diant point. In the example the lines intersect at M showing an ideal radiant elevation of 50 degrees. The time at this point is just after 03.30 *local time* and as the other station located in Toulon is only 6 degrees east, representing only 24 minutes time difference, (12 minutes at the mid latitude point) no further correction need be made. A one hour sked in this instance would run from 03.00-04.00 local time.

The Quadrantids often produce excellent reflections at their peak on the 3rd or 4th of January but are very sharp, with a maximum life of only 8-10 hours. Accurate timing is therefore important for best results in the chosen direction.

LYRIDS

Although the April Lyrids are not usually an exciting shower for the ms operator they can produce results when correctly used, despite the low meteor count. The example in **Fig. 8b** shows the distant station located in XW QTH square on a bearing of 195 degrees. Once again there is negligible change in the time zone and the optimum time for a 2 hour sked would run from 23.30 until 01.30 local.

It can be seen from the diagram that this direction gives a radiant elevation of 70 degrees which is a little to high and better results would be obtained by selecting a direction giving reduced radiant elevation (i.e. due South or North).

ETA-AQUARIDS

Although the radiant elevation of this shower does not rise above 38 degrees in Southern England the activity produced by Eta-Aquarids should improve over the next few years as Halleys Comet approaches its perihelion in 1986.

The example shown in **Fig. 8c** is for a station located due east in NH QTH locator, a distance of approximately 2000km from the home station in ZK.

Reading from the plot in **Fig. 8c** the radiant elevation is 38 degrees and is the highest possible for this shower at latitude 52 degrees North.

The time indicated is 07.30, but as the time wanted for optimum, is mid way between NH and ZK QTH locators the time difference must be taken into consideration. The difference in longitude between the two

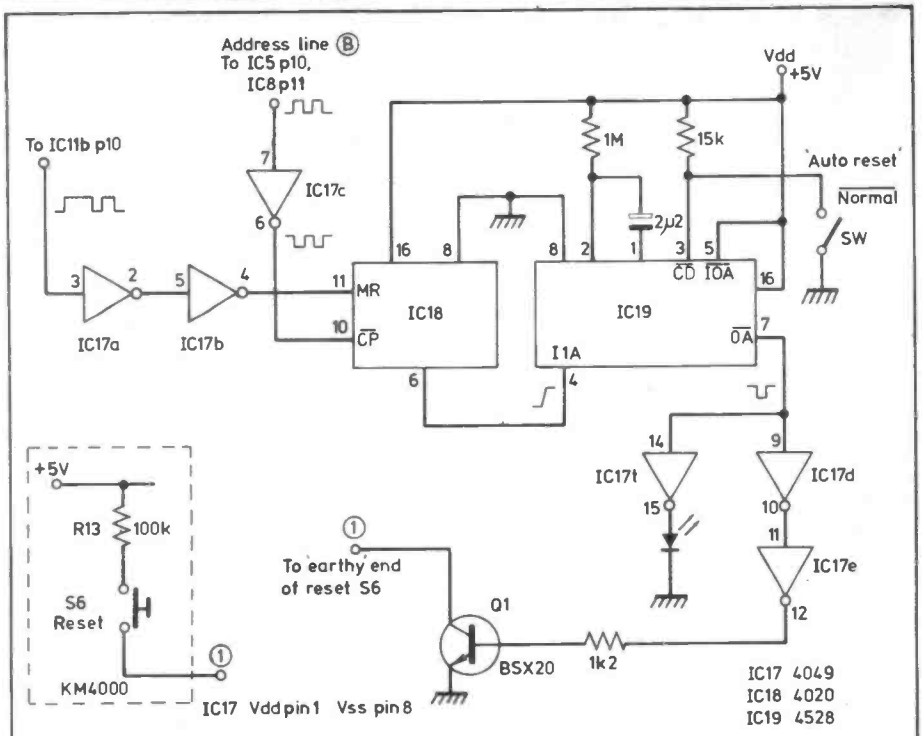

FIG. 11. KM4000 Auto reset mod.

stations is 28 degrees and amounts to a time difference of just under 2 hours. The mid way time will therefore be 1 hour earlier as the other station is towards the east.

Optimum times for a 2 hour sked would be from 05.30 to 07.30 local time.

Attempting to work stations due North or South in this particular shower would be difficult as the radiant would be very close, or below the horizon at the optimum path time.

ARIETIDS

The final worked example is for the Arietids daylight shower and is shown in **Fig. 8d**. Excellent results can be obtained with high reflection rates during the period 7th and 8th June. The distant station is located in KU QTH locator, bearing 43 degrees from the home station in ZK.

By drawing a line at right angles to the distant bearing through the observer it can be seen that optimum time is around 07.45. KU QTH locator is 20 degrees east of ZK and amounts to a time difference of 1 hour 20 minutes. As we are looking for the mid point time (10 degrees east) this figure is divided by 2 and subtracted from the time shown on the plot. Optimum time is therefore 07.45 minus 40 minutes, this would be rounded to 07.00 and a 2 hour sked run from 06.00 to 08.00 local. If the distant station was located to the West then time difference would be later and added to times given on the plot.

The remaining diagrams, **Figs. 8e-8k** show the radiant paths for most of the remaining major showers and some of the less active ones.

No examples are given for these but they may be used in exactly the same way as shown in the worked examples.

One interesting plot which shows clearly why it is not possible to work some showers in certain directions is the Ursids on December 22nd. It will be seen that the only directions which cross the path at right angles are bearings within the shaded sections of **Fig. 8k**, all other headings miss the radiant path owing to the high declination angle of the shower. Although this shower has a very low hourly rate QSO's can be made if times and directions are correctly calculated. Finally TABLES 1 and 2 give information on most major and minor showers and includes the known daytime occurrences.

Some of the minor showers can be deflected or perturbed and may not give results, however they can return and give rates far above sproadic for those operators willing to experiment.