

Ticker Timer

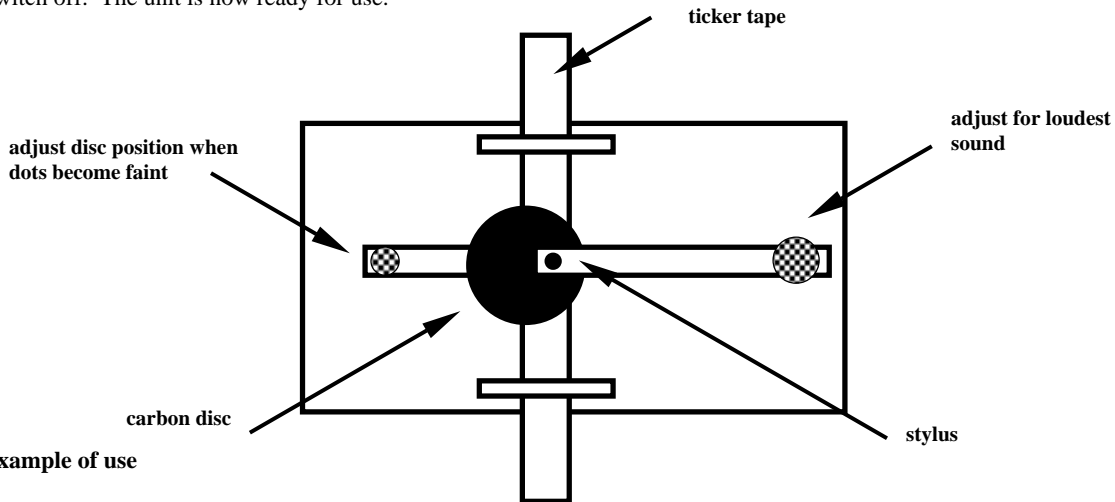
Instructions for Use

General Information

The unit works by energising an electromagnet which pulls a stylus down onto a carbon disc and thence through to paper tape. The unit produces 50 dots per second and from the resulting pattern the velocity of the tape may be calculated. The standard ticker tape timer operates from 6V ac and derives its timing from a half wave rectified signal. The universal unit operates from 6V ac or 12V dc. The timing signal is produced electronically within the unit.

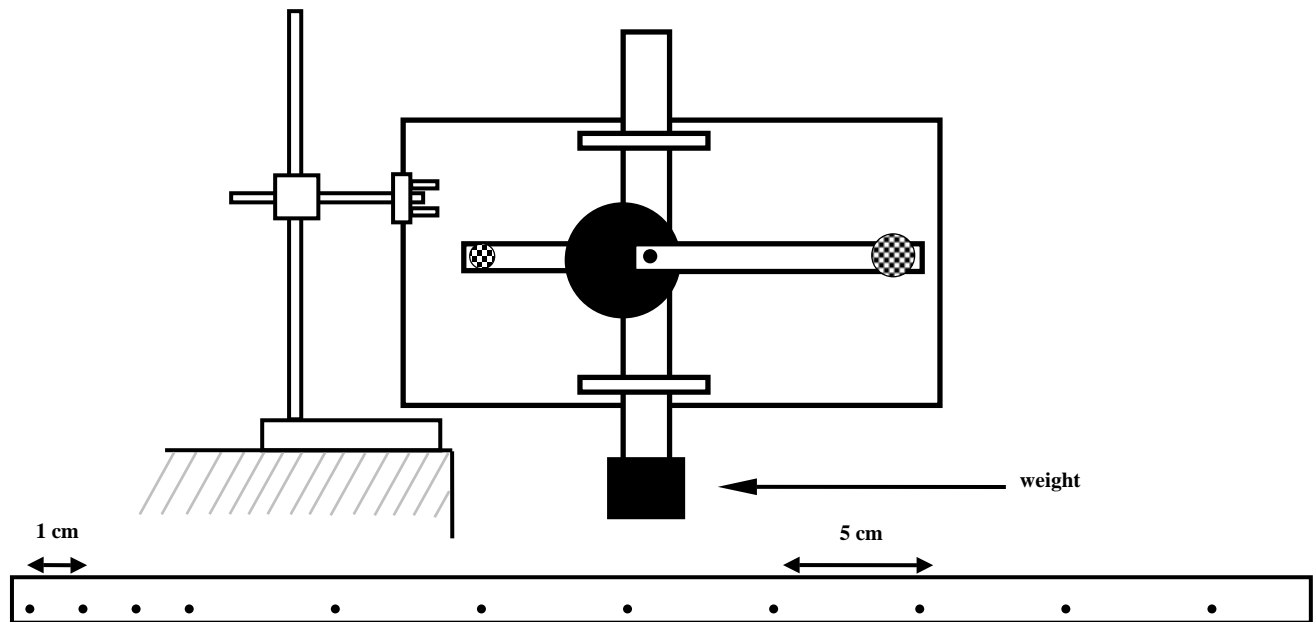
Using the Unit

Plug in the unit to an appropriate supply and thread a length of ticker tape through the two guides. Fold the carbon disc in half and then in half again to locate the centre. Pierce a hole in the centre using a pin and then place the disc over the locating pin. The position of the disc is adjustable using the sliding plate and locknut. Switch on the unit and adjust the knurled knob for the loudest sound. Switch off. The unit is now ready for use.



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.
 $g = 200/0.2 = 1000\text{cm/s}^2$