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THE INDUSTRIAL DESIGNER AND EQUIPMENT

WITH THE INTRODUCTION of Industrial Design Awards for capital goods and equipment last year the Council of Industrial Design gave official confirmation of the importance of the industrial design process to all types of manufactured goods.

It might be worth recalling that this first batch of awards included a lathe, an excavator, an earth rammer, a computer and a precision measuring machine. Not the usual appeal to the housewife, the fashion-conscious decorator or the consumer market which had been the case for some years past. There

were other items as well, all in the equipment and engineering fields.

In a way this was a very belated recognition of the fact that ever since industrial designers started their practices in this country they have been applying their skill and art to this type of product.

It is difficult as a rule to pin manufacturers down to give an answer to the question: "Have the services of an industrial design consultant resulted in any benefit to the company?"

In the case of the award winners who had used outside consultants the answer was an unequivocal

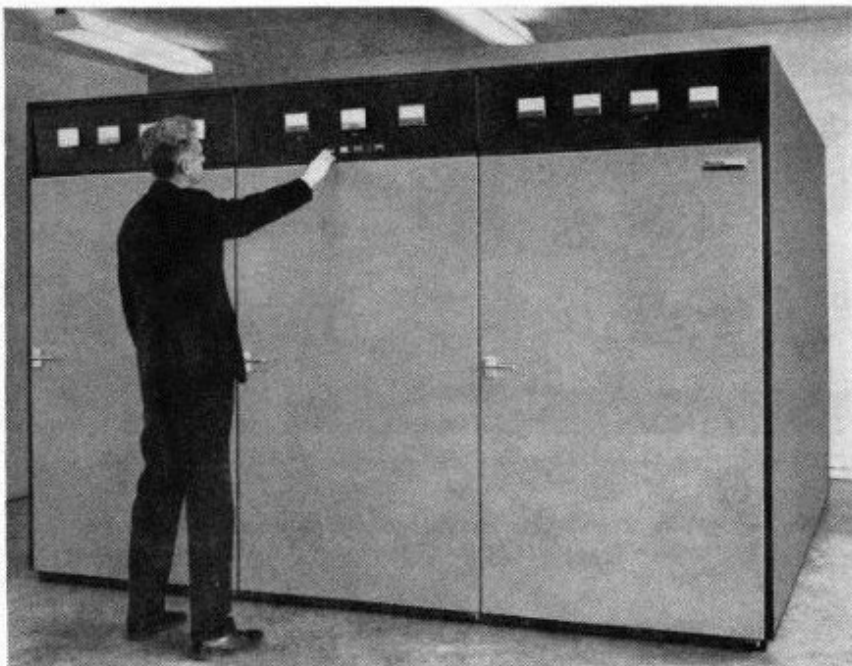


Fig. 1. A 55kW u.h.f. transmitter with the utmost simplicity in external design.

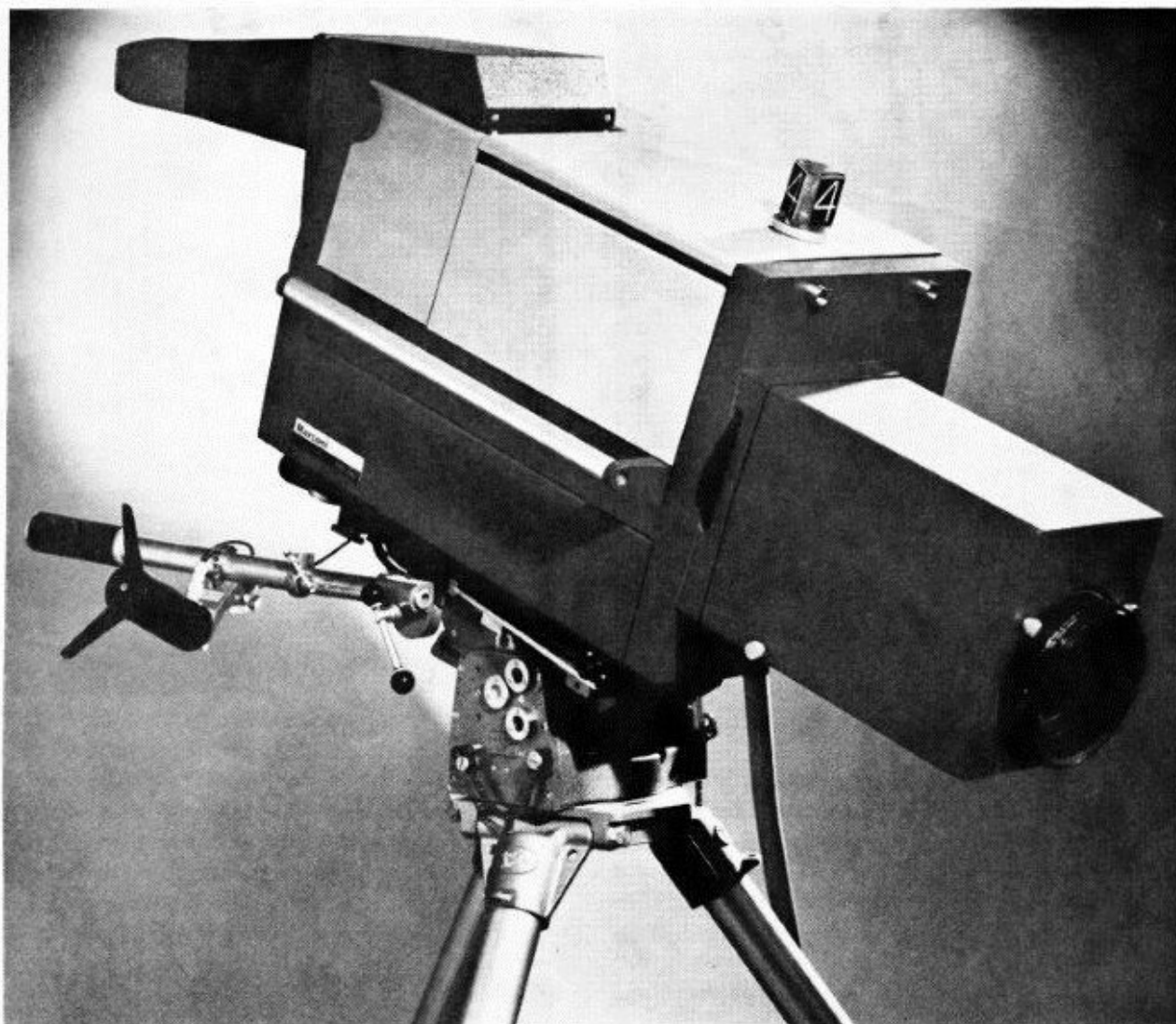


Fig. 2. The Mark VII Colour Camera which gained both a 'Queen's Award' and Council of Industrial Design recognition.

"Yes". Our own clients were amongst those who received an award. It was for an excavator—the Hy-Mac 580—and we were told that in the first year after redesign the sales jumped 60% and had gone on increasing.

In the case of the people who had used internal staff designers, some had arrived at a good shape by accident, some had consciously tried for a reasonably up-to-date appearance and had been fortunate in getting a good result. Almost all of them had uncovered a new aspect of their product when they made a visual rather than an engineering approach to their design problems.

This is understandable because the equipment engineer's prime function is to produce equipment

with the optimum performance. He has relatively little time and his preoccupation with technology is such that the visual appeals of his equipment are left to their own devices. If the technological and visual results are both good then the attitude of the engineers reminds one of the old *Esquire* joke where a pyjama-clad male gazes out of the bedroom window at the moon and murmurs: . . . "and she can cook, too".

I am resigned to the fact, although continually frustrated by it, that engineers and manufacturers generally do not give the visual and ergonomic aspects of their product any really serious attention. It is rare to find a realistic sum set aside in the budget for industrial design assistance—indeed, it is rare to find any sum set aside at all. The designer's

fee usually comes from the development budget, and that very grudgingly. Yet in these days of increasing technological advance it is the only wedge which can be inserted into the solid front of the competition.

INCREASING APPRECIATION

In periods of economic difficulty the outside designer is among the first to be axed since design is looked on as a luxury which is nice to indulge in when things are going well. In fact, industrial design thinking makes its greatest contribution, to improve sales, when things are going badly.

Our profession was born as the first effort of recovery from the slump in the U.S.A. This was almost the first acknowledgement since the Industrial Revolution that the ultimate destiny of all manufactured goods was use by people.

In Britain we have been very slow to learn this lesson. Understandably, because for years factories have been highly successful commercially in turning out goods which were easy for them to make and were therefore profitable, regardless of what the user would have preferred in the way of convenience; if it interrupted the established manufacturing method then he could not have it.

I would say that, although the attitude is changing with the acceptance of marketing advice, this is still the main attitude of engineering designers—especially in the field of technical products. This often makes it very difficult for the engineers to appreciate the industrial designer's point of view. The industrial designer is more concerned with how a product will be used and this use includes how the appearance will affect people who see it daily. The Americans have gone quite deeply into this and although some of their theories, in my opinion, are a little extravagant there is no doubt that a person's working—as well as his home—environment affects him physically and mentally.

It is unnecessary for any man-made product to look ugly. With a little care and attention to detail all products can be improved and some can even become quite good looking. If they are good looking they afford a psychological satisfaction to the beholder and become one less mental hurdle to the user in his working day.

This state of affairs is also good business because if the appearance is pleasing to a prospective purchaser he is obviously more open to conviction on the performance aspects.

Capital goods and equipment are usually characterized by the fact that they are nearly all in the fairly

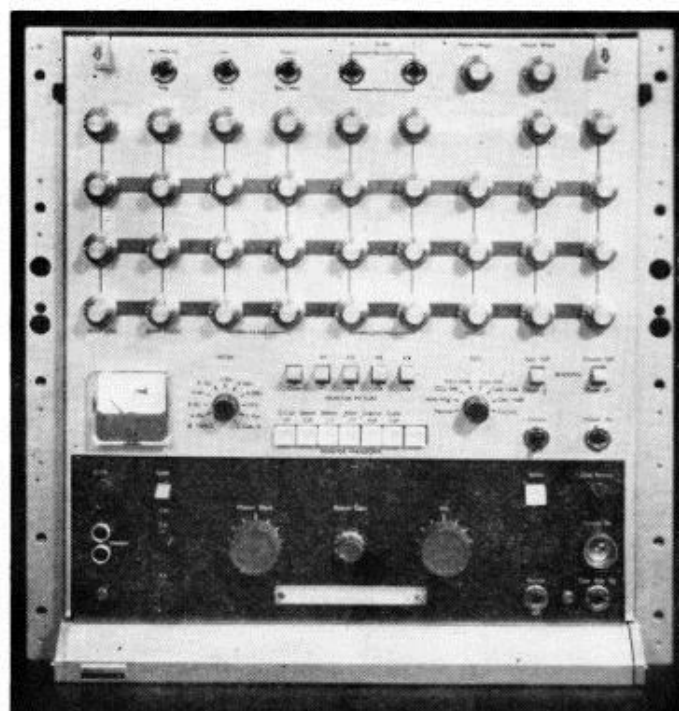


Fig. 3. Another example of good design is the Colour Camera Control Unit.

low production class. Designing for this type of production taxes the designer's ingenuity. Although the final cost is high, competition can be such that profit margins are small and the designer has to conjure the best result from skilful detailing.

Tooling, except of the simplest type, is out. Fastenings and break lines become all important. Any screwheads shown will be those that cannot be concealed by any manner of means. Access for maintenance is usually required somewhere, and the placing of the access panel and the means whereby it is removed and replaced sometimes affect the whole layout.

Because of hand labour, shapes in this type of production must be kept simple and can very easily become dull. The mandatory simplicity of forms folded in one plane must be relieved in other directions. This means that details such as control knobs, switches, handwheels, etc. have to be very carefully chosen. Graphics must be so placed that the visual balance is just right. This is often a difficulty where silk screening cannot be used. The standard engraved characters are not very distinguished but we are often forced into using them.

The finish of a product can be 90% of its appeal. It is essential that the colour and surface texture are

appropriate to the job, and, in fact, every visual item becomes vitally important in its relationship with the unit as a whole. If enough attention is paid to all visible details then the sum usually amounts to a high-quality result.

One of the benefits an outside consultant can bring is the freedom he has of allowing his mind to wander over all the aspects of a product. Most of the goods in this class have a limited market. Only people with specific requirements are likely to purchase any one of them. Impulse buying obviously does not apply, yet design has proved an important factor in marketing. What is interesting about the design award products is that they were well received overseas, in fact the Hy-Mac collected two awards on the Continent as well as selling extremely well where it was promoted. How many horny-handed, hard-headed engineers would believe that they are influenced by the appearance of apparatus which has to be so practical? Yet obviously they were, judging by the increased sales figures after redesign.

COLD AWARD

It is gratifying to us and a tribute to the enthusiasm of the Marconi team led by Norman Parker-Smith that the Council of Industrial Design has given the Mark VII colour camera an award this year. This was a tough assignment and it was teamwork which led to a successful conclusion. During our many meetings it became obvious that although the thinking was in



Fig. 5. A completely different design by Douglas Scott. The Hy-Mac 580B Excavator which gained a 'Queen's Award' this year.

the same direction, there was a difference in emphasis on various aspects—but this is as it should be. This is a demonstration that industrial design consultant's thinking is complementary to engineer's thinking.

There were difficulties in overall proportion which in silhouette was rather too deep for its length but which is made acceptable by the break-up of the side panels. We introduced a further relief with a blue metallic finished strip which helps to lengthen the side visually and give a break to the vertical aspect. The adoption of a zoom lens by Marconi for all cameras helped considerably. The length of the housing adds to the horizontal aspect of the main body. The carrying handles posed problems and frankly their position is a compromise of the best carrying position and the requirements for the access panels. These handles are the sort of detail which can be so easily a visual catastrophe. I think we have managed to integrate them with the form.

The camera control unit had some interesting features. The main panel with its mass of potentiometers, control knobs, switches and graphics was difficult to sort out ergonomically. We would have liked more height and width to space things out. The final result is rather bright because of the linking bands of colour but is clear to read and reasonably logical in layout.

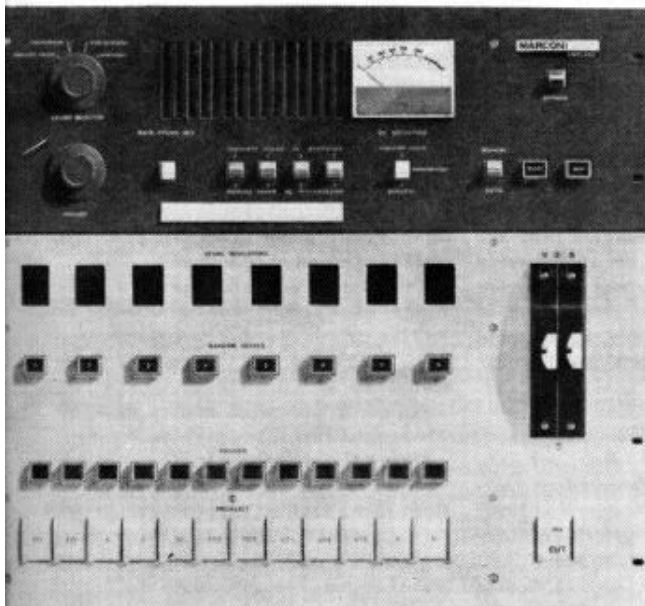


Fig. 4. Semi-automatic Switching System of modern appearance.

When one knows the product only in its pristine freshness from the factory, it is a very harsh experience to see it in action. At the BBC Television Centre, I was shattered to see the Mark VII's with all types of inappropriate attachments bolted to them, posters on the sides and a general air of uncared for shabbiness—or was it well-used battering? This was superficial, of course, and in a few minutes I got over the shock and could discern the Marconi lines beneath the attachments. In the control room a further shock awaited me. The calibrations the team had provided with such deliberation and care for the apertures were not suitable for the lenses the BBC were using at the time and all the control panels were disfigured with a piece of roughly torn drafting tape with the setting marked by a ballpoint pen! Well, we tried but we can still improve.

This Mark VII exercise is only one of many projects on which we have collaborated with the Waterhouse Lane team and we are very pleased that the results have received public recognition.

We look forward to future projects confident that, with the understanding we have with Marconi engineers, they will be successful.

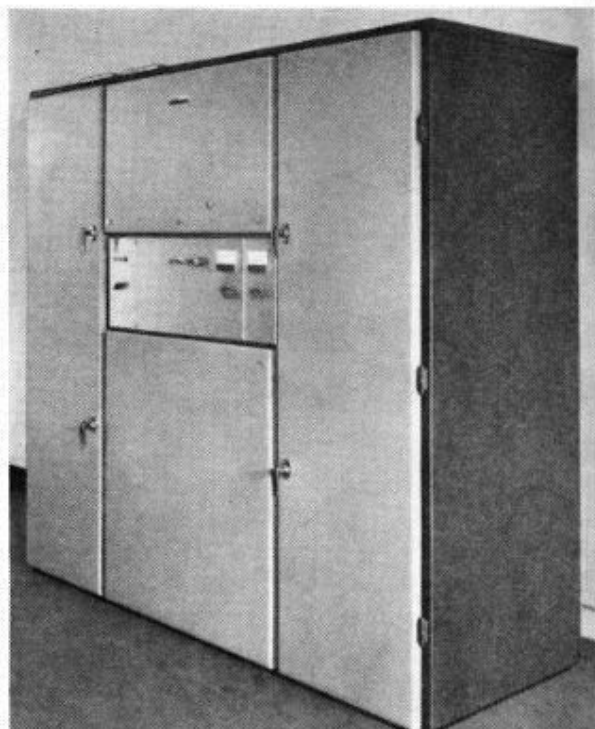


Fig. 6. A modern outlook has been given to the new 10kW m.f. broadcast transmitter.