

AL. THOMPSON



*Heathkit*  
**SPECIFICATIONS  
and SCHEMATICS**



HEATH COMPANY . . . BENTON HARBOR, MICH.

HEATHKIT SPECIFICATIONS AND SCHEMATICS is intended to provide reference information and to answer your questions pertinent to Heathkit design.

The Heath Company has always freely offered schematics and technical information in the sincere belief that the material is interesting and will prove helpful to many.

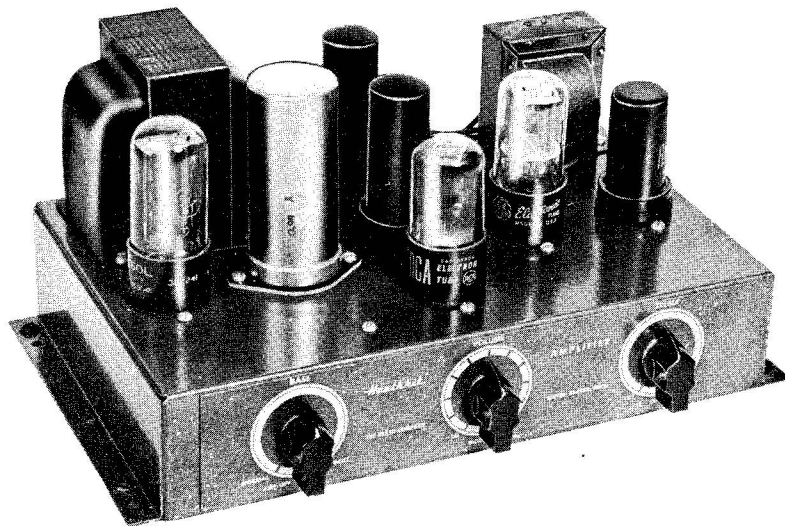
Heathkit pioneering in the electronic instrument kit field has resulted in the availability of a wide selection of useful well-designed, low cost electronic kit form equipment. Heathkits fulfill a major need in electronics and have been directly responsible for further stimulating interest particularly among electronics enthusiasts whose activity might be discouraged because of high equipment cost.

The combination of careful engineering, complete and detailed instruction manuals, use of highest quality components and exacting machine work in forming and punching of panels and chassis all combine to produce accurate, dependable test equipment which is a pleasure to construct and truly professional in appearance.

The advantages of constructing kit form test equipment are numerous. The builder saves the major portion of the cost of factory built equipment and becomes better acquainted with the circuitry and operation of the unit thereby gaining that important knowledge that will help him use the instrument far more intelligently over a wider range of applications. Should maintenance or repair ever be needed, the knowledge gained in construction will permit the kit builder to easily put the unit back into proper operating condition without delay.

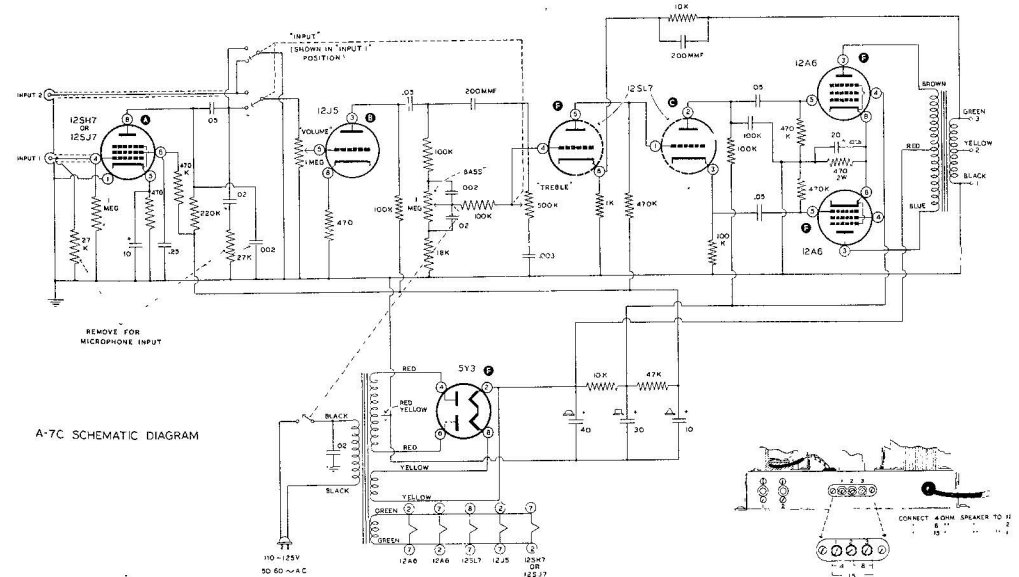
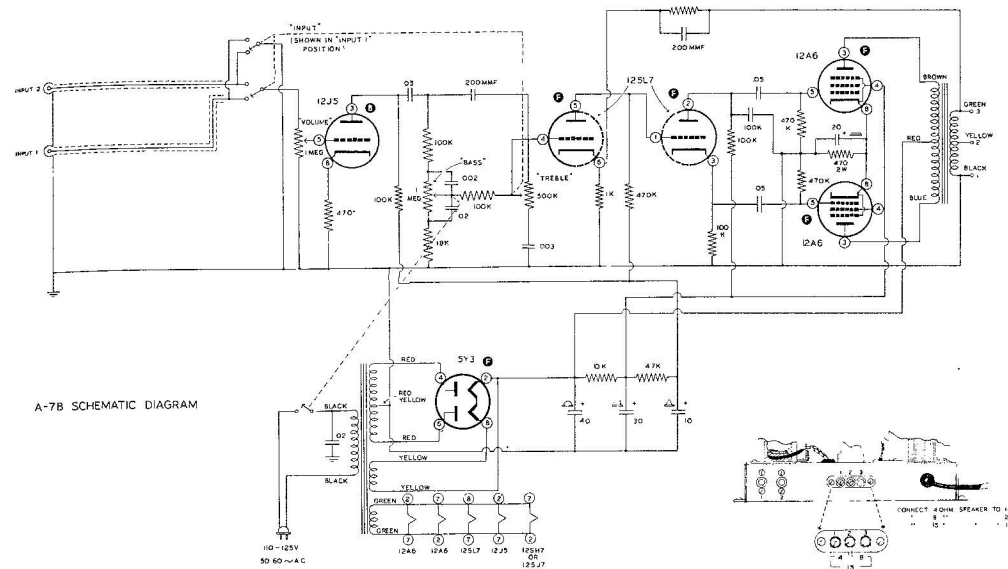
It always has been and it always shall be our sincere desire to produce the best possible kit form test equipment at the lowest possible cost. Furthermore, we are anxious to help the Heathkit user in any way and at all times for we want every Heathkit owner to receive the many years of excellent operation for which his kit was engineered.

# HEATHKIT MODEL A-7B and A-7C AUDIO AMPLIFIERS



## SPECIFICATIONS

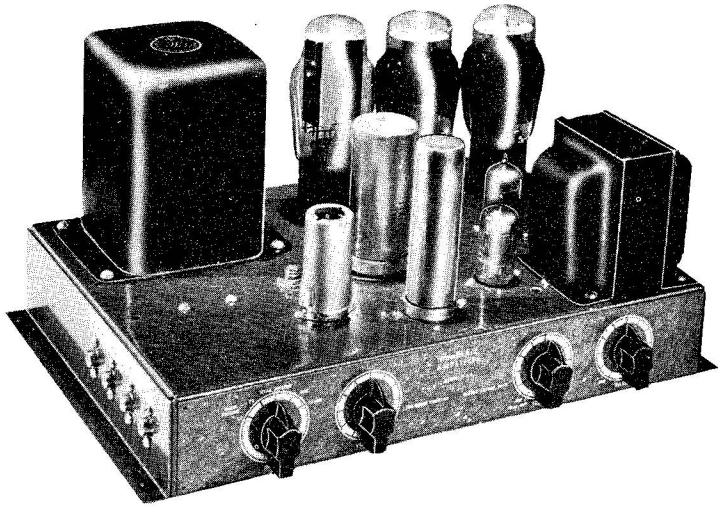
Frequency Response.....	±1.5 db 20 to 20,000 cps
Power Output.....	6 watts
Tube Complement.....	1 - 12J5 First Amplifier 1 - 12SL7 Second Amplifier and Phase Splitter 2 - 12A6 Beam Power Output 1 - 5Y3 Rectifier 1 - 12SH7 or 12SJ7 Preamplifier (A-7C only)
Output Impedance.....	4, 8, or 15 ohms
Input Voltage.....	110-125 volts AC 50/60 cycles
Physical Specifications.....	11 1/2" wide, 5 1/4" high, 6 1/2" deep
Shipping Weight.....	10 lbs.





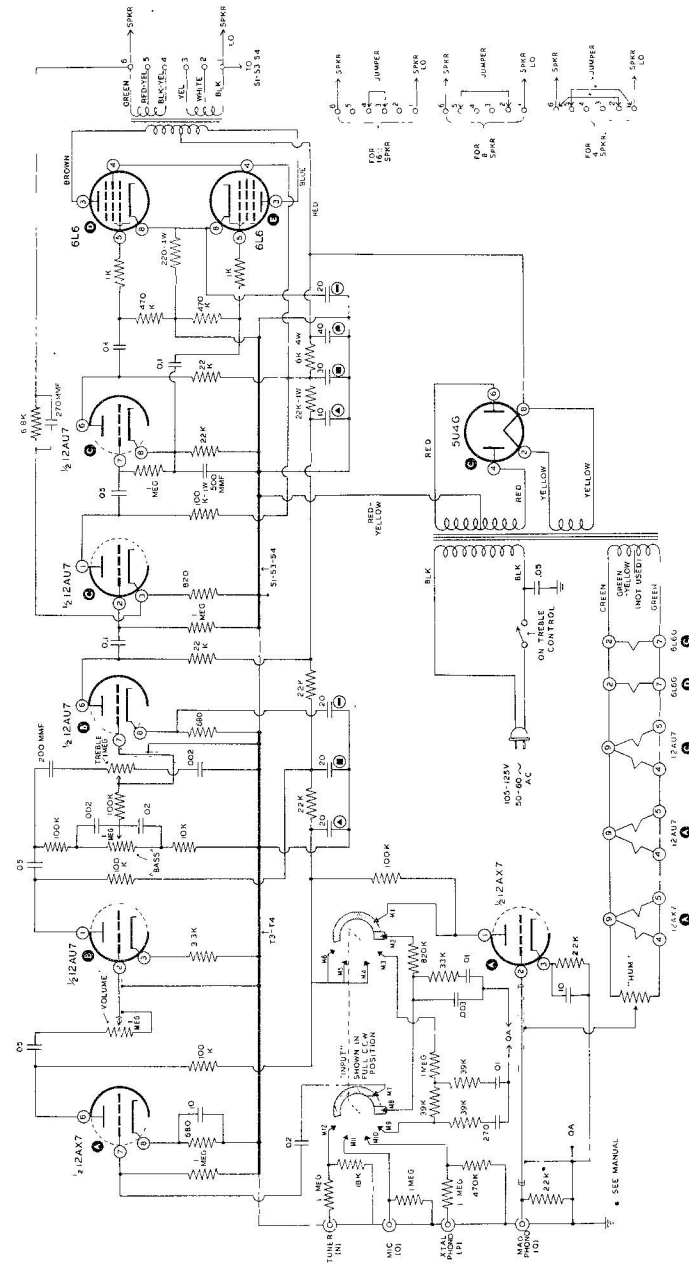
# HEATHKIT AUDIO AMPLIFIER

MODEL A-9A



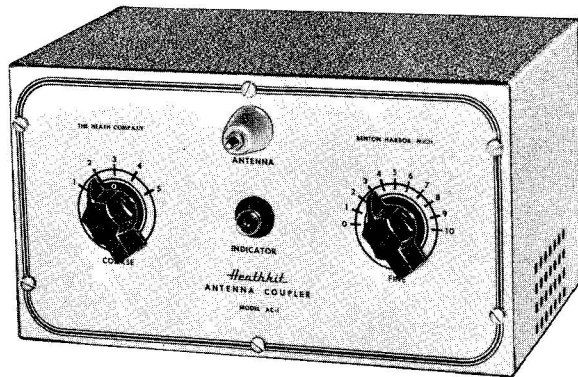
## SPECIFICATIONS

Frequency Response.....	±1 db 20 to 20,000 cps
Power Output.....	20 watts
Total Harmonic Distortion.....	1% (at 3 db below rated output)
Input Requirements (for 15 watts output)	
Magnetic Phono Input.....	0.007 volts
Microphone Input.....	0.01 volts
Crystal Phono Input.....	0.08 volts
Tuner Input.....	0.6 volts
Tone Controls	
Bass (at 30 cps).....	15 db boost, 15 db cut
Treble (at 15 kc).....	15 db boost, 20 db cut
Power Requirements.....	100 watts, 105-125 volts 50/60 cycle AC
Tube Complement.....	12AX7 magnetic phono preamplifier and input amplifier 12AU7 voltage amplifier and tone control amplifier 12AU7 voltage amplifier and phase splitter Two 6L6G push-pull pentode power amplifiers 5U4G Rectifier
Dimensions.....	13 1/4" x 8 1/2" x 6 5/8" high
Shipping Weight.....	17 lbs.



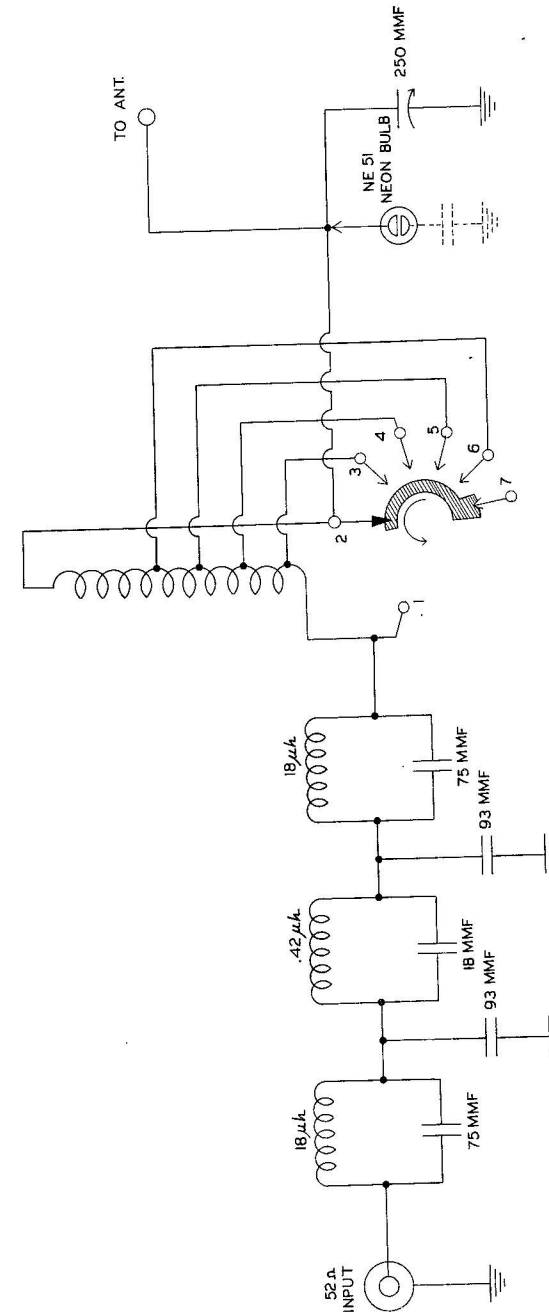
# HEATHKIT ANTENNA COUPLER

## MODEL AC-1



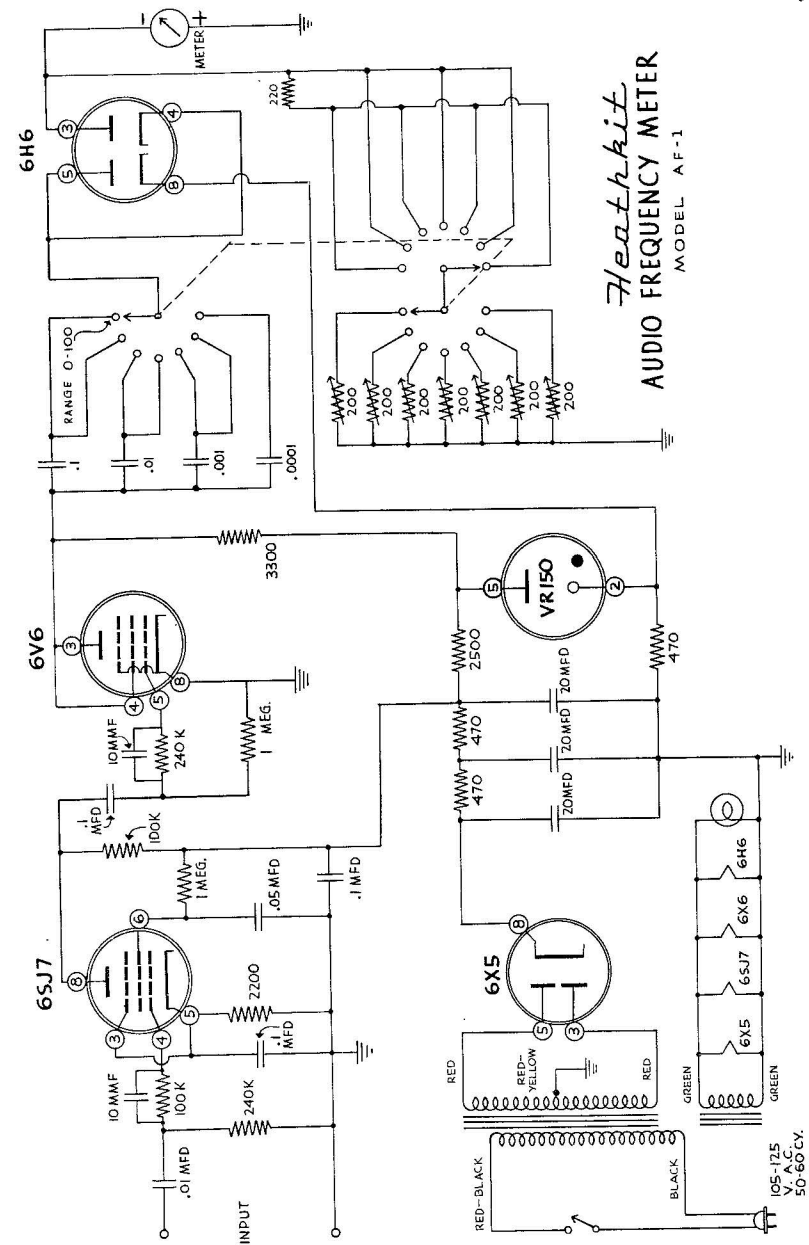
### SPECIFICATIONS

Maximum RF Power Input.....	75 watt
Input Connection.....	52 ohm coaxial cable
Output Connection.....	Single-ended
Low Pass Filter Cut-off Frequency.....	36 megacycles
Dimensions.....	7 1/8" x 4 3/8" x 4 7/8"
Net Weight.....	2 lbs.
Shipping Weight.....	3 lbs.



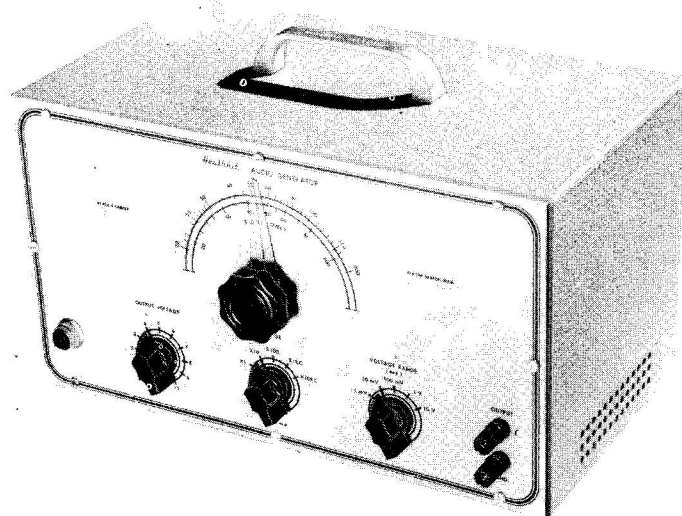
SCHEMATIC ANTENNA COUPLER

Power Requirements:	105-125 V AC 50-60 cycles, 35 Watts
Tube Complement:	1 - 6V6 1 - 6H6 1 - 6X5 1 - 6SJ7 1 - VR150
Ranges:	0-100, 0-300, 0-1KC, 0-3KC, 0-10KC, 0-30KC, 0-100KC.
Input:	Impedance 250,000 Ohms at 1,000 CPS Voltage 2-300 Volts RMS
Physical Specifications:	12½" long x 7" high x 7½" deep, Shipping Wt. 12 lbs.



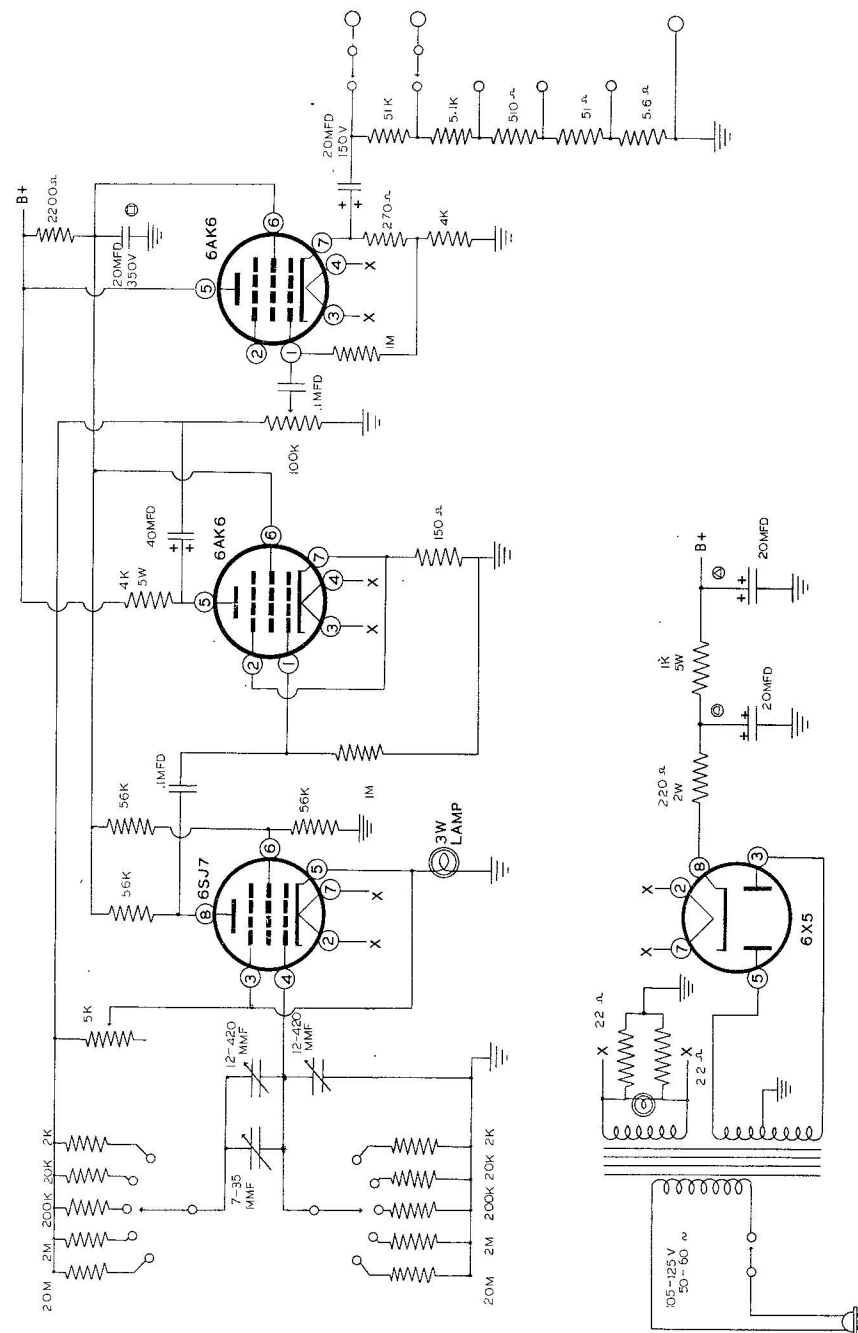
# HEATHKIT AUDIO GENERATOR

MODEL AG-8

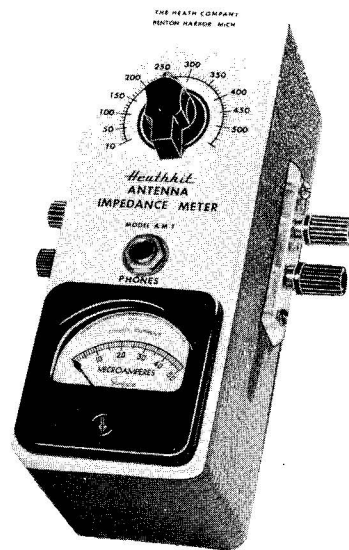


## SPECIFICATIONS

Frequency range	20 cps to 1 mc in five ranges
Output voltage	10 volts (no load) plus or minus 1 db 20 cps to 400 kc; down 3 db at 600 kc; down 8 db at 1 mc.
Generator impedance	600 ohms
Distortion	less than 0.4%, 100 cps through audible range
Power requirements	30 watts, 105-125 volts 50-60 cycles AC
Dimensions	7½" high, 13¼" wide, 7½" deep
Shipping weight	15 lbs.

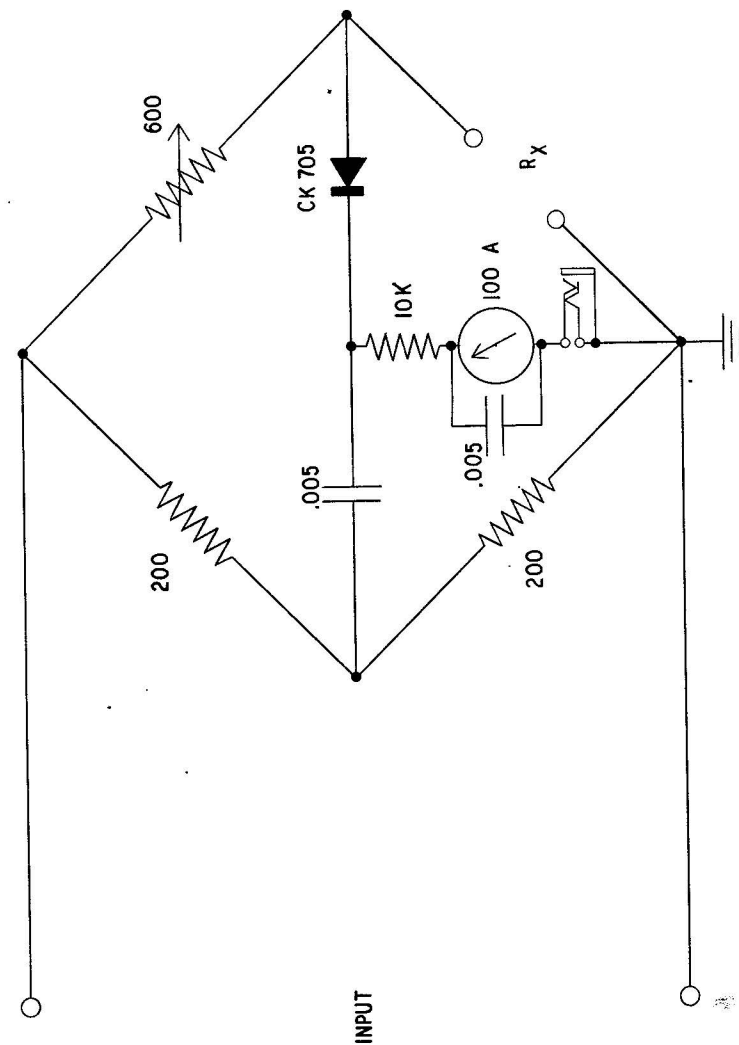


# HEATHKIT ANTENNA IMPEDANCE METER MODEL AM-1



## SPECIFICATIONS

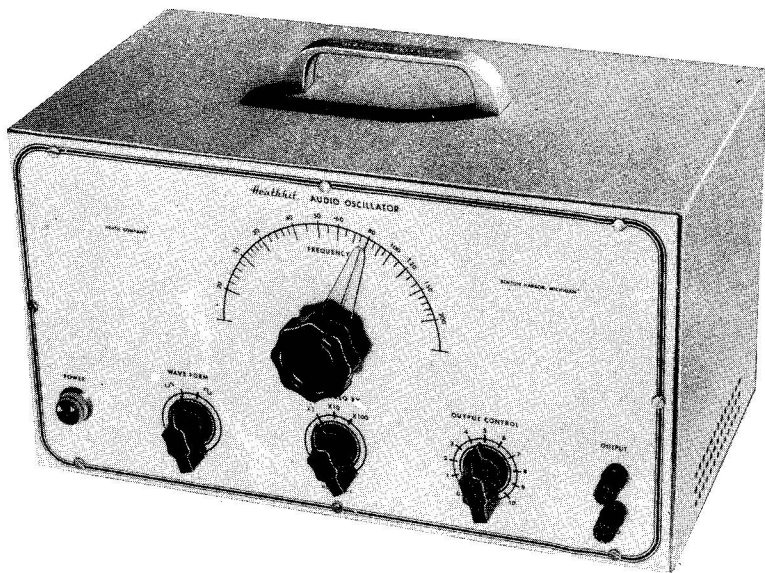
Frequency Range.....	0-150 megacycles
Impedance Range.....	0-600 ohms
Null Indicator.....	100 $\mu$ ampere meter
Dimensions.....	2 1/2" x 3" x 7"
Net Weight.....	1 lb.
Shipping Weight.....	3 lbs.



ANTENNA IMPEDANCE METER SCHEMATIC

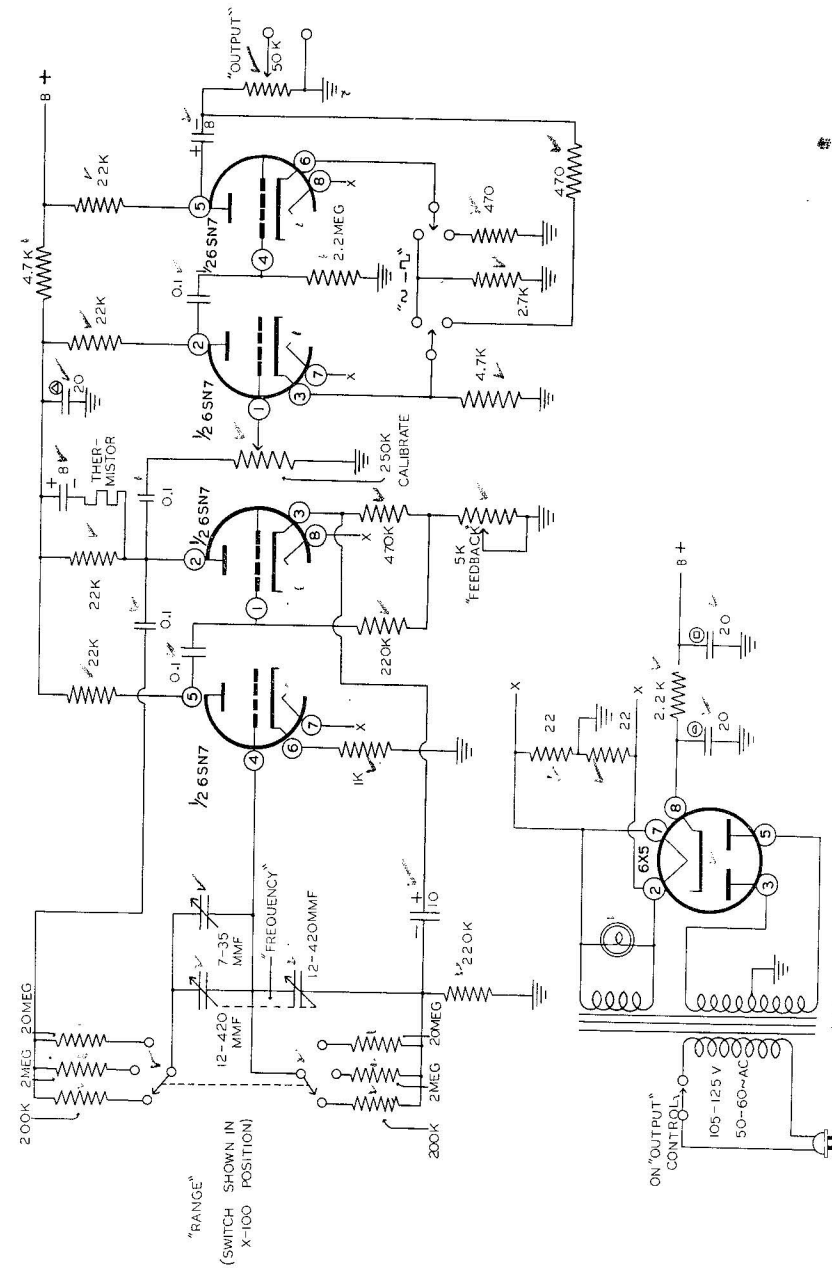


# HEATHKIT MODEL AO-1 AUDIO OSCILLATOR



## SPECIFICATIONS

Frequency Range	20 to 20,000 cps, in three ranges
Output Voltage (Sine Wave)	10 volts, no load, plus or minus 1 db.
"          (Square Wave)	10 volts, rise time 2 microseconds, (10-90%)
Generator Impedance	600 ohms
Distortion	Less than 0.6%, 100 cps through audible range
Power Requirements	30 watts, 105-125 volts, 50-60 cycles AC
Dimensions	7½" high, 13¼" wide, 7½" deep.
Shipping Weight	14 lbs.



Frequency Range.....	550 kc to 35 mc on four bands
Tube Complement.....	1 - 12BE6 Oscillator and Mixer
	1 - 12BA6 IF Amplifier
	1 - 12AV6 Second Detector and First Audio Amplifier
	1 - 12A6 Beam Power Output
	1 - 12BA6 BFO Tube
	1 - 5Y3 Full Wave Rectifier
Power Requirements.....	105-125 volts AC 50/60 cycles 45 watts
Dimensions.....	11 1/2" wide x 5 3/4" high x 6 3/4" deep
Shipping Weight.....	12 lbs.

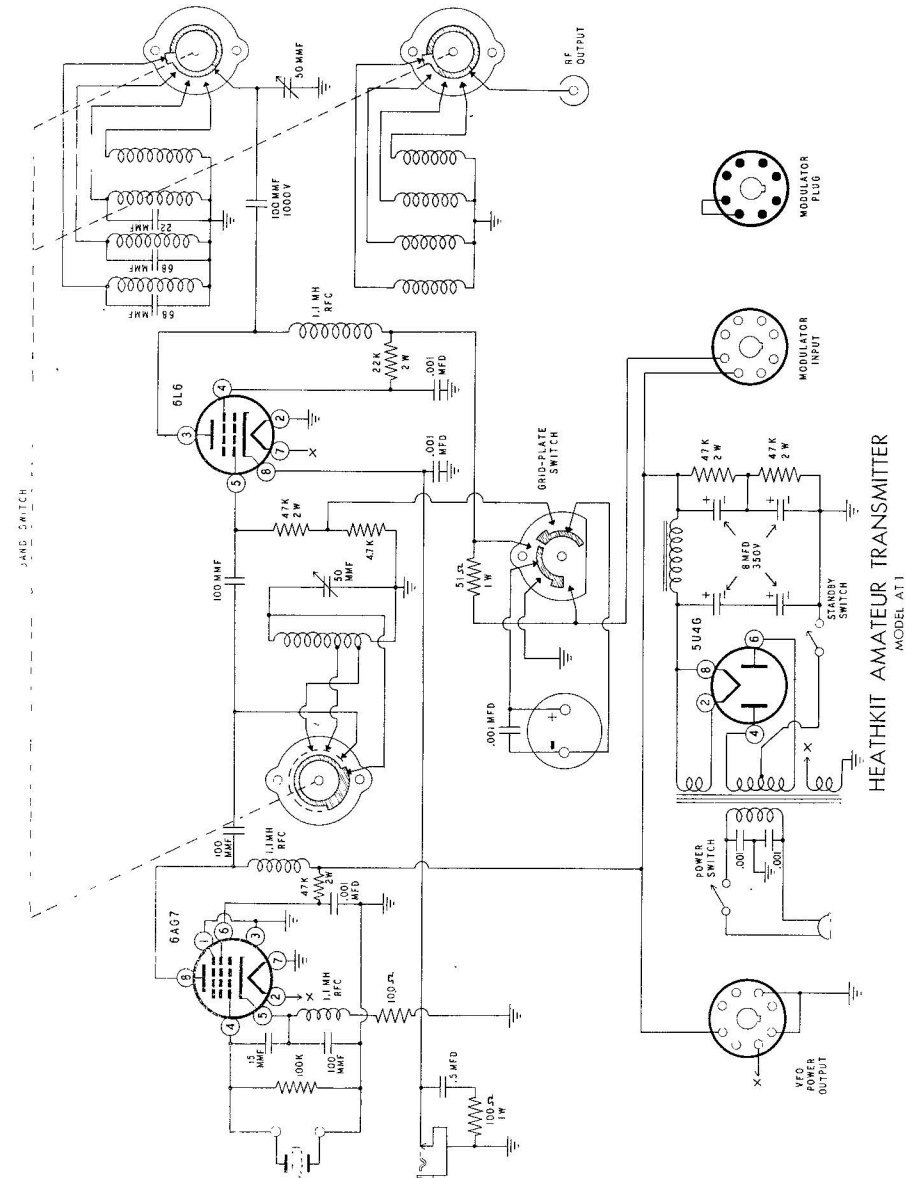
Band Spread Tuning  
Phone - Standby - CW  
Headphone Jack

NOTE: ALL CONDENSERS ARE "MFD"

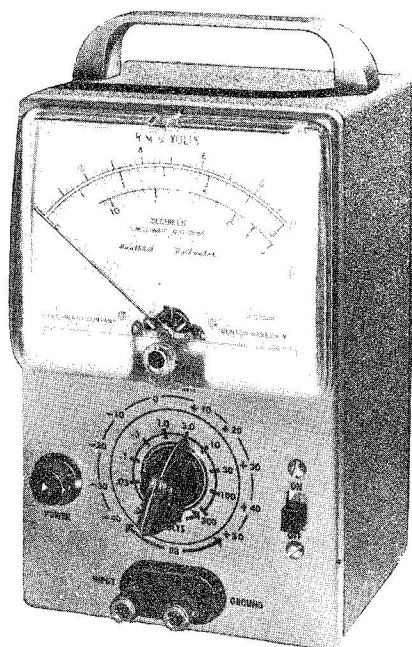
## MODEL AT-1



RF Amplifier Power Input.....	25-30 Watts
Output Connection.....	52 Ohm Coaxial Cable
Oscillator Operation.....	Crystal, can be operated by a VFO
Amplifier Operation.....	CW, can be modulated for phone
Band Coverage.....	80, 40, 20, 15, 11, 10 Meters
Tube Complement	
5U4G.....	Rectifier
6AG7.....	Oscillator - Multiplier
6L6.....	Amplifier - Doubler
Power Requirements.....	105-125 50/60 Cycle, 100 Watts
Cabinet Size.....	8 1/8" high x 13 1/8" wide x 7" deep
Net Weight.....	13 lbs.

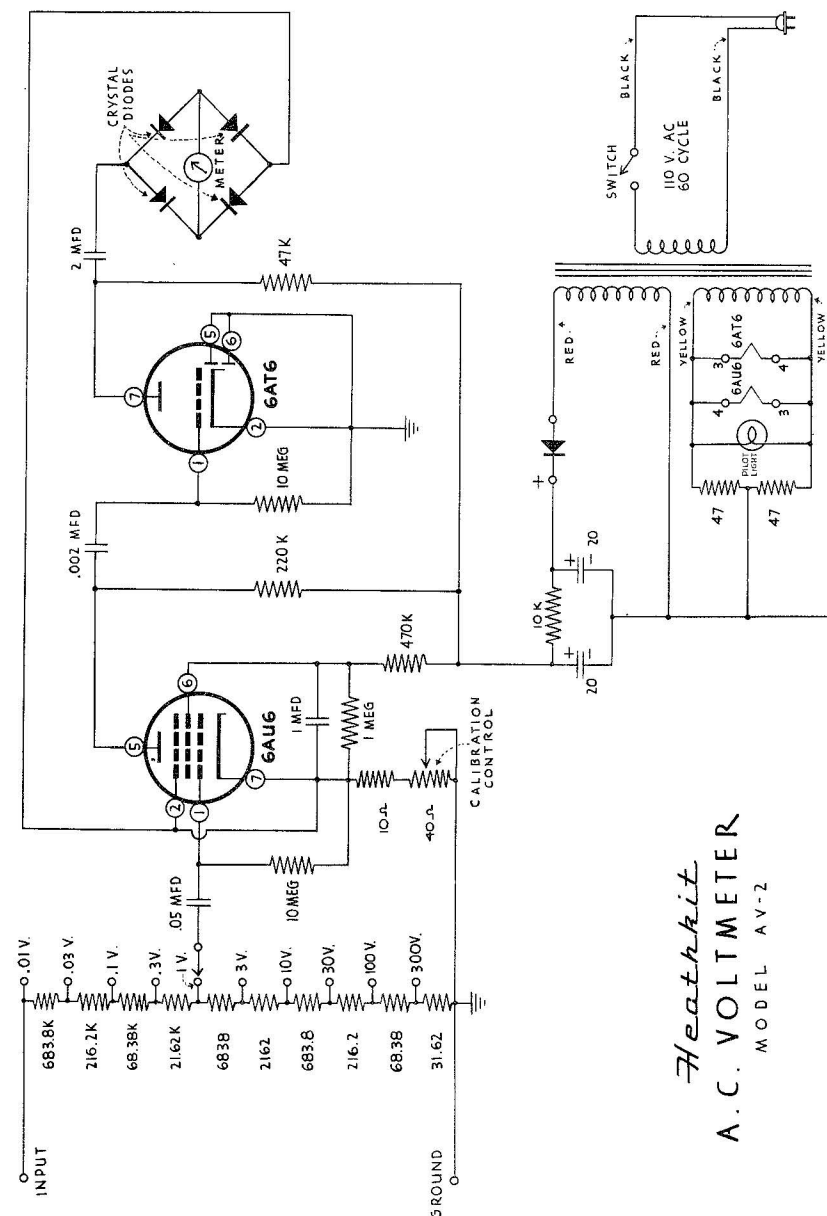


# HEATHKIT MODEL AV-2 A. C. VOLTMETER



## Technical Specifications

Power Requirement:	105-125V AC, 50-60 cycles, 10 Watts
Tube Complement:	1 - 6AU6 1 - 6AT6
Input Impedance:	1 Megohm at 1 KC
Ranges:	.01, .03, .1, .3, 1, 3, 10, 30, 100, 300 V RMS
Decibels:	Total range -52 to +52 db, scale -12 to +2 db. (1 MW - 600 ohm) ten switch selected ranges from -40 to +50 db.
Physical Specifications:	7-3/8" high x 4-11/16" wide x 4-1/8" deep
Net Weight 3 1/2 lbs.	Shipping Weight 5 lbs.



*Heathkit*  
**A.C. VOLTMETER**  
MODEL AV-2

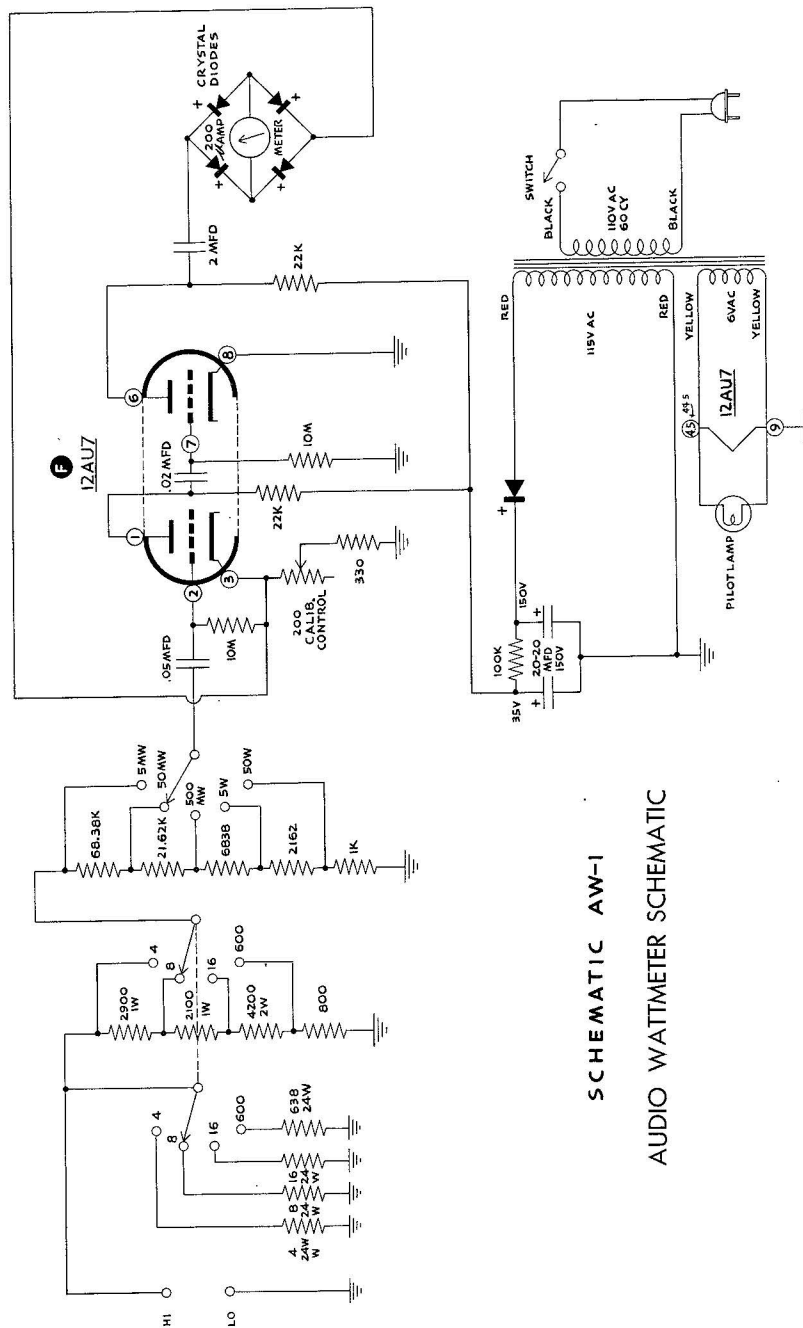
# HEATHKIT AUDIO WATTMETER

## MODEL AW-1



## SPECIFICATIONS

Frequency Response.....	±1 db, 10 cycles to 250 kc
Wattage Range.....	0-5 milliwatts, 50 milliwatts, 500 milliwatts, 5 watts, 50 watts full scale.
DB Ranges.....	Total range, -15 db to +48 db, scale -5 to +18 db (1 mw - 600 Ω). Five switch selected ranges from -10 db to +30 db.
Load Resistors.....	4 Ω, 8Ω, 16 Ω and 600 Ω non-inductive, switch selected.
Audio Input Power Ratings.....	Up to 25 watts maximum continuous duty, 50 watts maximum intermittent. Duty cycle 50 watts is 3 minutes. Ventilated cabinet allows efficient cooling.
Multipliers.....	Precision type
Meter.....	4 1/2" streamlined case with 200 microampere movement.
Meter Rectifier.....	Crystal diode bridge for wide range frequency response.
Tube.....	12AU7 - voltage amplifier and current amplifier for meter.
Power Supply.....	Power transformer and selenium rectifier
Power Requirements.....	105-125 volt AC, 50/60 cycle, 6 watts
Dimensions.....	7 3/8" high x 4 11/16" wide x 4 1/8" deep
Net Weight.....	5 lbs.
Shipping Weight.....	6 lbs.

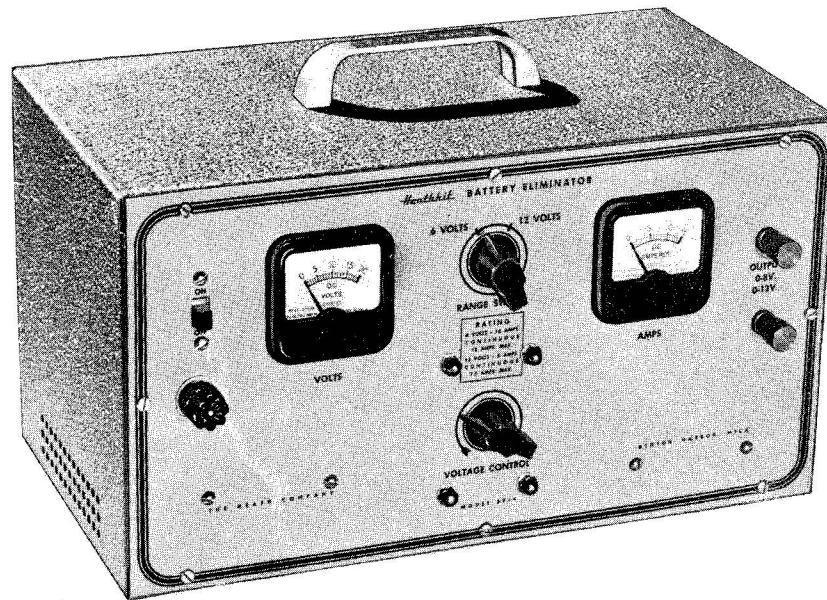


**SCHEMATIC AW-1**  
**AUDIO WATTMETER SCHEMATIC**



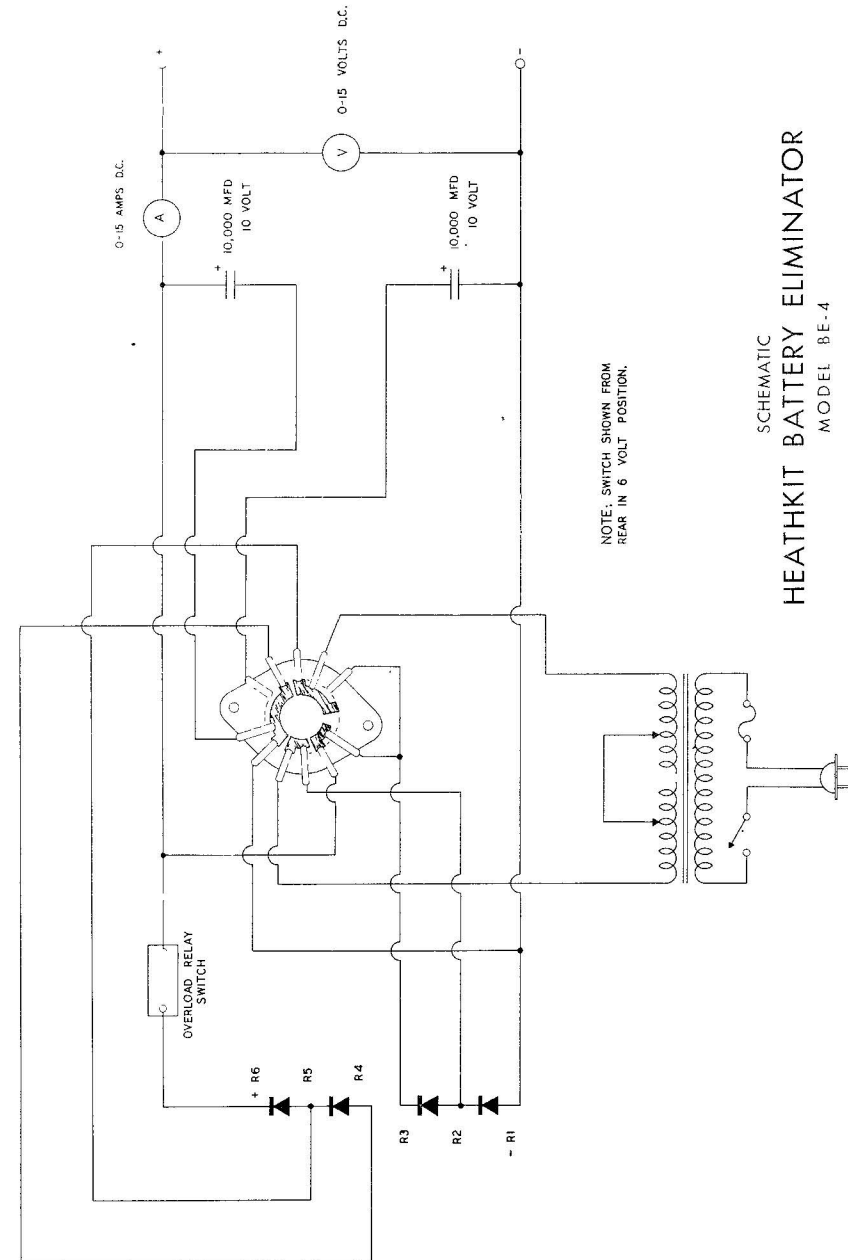
# HEATHKIT BATTERY ELIMINATOR

## MODEL BE-4



### SPECIFICATIONS

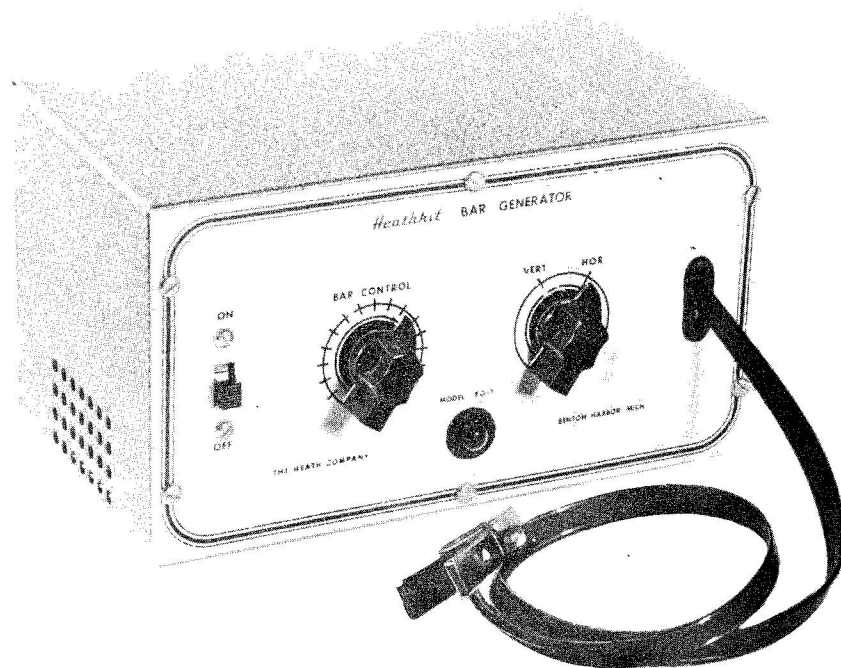
Continuously variable voltage output	
0-8 volts DC.....	10 amperes continuously 15 amperes maximum intermittent
0-16 volts DC.....	5 amperes continuously 7.5 amperes maximum intermittent
Power Requirements.....	105-125 V., 50-60 cycles AC at 175 watts
Dimensions.....	13 1/4" wide x 7 1/2" deep x 7 1/4" high
Approximate shipping weight.....	22 lbs.



SCHEMATIC  
HEATHKIT BATTERY ELIMINATOR  
MODEL BE-4

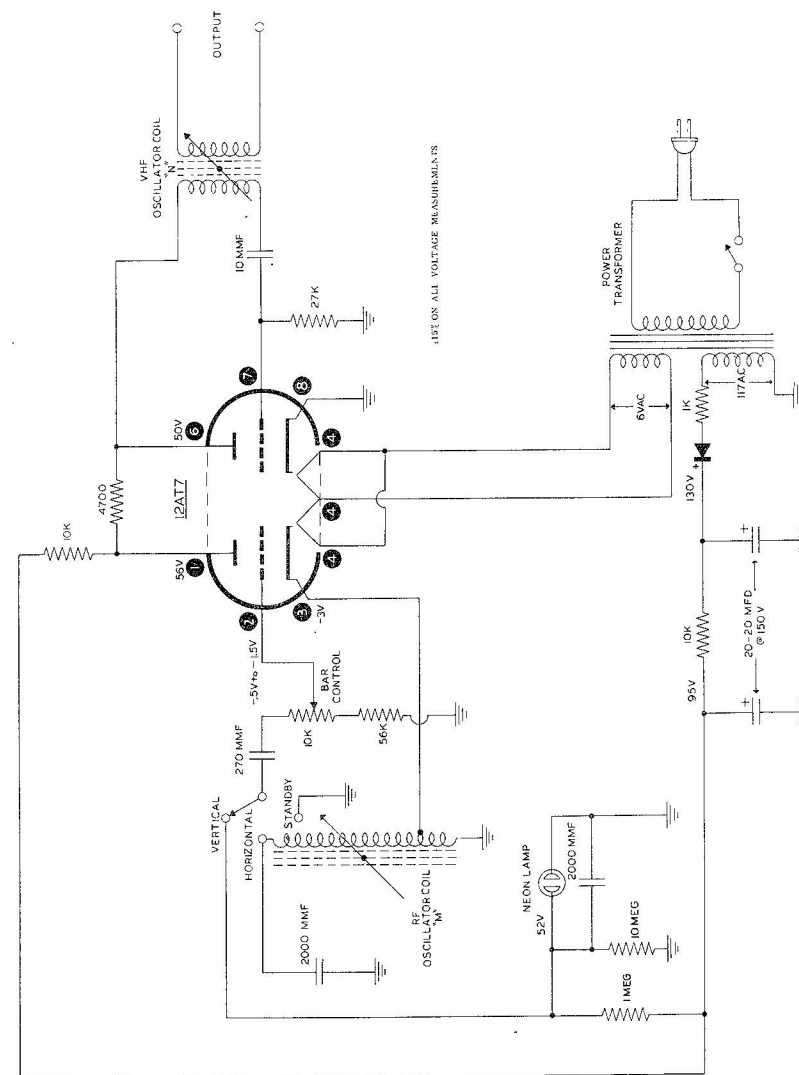
# HEATHKIT BAR GENERATOR

## MODEL BG-1

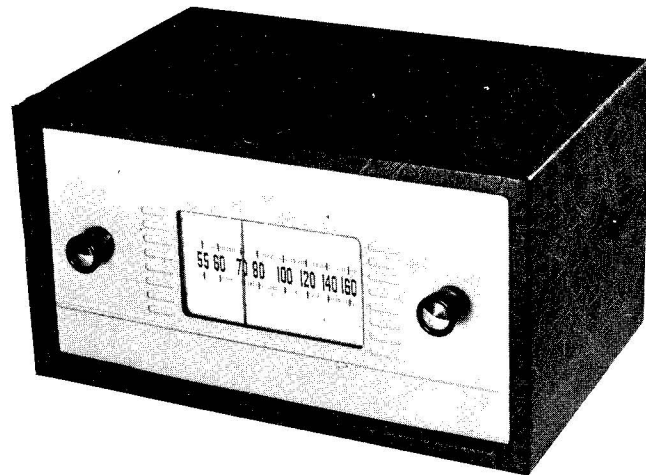


### SPECIFICATIONS

Carrier Frequency.....	60 to 80 megacycles
Modulating Frequencies	
Radio Frequency (Horizontal Linearity).....	113 to 172 KC
Low Frequency (Vertical Linearity).....	480 cps. (Approx.)
Output Voltage.....	100,000 microvolts
Tube.....	12AT7
Power Supply.....	Transformer operated half-wave selenium rectifier
Power Requirements.....	105-125 volts, 50-60 cycles AC
Dimensions.....	8 1/8" wide, 4 3/8" high, 4 7/8" deep
Shipping Weight.....	6 lbs.

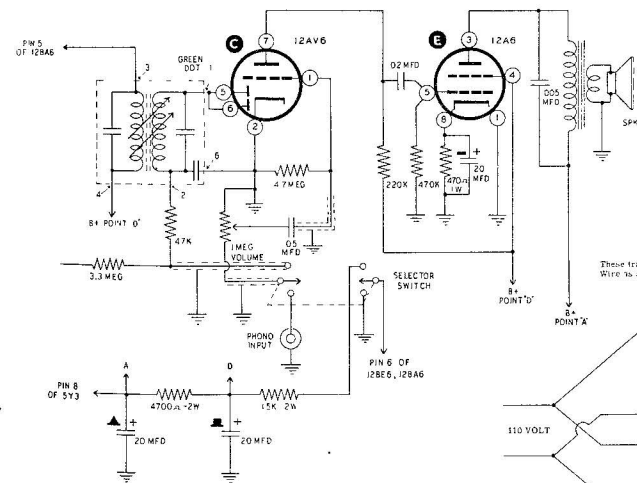
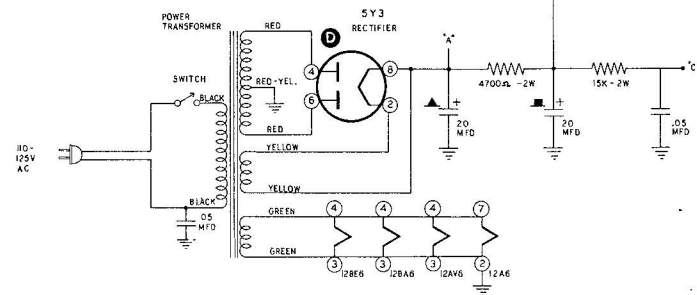
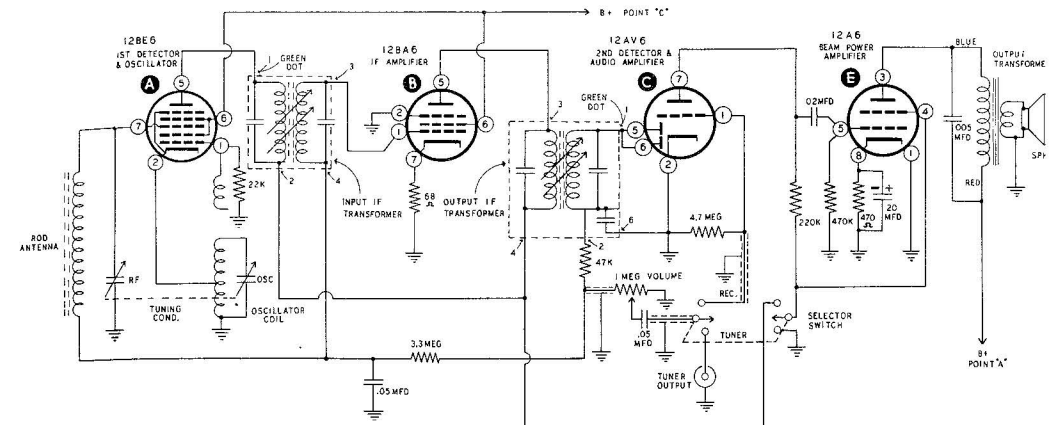


# HEATHKIT BROADCAST BAND RECEIVER MODEL BR-2



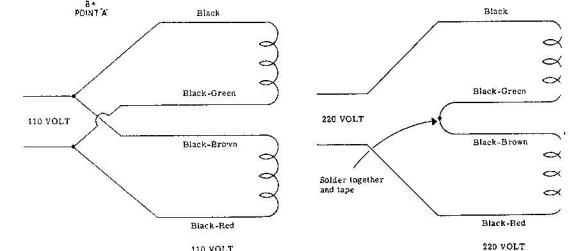
## SPECIFICATIONS

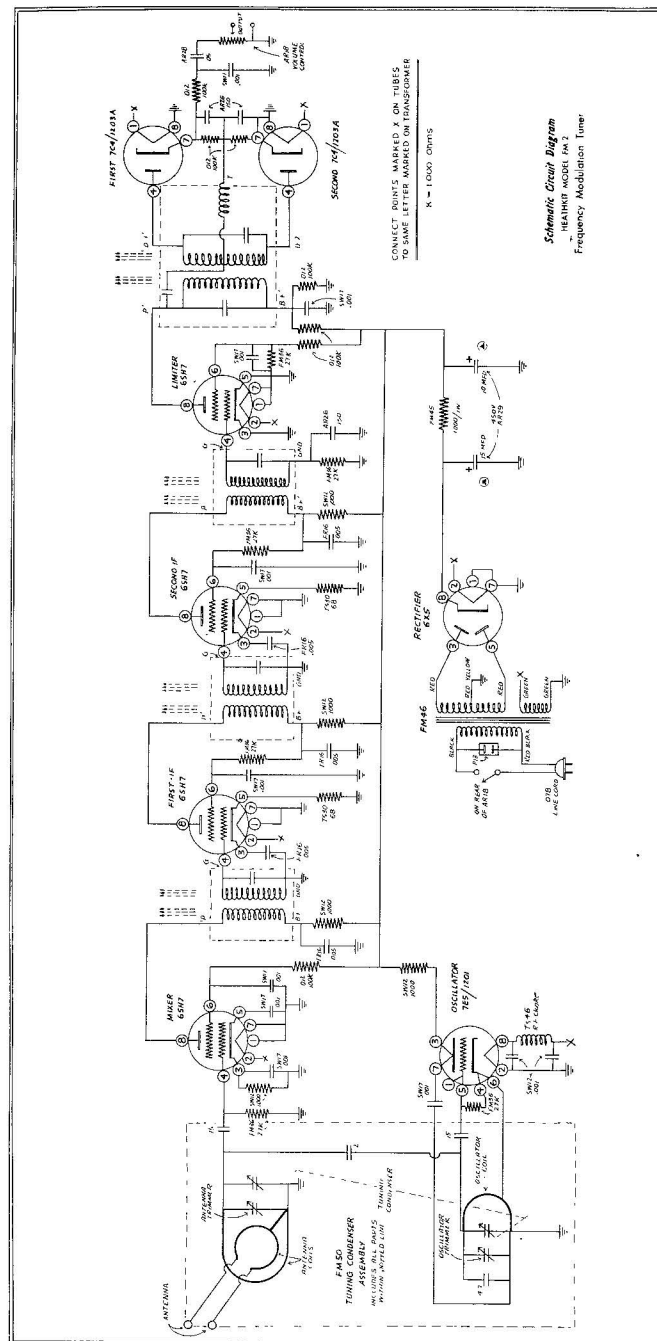
<b>Radio</b>	
Tuning Range.....	550 kc to 1620 kc
I. F. Frequency.....	455 kc
Antenna.....	Built-in High Sensitivity Rod Type
Speaker (included).....	5 1/2" PM 4 ohm Voice Coil
<b>Tuner Operation</b>	
Output.....	High impedance to any amplifier input with resistance of 100,000 ohms or more. 110 V outlet provided for amplifier, phono player, etc.
<b>Phonograph</b>	
Input.....	1 megohm high impedance for optimum performance with any good quality crystal or ceramic phono pickup.
<b>Tube Complement.....</b>	
1 - 5Y3 Rectifier	
1 - 12A6 Beam Power Amplifier	
1 - 12AV6 Detector, A.V.C. and Audio Amplifier	
1 - 12BA6 I. F. Amplifier	
1 - 12BE6 Pentagrid Converter	
Power Requirements.....	105-125 V 50-60 cycles AC 40 watts
Dimensions.....	11 1/2" wide, 5 3/4" high, 6 3/4" deep



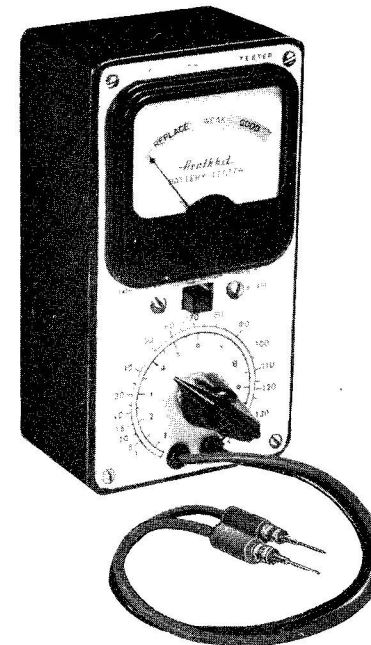
## WIRING OF EXPORT TYPE 110/220 VOLT POWER TRANSFORMERS

These transformers have a dual primary for use on either 110 Volts or 220 Volts. Wire as shown.





# HEATHKIT MODEL BT-1 BATTERY TESTER



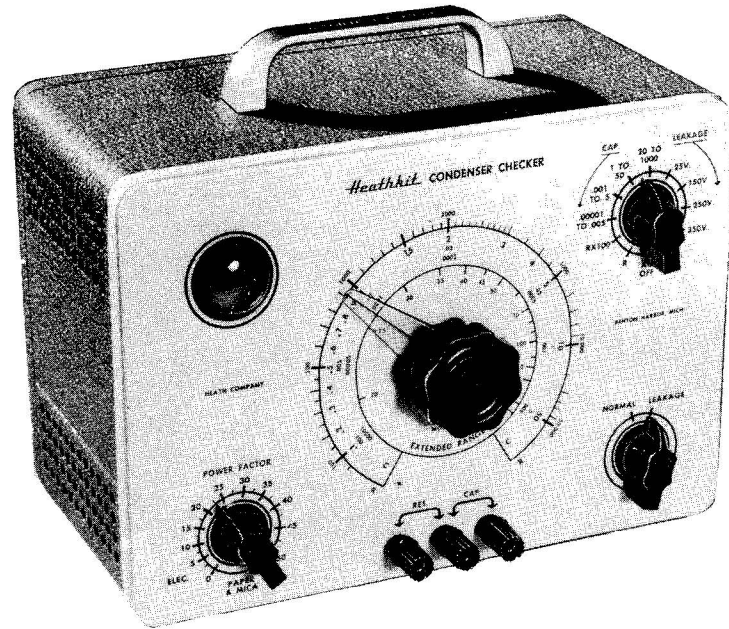
## SPECIFICATIONS

### HEATHKIT BATTERY TESTER MODEL BT-1

Test Ranges	0 to 15 volts 0 to 100 volts
Load Current	"A-Batt" Range 100 MA. "B-Batt" Range 10 MA.
Meter Indications	GOOD-WEAK-REPLACE
Size	Length 5 7/8", Width 3", Height 2 3/4"
Shipping Weight	3 Pounds

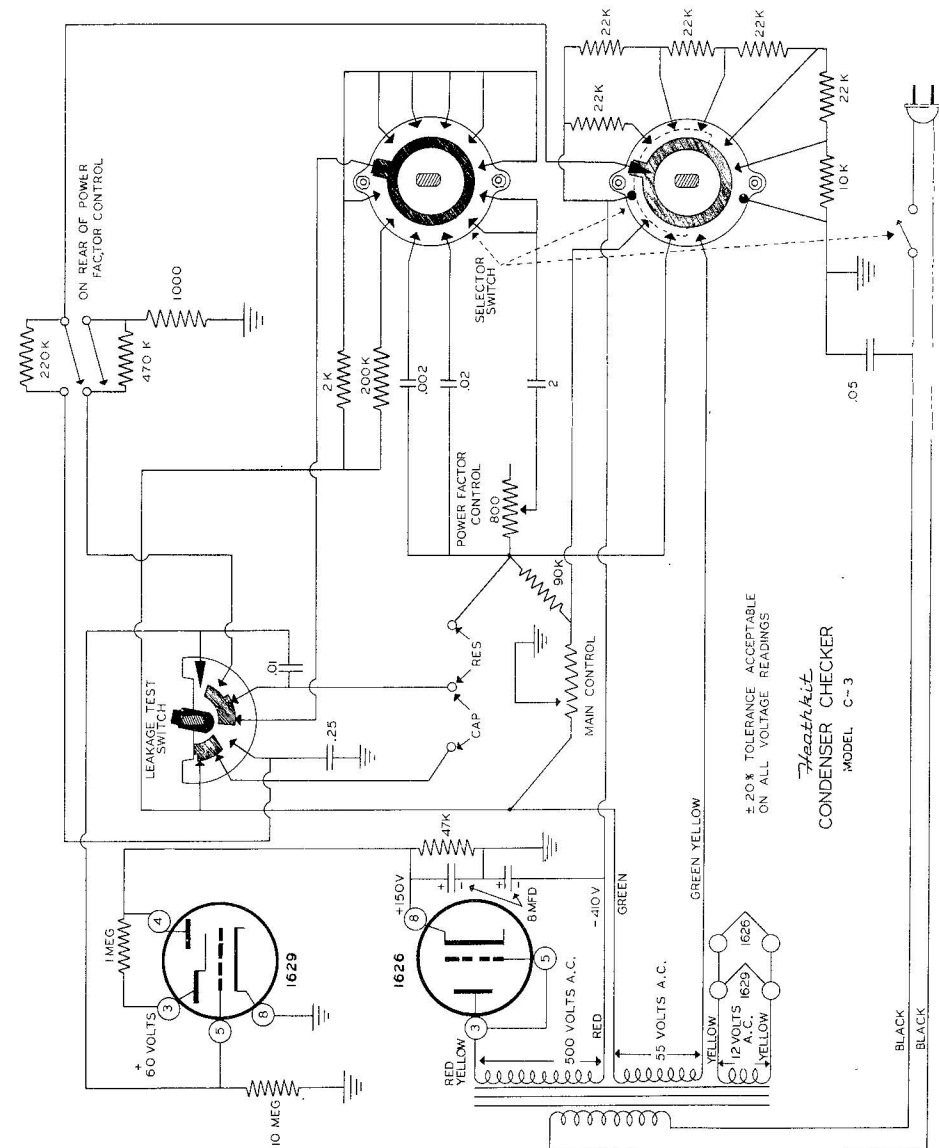
# HEATHKIT CONDENSER CHECKER

## MODEL C-3



### SPECIFICATIONS

Power Requirements:	110-125 volts, 50-60 cycles a-c
Cabinet Size:	9½" wide x 6½" high x 5" deep
Kit Shipping Weight:	7 pounds
Power Supply:	Power transformer—half wave rectifier
Capacity: 4 Ranges:	.00001 mfd - .005 mfd .001 mfd - .5 mfd .1 mfd - 50 mfd 20 mfd - 1000 mfd
D-C Leakage Test	
Polarizing Voltages: 5 Ranges:	25 volts d-c 150 volts d-c 250 volts d-c 350 volts d-c 450 volts d-c
Resistance Ranges: 2 Ranges:	100 ohms to 50,000 ohms 10,000 ohms to 5 megohms
Circuit:	A-c powered bridge for both capacitive and resistive measurements. Maximum opening of electron beam indicator denotes bridge balance.

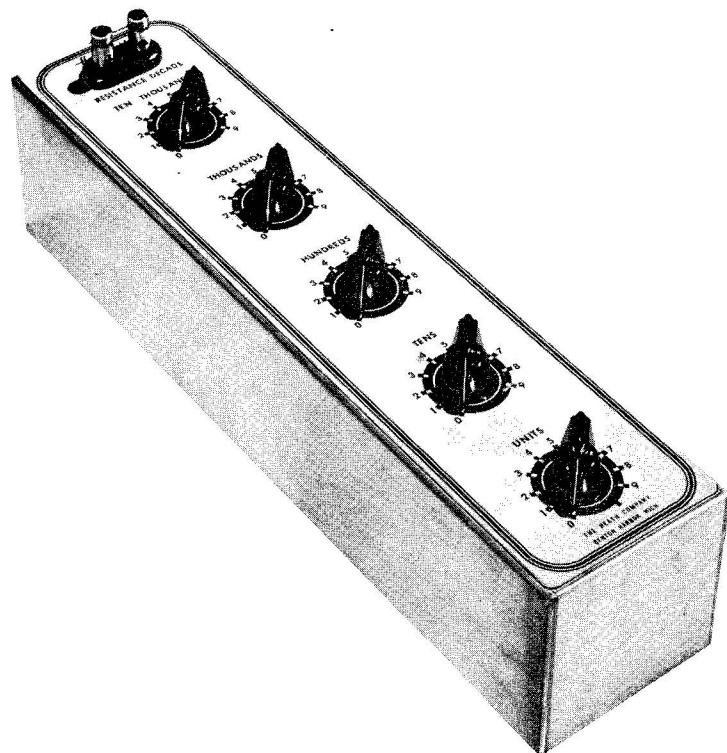




# HEATHKIT

## MODEL DR-1

### DECADE RESISTANCE KIT



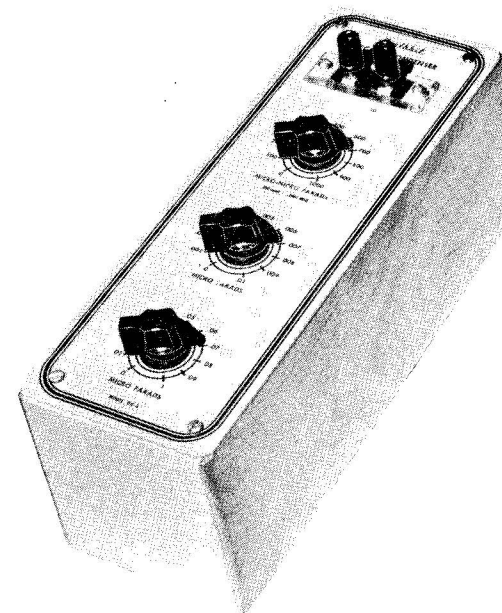
#### SPECIFICATIONS

Range.....	1 $\Omega$ to 99,999 $\Omega$ in one ohm steps
Components.....	Resistors: Precision - 1/2% accuracy Switches: Ceramic
Maximum Current.....	Units-----500 MA Tens-----150 MA Hundreds-----50 MA Thousands-----15 MA Ten Thousands-----5 MA
Dimensions.....	14 1/2" x 3 3/8" x 3 3/8" Birch Cabinet

# HEATHKIT

## MODEL DC-1

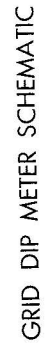
### DECADE CONDENSER



#### SPECIFICATIONS

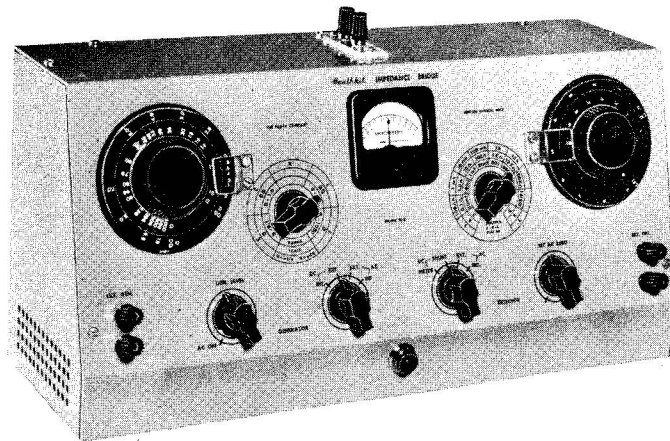
Range.....	100 mmf. to 0.111 mfd. in increments of 100 mmf.
Voltage Rating.....	350 volts DC, continuous; 500 volts DC, intermittent, 1000 volts DC test.
Dielectric.....	Silver mica
Accuracy of Incremental Capacity.....	Plus or minus 1%
Zero capacitance.....	15 to 20 mmf. with all switches set at zero
Dimensions.....	3 3/4" wide, 4 3/4" high, 10 5/8" deep
Shipping Weight.....	4 lbs.

Frequency Range.....	2 to 250 mc using five coils. Additional coils available; extending frequency to 350 kc.
Meter Movement.....	500 microampere
Power Requirements.....	117 volt, 5 watts, 50/60 cycle
Power Supply.....	Transformer operated selenium rectifier
Dimensions.....	7" long x 2 1/2" wide x 3 1/4" deep
Shipping Weight.....	4 lbs.
Net Weight.....	2 lbs.



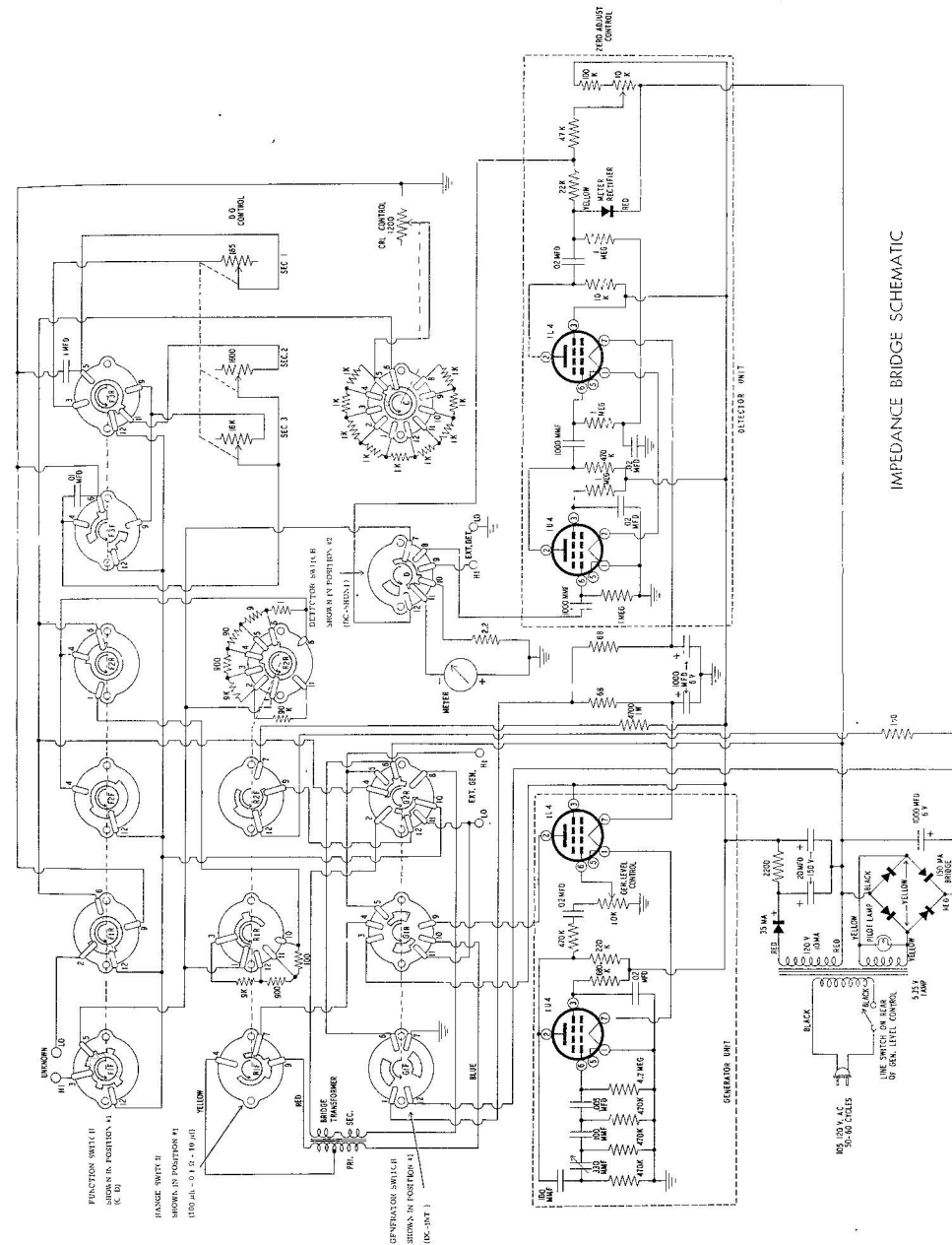
# HEATHKIT IMPEDANCE BRIDGE

## MODEL IB-2



### SPECIFICATIONS

Circuit.....	4-arm impedance bridge
DC Measurements.....	Built-in power supply operating directly from 110 V AC. Panel binding posts provide for use of external supply.
Meter.....	100-0-100 microampere meter
AC Measurements.....	Built-in 1000 cycle vacuum tube oscillator. Terminals on panel provide for connecting an external generator for measurement at other frequencies.
Detector.....	Vacuum tube detector and rectifier make use of built-in meter. Panel binding posts provide for connection to external detector.
Resistance.....	0.1 $\Omega$ to 10 megohm
Capacitance.....	10 $\mu\text{mf}$ to 100 $\mu\text{fd}$
Inductance.....	10 $\mu\text{h}$ to 100 h
Dissipation Factor (D).....	0.002 to 1
Storage Factor (Q).....	0.1 to 1000
Accuracy.....	1/2 or 1% decade resistors used. 1/2 of 1% silver mica condensers used. Accuracy is limited more by interpretation of scales and workmanship of assembly. The following is normal: Resistance $\pm 3\%$ Capacitance $\pm 3\%$ Inductance $\pm 10\%$ Dissipation Factor ( $D=wCR$ ) $\pm 20\%$ Storage Factor ( $Q=wL/R$ ) $\pm 20\%$ Accuracy will fall off at extreme outer limits.
Power Requirements.....	105-125 volts, 50/60 cycles, 10 watts
Tube Complement.....	2 - 1U4 and 2 - 1L4
Power Supply.....	Power Transformer and Selenium Rectifier
Cabinet Size.....	8" high x 17" wide x 6" deep
Shipping Weight.....	15 lbs.

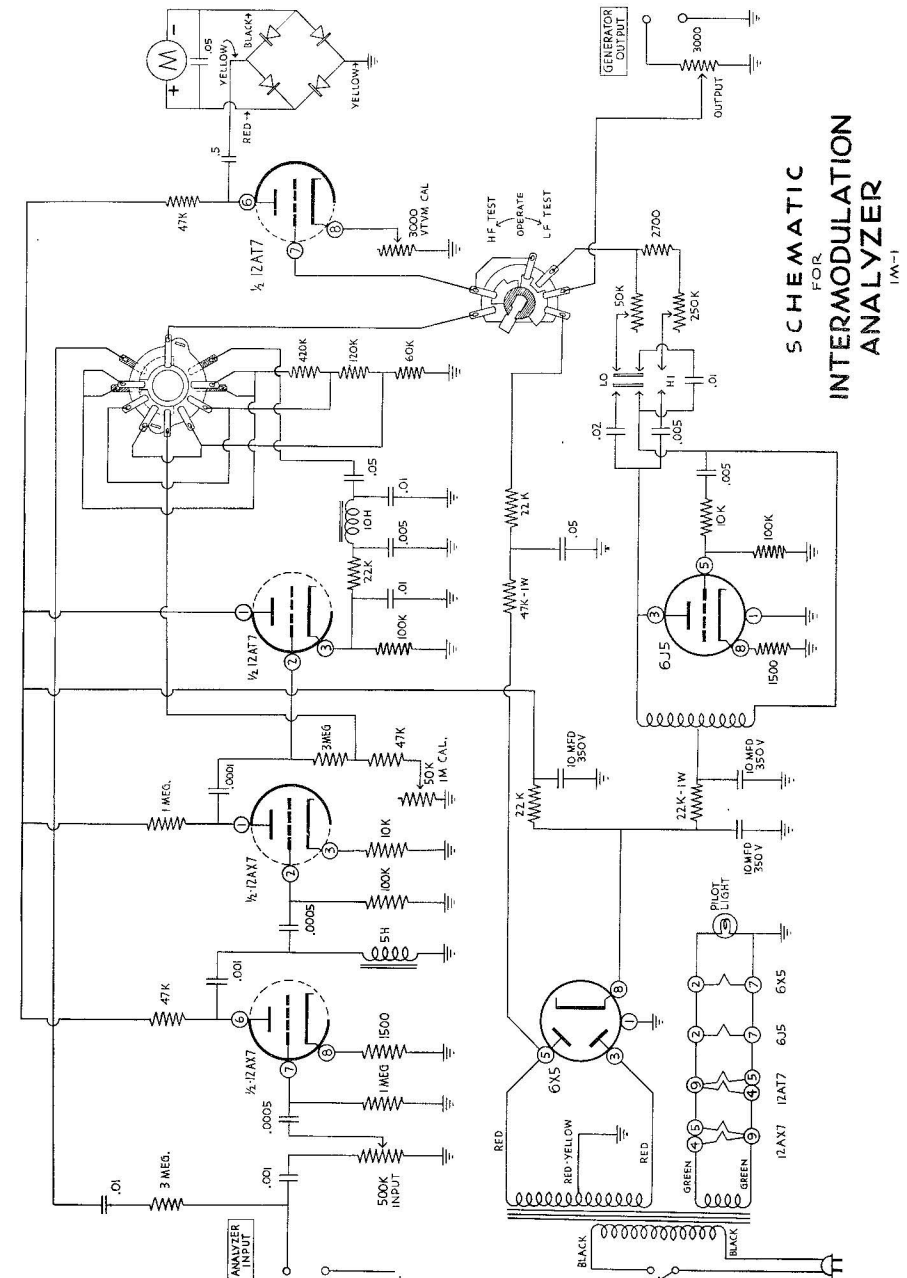


# HEATHKIT INTERMODULATION ANALYZER MODEL IM-1



## TECHNICAL SPECIFICATIONS

Power Requirements:	105-125V AC, 50-60 cycles, 30 Watts (115-230V on export model)
Tube Complement:	1 12AX7 Cascade Amplifier 1 12AT7 Detector and Meter Amplifier 1 6J5 HF Oscillator 1 6X5 Rectifier
Analyzer Ranges:	Full Scale 30% - 10% - 3%
Generator Low Frequency:	60 cycles (Line Frequency)
Generator High Frequencies:	Approx. 3000 and 7000 cycles
LF/HF Ratio:	4 to 1 voltage normal—can be set to any combination.
Generator Output Impedance:	3000 ohms
Voltmeter Ranges:	Full Scale 30 Volts - 10 Volts - 3 Volts
Dimensions:	7" high x 15" wide x 8" deep
Shipping Weight:	10 lbs.



# HEATHKIT ISOLATION TRANSFORMER

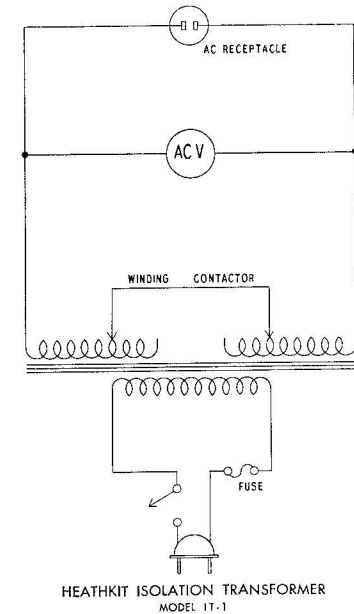
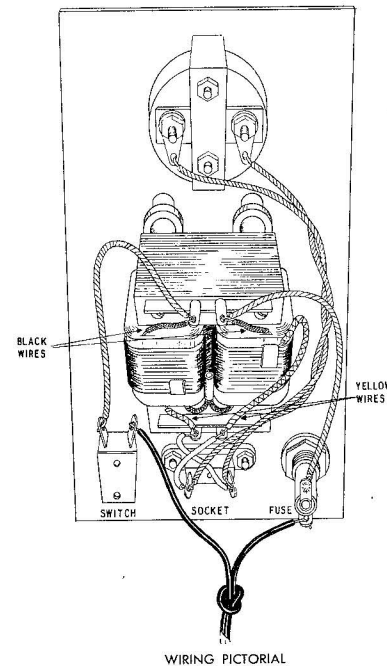
MODEL IT-1



## APPLICATIONS

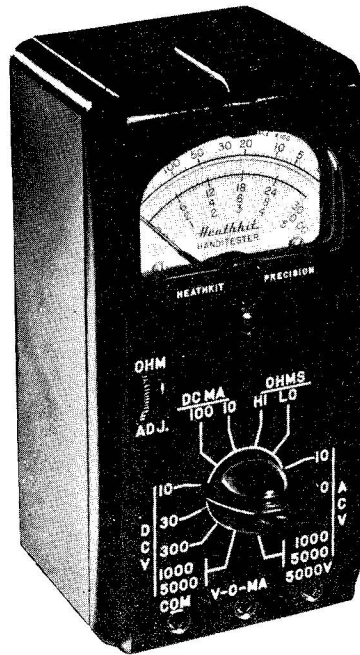
The Heathkit Isolation Transformer will fulfill a multitude of requirements in service shops. Not only will it provide isolation for universal or transformerless type radios and thereby eliminate shock hazard, it will also provide a means of increasing the AC voltage applied to the radio. In this manner, intermittent conditions of operation can be detected by applying higher than normal voltages and thereby inducing a breakdown in the component affected. While this does not necessarily represent the universal solution to intermittent operation difficulties, it will prove extremely helpful in eliminating some of the more common faults.

It is possible that many other applications of the Isolation Transformer will suggest themselves to the user; i.e. it can be used to isolate interference radiating devices from the AC line thereby reducing interference level. It can also be used in checking fluorescent lamp starters by determining the voltage level required for operation. Small motors or appliances may have their operating characteristics altered through the use of a variable voltage isolation transform-



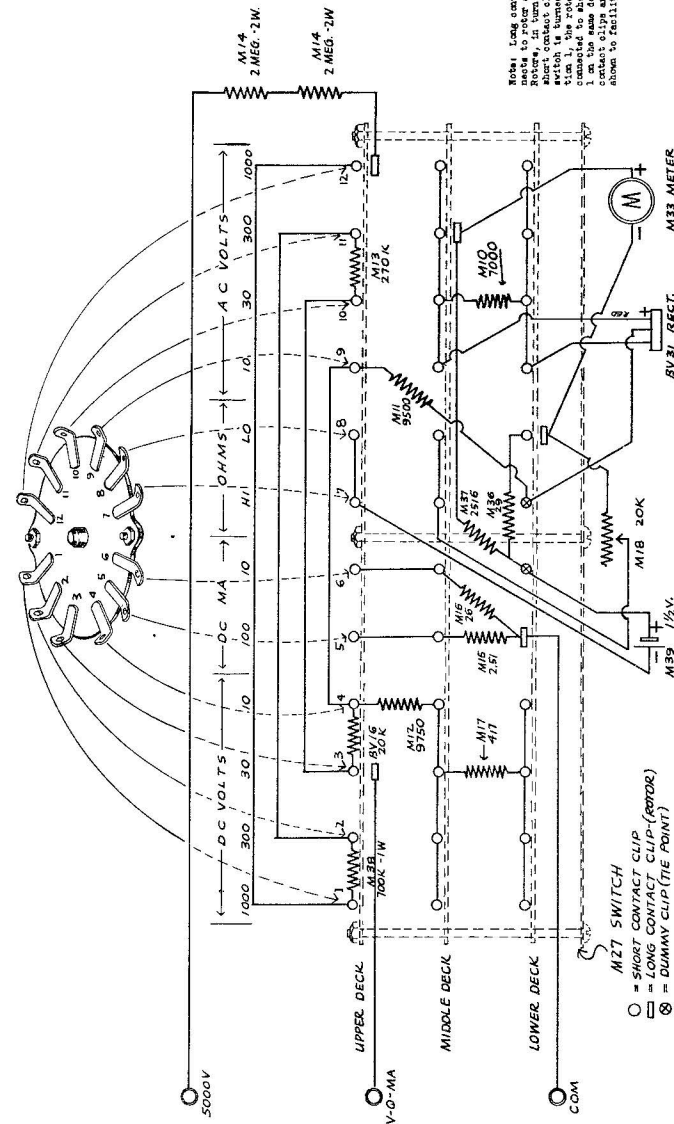


# HEATHKIT HANDITESTER MODEL M-1



## SPECIFICATIONS

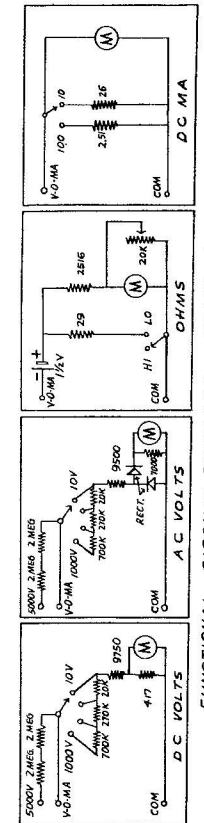
Range DC Volts.....	Full scale 10-30-300-1,000 and 5,000 Volts
Range AC Volts.....	Full scale 10-30-300-1,000 and 5,000 Volts
Range Ohmmeter.....	0-3,000 Ohms 30 Ohms Center 0-300,000 Ohms 30 Ohms Center
Range Milliamperes.....	0-10 MA 0-100 MA
Meter Movement.....	400 Microampere 3"
AC Rectifier.....	Dual half wave
Accuracy.....	1% divider and calibrating resistors provided Meter movement 2% of full scale
Case.....	Streamline Bakelite
Ohmmeter Battery.....	Burgess No. 1 Unicell Flashlight Battery



Note: Long contact clip connects to meter at all times. Short contact clip as the switch is turned. This is post-connection to short contact clip on the same deck. The long contact clip is connected as shown to facilitate wiring.

# Heathkit HANDITESTER KIT MODEL M-1

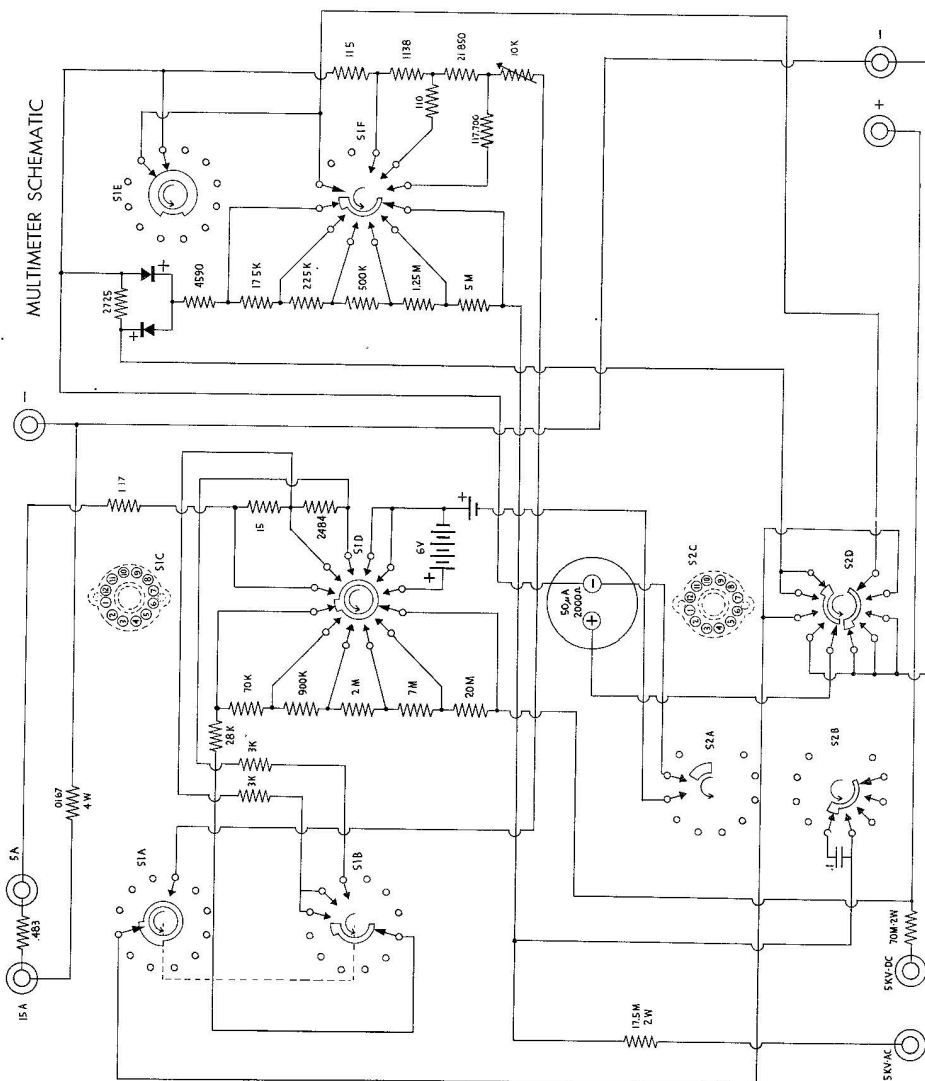
The HEATH COMPANY  
BENTON HARBOR, MICH.



MODEL MM-1

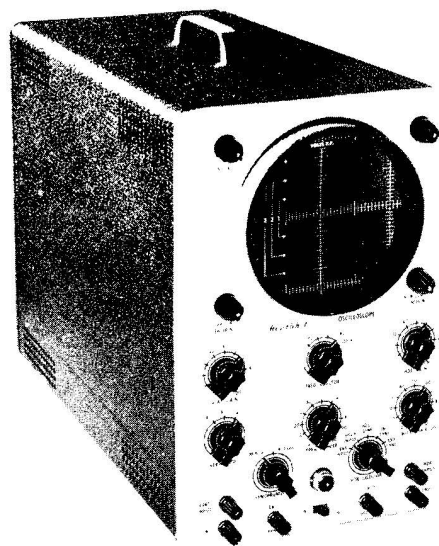


Sensitivity.....	20,000 ohm/volt DC, 5000 ohm/volt AC
Range, DC Volts.....	1.5 - 5 - 50 - 150 - 500 - 1500 - 5000
Range, AC Volts.....	1.5 - 5 - 50 - 150 - 500 - 1500 - 5000
Range, Direct Current.....	150 microamperes, 15 - 150 - 500 milliamperes, 15 amperes.
Range, Ohmmeter.....	0.2 ohms to 20 megohms
Range, Decibels.....	-10 to +65 db
Resistors.....	1% precision type
Controls.....	Range switch, Output-AC-DC-Reverse DC switch, Ohms adjust control.
Batteries.....	1 type C cell, 4 Penlite cells
Cabinet.....	Black Bakelite
Dimensions.....	7 1/2" x 5 1/2" x 4"
Net Weight.....	4 lbs.
Shipping Weight.....	.6 lbs.



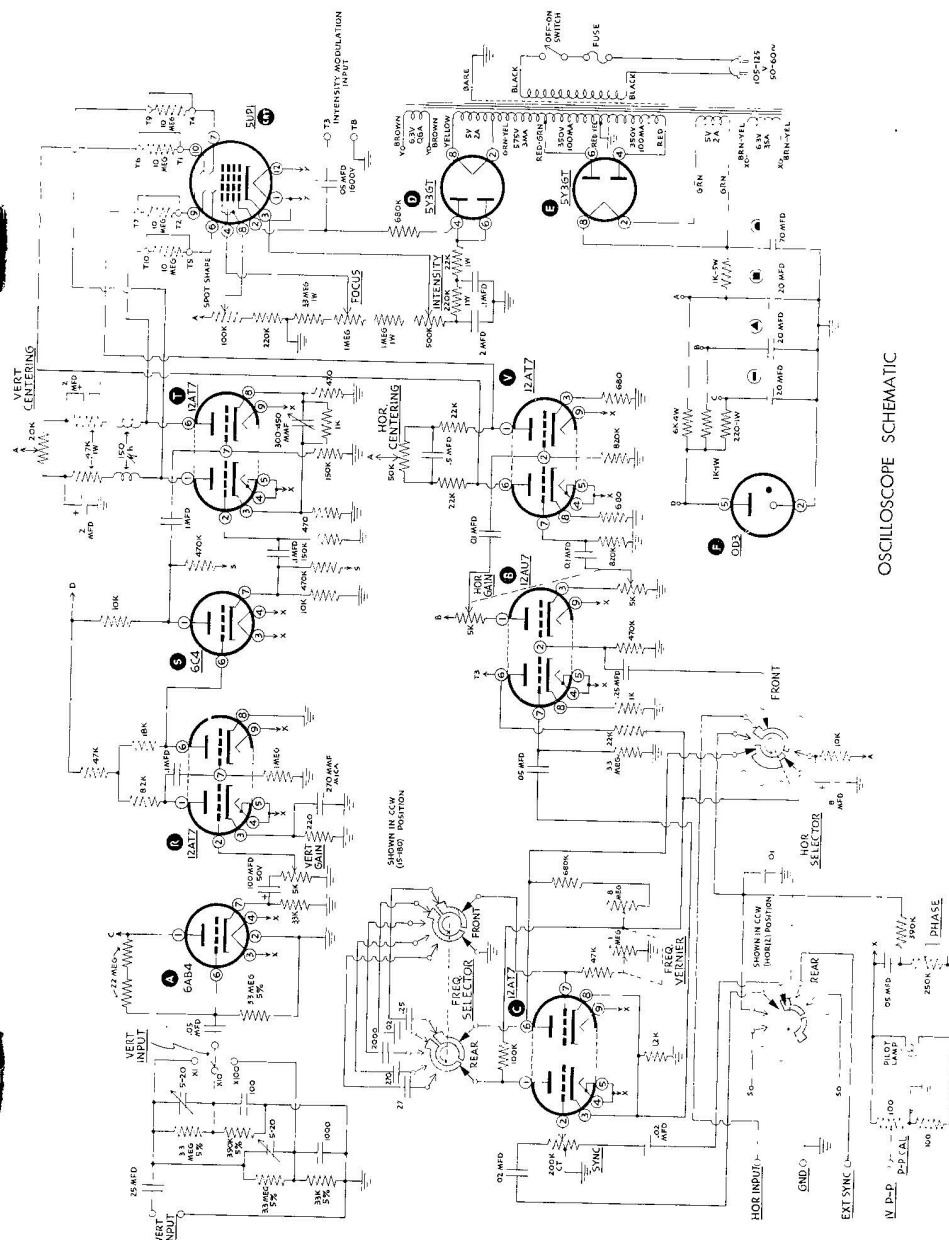
# HEATHKIT OSCILLOSCOPE

## MODEL O-9



### SPECIFICATIONS

Vertical: Frequency Response.....	±2 db 10 cycles to 2 mc
	±6 db 5 cycles to 3 mc
Sensitivity.....	0.025 volts per inch at 1 kc
Input Impedance.....	47 $\mu$ f shunting 2 megohm X1 position
	35 $\mu$ f shunting 2 megohm X10-100 position
Horizontal: Frequency Response.....	±6 db 10 cycles to 500 kc
Sensitivity.....	0.6 volts per inch at 1 kc
Input Impedance.....	25 $\mu$ f shunting 1 megohm
Sweep Generator.....	Multivibrator - frequency range of 10-50,000 cps
Tube Complement.....	1 - 5UP1 Cathode Ray Tube
	1 - 6AB4 Vertical Input
	1 - 12AU7 Horizontal Input and Blanking
	1 - OD3 Regulator
	1 - 6C4 Vertical Phase Splitter
	4 - 12AT7 Multivibrator, Vertical Cascade Amplifier, Horizontal and Vertical Deflection Amplifiers.
Power Requirements.....	2 - 5Y3GT Low and High Voltage Rectifiers
Dimensions.....	105-125 volts 50/60 cycle, 70 watts
Net Weight.....	8 5/8" wide x 14 1/8" high x 16" deep
Shipping Weight.....	18 1/2 lbs.
	26 lbs.

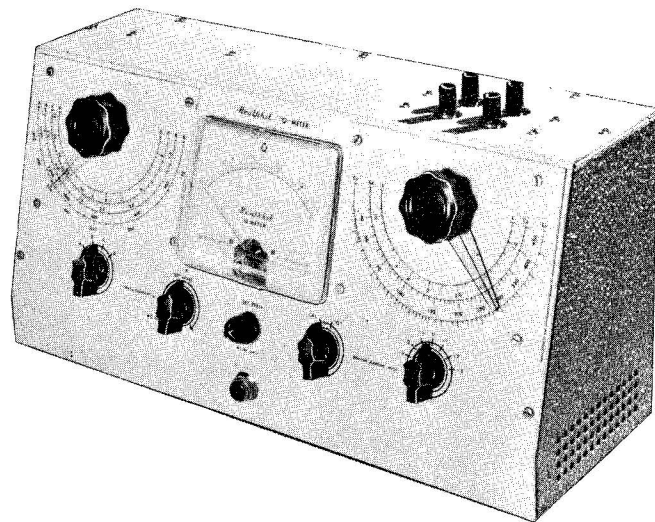


OSCILLOSCOPE SCHEMATIC

# HEATHKIT

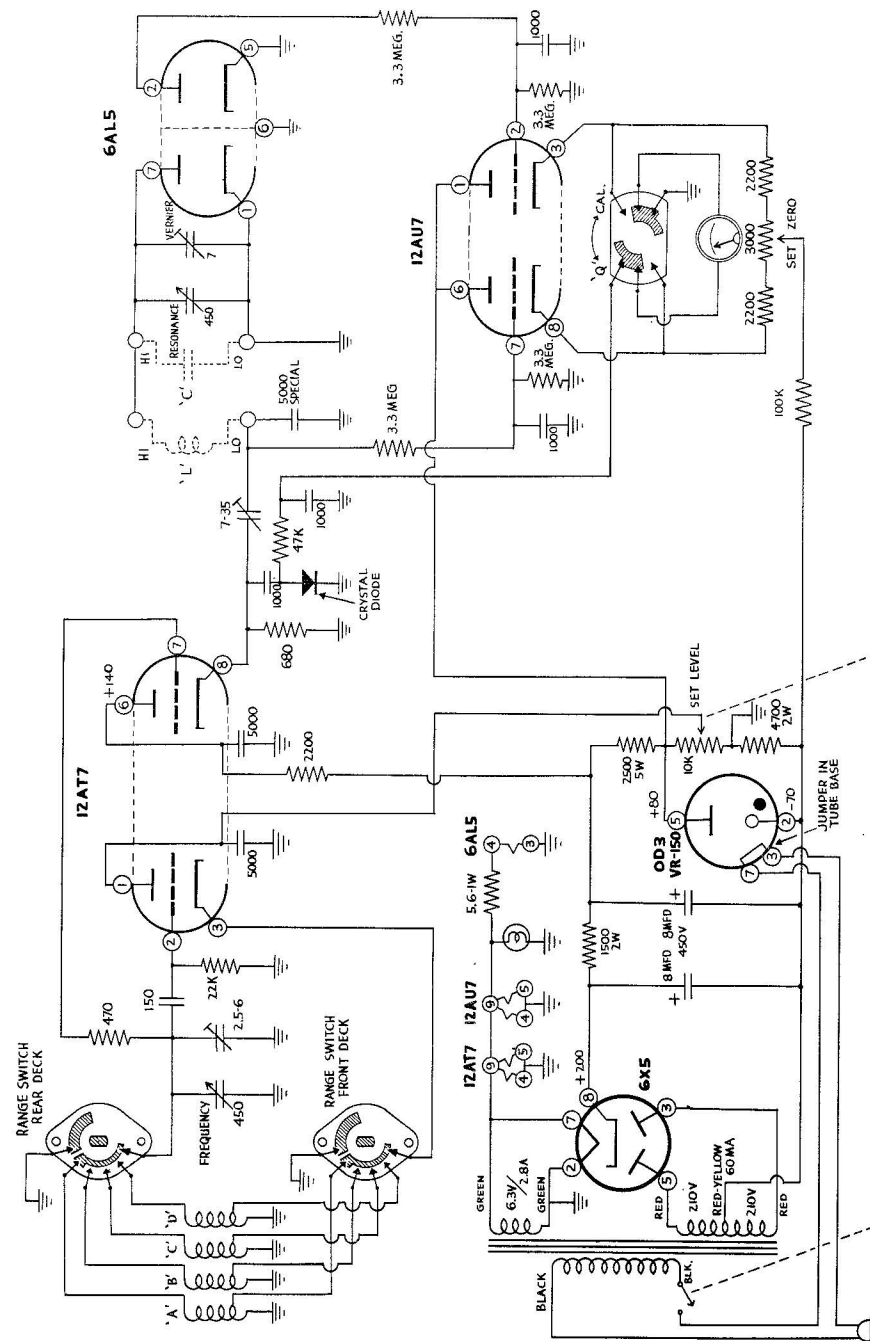
## MODEL QM-1

### 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

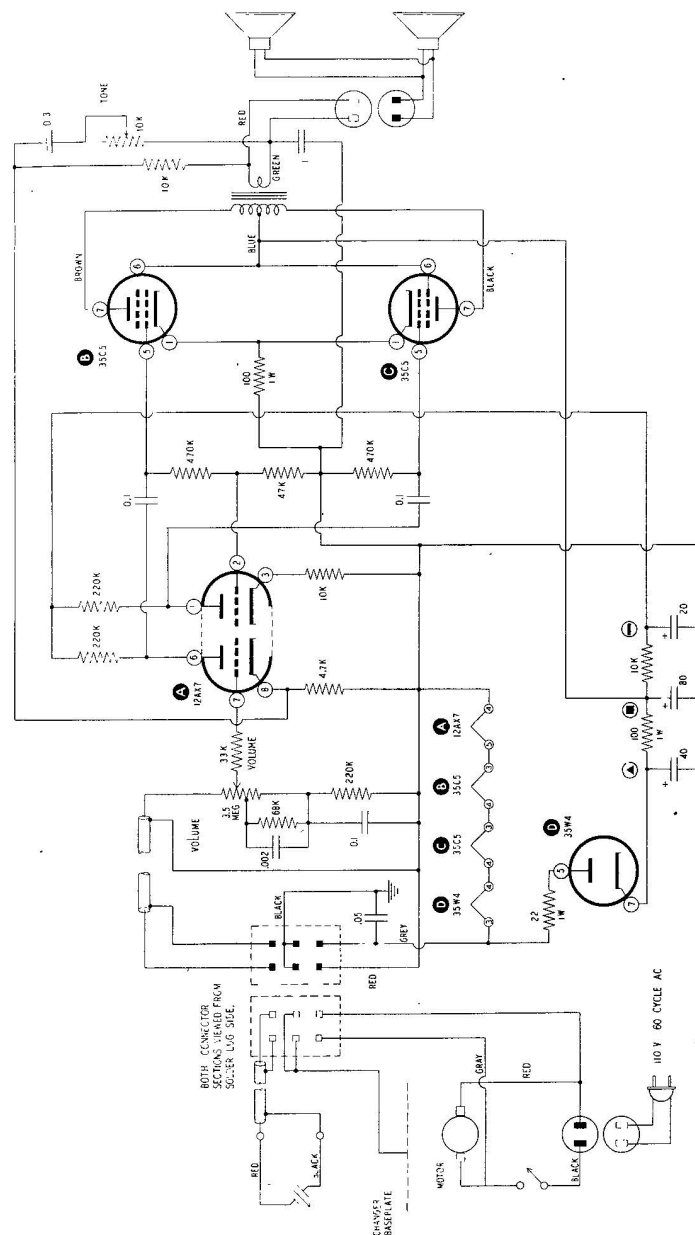


## MODEL RP-1



Tube Complement.....	12AX7 Voltage Amplifier and Phase Splitter 2 - 35C5 Push-Pull Power Amplifiers 35W4 Rectifier
Controls.....	Compensated Volume Control Separate Tone Control
Power Requirements.....	117 volt 60 cycle AC, 45 watts

Record Changer.....	Three speed, Automatic shut-off
Speakers.....	2 - 6" matched
Cabinet.....	Proxilyn Impregnated Fabric Covered
Dimensions.....	16 3/4" x 12 1/4" x 10 1/2" high
Shipping Weight.....	30 lbs.



HEATHKIT RECORD PLAYER  
MODEL RP-1

# Heathkit Electronic Switch

Model S-2



## TECHNICAL SPECIFICATIONS

Input Voltage . . . . . 110-125V AC 50-60 cycles

Power Consumption . . . . . 25 Watts

Tube Complement:

- 1 . . . . . 6X5 (GT) Rectifier
- 1 . . . . . 6SN7 (GT) Multivibrator
- 1 . . . . . 6SN7 (GT) Blocking Tube
- 1 . . . . . 6SH7 (GT) or 6SJ7 (GT) A Amplifier
- 1 . . . . . 6SH7 (GT) or 6SJ7 (GT) B Amplifier

Control Line Up:

Gain A Control . . . . . Coarse Frequency Control  
Gain B Control . . . . . Fine Frequency Control  
Position Control

Approximate Switching Rates: (Continuously variable)

Low range: Less than 10 Cps. to 100 Cps.

Middle range: 50 Cps. to 400 Cps.

High range: 250 Cps. to 2000 Cps.

Physical Specifications:

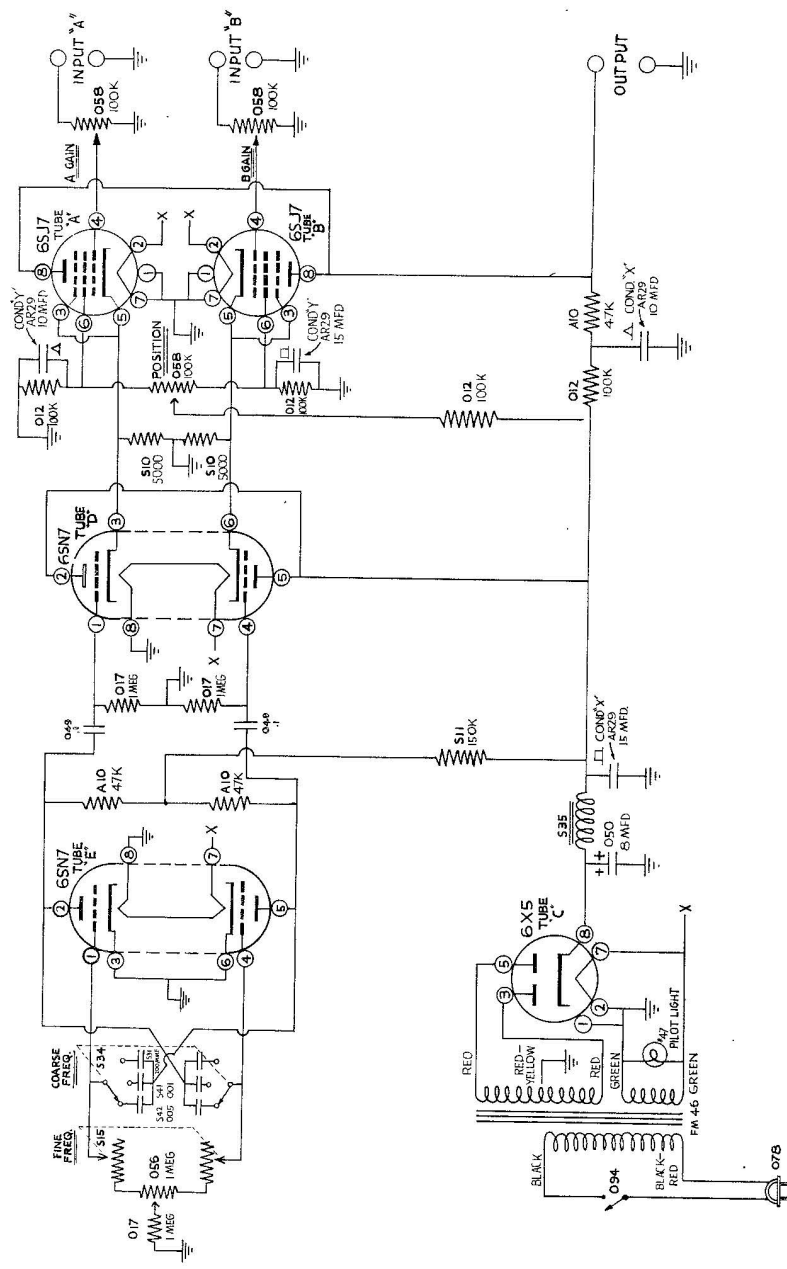
Length (excluding knobs) . . . . . 10 1/8"

Width . . . . . 5 5/8"

Height (excluding handle and feet) . . . . . 6 5/8"

Net Weight . . . . . 8 lbs.

Shipping Weight . . . . . 10 lbs.



Schematic

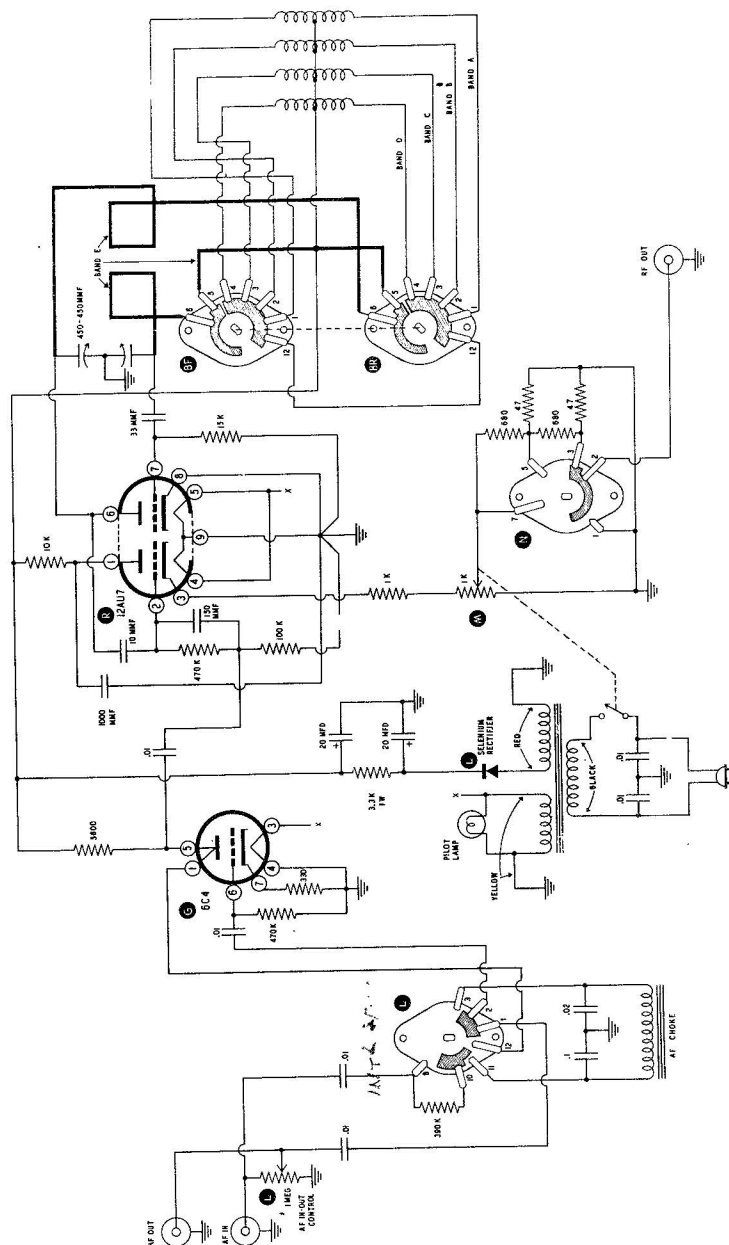
# HEATHKIT SIGNAL GENERATOR

## MODEL SG-8



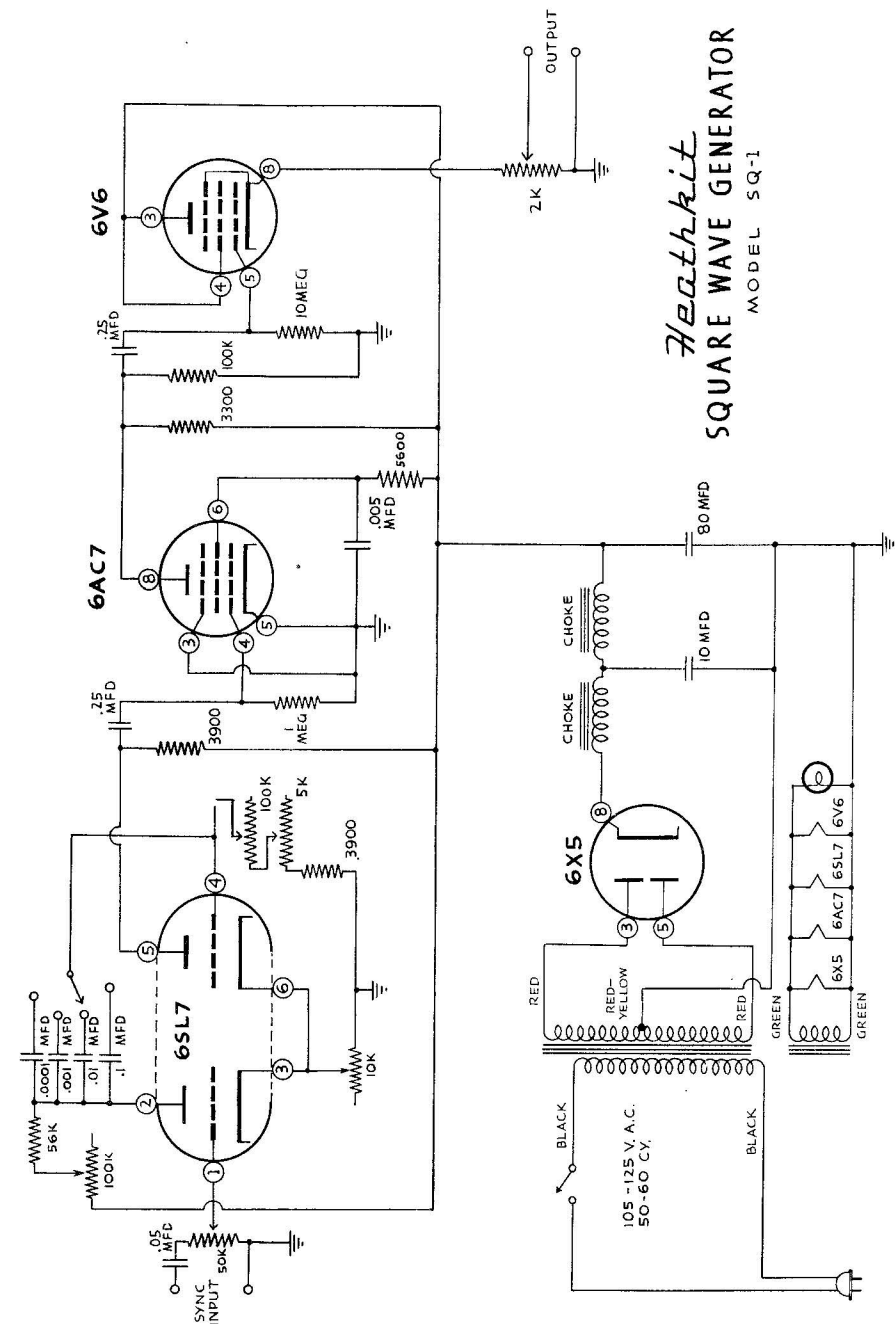
## SPECIFICATIONS

Frequency Range	
Band A.....	160 kc to 500 kc
Band B.....	500 kc to 1650 kc
Band C.....	1.65 mc to 6.5 mc
Band D.....	6.5 mc to 25 mc
Band E.....	25 mc to 110 mc
Calibrated Harmonics.....	110 mc to 220 mc
Radio Frequency Output.....	In excess of 100,000 microvolts
Modulation Frequency.....	Approximately 400 cycles
Audio Output.....	2 to 3 volts
Audio Frequency Input.....	Approximately 5 v across 1 megohm
Tubes	
12AU7.....	RF Oscillator-Buffer
6C4.....	Audio Oscillator or Audio Amplifier
Power Requirements.....	105-125 v, 50/60 cycles
Cabinet Size.....	9 1/2 wide x 6 1/2 high x 5 deep
Shipping Weight.....	7 lbs.



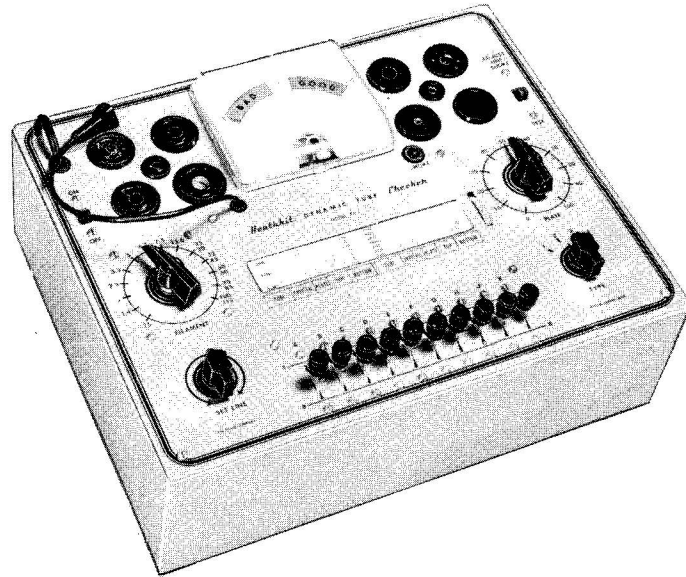


Power Requirements:	105-125 VAC, 50-60 Cycle, 10 Watts
Ranges:	100 - 1000 - 10 KC - 100 KC
Tube Complement:	1 - 6SL7, 1 - 6AC7, 1 - 6V6, 1 - 6X5
Physical Specifications:	12½" Long, 7" High, 7½" Deep
Shipping Weight 13 lbs.	Net Weight 11 lbs.



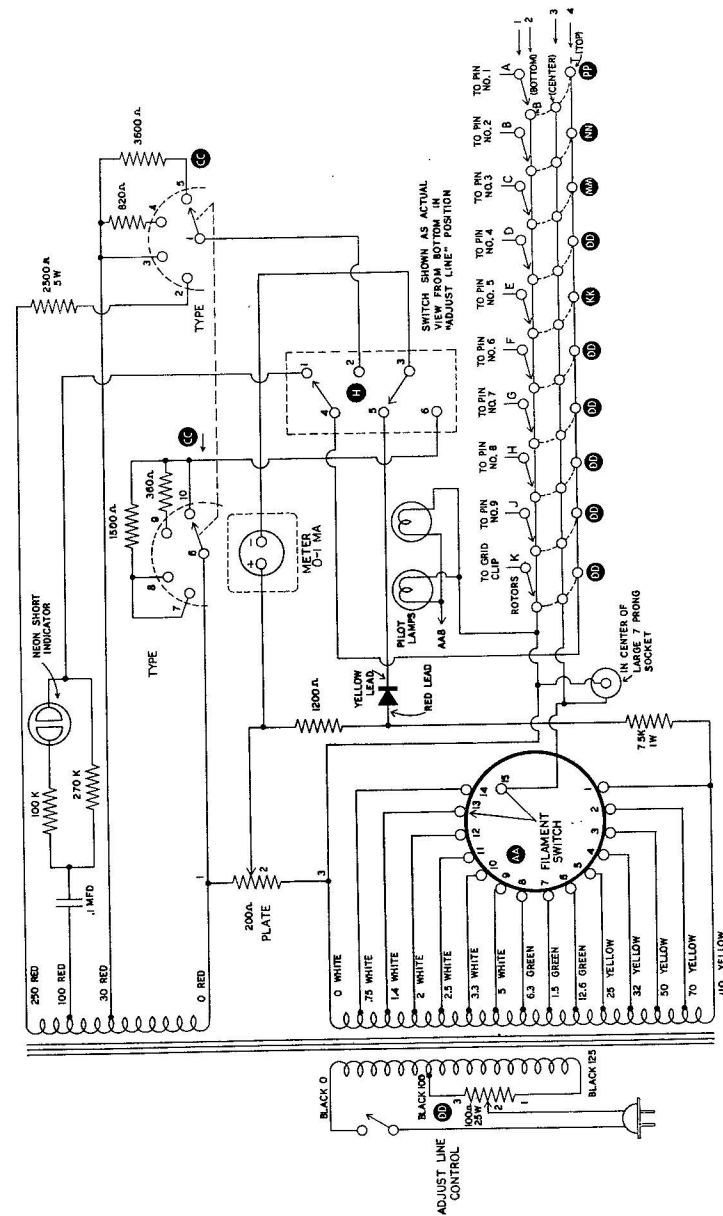
# HEATHKIT TUBE CHECKER

## MODEL TC-2



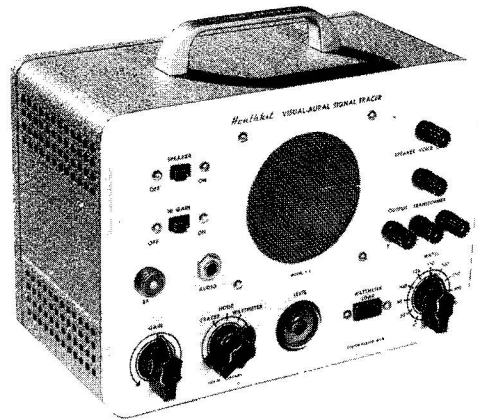
### SPECIFICATIONS

Simplified set-up procedure.  
 Rapid switch selection of individual tube elements.  
 Any combination of base pin connections.  
 Check for quality, emission, shorted elements, open elements, and filament continuity.  
 Checks 4, 5, 6, and 7 pin large, regular and miniature, octal, loctal, Hytron, 9 pin miniature and pilot lamps.  
 Individual tests on multiple element tubes.  
 Blank panel socket for obsolescence protection.  
 Compensation for line voltage variation.  
 New smooth rolling illuminated roll chart.  
 Easy to read GOOD-BAD meter scale.  
 Fourteen Filament voltages - .75 to 117 volts  
 Element Test Voltages.....0-250 volts  
 Dimensions.....14" wide x 11" deep x 4 1/4" high  
 Power Requirements.....105-125 volts 50/60 cycles AC



SCHEMATIC  
 HEATHKIT TUBE CHECKER  
 Model TC-2

# HEATHKIT VISUAL-AURAL SIGNAL TRACER MODEL T-3



## FEATURES AND APPLICATIONS

High gain RF channel for direct observation of actual transmitted signal. Can be used for AM, FM and TV circuit investigation.  
Low gain channel for audio circuit exploration.  
Visual signal indicator.  
Convenient wattmeter circuit.  
Noise locator circuit.  
Utility amplifier for checking record changers, tuners, etc.  
Useful for checking microphones, musical instrument pickups and speakers.  
Substitution test speaker and output transformer.  
Oscilloscope preamplifier.  
VTVM panel terminals.  
Output meter.

## TUBE COMPLEMENT

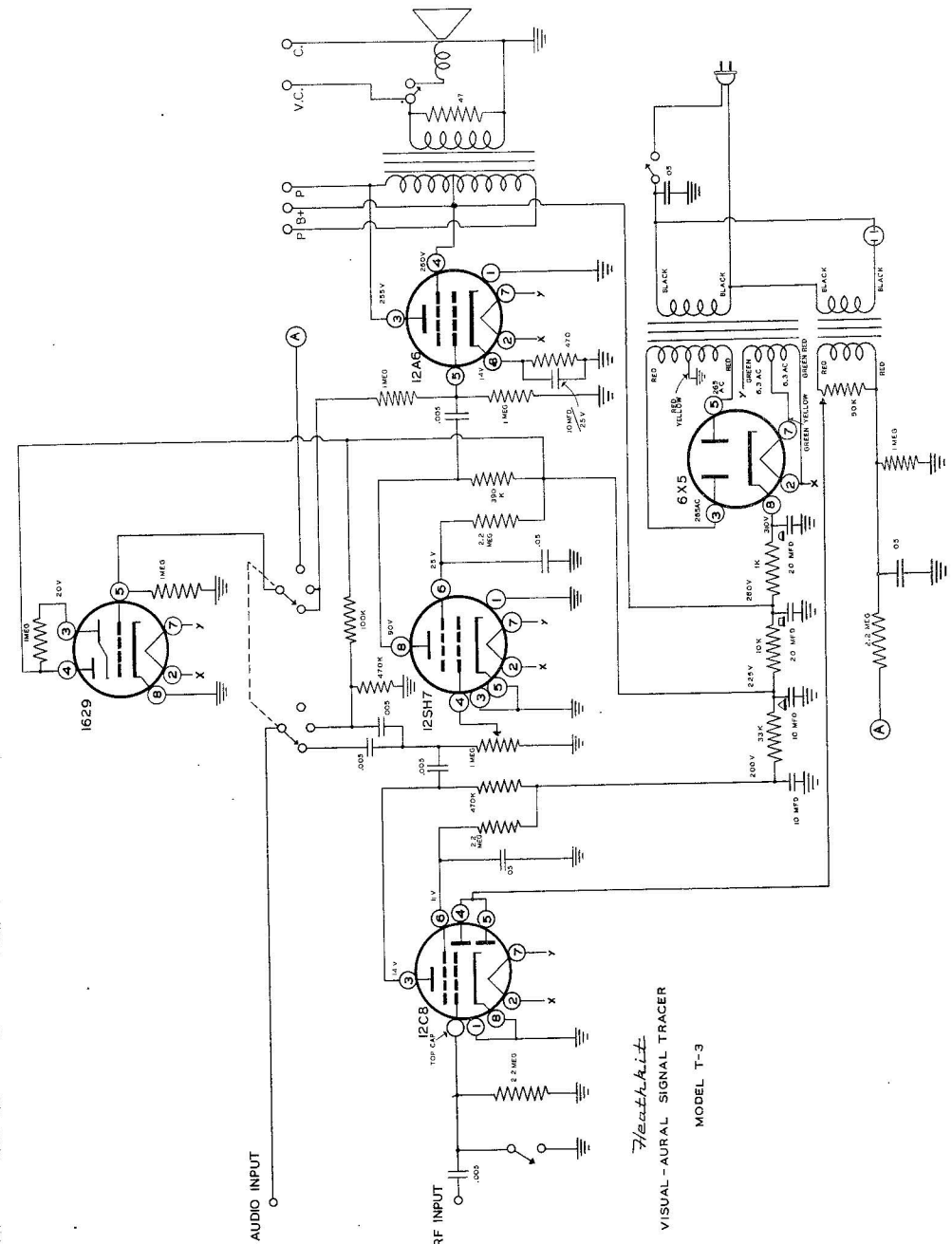
12C8 amplifier and wattmeter rectifier.  
12SH7 high gain pentode amplifier.  
12A6 beam power output.  
1629 electron beam visual indicator.  
6X5 full-wave rectifier.

## PROBES AND TEST LEADS

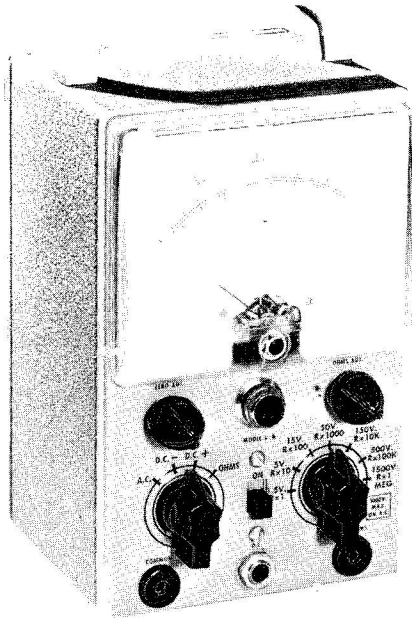
Shielded RF probe and lead.  
Audio probe and lead.  
Two flexible panel test leads with alligator clips.

## SPECIFICATIONS

Cabinet size  $9\frac{1}{2}$ " wide  $6\frac{1}{2}$ " high 5" deep.  
Shipping weight 8 pounds.  
Power requirements 110 to 120 volts AC at 50-60 cycles.

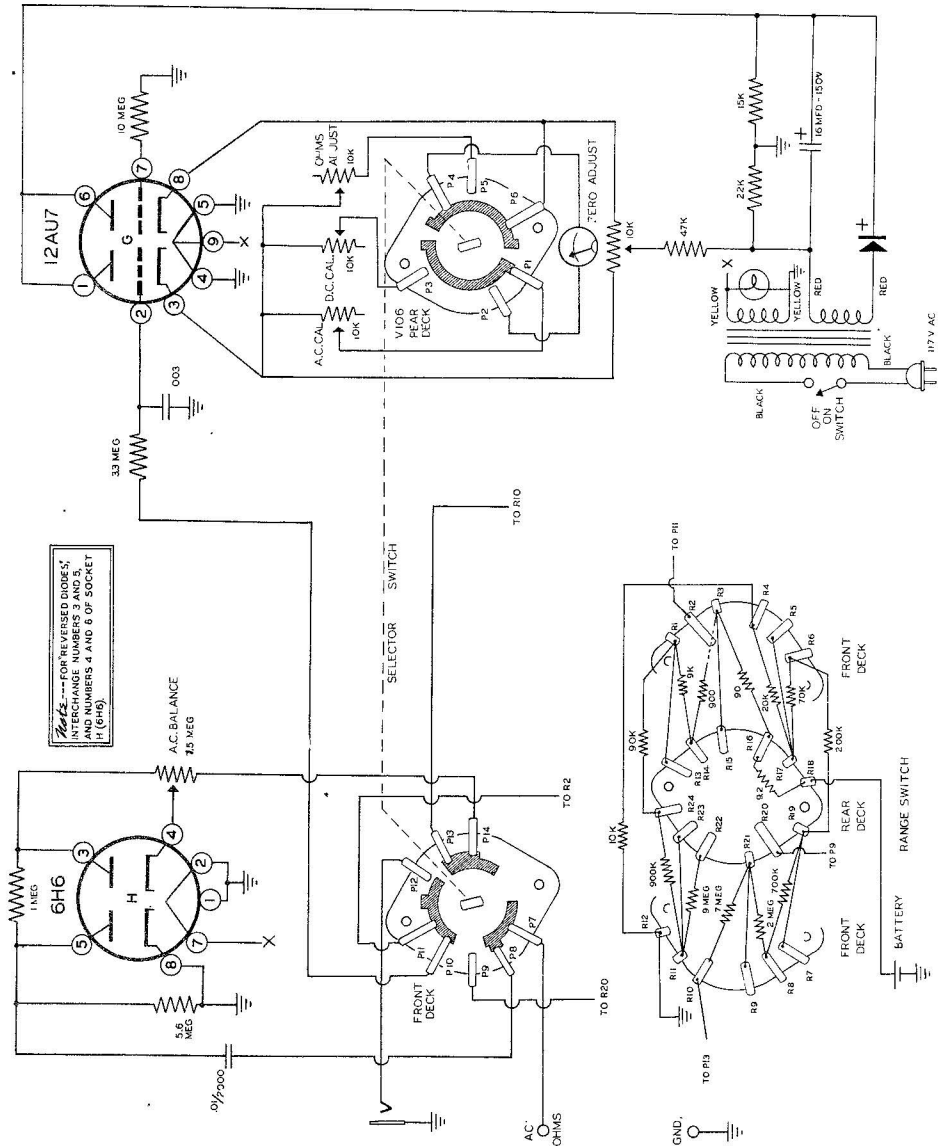


## HEATHKIT VTVM . . . . MODEL V-6

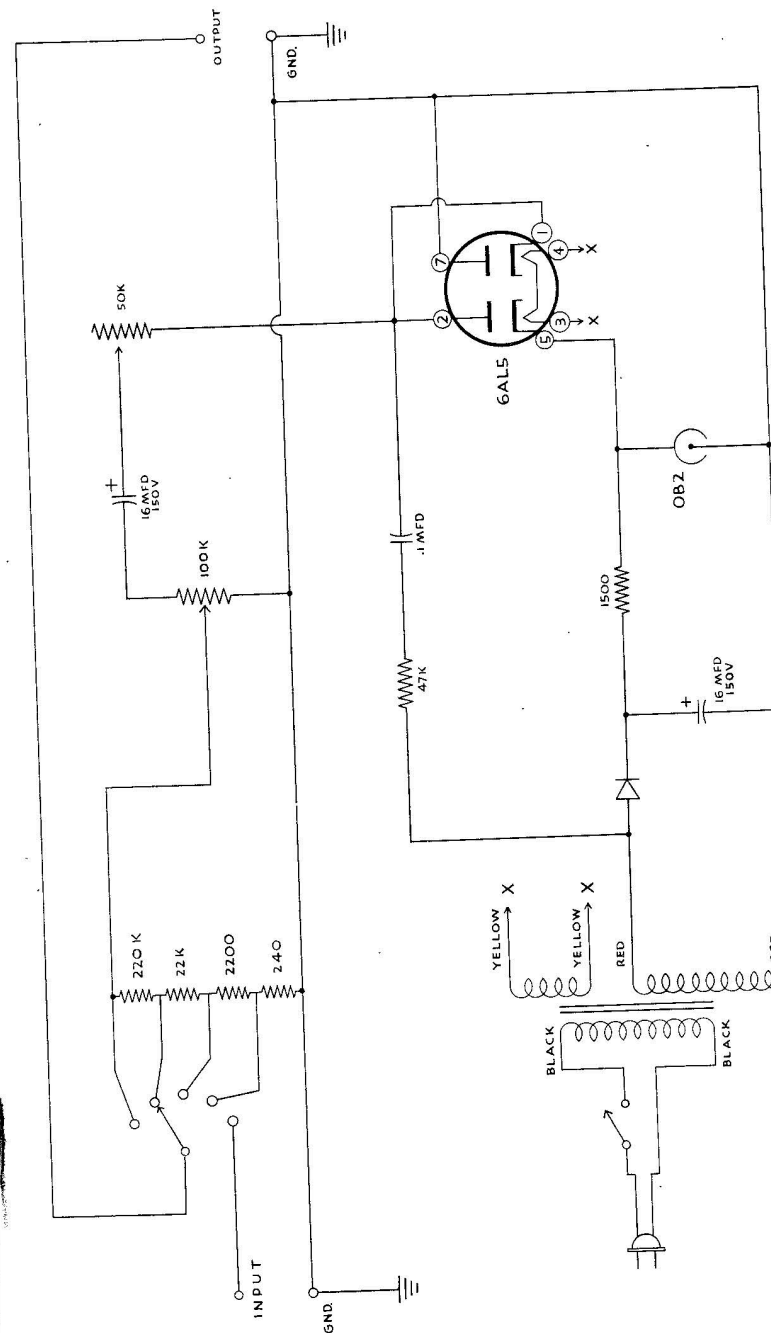


## SPECIFICATIONS

Power Requirements: . . . . .	105-125V 50/60 Cycle AC, 10 Watts.
Cabinet Size: . . . . .	7 3/8" high x 4 11/16" wide x 4 1/8" deep.
Kit Shipping Weight: . . . . .	7 pounds
Meter: . . . . .	4 1/2" Streamlined case with 200 microampere movement.
Multipliers: . . . . .	Precision type.
Tubes: . . . . .	1 - 12AU7 Twin triode meter bridge. 1 - 6H6 Twin diode AC rectifier.
Power Supply: . . . . .	Power transformer and selenium rectifier.
Battery . . . . .	1 1/2 Volt flashlight cell
D. C. Voltmeter: 7 Ranges: . . . . .	0-1.5, 5, 15, 50, 150, 500, 1500 volts full scale. With accessory probe to 30,000 Volts.
Input Resistance:	11 Megohms (1 megohm in probe) on all ranges. 1,100 megohms with accessory probe.
Sensitivity:	7,333,333 ohms per volt on 1.5 Volt range.
Circuit:	Balanced bridge (push-pull) using twin triode.
Electronic AC Voltmeter: 7 Ranges: . . . . .	0-1.5, 5, 15, 50, 150, 500, 1,500, (1000V Max.) Scales reading R.M.S. (.707 of positive peak).
Circuit:	Diode with adjustable compensation.
Electronic Ohmmeter: 7 Ranges: . . . . .	Scale with 10 ohms center x1, x10, x100, x1000, x10K, x100K, x1 Meg. Measures .1 ohm to 1,000 megohms with internal battery.

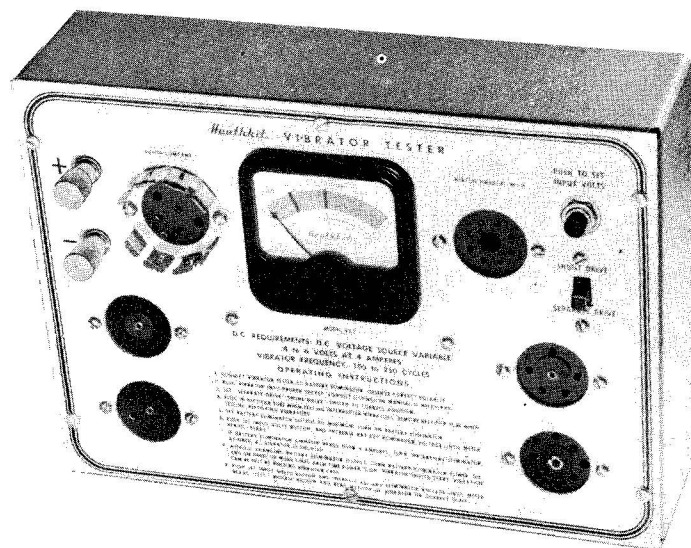


Power Requirements: . . . . . 105-125V AC, 50-60 Cycles, 5 Watts.  
 Tube Complement: . . . . . 1 6AL5 Clipper, 1 OB2 Voltage Regulator.  
 Input Impedance: . . . . . Approx. 25 MMF with signal fed through calibrator  
 Ranges: Using Peak-To-Peak Volts  
           Control and Output Multi-  
           plier switch . . . . . 0 - 1 Volt  
   0 - 1 Volt  
   0 - 10 Volts  
   0 - 100 Volts  
 Cabinet Dimensions: . . . . . 8 1/8" Wide x 4 3/8" High x 4 7/8" Deep



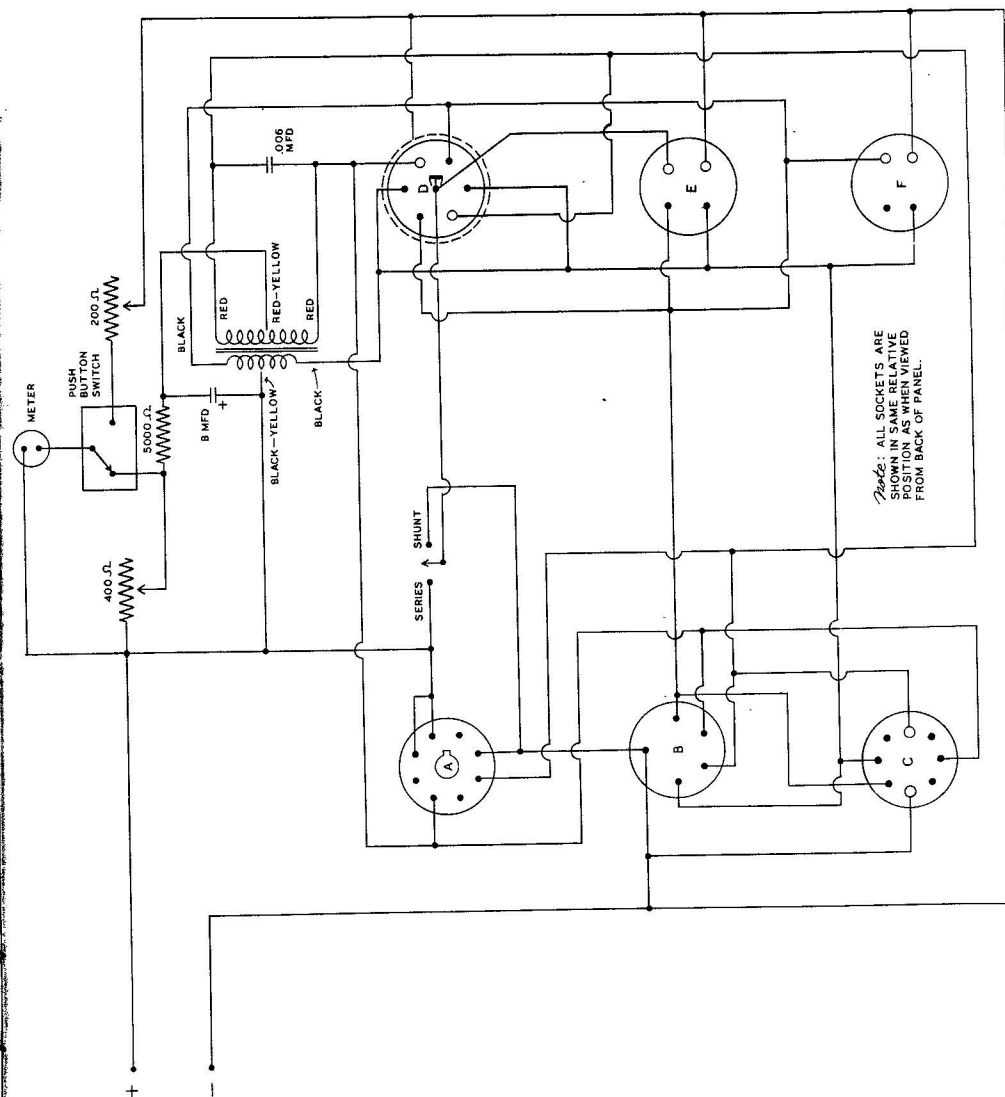
*Heathkit*  
VOLTAGE CALIBRATOR  
MODEL VC-2

# HEATHKIT MODEL VT-1 VIBRATOR TESTER



## SPECIFICATIONS

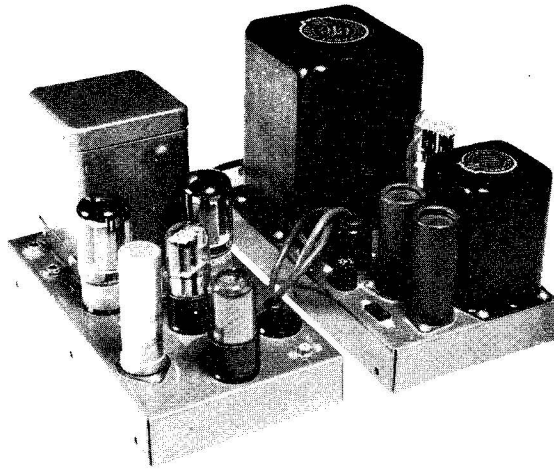
Power Requirements	4 to 6 Volts DC (Variable) 4 Amperes
Meter Indications	GOOD—BAD
Size	Length 10", width 7 1/8", Depth 3 1/2"
Shipping Weight	7 Pounds







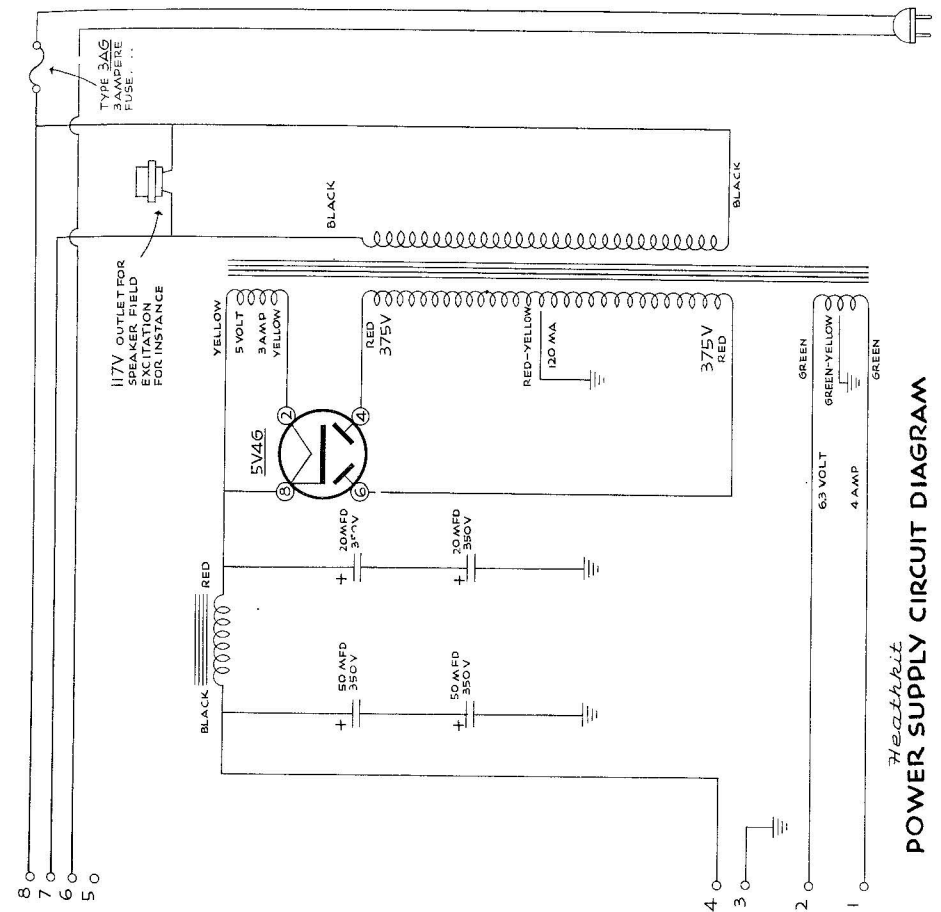
# HEATHKIT "WILLIAMSON TYPE" AMPLIFIER MODEL W-2



## TECHNICAL SPECIFICATIONS

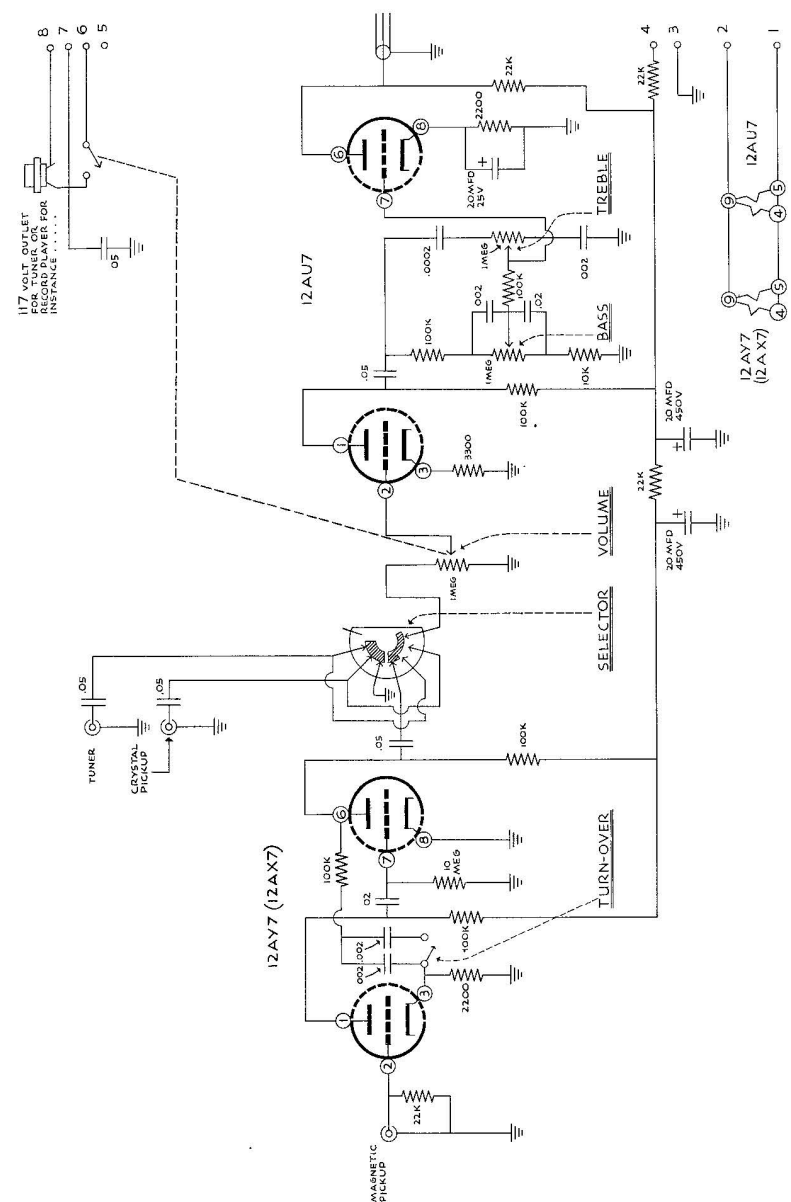
### Amplifier and Power Supply (W-2M)

Tube Complement . . . . . 2 - 6SN7GT; 2-5881; 1 - 5V4G  
 Frequency response . . . . . within 1 db from 10 cycles to 100 KC.  
 Harmonic distortion at 5 watt output . . . less than 0.5% between 20 cycles and 20 KC  
 IM distortion at 5 watt equivalent output . . 0.5% using 60 and 3000 cycles.  
 Output impedance . . . . . 4, 8 or 16 ohms .  
 Input voltage for 5 watt output . . . . . .75 volts across 2.2 megohms  
 Power requirements . . . . . 105-125 volts 50/60 cycles 120 watts.  
 Overall dimensions (each unit) . . . . . 7" high x 5½" wide x 11" long.



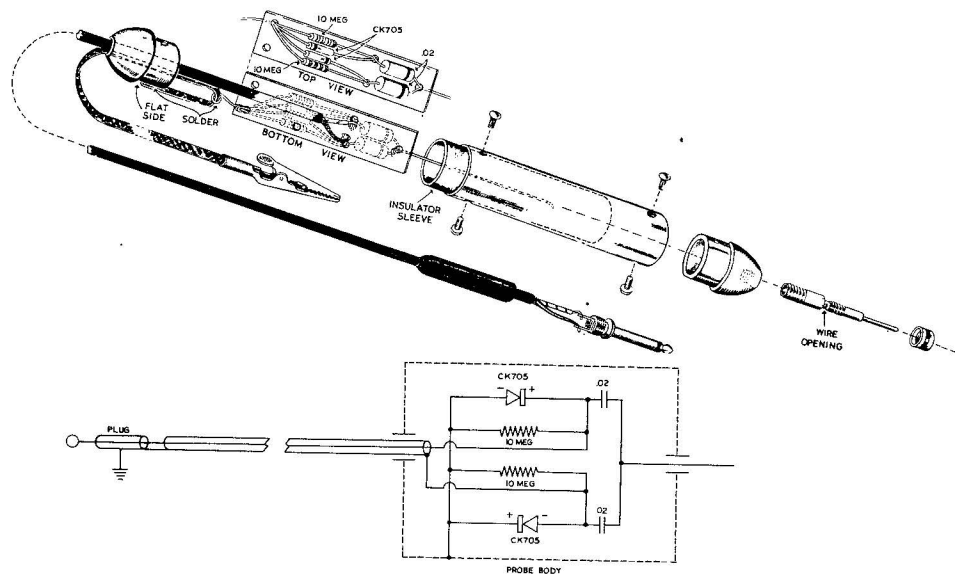
Heathkit  
POWER SUPPLY CIRCUIT DIAGRAM

Tube Complement. . . . .	1 - 12AY7 (or 12AX7) and 1 - 12AU7.
Switch selected inputs. . . . .	2 - low gain for crystal pickup and tuner. 1 - high gain for magnetic pickup.
Switch selected turn-over . . . . .	for 78 RPM and LP on high gain channel.
Base tone control at 20 cycles . . . . .	boosts 15 db max., cuts 15 db max.
Treble tone control at 20KC. . . . .	boosts 15 db max., cuts 15 db max.
Input voltage at 1kC for 1.2 volts output. . . . .	0.2 volts across 1 megohm on low gain channels. 0.004 volts across 22K on high gain channel
Power requirements. . . . .	220V DC at 6 mA and 6.3V at 600 mA.
Dimensions less shafts and knobs. . . . .	2½" high x 10¼" wide x 7¼" deep.



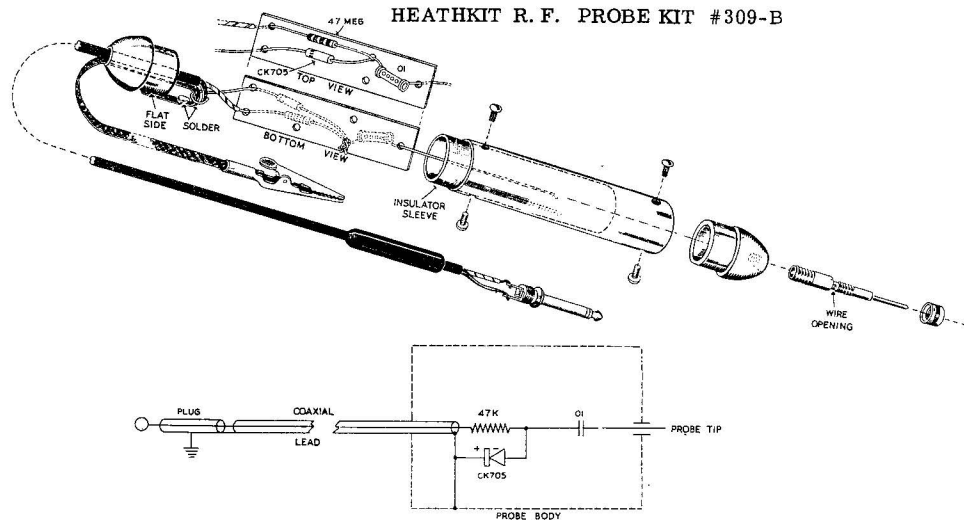
### PREAMPLIFIER CIRCUIT DIAGRAM

# HEATHKIT PEAK-TO-PEAK VOLTAGE PROBE #338-B



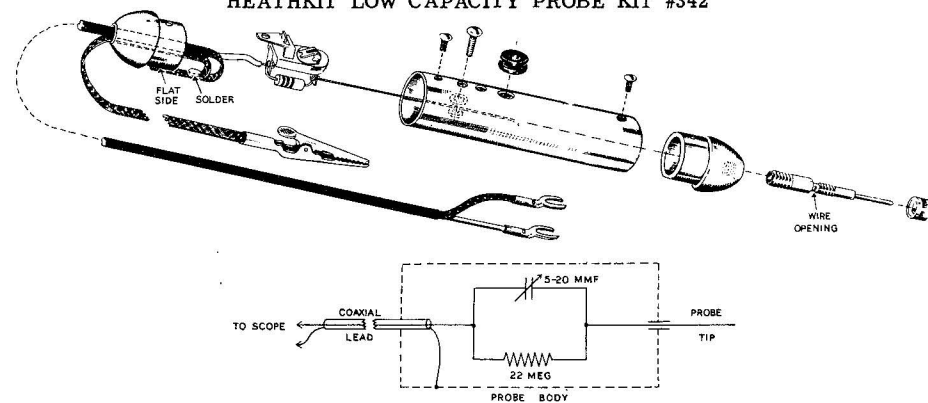
PEAK TO PEAK PROBE 338-B

# HEATHKIT R. F. PROBE KIT #309-B

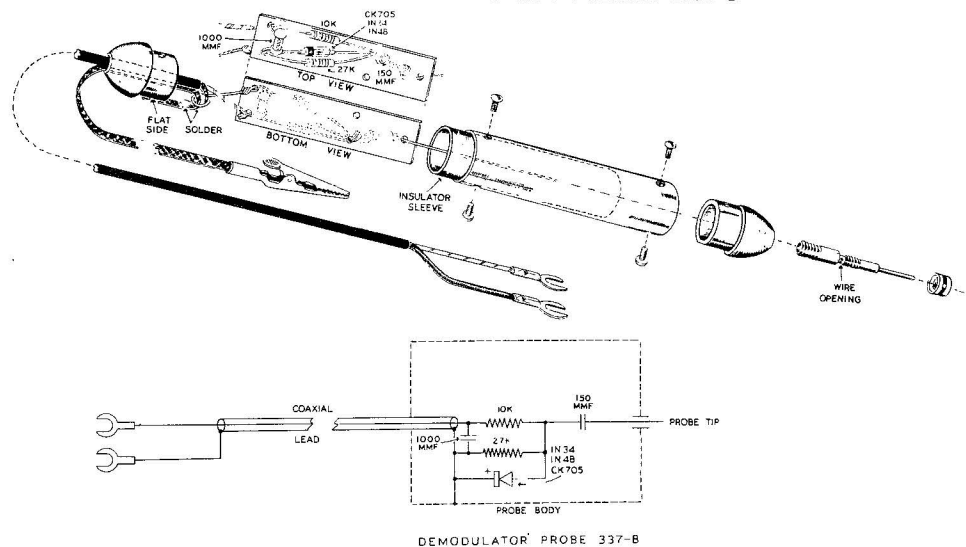


RF PROBE 309-B

# HEATHKIT LOW CAPACITY PROBE KIT #342



# HEATHKIT DEMODULATOR PROBE #337-B



DEMODULATOR PROBE 337-B

This presentation of HEATHKIT SPECIFICATIONS AND SCHEMATICS represents the world's greatest selection of kit form electronic equipment offered by the world's largest kit manufacturing company.

"Always the leader and pioneer in kit form electronics."

**Heath Company      Benton Harbor , Michigan**



*Quality*

ELECTRONIC  
EQUIPMENT  
IN KIT FORM