

500 ohms at the receiver end. The complete MX8A retails at below £150, direct from the manufacturers.

### R.D.S. Effects Projection System

In Britain, Effects Projection has had a tradition of being, for most potential users, either too expensive, too restricted or too heavy. There have been several excursions into bright Scenic projection with Reich & Vogel, Pani and the very British Pattern 152 (4kw at 100 volts), but, with few exceptions, most of us have had to make do with the Patterns 51, 52 and, since 1965, the Pattern 252, the latest addition to a family founded in Strand Electric's 1936 catalogue. The current range of Effects Discs has been established since the 1920's if not earlier, possibly stemming from those produced by Kliegl in America early in this century. All this adds up to a tradition of Effects Projection going back over fifty years with very little change in the optical facilities provided. The glass discs have always been expensive as items to buy, particularly in view of their intermittent use

in most theatres.

Also at CISCO were David Hersey Associates of Cobham, Surrey, the U.K. Distributors for the R.D.S. Effects Projection system. Made in Japan, this range appears to offer the lighting and scenic designer a lot more scope than the traditional system. The Projectors are 1kw Quartz Halogen and 1kw C.S.I. and both will take Rank Strand Discs with additional heat-absorbing glass filters; these are not needed on the R.D.S. discs which are made of etched stainless steel. All the standard clouds, rain, snow, falling leaves etc. are reproduced on these discs, which have full electronic speed control, clock or anti-clockwise. There is a slide carrier and a 5 position remote control slide turret and a multi-lens to give dimension to snow effects. Lenses generally are rack and pinion focused.

The above description refers to the 'horizontal mode'. The 'vertical mode' opens up a vast number of possibilities and is in fact a system where the projector sits in a vertical optical bench, the light from it passing through a primary effects machine (endless film loops, contra-rotating spirals

or standard discs are three of the possibilities), through the lens and, if needed, a secondary effects machine. The options here include flicker, prism, kaleidoscope and mirror movement creators. All these accessories have electronic variation of direction and speed. The light is then directed to the position needed with a diverting mirror. The possibilities opened up by the extensive range of moving light patterns should appeal to the cabaret, club and disco markets and in theatre the possibility of building up an effects disc library at last becomes feasible with each disc costing under fifty pounds. When the somewhat expensive C.S.I. Projector has remote control dimming, then new horizons will really be with us.

### Green Ginger go continental

Since CISCO Green Ginger have added to their Micropack range to include continental socket options. The range now includes CEE 17, Schuko and French 3-pin sockets together with CEE 17 mains connector.

# Hobson's Choice

Dr. ARTHUR TARRANT

Recently I attended a big meeting on lighting – all sorts of lighting, not just stage lighting. As we went in to the great auditorium one well-known lighting engineer was heard to remark that he'd never seen a place so full of dark grey light. The auditorium was lit entirely by concealed fluorescent lighting, to a distinctly modest level and this description was a very good one.

We often use words to describe lighting effects in a picturesque way – for example, what about 'warm' and 'cold' colours? From quite an early age we are given to understand that red, orange, brown and so on are 'warm' and that green and blue are 'cold' – presumably because fire is red and fire is hot. If you try lighting a cyclorama entirely with a deep rich blue many people will say that there is nothing cold about it – indeed it has a warm look to it. I well remember Mr Applebee of Strand Electric

saying at a meeting many years ago that the stage lighting designer 'paints with light' – which is exactly what he does.

I was interested and amused to see Walter Plinge adopting a like simile in his column 'Between Cues' when he refers to the PAR 64 as adding 'an exciting new texture of light to the palette'. He was at pains to exclude the 240 volt version however. So why the distinction?

The main difference between the 120 volt version and the 240 volt one is in the shape of the filament. Higher voltage lamps have to have longer and finer filaments than low voltage ones which means that inevitably they have to have a larger configuration of the filament. Now in any lamp with a built-in focusing system the narrowness of the beam that you can obtain is limited by the size of the filament coil – the bigger the coil the wider the beam – hence the success of low-voltage lamps that have very com-

pact filaments. In developing the 240 volt PAR 64 the manufacturers have adopted a different filament shape from the 120 volt version for this reason. However in the 'narrow spot' and 'spot' versions the beam divergence of the 240 volt lamp is slightly larger than the 120 volt one – in the 'flood' version the 240 volt beam is slightly narrower than the 120 volt one.

The table below lists the manufacturers published figures for the beam widths of the 'spot' and 'narrow spot' types – it will be seen that the 240 volt lamps have 'squarer' beams than the 120 volt lamps.

The Thorn people check their production continuously by picking lamps at random from production batches and testing them photometrically in a representative range of fittings. The results obtained as the average of one such recent batch meet the catalogue specifications satisfactorily. So in short the 240 volt PAR 64's do what the makers say they will do, which is not the same as what the 120 volt version does.

Now of course there are other things to lamps besides beam angles. Thorn's also tested these lamps for both life and shock resistance. The actual life on average was found to be well over the rated life, and the lamps all stood up to as severe a shock as any tungsten lamp can be expected to carry.

There is also the little problem that in this country (and most of the continent) we live with 240 volt supplies – so if you want to use the 120 volt PAR 64's you have to use them in pairs in series, or permanently connected to a dimmer on half check. In the experience of yours truly lamps in series are a pain in the neck in permanent installations, let alone on the stage, and the latter alternative is not practicable. So like it or not we have no choice.

| Type        | Brand    | Voltage | Angle to ½ peak intensity (degrees V × H) | Angle to 10th peak intensity (degrees V × H) |
|-------------|----------|---------|---|--|
| Narrow Spot | GE       | 120     | 6 × 12                                    | 10 × 24                                      |
|             | Sylvania | 120     | 6 × 12                                    | 10 × 24                                      |
|             | Thorn    | 240     | 9 × 12                                    | 17 × 24                                      |
| Spot        | GE       | 120     | 7 × 14                                    | 14 × 26                                      |
|             | Sylvania | 120     | 7 × 14                                    | 14 × 26                                      |
|             | Thorn    | 240     | 10 × 14                                   | 20 × 22                                      |

Source: Thorn Lighting Laboratories.

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