

Arts & Leisure Case Study

Showcase Cinema - Dudley

For National Amusements Inc, owner and operator of the Showcase Cinemas chain, ensuring customer comfort is obviously a high priority. The company is also very conscious of the need to limit the environmental impact of its operations, and like any business it must of course control costs. At a number of its UK movie theatres, Trend building management systems are helping to achieve these various objectives. The latest to be installed is at the recently opened Showcase Cinemas Dudley and was supplied and engineered by Direct Control Systems (DCS) Ltd, Birmingham.



Showcase Cinemas Dudley has 14 state-of-the-art, air-conditioned auditoriums, all with stadium style seating and featuring the latest in sound reproduction technology. Four of them also boast luxurious 'premiere' seating. Customer facilities include a bar, café, electronic games centre and plasma flat screen monitors in the foyer for previewing upcoming releases.

Each auditorium is supplied with tempered air by its own Trane roof-top air handling unit. Each one has two stages of direct gas-fired heating and two of DX cooling and is fitted with a Trend IQ204 intelligent controller. This automatically regulates the heating and cooling to achieve the desired space temperature within the auditorium. By using optimum start control, it also ensures that the plant never comes on earlier than need be. Air quality is maintained at the required level by the IQ controlling the proportion of fresh to recirculated air based on readings from a CO₂ sensor. Thus when there are fewer people in an auditorium, the fresh air level is reduced – thereby saving energy.

The air handlers that serve the cinema foyer, projection room and spillways are also equipped with dedicated IQ204s. The control strategies both for these and the auditorium AHUs were engineered, loaded and tested by DCS Ltd. The controllers were then sent to Trane for factory fitting.

A Trend IQ220 provides automatic switching of a large number of the cinema's lighting circuits. For the purposes of control these are divided into four independent time zones. Within the building there is one zone for the spillway and toilet lights and another for the foyer, food court and entrance. Of the other two zones, one covers the car park and external security lighting and one the neon illuminated posters and marquee (the large back-lit board displaying the film titles and showing times).

The particular on/off times that each zone operates to are user-adjustable. They mostly revolve around staff starting times and cinema opening hours, the latter being longer at weekends. The car park and security lights are set to come on as dusk approaches.

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A further IQ220 monitors the domestic hot water system and controls the toilet extracts. It also monitors the popcorn 'popper' extract fan and ensures that this is working before allowing the machine to be started.

The system's main operator interface is a Trend 'Viewpoint' touch-screen supervisor located in the cinema's control room. Through this very easy-to-use, wall-mounted device the cinema managers are able to monitor the HVAC and lighting and make adjustments to time and temperature settings. All user-actions are carried out simply by touching on-screen buttons or other icons. Operational data is displayed on customised, colour graphic pages. There is also the facility for remote monitoring and fault diagnosis via modem.

The ViewPoint and all the IQ controllers connect to a common local area network.

In addition to the one at Dudley, Trend building management systems have been installed at Showcase Cinemas in Teesside, Bristol, Glasgow, Paisley, Wokingham, Newham and Cardiff. The building services for several of these sites – including Dudley – were designed by consultants Couch, Perry and Wilkes.

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