

It never rains but it pours - 3D in the Amazon rainforest

Photographs by Adam Docker and Pedro Guimaraes

For optimum 3D effect and in order to avoid expensive post-production work, shooting 3D requires very precise alignment, rock-solid stability and as few changing environmental parameters as possible (see pages 76–79). So, on the face of it, a largely hand-held shoot in the 'most unpredictable and non-machine friendly environment in the whole world' would not seem to be ideal. But that is exactly what Adam Docker's company Red Earth Studio was asked to undertake for Sky.

When Sky asked my company Red Earth Studio to produce a short 5 to 12 minute 3D film of the Amazon for their Rainforest Rescue campaign, I could see we were in for a challenge.

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The fact that Sky was aiming to showcase this in an interactive pod around the UK in an attempt to raise £2 million to help save one billion trees in the Brazilian rainforest, whilst also promoting awareness of environmental issues

and sustainability, made this a creative, worthwhile cause that I felt privileged to be involved with. The general consensus is that 3D is limited to controlled, set-up

environments due to the size of the equipment and the complex workflow. But Sky, keen to push these limits, wanted a hand-held feel for this film and therefore approached us as a production company specialising in observational documentaries. We were

undoubtedly excited as this would be our first foray into 3D filming and, as commissions go, this had to be one of the most demanding. Having spent the previous few months noticing the buzz and excitement around 3D in the TV industry, it was great to be able finally to get our hands dirty and find out what all the fuss was about. And the best part? We had just one week to organise it!

Challenging environment

Originally it was planned to film in the region of Acre, which is where the Sky Rainforest Rescue sponsorship programme operates. However, situated to the far west of the Amazon, near Peru, the logistics and costs of this location made it

impossible, so we relocated the shoot to the district around Manaus. Here there was plenty of forest and a rich variety of animals plus indigenous tribes to be found, while still being close enough to civilization should anything go wrong. We had just five days to film everything so couldn't afford any serious delays. Nevertheless, the location would throw up plenty of challenges for both people and equipment, being both a yellow fever and malaria area, intensely humid, and prone to torrential rain every day for six months of the year, which would include the time we were there – a testing environment indeed for the array of electronics we would be relying on.

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Right gear for the job

On a previous shoot in Los Angeles, we had met Bruce Austin (3D stereographer) and Sean Coles (cinematographer) from BAP and 3Rive Productions, respectively. They had built a clever little prototype Si2k beam-splitter 3D rig that was small and light and worked with Schneider 8mm wide angle Cinegon lenses. The

feed from both cameras was perfectly synced and they were able to output into one single QuickTime file onto a CineDeck unit mounted on the back of the rig. We had evaluated all the options prior to the shoot, from REDs to EX3s, but all were too big, heavy and/or clunky. The Si2K ticked all the boxes; it was slimline, very easy to handle and operate, and made ENG style filming in 3D a reality.

Bruce and Sean decided to throw in a second Si2k side-by-side camera with XA4x7.5DA-1 (7.5 to 30) Fujinon C-mount lenses for the close-up shots. This recorded onto a One Beyond hard drive unit, just in case the CineDeck failed in the notorious Amazon humidity.

Presenter and guide

The flamboyant Richard Rasmussen is one of Brazil's top wildlife TV presenters whom we had worked with on previous projects. He spends most of his time travelling around the wildlands of Brazil and was an ideal candidate for this production. His English was a little rusty, but it was good enough and his engaging style of presentation more than made up

for any slightly odd grammar. The plan was to show Richard walking through the forest, pointing out all kinds of creatures – monkeys, snakes, tarantulas, lizards, parrots, insects – as he encountered them, while at the same time informing us about the trees and climate of the rainforest. In other sequences, he would dance to the strains of panpipes with local tribespeople, feed pink river dolphins and climb high above the forest canopy on a huge tower. Richard's walkabout was to offer visitors to the pod a rich and varied experience of this part of the Amazonian rainforest.

The first day of shooting was full of nerves and excitement as the near 100% humidity hung in the air around us like a wet blanket. Richard,

▼ The largest tarantula in the world, the bird eating spider



▼ The crew waiting for the downpour to stop



▼ Cinematographer Sean Coles and stereographer Bruce Austin



▼ The side by side Si2k



▲ Low angle shot of Richard capturing a bird-eating tarantula



▲ Filming in the Rio Negro with pink river dolphins



▼ Sean Coles gets up close and personal with a red faced uakari monkey



▼ Adam Docker, director, checking rushes on the CineDeck

we were very, very satisfied with the amount of excellent 3D footage we managed to achieve.

When I first arrived at Manaus airport, I had spotted James Cameron, director of *Avatar*. I later read in a local paper that he was here meeting and lending support to some local Indian tribes and receiving for his next film. At the time I found this an amazing coincidence and felt chuffed to have filmed 3D in the Amazon before the great man himself! Which begs the question: Were we the first crew to film 3D in the Amazon? Possibly.

Kit List

- Silicon Imaging Si2k beam-splitter and side-by-side 3D cameras
- Schneider 8mm wide angle Cinegon lenses
- CineDeck unit
- Fujinon XA4x7.5DA-1 (7.5 to 30) C-mount lenses
- One Beyond hard drive

Fact File

GTC member Adam Docker is a Director of Photography with 15 years experience of filming in nearly every corner of the globe, shooting everything from docos, sport, corporates, commercials to music videos. He is a director of London-based Red Earth Studio, a TV production company specialising in documentaries and factual. Red Earth is equipped with HD cameras and 3 HD edit suites. www.redearthstudio.com

See more about the Sky Rainforest Rescue initiative at: <http://rainforestrescue.sky.com>

View behind-the-scenes footage of the shoot at: <http://adamdocker.blogspot.com/2010/06/amazon-3d-behind-scenes.html>

who had already marvelled at what a huge challenge it was taking so much electronic gear into the kind of humid atmosphere we were about to encounter, summed it up: "Everyone has goosebumps. It's impossible not to feel it!"

We made our way to the port of Manaus and loaded a ton of gear and crew into a thin rickety boat which then took us two hours down the Rio Solimoes into a small inlet where a

As we travelled along the river the scenery was stunning and I felt very frustrated at not being able to just switch the camera on and shoot; I am used to having a camera at the ready all the time. Even though the rig is light and agile there were a lot of issues to deal with. Essentially, you have two cameras, which means you have twice as many things to think about, so as the director on this shoot I had to learn to be patient!

The ob-doc style of filming and limitations of filming in a jungle with a small crew and excess baggage restrictions, meant that we had decided against bringing any lighting; we also liked the idea of keeping it as natural as possible. However, this did mean that, once the dark clouds rolled in, filming in the dark forest became very difficult. Thankfully, the Si2K read the pictures amazingly well and there was little break-up when it was eventually pushed in post.

the reflection on it, so in situations like shooting water, glass or clouds, when the sun is at a certain position, you can get a 'polarisation' effect. One eye of the camera sees through the water, whereas the other eye sees the reflection. When these shots are combined in stereoscopic vision, it is disturbing. As the water was quite murky, we found that by simply angling the camera to a certain degree against the sun, we could reduce the effect.

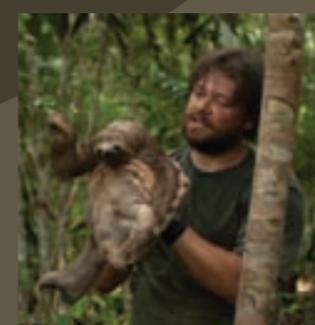
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▲ Freeman White, asst. camera, carrying the camera through the dense forest

Weather breaks
We would film as much as we could in between the bouts of rain, which was intermittent (but torrential) throughout the day. As predicted, the electronics were the weak link. The extreme humidity caused the One Beyond hard drive computer to fail, leaving us with only the CineDeck and no back-up. At times it became almost farcical fighting against the elements of nature with equipment that required so much TLC. I am sure

3D live
The CineDeck is an incredible piece of kit. As well as serving as our recording unit, it allowed us to replay footage back and to check the images coming from both lenses. We were also able to view both live pictures, as well as rushes, in anaglyph mode. This is not a perfect image, but it did allow us to check whether the I/O (interocular), or 3D effect, was too much or too little. Bruce, the stereographer, was very rigorous in looking after this. Because there were lots of trees and branches appearing in the foreground, we kept the I/O – or the distance between the two cameras – to a minimum (between 1/4 and 1/2 inch), so that it wasn't too disturbing on the eye.



▲ Richard rescues a cuddly sloth

Once back in London, the offline edit was done at Red Earth Studio; the online, conforming and grade at Prime Focus; and the audio at Halo Post. There were many complex issues in the post process and we learnt a lot by having to troubleshoot our way through – but I will save that for another day.

Given the climate, the time schedule, the logistics of filming hand-held and in an observational style, in the depths of the rainforest, in the middle of the rainy season, with complex prototype equipment,

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big houseboat was perched on the riverbank. This would be our base for the day. With the camera up and running, we tested it with the first shot; a mother sitting on the ledge of the houseboat washing her children in the Amazon River. It was a fantastic and picturesque start.

the gear would have been much more at home in a big, warm studio instead of being stuck out in the middle of a hot, sticky, wet forest. Essentially we were filming onto a computer (the hard drives) and these are notoriously vulnerable to humidity.

Polarising effect
Filming Richard feeding pink river dolphins in the Amazon River proved a real challenge. The set-up on the beam-splitter rig means that you have one camera filming through the front glass and the second filming

Making Light Work

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