



Cyan-dye Soundtrack Survey: Results & Soundtrack Implementation

In late August, a survey and information pack on Cyan-dye Soundtracks was distributed to commercial 35mm motion picture exhibitors across New Zealand. The aim of the mail-out was two-fold: to inform theatre operators about this new technology, which is rapidly being adopted by major international distributors and film labs, and through the survey, to build a solid picture of the current capability of domestic exhibitors to correctly playback Cyan soundtracks.

The following pages provide a summary of results from this survey, as well as further information for theatres on the approaching implementation of this new technology.

Results given are based on responses received up to 1 November 2004.

**Prepared by Peter Amies
8 November 2004
The Film Unit Ltd**

With support and assistance from:

The Eastman Kodak Company, Dolby Laboratories, The Dye-Track Committee, The New Zealand Motion Picture Exhibitors Association, Buena Vista International, Columbia Tristar, 20th Century Fox, Hopscotch Films, Hoyts Distribution, NewVision Films, Roadshow Film Distributors, United International Pictures

Design and content © 2004 The Film Unit Ltd.

This document may be freely distributed, in its entirety, in print or electronic form, for non-commercial purposes only. Quotation or citation of statistics contained herein should be appropriately referenced to The Film Unit Ltd.

THE FILM UNIT



Assessed as meeting Kodak
Imagecare Program standards
Camera Negative Processing
Release Printing Services

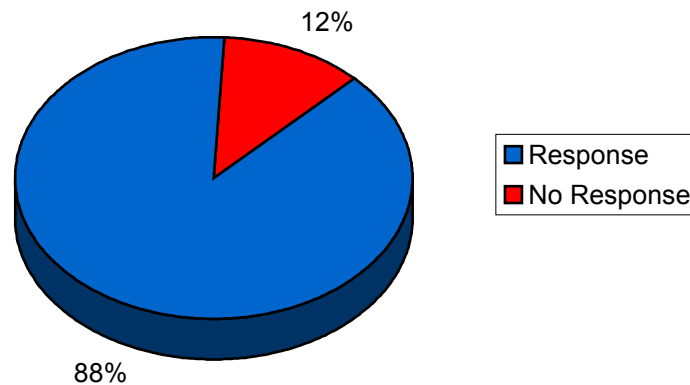
Who was surveyed? / Who Responded?

Working with cinema information provided by local distributors, 108 cinemas were included in the initial mail-out. We understand this list to be an exhaustive register of commercial 35mm exhibitors in the country.

An initial response rate from cinema complexes of 52% rose to 78% (or 84 theatres) through follow-up contact with theatre management.

The 108 theatres surveyed operate a total of 334 screens between them. When the above response rate figures are recalculated based on screen number, the final pool of replies accounts for 88% of commercial 35mm installations within New Zealand (a total of 295 screens).

Figure 1 - Survey response rate based on screen-count



	Response Rate	
	By Complex:	By Screen-count:
Survey pool	108	334
Final response rate	84 (78%)	295 (88%)

Section B (current screen / soundtrack capabilities):

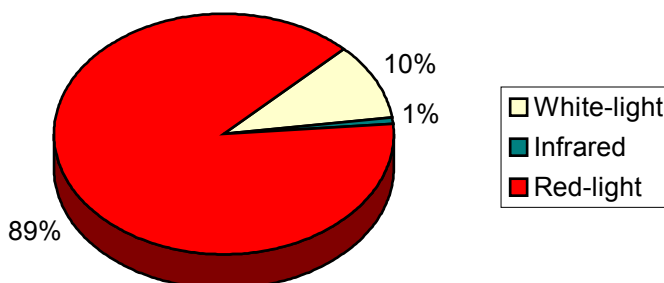
This section of the survey represents the crux of our aim; it establishes a clear understanding of the current level of domestic theatre ability to correctly playback Cyan-dye soundtracks.

Questions in this section asked respondents firstly to clarify the number of screens they operate, and secondly to identify and indicate the style of analogue sound reader used on each of these screens. Options given for the style of reader were:

- White-light (exciter lamps)
- Infrared
- Red-light (LED or Laser)

The following graph illustrates the proportion of screens installed with each of the three options:

Figure 2 - Proportion of each style of analogue sound reader



Style of reader:	Number of screens:
White-light	30 (10%)
Infrared	3 (1%)
Red-light	262 (89%)

With the survey's response rate as high as it is, we can calculate a sampling margin of error to this question, at a 95% confidence interval, of just $\pm 1.22\%$. With a 99% confidence interval, this margin is just $\pm 1.61\%$.

89% of NZ cinemas are equipped to playback Cyan-dye soundtracks

This is a very high rate of theatre compatibility, and is reflective of similar trends in North America, Australia and Europe. International statistics such as these, gathered by various groups and committees, have given major laboratories and distributors the confidence necessary to make a commitment to adopt the use of Cyan-dye soundtracks. In the summary to this document, we have highlighted some up to date information on how and when Cyan-dye soundtracks will start to appear in New Zealand projection booths.

Section C (for theatres using white-light or infrared readers):

This section of the survey looked at whether those theatres still using white-light or infrared sound readers had previously been aware of cyan-dye soundtracks, as well as examining reasons why theatres had not upgraded to using red-light readers.

Of the 16 complexes still using White-light or Infrared analogue sound readers, only two had not previously been aware of Cyan-dye soundtracks, or that their current sound equipment would not allow correct playback of the new tracks.

Apart from these two theatres, all were previously aware of the technology. Only one was not aware of the incompatibility of their sound reader and dye-tracks, and only one said there had been no discussion in the theatre regarding the need to upgrade their sound equipment.

Cost is by far the largest factor suggested by this group of theatres as having an impact on their decision and ability to make the necessary upgrade to Red-light sound readers.

Following cost, uncertainty was the only significant player: uncertainty as to the true incompatibility of white-light with cyan-tracks (theatres were instead experimenting with track compensation through gain control), as well as uncertainty as to whether Cyan-dye soundtracks would ever actually be a reality rather than an industry pipe-dream that never took off.

One theatre wrote that of the screens they run that still use White-light readers, all are equipped with digital sound technologies, and hence, correct analogue playback just wasn't important. In reality, all digital formats utilise the analogue track as a "fallback" when the digital fails, and correct analogue playback is essential in all cinemas, whether digitally equipped or not. I was both surprised and relieved to only find this one instance of misunderstanding regarding this issue.

The following are a few telling examples of reasons given for the lack of upgrade:

- *"No need to upgrade until I am serviced with a print with the new soundtrack"*
- *"This theatre has had little money spent on it over the years ... affordability is an issue"*
- *"We have old Westar projectors, and wanted certainty before spending money"*
- *"Finance - We are a non-profit organisation run by volunteers. We have "change-over" projection setup, and only screen three sessions per week. (We still use carbon-arcs!)"*
- *"We have digital in those three cinemas"*

Section D (for theatres using red-light readers):

With Section D we aimed to better understand how and why theatres had made the change to Red-light readers. Had significantly less New Zealand screens been upgraded, it would have been useful to understand how theatres may be encouraged to make the necessary conversion.

Theatres were fairly evenly split on how the upgrade took place. We ended up with this final tally of answers:

- Reader was pre-installed at time of projector purchase 111 screens (42%)
- Reader was retrofit to an existing projector 151 screens (58%)

When asked why the upgrade had taken place, responses were much less evenly split. 65% purposely made the change to red-light readers in preparation for cyan-dye soundtracks. 30% purchased the readers as standard with new projectors, with the choice reader not having been deliberate. For 5% of theatres, Red-light readers were simply a convenient replacement for an old or failing reader.

Section E (digital capabilities):

This section was designed first and foremost to investigate the possibility that theatres using digital sound systems were less likely to have made the upgrade to using Red-light readers. However, with so few theatres having not made the upgrade, and only one having listed their digital capabilities as a factor in their decision not to replace white-light readers, these results serve simply as an indicator of the proliferation of digital sound technologies, and the market share of each of the major competing technology manufacturers.

The first of the following graphs compares the number of theatres using only analogue sound, with those using one or more digital technologies. The second demonstrates the prevalence or incidence of each available digital system.

Figure 3 - Proportion of screens using analogue only vs. digital sound

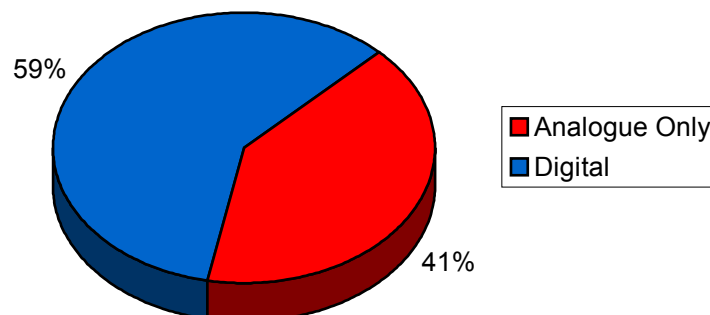
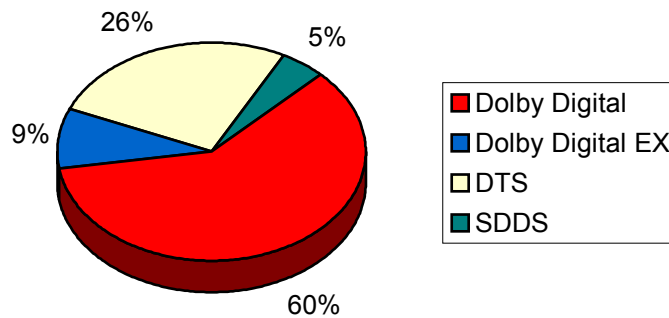


Figure 4 - Prevalence of competing digital sound technologies



Digital System:	Number of screens:
Dolby Digital	112 (60%)
Dolby Digital Surround EX	17 (9%)
DTS	49 (26%)
SDDS	9 (5%)

Percentages are given as a 'market share' of digital sound installations, rather than as a proportion of all New Zealand screens.

Summary:

With such a high number of cinema screens equipped with Red-light analogue sound readers, the New Zealand exhibition sector is in a perfect position to start receiving cyan-dye soundtrack prints.

89% of NZ cinemas are equipped to playback Cyan-dye soundtracks

For most theatres, the day they take delivery of their first cyan-dye print will be a non-event; they should experience no problems in playback of these tracks, and the transition should be completely seamless.

For the small number of New Zealand screens still using White-light or Infrared analogue sound readers, the time to upgrade to Red-light technology is now. Already major distributors have made a firm commitment to implementing use of these new soundtracks:

As of 1 January 2005, Buena Vista and Miramax will use only cyan-dye soundtracks on all worldwide 35mm prints.

Additional studios and distributors will soon follow; MGM has already begun using these soundtracks on US prints.

And The Film Unit expects that use of cyan-dye soundtracks on locally produced content will not be far behind.

Design and content © 2004 The Film Unit Ltd.

This document may be freely distributed in its entirety, in print or electronic form, for non-commercial purposes only. Quotation or citation of statistics contained herein should be appropriately referenced to The Film Unit Ltd