



Westfield Shopping Mall, London, UK

WESTFIELD SHOPPING MALL

Westfield London has become not only the largest shopping mall in Europe, following its new £600m extension this Spring, but it also hosts more than 300 events a year. In addition to its vigorous retail activity, this includes concerts for as many as 4,000 people, with relays to their giant retail screens and multiplex cinema.

Building a network infrastructure to carry the myriad of communication signals and IP addresses over fibre across the 2.6 million feet of real estate (or 1km end-to-end) has been an organic process, which has been made easier since owners,

Unibail-Rodamco-Westfield (URW), in conjunction with audio consultants HD Pro Audio, employed Optocore's BroaMan routing matrix system.

SYSTEM REQUIREMENTS

- Transport of multiple professional video, audio, intercom and data over fiber
- Routing of analog and digital audio
- Simultaneous transport of data and control signals
- Gbit Ethernet Transport
- Flexible easy to setup system with short configuration time
- Comprehensive single-channel status monitoring



"BroaMan system is now central to the behind-the-scenes technical delivery of the Westfield events. With so many SDI signals, audio signals and IP streams I don't think we realised just how great the benefits of BroaMan would be. The way the BroaMan team has worked with us on these systems makes us feel more like a member of an extended family, than customers."

Ben Davis, Senior Technical Manager

SOLUTION

The Westfield Events team became aware of Optocore products in 2011, during the planning of sister operation Westfield Stratford City, but it was not until 2015 that it was decided the BroaMan system would be an ideal solution for video/ audio distribution.

Both the Shepherds Bush and London Stratford systems are identically configured, with a Route66 Optocore AutoRouter, Route66 40x40 Video Router and WDM Frame; 3 x Mux22-IVT/ IVT 8 SDI-In/8 SDI Out and 3 x X6R-TP 8MI/8LO. Each system has the Route66 central matrix with a single Mux22 and X6R in the control room, with the remaining Mux22 and X6R combinations in remote racks.

As for the second phase at Westfield London, which increases the indoor space by a third and adds the outdoor pedestrianised Westfield Square, HD Pro Audio have provided a further Route66 Optocore AutoRouter and Route66 40x40 Video Router with WDM Frame, as well as 5 x MUX22 8 SDI-In/8 SDI-Out, and 5 x X6R-TP 8MI/8LO.

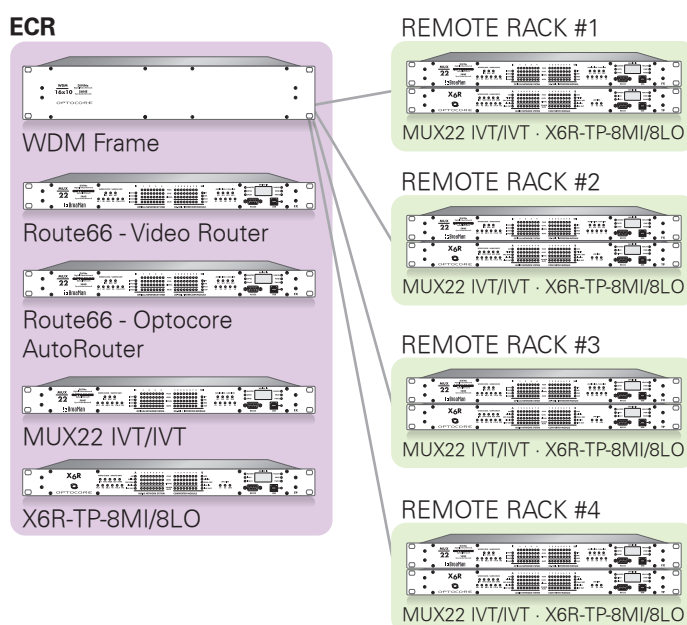
The BroaMan system offers the ability to tunnel through two additional IP streams by fibre. These connections are used for Gigabit connections from a network of Luminex Gigacore switches to stations within each mobile rack. Port aggregation on the Luminex switches allows a maximum 2 Gb bandwidth to each remote switch.

This addition to the BroaMan racks takes care of all IP traffic – including MA lighting systems, ClearCom communications, internet connections, and various device management connections.

KEY ADVANTAGES

1. Transport of multiple 3G/HD/SD SDI video between control room and mobile stageboxes – each Stagebox with 8IN/8OUT.
2. Flexibility of using Stageboxes for two different systems depending on current needs.
3. Auxiliary fibre optic ports for Gbit Ethernet transport transport: for All intercom, and data transport.
4. Optocore Control software which monitors each video and audio signal.
5. Autorouting to avoid any manual fiber patching within the system.

SYSTEM DIAGRAM



SYSTEM COMPONENTS

OPTOCORE/ BROAMAN Device	ID Number	Localization	Functions
ROUTE66	1	ECR	40x40 VIDEO ROUTER
WDM FRAME	-	ECR	10 x CWDM 5+1/5+1
ROUTE66 – AUTOROUTER	-	ECR	
MUX22-IVT/IVT	21	ECR	8 3G-SDI IN, 8 3G-SDI OUT, LAN, GPIO, 2x FIBER AUX Port
X6R-TP-8MI/8LO	21.2	ECR	8 MICROPHONE INPUT, 8 LINE OUT, 16x AES/EBU
MUX22-IVT/IVT	11	STAGEBOX #1	8 3G-SDI IN, 8 3G-SDI OUT, LAN, GPIO, 2x FIBER AUX Port
X6R-TP-8MI/8LO	11.2	STAGEBOX #1	8 MICROPHONE INPUT, 8 LINE OUT, 16x AES/EBU
MUX22-IVT/IVT	12	STAGEBOX #2	8 3G-SDI IN, 8 3G-SDI OUT, LAN, GPIO, 2x FIBER AUX Port
X6R-TP-8MI/8LO	12.2	STAGEBOX #2	8 MICROPHONE INPUT, 8 LINE OUT, 16x AES/EBU
MUX22-IVT/IVT	13	STAGEBOX #3	8 3G-SDI IN, 8 3G-SDI OUT, LAN, GPIO, 2x FIBER AUX Port
X6R-TP-8MI/8LO	13.2	STAGEBOX #3	8 MICROPHONE INPUT, 8 LINE OUT, 16x AES/EBU
MUX22-IVT/IVT	14	STAGEBOX #4	8 3G-SDI IN, 8 3G-SDI OUT, LAN, GPIO, 2x FIBER AUX Port
X6R-TP-8MI/8LO	14.2	STAGEBOX #4	8 MICROPHONE INPUT, 8 LINE OUT, 16x AES/EBU