



iQ in Digital Film

French director Pitof completes 'Vidocq' the first fully digital feature film from France, on iQ

Pitof and Quantel





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Pitof is the stage name of one of the most respected special effects editors in the Paris post production scene. His official biography tells us he began his career in 1979 as an assistant director and editor for 'corporate films, advertising and features'. In fact, as he says, 'Like many people at the time, I learned the craft as a freelancer. To tell the truth, I really got started by doing 'light entertainment' at a time when these films were still being shot in 35mm. It was quite easy then because for this type of film, only a minimal level of technical knowledge was required.'

Embracing technology

After this first quirky experience, Pitof began to explore the possibilities of new video technologies: 'I did a lot of corporate films for major brands and began to do special effects, if you can call them that. In fact, we used all sorts of tricks to try and enhance the images and create some production value. In 1984 I discovered a machine that really changed my life and the way we did things.

'It was called Harry and its manufacturer, Quantel, simply marketed it at the time as a graphics tool. In fact, it could do much more. For me, it changed the way we approached image making. It was a revolution. I can honestly say that it was the first stage in what we call today electronic film making.'

Harry was the beginning of Pitof's long association with Paris post production powerhouse, Duran, specialising in special effects for commercials and music promos. 'I introduced Harry to directors such as Jean-Paul Goude and Jean-Baptiste Mondino who were amazed at its

potential. For them, it meant really being able to translate their wildest ideas into images.'

Duran took the next logical step and founded Duboi, its film effects facility. Pitof worked on such films as 'Delicatessen', directed by Marc Caro and Jean-Pierre Jeunet, the first feature film in France to integrate special effects on a massive scale. Over the years Pitof has worked with France's leading directors, including Jean-Marie Poirè ('Les Visiteurs'), Jean-Jacques Beneix, Etienne Chatiliez, Claude Miller, Mathieu Kassovitz and Luc Besson, to name only those well-known outside of France. His international credits include work for Wim Wenders and Lars Van Trier. In 1997 he was given responsibility for co-directing the special effects for 'Alien: the Resurrection', and won an award at the Imagina Festival.

His transition to become the director of a fully digital feature film, ahead of such Hollywood giants as George Lucas, is the crowning achievement in his career.

Going digital

'When the idea of making 'Vidocq' first came up, I immediately said I wanted to do it with digital technology from start to finish,' says Pitof. 'In fact, the choice was not, as most people might think, economical. It was purely aesthetic and based on workflow principles. To begin with, I wanted to create a very specific world, the Paris of the 1830s as seen by Vidocq, our French Sherlock Holmes, investigating the underbelly of the French capital. Our idea was not to do an academic recreation. We wanted to create a universe of our own and we felt that only digital technology would give us the freedom to achieve our vision.'

Pitof continues: 'Also, I've been handling electronic visual effects for over 15 years and since Harry, I've explored the possibilities of practically every special effects system on the market, from Quantel developments such as Editbox and Henry, to a host of PC or Unix-based systems. This film was an opportunity for me to put into practice the full chain of digital image making and to involve all the best digital creators and technicians I've been working with for years. In fact, one of the big motivating factors for a lot of people was to break down the ghetto walls that have kept many great digital artists outside the film process, and to give them the opportunity to work according to their own principles, using their favourite technologies.

'This approach means, to begin with, that there is no longer any distinction between the production and post production phases. The final image is a mix of 'captured' images drawn from reality and 'virtually-created' images generated by technology. There is no hierarchy between the two. What counts is getting the best possible result on screen. Take sets for example, with Jean Rabasse (set director for 'City of the Lost Children' and 'Asterix and Obelix'), he was as present on the physical shoots as well as in the electronic processes. His work continued throughout. The decision to use carpentry or virtual reality was purely aesthetic.'

Mixing and matching

Once this process was put into motion, Pitof was faced with the challenge of putting all the image sources together. With a couple of hundred people working at the same time on dozens of workstations in a host of formats, both 2D and 3D, final compositing and conforming became critical.

Pitof spotted the potential of iQ straight away: 'For me, when I saw iQ at IBC a year ago, it was the dream machine that combined openness to the world of PCs and the processing power of Quantel. I would have loved to have it from the very start, but unfortunately, at the beginning of the production, iQ was just in its beta phase.'

Instead the team had to set up a traditional PC rendering farm. But this created problems for Pitof: 'We were constantly faced with long processing delays and downtime because we were constantly pushing the machines to their limit and dealing with network, formats and compatibility problems. Experience has shown us that this model no longer works beyond a certain bit rate. The iQ philosophy of full resolution compatibility would have allowed me to construct a multi-resolution hub to handle and combine all sources seamlessly.'

But Pitof was not afraid to experiment: 'We used a lot of systems and they all had their limits. Upstream, they required long periods to load the machines with different elements; during the editing phase, none gave us true HD visualisation and, at the end, none were able to provide reliable and rapid final conforms. You know, in the last couple of years, there has been a tendency to take hardware for granted and to continually enhance software capabilities. Once you're handling 2K, HD and other formats, and you need efficient multi-res co-existence, you've got to have the hardware power to do it so you can concentrate on creativity. Quantel, which has always developed hardware and software simultaneously, provides the firepower with iQ to handle massive amounts of information and multiple image sources, and frees up operators to

focus on the job. For that reason, I think they're back at the forefront of where the industry is going.'

iQ to the rescue

When Pitof used iQ it was a different story: 'Anyway, we were finally able to get iQ at the end of the production process, about one month before we were slated to finalise the movie. iQ enabled us to deal with all these challenges. First of all, we were able to integrate all sorts of images quickly, in realtime, in their native formats and in a non-compressed mode. iQ fitted into the workflow process immediately. It's important to say that 'Vidocq' is made up of both HD shots and SD shots. For example, for several scenes, especially action sequences, we shot in standard DV to give us more speed and flexibility. The mix between the two on iQ was seamless.'

Pitof explains how the whole process was made simple with iQ: 'The main advantage, at the intermediate stage, was to be able to view everything in its actual stage of advancement, whether finalised or as work-in-progress. There are some scenes, for example, where we had several weeks of 3D development and where we composited dozens of layers. In that case, we were able to view unfinished shots at the mock-up phase alongside finalised HD shots. This meant we could edit the film from start to finish, without worrying about the state of completion. Once the element was finalised, we were able to conform it.

'iQ came along like Zorro to save the day and help us deal with the most gruelling part of the feature film process: meeting final production delays without working blindly or making sacrifices for technical reasons. Since the machine arrived very late, we needed to get it going right away. It was really plug and play.

Pascal Ouvrard, in charge of editing and final conforming, has worked on Quantel systems for many years and has good knowledge of timeline-based systems as well. He was able to apply his knowledge quickly and shuttle between Quantel functions and more traditional techniques.'

Looking forward

Ultimately, Pitof is unequivocal in his praise of iQ and its flexibility: 'One thing I really appreciated in the iQ system was its ability to integrate the sound track. This really allowed us to pace the film and make decisions on-the-fly. Once we had the process going, we had so much flexibility and storage space that we decided to produce the 'making-of' and the trailer at the same time. Pascal amused himself, so to speak, with these two spin-off products. In fact, he managed to make two 'making-ofs', one long and one short. When one considers the volume of information we were able to handle and process, I can really say that iQ is a veritable bomb. It will do to HD production, 2K and multi-resolution what Harry did to video post production and represents a true revolution in the way we will handle images in the future. I'm not quite sure, as was the case with Harry 15 years ago, if the people at Quantel know what they've unleashed. But, don't worry, the creative community will let them know in the months to come, what potential the system has. There's no doubt in my mind. iQ will be at the centre of my next film.'



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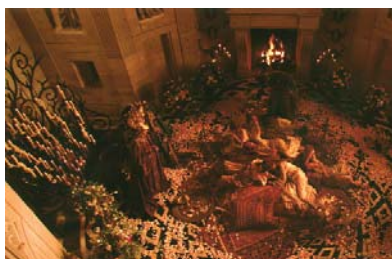


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Thinking Together



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Pascal Ouvrard, editor and special effects artist, was in charge of editing and conforming for 'Vidocq'. He has been working on Quantel systems since 1989 and has explored practically every editing system on the market over the last 10 years. He talks about his experience working on iQ.

'iQ was brought in at the very end of the production process. We had less than a month to finish the editing and final conform. We were faced with the challenge of integrating hundreds of shots with special effects, made up of very disparate image sources. We were able to integrate the Quantel system into our production process to carry out the final conform, using offline edited material. iQ immediately demonstrated its capacity to digitise non-compressed HD material in realtime which was an incredible booster since it enabled us to assemble scenes at various stages of completion.

'Pitof wanted to view the entire film in HD, complete with audio tracks. He was able to see the film as close to reality as possible at every stage, integrating unfinished mock-ups and SD content, as well as 2D and 3D composites. What was really interesting was that, as the film took shape and as pieces came in, we were able to slot in the work and order new effects or make adjustments to the editing. iQ therefore fitted into the production workflow perfectly and allowed us to advance in our editing decisions without having to take into account the state of completion.

'When the machine arrived, everyone was surprised and impressed to see how easy it was to get it going. It truly is a plug-and-play system. The learning period was also very short and really



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painless. I've been working on Henry since 1989 and on Editbox since the beginning, as well as a lot of other editing and SFX systems. iQ is in line with the Quantel spirit, but has integrated a whole series of new features and work options, including a great timeline editing function. For me, the migration to iQ was really easy and I can pick and choose what option works best for me at any particular time. As soon as we realised how incredibly fast the system really was, we decided to make the film trailer and two versions of the 'making-of' at the same time. That's where we were able to really appreciate iQ's ability to handle multi-resolution material. We integrated a vast number of digital SD and HD formats into the 'making-of' and we were able to use the DVE features to enhance the images and the keyer to finish the opening and closing title sequences. The feature we really loved was the DVE's horizontal wipe that enabled us to insert new image sequences with effects to replace mock-ups and to superimpose the shots so we could crop them to single-frame precision. Viewing was then possible in true HD, uncompressed and in realtime.

'As far as storage capacity goes, we had four hours of uncompressed HD, without splitting disk arrays and with an impressive amount of redundancy. We worked through a heat wave in Paris in June and July, in a room that simply had a fan. I think I suffered more than the machine. At the end of the process, the iQ was filled to the brim and yet we didn't have the impression that it was slowing down. On the very last day, we pushed the system to its outer limits and had two disks (out of 24) telling us they were feeling the pinch.

The system nevertheless kept on working to full capacity and we never lost a single image.

'This system is really a revolution for handling multi-resolution work and completely liberates us from technical constraints. To sum up, I'd simply say that iQ allows you to work in HD or 2K in exactly the same way as you would in a traditional video environment, with the same flexibility and speed. As far as I'm concerned, there is no longer any barrier between digital video and HD.'

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Pitof, director of 'Vidocq'

Cover/2-6
Scenes from 'Vidocq', a fully digital feature film

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Pascal Ouvrard discusses scenes from 'Vidocq' with Pitof