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Modification of a Potentiometer Recorder for Polarographic Purposes

WILLIAM C. OELKE¹

Abstract. A Bristol Model 560 Dynamaster potentiometric strip chart recorder (microvolts vs time) was modified so as to automatically produce polarographic traces of milli-amperes versus voltage. This was accomplished by adding suitable gearing and transmission elements to the chart drive so as to turn a 360° precision instrument type potentiometer. This potentiometer was used to vary the voltage impressed upon the polarographic electrodes in the customary manner. The current, produced by this voltage across the dropping mercury electrode, was passed through a precision resistor and the voltage drop across this shunt resistor was fed back into the regular input of the recorder. In this way the typical polarographic trace of current vs voltage was obtained. Necessary auxiliary circuit elements were incorporated into a separate compact unit, making a simple and handy automatic polarograph without detracting from the recorder as a general purpose instrument.

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