RADIO TERMS ILLUSTRATED

RATED

PLATE

A SOLID GROUND CONNECTION Visitors to the Heathkit factory are often surprised to find we have no sales department or sales manager. We don't need one--our customers do the selling. Thousands of letters every month start out, "My friend showed me his VTVM and I want one." Keep this up! It means better quality for all of you because whereas most manufacturers spend 30% or more for selling costs, we spend only 5% and put the rest in more features, better parts and lower prices. Look any Heathkit over and you will see what we mean. This Flyer is produced by the engineering department.

ebhuaha

Another Heath policy saves you money--that of allowing the customer to send postage balances to us instead of sending the equipment C.O.D. for small amounts. In the past two years, we have saved you thousands in C.O.D. fees. Other radio companies told us we would never get the money; however, our customers have fully justified our confidence in them. This, we feel is a wonderful testimonial to the American people--think of it, customers in every state throughout the U.S., most of whom have never seen the Heath Company, all sending balances promptly.

Many of you inquire about dealers for Heathkits. As noted above, we do not sell through dealers for many reasons. First, we feel that there needs to be a personal connection between us and the customer. Thus, we can best advise you in case of difficulty. Secondly, by buying direct from us, we know who our customers are and can send them this Flyer with tips for better use of Heathkit equipment. Thirdly, we feel we can save our customers money. A Heathkit VTVM through a dealer would have to sell for at least \$31.50 instead of \$24.50. This does not mean we are opposed to dealers, who serve a very definite need. No one would want to write ten letters to get ten different radio parts. Certainly supply houses are necessary for miscellaneous materials. But where factory assistance to the customer is desirable, as in the case of Heathkits, we feel we must sell them direct.



Only Heathkits have $4\frac{1}{2}$ " 200 microampere meters.



Only Heathkits have 1% precision ceramic resistors.



Only Heathkits give 24 complete ranges with full scale range of 3 volts.



Only Heathkit has AC balance control.

Heathkit VTVM has every desirable beature .. Regardless of Price them! CHECK FEATURES

*Meter scale 17% longer than average 4¹/₂" meter. *Modern streamline 200 ua

meter.

*New modern streamline styling. *Burn-out proof meter circuit. *24 Complete ranges.

*Isolated probe for dynamic testing.

*Most beautiful VTVM in America.

*Accessory probes (extra) extend ranges to 10,000 Volts and 100 Megacycles. *Uses 1% precision ceramic divider resistors. *Modern push-pull electronic voltmeter circuit. *Electronic AC circuit. No current drawing rectifiers. *Shatterproof plastic meter face.

The new Heathkit Model V-4 Vacuum Tube Voltmeter has dozens of improvements. A new modern streamlined 200 microampere meter has Alnico V magnet for fast, accurate readings. The new electronic AC voltmeter circuit incorporates an entire new balance control which eliminates contact potential and provides greater accuracy. New simplified switches for quicker assembly. New snap-in battery mounting is on the chassis for easy replacement.

The Heathkit VTVM is the only kit giving all the ranges. Check them--DC and AC full scale linear ranges of 0-3V, 0-10V, 0-30V, 0-100V, 0-300V, 0-1000V and can be extended to 0-3000V and 0-10,000V DC with accessory probe at slight extra cost. Electronic ohmmeter has six ranges measuring resistance accurately from .1 ohm to one billion ohms. Meter pointer can be offset to zero center for FM alignment.

The DC probe is isolated for dynamic measurements. Has db scale for making gain and other audio measurements.

The new instruction manual features pictorial diagrams and stepby-step instructions for easy assembly. The Heathkit VTVM is complete with every part-llOV transformer operated with test leads, tubes, light aluminum cabinet for portability, giant $4\frac{1}{2}$ " 200 microamp meter and complete instruction manual.

Order now and enjoy it this entire meason. Shipping Wt. 8 lbs. Model V-4.



Heathkit IMPEDANCE BRIDGE KIT

A LABORATORY INSTRUMENT NOW WITHIN THE PRICE RANGE OF ALL

Measure inductance from 10 microhenries to 100 henries, capacitance from .00001 MFD to 100 MFD. Resistance from .01 ohms to 10 megohms. Dissipation factor from .001 to 1. "Q" from 1 to 1,000.

Ideal for schools, laboratories, service shops, serious experimenters.

An impedance bridge for everyone -- the most useful instrument of all, which heretofore has been out of the price range of serious experimenters and service shops. Now at the lowest price possible. All highest quality parts. General Radio main calibrated control. General Radio 1,000 cycle hummer. Mallory ceramic switches with 60 degree indexing-200 microamp zero center galvanometer- $\frac{1}{2}$ of 1% ceramic non-inductive decade resistors. Professional type binding posts with standard 3/4" centers. Beautiful birch cabinet. Directly calibrated "Q" and dissipation factor scales. Ready calibrated capacity and inductance standards of Silver Mica, accurate to 2 of 1% and with dissipation factors of less than 30 parts in one million. Provisions on panel for external generator and detector. Measure all your unknowns the way laboratories do--with a bridge for accuracy and speed.

Internal 6 Volt battery for resistance and hummer operation. Circuit utilizes Wheatstone, Hay and Maxwell circuits for different measurements. Supplied complete with every quality part -- all calibrations completed and instruction manual for assembly and use. Deliveries are limited. Shipping Wt. 15 lbs.

MEASURING CURRENT with THE Heathkit VTVM

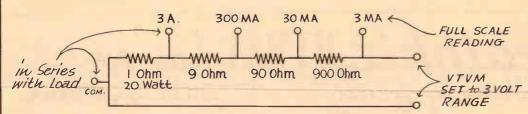
Ideal

FOR SCHOOLS

LABORATORIES

SERVICE SHOPS

A small resistance unit, which may be readily assembled, enables the owners of Heathkit VTVM's to measure currents.



The resistors should be as accurate as possible. If used for AC measurements, the resistors should also be of a non-inductive type. In low voltage (filament or heater) circuits, the voltage drop across the resistors (3 volts at full scale reading) may be prohibitive, but in higher voltage applications this drop may usually be disregarded. For AC power measurements, the resistor network should be kept at the ground or low potential side.

For DC measurements note that the VTVM and case will be "hot": If measuring in the plate circuit, the whole VTVM will be at that B+ potential.

Suggested by a customer in Esquimalt, B. C.

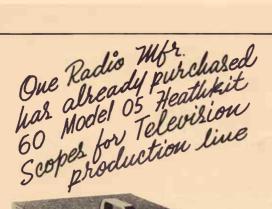


A Radio Officer aboard an ocean going tanker writes that on the last FCC inspection aboard his ship, the ship's regular voltmeter had failed and only the presence of the Handitester which proved accurate by FCC test saved the ship from being fined for violation of FCC regulations. To quote his words, "My Handitester was right on the nose on all DC ranges.

Heathkit AUDIO GENERATOR KIT Both SINE AND SQUARE WAVE OUTPUT

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 (± 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 gaug variable condenser. Three 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 slide switch. All components are of highest quality, cased 110V, 60 cycle power transformer. Mallory F.P. filter con-densers, five tubes, calibrated two color panel, grey crackle aluminum cabinet. The detailed instructions make assembly an interesting and instructive few hours. Model G-2. Shipping Wt. 12 lbs.

World Radio History







Heathkit 5" OSCILLOSCOPE KIT Only ONE WITH PUSH PULL EXTENDED RANGE AMPLIFIER FEATURES

*The first truly television *Extended sweep range 15 cycles Volt RMS per inch deflection.

zontal amplifiers.

oscilloscope. to 70,000 cycles. *Tremendous sensitivity .06 *New television type multivibrator sweep generator.

*Push-pull vertical and hori- *New magnetic alloy shield included. *Useful frequency range to #Still the amazing price of \$39.50.

The new 1950 Push-Pull 5" Oscilloscope has features that seem impossible in a \$39.50 oscilloscope. Think of it--push-pull vertical and horizontal amplifiers with tremendous sensitivity only six one hundredths of a volt required for full inch of deflection. The weak impulses of television can be boosted to full size on the five inch screen. Traces you couldn't see before. Amazing frequency range, clear useful response at 22 Megacycles, made possible by improved push-pull amplifiers. Only Heathkit Oscilloscopes have the fre-quency range required for television. New type multivibrator sweep generator with more than twice the frequency range, 15 cycles to 70,000 cycles, will actually synchronize with 250,000 cycle signal. Dual positioning controls will move trace over any section of the screen for observation of any part. New magnetic alloy CR tube shield protects the instrument from the outside fields. All the same high quality parts, cased electrostatically shielded power transformer, aluminum cabinet, all tubes and parts. New instruction manual now has complete step-by-step pictorials for easiest assembly. Model 0-5 Shipping Wt 25 lbs. Order now for this winter's use. Express shipment only.



Only Heathkit scope has push-pull amplifiers.



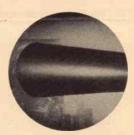
Only Heathkit has electrostatically shielded power transformer



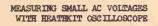
Only Heathkit has 15 cv to 70,000 cy TV type sweep generator.



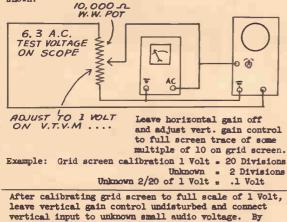
Only Heathkit has tremendous gain .06V. each and useful bandwidth to 2 Mc.



Only Heathkit has full magnetic alloy CR shield.



The high gain of the Model 0-5 Oscilloscope makes it ideal to use as an audio voltmeter for measurement of very small voltages. Calibrate the oscilloscope as shown.



simple division of the sections of the grid screen, the unknown voltage can be established. (Note: Full scale may be calibrated to a lower figure if desired.)



Increase your Scope usefulness with HPRthRit ELECTRONIC SWITCH and SQUARE WAVE GEN. KIT

> An electronic switch used with any oscilloscope provides two separately controllable traces on the screen. Each trace is controlled independently and the position of the traces may be varied. The input and output traces of an amplifier may be observed one above the other or one directly over the other illustrating perfectly any change occurring in the amplifier.

Distortion, phase shift and other defects show up instantly, 110 Volt 60 cycle transformer operated. Uses five tubes (1 6X5, 2 6SW7's, 2 6SJ7's). Has individual gain controls, positioning control and coarse and fine switching rate The cabinet and panel match all other Heathkits. Every part supplied including detailed instructions for assembly and use. Model S-1. Shipping Wt. 11 lbs. controls.

VERNIER TUNING R.F. Heathkit SIGNAL GENERATOR KIT

FEATURES

*New 5 to 1 ratio vernier tuning for ease and accuracy. *New external modulation switch--use it for fidelity testing. *New precision coils for greater output. *Cathode follower output for greater stability. *400 cycle audio available for audio testing.

*Most modern type R.F. oscillator.

"Covers 150 Kc. to 34 Mc. on fundamentals and calibrated strong harmonics to 102 Mc.

The most popular signal generator kit has been vastly improved-the experience of thousands combined to give you the best. Check the features in this fine generator and consider the low price of \$19.50. A best buy for any shop, yet inexpensive enough for hobbyists. Everyone can have an accurate controlled source of R.F. signal voltage.

The new features double the value--think of being able to make fidelity checks on receivers by inserting a variable audio signal. Internal 400 cycle saw-tooth audio oscillator modulates R.F. signal and is available externally for audio testing. The new 5 to 1 ratio vernier drive gives hairline tuning for maximum accuracy in scale settings. The coils are already precision wound and calibrated. Uses turret type coil and switch assembly for ease of construction. The generator is 110V. 60 cycle transformer operated and comes complete in every detail--cabinet--tubes--coils-beautiful two color calibrated panel and all small parts--new stepby-step pictorial diagrams and complete instruction manual make assembly a cinch even for novices. Why try to get along without a signal generator when you can have the best for less than a twenty dollar bill. Better order it now. Model G-5. Shipping Wt. 7 lbs.



Only Heathkit has turret coil assembly.



Only Heathkit has vernier drive.



*Beautiful streamline Bakelite case. *AC and DC ranges to 5,000 Volts. *1% Precision ceramic resistors. *Convenient thumb type adjust control. *400 Microampere meter movement. *Quality Bradley AC rectifier. *Multiplying type ohms ranges. *All the convenient ranges 10-30-300-1,000-5,000 Volts.

*Large quality 3" built-in meter.

Mein

VERNIER

TUNING

new

EXTERNAL MODULATION

> A precision portable volt-ohm-milliammeter. An ideal instrument for students, radio service, experimenters, hobbyists, electricians, mechanics, etc. Rugged 400 ua meter movement. Twelve complete ranges, precision dividers for accuracy. Easily assembled from complete instructions and pictorial diagrams. An hour of assembly saves one-half the cost. Order today. Model M-1. Shipping #t. 2 lbs.



New 6 Watt · Model A·4 · Push · Pull AMPLIFIER KIT...

This new Heathkit Amplifier was designed to give quality reproduction at a very low price. Has two preamp stages, phase inverter stage and pushpull beam power output. Comes complete with six tubes, quality output transformer (to 3-4 ohm voice coil), husky cased power transformer and all other parts. Has tone and volume controls. Instruction manual has pictorial for easy assembly. Six watt

for easy assembly. Six watt output with response flat $\pm 1\frac{1}{2}$ db from 50 to 15,000 cycles. A quality amplifier kit at new low price. Better build one. Model A-4. Shipping Wt. 7 lbs.

Heathkit CONDENSER CHECKER KIT

FEATURES

*Power factor scale. *Measures resistance. *Measures leakage. *Checks paper-mica-electrolytics. *Bridge type circuit. *Magic eye indicator. *110V. transformer operated. *All scales on panel.

Checks all types of condensers over a range of .00001 MFD to 1,000 MFD. All on readable scales that are read direct from the panel. NO CHARTS OR MULTIPLIERS NECESSARY. A condenser checker anyone can read. A leakage test and polarizing voltage for 20 to 500 Volts provided. Measures power factor of electrolytics between 0% and 50%. 110 Volt 60 cycle transformer operated complete with rectifier and magic eye tubes, cabinet, calibrated panel, test leads and all other parts. Clear detailed instructions for assembly and use. Model C-2. Shipping Wt. 7 lbc.

New LIMITER DISCRIMINATOR TRUE FM . Heathkit FM TUNER KIT

FEATURES

*Uses limiter discriminator. *Power transformer operated.

*High sensitivity and output. *Assembled and aligned tuner. *Uses 7 high frequency tubes for maximum reception.

The Heathkit FM Tuner Model FM-2 was designed for best possible tonal reproduction. The circuit incorporates the most desirable FM features -- true FM--ready wound and adjusted coils--3 stages of 10.7 Mc. I.F. (including limiter).

Tube lineup: 6C4 oscillator, 6SE7 mixer, two 6SE7 I.F. stages, 6SE7 limiter, two 7C4 diodes as discriminator, 6x5 rectifier.

The instrument is transformer operated making it safe for connection to any type receiver or amplifier. The new 20 watt Heathkit Amplifier is ideal for use with this tuner taking full ad-vantage of the wide tonal range available from FM. The R.F. coils are ready wound--mounted on the tuning condenser and the condenser is adjusted -- no R.F. coils to wind or adjust.

A calibrated six inch slide rule dial has vernier drive for easy tuning. An AC outlet is provided on the chassis for the amplifier thus controlling it from the tuner controls.

The finest parts are provided -- ceramic mounted tuning condenser -- dual iron core I.F. coils -- cased power transformer and all ceramic bypass condensers. The kit is complete with pauel for mounting in console cabinets, has all tubes, punched and formed chassis, transformers, condensers and complete instruction manual. The finest in FM now in Heathkit form at a reasonable price. Shipping Wt. 10 lbs. Heathkit Model FM-2 FM Tuner.

New 20 WATT PUSH-PULL .. MODEL A-5 Heathkit AMPLIFIER KIT

FEATURES

150

*Push-pull 616's. *Full 20 Watts output. Troble and bass boost tone controls. *Fully enclosed chassis.

*Provision for reluctance pickup compensation stage. *Cased high fidelity output transformer. *Full range of output impedances 3.2 ohms to 500 ohms.

The finest amplifier kit we have ever offered -- check the features. This inexpensive amplifier compares favorably with instruments costing five times as much. Nothing has been spared to provide the best reproduction--an ideal amplifier for the new Heathkit FM Tuner listed above.

Dual tone controls for control of both treble and bass. Bass control is of the boost type for maximum listening pleasure. Optional preamplifier stage for use with G.E. reluctance pickup or microphone. Uses inverse feedback to give excellent response over entire range.

Tube lineup: 6SJ7 preamplifier stage, 6J5 phase splitter stage, two 6L6's in push-pull and 5U4 rectifier. (6SC7 as optional compensation stage.)

Uses highest quality Chicago Transformer Corporation cased output transformer with taps of 3.2, 8, 15, 60 and 500 ohms to match any speaker combination. Power transformer is conservatively rated for continuous operation in sound systems. Tone control gives maximum bass boost of 6 db at 70 cycles. Amplifier has maximum gain of 75 db. Response within \pm 3 db 20 to 20,000 cycles. Shipping Wt.17 lbs. Complete with all parts, tubes and instruction manual.

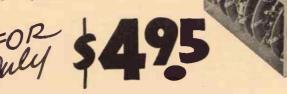
Model A-5A Amplifier Kit with preamplifier for G.E. cartridges or _____ microphone

MODEL A.5 AMPLIFIER KIT Complete.....

High fidelity 12 inch Permoflux _____6.95

8 Channel, TELEVISION, TUNER

Farnsworth TV Tuner adjusts to any 8 channels. Notary switch type with fine tuning control. Uses 6BA6 RF, 6AG5 mixer, 6J6 oscillator tubes (not supplied). Hiring diagram included. Have fun this winter experimenting with television. This well built tuner uses ceramic sockets--best of ceramic condensers and has individual slug tuned coils for each band. Quantity limited. Order now. No. 318 Shipping Wt. 3 lbs.





The Heath Company airplane hauled transformers to assure Heathkits for Christmas.

No effort was spared to ship every Christmas order. The Heath Company Stinson hauled transformers, controls and switches from Indianapolis, Milwaukee and Zanesville, Ohio during December.

Even the smallest shop can afford the Heathkit Battery

radio repair jobs will pay for it. It's fast for service, the voltage can be lowered to find sticky vibrators or raised to ferret out intermittents. Pro-uides verifield for voltage 5 to 72 Volta et 10 Ammeres continue Eliminator Kit. A few auto radio repair jobs will pay for SUCKY VIDTATORS OF RAISED TO FERRET OUT INTERmittents. Fro-vides variable DC voltage 5 to 72 Volta at 10 Amperes continuous of 15 Amperes intermittent. Also serves as storage battery Ideal for all auto radio testing and demonstrating.

Heathkit

BATTERY ELIMINATOR

A well filtered rugged power supply uses heavy duty selenium

A well filtered rugged power supply uses heavy duty selenium rectifier, choke input filter with 4,000 MFD of electrolytic filter for clean DC. 0-15V voltmeter indicates output which is variable in eight steps. Easily constructed in a few hours from our instructions and diagrams-better be equipped for all types of service--it means more income. Shipping Wt. 10 lbs. types of service--it means more income. Shipping Wt. 19 lbs.

Heathkit TV GENERATOR KIT

*Calibrated sweep width 0-30 Mc. *Calibrated absorption marker 19

*Vernier driven master oscillator 174-220 Mc.

- *Over 45 inches of calibration. *10,000 to 1 step type output

attenuator. *Mechanical driven inductive *AM modulation over entire range.

*Variable phase control. *All coils wound and calibrated. *3 T.V. instruments in one.

Everything you want in a television alignment generator. wide band sweep generator covering all TV frequencies 0 to 46--54 to 100--174 to 220 Megacycles, a marker indicator covering 19

a marker indicator covering by ELSE TO ISUY to 42 Megacycles, AM modulation for RF alignment--variable calibrated sweep width 0-30 Mc.--mechanical determine induction internet internet and the low for order transformer for for RF alignment--variable calibrated sweep width 0-30 Mc.--mechanical irvien inductive sweep. Husky 110V. 60 cycle power transformer op-crated--step type output attenuator with 10,000 to 1 range--high outerated -- step type output attenuator with 10,000 to 1 range -- nigh out-put on all ranges -- band switching for each range -- vernier driven main put on all ranges-band switching for each range--vernier driven main calibrated dial with over 45 inches of calibration--vernier driven calibrated indicator marker tuning. Large grey crackle cabinet 16 1/8" x 10 5/8" x 7 3/16". Phase control for single trace adjustment. Uses three high frequency tricdes plus 573 rectifier--split stator tuning three high frequency triodes plus 513 rectifier -- eplit stator tuning Unree migh frequency trioges plus 713 reconfier-spirt stator tuning condensers for greater efficiency and accuracy at high frequenciesthis Heathkit is complete and adequate for every alignment need and is supplied with every part--cabinet, calibrated panel, all coils and is supplied with every part--cabinet, calibrated panel, all coils and contensors wound, calibrated and adjusted, tubes, transformer, test leads--every part with instruction manual for assembly and use. Actual-by these instruments in one-TW even concrete to the assembly and use. leads --every part with instruction manual for assembly and use. Actually three instruments in one --TV sweep generator --TV AM generator and TV marker indicator. Model TS-LA. Shipping Wt. 20 lbs.



ELSE TO BUY

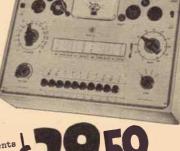
Heathkit E CHECKER KIT

*Measures each element individually. *Has gear driven roller chart. "Has lever switching for speed. *Complete range of filament voltages. *Checks every tube element. *Uses latest type lever switches.

*Uses beautiful shatterproof full view meter. *Large size ll"xl4"x4" complete. *Checks new 9 pin miniatures.

Test your tubes the modern way -dynamicaily--the simplest, yet fastest and surest method -- your Heathkit has a switch for each tube element and measures that elementno chance for open or shorted elements slipping by, all the advantages of the mutual conductance type without the slow cumbersome time consuming

setups.



Your Heathkit Tube Checker has all the features -- beautiful 3 color BAD-COUR MEETING THE CHECKER DES ALL THE REATURES-DEBUTIFUL 5 COLOR BAL GOOD meter--complete selection of voltages--roller chert listing hun-drede of tubes including the new 9 min ministures--finest quality GOOD meter--complete selection of voltages--roller chart listing hur dreds of tubes including the new 9 pin miniatures--finest quality Centralab lever switches for each element--high grade birch counter type cabinet --continuesly variable line adjust control--every feature type cabinet--continuusly variable line adjust control--every reatur you need to sell tubes properly. The most modern type tube checker with complete protection against obsolescence. The best of parts-rugged oversize 110V. 60 cycle power transformer -- finest of Mallory rugged oversize 110%. OU cycle power transformer--intest of mailory and Centralab switches and controls, complete set of sockets for all type tubes with blank areas for future types. Fast action bypes may type tubes with blank spare for future types. Fast action brass gear driven roller chart quickly locates the settings for any type tube. Simplified switching cuts necessary testing time to minimum and saves we have a service time. Short and open elevent check of an entropy Valuable service time. Short and open element check. Simple method allows instant setup of new tube types without waiting for factory data. No matter what the averancement of tube elements the Heather No matter what the arrangement of tube elements, the Heathkit data. No matter what the arrangement of the cleanenes, the newnard flexible switching arrangement easily handles it. Order your Heath-hit Tube Checker Kit today. See for yourgelf that Heath again save Kit Tube Unecker Kit today. See for yourself that meats again say you two-thirds and yet retains all the quality--this tube checker You two-tuirus and yet retains all the quality--unis the checker will pay for itself in a few weeks--better assemble it now for the Will pay for itself in a rew weeks--Detter assemble it now for the winter business. Complete with instructions--pictorial diagrams--all parts--cabinet--ready to wire up and operate. Shipping Wt.12 lbs kit Tube Checker Kit today.



The popular Heathkit Signal Tracer has now been combined with a universal test speaker at no increase in price. The same high quality tracer follows signal from antenna The same figh quality tracer follows signal from ancents to speaker -- locates intermittents -- defective parts quicker to speaker -- locates intermittents -- derective parts quits --saves valuable service time--gives greater income per service hour. Works equally well on broadcast--FM or TV receivers. The test speaker has assortment of switching represe to match numbersall on single output imposence ranges to match push-pull or single output impedance. Also tests microphones -- pickups -- PA systems -- comes Also tests microphones--pickups--rx systems--couse complete--cabinet--110V. 60 cycle power transformer--tubes, test probe, all parts and detailed instructions for assembly and use. Shipping Wt. 8 lbs.

NEW Heathkit BROADCAST & 3 BAND SUPERHETERODYNE RECEIVER KITS

BROADCAST MODEL BR-1 550 to 1600 KC. Two new Heathkit Superheterodynes featuring the best of design and material. Beautiful six incl beautiful six incl best of design and material. Beautiful six incl beauti

We new Meathert Superficiency and material. Beautiful six inch slide rule dials--110V. 60 cy. AC power transformer operated--metal cased filters--quality outformers --two gang tuning condenser. The chassis is provided with phono-radio switch--110V, outlet for changer motor and phono pickup jack. Each kit is complete with all parts and detailed instruction booklet. Pictorial diagrams and easy.



Ideal AC operated superheterodyne receiver for home use or replacement in console cabinet. Comes complete with attractive metal panel for cabinet mounting. Modern circuit uses 12%8 converter, 12SE7 IF stage, 12C8 detector stage and first audio, 12A6 beam power output stage, 5Y3 rectifier, Excellent sensitivity for distant reception with selectivity which effectively separates adjacent stations.

The husky 110V. cased power transformer is conservatively rated for long life.

The illuminated six inch slide rule dial is accurately calibrated for DX reception. Enjoy the pleasure of assembling your own fine home receiver. Has tone, volume, tuning and phono-radio controls. Chassis size $2\frac{1}{4}$ " x 7" x $12\frac{1}{2}$ ". Comes complete with all parts including quality output transformer to 3.4 ohm voice coil, tubes, instruction manual, etc. (less speaker). Shipping Wt. 10 lbs. Model BR-1 Receiver \$19.50

Enjoy the thrill of world wide short wave reception with this fine new AC operated Heathkit 3 band superheterodyne--amazing sensitivity 15 microvolt or better on all bands. Continuous coverage 550 Kc. to over 20 Mc. Easy to build with complete step-by-step instructions and pictorial diagram. Attractive accurately calibrated six inch slide rule dial for easy tuning. Six tubes with one dual purpose tube gives seven tube performance. Beam power output tube gives over 3 watts output. Separately assembled coil turret with band switch eliminates

Separately assumpted toll units with bank which constructions difficult construction. Conservatively rated 1107. power transformer supplies full operating voltages to all tubes for maximum reception. Has band switch,tuning, volume, tone and phono-radio controls. Chassis size $2\frac{1}{6}$ " x 7" x $12\frac{1}{2}$ "-supplied complete-punched chassis-tubes--controls--transformers (quality output to 3.4 ohm voice coil)--all small parts--hardware and instructions (less speaker). Shipping Wt. 10 lbs. Model AR-1 Receiver \$23.50 No. 335 Communications Type Table Model Metal Cabinet.....\$4,50 No. 320 High Quality 5" PM Speaker for above..................\$2.75

JO HEATH COMPANY BENTON HARBOR, AND	PLEASE PRINT	Ship via Parcel Post Express Freight Best Way
QUANTIFY ITEM PRICE	QUANTITY ITEM	PRICE
Heathkit VTVM Kit Model V-4		xdel TS-1A
On Parcel Post orders, include postage for weight shown and insurance. (We insure all shipments.) On Express orders, do not include transportation chargesthey will be collected by the Express Agency at the time of delivery.	Enclosed find Check Money Order Please ship C.O.D. Postage enclosed for	for pounds.





The Only

This beautiful 18 tube television receiver built by Belmont Raytheon uses a $7D^{24}$ direct view picture tube. The five panel controls are station selector, volume and off, vertical hold, horizontal hold and contrast. The tuner covers all 12 TV channels. The audio portion uses FM for maximum quality sound. The high voltage power supply supplies 5000 Volts for picture tube operation. The cadmium plated steel chassis measures 14 " x 14 " x $2\frac{1}{2}$ " and comes ready punched

and formed for quick assembly. The circuit uses a 6BH6 RF amplifier, 6J6 as mixer and oscillator, 2516 audio output, 19T8 as FM detector and audio amplifier, 12AU6 limiter, three 6AG5 as I.F. amplifiers, 6AL5 second detector, 12AU6 syn. separator, 12AU6 video amplifier, 12SN7 horizontal multivibrator, 50L6 horizontal output, 12SN7 vertical multivibrator, 12SN7 vertical output, 50L6 high voltage oscillator, 1B3/8016 high voltage rectifier, 7JP4 picture tube.

The power supply operates from 105 to 125 Volts AC or DC with a consumption of 100 Watts.

On the rear of the chassis are the following controls: Brightness, vertical size, horizontal size, focus, horizontal centering, vertical centering.

The circuit incorporates three stages of wide band I.F. and is of the intercarrier sound type. The sound portion uses limiter-detector FM reproduction. A four inch FM speaker is used.

For the first time, a TV kit with famous Defiance 12 channel tuner--all tubes including 7JP4 RCA picture tube--ready assembled high voltage power supply and piano finish mahogany cabinet--you will be proud to put this TV set in your hourse. Your entire family will enjoy and profit from the programs. Now equipped with four huge pictorial diagrams for quick assembly together with complete manufacturer's service and alignment data. Better order one now. We have only a few hundred left. Shipped by express only...do not send shipping charges.



THE HEATH COMPANY BENTON HARBOR, MICHIGAN Sec. 34.66, P. L & R. U. S. POSTAGE 1c PAID Permit No. 273 Benton Harbor, Mich.

Measuring SMALL AC VOLTS WITH SCOPE ... Measuring CURRENT with VTVM New FM TUNER & AMPLIFIERS