

DERNGATE

CIVIC CENTRE

by J. Whitaker

THE task set by Northampton Borough Council was all too familiar to Theatre Consultants and Architects: provide a multi-purpose civic hall seating an audience of 1500 which will be equally suitable for symphony concerts, opera and ballet, drama, rock shows, dinner dances and banquets, trade shows, boxing and snooker. The challenge taken up by Architects Renton Howard Wood Levin and Theatre Consultants, Theatre Projects Consultants was to create a hall which could be changed in form to suit the type of performance to be presented but would look and feel as if it had been purpose-built in the form in which it is set up.

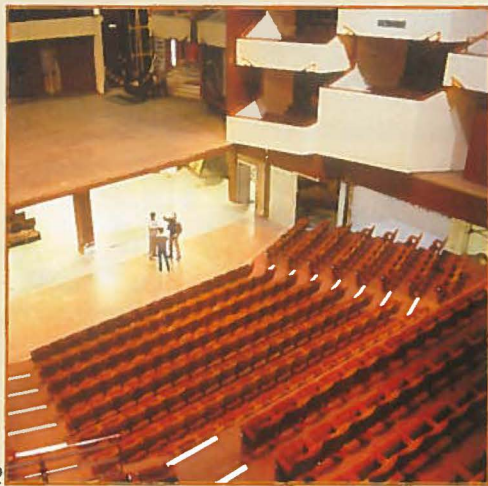
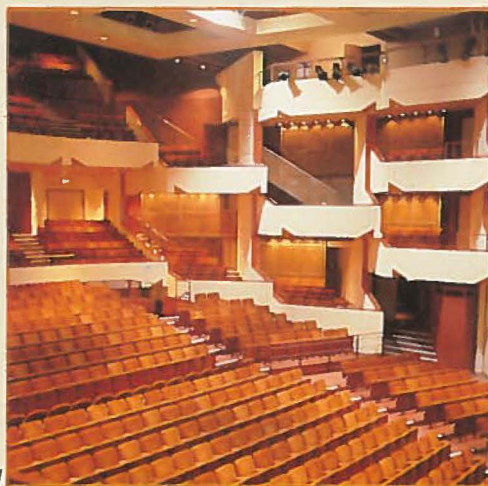
As the sizes and shapes of successful concert halls and theatres are fundamentally at variance, the Theatre Projects design team headed by Richard Pilbrow conceived a revolutionary variable geometry solution whereby it is possible to change a 1500 seater oblong concert hall with raked stalls and an open platform entirely encompassed by tiered seating into a traditional style 1100 seater "horseshoe" proscenium theatre with flytower, wing space and orchestra pit/forestage plus all the modern technical facilities. This unique design also provides the user with a flat floor area in place of the raked stalls seating, which can be used for arena events, dinner/dances, etc. Furthermore, it is possible with a crew of 8 men to change from the concert hall to theatre format in only 5 hours.

To achieve these transformations five basic elements are employed; these are seating elevators, seating waggons, mobile towers, adjustable proscenium and a flown ceiling to

close the flytower. The contract to supply these items was won by Tele-Stage Associates, who worked closely with the Architects and Consultants on the complex structural design problems.

The most traditional of the four elements is the elevator system. Two units support half the area of the stalls, and are generally linked together to operate as one. They are used to lower the seating waggons down to storage areas below the stage and rear stalls. If required, the smaller unit can be uncoupled to form an orchestra pit or forestage. A number of special requirements had to be incorporated into the design of the elevators. The platforms had to be designed to sustain the considerable point loads imposed by the seating waggons. The tolerances set for the level and positioning were particularly stringent to allow air castors to be used on the seating units. The problems of synchronising two elevators of greatly differing area was solved by using a clutch unit linking the drive shafts in combination with a soft start system controlling the speeds of the motors.

One of the fundamental requirements in the brief for the hall was that mobile seating should be of the same quality and feel as the fixed seating. Retractable seating would not be acceptable (although due to lack of storage it was agreed that the four rows of choir seating could, in fact, retract under the gallery). The mobile seating was therefore mounted on waggons which have been designed with the fewest number of joints possible and constructed with sufficient mass to feel like a fixed structure. It was clear that wheels would not



1: View of stalls in proscenium form. 2: Elevators at store level to remove waggons. 3: Concert format showing ceiling over platform. 4: Arena layout for the World Doubles Snooker Championship. 5: Typical Proscenium layout.