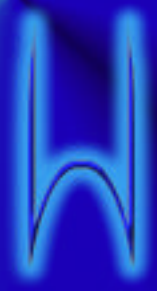

HPS-4000®

HIGH PERFORMANCE STEREO

Sound IS the Experience !™

SO, YOU WANT TO MAKE A MOVIE DO YOU?
THE MAKING OF A TRAILER

BY

JOHN F. ALLEN

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THE MAKING OF A TRAILER

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I first met UA Communication's Lee Parker in 1984 when he attended our first digital sound presentation at the Century Plaza Theatre in Los Angeles. Since the program was also a way of promoting the HPS-4000® High Performance Stereo® sound systems, he suggested that I make a short trailer to tell the public what they were hearing.

The reasons to do this can be persuasive. The public learns the name of the advanced system that the theatre owners have installed. They also associate the good sound with a quality presentation and are thus encouraged to return. The theatre owners get recognized for providing superior entertainment and the system designer (me) sells more systems.

My response was that I was very unsure about such trailers. While successful in certain markets, I have witnessed audiences resent the jingoistic commercialism of some other trailers. I also think some of these past attempts have exhibited questionable taste. But even if these subjective objections were overcome, trailers like these have not always blended well with different kinds of films. A slam-bang trailer may be lots of fun with a slam-bang movie, but makes no sense and seems almost ugly with films like AMADEUS or OUT of AFRICA. Besides, trailers tend to get stale fairly quickly and ultimately unused.

Needless to say, years went by without a trailer. I did begin to hear more requests, however, particularly from theatre managers and Lee never gave up. He even offered to help me produce it. Finally, I relented and in mid 1987 we began the pre-production of the new HPS-4000® trailer.

My first thought was to avoid the feature compatibility problem by making a silent 20 second film: a simple title and logo forming over a colored star field. An interesting idea; promoting a sound system without sound. It's been done before. It also avoids the need to make separate trailers in the different Dolby formats. More about that later.

THE PICTURE

The first thing we needed to do was select an experienced camera operator. Lee recommended Annette Buehre, owner of OPTICAM in Santa Monica. The OPTICAM camera is attached to a huge animation stand the size of a Sherman tank and resembling a large hospital x-ray machine. Annette turned out to be an excellent choice, bringing considerable skill, not to mention patience, to the entire operation.

The camera's precise movements are accomplished by servo motors controlled by a computer. Once programmed, these motions can be repeated many times while maintaining a registration within 1/1000 of an inch.

I didn't think I could afford the visuals I really wanted and so never mentioned them. I asked Lee for a simple title over a star field, dissolving into a fully formed logo. Ever the visionary, Lee decided, on his own, to do more than I had ever imagined. And so the production of a very promising trailer began with wedges and motion tests.

Wedges are a series of sequential frames, each shot at a different exposure. This gives us a variety of light levels and color densities to chose from. Wedges are required for each element in the picture. The motion tests are the first motion pictures of the conceived action. They are done in black and white, with all the elements, to see if things move at a comfortable pace without running into each other. In this case, we had to do several wedges and motion tests of the logo formation before we were all satisfied.

One of the more difficult effects to achieve on film is a metallic look. This usually requires air-brushing the art work, a rather expensive process. Though we were using gold and silver-blue, Lee was able to get the desired look by employing several rather clever photographic tricks of his own, thus avoiding the need for air-brushing. We decided early on to shoot the original negative with the anamorphic squeeze built in, ie Cinemascope. The flat versions would then be made from a special flat internegative made from this original.

In November of 1987, Lee and Annette delivered the first complete silent HPS-4000® trailer. It looked fine to me though they admitted that they saw one imperfection which I had not noticed. The entire 20 second film with all the moving colored stars, titles, logo formation and special highlighting, required weeks of preparation and took 10 hours to shoot with a computer controlled camera. We did, however, have the advantage of a complete film on the original camera negative, thus avoiding additional lab work. They had done a superb job.

Though satisfied, I still wasn't entirely certain about the acceptability of a silent trailer. I decided to do a little test marketing and sent the film to two of my most critical clients. Both responded enthusiastically but firmly. The trailer was very pretty to look at, but definitely needed a soundtrack. I agreed with them, though I knew I was in for at least six more months of additional production, a lot of grief and at least three times my original budget. I wasn't wrong.

THE MUSIC

Technically, I knew I wanted to make a digital recording. Besides the superior quality considerations, productions such as this are accomplished less expensively and more easily using today's digital equipment. Artistically, I wanted to see if I could come up with a fresh and spacious musical soundtrack. One which would indeed blend successfully with both "loud" and more "gentle" films. This might be done by placing all the dynamic effects in the middle, while beginning and ending with more delicate and soothing sounds.

As luck would have it, I chaired a local Audio Engineering Society meeting on the subject of musical synthesizers. One of the guests was Chris Martirano, Northeast representative for Kurzweil Music Systems, holder of a master's degree in composition and a gifted musical improviser in his own right. Listening to his "off the cuff" playing that night convinced me that I had found my composer. Although Chris had worked on many popular albums, a short trailer presented a new challenge for him. He happily agreed to help.

The Kurzweil 250 synthesizer has the wonderful ability to "play" real acoustical instruments as well as "manufactured" sounds. For instance, one can digitally record the live sound of a Bosendorfer Imperial Grand piano directly into the Kurzweil. This is a process called sampling. From then on, one can play back the sound of the Bosendorfer using the Kurzweil's keyboard. You may play the recorded sound of the piano or alter it with a variety of different programs and manipulations.

The advantage of such an instrument is that we could build up a full orchestral score along with synthesized effects, edit and mix it all together entirely in the digital domain. Over the next few months we did just that; composing and arranging a multi-track score which calls for the Bosendorfer piano, oboe, two harps, woodwinds, female chorus, cymbals, bass drum, timpani, a full compliment of strings and several synthesized effects which are not only in tune with the music, but literally shake the walls.

At full power, the original digital recording peaked at 130 dB Sound Pressure Level in my living room. We had to calm things down a bit, as this kind of dynamic range is too much for analog film recordings, not to mention most audiences. But it is one impressive experience!

The score actually has two parts. We did part B first, as this is where the action takes place. All the music had to be composed in sync to a video copy of the trailer which I had made. The important sync points were noted in the computer which controls the Kurzweil. This way we knew for sure everything would match. I extended the opening star field to cover any additional introductory music.

Several arrangements were tried. Most were unsuccessful. I realized that Chris was used to working with record album producers who don't care about distortion or wide dynamics. He had to shift gears a bit to work in a larger symphonic form intended for our High Performance Stereo sound systems which can be as powerful as ten to twenty symphony orchestras. This is, after all, what the HPS stands for. Few recording artists ever encounter such possibilities, but I was happy to see how quickly Chris was able to adapt to these wider horizons.

For my own part, it was a tremendous experience working out notes and key signatures, arranging, conducting: collaborating on a musical score. It's something I have always wanted to do and I absolutely loved it.

Once part B was done, I let Chris work on part A and left to come back another day. When I returned, I found he had done a wonderful improvisation which blended perfectly with our part B score as well as providing a musical flow which, I believed, would work beautifully with all kinds of films. I have now listened to the complete work over 350 times and still enjoy it as much as ever. So I am not worried that audiences will tire of the music after repeated showings. Oddly enough, during the rerecording I found the music just as pleasing when played backwards. Bach would like that.

Though the full HPS-4000® score is actually several minutes in length, only the first 60 seconds are used for the trailer. The soundtrack was digitally recorded directly from the Kurzweil in several stereo elements: the full ensemble of the main music, two effects tracks (one called "wow", the other "boom") and the women's chorus which is only heard in the surrounds.

RE RECORDING

The digital masters were sent to John Bonner at Warner Hollywood Studios, where they

were transferred to 35 MM sprocketed analog recorders. Dolby SR noise reduction was used to preserve as much of the dynamic range as possible. Three separate recordings, called print masters, were to be mixed from these pre-dubs: 35 MM Dolby A, 35 MM Dolby SR and discrete six track 70 MM with stereo surrounds.

The picture had to be re-shot to add the additional opening and closing footage as well as to correct the small imperfection seen in the original. A silent work print of the now extended trailer was locked up to the sound at Warner Hollywood and I got to see and hear the entire production together for the first time in June of 1988.

The three final mixes took over nine hours to complete. Most of this time was spent setting up for the different formats, especially the complex 70 MM stereo surround configuration.

This was my first experience mixing to the severe constraints presented by 35 MM optical soundtracks. The reason we think 35 MM films have any dynamic range at all, is because very talented mixers spend hours and hours working on the sound so as to fool us into believing we are hearing something that is more dynamic than it really is.

This results in what I quite respectfully call "movie sound": a recording processed and mixed to fit within a 35 MM optical soundtrack. High and low frequency transients are skillfully used to give the impression of punch. My recording was raw, unprocessed "real sound". Real because the dynamics were primarily in the mid-bass 250 Hertz octave. This is where we find about one half of a symphony orchestra's real acoustic power.

It is not possible to completely fit this kind of material onto an optical tracks even with Dolby SR. Since I had recorded the effects separately, we were able to control them separately. Through the loan of the prototype of a new device from Dolby called a Container, we were able to give the 35 MM mixes the greatest possible sense of power. The Container allows us to over-modulate or clip the recording by removing the unwanted harmonic distortion created by such a practice. The result sounds louder but really isn't.

The 70 MM mix did not require such a compromise. The discrete 70 MM magnetic tracks have all the dynamic range that a Dolby CP-200 can handle, and we used every bit of it. I have had to warn theatre owners to check for loose ventilation and lighting fixtures in the 70 MM theatres playing these trailers, as they will surely be rattled.

ON TO THE LAB

The experience at Metrocolor was equally fascinating. The final trailer begins and ends with a black picture. The negative cutter's job was to add the black footage, program the

fade-in to the stars and the final dissolve to black, then match the picture and sound together. The first answer prints were then made, one each for 'scope, flat and 70 MM. The purpose of an answer print is to await the producer's answer that it's all right, or that more work is required. In our case we had to do one 70 MM print, three 'scope answer prints and I lost count of the flat prints needed due to a color shift problem. This is a risky procedure because all the answer prints were made from the original negatives. If an original negative gets ruined during this stage, one is in big trouble. There is no backup.

Once the answer prints were approved, two additional steps were done. This is called the Interpositive / Internegative stage. The interpositives are made from the original negatives. The originals are then sent to the vault. The 35 MM and 70 MM printing internegatives are then made from these interpositives. All the release prints can now be made from these protected internegatives. If one becomes damaged or worn out, a replacement can easily be made from an interpositive. The original negatives are preserved.

The original 35 MM optical sound negatives are used for all the release prints, thus avoiding a multi-generational loss. Sound negatives are made from the 35 MM magnetic print masters and are easily replaced when they wear out. The 70 MM magnetic prints must be striped and sounded separately. The sounding is done in real time, directly from the 70 MM printing sound master, of which we made two.

The trailer began playing in HPS-4000® equipped theatres in August. Though a small project, only 60 seconds long, it took a year to produce. Making even small films is painstaking work. Just to give you an idea of the number of people involved, as well as to give them proper recognition, allow me to list the credits:

Executive Producer
John F. Allen

Producer of Visual Effects
Lee Parker

Camera Operator
Annette Buehre

Camera
OPTICAM

Titles and Art Work
Davis Press,Tom Muchmore

Opticals
Hollywood Optical Systems
Dave Hewett

Music Composed and Performed By
Chris Martirano

Music Arranged and Conducted By
Chris Martirano & John F. Allen

Musical Instruments Courtesy
Kurzweil Music Systems

Digital Recording
John F. Allen

Digital Recorders (Boston)
WGBH-FM, John Voci

Digital Recorders (Los Angeles), Nelson Meacham

Rerecording Facilities
Warner Hollywood Studios
Don Rogers
John Bonner

Rerecording Mixer
Michael Herbick

Recordists
Michael Haney & Jack Keller

Dolby Stereo Consultant
Douglas Greenfield

Projection Lenses Courtesy
Schneider Corporation of America
Dwight Lindsey

Boston Screening Room Facilities By
Kintek Incorporated
Zaki Abdun-Nabi
Dan Taylor

Boston 70 MM Screening Facilities
Coolidge Corner Cinema
David Cornfeld

Los Angeles Screening and Sound Checking Facilities
Cineplex Odeon Century Plaza Theatre
Boyd Moseley
Ron Pittman

Dolby SR Equipment Courtesy
Dolby Laboratories, Inc.
Lenore Flores

Negative Cutter
James Sheridan

Color
Metrocolor
Mike Millett

Color Timer
Bob Kaiser

Prints
Metrocolor

70 MM Print Striping
Film Processing Labs.
Don Buckles

9
70 MM Print Sounding
Warner Hollywood Studios
John Bonner

Special Thanks Go To
Ron Faucet
Catherine Conrad
Willis Johnson
Mark Gulbrandson
Greg Porcaro
Floyd Williamson
Wesley Inouye
Scott Kent
Brian Wilson
Dr. Richard Vetter
and
Pike Productions, Inc.
James Pike

John F. Allen is the founder and president of High Performance Stereo in Newton, Mass. He is also the inventor of the HPS-4000® cinema sound system and in 1984 was the first to bring digital sound to the cinema. John Allen can be reached by E-mail at JohnFAllen@aol.com.