

THE REAR PROJECTION MAGAZINE

dnpbackstage

December 2003



Special feature
Point of Sale displays

Simulators
Air traffic control

Holo Screen™
New Holo Screen accessories

Contents

- I 2 | ►►► Marketing news
- I 2 | ►►► Special award to One-block Holo Screen™
- I 3 | ►►► Air traffic control
- I 4 | ►►► Real-time control of North Sea gas supply
- I 5 | ►►► Presidents on the big screen
- I 5 | ►►► Giant screens on the news
- I 6 | ►►► **FEATURE – Point of Sale**
Mixing the display cocktail
- I 7 | ►►► **FEATURE – Point of Sale**
POS is POP!
- I 8 | ►►► **FEATURE – Point of Sale**
Peak Performance at the visual edge
- I 9 | ►►► **FEATURE – Point of Sale**
Sony launches POS package
- I 9 | ►►► **FEATURE – Point of Sale**
Flying screens in the arena
- I 10 | ►►► **FEATURE – Point of Sale**
High street eye-catcher
- I 11 | ►►► **FEATURE – Point of Sale**
A Nike surprise
- I 12 | ►►► Caribbean SCREEN event
- I 13 | ►►► New dnp Holo Screen™ accessories
- I 14 | ►►► Alpha Screen video wall at the Museum of Sydney
- I 15 | ►►► Contrast – the new buzzword
- I 16 | ►►► High-end home theatre made easy

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New sales tools for dnp partners

In January dnp will introduce three new segmented brochures to support our distributors and dealers: A Point of Sale brochure, a Conference room brochure and a Control room brochure.

The new brochures will replace the product-oriented view of the existing line of brochures with a more segmented approach, and have a strong focus on specifiers and

end-user benefits within each market segment.

The new brochure concept, which also includes a new range of tech sheets, will replace the existing line of product brochures.

You will receive more information about the new dnp brochures in January 2004.



Special award to the One-block Holo Screen™



France, October 21: dnp's One-block Holo Screen received a Special Award for best new multimedia display at the AV exhibition SATIS in Paris, France, 21–23 October.

Each year, three SATIS FECIT Awards are handed out at the exhibition. But as there is no category for screens, the jury decided to invent a Special Award for the One-block Holo Screen.

The jury gave the award on the grounds that the One-block Holo Screen is a truly remarkable and innovative product.



Air traffic control

Sweden: The Swedish organisation for training air traffic controllers, SATSA, has inaugurated two 3D Flight Tower simulators with large dnp screens as virtual windows.

SATSA, which is located at Sturup Airport near the city of Malmö, is responsible for the training of air traffic controllers in Sweden. Stephan Svensson, who is responsible for the new virtual 3D simulators, comments:

– The new tower simulators are unique in many ways. In one to two weeks, we can create a virtual model of any known

airport, and simulate real-time air traffic control in all possible weather conditions. The high image quality gives a very realistic impression. This means that even skilled air traffic controllers from Sturup and Malmö with several years of experience can benefit from the simulators. We have in fact already made arrangements for their return next year.

The “pilots” are seated in a room next to the training simulators, where they navigate their planes and have radio contact with the students. The students have visual contact with the planes on the large 130" New Wide Angle Screens offering photo-realistic imagery.

– We chose rear projection with dnp screens due to the high image quality and extremely good black levels. We wanted to create a good and realistic working environment for our students without noise and heat from projectors above our heads. Last but not least, the new simulators require less staffing and are subsequently more cost effective than our old simulation solution, says Stephan Svensson.



Facts

Installer = C-ITS (simulators) in cooperation with NANCO Data (display solution)

Screens = 130" dnp New Wide Angle Screens High Contrast

Projectors = Christie Digital, GraphXMASTER RPMS-500-Xef (Single chip DLP 1280x1024)



Real-time control of North Sea gas supply

Norway: Gassco – one of the world's largest and most sophisticated subsea transporters of gas – has expanded their display wall system allowing real-time control of 6,500 km gas pipes.

From the edge of the Arctic Circle to south of Norway, Gassco operates a 6,500 km subsea grid of gaspipes to Europe. Fully integrated from extraction to refining and delivery, Gassco must be able to monitor and control all aspects of their operations around the clock to ensure reliable and environmentally safe delivery.

Since 1998, they have accomplished this from a single state-of-the-art Synelec control room solution in Norway. But the “real-time” control of operations has increased business to the extent that the managing board decided to expand the current Synelec display solution.

Nortelco System-Teknikk, Synelec's distributor in Norway has been selected to match

and exceed the success of the original 16-cube solution. Much to the delight of Gassco, they are able to use 14 of the original 50" cubes in the new configuration of two 2 x 7 DisplayWalls. The cubes are equipped with dnp Black Bead Screens which offer a very high black-level. This has made it possible to create a bright and ergonomically sound working environment – an important feature in a control room designed for 24/7 operation.

The new high contrast display, which has an image area of 21 m² and a resolution of 11,200 x 1,600 pixels, is driven by two controllers displaying and controlling all gas sent through the pipelines from Norway to Europe. This assures Gassco customers that their orders of gas are delivered on time. The wall also displays data allowing

Gassco to control and mix gas, in real time, coming from different fields.

The flow of the gas is monitored and adjusted through some 6,500 km of pipes graphically displayed on the DisplayWalls. Operators can also view delivery tables for each customer to help meet delivery commitments.

Facts

Installer = Synelec and Nortelco System-Teknikk

Screens = 28 Synelec cubes with 50" dnp Black Bead Screens in a 2 x 2 x 7 configuration

Projectors = 28 Synelec DLP projectors with 100W UHP lamps with a lifetime of 9,000 hours (one year at 24/7 operation)

Presidents on the big screen

Russia: President Putin was one of the first speakers to use the new presentation system at the Faculty of Law of St. Petersburg State University in Russia.

The occasion was the summit “Peace, security and international law: outlook into the future”, which also had President Chirac of France and the German Bundeskanzler Gerhard Schröder among the participants. The summit took place in April. And the faculty’s Main Conference Hall had been equipped with a brand new AV system for the occasion.

The AV solution, which is designed by the two AV companies Syntegra and Luzhaika, comprises two 120" dnp New Wide Angle High Contrast Screens powered by Barco iQ G300 projectors. A digital conference



Between meetings the screens (here shown in working position) can revolve 90° around vertical axes and be hidden against the walls.

system, TV cameras and control systems allow simultaneous display of different com-

puter and video images as well as an image of the current speaker.

Giant screens on the news

Hungary: After a shoot-out, Hungary’s national television chose dnp Giant Wide Angle Screens for their Sunday evening news studio.



Modern studio design with pure forms and a high-tech multimedia backdrop: these were the key words when the Hungarian national television decided to refresh the setting of their Sunday evening news magazine.

The management was looking for a large screen solution that could display news features, broadcast interviews and background graphics on large screens in high quality. Furthermore, the screens should be big enough to work as a display for the invited audience.

– There was no doubt that rear projection was the only option because of the high

level of ambient light in the news studio. But the news management hesitated between video wall and Giant Wide Angle Screens, said Mr. Attila Göz of Hungarian AV specialists Mikropo.

– We arranged a shoot out and the result was quite obvious. Compared to the cut-up images on the video wall, the large Giant Wide Angle Screens produced bright, uniform, high-contrast images in one piece.

The public TV station took a vote, and the installation was completed with 3 x 160" dnp Giant Wide Angle Screens powered by Sanyo PLC XF-45 projectors of 10,000 ANSI lumens.

Mixing the display c



Contents: Two parts of commercials to one of entertainment, and a twist of information... What is the ideal mix of contents if you want full attention on a dynamic Point of Sale display?

Backstage passed on this interesting question to the Italian AV company Tower and their partner Ideadrome III, who have specialised in dynamic Point of Sale solutions for the retail sector.

Tower and Ideadrome III run and produce the content for an advertising network that covers 17 Italian shopping centres. The content on the screens is controlled centrally and distributed via satellite or terrestrial

broadcast to a network of shopping centres with one, two or three dnp rear projection screens – in most cases 120" dnp New Wide Angle (HC).

– We have experimented a great deal in combining commercial messages with entertainment and information. The infotainment creates a positive and interesting framework for the commercials, and gives the displays a legitimate public function, says Giampiero Sintoni, manager of Tower and Ideadrome III.

In the initial phase, the network displayed infotainment and advertising simultaneously by splitting the display into three sections: one section with local commercials; one section with national commercials; and one section for display of eye-catching video clips such as news, weather forecasts and horoscopes.

– The basic idea of using mixed content worked fine. But it soon turned out that three different types of content at the same time were too much. The information diverted attention away from the commercial messages, which subsequently had very little effect. Today, the screens run in a 7-minute cycle with a 50-50 split between infotainment and commercials: 3 1/2 minutes of national commercials, followed by 3 1/2 minutes of infotainment to create attention.

From next year Ideadrome III will distribute across a network of screens in 85 shopping centres. Together with a new partner, Ideadrome III is running a project to evaluate and document the effect of dynamic displays.

– In 45 of the shopping centres, we run a 50-50 split between commercials and info-

cocktail



2 x 100" Attention Screens in La Fontana and a 120" dnp New Wide Angle Screen in Panorama Parma – both part of the Tower and Ideadrome III advertising network.

tainment. In the rest of the centres we show infotainment without commercials. During the test, the supermarkets will report sales figures with and without advertising support. This valuable information will help us put together the ideal content packages for Point of Sale displays, says Giampiero Sintoni.

Ideadrome III is also involved in a spectacular project with the one of Italy's largest supermarket chains COOP. COOP plans to create a network of Holo Screens and plasma displays in 40 hypermarkets all over Italy. The first 60" Holo Screen was installed in September 2003.

POS is POP!

Editorial: Nike does it. Hugo Boss does it. Sony and Virgin do it. And several new projects are on the way. Dynamic POS (Point of Sale) or POP (Point of Purchase) displays – depending on your point of view – has become one of the hottest business segments within the AV industry.

The trendsetters in this new media category are high profile retail chains, shopping centres and suppliers of branded goods, who use dynamic displays as eye-catchers in their concept stores. They are constantly looking for new ways of promoting their brands. And just as important: they can afford it.

The reason for the increasing number of installations in the retail sector can be found in two major trends that work strongly together in our favour:

First of all, an increasing number of advertisers want to expose their messages as close to the point of sale as possible. Today, more than 70% of the advertising funds are spent on "below the line" activities such as instore displays, posters, shop exhibitions and other Point of Sale activities. Secondly, the combination of increasingly brighter projectors and optical high-contrast screens has made it possible to create high-quality displays that work in high light environments at an acceptable price.

Research made by the Point of Purchase Advertising Institute, POPAI, indicates that 65% of all purchases are based on "impulse" at the Point of Sale. And what is more likely to catch the attention of shoppers and passers-by, than a "living" billboard?

Dynamic displays put the persuasive powers of the electronic media at work directly at the point of sale. Figures from Sony indicate that dynamic media on electronic displays generate 7 times more attention than static, paper-based media. And the effect of these large eye-catchers can be seen directly on the bottom line.

Studies of the effect of dynamic display concepts in the US and Europe speak for themselves:

- = **42% increased sales average** ¹⁾
- = **162% sales lift for some impulse items** ²⁾
- = **120% for a brand of cigarettes** ³⁾

Today, the low-end market for dynamic displays is dominated by plasmas and optical rear projection screens such as the popular 40" One-block Holo Screen. In the larger display sizes, from 60" to 200", optical rear projection rules!

In this issue of Backstage we put spotlight on this lucrative business segment and present some of the latest POS projects with dnp screens from concept stores and shopping centres all over the world.

^{1) 2)} Source: research I-Open and Environsell in US

³⁾ Source: Shell analysis in Germany



Peak Performance at the visual edge

Denmark: Peak Performance, one of Scandinavia's leading brands in sport fashion, has integrated moving pictures in the interior design of their new concept store in Copenhagen.

Peak Performance, which is part of the Danish Fashion Corporation, I.C. Companies, has pioneered the market for outdoor clothing by combining function and fashion. Peak Performance ski clothes and fashion garments are sold mainly through sports and fashion shops. And the full collection is presented in Peak Performance's own reference shops.

– I.C. Companies was looking for a new display concept for their Peak Performance stores. They wanted something new and different to support their brand values,

which are based on sports and active life-style. And the integration of moving pictures with sports themes in the shop environment, seemed like an obvious idea, says Peter Møller Johansen of Danish rear projection specialists FMJ AV Indretning & Teknik.

– There was no doubt that the transparent Holo Screen was the ideal display for the job. The big question was how to install it in order to get the best eye-catching effect. After many considerations, we came up with the idea of replacing the banisters on the stairway to first floor with a glass wall with

an integrated Holo Screen. The effect is, that the image seems to be floating in mid air. Another benefit of this location is, that the gleam from the screen is visible from the ground floor and draws customer's attention to the large show room upstairs, says Peter Møller Johansen.

Facts

Installer = FMJ AV Indretning & Teknik as

Screen = 60" Holo Screen

Projector = Astrobeam X311, 3,000 ANSI Lumen

Sony launches POS package

New concept: Sony has introduced a complete POS solution with the latest Sony projectors, a 40" or 60" dnp Holo Screen plus all necessary mounts – at an attractive price. The POS concept also includes a spare lamp and a maintenance contract. The option of a network player, to handle content, is available.

– This is the first time that a key player in the market has put together a complete POS package which is ready to install in the shop window. Secondly, I believe in this attractive pricing, says dnp's Sales and Marketing Manager, Søren Busk. The key component in the package is the

new Sony VPL-PX-35 projector or the VPL-PX-40 projector, which are optimized for the dnp Holo Screen.

This means that the projector is capable of shooting at steep angles (30-35°) and packed with convenient operating functions for POS – no more, no less.

Depending on installation conditions, the projector can be controlled through an infra-red or wired remote controller or via Ethernet through the integrated LAN port. To complete the concept, Sony has launched a network player for delivery of pictures, graphics, movies, video clips,

commercials and other contents – and multi-projector Network control software that can distribute content to an entire network of Holo Screens.

Facts

Distributor = Sony

Screen = 40" and 60" Holo Screen

Projector = VPL-PX-35, 2,500 ANSI Lumen and VPL-PX-40, 3,500 ANSI Lumen

Included = Projector ceiling mount, screen wire system, spare lamp

Optional = NSP-100 Network player and SQUID Author and Management software. For monitoring all products within the chain.

Flying screens in the arena

Denmark: One of Europe's leading handball clubs, Viborg HK, has installed four flying screens to intensify the atmosphere and expand their advertising facilities.

If it used to be difficult to play Viborg HK at their home arena, it will be even harder in the future. The women's team, who won the European EHF-Cup in 94 and went all the way to the Champions League final in 1997 is known for its enthusiastic home crowd. Recently the club management decided to install four large screens in the

2,200-seat arena to intensify the seething atmosphere even further.

The four 120" dnp Wide Angle Screens, which are installed as flying displays, will be used to show player profiles, replays of goals and to display highlights from the game during breaks and pauses. The large displays also

have a commercial purpose as media for sponsor advertising: an important aspect for this professional club, who registered on the Copenhagen Stock Exchange in 1999.

The flying display concept was planned and installed by Danish rear projection specialists, FMJ AV Indretning & Teknik. Managing Director of FMJ Peter Møller-Johansen comments:

– Just a couple of years back, the screens and the projectors had to be installed in a dark cabinet – typically a four-screen cube mounted in the ceiling. But with the increasingly brighter projectors and the new generation of high-contrast screens it has become possible to use flying screens. This installation principle takes up very little space and is obviously much more cost-effective and easy to install than a cube solution, says Peter Møller-Johansen.





High street eye-catcher

Denmark: Copenhagen's most exclusive shopping centre, Illum, has integrated a 60" Holo Screen in their window display concept. The screen faces one of Europe's longest pedestrian streets, Strøget, and is exposed to thousands of passers-by every day.

The Holo Screen has become an integral part of Illum's display concept. Recently it was used to promote an exhibition about colours and their impact on people. It has also been used to support a L'Oréal cosmetics theme. And in December 2003, the screen will be used to present still photos and special offers from Illum's Christmas catalogue. In between the generic exhibition

concepts, the shopping centre offers airtime on the Holo Screen as a special service for the concessionaires.

– The shops are very interested in using the display, and the screen is always booked. Fashion companies like HUGO BOSS, SAND and KELLO typically run fashion shows. Other concessionaires, like Eton and Danish Eva Trio, show TV commercials for ties and kitchenware, which are available in the centre, says Illum's Decoration Manager Mimi Janniche. She believes that the holographic display has a positive effect.

– It is difficult to measure the commercial effect of one display in a 25,000 m² shop-

ping centre like Illum. But from looking at people's reactions when they see the screen, I believe that it has a positive effect on sales. It draws attention to the exhibited brands and generates more traffic in the centre. The price may be higher than conventional decoration materials, but I definitely believe that technology like this will be the future within shop decoration, says Mimi Janniche.

Facts

Installer = Dansk Data Display A/S

Screen = 60" Holo Screen and wire kit from dnp

Projector = Christie projector 4100 ANSI Lumen



A Nike surprise

South Africa: Global sports brand leader, Nike, has opened two Nike Concept Stores in Sandton City and Cape Town to surprise and inspire shoppers.



The two shops are the very first Nike Concept Stores in South Africa, and they will carry the same look and feel as the few stores already launched in key European markets, such as Vienna, Milan and the soon to be opened Paris store.

The store layout allows for the display of a full range of men's products, and an area dedicated to women. This is the first time that Nike women will be showcased to this extent. So for the fairer sex, in particular, it will be a not-to-be missed destination where the very latest in Nike's women's ranges will be stocked.

– We are often referred to as a male dominated brand. Through this concept we will be able to create an environment that is more welcoming to women, says Jenene Cronning, Retail Director, Nike South Africa.

In keeping with the European trend Nike were looking for a unique and state-of-the-art

video display system that would enhance the shoppers' experience by providing exciting on-screen Nike marketing material and also be linked to MTV for shopper entertainment.

Only the latest and very best in instore on-screen displays could be used in these exciting concept stores and many products were looked at before the final decision was made by the Nike management.

Their need was for a high brightness system because the average ambient light in each store is in the region of 900 LUX. Thus dnp's unique high brightness properties, capable of producing crystal clear imagery in such conditions, was called upon. South African dnp distributor Questek Marketing was eventually chosen to provide a 60" Holo Screen solution for the Sandton store and an 84" New Wide Angle Screen solution for the Cape Town outlet.

Both installations were initially designed using dnp's Rearpro Designer program in the VIP Zone on the dnp website – www.dnp.dk.

Tim Ryan from Questek states that both installations went without a hitch and each was fully completed within 2 days from start to finish.

Nike South Africa is thrilled with the final result and the Holo Screen has already caused a sensation in these modern centres, which are among the most popular in South Africa, leading to further enquiries for this unique screen technology.

Facts

Installer = Questek Marketing

Screens = 60" Holo Screen (Sandton City), 84" New Wide Angle Screen (Cape Town)

Projectors = NEC MT-1060 LCD 2600 ANSI-Lumen (Sandton City), NEC MT-1065 LCD 3200 ANSI Lumen (Cape Town)

Mirrors = dnp front surface single mirror system (Cape Town)

Germany: 300 end users, AV dealers and suppliers followed the call of the Caribbean, and experienced an unforgettable night when dnp's distributor in Germany, SCREEN. New Technologies held their annual trade show.

SCREEN. New Technologies' annual dealer show – and the famous SCREEN. Night afterparty – is usually a spectacular multimedia extravaganza.

This year, SCREEN. had chosen the theme "Caribbean Visions" for the presentation of the latest news within large screen projection and multimedia techniques.



Caribbean SCREEN event

As they arrived, the guests were met by the first of a series of spectacular screen demonstrations. In the parking lot, an installation with a full-scale motorboat and an 84" Screen Tower demonstrated how optical screens work in high ambient light. The guests were greeted with a PowerPoint presentation, which stood up well to the direct sunlight, thanks to the dnp New Wide Angle

Screen High Contrast and the 10,000 ANSI Lumen EIKI projector.

The glass foyer was rebuilt as an aquarium with four detachable 60" Holo Screens showing underwater films. Inside the warehouse, the entire floor was covered with beach sand. And the room was decorated with fishing nets and surf sails, palms and

exotic plants. A combination of a real and a virtual waterfall, created using a 120" Info SCREEN Tower, made the illusion perfect. Even a 6 x 3 m pool was there.

In the conference room different seminars were held in daylight using a 120" Alpha Screen. And after each session, the guest could relax in an armchair, placed in a sandcastle, and enjoy the show on a home cinema installation – or take a closer look at the dnp ViewFlex system, which displayed an underwater landscape with extremely high contrast. Suspended from the ceiling Attention Screens from 60" – 120" displayed images of delicious Caribbean food, and a Holo Screen behind a sand dune added an extra dimension to the atmosphere by showing travel videos.



Facts

Installer = SCREEN. New Technologies GmbH

Screens = dnp New Wide Angle Screen, Holo Screens, Attention Screens, Alpha Screen and dnp ViewFlex

Projectors = JVC, Sharp, EIKI, Panasonic, Barco

New dnp Holo Screen™ accessories

dnp denmark: At the SATIS exhibition in France in October, dnp denmark launched a new accessories programme for the Holo Screen to meet dnp dealers' and end-users' need for a complete screen-plus-mount solution.

– All our partners have to do is to include a projector of their choice. Then they have a complete plug and play solution for the POS market, says Jacob Christensen, Product Manager of dnp denmark.

– In the design phase, we have focused on both aesthetics and functionality. We wanted to create a line of professional accessories, which is easy to install and matches the

interior design of a high-end concept store, says Jacob Christensen.

The new line of Holo Screen Accessories includes two different solutions: a wire kit and a floor stand.

For more details, please see the new dnp Point of Sale brochure or contact your local dnp distributor or dnp denmark.



Suspended from the ceiling using the flexible dnp wire mount system, the Holo Screen appears to be floating in mid air.



< Wire kit

The wire kit is designed for situations where the end-user wants to create the illusion of a flying image. You only need to attach 2 or 4 thin wires to the transparent screen, and the image will seem to be suspended in mid air. The kit comes with flexible mounts, which can be used for both ceiling and wall mounting situations.

Floor stand >

The floor stand can be set up in no time at any location. This is particularly ideal if the screen has to be mobile or if the ceiling does not allow mounting projector and wires. The stand takes up a minimum of floor space. And the clean high-tech aluminium look is designed to fit into modern instore design, without distracting attention from the image.





Alpha Screen video wall at The Museum of Sydney

Australia: The Museum of Sydney has replaced 33 video cubes in their 3 story high video wall with the latest in display technology. Four dnp Alpha Screens have dramatically improved the image quality for less than a third of the original million-dollar outlay.

After 10 years The Museum of Sydney has brought back to life the centrepiece of the entrance of their Phillip Street Sydney History Showcase. With technology moving forward, the Museum replaced its 33 Sony Video Cubes with new Alpha Screens. The benefits of the new technology includes: lower running costs; virtually no drop off in brightness from the many viewing angles of this great video wall; and the opportunity to replace the 33 individual screens – and of course to have a virtually seamless image.

The display wall is made up of four 120" Alpha Screens vertically stacked with four Sony VPL-FX-51 direct throw video projectors, with the system controlled by the latest in AMX technology. The system was designed and specified by Tim Gruchy of

Gruchy Productions and Sony Australia's, Business Solutions Division.

– Tim said at the end of the project, “The public should be able to stand side-on to the video wall and still see a bright and uniform picture, and this is what the Alpha Screen brought to the project. You can view this video wall from above, below and from the side, and it still looks great. The technology in these screens has removed the limitations typical to this type of technology and to see it all come together and on budget is a rare pleasure”.

The project was managed and installed by Total Concept Projects – an experienced and well known Australasian AV Company, who built the elaborate support tower,

installing the projectors and AMX control systems.

– All concerned agreed that this is why they are in the professional AV industry – to be involved in a high-end project like this. Looking at the pictures, I'm sure you'll agree that this Alpha Screen based project “Towers above the rest” and sets the stage for more to come, said Tim Gruchy.

Facts

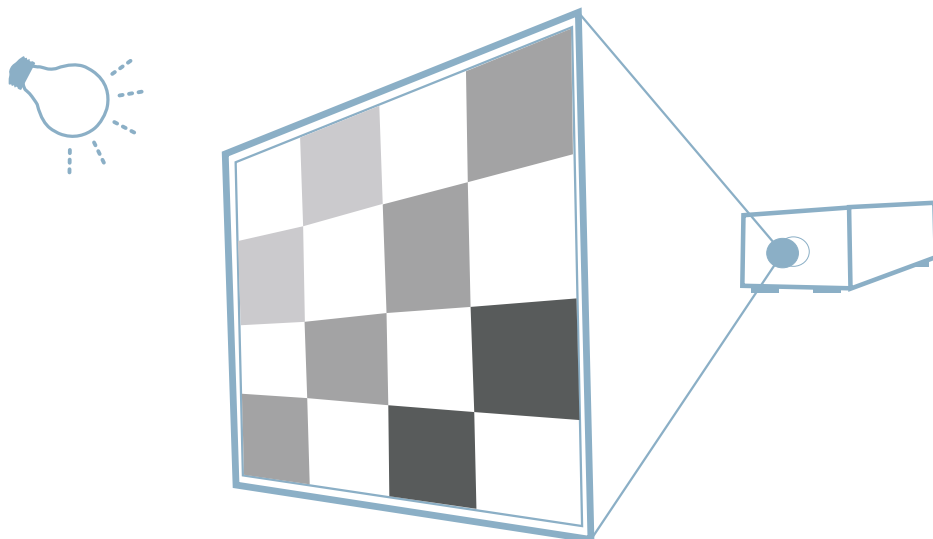
Installer = Total Concept Projects

Screens = 4 x 120" Alpha Screens

Projectors = 4 x Sony VPL-FX-51 projectors with short throw lens

Image source = Pioneer DVD players, Kramer switching, AMX Netlinx control system

Contrast – the new buzzword



Contrast is the buzzword in rearpro right now! In the last couple of years it has replaced brightness as the most important image parameter.

The reason lies in the development of projector technology. Today, projectors have become bright enough to satisfy the human eye – even in relatively bright environments. However, modern single-lens projectors offer relatively poor contrast and black levels.

As a logical consequence, specifiers are now looking for means to obtain higher image contrast and black levels. And this is exactly where the optical screen becomes very important.

Image contrast is defined as the difference in brightness between whites and blacks in an image observed from the viewer side.

- **Image brightness (B)**
- **Screen reflection of ambient light (R)**
- **Projector contrast ratio (C)**

Typical values for these parameters in a meeting room are: (B): 400-800 Nit, (R): 10-20 Nit (500-1000 Lux ambient light), (C): 500-1000:1

Image brightness depends upon the screen gain and size plus the brightness of the projector.

The screen's reflection of ambient light is dependent upon the ambient light level and the screen's reflective index related to the screen's surface texture.

The projector contrast ratio is listed in the spec sheets for each projector model

As the equation below indicates, the most important parameters for the image contrast level (at typical values) are the screen surface reflectance of ambient light and the image brightness. Or in other words: as the contrast level of most projectors is less critical than screen reflectance and brightness, paradoxically, you will not experience an increased image contrast by choosing a projector with higher contrast level.

This means that the image contrast is mainly dependent upon the choice of screen. In the extensive dnp product range you will find that you have several choices in different screen gain levels and different front surface textures. This will help you secure that your customer gets the optimum rear projection solution.

Formula

$$\text{Image Contrast Ratio} = \frac{B + R}{\frac{B}{C} + R} : 1$$

Definitions

B = Image brightness
R = Screen reflection of ambient light
C = Projector contrast ratio

Example

Image brightness (B) = 400 Nit
Screen reflection of ambient light (R) = 10 Nit
Projector contrast ratio (C) = 500:1

$$\text{Image contrast ratio} = \frac{B + R}{\frac{B}{C} + R} : 1 = \frac{400 + 10}{\frac{400}{500} + 10} : 1 = 38,0:1$$



The HDTV ready, high-resolution 84" DLP HD-2 projection system is almost double the image area of the largest plasma or projection TV.

High-end home theatre made easy

United States: TheaterWall is the world's first 84" do-it-yourself home theatre kit for the consumer market. – Just cut and frame the screen opening, and the rest is nuts and bolts assembly, says TheaterWall spokesman, Ed Warner.

At the CEDIA EXPO 2003 in September in Indianapolis, Indiana, TheaterWall, of Rancho Dominguez, California, unveiled a significant new product aimed at today's tech-savvy family that wants the biggest and best Home Theatre, but one that is so practical it will be used every day.

– Until now, the only option for a massive 84" diagonal "status symbol" type system was to settle for your typical two-piece front projection kit, explains Ed Warner.
– We've always had to kind of "wink" and

explain that front projection requires turning out all the lights in the room for the system to work! This is okay for viewing movies, but what about all the other reasons for having a big screen: TV, Internet, video-games and computer displays? Families enjoy these activities with the lights on, and in most cases for a greater percentage of time compared to movies.

TheaterWall is a pre-engineered complete system, eliminating all the guesswork. The projector and the optical mirrors are positioned behind the professional-grade 84" dnp Black Bead Screen in a darkened 36" space allowing for normal lighting in the family room during viewing.

– Just cut and frame the screen opening, and the rest is nuts and bolts assembly with all

parts indexing off that screen opening. If you want a different frame look or colour, just pop out the old one and snap in a new one with a different look, says Ed Warner.

– We offer a system that really could result in the first installers being featured in one of the glossy magazine spreads we all see, simply because TheaterWall is bigger, better and the first of its kind in a new market segment.

Facts

Manufacturer = TheaterWall

Projector = TheaterWall DLP HD-2

Screen = 84" (16:9) dnp Black Bead Screen
1900 NG Off-axis

