DESIGN OF A POWER LINE DISTURBANCE MONITOR

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The mains electricity supply not conforming to specifications and being contaminated with various disturbances has become a major problem to users of sophisticated electronic equipment such as computers and analytical instruments.

A portable battery operated disturbance monitor has been designed to identify and count the number of disturbances such as spikes, sags, surges, black-outs, over and under voltage events. High frequency components of the incoming mains are filtered out by a low pass filter and then averaged to feed a set of comparators. Disturbance voltage thresholds of the comparators are user defined and their outputs in conjunction with the duration timer outputs are decoded to identify the nature of the disturbance. Voltage spikes are separately treated by filtering the mains through a high pass filter and comparing in a peak detector. The number of disturbances of any type occuring during a given observation period can be obtained on to a digital display.

C-26 : 11th Dec. 1987 (Friday) 03.45 p.m. - 04.00 p.m.
C-27 : 11th Dec. 1987 (Friday) 04.00 p.m. - 04.15 p.m.