

Heathkit VACUUM TUBE VOLTMETER KIT

Everything you want in a V.T.V.M. Shatterproof solid plastic meter face, automatic meter protection in burn-out proof circuit, push pull electronic voltmeter circuit assuring maximum stability. Linear DC and AC scales. Complete selection of voltage ranges starting with 5 Volts full scale up to 1,000 Volts. Isolated DC test prod for signal tracing and measurements of voltage while instrument is in operation. An ohmmeter section accurately measuring resistance of 1/10 ohm to one billion ohms with internal battery. Extremely high input resistance 11 megohms on all ranges DC and 6.5 megohms on AC. All these features and many more are the reasons hundreds of radio and television schools are using Heathkit V.T.V.M.'s and recommending them to all students. Like all Heathkits, the V.T.V.M. kit is complete, 110V 60 cy power transformer, 500 microamp meter, tubes, grey crackle cabinet, panel, test leads, 15 ceramic precision divider resistors and all other parts. Complete instruction manual. Better start your laboratory now and enjoy it all winter.

Shipping weight 8 lbs.



\$45.0

Which KIT? SHOULD I BUY FIRST?

We often receive letters with this query. There is no doubt that a vacuum tube voltmeter is the most essential instrument in any laboratory or shop. It is like a right arm to any electronics worker. With it, all the voltages of a unit under test can be measured (many that due to loading of the circuit could not be measured with ordinary voltmeters). It serves as an output indicator, an alignment indicator, it incorporates an extremely wide range ohmmeter, it measures batteries, resistors, transformers, chokes, coils, condensers (for leakage). The voltage of A.C. systems, bias cells, oscillators, discriminators, etc., are easily checked. A vacuum tube voltmeter is truly the fundamental test instrument and should be first in any newly organized shop.

Simple STROBOSCOPE from Audio Generator

An interesting stroboscope for stopping motion and observing moving machinery is easily assembled using your Heathkit Audio Generator. The only equipment necessary is an amplifier, MN20 neon bulb, and 600 Volt paper condenser between .1 and 1. MFD.

The bulb is coupled between the plate of the amplifier output tube and chassis ground using the paper tubular condenser as coupling condenser between plate and one side of neon bulb. The input of the audio generator is fed into amplifier at highest output. The neon bulb should be mounted in a reflector. The lowest range of the generator should be used and the frequency should be multiplied by 60 to convert to R.P.M., thus, the low range measures from 1200 R.P.M. to 12,000 R.P.M.

The neon light held near a moving object in subdued light while the frequency is varied will appear to stop the movement. A chalk mark on one blade or arm of object will often aid in determining speed. Where one mark is made but two are seen, the speed is $\frac{1}{2}$ the indicated and where four marks are seen, the speed is $\frac{1}{4}$ indicated. The moving reed of radio vibrators may be observed and checked for proper contact in this manner.

TIPS and COMMENTS

An excellent article on converting and using the EC 645 Transceiver in the citizens band appeared in the August ELECTRONICS Magazine. This has been reprinted by the Heath Company and copies are available on request--include stamped self-addressed envelope.

The life of soldering iron tips can be extended many times by having new tips chrome plated. The plating prevents the oxidation taking place and yet allows the tip to be tinned.

A new folder on Heathkits is about ready for distribution--the schematic of each kit is shown. A copy will gladly be sent on request.

MN26C Bendix Owners. The loop control box and loop connecting cable are now available from the Heath Company.

Heathkit SINE & SQUARE WAVE AUDIO GENERATOR KIT



\$45.0

Experimenters and servicemen working with a square wave for the first time invariably wonder why it was not introduced before. The characteristics of an amplifier can be determined in seconds compared to several hours of tedious plotting using older methods. Stage by stage, amplifier testing is as easy as signal tracing. The low distortion (less than 1%) and linear output ($\frac{1}{2}$ one db.) make this Heathkit equal or superior to factory built equipment selling for three or four times its price. The circuit is the popular RC tuning circuit using a four gang variable condenser. Three ranges 20-200, 200-2,000, 2,000-20,000 cycles are provided by selector switch. Either sine or square waves instantly available at toggle switch. All components are of highest quality, cased 110V 60 cycle power transformer, Mallory F.P. filter condensers, 5 tubes, calibrated 2 color panel, grey crackle aluminum cabinet. The detailed instructions make assembly an interesting and instructive few hours.

Shipping Weight 15 lbs.

HOME WORKSHOP GRINDER KIT

Easily assembled 110V AC or DC bell bearing fully enclosed motor from Army surplus dynamo. Purchaser to make simple changes and shaft extensions, detailed instructions and all parts supplied. Motor approximately 5,000 R.P.M. Ideal for tool-post grinder, shaft tool, model drill press, saw.

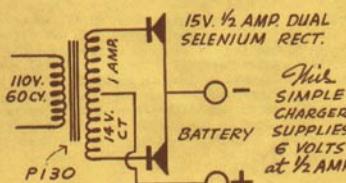


\$39.5

Shipping Weight 6 lbs.

Surplus SELENIUM RECTIFIERS make Inexpensive TRICKLE CHARGER

Large quantities of selenium rectifiers are available at give away prices. These make excellent trickle chargers. The Heath Company can supply a special transformer to use in these applications.



Parts required our P130 Transformer..... \$1.95
One No. 283 dual Rectifier..... .50

Shipping wt. on both items 2 lbs.