

Gaumont has decided to dip into its extensive catalogue to rejuvenate heritage films in fully restored digital versions. This project also aims to preserve these works for future generations. André Labbouz, Gaumont technical director, and Ronald Boulet, digital restoration supervisor at the Éclair laboratory, describe their work.



The Gaumont catalogue gets a new lease of

Q How did you organise this programme of re-releases and restorations?

AL The programme started in January 2009 and will run for three years. It covers 150 classic films in the catalogue, ranging from the 1950s to the 1980s. The principle is to provide operators with fully restored JPEG 2000 digital copies, and a parallel output of DVD and Blu Ray Disc on the video market.

In total there are 100 films processed in HD and 50 in 2K. This list has been determined by the value of the films and the state of the negatives. For example, *la Traversée de Paris*, *la Folie des grandeurs* and the series of *Fantômas* were processed in 2K.

The age of the film is taken into account, but there is also the printing policy of the 70s which did not pay much heed to the preservation of components. Indeed, at the time, a film was first printed exclusively from the original negative (usually about 50 copies), and then possibly duplicated to obtain new copies if they had some success. The negatives were greatly worn by this way of working and now we find ourselves with internegatives of certain parts of the film which are in better condition than the original ... Our job is to look at everything available and put together all the best components like a jigsaw puzzle to reconstruct an optimal digital copy.

RB *French Cancan* by Jean Renoir is a good example. The film was released at the time in two versions, a long French version and a shorter version released the following year for the American market. The problem is that this short version was not made from intermediate components, but by cutting the negative!

To reconstruct the French copy, we had to re-insert the internegatives in the middle of the original negatives whilst also producing a three-colour version (the resultant film becoming a colour version from three black-and-white versions). The long version has now been restored, and the join between the two sources is completely seamless.

Q How is the work carried out on each film?

AL The workflow has several assessment stages. Firstly, as we said earlier, there's the research in the archives to find the best items. Then we scan it in 2K for calibrating and cleansing scratches and other imperfections. Once this stage has been completed, we do a test projection with a subsequent re-touch on some minor faults that may not have been noticed up to that point. We then make a master video in HDcam format. Then there is a last checking stage before finalising the return of the film for archiving. In total each film takes from three weeks to two months, according to its condition and the restorations required. Currently, 20 films have been restored in 2K and about 70 in HD.

1 Restored print from *la Folie des grandeurs*.
2 Restored print from *French Cancan*.



life in the hands of Éclair

Q Is 2K a sufficient resolution? Jean Pierre Beauviala of Aaton swears that 4K is the only way to do justice to the subtleties of film.

AL Why stop at 4K? I think 6K is best to bring out the qualities of film.

RB 4K resolution has four times more data than 2K, and six to eight times more than HD. Even if we could do it, it's costly in terms of equipment, working time, archiving and therefore economic cost for our customers. To re-issue the 150 films in this project it had to be economically viable without compromising quality. For the black-and-white films I really think 2K is high enough. Regarding colour, it's true you can always go higher. As far as I am concerned, from a strictly heritage point of view I'm a great fan of 2K or 4K because if you have more you can do less....something that isn't the case the other way round.

Q Have you begun to put all these 'digitally restored' versions back onto film?

AL We are still doing tests at the moment and we aim to start putting each film onto negative in September, beginning with those that have been restored in 2K. The technical issue is the support medium, and we have to decide between a polyester and an acetate internegative. It will probably be polyester because it allows us to more easily make several film copies in the future...just in case. On this point, the current Gaumont policy is now very strict: no more than five copies taken from the negative before it goes back into storage.

RB For films that go through the 2K process, there's no problem, it's pretty straightforward. But for films processed in HD, we must respect the more limited colorimetric space and the levels of black-and-white to get the best from the new HDcam SR source. Anyway, we know full well that archiving on film is by far the longest lasting and definitely the least expensive solution. Studies have shown that the price ratio is 1 to 10 in favour of film over time. That's easy to understand when you consider that a digital file must be saved and checked every two years so that it can be upgraded if necessary. Compare that with film which has always been the same for more than 100 years...

Q And what about current films shot in digital, or those to come?

RB Almost all digital movies released to cinemas at the moment have to use a DI for 35mm prints. When cinemas go completely digital, then the archiving of these films will naturally become foremost. And it would be good to make productions aware of this problem.

AL As for future productions at Gaumont, even if 35mm gradually disappears from sets and screening halls, we will still support it. Film remains safe and sound and is the only way to maintain a link between the past and the future.

Gaumont is a key player in French cinema and indeed worldwide. Please see their website www.gaumont.fr for more information