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**SOMETIMES SILVER LININGS  
MUST BE CREATED**

**PARTS 1 and 2**

**BY  
JOHN F. ALLEN**

HIGH PERFORMANCE STEREO™



# HPS-4000®

## HIGH PERFORMANCE STEREO

*FIRST IN DIGITAL STEREO*

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# ***SOMETIMES SILVER LININGS MUST BE CREATED***

**BY**

**JOHN F. ALLEN**

Exhibition is fighting for its financial survival as an explosion in home theatre siphons moviegoers away from theatres. In this first of two installments, BOXOFFICE contributing writer John F. Allen explores elements of showmanship that have proven successful in drawing audiences in the past and how these elements could still be effective in building attendance. Part two will discuss how modern technology can make it easier to mount compelling presentations even while the advantages of 70 MM releases are being denied to theatre owners and the public.

It is the best of times or the worst of times? Both, I think. Although I suspect that if you were to ask most exhibitors today, they would probably skip any reference to Dickens and simply say it is the worst of times. Movies aren't performing as they need to, attendance levels are flat, all too many circuits are reporting losses and several have been struggling through or near bankruptcy. In addition, the country is in an unprecedented worldwide struggle against terrorism. On the other hand, some will maintain that lots of people are going to the movies. Attendance, according to them, is not the problem. It simply a matter of too many screens or something else like the quality of the movies.

It occurs to me that many of the sometimes conflicting views I've encountered about the woes of movie theatres today are more or less correct. Yet they seem to miss a critical point. No matter how you analyze attendance, no matter what spin someone may apply, there are simply not enough tickets being sold for exhibitors to earn and maintain healthy profits. At the same time, sales of DVD's and home theatre systems have absolutely skyrocketed. So while the demand for motion picture viewing may indeed be stronger than ever, the demand for seeing movies in movie theatres is stagnant and may even be drying up. Still, with the demand so strong for enjoying motion picture entertainment at least somewhere, theatre owners are being handed a great opportunity -- one that I believe they are not only missing, but are also, in some ways, unaware.

**WIN SOME, LOSE SOME**

Year after year, new young customers start going to the movies. New faces are coming through the doors all the time. But when overall attendance is relatively flat to declining from year to year, it follows that exhibitors are losing as many or more (established and older) customers as they are gaining. The erosion of the customer base is a serious problem for anyone. Sooner or later, there are simply not enough customers to maintain a business. Indeed, that's where the industry now finds itself.

What accounts for this exodus of patrons, presumably just as they gain greater economic means? There are, of course, many answers. People make choices about where they will spend their time and money. The reasons are often complicated -- social as well as economic -- and I don't pretend to know them all. However, a recent posting on the [moviesoundpage.com](http://moviesoundpage.com) forum expressed one recurring refrain I seem to hear a lot these days when talking about movie theatres: "It really is sad that most theaters are going down hill. I find myself waiting for the DVD 99 percent of the time instead of going to a theater. I can spend around the same amount as it costs to go to the movies and I own it! Plus I can enjoy it in the comfort of my own home and get a better image and sound. I wish theaters would clean up their act."

Better image and sound? How could this happen? The sad truth is that exhibition is faced with the unpleasant realization that too many people are simply no longer choosing to see movies in movie theatres and are now spending their movie money elsewhere. At the same time, there is honest disagreement within the industry about what the movie theater's "act" should be. Some advocate that it is time that something be done to dramatically restore the luster and distinction of theatrical motion picture exhibition. Others will say that the audience doesn't care about the finer points of presentation, they only care about seeing a movie. Give them a good film, I've heard it said, and you could show it on a bed sheet with lawn chairs and sell tickets.

**Such patrons do not necessarily need to be aware of what is missing or how much better a presentation can be. Failing to wow them is bad enough by itself.**

Like everyone else, I have my own perspective. With very few exceptions, I only experience movies in theatres. I have never thought watching a film on a television screen was worth very much. Furthermore, until the DVD came along, I did not find the picture and sound quality provided by VCR's very satisfying. The DVD, however, is compelling. Its quality and durability have reached a level that is worth having. I am obviously not alone in this finding, as the sales of both DVD players and discs indicate. Still, the point is that I much prefer to experience movies in movie theatres.

Having said this, I should also acknowledge that while I enjoy movies, I do not like most movie theatres and never have. The reason is simple, I feel cheated -- cheated when the presentation is not the best. Indeed, if I did not have theatres equipped with good projection and my sound systems to go to, I would never attend a movie theatre unless I had no other choice. Indeed, from the time I graduated from high school, throughout my college years and until I began my work in this industry, I basically ignored movie theatres. When I did go, I was disappointed, to say the least. Finally, it got so frustrating that I ultimately decided to do something about it by developing the HPS-4000® motion picture sound system and beginning a series of articles for BOXOFFICE.

That was 22 years ago. Unfortunately, I am still disappointed when I visit most theatres today. I see pictures that are dark, out of focus or simply not clear. Shutter ghosts are often visible. Even if the images are relatively good, the sound is usually so pathetic that it's nothing short of a joke. Sorry, but it's true. I have no idea how many theatres are in this condition, but I do know that every time a patron attends a film in a substandard theatre, they are not motivated to return. Indeed, they may be more persuaded than ever to watch their films at home. Such patrons do not necessarily need to be aware of what is missing or how much better a presentation can be. Failing to wow them is bad enough by itself.

### BEING WOWED

Last summer, while in Norway for a new installation, the Norwegian Film Institute in Oslo, happened to be holding a 70 MM film festival. They graciously invited me to attend any of the films I would like to see. One of the films they were running was the 1959 release of BEN HUR -- needless to say, one of the finest films ever made. I have seen this picture several times, most recently with a new 70 MM print shown in Boston on a 60 foot screen. However, the print in Norway was an original Ultra Panavision 70 MM print being projected through an original set of Ultra Panavision anamorphic lenses along with new backup lenses. While the print had turned red to some degree, it was shown through a filter that did a fine job correcting the color. All in all, it looked incredible. I had never imagined I would be able to see BEN HUR in its original 2.76:1 aspect ratio.

The picture was very sharp. The depth of field achieved in some of the scenes was both startling and amazing. The extra wide aspect ratio allowed director William Wyler to stage scenes with an effect of space that is simply not possible with narrower aspect ratios. What's more, this presentation reminded me how a film can excite and satisfy the senses in a unique way that seems lost in today's motion picture experiences. First, there was the script -- so well written it was like listening to poetry. Line after line, the words flowed

with a thrift and eloquence that made this story of hope over evil alive, engrossing, compelling and relevant. The sets and the cinematography were simply beautiful. It was hard to appreciate all the details, they went by so fast. But there I was, finally seeing it all as it was originally filmed and loving every minute.

The sound for BEN HUR was mixed in the standard six-track format used for 70 MM films until the mid 1970's, with five full range speakers being the screen. The dialog was panned. While panned dialog normally distracts me, it was done so well in this mix that I found it enhancing and even intriguing, but never distracting. Miklos Roza's lush and classic score was recorded to sound like the orchestra was spread out before me just behind the screen. I could hardly sleep that night just thinking of the wonderful experience I had been so lucky to have. It was a powerful reminder of how and why I used to love the movies.

To say that they don't make films like that anymore is obvious. I have heard Charlton Heston say that BEN HUR could simply not be made today due to a likely production cost of over \$1 billion. Perhaps, but precious few films today remain in my mind as modern masterpieces that attempt and succeed to tell a story so well and with such vision. BEN HUR played in theatres for over a year. Today most films have a half-life of less than one week.

Although it may sound like I am simply wringing my hands and painting a hopeless picture of modern moviegoing, this is not my intention. Instead, by revisiting the past we can readily see the elements of showmanship that not only worked, but that could be employed once again in even more spectacular ways to bring new life and prosperity to movie theatres. Imagine how the public would respond if a trip to the movies could become an event of the kind it used to be -- or even more. Imagine if every time one entered a theatre they would see a picture quality that would leave them dazzled. Imagine a sound quality so clear and so beautiful it would touch their emotions in unexpected ways and leave them with a satisfaction usually associated with a live symphony concert or ballet performance.

This is not only possible, but, in my opinion, it is also essential if exhibition is to have a healthy and prosperous future. I strongly believe that such an experience would not be lost on today's audiences. Quite the contrary, I believe they have become sophisticated enough to appreciate such things more than ever, perhaps even crave them. The public's appreciation for presentation quality is often so underestimated, it's no wonder their response is so weak when they fail to find it.

**In the past, mounting such presentations in movie theatres was difficult, labor intensive and expensive. Today it is much easier. This is why I believe the case can be made that even if we are in fact not in the best of times, we could make them so. Next time I'll explore paths toward this goal -- especially vastly improved sound systems.**

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*John F. Allen is the founder and president of High Performance Stereo in Newton, Mass. In addition, he serves as the sound director of the Boston Ballet. 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@hps4000.com](mailto:johnfallen@hps4000.com).*

# ***SOMETIMES SILVER LININGS MUST BE CREATED, Part 2***

**BY**

**JOHN F. ALLEN**

Much the way it did in the 1950's, exhibition is once again fighting for its financial survival. This time an explosion in home theatre is helping siphon moviegoers away from theatres. In this second of two installments, BOXOFFICE contributing writer John F. Allen further explores elements of showmanship that have proven successful in drawing audiences to theatres in the past and how these elements could still be effective in building attendance. In addition, he discusses how exhibition can learn how to better use modern technology to mount compelling presentations even while the advantages of 70 MM releases are being denied to theatre owners and the public.

In part one of this article, published last February, I noted how impressed I had been at seeing an original (1959) 2.76:1 Ultra Panavision 70 MM print of BEN HUR. It reminded me about how I used to love the special experience of going to the movies. Today, with so many theatres in trouble, I believe that if audiences regularly associated movie theatres with a special experience and a new level of showmanship of the highest caliber, they would reward exhibitors with greater attendance. This means that exhibition needs to essentially reinvent itself in the minds of those who love the movies but who no longer go to movie theatres, not to mention overhauling some of the ways exhibition sees itself.

No one expects the growth in home viewing to stop. The DVD remains the fastest growing format in the history of consumer electronics. With studios now adding hours of additional material to DVD releases, including director's commentaries, new scenes and even different endings, the popularity of these convenient high quality discs will continue to grow. As they do, they will provide an increasing number of potential theatergoers with an attractive, often less expensive, alternative to seeing movies in movie theatres. It is easy to see how, for some, home viewing of motion pictures will become not only the prime venue (which it already is), but in the eyes of too many patrons, the premium venue. Why see a film in a theatre, one might ask, when for one price, the entire family can see the "final edition," with lots of extras, at home? To make things even more challenging for movie theatres, studios are already working to make their films available for home viewing on demand using high speed Internet services.



It is obviously critical for the survival of movie theatres that the public clearly differentiate home viewing from theatrical viewing. They need to associate movie theatres with a premium motion picture experience that is worth their effort and expense to attend. However, it is also obvious that in the last ten years, exhibitors have been systematically deprived with at least one supreme element in such an experience since distribution stopped making 70 MM prints. But it must also be noted the industry has lost valuable time and opportunity by failing to build and upgrade their theatres to provide the finest presentation of both 35 MM prints and digital sound. As a result, while the industry is working through several major bankruptcies, it does not at least enjoy the distinction of building on a reputation for ensuring fabulous presentations every time one attends a movie theatre.

No one is complaining that they have too many customers. But while there are those who share the view that better presentations would mean better attendance, there are many who disagree. They hold the view that the present condition of exhibition is simply the result of overbuilding. Certainly, this is a factor. But it would be less so if attendance was growing steadily from year to year and that has not been the case. Still others have been suggesting for years that exhibition as we have known it is unsustainable and that it may be too late to lure enough patrons back to regular attendance. In my opinion, however, the attempt must be made.

Yet in order to make such an attempt, exhibitors must fully understand how to do it. From where I sit, the industry certainly has the expertise to deliver the best possible image quality. Both distribution and exhibition simply choose not to. But when it comes to sound, the gap between the quality of the recordings and that heard in most theatres shows that exhibition does not have the expertise to take advantage of the often beautiful six and eight channel digital soundtracks that modern films provide.

Since 70 MM prints are not available, what is a theatre owner to do? The answer is: everything else. In many respects one could argue that exhibitors have tried their best to build attractive auditoriums with stadium seating. Clearly they have. However, one would also need to note that the image quality presented in many of these comfortable theatres is compromised because of any number of factors such as the choice of lamp size, lenses or projectors with two-bladed shutters instead of three, not to mention print damage. But even more dramatic, and arguably more diminishing, is the terrible, sometimes appalling, sound heard in far too many theatres today. This is due not only to scrimping on equipment, but especially poor sound system calibrations as well.

**STATE-OF-THE-ART?**

As an example, a client of mine recently was asked by a mall owner to take over a two year old 18-plex that had been closed by a large circuit that had gone into bankruptcy. As usual, when a circuit takes over a multiplex originally built by another, certain changes will be made in order to establish the new management in the minds of the public and to bring the operation in line with the company's operating policies. In this case, things were in generally good shape. The auditoriums were very attractive with spacious and comfortable seating. The screens were large and generally well lit. However good the quality of the projection equipment was, and it was good, it did not represent the best possible projected image.

The sound was a different matter entirely, yet none of the equipment appeared to be faulty. While it could be said that the speakers were too small for the rooms they were in and that there were entirely too few subwoofers, the truth was that the sound from the existing sound systems could have been considerably better than it was if they had been setup properly.

The list of discrepancies ultimately found in the sound systems included serious wiring errors between the processors and the amplifiers. These were responsible for dragging down the signal levels in most of the channels by about 10 dB. This would be clearly noticeable by any technician as the processor output and amplifier controls were forced to be in wildly different positions from channel to channel. Some channels in the largest theatres would have been unable to be calibrated at all, due to such low levels.

With the exception of these wiring problems, the sound systems were otherwise put together in a neat and orderly fashion. As mentioned, the speakers were entirely too small for rooms the size of movie theatres. So too were the power amplifiers, given the low efficiency of the speakers. But the most damaging of all the problems encountered with these systems was the ruinous equalization. The resulting dialog intelligibility was so bad that I listened in one theatre for three very long and exasperating minutes before I could understand a single word in an action scene. Only when there was nothing but dialog could I understand the words.

When measured according to typical methods, these systems were most probably within "industry standards." As I have described at length in previous articles, such methods are responsible for poor sound in a large percentage of the world's movie theatres. In other words, most theatres, no matter what the equipment installed, could sound significantly better than they do if they were correctly equalized and balanced. In this case, these 18 systems were redone using a more advanced pink noise based method I have developed

over the past 20 years. This method, when properly interpreted, yields far more relevant data by which equalization decisions can be made.

The results in these 18 theatres after retuning were quite startling and serves as an indication of how much improvement can be made even with otherwise inadequate sound systems. While these sound systems remained too small to reproduce the dynamics of digital soundtracks, dialog intelligibility was fully restored. What's more, the tone was natural.

In addition, the mistuning of the surrounds had caused them to be virtually inaudible due to the severe reduction of the high frequencies. When this was corrected the surrounds became active and full. However, due to very poor speaker placement, single surround speaker localization was evident throughout all the theatres. The theater's new technician described the improvement in the sound this way: "We went to the theatre Friday night and actually saw a show from beginning to end. What a difference there is in the sound. The movies actually come alive and there are even surrounds now, something that we never heard before. Your time and efforts were well spent. I can sure notice a difference."

When it was originally opened, this complex was advertised as state-of-the-art. It wasn't. But like a lot of "state-of-the-art" multiplexes, it does represent the state of the industry -- good planning but less good execution, especially regarding sound. It can be done better, and it has been done better as illustrated with two recent examples.

#### EXAMPLES OF EXCELLENCE

Last year, two complexes opened, one in Hawaii and the other in Norway, that anyone in the industry who is interested in truly high quality presentations should take note of as well as thoroughly study. The Victoria-Ward 16 complex in Honolulu was built by Pacific Theatres to be a true state of the art motion picture experience. I must say, they really did it well. The complex has 10 smaller theatres, two medium sized rooms and four very large theatres with 60 foot wide screens. See Figures 1 and 2. The projection systems were installed by Mr. George Mackey and MTS, Media Technology Source of Los Angeles, with overall coordination provided by Mr. Jerry Van de Rydt. Additional technical support was provided by Mr. Troy James of Strong International, Inc. I was privileged to be asked to design the sound systems. This job turned out to be a pleasure from beginning to end. Everyone involved worked hard together to finish the complex on time.

When it was complete, I felt that it was without a doubt, the finest 16-plex I had ever seen. Every aspect of the experience a customer encounters when visiting this theatre is both pleasant and inviting. Parking is provided under the building. Escalators and elevators

bring people up to the main level where they are treated to an elegant lobby that is not only easy on the eyes, but extremely attractive without being overdone. At no time does one feel overwhelmed in this building. Indeed the architecture of the lobby is such that when it is full of people, they seem to fit in as an architectural element, rather than an intimidating mob.



Figure 1

I was also impressed with the picture quality, especially on the large screens. The light levels, picture clarity and image steadiness were outstanding. Considering that these were 35 MM presentations, they looked sensational. All of the auditoriums were, of course, equipped with digital sound. The four large theatres employed the SDDS eight-channel format played back through our flagship XL-class HPS-4000® sound systems featuring four-way fully horn-loaded screen speakers. Each of these systems has the acoustic output in excess of 14 symphony orchestras, ensuring that all the dynamic range of any soundtrack will be faithfully delivered. No other complex in the world has four such auditoriums under one roof. The power of the six-channel systems in the medium sized auditoriums was equal to just under 11 symphony orchestras. By comparison, most

theatre sound systems have less than the power of one symphony orchestra -- far too little for today's soundtracks. Watching and hearing PEARL HARBOR in these eight-channel theatres with 60 foot screens was an experience I will never forget. I ended up seeing it several times because once I entered the theatre, I found I couldn't leave -- the entire presentation was so much fun.



Figure 2.

The second example of a truly state-of-the-art facility is the five screen Mollebyen complex that opened last August in the small town of Moss, Norway. Many of the theatres in Norway are municipally operated. A few years ago, a small group of investors decided to strike out on their own and renovated a single screen theatre in Moss. One of their first decisions was certainly the most important, when they hired Mr. Torkell Saetervadet of Norsk Kinokonsult in Oslo, to provide the projection and sound. Torkell is an extremely capable designer of motion picture presentation systems. Working with Dr. Stefan Scholz of Hamburg, Germany, they decided to install our sound system along with their projection design. This first project turned out well enough so that when a five screen location became available, the investors were in a position to move.

Torkell and I met in London and worked out the details for the new five screen cinema. Everything was to be the finest possible. The projection was done with three-bladed shutters, highly stable projection movements and 5000 watt lamps with Balzer mirrors. The images in these theatres are so steady that jump and weave is equal to one screen perforation. The picture quality, color, contrast and depth of field achieved by this team are simply the best I have ever seen.

I was rather surprised when one of the investors, a film maker, told me that if every theatre in Norway had such clear sound, films there would no longer need to be subtitled. Norwegians understand English quite well. It's the theatre sound systems they cant understand.

### GETTING SERIOUS ABOUT SOUND

One of the most important points I would like to make in this two part series is how easy it is to improve the sound quality in the world's movie theatres. Bigger highly efficient speakers, more than enough dynamic range and proper tuning is all that's needed. It's as simple as that. The hard part is the final tuning. Since there is no measurement system in existence that can measure what something sounds like, sound system tuning must rely on artists with trained ears. It's the "art part" in sound system tuning that is not only lacking in the movie theatre industry, it is equally lacking in the entire professional sound industry. When you think about it, it is truly a rare experience to hear crystal clear natural sound with distortion free and seemingly unlimited dynamic range.

As I wrote in THE MYTHICAL "X" CURVE, THE CURVE THAT'S NOT A CURVE, in the July, 2001 issue of BOXOFFICE as well as illustrated by the experience at the 18-plex described above, the industry practice of using steady state pink noise and an unreliable measurement method as codified in the ISO 2969 standard, is the source of a great deal of bad sound in movie theatres. Without their knowing, the reliance on this approach has been nothing short of a ball and chain around the ankles of theatre technicians in particular, as well as exhibition in general. Over twenty years ago my recommendation for the use of three-way screen speakers met with almost universal disagreement from an industry with its collective head looking backwards at speaker technology. A very long fifteen years later everyone was suddenly buying three-way screen speakers. The abandonment of the present tuning methods is equally long overdue. When it finally happens, everyone who enjoys movies in movie theatres will benefit as all theatres will sound better.

### WHERE TO START

In years past, ShoWest was a place where people came to meet new manufacturers and

dealers -- to learn as much about new technology as possible. In recent years, this has been less true. The show has become so large that trade show hours are used more to see those one knows rather than to try to seek out new things. Such conventions, however, remain an excellent place to start. I'd like to think that if I owned movie theatres, I would make it my business to attend each convention with the goal to learn more about presentation technologies. I would spend less time, if necessary, with people I already knew. I would seek out manufacturers that I had never met or done business with. I would find out what they do that's different or even unique and why they think it's good.

At home, I would assume that distribution would not really support my efforts to improve presentation and that advantages like 70 MM prints are gone forever. Still, I would never cease to market my theatres, rather than just the films being shown. It would be my company's mission to ensure that no one would attend one of my theatres without not only experiencing the fun of a first class presentation, but also without being exposed to message that my theatres were the best place to find it.

In 1959, it was far more difficult to mount first class presentations than it is today. Modern lenses and lamp house technology can deliver clearer images than was possible decades ago. Modern soundtracks are considerably better than they were for all sorts of reasons. Exhibitors now have the opportunity and the tools needed to deliver a picture and sound quality that was simply impossible in the past. It's simply a matter of choice. The same choice movie lovers make when they decide where they prefer to see and hear a film.

The distress exhibition finds itself in will not go away on its own. Many creative innovations beyond presentation issues will need to be found. There is so much potential for improvement in most movie theatre presentations, however, that theatre owners have at least one golden opportunity. If every cloud does indeed have a silver lining, it is not always evident where to find it. Experiencing films in movie theatres can still be made attractive enough to bring in more customers looking for ways to beat the limits of home theatre. Sometimes silver linings must be created.

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*John F. Allen is the founder and president of High Performance Stereo in Newton, Mass. In addition, he serves as the sound director of the Boston Ballet. 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@hps4000.com](mailto:johnfallen@hps4000.com).*