to create a brush-stroke effect in out-of-focus backgrounds.

These patterns cannot easily be removed from traditional film images but can be extracted from digital images to counter the effect of distortion

Above: When the FocusFixer module is used on an image that lacks sufficient data for LensFIT to be employed a manual interface is opened: the default values work well but lower settings may produce a more acceptable, subtle effect in some images.

SOFTWARE |

a list of supported cameras as I found it strange that, for example, a Canon EOS 1D fitted with one of Canon's own lenses did not provide all of the information that FocusFixer needed, yet a Canon EOS 350D (like the EOS 1D Mk II and EOS 1Ds MK II) was fully compliant even when fitted with Sigma's new 30mm f/1.4 prime lens.

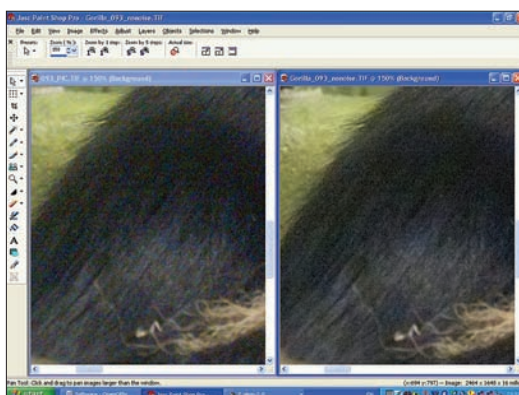
Fortunately, even when there is insufficient information for LensFIT to spring to life it is possible to get very impressive results using FocusFixer manually thanks to a responsive and reliable preview window. With a bit of practice this becomes a very speedy process that gives an enormous improvement in image quality.

Supporting acts

There was a time when noise was a serious problem in digital camera images, especially when high ISO settings were used. Although things are much better these days there are still times when noise rears its ugly head: in addition it can be useful to be able to remove noise from archive images that were shot with less sophisticated equipment. NoiseFixer can be used for both of these applications, not least because unlike FocusFixer it does not need EXIF information so is not inhibited by older files that might have been saved or copied without their metadata fields.

NoiseFixer offers separate control over colour and luminance noise. It is very effective but can be rather subtle. Under normal circumstances I would expect that a slider control with a scale from 0 to 100 would be set somewhere in the mid-range for best effect but very noisy images benefited from the full 100 units of noise removal that NoiseFixer offers. I could find no adverse side-effects accompanying the noise reduction process. In particular, images retain their full sharpness – which is definitely not the case when some other noise reduction techniques are used. That fact alone makes NoiseFixer worthy of purchase.

The accompanying TrueBlur module, which introduces depth-of-field effects that are frequently reduced by the optical geometry of digital cameras, also includes a noise control routine. In this case, however, the software actually



adds noise so as to provide the same effect as would have been captured in-camera, thus ensuring a truly convincing final appearance.

It is to be hoped that ShadowFixer, which selectively lightens dark areas of images, will be less essential to professional photographers. It does, however, open up the possibility of under-exposing an image rather than using a noisy, high-ISO setting. This possibility is certainly worth exploring at leisure if, as will probably be the case, the full £39.95 suite is purchased largely the strength of FocusFixer and NoiseFixer alone.

Growing up

The final piece of FixerLabs software examined here is a totally separate stand-alone program. As its name suggests, SizeFixer competes in the image enlargement market, which was once dominated by Genuine Fractals but has become much broader of late. There are two versions of FixerLabs' software, both of which are considerably more expensive than the FixerBundle components. SizeFixer SLR costs £149 and enlarges up to

Above: This image was shot at ISO3200 using a Canon EOS-1D: there is significant noise in the gorilla's fur that NoiseFixer does an excellent job of taming when set to 100 units of colour noise correction.

A1 format whereas SizeFixer XL costs £249 but offers enlargements restricted only by the hardware used and the 2000 million pixel limit imposed by the TIFF definition itself.

Whereas fractals and wavelets have been used previously for image up-sizing, FixerLabs says that its Super Resolution method employs the same LensFIT technology that exploits EXIF data for optimum quality sharpening in FocusFixer. If, as will sometimes be the case, the necessary EXIF information is missing then FixerLabs uses a Fourier/Lanczos interpolation method instead of its preferred deconvolution technique. 'SizeFixer performs a huge amount of computation,' the literature says, adding proudly, 'it is a super-computer application for desktop computers.'

So how well does it work? The bad news is the current version does not support greyscale images (but will work with images that have been converted from greyscale to RGB) and nor does it have a browser/preview window to check which image is being selected before it is loaded. The good news is these are the only problems and the first, at least, has already been identified as the subject of a future (free) update.

As is the case for FocusFixer, SizeFixer works best with uncompressed TIFF data but also accepts JPEG files. Modest images load fairly quickly and appear on screen in both overall and close-up views. Larger images can take a very long time to load (up to five minutes) and I feel it is a

bit cheeky for FixerLabs to display a screen notice that suggests larger files may take 'a few seconds'. To be fair, my PC is not the very latest model but other readers who are similarly perhaps two or three years behind the leading edge of computer hardware may find that they too encounter longer delays than FixerLabs would obviously like.

A particular use that FixerLabs suggests for SizeFixer is in enlarging cropped sections of input images without any loss of sharpness. The first time I tried this the software crashed but on my second attempt I succeeded in generating a 67MB file from a tiny part of an 11MB original. Close inspection of the resampled file confirmed that it had suffered no visible loss of quality. This is an amazing achievement!

It seems likely that the original problem was one of limited disk space and memory coupled with a rather over-eager attempt to enlarge an already substantial file. Not having succeeded in this area it is important to relay an observation made in the SizeFixer reviewer's notes: 'The Super Resolution processing may take an hour to produce a result but the result is worth waiting for, especially if it is for a mission-critical client, exhibition, display or photo-library. A typical six million pixel photographed can be up-sized from 36MB to 600MB without loss of sharpness.' If all that is true then SizeFixer may take its time but the results could well be quite astounding. Certainly the results of the tests reported here look very promising.

Not having tested it to the extreme I cannot pass final judgement on SizeFixer other than to say that it did suffer the odd hiccup during testing but also produced some impressive results. The complementary FixerLabs offering, FixerBundle, is easy to recommend without reservation: it is a must-have set of plug-ins that is also extremely good value for money. **BJP**

Where to buy

The FixerBundle suite is available from Colour Confidence on CD for £39.95. Colour Confidence can be contacted on 0800 0735 845 or 0121 684 1234.