PRICE $1.00

Assembling
and Using Your...

Heathkit

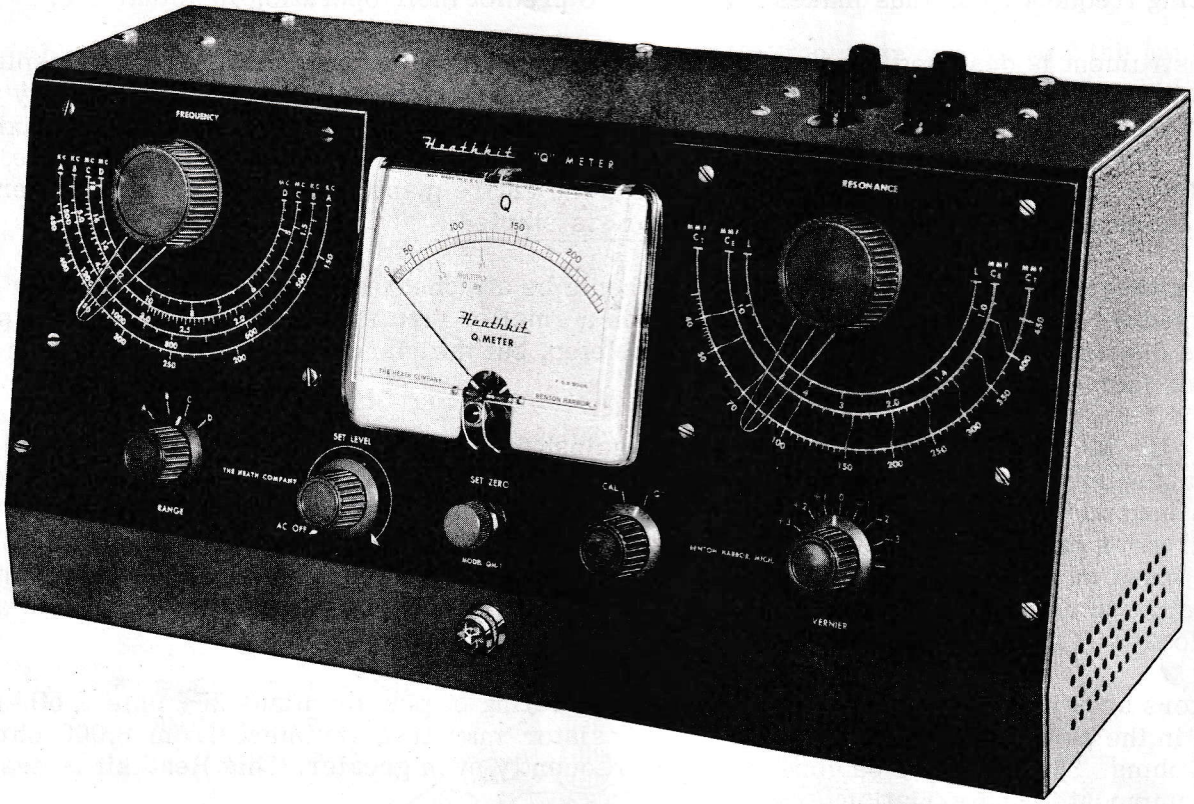
Q-METER

MODEL QM-1

HEATH COMPANY
A Subsidiary of Daystrom Inc.
BENTON HARBOR, MICHIGAN

595-52

HEATHKIT
MODEL QM-1
Q-METER



SPECIFICATIONS

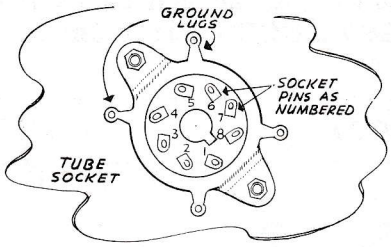
Power Requirements	115 volts AC 50/60 cycles 30 watts
Tube Complement	1 - 12AT7 Oscillator
	1 - 6AL5 VTVM diode
	1 - 12AU7 VTVM amplifier
	1 - OD3/VR150 Regulator
	1 - 6X5 Rectifier
Frequency Range	150 KC - 18 MC
Inductance Scale Range	1 micro H. - 10 milli H.
Actual Capacity Scale Range	40 MMF - 450 MMF
Effective Capacity Scale Range	40 MMF - 400 MMF
Vernier Capacity Scale Range	-3 MMF - +3 MMF
"Q" Scale Range	250 Full scale x1 or x2
Dimensions	8" high x 17" wide x 6" deep

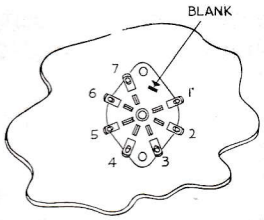
CONSTRUCTION

Many components are supplied by the manufacturers with leads that are longer than the particular application requires. Of course, all excess lead lengths should be removed so as to permit neat and direct installation of the components involved. Following this procedure will very definitely result in superior operation of the instrument and will afford you a sense of satisfaction and pride in having constructed a neat and professional appearing instrument.

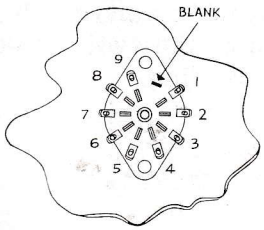
Whenever necessary, use spaghetti or insulated sleeving over bare wires on condensers or resistors to prevent the leads from accidentally touching adjacent terminals, wires or metal parts.

Assemble the generator sub-chassis, the "Q" sub-chassis, the main chassis and the panel separately. Wire the first three parts as far as possible, then mount both sub-chassis on the main chassis and complete the wiring between these parts. Attach the panel to the chassis and complete the wiring.



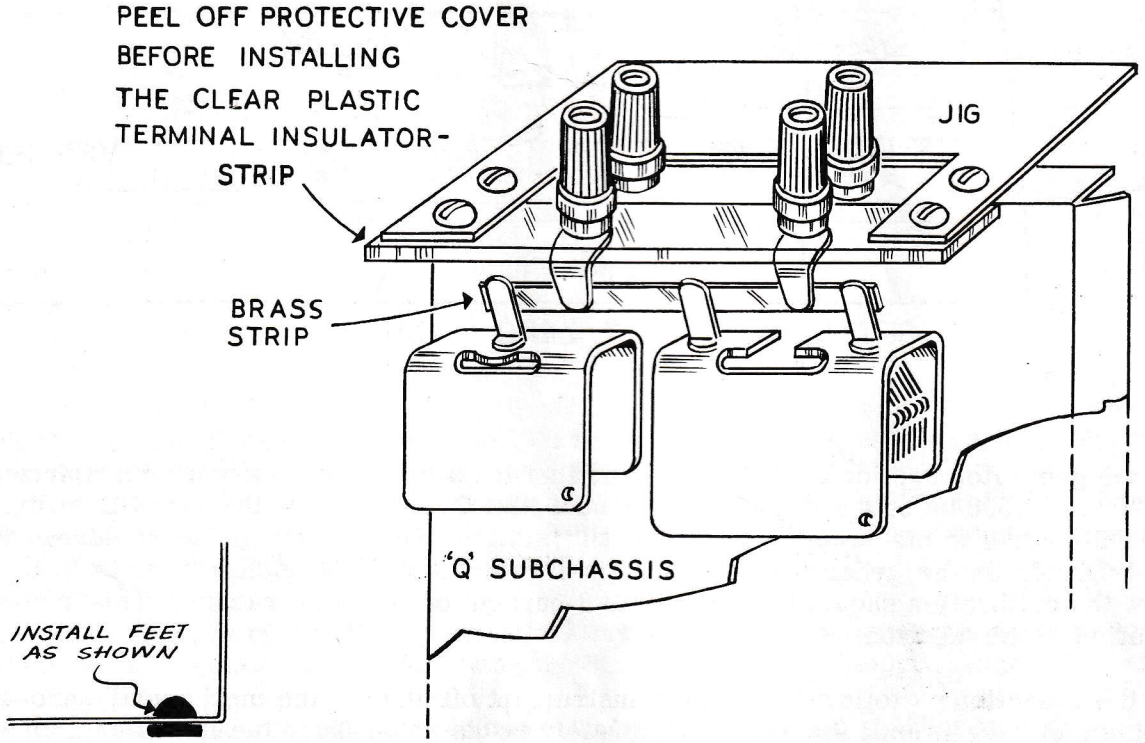


PIN NUMBERING ON MINIATURE TUBE SOCKET



PIN NUMBERING ON NOVAL TUBE SOCKET

Note: Make sure the miniature and noval tube sockets are free from obstructions before inserting the tubes. These small tubes are fairly fragile and broken tubes are not covered by any guarantee.



NOTE: After the tuning condensers are mounted on the "Q" sub-chassis, temporarily fasten the jig to the "Q" sub-chassis and to the insulated terminal strip (with the binding posts attached). Solder the brass strip to the terminal strip solder lugs and the lugs on the tuning condensers. Now the jig can be removed and discarded.

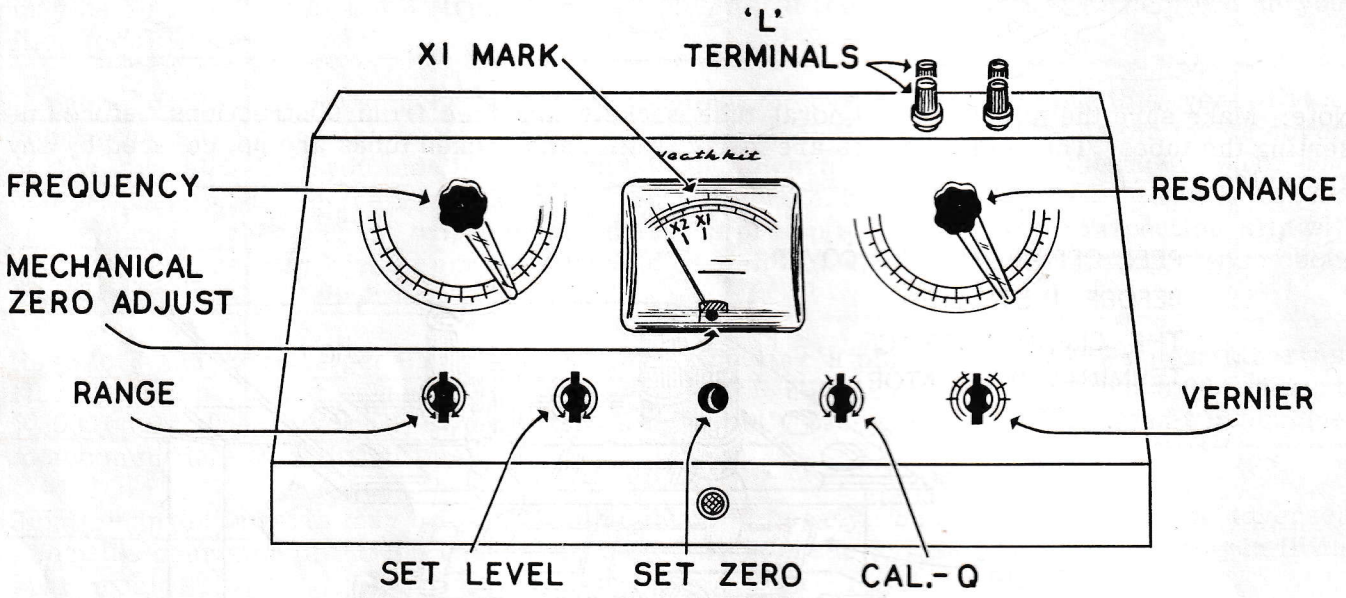
TEST AND CALIBRATION

Check the wiring carefully before proceeding. Inspect all solder connections and make sure that no stray wires or excess solder can cause short circuits between adjacent contacts on sockets and switches.

Plug the line cord into a 117 volt 50-60 cycle AC outlet. CAUTION: Do not connect to a DC outlet for this will seriously damage the power transformer.

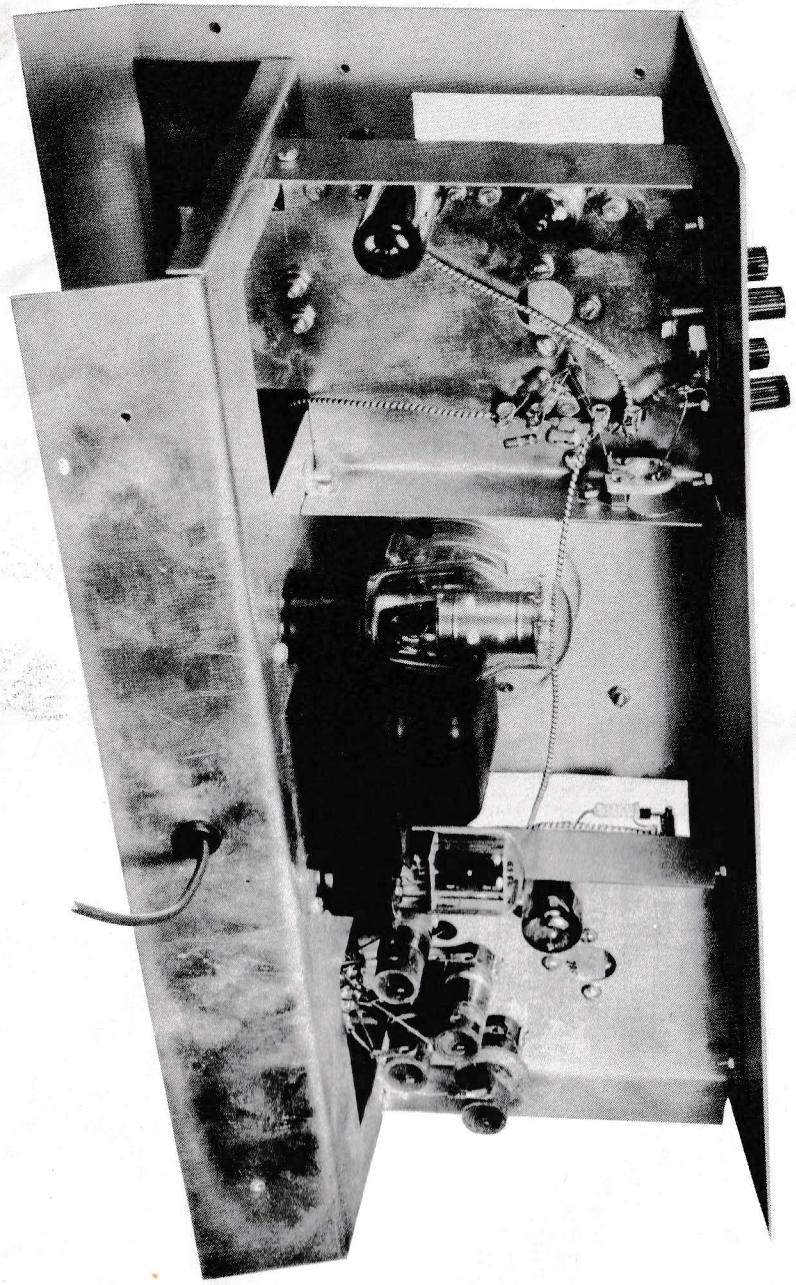
Set the CAL-Q switch to CAL and turn the SET LEVEL control clockwise. After a minute warmup observe that the level can be set to the red X1 mark on the meter. Turn the generator RANGE switch and FREQUENCY control to make sure that the X1 reading can be obtained at all frequencies.

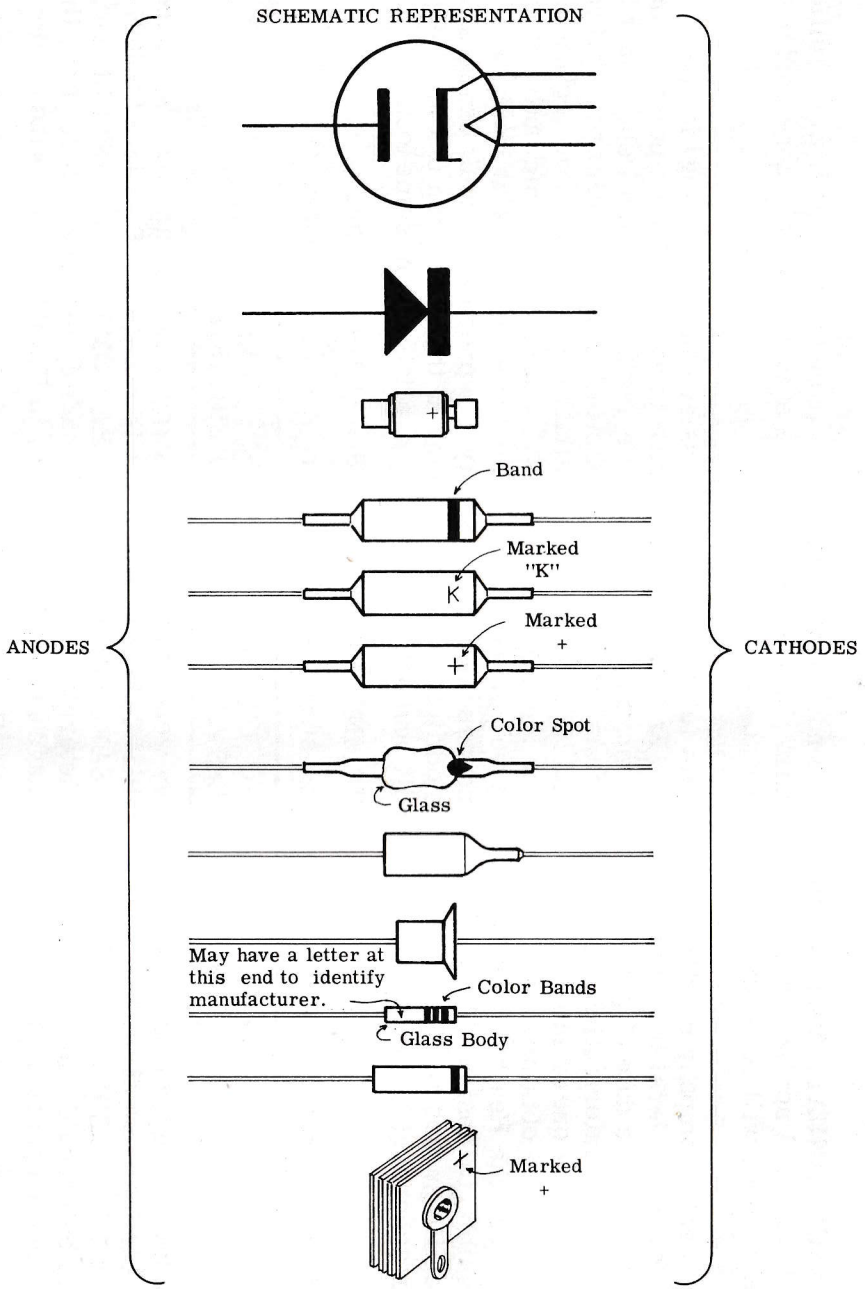
Insert the test coil in the "L" terminals. Set the CAL-Q switch to Q and adjust the SET ZERO control for a zero reading on the meter. Set generator section to 1,000 kc and check the level by turning the switch to CAL. Switch back to Q and adjust RESONANCE control for maximum meter reading.



Calibrate the generator section as follows: Tune in a local broadcast station with a frequency between 1200 and 1500 kc on a receiver placed near the Q meter. Set the RANGE switch and FREQUENCY control to the same frequency as the station. With a non-metallic screw driver adjust the trimmer on the generator sub-chassis for the lowest frequency audible beat (zero beat). Now the calibration should be well within 3 percent on all four ranges. This completes the calibration of this section.

Calibrate the Q section as follows: Turn the instrument off and set the mechanical zero-adjust screw on the meter case until the pointer accurately reads zero. Turn the instrument on again. Set the generator section to 1,000 kc and adjust the level to the X1 mark. Switch to Q and turn RESONANCE control for maximum indication. With a non-metallic screw driver adjust the trimmer on the Q sub-chassis until the meter reads the Q value indicated on the test coil. Set the VERNIER to O and adjust the pointer on the shaft of the RESONANCE control to read on the C_E scale the capacity indicated on the test coil. This completes the calibration.





TUBE, GERMANIUM, SILICON
AND SELENIUM DIODES

HEATH COMPANY

A Subsidiary of Daystrom Inc.

THE WORLD'S FINEST ELECTRONIC EQUIPMENT IN KIT FORM

BENTON HARBOR, MICHIGAN

6-18-57

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