



Worried Sound Man with foldback monitor mixer off stage right



63 input, 8 group mixing desk at the rear of the stalls

extensive use of multiway connectors is a flexible arrangement for interface with touring sound systems.

Patching of foldback monitoring to the stage from two auxiliary sends is via the patchfield either directly into the monitor amplifier/loudspeaker system or as line level feeds into a portable monitor mixer.

The Monitor Foldback Mixer

A separate monitor mixer may be connected via multiconnectors down stage left or right. It has 16 inputs with variable cross-point routing to four group outputs. Each of the standard input modules has simple three-band boost and cut equalization plus input sensitivity and mic./line selector switch.

The system is planned such that selection of all microphones used by the monitor mixer is set up at the main jackfield under the control of the main sound operator. This was done to prevent some of the 'surprises' which can occur when such patching is done on stage.

Echo Units

A Master Room Dual Echo Unit housed with the amplifier racks provides two separate mono signals or may be combined for stereo operation. Normally one would be reserved for the main sound system and the other used with the stage monitoring system. Reverberation times can be remotely varied at the Mixing Console from 1-3 seconds on one half of the unit and 2-5 seconds on the other half.

Stage Outlets

There are three four-compartment Technical Facilities Panels, one either side of the stage and one in the orchestra pit, for microphones, loudspeakers, communica-

tions and power. Microphones for use with on-stage orchestras are connected via 20-way plug boxes on multicore extensions from the Technical Facilities Panels.

Communications

The communications system was specially designed to be compatible with the American CLEARCOM system used by many touring companies. It comprises a single channel headset system with beltpacks which may be plugged in at a number of key technical positions. It also incorporates a second channel which appears with the first at selected locations where loudspeaking outstations are fitted. At these outstations the technician can, if he so wishes, listen to a mix of Channel A (all the headsets) and Channel B. He may talk to either channel by means of a two position-and-off key switch. The control unit has a 'crash call' facility by means of which the stage manager will automatically be heard at full listening level at each outstation.

Testing the Loudspeaker System

It is seldom that one gets the chance to experiment with different types of loudspeaker systems properly installed in a large auditorium. And it was extremely gratifying to find that all my theories appeared to be justified.

The column loudspeakers together with some 'fill-in' from the central array and the enhancement system provided better than plus/minus 2 dBA variation throughout the entire auditorium with a broad band measurement of pink noise. With a talker standing some twenty feet away from the 'float' microphones we measured towards the rear of the auditorium a lift of some 16 dB in the voice without any apparent shifting of the source image or colouration

of the sound. And that is quite impressive.

The Music System utilizing the centre and side bass bins and horns provided a broad band variation of plus/minus 2 dBA throughout. Measurements of taped music showed peaks of 122 dBA in the centre of the auditorium with no signs of distortion or clipping.

The System in Use

We were warned that no matter how excellent a sound installation most of the leading singer/entertainers would want to use their own equipment. It has been somewhat of a surprise that during the last few months performers like Rosemary Cluny, Engelbert Humperdinck, Cleo Laine, and Johnny Dankworth have used the system to the full and Paul Anka, Cher and Johnny Mathis have used the amplifier/loudspeaker installation tied in to their own mixers. The reason for not using the system complete is partly due to a local union ruling which precludes a visiting sound engineer from using the installed mixer.

Cleo Laine's manager told me that on their previous visit to the O'Keefe Centre they only used ten microphones and spent the entire three-hour orchestral rehearsal trying to obtain a good sound. This time they were using thirty-eight microphones plus four separate mixes of foldback monitoring, and, apart from a few comments on the orchestral balance, they were able to concentrate entirely on their music.

I was in Toronto whilst Johnny Mathis and Cleo Laine were performing and I was very content to see in the press reviews for both of these excellent performers little phrases like 'excellent diction', 'crystal clear voice', and 'sounding better than ever'. It is from this kind of reflected glory that a sound man receives his accolade. For a sound system which is noticed is usually a bad one.