

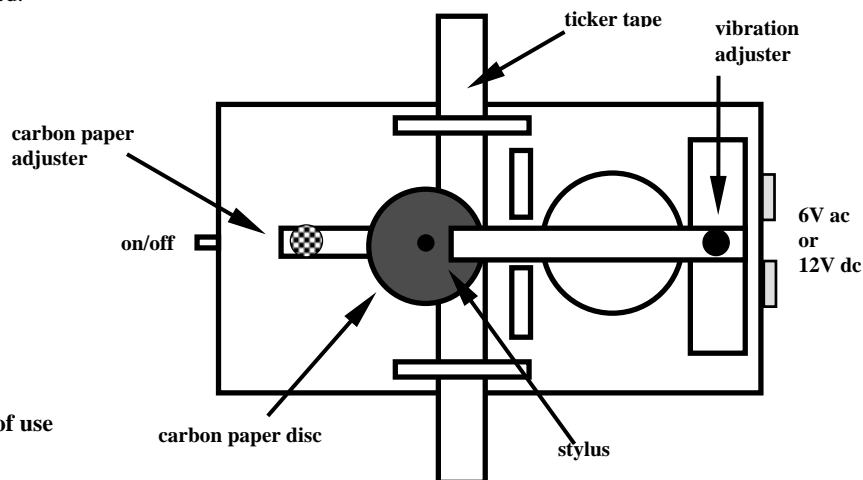
# Universal Ticker Tape Timer

**General Information** The universal ticker tape timer operates on 6V ac or 12V dc (hwr, fwr or smoothed) and produces dots at a frequency of 50Hz on a paper tape by means of a mechanically vibrating stylus and replaceable carbon paper disc.

**Setting Up** Connect the timer to a suitable power supply. Switch on the power supply and then switch on the Ticker tape timer using the toggle switch on the front panel. At this stage a humming or rattling sound will be heard. Slacken the clamping nut on the upright adjuster stem and adjust the lower nut until the loudest sound is heard. Tighten the upper nut to lock the setting in this position.

Fit a carbon paper disc over the locating pin so that it slides under the imprinting stylus. Tear off a suitable length of paper tape and slide it through the paper guides so that it lies under the carbon disc.

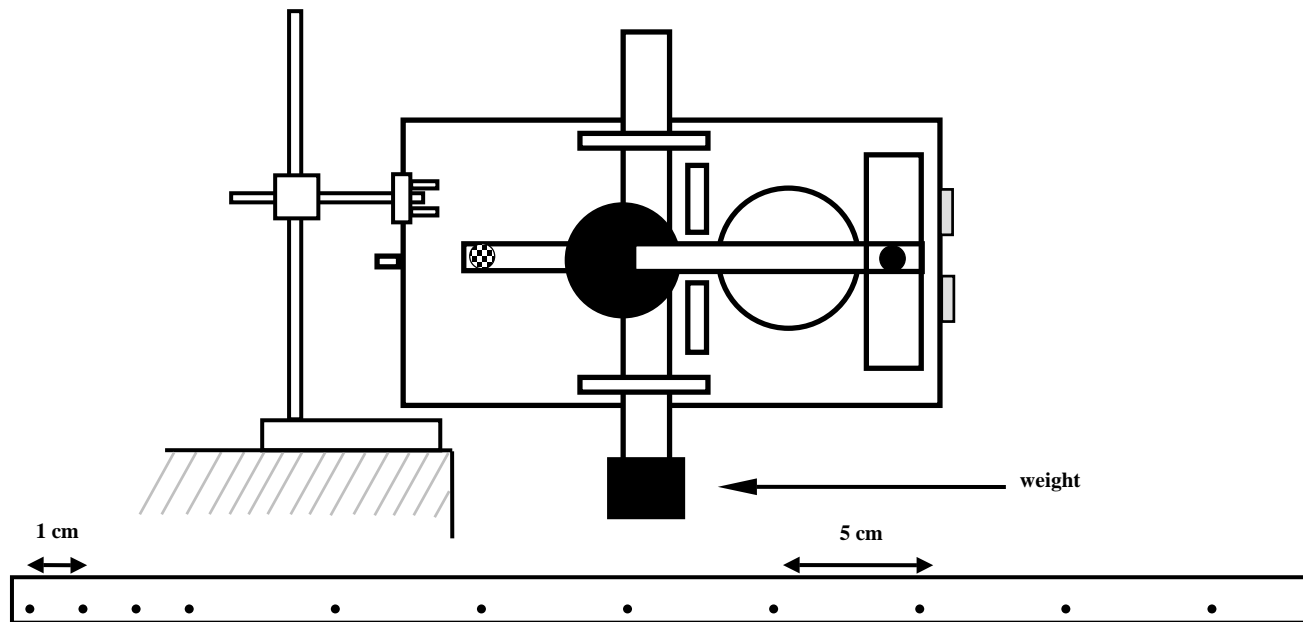
**N.B.** Once the disc has been used several times, the imprint may become faint. The slider locknut should be loosened and the slider moved to allow a different part of the carbon paper disc to be used. This greatly increases the number of times a carbon paper disc may be used.



The unit produces an electronically regulated 50 dots per second and may, therefore, be used to study acceleration, deceleration and steady speed events with the pupil pulling the tape, by attaching the tape to a dynamics trolley, or by attaching the tape to a heavy weight to study "g by free fall".

**Example of use**

Clamp a clamp stand to a bench and clamp the ticker tape timer as drawn so that the ticker tape is aimed at the floor. Tear off about 1 meter of tape and feed it into the unit. Stick the end of the tape nearest the floor to a 1 kg weight. Switch on the unit and drop the weight. The tape should be pulled through the unit leaving a series of imprinted dots.



Cut up the tape every 5 dots and this gives the length of tape that travelled in 1/10th second. Stick the lengths of tape in a book to get the acceleration curve. Alternatively, measure the separation of two sequential dots at the beginning of the tape and again near the end. Count the dots between them and then calculate g by calculating the difference in velocity difference in 0.2s.

e.g. First dots 1 cm apart, 10 dots of tape then dots 5 cm apart gives 200cm/s velocity difference in 0.2s.  
 $g = 200/0.2 = 1000\text{cm/s/s}$