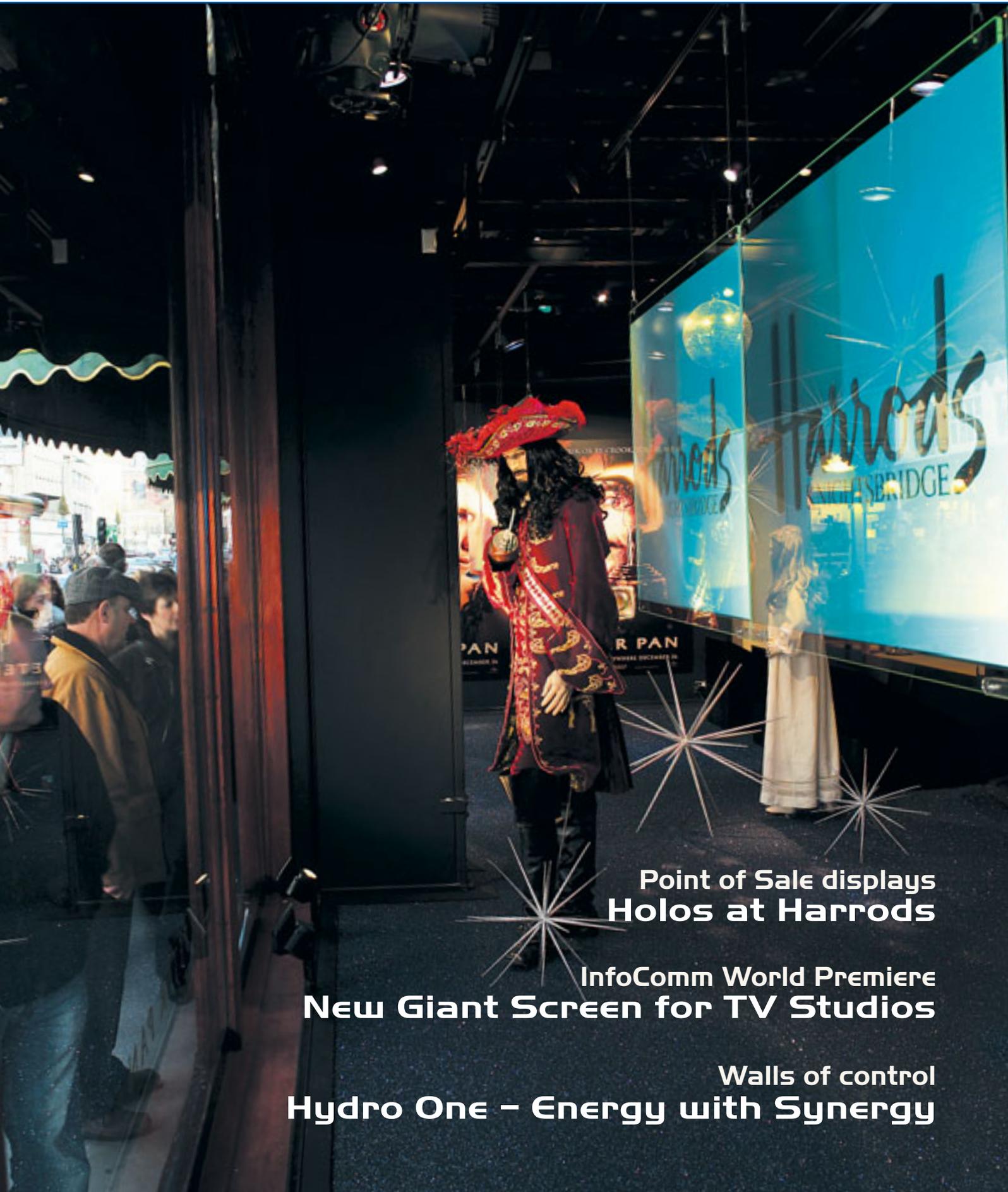


THE REAR PROJECTION MAGAZINE

dnpbackstage

June 2004



Point of Sale displays
Holos at Harrods

InfoComm World Premiere
New Giant Screen for TV Studios

Walls of control
Hydro One – Energy with Synergy

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New Giant Screen for TV studios

World premiere: At InfoComm in June, dnp denmark launches a new version of the world's largest optical rear projection screen, which is especially designed to meet the requirements of brightly-lit TV studios.

TV studios is a fast growing market for optical rear projection screens. The typical TV studio has a light level well above 1000 LUX which will completely ruin the image on a front projection screen. The high level of ambient light – in combination with the use of short throw lenses in order to minimise space consumption – has a negative effect on diffusion screens, which would demonstrate the classic “diffusion hot-spot” problem at its worst.

– Optical rear projection is the only solution if you want a large high-quality display in a TV studio. Furthermore, the use of a Giant Screen allows you to display a 4 x 3 metre image without seams, which is a big advantage compared to a cube-wall. And

with the new version we have made modifications that make the screen even better suited to this type of application, says dnp denmark's International Product Manager Jacob Christensen.

While the classic version of the dnp Giant Wide Angle Screen has a shiny surface, the new version has a matt surface to minimise light reflection. The result is an image with a higher contrast level.

The TV studio version of the dnp Giant Wide Angle Screen will be available in the range from 140" to 200" from July 2004.

For more details, please visit www.dnp.dk or contact your local dnp distributor.





Island of inspiration

Denmark: Dynamic displays from dnp play a vital role in L'Oréal and Danish Supermarket's spectacular "island of inspiration" in the first Bilka hypermarket in Denmark.

When Bilka, a leader in Danish retailing, opened their new hypermarket in one of Northern Europe's biggest malls, Fields in Copenhagen, they wanted to give their customers a brand new shopping experience.

– We had been introduced to the dnp Holo Screen and were very excited about it. It is much easier to fit into a shop environment than a traditional TV and much more elegant, says Design & Decoration Manager in Danish Supermarket, Finn Klausman. Together with L'Oréal, Finn Klausman and the design com-

pany Glahn & Jäpelt decided to create an "island of inspiration", which is the first of its kind in the world. On the island, customers can experiment digitally with make-up via a camera and specially designed software. They can see the result on a computer monitor and print the result for further evaluation at home. The dnp Holo Screen works as a lighthouse on the island and boosts the traffic by displaying TV commercials from L'Oréal.

– Our customers' reaction to the transparent screen, which seems to be floating in mid air, has been very positive. The screen has a perfect position offering a straight view from the main aisle, which runs from the entrance through the store. And it generates quite a lot of traffic to the L'Oréal shop in shop.

Besides the Holo Screen at the L'Oréal shop in shop, Bilka has installed dynamic dnp displays in the toy and sportswear departments. And Danish Supermarket has decided to make dynamic displays an integral part of the future design concept in other Bilka stores in Denmark.

Facts

Installer: Calamus (L'Oréal) and Sony (Toy and Sportswear)

Screens: 40" One-block Holo Screen (Cosmetics dep.), 60" dnp Holo Screen (Toy dep.), 100" dnp Alpha Screen (Sports dep.)

Projectors: Sharp XG-C55X (40"), Sony VPL-PX40 (60" and 100")

Website: www.calamus.dk, www.sonybiz.net

Holos at Harrods

UK. Throughout December, Harrods shoppers and passers-by were treated to an exhilarating window preview of the new film Peter Pan – on flying dnp Holo Screens.

With Harrods' owner Mohammad Al Fayed as executive film producer, his world-famous store was used setting for this window display extravaganza. The idea of "floating" a series of dnp Holo Screens, in keeping with the Peter Pan theme, was the brain-child of Mark Jones of dynamic display experts WOW Factor, who commented:

– The Holo Screen medium is far less intrusive as a window display than plasma displays. Holo Screens take dynamic display technology one step closer to providing retailers with the perfect flying promotion and advertising media. It also provides the

store with a stylish competitive advantage by positioning them as innovative players in the very competitive retail market.

The project included nine 60" Holo Screens arranged in groups of three, each occupying three adjacent windows. A fourth window featured 2 x 40" Detachable Holo Screens mounted on a free-standing glass plinth, specially fabricated for the Harrods display by WOW factor. A spokesman for Harrods commented:

– Offering our customers an unforgettable experience remains one of Harrods' main

priorities – and the dynamism of the window displays plays an important part in achieving that. Audio-Visual gives our visual merchandising team the opportunity to add another dimension to their displays, and this sophisticated solution is streets ahead of anything else we have seen.

Facts

Installer = WOW Factor

Screens = 9 x 60" dnp Holo Screens
+ 2 x 40" dnp Detachable One-block Holo Screens

Projectors = Christie Vivid LX41 (4,100 ANSI Lumen)

Control = ChristieNET device

Website = www.wowfactor.org



Harrods

PETER PAN

03



Energy with synergy



Canada: Hydro One has centralised all their monitoring activities in one state-of-the-art control room with a 250 ft display wall to improve safety and logistics and to keep electricity costs in line.

Hydro One delivers electricity to homes and businesses across the province of Ontario and plays a key role in the entire provincial infrastructure.

From the new control centre, operators can monitor Ontario's 28,400 km high voltage transmission system, which transports electricity to 67 large industrial customers, 55 local distribution companies and Hydro One's own low voltage distribution business.

The 20 ft high and 250 ft long display wall was installed by Evans Consoles – a front-runner in the AV industry with a long track record of projects worldwide. Design engineer at Evans, Matko Paptic comments:

– Hydro One wanted to be able to monitor and operate power supply for many different regions from within the same room. And as a result of the new system, the operators can now move from operating one geographic location to another very easily – because all systems, consoles and displays are now the same. The synergy of having all practices under one roof allows for the sharing of ideas and adopting best practice techniques – and it maximizes every operator's situational awareness.

– The benefit for the customers is that their electricity will be moved faster and more reliably and that there will be a reduced chance of errors. Moreover, the cost savings for having all operators in one place will

eventually keep the electricity costs in line, says Matko Paptic.

The curved display wall comprises 120" dnp New Wide Angle Screens in a 2 x 29 configuration powered by Christie RPMS light engines – each delivering 1,200 ANSI Lumen to the corresponding screen. The viewing angles and distances of the operators are calibrated to optimise the operator comfort. As one example the screens on the upper row have been cut from 130" diagonal screens, which effectively offsets the projector lens, thus increasing vertical viewing angles.

Facts

Installer = Evans Consoles

Screens = 120" dnp New Wide Angle Screens, High Contrast version (5:4 ratio)

Projectors = Christie RPMS-500Xe projectors SXGA (1280 x 1024 pixels)

Website = www.econsole.com

Best Buy

boosts shopping experience with dnp screens

Canada: North America's number one specialty retailer of consumer electronics, PCs and entertainment software uses large screen technology to present an exciting shopping experience for their consumers. The goal is to deliver a larger than life 'wow' impact that supports Best Buy Canada's "Future Shop" high-tech brand.

After a shoot-out in Vancouver involving various screen types, Best Buy Canada has replaced the traditional "TV wall" feature in their Future Shops with large optical screens from dnp. President & CEO of Future Shop's network operations company Digital Display & Communication (DDC), Stuart Kirkpatrick, comments:

– We intended to deliver a larger than life 'wow' impact, presenting an exciting shopping experience for our consumers. Fun, interactivity and no-pressure browsing are part of our brand values. And the screens have helped to deliver that image.

– The dnp screens are a tremendous improvement in brightness, contrast and off-angle viewing. They present striking images in the Future Shop store and they have indeed lived up to our expectations. Customers have often commented on the screens wondering where they can get one for their home!

The huge displays are used to broadcast Future Shop TV, Future Shop's custom in-store programming, delivering a combination of fabulous High Definition programming combined with DVD and movie trailers, cor-

porate adverts and promotional adverts from vendors. Content sections can be moved in and out of the program on a daily basis, but are more often changed weekly. The content production is a collaborative effort. Vendors supply some artwork and video elements and DDC creates, produces and distributes the finished product via a networked digital signage player.

– Our Future Shop TV has shown to deliver sales lift. It may be hard to attribute the reported sales lift to the large screens only because the content plays on all televisions in the store as well. But due to their size and quality the dnp screens are the natural focal point of our content broadcast, says Stuart Kirkpatrick of DDC.

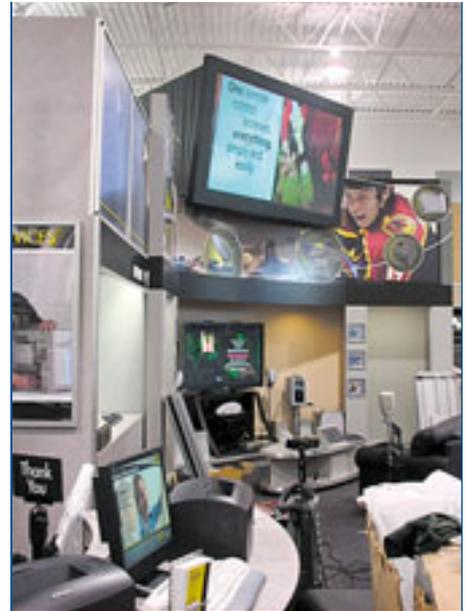
Facts

Installer = Digital Display & Communication (DDC)

Screens = dnp Giant Wide Angle Screen 160" – 200" (16:9) and dnp New Wide Angle Screen HC 120" – 135" (16:9)

Projectors = Sanyo (2,500 – 5,600 ANSI Lumen)

Website = www.ddcgi.com





Belgacom changes image with dnp screens

Belgium: The national telco in Belgium has installed rearpro displays in their headquarters and 70 Tele Shops as part of their new image. Another 35 shops will be upgraded with dynamic displays during the next two years.



– The new dynamic display concept is part of Belgacom's new retail profile. As we changed our logo and image, we needed a new attractive look in our shops. And we decided that dynamic displays are the most effective way of communicating the new profile to our customers, says Tom Jansseune of Belgacom.

Belgacom has 105 Tele Shops all over Belgium. So far 70 shops have been equipped with built-in 67" rear projection displays – the final 35 shops will follow during the next 2 years.

At their headquarters in Brussels, Belgacom has installed similar display solutions in several meeting rooms.



These displays are used for training of shop personnel.

– We needed a high-quality solution with a long life, and did not want to be dependent on the short lifetime of, for instance, plasmas. So we chose a combination of Barco projectors and optical rear projection screens from dnp. We already had some experience with this type of display, so the installation in the shops was very easy, says Tom Jansseune of Belgacom.

In the Tele Shops, customers can buy fixed and mobile phones and subscribe to various phone services. The screens are used to entertain customers waiting to be served, by displaying adverts introducing new products – and demonstrating how easy it is to install common products such as ADSL modems etc. The content on the screens is controlled centrally from Belgacom’s headquarters.

– The in-store advertising concept has had a positive effect on sales. It has also

helped us communicate our new image. And we have received many positive comments. Customers have even asked us where they could buy a similar display for their home, says Tom Jansseune of Belgacom.

Headquarters

Installer = Belgacom
Screens = 10 dnp screens (New Wide Angle, Ultra Contrast and Sigma Screens)
Projectors = Barco IQ 350
Website = www.belgacom.be/videoconferencing

Tele shops

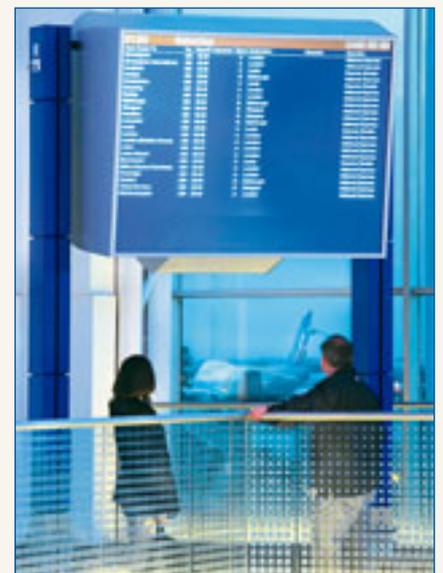
Installer = Belgacom
Screens = 67" dnp Ultra Contrast Screens
Projectors = Barco IQPro G350 projectors (1.3 – 1.8:1 zoom lens)
Mirror rigs = dnp Image Builder single mirror rigs

Public information at Manchester Airport

UK: One of the world’s top international airports, Manchester Airport, has installed a groundbreaking passenger information display system at their new ground transport interchange.

Designed by AV specialists, Densitron Ferrograph, the fully integrated information system includes a total of 16 x 84" and 100" dnp New Wide Angle Screens, optimised for High Gain to create maximum image brightness. The rear projection units are situated in the reception area of the new ground transport hub, which is positioned conveniently between the airport’s three terminals, to accommodate travellers arriving or departing from the airport by rail, coach or bus.

The combination of advanced display technology and operating software enables the display of real-time information which links flight information with bus and rail times, directing travellers from their arrival point to a reception hub where flight information is displayed on large video screens.





Mobile TV studio display

China: As one of the first TV stations in China, Henan TV has invested in a mobile 200" rear projection system. People from the industry expect the concept to be adopted by some of the big TV stations in near future.



The 200" display, which was recently used in a TV show celebrating the Chinese New Year, is designed by Shenzhen Wincomn Tech. Development Co. as part of a big refurbishment of the TV studio hall.

The Henan TV station was looking for a large high quality screen that could display high-quality images under the extreme ambient light conditions of a TV studio. At the same time, the studio management wanted to be able to use the display at different locations on the stage.

To meet these requirements, Shenzhen Wincomn designed a rear projection solution based on a mobile 200" dnp Giant Wide Angle Screen and a 17,000 ANSI Lumen Barco projector. The world's largest optical rear projection screen ensures that there is no hot-spot, which is very important in a TV

studio. It also ensures optimum image sharpness and brightness as well as colour uniformity.

The Giant Wide Angle Screen is suspended from the ceiling in a system that allows the screen to be moved in all directions. The projector is also mounted in a special system to ensure perfect images from all positions. When not in use, the projection system can be hidden in order to obtain more space on the stage.

Facts

Designer = Shenzhen Wincomn Tech. Development Co., Ltd.

Screen = 200" dnp Giant Wide Angle Screen

Projector = Barco R18 (17,000 ANSI Lumen)

Website = www.wincomn.com.cn

Rear beats front in sports arena

Greece: The benefits of rear projection become obvious in a brightly-lit sports arena. In Greece, a dnp Giant Wide Angle Screen with 4,000 ANSI Lumen beat a 12,000 Lumen projector in a rear vs. front shoot-out.

When the Doukas School in Athens invested in a brand new sports arena, the Greek AV consultants and rear projection specialists, Telmaco S.A, was commissioned to provide a suitable large screen display solution.

The experienced Telmaco staff knew that optical rear projection was the only way to achieve sufficient contrast and image brightness under the difficult light conditions in the arena. But in order to convince the customer, Telmaco arranged a rear/front shoot-out between a 140" Giant Wide Angle Screen, powered by a 4,000 ANSI Lumen projector, and the front projected image from a 12,000 ANSI Lumen projector. And despite the use of a much smaller and thus

cheaper projector, the rear projection display won the battle.

– Optical rear projection screens use the projected light much more efficiently than front screens, due to the focusing abilities of the Fresnel lens and the distributive properties of the lenticular lens. Furthermore, optical rear projection screens from dnp incorporate technology that enhances the image contrast, says Mr. Vasilis Kyriazis of Telmaco S.A.

The 140" screen is placed at the long side facing the tribunes on the other side of the arena. With this set-up, the wide-angle abilities of the Giant Wide Angle Screen became

very important. Furthermore, Telmaco had to convince the responsible architect to accept the construction of a projection room on the outside of the existing building.

The new display is used to run replays and display game information during sports events in the arena – especially when the Doukas School, which is one of the best handball teams in Greece, is playing. But the display has also made the arena well suited for other events that require high-level AV facilities – such as exhibitions and concerts.

Facts

Installer = Telmaco S.A.

Screen = 140" dnp Giant Wide Angle Screen

Projector = Barco Graphics 6500i with a 0,8 lens

Website = www.telmaco.gr



AV against crime

Serbia: Modern AV equipment and large screen technology play a vital role in securing and monitoring the court proceedings at the Special Court in Belgrade.

The Special Court, which is located in the old Military Court building of the ex-Yugoslavian army in Belgrade, was founded in March 2003 after the murder of Serbian Prime Minister Djindjic as the main institution in the fight against crime and criminal organizations.

The AV systems for the Special Court, which comprise two small court rooms, one medium sized and one very large court room as well as an in-house jail unit, are designed and installed by leading Serbian AV system integrator Lola Audio A.D. of Belgrade.

The four court rooms are equipped with state-of-the-art technologies for security and monitoring of court proceedings, including two huge 100" dnp Alpha Screens, which are used to present evidence for the accused to the audience and journalists in the largest 300-seat court room. Furthermore, all participants have access to small LCD monitors which are built into all desks, together with a conference terminal for speech recording and identification.

The image sources include document cameras, video cameras, notebook computers and PCs containing evidence in the form of electronic documents, VCR and DVD players plus video conferencing equipment.

The electronic presentation of evidence can be remotely controlled from the central control room – or directly controlled by the judges via touch screen panels in each court room.



Facts

Installer = LOLA AUDIO A.D.

Screens = 2 x 100" dnp Alpha Screens

Projectors = BARCO IQ-G500 (XGA, 5,000 ANSI Lumen)

Website = www.lolaudio.com



Centralised border inspection

China: the J.S. Border Defence Bureau has installed a VTRON display wall, which allows centralised 24/7 monitoring of remote border posts at airports, docks and stations.

From the control centre of the Exit & Entry Border Defence Inspection, the operators can view high resolution video signals from different border posts on the six individual screens. The system can also display images in 2 x 2 and 2 x 3 screen modes or over a multi-screen area of any size.

The VTRON DLP™ digital display wall comprises 6 VTRON GUCS screens, which are based on dnp Ultra Contrast Screens. The Ultra Contrast Screens were specified because of their incredible uniformity and sharp high-resolution images – a key

issue when displaying video signals in high-resolution mode on a display wall.

The superior brightness uniformity ensures an even image reproduction when displaying across neighbouring screens. And the screens' ability to display even the smallest details improves the identification accuracy of the operators, and the work efficiency of the Border Defence's management.

Facts

Installer = VTRON and Yunchang (system integrator)

Screens = 6 cubes with 67" VTRON GUCS Screens, which are based on dnp Ultra Contrast Screens (2 x 3 configuration)

Projectors = 6 VTRON DLP™ engines

Website = www.vtron.com

Screen focal length

Choosing a screen with the correct screen focal for the installation is essential for achieving the perfect rear projected image.

All dnp screens are available in several focal lengths in each size. This allows you to obtain a perfect match between the projector and the screen, where the Fresnel lens focuses the light perfectly and distributes it straight towards the viewers. To obtain the ideal configuration, the screen's focal length has to match the projection distance, which is determined by the projector lens. In most single screen installations, the light

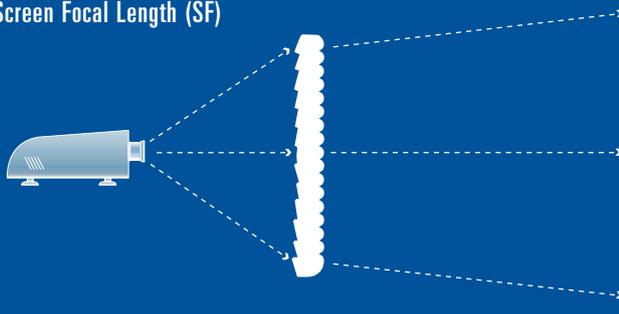
needs to exit the screen at right-angles (i.e. perpendicular) to the screen towards the audience. The same principal applies towards installations where two or more screens are positioned next to each other with a limited seam. This makes the brightness uniformity even more important. And the best brightness uniformity is achieved by having a good match between screen focal and projection distance.

As the below principles indicate, the match between screen focal and projection distance is essential for the quality of the final image.

Furthermore, it is clear that we have a strong tool to optimise our installation in the design phase by using the screen's ability to focus the light in the direction that we require.

For more details, please ask your local distributor for the fact sheet "dnp screen focal length" or download a PDF version at www.dnp.dk.

Projection Distance (PD) < Screen Focal Length (SF)

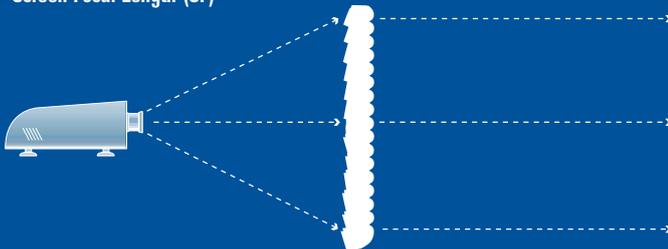


In general there are three different possibilities:

Projection Distance (PD) < Screen Focal Length (SF)

Avoid situations where the projection distance is much shorter than the screen focal, as the screen might exhibit a hot spot – like a diffusion screen.

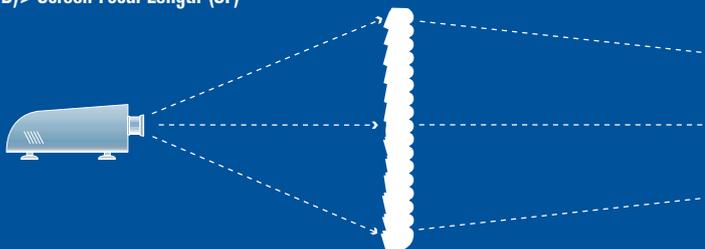
Projection Distance (PD) = Screen Focal Length (SF)



Projection Distance (PD) = Screen Focal Length (SF)

A projection distance equal to the screen focal is recommended in most cases as all light is directed perpendicularly towards the audience. It also provides the best brightness uniformity.

Projection Distance (PD) > Screen Focal Length (SF)



Projection Distance (PD) > Screen Focal Length (SF)

A projection distance longer than the screen focal can be helpful in situations where you want to install a large screen in a relatively small room. By using this knowledge, you can design a meeting room and place the table closer to the large screen than you would normally do.



Austria: Rearpro expert and dnp distributor, SCREEN. New Technologies has installed 25 dnp Attention Screens in supermarkets all over Austria for BeamCom instore commercial GmbH.

The initial step was made last year when the first Attention Screen demo system was installed at Europe's largest mall, the SCS Shopping Centre in Vienna. And in less than eight weeks the POS System attracted so much attention that several major advertisers placed orders for airtime.

Since then SCREEN. NT has worked for their German customer BeamCom at locations all over Austria to roll out the network to all locations.

Attention at the Point of Sale

– We had to survey 25 location shopping centres all over Austria in order to find the perfect locations, says Juan Ordonez, Technical Project Manager of SCREEN. NT.

The advertising displays are placed above the entrance where they are in view of all customers who enter the stores. BeamCom instore commercial chose dnp Attention Screens because of their ability to display bright, sharp images from steep viewing angles.

At the heart of the BeamCom system is a sophisticated content management system and a scheduling software that provides easy control over the advertising at all 25 locations. Even hardware such as projectors and sound amplifiers can be controlled remotely.



Facts

Installer = SCREEN. New Technologies for BeamCom instore commercial

Screens = 80" dnp Attention Screens - Contrast Version

Projectors = Sharp XG P 25 XE (4,000 ANSI Lumen)

Website = www.screen-nt.de www.beamcom.at



Casino Arizona breaks screen record

USA: Walking into the Casino Arizona at Talking Stick, visitors are all but overwhelmed by the sheer size of 9 dnp Giant Wide Angle Screens creating a panoramic view stretching a total of 125 feet wide by 9 feet high — the largest of its kind in North America.

With recently completed renovations installed by Audio Video Resources of Phoenix, Arizona and Large Screen Displays, the Casino Arizona has really lit up the lobby and other areas of the facility.

– This has been an amazing project for us to be part of. Right from the planning phase we knew this installation would be special, but when you see it for the first time it really knocks you out, said Randy Pagnan, COO at Large Screen Displays, who distributes dnp screens in North America and who supplied the screens and installation equipment for this spectacular project.

According to Large Screen Displays, the Casino Arizona at Talking Stick has establis-

hed a number of records with this installation, including the largest installation of optical screens in a gaming application in North America, and the largest installation of dnp Giant Wide Angle Screens in North America.

Powered by 5,000 ANSI Lumen Christie Digital X5 video projectors, the 9 dnp Giant Wide Angle Screens provide a total image area of 108 ft² at a gain of 3.0, delivering 138 ft-Lamberts (475 nit) of light at a resolution of 50 pixels/inch². The screens are installed using Large Screen Displays' PiRMS Projected Images Rear Mirror Mount with Screen Systems, which include a number of features to facilitate maintenance.

– I've never seen anything quite like this before in any other Casino! Some in Las Vegas have come close, but nothing of this calibre. Every day we are learning more about this incredible AV system and all its capabilities, said Ric Hartman, Marketing Director at Casino Arizona.

Facts

Installer = Audio Video Resources/Large Screen Displays

Screens = 9 x 180" dnp Giant Wide Angle Screens

Projectors = 5,000 ANSI Lumen Christie Digital X5 video projectors

Rigs = PiRMS Projected Images Rear Mirror Mount w/Screen Systems, Pi RO Projected Images Rear Optical screens, EZ-Adjust precision Projector Cradles – all from Large Screen Displays

Website = www.largescreendisplays.com

