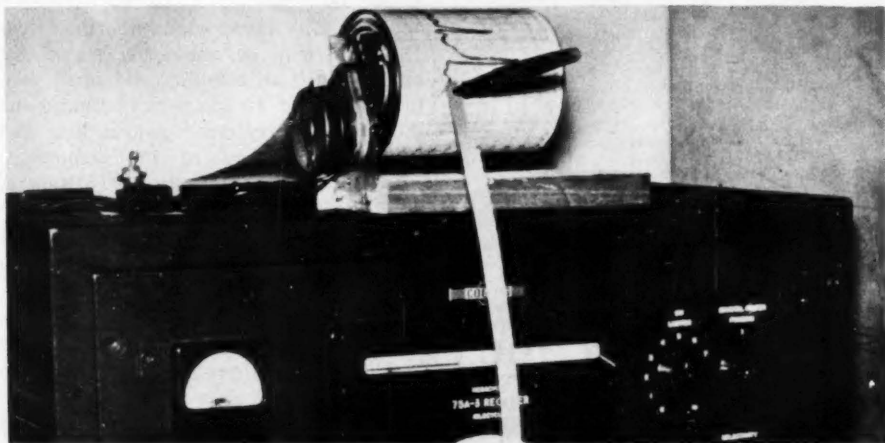


A \$1.00 Strip Chart Recorder !

In many instances a recording of a change against time can be of value in examining cause and effect. With recorders costing more than a hundred dollars, this advantage is not available to most amateurs.

The strip chart recorder described, while of less than commercial stature, cost the writer about a dollar, has served its purpose very well, and can be an interesting exercise in utilizing commonly possessed or available

parts. The variations possible are myriad: direct clock motor drum drive, or through pulleys for mechanical reasons or to obtain the desired paper speed from an available motor. Similarly, the chart can be tensioned and paid off from its drum by simply attaching the loose end of the chart to a weight, or a more elaborate take-up may be devised by using another drum with an overriding rubber band slipclutch drive.



The choice in construction is facilitated by the wide range of drums available in practically every household — empty tin cans.

As an application example, the photo shows such a recorder mounted above the main tuning dial of a receiver to record frequency deviations. The drum is an empty tomato can, 3¼" diameter, overhung from a 1 rph clock motor shaft, giving a chart speed of 10"/hr. The tuning dial motion is carried to the recorder pen by a hacksaw blade, which is ideally springy in the line of the pen, while being quite rigid laterally. The recording is made by constantly adjusting the receiver for zero beat, if the strength varies. If the signal strength is constant, a preferred method is to tune for a constant "S" meter reading on the side of the band pass skirt. The chart is attached to the drum with tape and prewrapped about a half dozen times. The loose end of the chart hangs over the back of the receiver and table, and is weighted to take up the slack as the chart is paid off the recorder drum.

It is obvious that the receiver dial in the photo could be replaced by a variable resistor (pot) in a simple bridge circuit to record voltage or current, the XYL observing the bridge balance meter, preferably with a fixed magnifying glass, and adjusting the dial on the resistor to hold the balance meter constant. (She might go on from this to learn the code and theory and get a ham or driver's license??)

For convenience and a further exercise in applying junk box components, the bridge unbalance may be electrically sensed and used through an amplifier and small gear-motor to keep the bridge pot balanced and thus drive the recorder pen, as it is well known that many of the commercial recorders do. The January, 1975 issue of *Scientific American* shows such an arrangement of the do it yourself variety.

The paper for the recorder may be cut from rolls of regular recording chart paper. If lines are not deemed necessary, plain paper or adding machine tape can be used. Pens can range from commercial recorder pens to fountain, ball or felt tip.

... W6NLB/7