

Digital Cinema Economics Paper.

It seems that Digital Cinema has finally started to arrive after years of talk, discussion and presentations about its benefits without much evidence of it happening. In fact the news stories during 2005 relating to Digital Cinema have increased dramatically – just have a look at the news page. The signing of the Digital Cinema Specifications in July 2005 finally indicate the start of the Digital Cinema era. It is true, digitally projected movies do now look as good, or in some cases better than many film versions. When alternative content has been projected over these new projectors the public has appeared to love it and has provided a return, which goes back directly to the cinema, instead of distributors and others. Some technology wise it would appear that Digital Cinema is about ready to roll, but the biggest problem is the cost of rolling digital projectors out to every screen in the world.

This paper kind of looks at the economics of digital cinema conversation, along with providing an update on previous papers which I have written. (See the articles section of the website for more information.

In new cinemas there is no question that digital projectors will eventually be installed as the norm, probably two or three years. However, what about the older cinemas, what's that going to cost? It is predicted that with the Digital Standards being agreed, a large number of manufacturers will now be able to produce Digital Cinema equipment, and thus reduce the cost of each unit.

Below are a number of rough calculations, based on a number of assumptions and some guess work.

There are what, about 3500 screens, plus in the UK which equals a requirement for about 3500 new digital projectors. Now if each projector costs £25,000 to install, based on the idea that mass production of this technology will bring the prices down this would still equal £87,500,000 for the UK along, let along any other country. Now add to this the fact that like most of these projectors are unlikely to last more than about three - five years (like most computers), which also based on the fact it will have to be a rolling programme of installation and upgrades.

So the studios are going to benefit from digital cinema, because they save the cost of a print run (say 3000 prints at £3000 a print = £9,000,000) and we assume that there are two films released each week (£936,000,000 a year in prints?), although not all films will have such a large print run, so that could be reduced by several million.

There are 192 countries in the world with an average 3500 would give about 672,000 screens around the world with a cost of £16,800,000,000 to replace all the projectors. If you then divide the cost of the projectors by the savings made on the print runs it would take approximately 18 years to brake even, which of course still forgets the requirement to upgrade, and the cost of satellite delivery (which isn't cheap - it's several hundred pounds an hour!) - and what about the costs involved with the encryption of the films?

So who is going to pay for all of this, I just a bit confused about the economics and return on the

investment?

All of this is of course now the crunch issue which will determine the speed at which Digital Cinema is taken up. Compared to mechanical equipment, and equipment in general these new projectors are likely to depreciate in value much quicker than previously. Are cinema chains likely to be happy to keep paying this capital outlay? The whole culture of the industry is to keep equipment running for many years, and digital will only be adopted once it is in the same category. Digital projectors may change the way that cinemas purchase equipment and just as many companies tend to only lease a lot of their computer equipment so that it can be replaced after three to five years, it maybe that cinemas may only ever lease their projectors from manufacturers or even studios.

Now there are some pros and cons to this. The con is of course not owning the equipment which could mean that cinemas are no longer independent to show what they want and when they want and may have to pay out a percentage of box office of someone else of than distributors. The distributors are also unlikely to like this either. The pros from a cinema point of view is that they will always have up to date equipment, and it maybe an economic way of converting cinemas over to digital, by using the old equipment from one cinema and passing it onto another.

It is perhaps wrong to compare digital cinema to the PC market of today. The digital projectors are far more robust and reliable than any domestic equipment that people are use to. Much of the equipment is likely to have multiple power suppliers and other redundancy built in to make sure that nothing happens mid show. In fact big names such as Dolby and others would not be putting their names to Digital Cinema equipment if they didn't believe it was reliable enough – they have too much to lose.

In fact probably a far better comparison to make to the cinema industry is sound processors. Many of the sound processors in cinemas around the world very seldom need to be updated, even when there is a technical update.

Now of course Dolby units last for years without a requirement to be replaced, and with standards being agreed should help Digital Cinema. The Dolby Unit (home built) at the student cinema I helped to run was built in the 1980s only got replaced because the cinema moved. I suppose we could think of it terms of television sets and how they have developed from the old black and white sets, through to the new LCD 50" screens, with several scart connectors and all the other connections.

Digital equipment including HD technology is of definite benefit to a cinema as well as to film distributors and makers, although whether the film distributor will still have the same amount of influence of the films which a cinema can show is another question. There are some big winners with Digital Cinema – small low budget film makers are some of the biggest. This of course has its own dangers – quantity over quality? You only have to look at digital television to see the possible way that all this digital content could end up in a cinema.

Digital Cinema could also help finally develop the 3D cinema experience, which previously has been costly and difficult to produce, but which with digital technology has become relatively straightforward. In fact the NFT test bed has recently had a conference on this very topic (See the September 2005 edition of BKSTS Cinema Technology for more details). 3D cinema will be able to

produce an additional revenue stream to the cinema, which would initially be difficult to reproduce in the home.

Digital Cinema is now really here, it is only a matter of time a few years before we see it as part of everyday life as celloid has been up to now.