3. Small components allow the design of lightweight equipment.

All the above advantages are built into the various Furse electronic systems to allow the user to take advantage of up-to-date designs in lighting control.

Electronic dimming can also be designed to control fluorescent lighting loads, the same type of dimmer is used, but the rating is reduced to allow for the inductive loads associated with fluorescent tubes. It must be pointed out, however, that standard fluorescent fittings cannot be used, as special components must be fitted, together with additional wiring to allow for pre-heating of the fluorescent tube electrodes. These additions mean extra equipment on the fluorescent dimmer in the form of an additional relay or contactor control operated through the dimmer handle. Where new installations are contemplated, the correct type of fittings can be obtained from the manufacturers. Alternatively, it is possible to modify existing installations, but this represents extra wiring and new components to each fitting which will correspondingly increase cost. Furse are pleased to give advice and plan your scheme taking into consideration all the above factors.

COLOUR

Take a Stage Lighting flood, switch on and it emits white light. Place a piece of colour medium in front of the flood and the light emitted will be coloured.

Colour medium acts as a filter and only allows certain of the colours which are present in white light to be transmitted. All unwanted parts of the white light are absorbed by the filter.

Take two floods, place red media in front of one and green media in front of the other; direct both floods towards a white surface, one flood emits red light, the other emits green but the reflection from the white surface is yellow.

This happens because our eyes have a mechanism which interprets colour sensations by means of receptors, these respond to the primary colours in light, red, green and blue. Any colour we see is "sensed" by this simple function.

In the experiment above, the white surface reflects red wavelengths and green wavelengths together and the red and green receptors in our eyes indicate a yellow sensation.

If we repeat the above experiment but add a third flood with a blue media, the resulting reflection will be a near white. White energises all three parts of our colour mechanism. In other words white is complete reflection of all the primaries.

Tints occur whenever two or more of the primaries are reflected so, whenever we add primary colours we begin to approach complete reflection i.e. white. If we wish to produce a pale tint, we take a primary colour and add proportions of the other primaries, or we can take two primaries and add some of the third primary, we thus produce a tint by approaching whiteness.

A typical example would be to take red and green which, as we have seen, produce yellow and add a little blue by means of a dimmer. The yellow will immediately appear to be paler because it is approaching whiteness.

This is how modern detergents make yellowing linens and cottons look whiter. A blue dye is added to the detergent and yellow (red/green) clothes plus blue equals white.

The chart fig. (i) gives some basic proportions of primary colours needed to produce tints.

Tinted colour media allows these proportions of primary colours to pass through the filter and although there is a dominant hue, it is modified i.e. Green plus a small amount of Red plus a small amount of Blue becomes pale green. Pink is full RED/Blue plus a little green etc.

When we apply light to coloured pigment we can increase the facility of the pigment to reflect, if the light is of the same colour as the pigment or if it contains some of that colour.