



*Lightboard control at Deutsche Oper, Berlin, showing horseshoe arrangement with auxiliary controls on the right-hand side and push-button mimic on the left. Close up of mimic and fault indicator system is seen below.*

controls in one spread as well as allowing sufficient room for the computer rack and printer. A separate mimic diagram with geographical channel layout show output voltage of the dimmers via mini transformers.

The luminaires are controlled by Rank Strand's new MCM dimmers housed in 17 racks each capable of taking 24.5 kW modules. A particular advantage of the installation is that the plug-in dimmers can be exchanged with non-dim units to control switch-only circuits, making it possible to use any of the 400 circuits as a dimmed or direct circuit.

Being of course controlled from the Lightboard computer and its memory, it has been possible to save an enormous amount of hardware (push buttons) normally used and, in this particular case, the lighting designer is free to fire his HMI sources wherever he wishes.

At Deutsche Oper, Berlin a Siemens Sitalux system with servo-mechanical fader levers and magnetic amplifiers installed in 1961 and updated with a punch-card system in 1968 was replaced. The installation originally for 240 circuits with the possibility of extension to 320 ways via relay switching was extended to 400 ways. The control room

