GOOD FOR ALL OR GOOD FOR NOTHING?

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high. Therefore, a further compromise was necessary. The first 6 rows have been arranged – broadly speaking – into two blocks of 3 stepped rows each. Careful consideration was given to the pros and cons of mechanisation, to the expense of moveable bleacher units, the possible inclusion of air pallets and to the whole question of where to store these particular seats when not in use. At this point the design team invoked the assistance of P.E. Kemp Engineers Ltd., who had won the contract for all the stage machinery, together with one of London's most skilful scenery manufacturers, Bert Richman Ltd.

Financial consideration finally determined that these units would have to be handled manually. By the introduction of particularly large wheels and careful design and construction it was estimated and ultimately found practical for the whole block of 6 rows of seats, having first been raised to stage level, then to be rotated through 360° to form the second side of a boxing ring or arena format, by as few as 6 members of staff. Although priority was not given to this particular format it is interesting to note that it has subsequently proved acceptable and is frequently used. The third and fourth sides of the square so formed are filled with 3 rows of interlocking chairs (those used for banquets) with floor locks at the end of each row. Shortly after the building opened I witnessed a complete changeover from a tiered cinema format to a wrestling ring configuration, carried out by six men in 1½ hours. Dave Clark, Steve Easy and staff take a bow!

The original orchestra pit was designed for between 40 and 45 players. Part of the floor area is beneath the stage and part on an elevator which can be raised to stage level when required to act as a forestage. However, a bonus situation was evolved during the development when it was discovered that Kent Opera was particularly interested in performing at The Orchard. It is well known that Kent Opera is not at all keen on orchestra pits which project partially under the stage. Indeed, their principal conductor, Roger Norrington, is emphatic about placing the entire orchestra "in the open". Therefore, the manual arrangement of the first 6 rows of seats was put to good advantage whereby the orchestra pit can be extended (at the loss of 3 rows of seats) into the auditorium and produce an equivalent area without recourse to that part of the pit beneath the stage. In this situation acoustic screens are placed in the orchestra pit along the line of the front edge of the stage. However, because of storage difficulties and the need to put the 3 rows of seats (in this situation) beneath the stage area it is then necessary for the orchestra to enter the pit by passing through the auditorium. A small compromise, methinks, when considered in the context of the number of annual performances by Kent Opera against the cost of more sophisticated arrangements. In the unlikely event of a pit orchestra of 65 being required, this can be achieved by removing the first 6 rows of seats (with consequent loss of revenue), lowering both elevators and including the area beneath the stage. Should this extended orchestra be required then the 6 front rows and their stepped base units can be dismantled and would undoubtedly have to be removed from the building. Storage space is never sufficient and is certainly at a premium in The Orchard; another compromise!

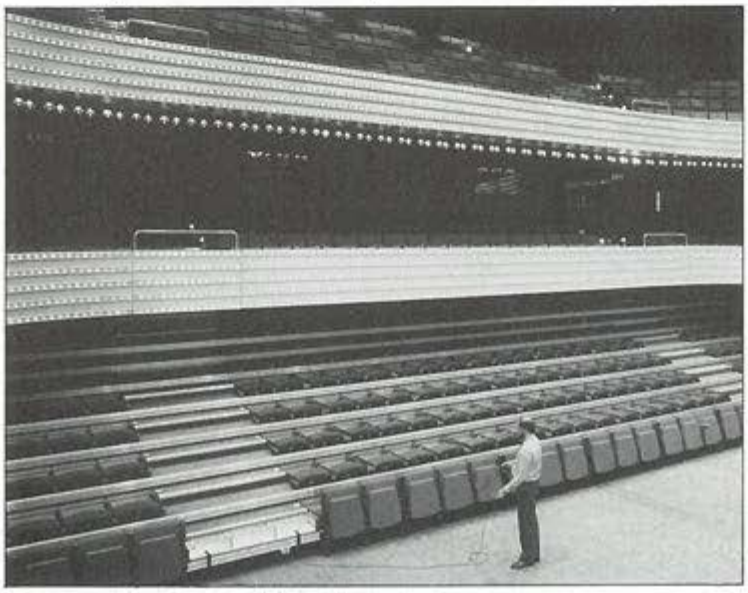
The lighting control room is at the rear of the stalls circle and equipped with Rank Strand Duet II controlling 10x5kW and 110x2kW dimmers. Within the stage house itself there is a more or less traditional arrangement of spot bars, side lighting, footlights etc. with all luminaires plugging into 15 amp 3 pin socket outlets. There is an auditorium lighting bridge which extends across the full width of the auditorium and also serves as the main Follow Spot position. There are 2 ancillary Follow Spots positions, largely for use in any arena situation, at the ends of the balcony slips. In these slip positions at both circle and balcony level are short booms for side lighting.

I have deliberately left consideration of the acoustic design of the hall until the end because here alone is the real innovation in this particular building. Faced with the task of producing a really good compromise acoustic for music, speech, and flat floored events, Dr. Frank Fahy has evolved an electro-mechanical method of adjusting the acoustic of the auditorium to achieve something which no electro-acoustic device can (to date) achieve. Having established the compromise reverberation time for the theatre format, Dr. Fahy set about designing a method of extending that reverberation time for concerts, but reducing it in the flat floored configuration when all absorptive seating material, etc. is removed.

It would be premature to detail his solutions to this problem at this time, since Dr. Fahy has yet to complete his acoustic testing of the building. This necessitates the co-operation of a captive audience which is prepared to remain seated for part of an interval. Not easy to do when the audience is paying for its seats!

However, sufficient to whet the reader's appetite by saying that what is in essence an extremely simple electro-mechanical solution to the problem has produced exactly the results intended. At the time of writing we understand that the acoustic properties of the auditorium are generally considered most successful. Dr. Fahy will, in due course, be producing a paper on 'Acoustics at The Orchard'.

Rank Strand Duet 2 in control suite.



The Accuroll seating, simplicity without a hernia.

Finally a word about a device which is not in itself an innovation but, in its very design for Dartford, has taken a step forward – the acoustic shell. Traditionally the concert shell is an extremely heavy device made of very thick timber or (in some places in America) in concrete. In very large theatres this great weight is generally essential, but we have found in a number of projects that, where we are not in the business of designing a purpose built concert hall, what is in reality needed is a modest improvement in the acoustic for any orchestra playing upon the stage, rather than a serious attempt to convert the place into a quality concert hall.

At Dartford, further collaboration between the design team, Messrs. P. E. Kemp Engineers and Bert Richman Ltd. has produced a lightweight, easily demountable, acoustic shell, to Dr. Fahy's designs, and which can be set up, or removed, by only two men in approximately 20 minutes; or four men in 10 minutes.

We are presently looking at a modification enabling the rear wall of the acoustic shell (which is the heaviest item), together with the three ceiling pieces, to be totally removed from the grid. This has been an understandable request by the Production Manager of Kent Opera and we are totally sympathetic to his needs. However, storage space is yet again our problem!

So! This particular building includes something old and something new. Time alone will tell what is successful and what has failed. As I indicated at the beginning there are things which we would not do again but we hope that the project has moved the problems of designing multi-purpose halls a few steps forward.

Most certainly this could not have been so without having a most co-operative client and a very happy working relationship in the Design Team, to say nothing of the excellent co-operation from manufacturers and suppliers, notably the Rank Strand organisation. They can all take a bow. So now for the curtain calls:- ■

Client:
Dartford Borough Council.
Chief Executive, Roger J Duck.
Borough Treasurer, Cyril Rowland.
Design Team:
Building Design Partnership – Architects, William Jack (Partner) Charles Broughton (Associate) Martin Ward (Job Architect), Structural Engineers, Interior Designers, Service Engineers, Landscape Architects.
Theatre Consultants: John Wyckham Associates
Main Contractor: Bovis Construction Ltd.