

bTV Media Group, Bulgaria



Large screen displays have been a feature of TV studios since the early days of videowall. Today, they are more relevant than ever, giving presenters the opportunity to interact on camera with remote interviewees and present graphics to TV audiences. However the high ambient lighting and need for solid reliability make TV studios a demanding arena for large screen display.

Background

Launched in June 2000, bTV was Bulgaria's first commercial television broadcaster. In the 14 years since, the station has become firmly established as the most popular television channel in the country, commanding a 40% audience share and a powerful advertising presence. As an independent channel, news and current affairs are an important part of its output, achieving very high viewing figures and winning no less than 30 awards in the last three years alone. In 2006, Mitsubishi Electric supplied a 6-cube Display Wall system to bTV, which quickly became a central feature of its studio format.

Problem & Solution

Television studios are demanding applications for display wall systems. The bright studio lights mean that displays must maintain a high light output. Television cameras are particular unforgiving of small colour variations between displays, and naturally live television demands absolute reliability to avoid display failure on air.

PROJECT LOCATION

Sofia, Bulgaria

CUSTOMER

bTV Media Group

APPLICATIONS

Broadcast
Studio Backdrop

PRODUCTS USED

6 X VS-XE73RU

INSTALLATION

UNIVERSAL K Ltd
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FURTHER INFORMATION

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The original CRT rear projection cubes were notoriously difficult to set up and use in a television environment. The advent of DLP technology was a significant step forward, but the mercury lamps used as the light source present their own problems. Mercury lamps are consumable items that need replacing after roughly 6000 hours of use. With each lamp costing around €1000, this represents a considerable running expense. The colour gamut delivered by mercury lamps changes as the lamp ages, requiring regular adjustment to ensure a uniform screen performance. The filament of the light source can create a noticeable “hot spot” on the cube’s fresnel screen, which can be very apparent when viewed off-axis. Finally, the lamps themselves are quite fragile and easily damaged if the projector is handled roughly when the lamp is still hot. Like most television stations, bTV’s display wall was used in several TV productions, meaning it was frequently rigged and struck – often by non-specialist personnel. Regular re-adjustment and lamp replacements meant increased running costs, and as the cubes were constantly being run at maximum brightness to counteract the strong studio lighting, lamp life was further reduced. The arrival of LED lighting for rear projection promised an interesting alternative, and bTV once more turned to UNIVERSAL K Ltd for a solution.

LED lighting delivers superior performance

Mitsubishi Electric introduced LED lighting into its Seventy Series cube range around 2010. Rapid advances in LED technology created dramatic improvements in light output, which allowed Mitsubishi to phase-out mercury lamp rear projection completely by 2012. Shortly afterwards, Mitsubishi Electric introduced a range of replacement LED projectors, designed to allow existing customers to upgrade their legacy Display Wall system to the latest LED technology.

LED lighting provides numerous advantages. The light sources in Mitsubishi Electric cubes are rated for up to 100,000 hours of use, offering a dramatic reduction in running costs. LED’s are solid state devices, and so much more resilient to physical handling. The light output from LEDs is much more constant over its lifespan, and the colour gamut is wider, making them easier to use in studio conditions.

UNIVERSAL K Ltd proposed refurbishing bTV’s 6-cube Display Wall with Mitsubishi Electric replacement LED engines. Seeing the advantages, bTV agreed and in 2014 UNIVERSAL K Ltd completed the changeover in just one morning.

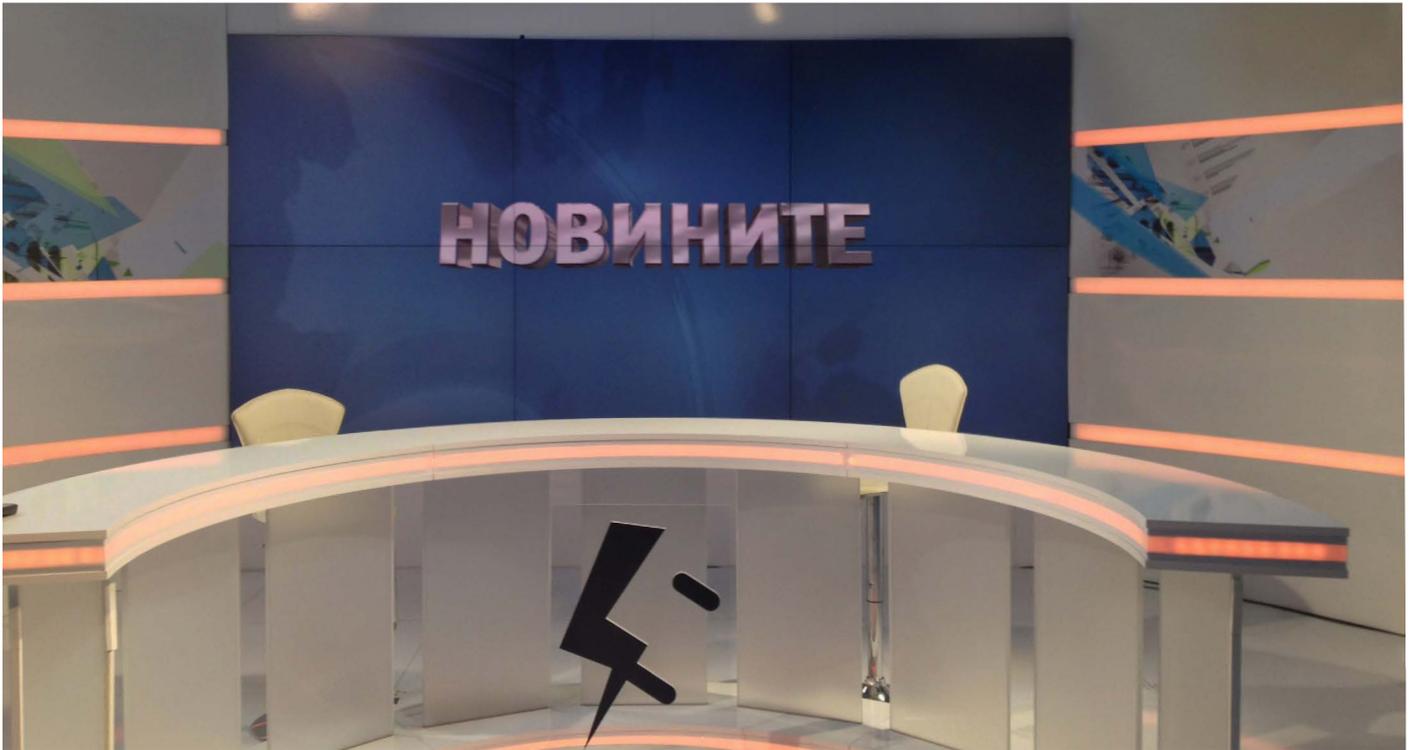
LED delivers high efficiency

The difference in performance after switching to LED lighting was immediately noticeable. Whereas before, the cubes had been operated on their brightest setting, UNIVERSAL K Ltd was able to reduce this to the minimum setting for the LED cubes while maintaining performance, reducing power consumption and further extending the lifespan of the LED light sources.



Specifications

Model	VS-XE73RU
Technology	LED Replacement Engine
No. of Modules	6
Cooling system	Air cooling system with efficient cooling pipe and aluminum plate (No liquid)
Type	DLP™ technology (0.96" DLP™ 1 chip), DarkChip3™, BrilliantColor™
Resolution	XGA, 1024 x 768 pixels (per module)
Light Source	Redundant LED (RGB)
Light Source Service Life	≤ 100,000 hrs.
Brightness	480 cd/m2 bright mode 370 cd/m2 normal mode 270 cd/m2 eco mode 80 cd/m2 advanced eco mode
Contrast Ratio	1,700: 1
Power Consumption	79 W in advanced eco mode, 102 W in eco mode, 127 W in normal mode, 174 W in bright mode.



Customer satisfaction results in further order

The newly-refurbished Mitsubishi Electric Display Wall system was unanimously well received by both technical personnel and management at bTV.

Less than two months after completing the refurbishment, UNIVERSAL K Ltd was commissioned to supply another Mitsubishi Electric Seventy Series Display Wall system in time for the station's extensive coverage of the Bulgarian general elections with a 3 x 3 system of the VS-70HE78UA .

The new 9-cube system forms the main feature of the completely refurbished studio for bTV's flagship morning news show, *This Morning*.



Seventy Series from Mitsubishi Electric

The VS-XE73RU and VS-70HE78UA models used at bTV are part of Mitsubishi Electric's pioneering Seventy Series. The centrepiece of this projection technology is an integrated, ultra-modern DLP® chip. For its latest LED cube generation, Mitsubishi Electric has developed the innovative Smart 7 concept, a pioneering design for LED display wall cubes with a wide, intensive colour spectrum, optimum energy efficiency and an average service life of ten years. As a global market leader in LED cubes, Mitsubishi Electric currently offers the widest selection of models and is able to provide first-rate, well-engineered technology for customised solutions. The company has over 30 years' experience in LED solution development and large screen project management. We have already installed more than 61,000 DLP projector units worldwide.

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