

HEATHKIT®

**over 250 quality electronic kits... which
we guarantee you can build... with savings up
to 50% of comparable factory-wired items!**



New low-cost tube checker, p. 30



**New citizen's band
transceiver, p. 7**



New depth sounder, p. 5



New mobile SSB transmitter, p. 25



New AM-FM-STEREO tuner, p. 18

*Electronic kits for every
interest... by the world's
largest and oldest kit man-
ufacturer!*

- Stereo /Hi-Fi
- Marine Equipment
- Education Kits
- Home & Hobby
Equipment
- Amateur Radio
- Test and Lab
Equipment

HEATH COMPANY BENTON HARBOR, MICHIGAN
PLANT LOCATION: ST. JOSEPH MICHIGAN

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DAYSTROM, INCORPORATED

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CATALOG SUPPLEMENT 80/03

Thoughts on the Heathkit® Tradition



As you look through the pages of the March issue of our Heathkit catalog supplement, you will find many kits identified with the "new through Heath research" symbol. These new products represent the latest in technological kit design. They follow the Heathkit tradition of ease of assembly and quality electronic equipment in kit form.

Behind the Heathkit tradition are people with the feeling of personal responsibility for every kit that goes into the Heathkit line of products . . . electronic engineers who develop ideas into fine examples of electronic design . . . engineering draftsmen who translate the designs to conform with the principle that anyone can build a Heathkit. This demand for excellence in quality standards insures you of exceptional value in design and performance of every Heathkit.

The Heath Company receives world wide recognition as a leader in the "do it yourself" electronic kit business. Our goal, as the largest and oldest electronic kit manufacturer, is to continue to do everything possible in offering you the finest product at the lowest possible price. This we will continue to do.

Our obligation is the ultimate satisfaction of every person who purchases a Heathkit, not only in terms of superior quality and performance, but also in terms of fast and efficient "direct from the Heath Company to the customer" service. I believe you will find improvements in the area of customer service and general correspondence during the coming months.

Our technical correspondents are delighted to help you in the selection of electronic equipment, whether it be in audio, test and laboratory instruments, educational, marine, science and hobby, or general product line areas. When you have questions or require information just drop a note to us.

We are in business to serve you. Your satisfaction provides the base for our continuing growth. I hope that you will give us the opportunity of providing your requirements of products offered for sale through our company, in the Heathkit tradition of quality, performance and economy!

Allan W. Greene

Allan W. Greene
President

NEW RELAXED Credit Terms

ORDER NOW! PAY LATER!

With Heath's new credit terms you can order the kits you want now! No money down . . . up to 18 months to pay on any purchase of \$25.00 to \$600.00. Enjoy the pleasure of building and having your Heathkit while you pay for it in easy monthly installments.

Money Back Guarantee

The Heath Company unconditionally guarantees that you can build any Heathkit product and that it will perform in accordance with our published specifications, by simply following and completing our check-by-step instructions, or your purchase price will be cheerfully refunded.

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Engineering Excellence— Key to Heathkit® Leadership

The Heathkit Engineering Formula:

superior personnel and facilities plus a tradition of quality equals better design, performance and value

To make this formula work, Heath carefully selects its engineering personnel, trains them in the Heathkit tradition of quality with economy, and provides all the facilities needed for true creativity. The result is to be seen at Heath and in its products . . . the world's largest kit engineering department producing kits world-famous for value and performance.

Skilled specialists in their respective fields, Heath engineers and technicians have broad educations and diversified work experiences. Their training adds the Heath-pioneered idea of transferring sophisticated electronic designs into do-it-yourself kits so economical that everyone recognizes their value, and so easy to build that anyone can assemble them and achieve factory-built performance. This wide background, representing over 300 years of accumulated experience and backed by the Central Research facility of Daystrom, Inc., is brought to bear upon the kit design problems of audio, communications, instruments, marine electronics, science and education.

Superior working conditions produce superior results. Over thirty modern labs and shops with air conditioning and high-level lighting are used by Heath engineers. Here they find all the material necessary for fine work . . . advanced instruments . . . a rooftop antenna "farm" . . . temperature ovens . . . screen rooms . . . sound rooms . . . photo lab . . . drafting facilities . . . model shop . . . and many more specialized services.

It is in such an atmosphere that your Heathkit products are engineered and developed until they are what you've come to expect from Heath . . . better designs with better performance and greater value.

Build for better living with Heathkit



FAST EFFICIENT SERVICE is yours at Heath. Your order gets immediate attention from our large office staff and complete shipping facilities.



EASY TO UNDERSTAND INSTRUCTIONS make Heathkit building fun! The manual is written in everyday language with a "check-by-step" system.



YOU'LL FIND AN ENJOYABLE HOBBY in building your Heathkit. Fun filled hours creating something wholly different from the usual hobby fare.



YOU ARE REWARDED IN MANY WAYS by your Heathkit. You save up to 50%, you have fun building it and the pride and satisfaction of your accomplishment.

Heathkit engineering is led by the Director of Engineering and a group of Senior Engineers . . . each responsible for a particular product line . . . audio, amateur, marine, instrument, or general items . . . the most experienced group of kit specialists in the world.



Ideas become electronic kits through the skill of Heathkit engineers and technicians . . . a skill in evidence in Heath's solid engineering concepts and kit leadership.



Engineers and technicians examine every component specified for Heathkit designs for suitability and durability to assure good performance and long life. Testing equipment often functions 24 hours a day as various parts are subjected to endurance tests . . . tests which guard the quality you've come to expect from Heath.



Model Shop facilities produce hand-made examples of future Heathkit products to aid engineers in visualizing the requirements of their designs for perfection of electrical and physical characteristics.



A Heathkit engineer checks the performance of "proofbuild" kits . . . units assembled by non-technical personnel from first-draft manuals. It is through such careful attention to details that Heath can guarantee performance of each kit regardless of the experience of its builder.



Here's Heathkit®-Marine '62 ... New Designs

The New Dimension in Marine Gear is Heathkit '62

Styled by leading Marine Industrial Designers in a new "Sun-shield" functional form. Finished with an advanced fashion note of color . . . grey and white cabinets, black and brushed-aluminum panels with accents of marine blue. Engineered for even greater performance with added features and improved circuitry. Result? New value, Extra safety for you.

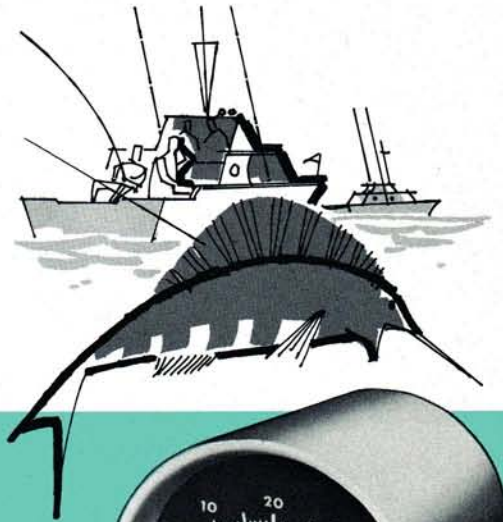
New high-accuracy transistorized TACHOMETER

- ▶ Use with all outboard and inboard marine engines or automobiles except diesels
- ▶ Two linear ranges; 0-4000 and 0-8000 rpm
- ▶ Unaffected by voltage or temperature variations

The Heathkit MI-31 Tachometer can serve multiple duty for it works with many types of engines . . . 1-8 cylinder 2 cycle engines or 1-16 cylinder 4 cycle engines. Works with positive or negative ground ignition systems employing ignition coil and distributor; also operates with magneto systems when used with external battery. Range switch on back of housing selects either of the two ranges, making it usable for any application (idling, cruising or maximum speeds—inboard or outboard craft, standard or sports cars).

Multivibrator circuit uses two transistors and a zener diode for accuracy. Triggering pulse is taken across the distributor points, thus eliminating positive-negative ground problems. The zener diode maintains a constant operating point to eliminate errors caused by voltage variations. The brushed, anodized, die cast aluminum case makes a handsome appearance in any installation as well as effectively shielding the electronics (ball and socket permits universal mounting). Easy-to-build circuit board electronics. 2 lbs.

Kit MI-31 \$22.95



MI-31
\$22.95

Available After May 18

New, improved 3-band marine RADIO DIRECTION-FINDER

- ▶ Covers beacon/consolan, broadcast, and marine telephone bands
- ▶ Extra sensitive all-transistor circuit
- ▶ New automatic gain control circuitry
- ▶ Easy access to battery power supply
- ▶ Preassembled, factory aligned tuning unit

Strikingly styled in the new Heathkit Marine motif, this improved version of the famous MR-11 looks as handsome as it performs. Improved sensitivity on all bands and a new automatic gain control circuit provide higher performance (see the specifications). A beat frequency oscillator and wide tuning range put the convenience of Consolan navigation service at your fingertips. Collapsible whip antenna and "sense" circuitry solve the 180° puzzles. Big 6½" compass rose aids plotting. Slide-rule dial and "tune-null" meter add accuracy. Six flashlight cells last 500 to 1000 hours. Easy to build with pre-wired component package and tuner. 12 lbs.

Kit MR-21 . . . No money down, \$11 mo. . . . \$109.95

SPECIFICATIONS—Beacon band: 188 to 410 kc. Broadcast band: 535 to 1620 kc. Marine band: 1650 to 3450 kc. Sensitivity for 6 db signal-to-noise ratio: BC band, 40 uv/meter; Beacon band, 120 uv/meter; Marine band, 25 uv/meter. Normal bearing accuracy: ±3°. BFO: 455 kc, switch-selected. Speaker: 4" x 6" weather proofed. Power requirements: 9 volts from 6 standard size "D" flashlight batteries. Battery drain: 35 ma @ 50 mw output level. Battery life: 500-1000 hours. Dial light: Spring-return switch operated. Null and tuning indicator: 0-1 ma meter. Transistors: (1) T1363, (2) 2N1108, (1) 2N1105, (1) 2N1110, (1) 2N1111, (1) R251, (2) R250, (1) 2N238, (1) diode. Dimensions: 9" x 9½" x 6½".



MR-21
\$109.95

Available After April 13



"Shore-side" power for your boat . . . Heathkit Marine POWER CONVERTER

- ▶ Converts 6 or 12 volt battery power to 117 VAC
- ▶ Uses rugged, dependable power transistors

This easy to build converter provides plug-in power for lights, soldering iron, small AC/DC radios etc. (not recommended for TV sets, tape recorders, record players, or CB transceivers). Instant operation, no

MP-10
\$29.95

warmup. Finned "heat sinks" protect power transistors during max. power loads. Unit is fused for protection. Two AC outlets and convenient on/off switch are provided. Easy to install, measures only 7½" x 5" x 5¼". 7 lbs.

Kit MP-10 . . . No money down, \$5 mo. . . . \$29.95

SPECIFICATIONS—Power source: 6 or 12 volt storage battery. Power output: nominal 117 volt, 60 cycle AC: 12 volt operation, 175 watts continuous, 240 watts max; 6 volt operation, 120 watts continuous and max. Input Current for Continuous Ratings: 6 volt operation, 25 amperes; 12 volt operation, 16.5 amperes.



New Value, Extra Safety



Build Your Heathkit Marine Gear Now for a Seasons Pleasure Afloat

New, improved Heathkit DEPTH SOUNDER . . . with increased "depth reaching" ability and new ignition noise rejection feature



- ▶ Five transistor circuit
- ▶ Shows depth to at least 200 feet on hard bottom . . . to 100 feet on soft bottom
- ▶ May be powered by internal or external batteries
- ▶ Easy circuit board construction
- ▶ New style compact cabinet

Here's the successor to the famous Heathkit MI-10 depth sounder . . . the unit that set the value-pace for lower cost marine sounders. This new model, the MI-11, maintains that value-pace and adds extra performance features to make it an even more desirable addition to your boat's safety measures.

Styling of the new cabinetry is in the "sun-shield" form factor of Heathkit-Marine '62 . . . a handsomely functional design in rust-resistant aluminum . . . finished in gray, white and black with accents of blue. Inside this beautiful cabinet is an improved circuit which uses five transistors, extra shielding and tuned amplifiers to achieve greater range . . . at least 200 feet on hard sandy bottoms, 100 feet on soft muddy bottoms. (100 feet for each dial revolution, calibrated to 200').

The two-conductor transducer cable and the cabinet act as extra shielding to reduce pickup of external electrical signals and ignition noise. Provision is made for powering from your boat's 12 volt battery if desired, maintaining the internal battery as emergency power. Construction is fast and easy with the new circuit board. Comes complete with mounting bracket. 9 lbs.

Kit MI-11 . . . No money down, \$7 mo. **\$69.95**



MI-11
\$69.95

Available After April 13



MIA-11
\$8.95

Accessory TRANSDUCER MOUNT

Fastens to transom to eliminate drilling through hull yet provides permanent mounting. Aluminum and plastic. Adjustable. 2 lbs.

Model MIA-11 **\$8.95**

Just in time for this season's outfitting . . . the New 50-Watt Heathkit Marine RADIO-TELEPHONE at a New "Greater Value" Low Price!

- ▶ Powerful 50 watt long-range transmitter
- ▶ 5 crystal-controlled transmit & receive channels
- ▶ Dependable 8-transistor receiver
- ▶ Covers standard broadcast and 2-3 MC marine bands
- ▶ Doubles as 8-watt deck-hailer or PA amplifier
- ▶ Built-in heavy-duty vibrator power supply
- ▶ F.C.C. type accepted

Compare the features . . . compare the price . . . and you'll agree that this handsome new Heathkit Marine Radio-telephone is the greatest value you can put aboard your craft.

Styled in the new Heathkit Marine motif of gray, white and black with blue accents, the rustproof aluminum cabinet features a "sculptured" front panel (black upper section, blue offset ledge for easy reading of channel frequencies, and brushed aluminum lower section).

Within this handsome exterior is a powerful 50-watt transmitter with added talk-power; an all-transistor receiver with weak-signal receiving ability; five crystal-controlled channels for instant selection of any marine frequency; and variable broadcast tuning for full range coverage and entertainment. Other features: new diode automatic noise limiter; front panel squelch control; push-microphone; built-in panel meter; overload and polarity reversal protection. Includes mounting bracket, instructions, and 2182 and 2638 kc crystals. (Not FCC approved for "party boat" installation). 25 lbs.

Assembled MWW-11A . . . No Money Down, \$23 mo. **\$259.95**
Extra Transmitter and receiver crystal; specify freq.; each \$2.95



MWW-11A **\$259.95**



Available After May 11

SPECIFICATIONS—Frequency range: 2-3 mc. **Broadcast:** 550-1600 kc. **Receiver sensitivity:** (providing 10 DB S/N ratio or better). Marine channels: 2 microvolts. Broadcast: 20 microvolts. **Audio output:** 3 watts to internal speaker, 8 watts to PA "deckcall". **Transistor complement:** (1) T1363 Mixer; (1) T1364 Oscillator; (2) T1364 I.F.'s; (1) 2N1274 1st Audio and Squelch; (1) 2N301 Driver; (2) 2N1147 Audio Output and Modulator; (3) diodes, noise limiter, and squelch. **Transmitter:** RF input: 50 watts. **RF output:** 25 W. min. **Transmitter tube complement:** (1) 6BA8 Oscillator and Buffer; (1) 12DQ6A Final Amplifier. **Power requirements:** 12 volts DC. Receiver only: 0.5 amp; Standby: 2.1 amp; Transmit: 9 amps. **Dimensions:** 7" H x 10" W x 13" D.



Heathkit®... "Headquarters" for outstanding

Enjoy Highest Quality . . . Biggest Savings by Assembling



Deluxe 9-transistor "WALKIE-TALKIE"

- ▶ Crystal controlled transmitter & superheterodyne receiver
- ▶ Built-in squelch & noise limiter circuit
- ▶ Portable—battery powered
- ▶ 1 to 3 mile operating range
- ▶ Easy circuit board assembly

GW-21
\$44.95

This deluxe hand-held two-way radio has more features than units selling for twice the price! A fun-filled project with easy to assemble circuitry and power packed performance. Features crystal-controlled superheterodyne receiver and high efficiency transmitter with up to 100 milliwatt input. Squelch and noise limiter circuits assure crisp, clear communications over a wide area. Only three controls for simple operation—on /off volume, squelch, and push-to-talk switch. Operates up to 75 hours using a single, economical 9-volt battery. Hundreds of uses in portable, short range communications. Ear-phone and crystals included, specify channel. Less batteries. 2 lbs.

Kit GW-21 . . . no money down, \$5 mo. **\$44.95**
Kit GW-21-2 (pair) 4 lbs. . . . no money down, \$9 mo. **\$84.95**
Assembled GWW-21 . . . no money down, \$8 mo. **\$71.95**
Assembled GWW-21-2 (pair) . . . no money down, \$13 mo. **\$136.50**
GWA-30 Battery Set: (2) one for operation, one spare . . . 1 lb. **\$2.95**

SPECIFICATIONS—Receiver: Crystal-controlled superheterodyne. **Sensitivity:** 1 uv for 10 db s/n ratio. **Transmitter:** Crystal-controlled, any channel 2 to 23 in 11 meter citizens band, (unlicensed). **RF input power:** 100 milliwatt. **Battery:** 9 Volt. **Antenna:** 35" whip. **Circuit:** 9 transistor, 2 diode. **Dimensions:** 7 3/4" H x 3 3/4" W x 1 3/4" D.

fun to build . . . fun to use . . . the original Heathkit "WALKIE-TALKIE!"

- ▶ Talk with friends up to a mile away!
- ▶ Completely portable—battery powered
- ▶ Easy circuit board assembly
- ▶ No license, forms, tests or age limit

SPECIFICATIONS—Receiver: Super-regenerative detector. **Sensitivity:** Usable with signals as low as 4 uv at antenna. **Tuning range:** Fixed by internal adjustment to any channel. **Transmitter:** Crystal-controlled, any channel 2 to 23 (unlicensed) in 11 meter Citizens Band. **RF input power:** 90 milliwatts. **Battery:** 9 volt. **Antenna:** 40" whip. **Circuit:** four transistor. **Dimensions:** 6 1/4" H x 3 3/4" W x 2 3/4" D.

New low-cost, 4-transistor "WALKIE-TALKIE"

- ▶ No license, forms, tests or age limit
- ▶ Crystal-controlled transmitter—super-regenerative receiver
- ▶ Completely portable—battery powered
- ▶ Small, compact & neatly styled
- ▶ Easy circuit board assembly



GW-31
\$24.95



This handsome pocket size, 4 transistor walkie-talkie transmits and receives messages up to a mile or more, depending upon conditions, to fill a multitude of communication needs. Ideal for personal and business communications, emergency work or just plain fun! Fits easily into coat pocket with antenna fully collapsed. Features crystal controlled transmitter and super-regenerative receiver, fixed-tuned to the frequency you wish to use. Two controls, on /off volume and push-to-talk switch make operation extremely simple. Operates up to 75 hours on a single 9-volt battery. Kit includes all parts, instructions and crystal for 1 channel (specify frequency). Less battery. 2 lbs.

Kit GW-31 . . . no money down, \$5 mo. **\$24.95**
Kit GW-31-2 (pair) . 4 lbs. . . . no money down, \$5 mo. **\$46.00**
Assembled GWW-31 . . . no money down, \$5 mo. **\$37.75**
Assembled GWW-31-2 (pair) . . . no money down, \$8 mo. **\$71.95**
GWA-30 Battery Set: (2) one for operation, one spare 1 lb. **\$2.95**

SPECIFICATIONS—Receiver: Super-regenerative detector. **Sensitivity:** Usable with signals as low as 4 uv at antenna. **Transmitter:** Crystal-controlled, any channel 2 to 23 (unlicensed) in 11 meter citizens band. **RF input power:** 90 milliwatt. **Battery:** 9-volt. **Antenna:** 36" whip. **Circuit:** 4 transistor. **Dimensions:** 5 1/4" H x 3 3/4" W x 1 1/2" D.

By request, here are more of the first Heathkit "Walkie-Talkies." The GW-30 features rich modern styling with black simulated leather case and polished aluminum front panel. Complete transmit and receive functions are provided in this hand-held, portable unit. Operates up to 75 hours on a single, 9-volt battery. High quality throughout for years of dependable service, crystal included (specify channel) less batteries. 3 lbs.

Kit GW-30 . . . no money down, \$5 mo. **\$32.95**
Kit GW-30-2 (pair) . . . no money down, \$7 mo. **\$64.95**
Assembled GWW-30 . . . no money down, \$6 mo. **\$50.95**
Assembled GWW-30-2 (pair) . . . no money down, \$10 mo. **\$99.95**
Battery Set:
GWA-30 (2) . . . 1 lb. **\$2.95**



GW-30
\$32.95

Kit Form or Factory Assembled

Citizen's Band Two-Way Radio Transceivers

your own Heathkit Citizen's Band Equipment



Kit Form
or
Factory
Assembled

New features for increased performance . . .

Heathkit CITIZEN'S BAND TWO-WAY RADIO!

- ▶ **New! Extra stage for increased power output**
- ▶ **New! Tuning meter**
- ▶ **Superheterodyne receiver**
- ▶ **Crystal controlled or variable receiver tuning**
- ▶ **3 crystal-controlled transmitting channels**
- ▶ **Adjustable squelch—automatic noise limiter**

GENERAL DESCRIPTION—Receiver section: 4-tube superheterodyne circuit with built-in squelch and noise limiter function. **Sensitivity:** 1 uv signal at antenna input produces 10 db signal to noise ratio. **Selectivity:** 7.5 kc at points 6 db down from peak response. **Transmitter section:** power input to final RF amplifier: nominal 5 watts. **Frequency control effectiveness:** within .005% of nominal crystal frequency over an ambient temperature range of -20 degrees F to +130 degrees F. **Power Requirements:** 120 v. AC version, 55 watts; 6.5 v DC version, 10 amps; 13 v DC version, 6 amps. **Dimensions:** 4½" H x 15" W x 5½" D

The brand new Heathkit GW-11 transceiver retains all the fine features of the preceding model (GW-10) and adds an extra transmitter stage for increased power output and a tuning meter in the receiver section for outstanding CB communications! The handsome low-profile styling is ideal for attractive home installations and permits easy under-dash mounting in mobile use. Operates reliably over distances of 1 to 10 miles, for hundreds of applications in business and personal communications.

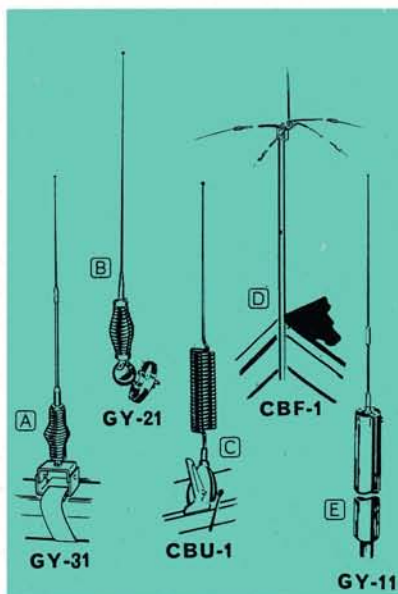
Features include switch-selection of a crystal-controlled receiving channel or continuous tuning of all channels; vernier action tuning; illuminated dial scale; press-to-talk microphone; switch-selection of 3 crystal-controlled transmitting channels; built-in AC or DC power supply. Transmitter and receiver crystals for one channel included (specify preference). Units are color-styled in two-tone mocha and beige. 11 lbs.

Kit GW-11A (117 v. ac) . . . no money down, \$7 mo.	\$69.95
Kit GW-11D (6 or 12 v. dc) . . . no money down, \$7 mo.	\$69.95
Assembled GWW-11A (117 v. ac) . . . no money down, \$10 mo.	\$99.95
Assembled GWW-11D (specify 6 or 12 v dc.) no money down, \$11 mo.	\$104.95

Extra Transmitter and Receiver Crystals for Heathkit Citizen's Band Units
When ordering, specify model number of Heathkit unit in which crystal is to be used, channel number desired (1 through 23), and whether crystal is for transmitter or receiver use (crystal frequencies are not the same). Note channel 1 cannot be used for unlicensed use of GW-30, GW-31 or GW-21; channel 23 is shared with Class C radio control. Specify first and second choice of channel numbers. When ordering for several units, specify channel number for each. 1 lb. . Per crystal. **\$2.95**



Low Cost Citizen's Band Antennas



A Model GY-31 Bumper Mount Mobile ANTENNA

Excellent coverage in temporary or permanent mobile installations. Two-section 102" stainless steel whip antenna. Spring base. Stainless steel strap bumper mount. Includes hold down clip, 20' RG58AU cable, connector and hardware. 7 lbs. **\$14.50**

B Model GY-21 Mobile ANTENNA

For top coverage in permanent mobile installations. Two-section 102" stainless steel whip. Cadmium plated spring base. Swivel ball mount. Complete with mounting hardware, hold down clip, 20' RG58AU cable and connector. 5 lbs. **\$15.95**

C Model CBU-1 "Utility" ANTENNA

An excellent medium range antenna for temporary mobile or fixed station. Includes rugged clip

mount and bracket. 45½" base loaded antenna with 12' cable and connector. 2 lbs. **\$9.95**

D Model CBF-1 "Fixed Location" ANTENNA

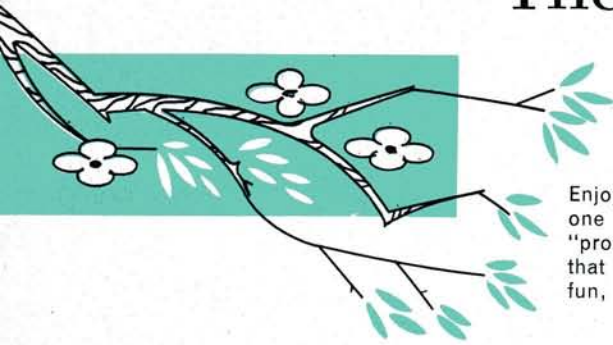
Excellent coverage non-directional ¼ wave "ground plane". Measures 9¼" from bottom of mounting bracket to top of vertical radiator. Complete with 50' RG58AU cable and mounting clamp. 6 lbs. **\$17.95**

E Model GY-11 "Fixed Location" ANTENNA

Omnidirectional operation, low radiation angle and low swr for outstanding CB communications. 18½ wave coaxial antenna consists of a 9' two-section aluminum rod top element and a 9' two-section 2" diameter aluminum skirt. Mounts on a 12' length of ¾" IPS pipe (not supplied). Includes 50' RG58AU cable and connectors 6 lbs. **\$21.95**

There's a Versatile Heathkit® Radio

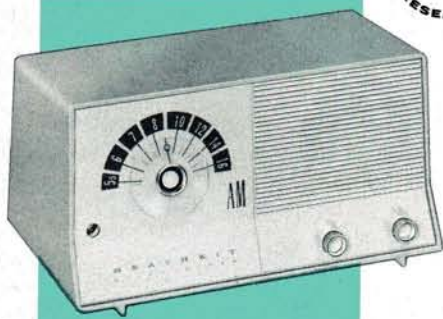
For Home, Work, Or Play, Choose A Heathkit



Enjoy the economies, the greater performance, and the satisfaction of Heathkit building. Choose one of the many products in what we call the Home-Hobby section of the Heathkit line as the "proving grounds" for your kit building. You'll find, as have millions of others the world over, that you need no experience. In fact, we guarantee you can build *any* Heathkit. Experience the fun, satisfaction and savings of kit building . . . order your favorite today!

For that "extra" radio . . . this low cost Heathkit AM TABLE RADIO

- ▶ Transformer Operated power supply
- ▶ Superheterodyne design with AVC
- ▶ Vernier Tuning for easy station selection



GR-10
\$19⁹⁵

Enjoy noise-free listening with this low-cost Heathkit FM TABLE RADIO

- ▶ Transformer operated power supply
- ▶ Vernier tuning for easy station selection
- ▶ Preassembled, prealigned FM tuning unit for ease of assembly



GR-11
\$27⁵⁰

Start each day with music with this new CLOCK RADIO kit

- ▶ Transformer operated power supply
- ▶ Timer operated outlet for household appliances
- ▶ Sleep switch—radio alarm—output jack for pillow speaker



GR-121
\$29⁹⁵

The new Heathkit GR-10 is ready to take its place in any room of your home . . . highly styled in muted ivory and beige plastic. And it has sensitivity and selectivity to spare due to its modern superheterodyne circuit. Safe too with its transformer operated circuit. Deluxe features include vernier action tuning for smooth, easy station selection . . . highly selective circuits for good station separation . . . high quality ferrite rod antenna for greater sensitivity . . . separate terminals for external antenna . . . and an on-off indicator light for a reminder. You will find the GR-10 easy to build with its roomy circuit layout . . . a fun-filled task that you can accomplish in about four hours. Kit is complete to the last detail with illustrated instructions and high quality parts. 7 lbs.

Kit GR-10 . . . no money down, \$5 mo. . . **\$19.95**

SPECIFICATIONS—Frequency coverage: 535-1620 kc. IF frequency: 455 kc. Power requirements: 105-125 volts AC 50/60 cps. Speaker: 3" PM. Antenna: built-in ferrite rod. Dimensions: 5" H x 10" W x 5" D.

Five tubes function as seven in this compact Heathkit FM table radio to produce fine FM performance at low cost. It's easy to build too with its factory assembled and aligned front end tuning unit. In fact, no alignment equipment is required because all IF transformers and the ratio detector transformer are pre-aligned, ready for you to install. Complete assembly should take about four hours. And it's safe to operate . . . because it has a transformer operated circuit. Deluxe features include vernier action tuning, smooth, easy station selection . . . carefully designed ratio detector that is essentially unaffected by man-made and natural noise sources . . . built-in line-cord antenna and separate terminals for an external antenna . . . and an on-off indicator light. Beautiful in ivory and beige plastic. 7 lbs.

Kit GR-11 . . . no money down, \$5 mo. . . **\$27.50**

SPECIFICATIONS—Frequency coverage: 88-108 mc. IF frequency: 10.7 mc. Power requirements: 105-125 volts AC 50/60 cps. Speaker: 3" PM. Antenna: built-in line, provision for external antenna. Dimensions: 5" H x 10" W x 5" D.

No more rude awakenings, this gleaming ivory and beige beauty gently "brings you around" to the strains of your favorite type of music at the appointed hour. Then, if you are the lag-gard type, after about ten minutes reprieve the alarm sounds to put an end to sleep. This low cost Heathkit Clock-Radio is easy to build (instructions and all parts furnished) and safe to operate because of its transformer operated 5-tube circuit. Deluxe features include a built-in ferrite rod antenna and a sleep switch that automatically turns the radio off after a pre-set time interval (up to 1 hour). Its high-quality electric clock/timer unit has a sweep second hand. A timer outlet for appliances and an output jack for a pillow speaker are provided. 8 lbs.

Kit GR-121 . . . no money down, \$5 mo. . . **\$29.95**

SPECIFICATIONS—Circuit: 5-tube superheterodyne. Frequency coverage: 535-1620 kc. IF frequency: 455 kc. Power supply: Transformer operated. Speaker: 3" PM. Controls: on/off volume, tuning, "sleep switch", "Radio-Alarm". Dimensions: 5" H x 10" W x 5" D.



For Every Purpose, Every Budget

Radio For Fine Performance At Lower Cost



Cordless AM TABLE RADIO . . . operates anywhere!

- ▶ Powerful 6-transistor, 2-diode circuit
- ▶ Large 4" x 6" PM speaker for fine tone quality
- ▶ Easy circuit board assembly



GR-131
\$19⁹⁵

Ideal for home, office or shop! Operates anywhere with its self-contained battery power supply. No worry about power failure during storms. Features, 6-transistor superheterodyne circuit with push-pull output stage. Large 4" x 6" PM speaker for "big set" tone. Built-in ferrite rod antenna insures maximum reception of weak stations. Extra overload diode prevents distortion caused by strong local stations. Operates 500-1,000 hours using new leakproof cathodic envelope battery pack. Smartly styled in ivory & pastel green plastic cabinet. Less Battery. 3 lbs.

- Kit GR-131 \$19.95
- GRA-131-1: Battery pack for above . . . 2 lbs. \$1.10

SPECIFICATIONS—Tuning range: 535-1620 kc. Sensitivity: 300 uv/m for 20 db S/N ratio @ 50 mw output. Battery: (1) 9 V long-life leakproof NEDA #1612, EVEREADY #2356. Battery life: 500-1,000 hours. Dimensions: 8" L x 6 1/4" H x 3" D.

Deluxe TRANSISTOR PORTABLE

- ▶ Powerful 6 transistor, 2-diode circuit
- ▶ Large 4" x 6" PM speaker for rich, full sound
- ▶ Vernier tuning—built-in rod antenna



XR-2P
\$29⁹⁵

XR-2L
\$34⁹⁵

Wherever you go you'll enjoy the convenience and economy of this superb all-transistor portable radio! Operates up to 1,000 hours on six economical standard size "D" flashlight batteries! Large 4" x 6" speaker for "Big-Set" tone quality. Vernier tuning for smooth, easy station selection. Built-in ferrite rod antenna. Handsomely styled in mocha-colored plastic or suntan simulated leather case, each with gracefully curved grill in smart beige plastic. Easy to assemble. Measures 9 1/2" L x 7 1/4" H x 4" D. Less batteries. 5 lbs.

- Kit XR-2P (plastic) . . . no money down, \$5 mo. \$29.95
- Kit XR-2L (leather) . . . no money down, \$5 mo. \$34.95

SPECIFICATIONS—Tuning range: 540-1620 kc. Sensitivity: 350 uv/m for 15 db signal-to-noise ratio at 50 mw output. Transistors: 6: 2N1108, 2N1110, 2N1111, R251, (2) R250. Diodes: 2.

Enjoy FM in Stereo with This FM Multiplex System...Just \$109.90!

High Fidelity FM TABLE RADIO

- ▶ 88 to 108 mc FM coverage
- ▶ Quality preassembled walnut cabinet
- ▶ Preassembled, pre-aligned tuning unit



GR-21
\$59⁹⁵

Handsome walnut cabinetry—excellent circuit design—high quality, are featured in this splendid FM table radio. Provides rich, full range high fidelity FM listening entertainment at low cost! Extended-range 6" x 9" dual-cone speaker. Automatic frequency control for drift-free reception. Vernier-action flywheel tuning. Lighted slide-rule dial. Magic eye to pinpoint station selection. AC transformer—silicon diode rectifiers for efficient performance. FM Multiplex output jack permits easy conversion to FM stereo with the Heathkit GRA-21-1 (opposite). Input for crystal phono or AM tuner also provided. Separate volume and tone controls. Built-in line antenna—provision for external antenna. Sturdy 3/8" walnut veneer cabinet with offset "relief" speaker grille. Complements finest room decor. Measures 15" L x 8" H x 6" D. 11 lbs.

- Kit GR-21 . . . no money down, \$6 mo. \$59.95

Multiplex FM STEREO CONVERTER Unit

- ▶ Matches GR-21 FM table radio perfectly
- ▶ Works with transformer powered FM radios
- ▶ Self-powered, self-contained



GRA-21-1
\$49⁹⁵

Matches and complements GR-21 FM table radio opposite, to bring you the exciting depth and direction of stereo sound! It features the same beautiful cabinet design, identical high quality speaker and audio circuitry to assure matched response. May be located up to 15' from the radio for maximum stereo effect. Carefully designed circuitry, including filter networks, that separate the multiplex signals with a minimum of phase distortion, emphasizes quality of reproduction and channel separation for true high fidelity stereo sound. Simple controls on the adapter include a master volume control for both channels and a function selector, to permit choice of stereo or monophonic reproduction of FM programs using both speakers of radio and adapter simultaneously. Tone controls of radio and adapter operate independently. 12 lbs.

- Kit GRA-21-1 . . . no money down, \$5 mo. \$49.95

Enjoy World-Wide Listening with Heathkit® Radio



Economy SHORT-WAVE LISTENERS RADIO

- ▶ Covers 140 kc to 18 mc in four bands
- ▶ Sensitive regenerative circuit
- ▶ Transformer isolated circuit



GR-81
\$24⁹⁵

For the budget-minded short-wave listener, the new Heathkit GR-81 presents fine performance at low cost. Four bands cover 140 kc to 18 mc to bring you reception of the 160, 80, 40, and 20 meter amateur bands, marine signals, low frequency aircraft beacons and weather, distress frequencies, standard broadcasts, government stations, international broadcasts etc. As an example of its versatility, aviation enthusiasts or others interested in the latest weather reports will find it a low-cost way to receive the constant weather broadcasts on the low frequency aircraft band. Current affairs students will find the on-the-spot foreign broadcasts from London, Paris, Moscow, Tokyo, Berlin and other national capitals the ideal way to keep up-to-the-minute on world events. Amateur radio broadcasts make warm, friendly listening around the world. WWV (government stations) provide the world's most accurate time signals. For real life drama, monitor the marine and emergency frequencies.

Main and Fine Tuning make station selection simple. Provisions for short or long antennas make possible good reception regardless of situation. The power supply is transformer isolated for safety.

A built-in 3" x 5" speaker and a headphone jack are provided. Complete this easy to build kit in about six hours. 10 lbs.

Kit GR-81 . . . no money down, \$5 mo. \$24.95

SPECIFICATIONS—Frequency coverage: 140 kc to 18 mc on four bands. **Tube complement:** 12AT7 Detector/1st Audio, 50C5 Audio Output, 35W4 Rectifier. **Power requirements:** 105-125 V 50/60 cycle AC only, 30 watts, Fused. **Controls:** Main tuning (calibrated), Bandspread, Bandswitch, Regeneration, on/off volume, phone jack. **Dimensions:** 10" W x 7" H x 7" D.

For superb short-wave listening anywhere . . . the Heathkit "Mohican" PORTABLE

- ▶ 10-transistor, 6-diode circuit
- ▶ Self-contained battery power supply
- ▶ Covers 550 kc to 32 mc in five bands

Kit Form
or
Factory
Assembled



GC-1A
\$109⁹⁵

For the avid short-wave fan who demands peak performance and portability, the Heathkit GC-1A "Mohican" general coverage receiver is ideal. Completely transistorized, the GC-1A also uses advanced circuit features usually found only in expensive amateur radio type receivers. "Drift Field" transistors assure improved high-frequency performance. Ceramic IF "transfilters" offer the convenience and performance of a fixed, narrow band-pass that needs no alignment. Zener diode voltage regulation stabilizes the receiver "front end." Equipped with flywheel tuning, built-in telescoping 50" whip antenna, oscillator tuning electrical bandspread, RF amplifier, and complete controls, the GC-1A is ready to perform in the home, on the road, or in the field, with a level of attainment difficult to equal at its low price. Less batteries, 18 lbs.

Kit GC-1A . . . no money down, \$11 mo. \$109.95

Assembled GCW-1A . . . no money down, \$19 mo. \$193.50

Kit XP-2 . . . 117 VAC plug-in power supply; 2 lbs. \$9.95

SPECIFICATIONS—IF frequency: 455 kc. **Frequency coverage:** 550 kc to 32 mc in 5 bands with calibrated bandsread scales (oscillator tuning) for 80, 40, 20, 15 and 10 meter amateur bands and 11 meter citizens band. **Selectivity:** 3 kc wide at 6 db down. **Sensitivity:** 10 uv broadcast band, 2 uv short wave bands for 10 db signal-to-noise ratio. **Output:** 400 milliwatts max. **Battery life:** up to 400 hours normal intermittent service using 8 standard size "C" cells. **Dimensions:** 6 1/4" H, x 12" W, x 10" D.

High Performance Heathkit SHORT-WAVE LISTENERS RADIO

- ▶ Covers 550 kc to 30 mc in four bands
- ▶ Built-in relative signal strength meter
- ▶ Transformer power supply



GR-91
\$39⁹⁵

The Heathkit GR-91 combines high performance and medium price in one handsomely styled package.

The frequency range of 550 kc to 30 mc is covered in four overlapping bands. This tuning range will cover the standard broadcast band, the 80, 40, 20, 15, and 10 meter amateur bands, and the short-wave frequencies of dozens of foreign countries currently broadcasting.

As an aid to accurate, easy tuning, the GR-91 features an "S" meter to indicate relative signal strength; electrical bandsread on all four bands provides greater station "separation". A beat frequency oscillator is provided for listening to code or single sideband transmissions. The built-in 3" x 5" speaker is automatically silenced when you plug a pair of headphones into the headphone jack for private listening. Quick-to-complete circuit board construction. Transformer operated for safety. All steel beige cabinet. 15 lbs.

Kit GR-91 . . . no money down, \$5 mo. \$39.95

SPECIFICATIONS—Frequency range: 550 kc to 30 mc in four bands. Short wave, broadcast bands clearly marked on dial. **Controls:** General coverage tuning, Bandsread tuning, Antenna trimmer, Bandswitch, Noise Limiter—ON/OFF, phone-Standby-CW switch, BFO control, Audio Gain, AC-ON/OFF, Headphone jack, Q-multiplier input jack. **Power requirements:** 105-125 V 50/60 cycles AC, 30 watts. **Dimensions:** 12 1/4" W x 5 1/2" H x 8 1/4" D.

Heathkit® Intercom Systems

Save Time... Save Steps

Only \$45.90 a pair! . . .

new Heathkit WIRELESS INTERCOM!



GD-51-2
\$45.90
(pair)

SPECIFICATIONS—Power requirements: 105-125 V 50/60 cycle AC or DC. Standby power: 2.5 watts. Transmit frequency: 220 kc & 180 kc (switch selected). Size: 6 1/2" H x 8" W x 7 1/2" D.

- ▶ All transistor circuit—built-in AC power supply
- ▶ All-master system—any station may originate a call
- ▶ No connecting wires between units—just plug into nearest AC outlet
- ▶ Add as many units as you like . . . at any time, to expand system

This beautifully styled Heathkit Wireless Intercom puts step-saving convenience within easy reach of all! Perfect for use in home, office or factory. Costs less than 3c a month to operate! Each unit features an all-transistor circuit for high operating economy and a self-contained 117 v. ac power supply. Easy to install . . . simply plug the line cord into the nearest outlet and it's ready to operate. The power line is used as the transmission medium for the low frequency AM RF signal. No interconnecting wires between units are necessary! Features include a squelch circuit for full quieting during standby and an overload diode to prevent distortion on high-level signals. The large press-to-talk bar switch has spring-return to listen position and a transmit "hold" position for dictation or babysitting. Two indicating lights are provided, white for standby and red for transmit. Two-tone beige plastic cabinets.

Kit GD-51-2 (pair) 8 lbs. . . . no money down, \$5 mo. . . . \$45.90
Kit GD-51 (one station) 4 lbs. . . . \$22.95



New INTERCOM MODEL provides complete indoor & outdoor communication facilities

Anyone can build and install this high performance intercom system. Covers both indoor and outdoor areas at tremendous savings over comparable ready-built systems. One watt output and specially designed frequency response assures crisp, clear communications. Master unit features an all-transistor circuit, built-in power supply, and separate level controls for listen and talk functions. Provision is made for up to 5 remote stations. Dependable lever switches permit selective call of any single remote or all-call for paging or announcements.

Indoor remotes are supplied with 50' of 3-conductor wire. 3-wire system permits two-way communication between any two remotes with only one initial setting of the master unit. Remotes have three-position listen-talk-monitor switch. In monitor position remote can be switched by the master to be heard anywhere in the house . . . perfect for babysitting! Outdoor remotes have doorbell button, weatherproof speaker, aluminum grill and weather seal. 50' of 2-wire cable included.

Kit GD-121 Master Station . . . 5 lbs., no money down, \$5 mo. . . . \$29.95
Kit GD-131 Indoor Remote . . . 3 lbs. . . . \$8.95
Kit GD-141 Outdoor Remote . . . 2 lbs. . . . \$5.95



GD-121 (Master)
\$29.95

- ▶ Beautifully styled beige plastic cabinets
- ▶ Powerful 1 watt output—all-transistor circuit
- ▶ Master provides for up to 5 remote stations
- ▶ Weatherproofed outdoor remote station

SPECIFICATIONS—Power requirements: 117 v ac 50/60 cycles 2.5 watts (idling), 3.5 watts (full output). Transistors: four 2N1274. Dimensions: 6 1/2" H x 8" W x 7 1/2" D (master), 5" H x 8" W x 6" D (indoor remote, 5 1/2" x 4 1/2" panel size (outdoor remote).



GD-71
\$19.95

Enjoy hands free telephone talks with this low-cost Heathkit TELEPHONE AMPLIFIER

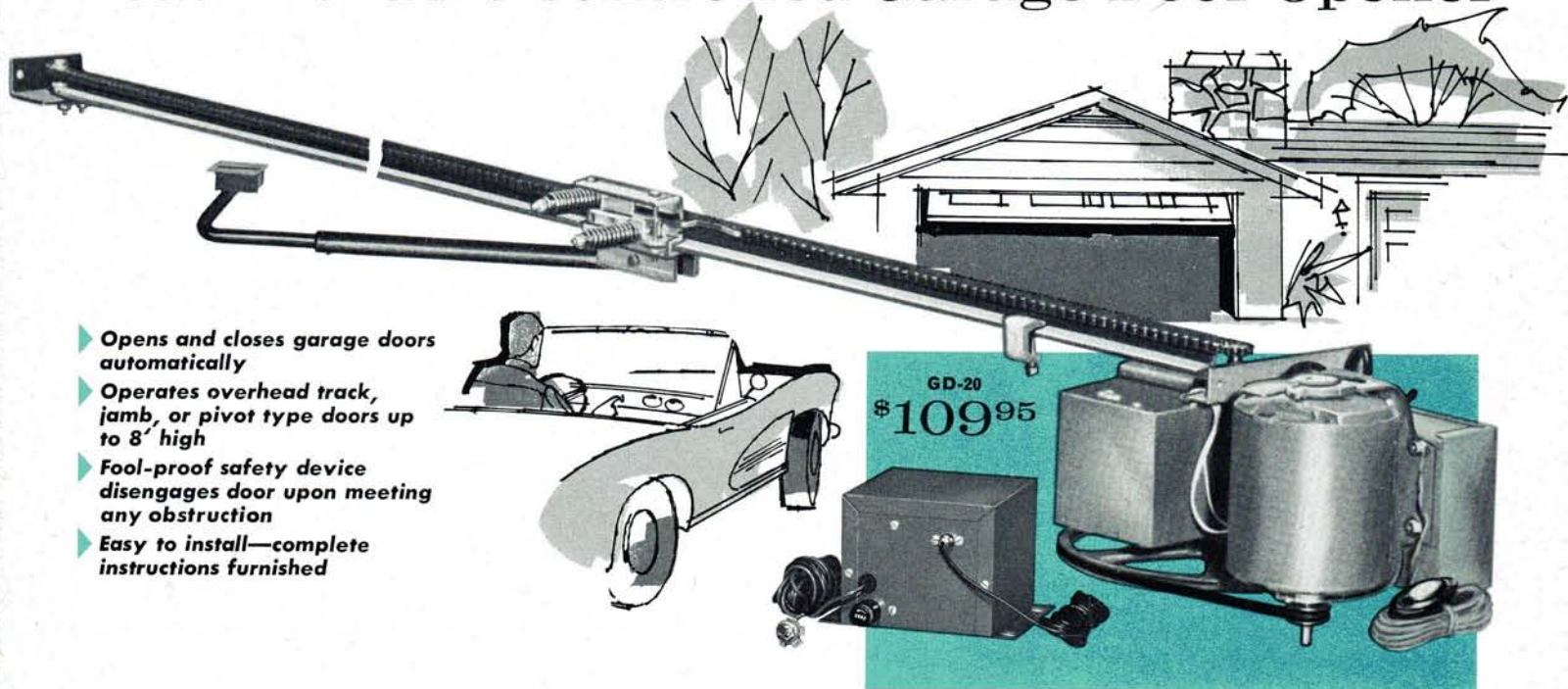
- ▶ Ideal for busy housewives, executives, secretaries
- ▶ All transistor circuit—instant operation
- ▶ One 9-volt battery lasts up to 2,000 3-minute calls



Convenient, saves time! Continue with housework, take dictation, or look for notes while carrying on a 2-way telephone conversation! Features an all-transistor circuit, inductive pickup coil, built-in speaker and volume control. A single 9-volt battery lasts up to 100 operating hours. Easy circuit board assembly takes just a couple of hours. Ivory colored plastic cabinet. 5 7/8" W x 6" H x 9 1/4" D. 2 lbs.

Kit GD-71 \$19.95

Save...by assembling and installing your own Heathkit® radio-controlled Garage Door Opener



- ▶ **Opens and closes garage doors automatically**
- ▶ **Operates overhead track, jamb, or pivot type doors up to 8' high**
- ▶ **Fool-proof safety device disengages door upon meeting any obstruction**
- ▶ **Easy to install—complete instructions furnished**

For the automobile enthusiast, garage owner, mechanic....
Heathkit electronic IGNITION ANALYZER



SPECIFICATIONS—RPM range: 400-5000 rpm. **Displays:** Secondary, Primary, Parade, Super-imposed. **Screen size:** 4 1/4" diameter. **Dwell measurement:** 4, 6 & 8 cylinder calibration on face plate. **Pattern height:** Secondary circuit, approx. 1"; Primary circuit, 6 volt system 3/4", 12 volt system 1". **Vertical expand ratio:** 2 to 1. **Horizontal expand ratio:** 10 to 1. **Cable length:** 12" pickup clamp, 2' ground, primary and secondary clips. **Power requirements:** 105-125 V, 50/60 cycles AC, 30 watts.

Kit Form
or
Factory
Assembled

IO-20
\$89.95

- ▶ **Shows trouble spots—verifies corrective measures**
- ▶ **Easy to use with complete instructions provided**

Designed in close cooperation with automobile industry specialists, the new Heathkit IO-20 Ignition Analyzer incorporates many desirable and time-saving features and at savings of up to 50%. With the IO-20, you can observe these common ignition faults in any conventional automobile ignition system . . . shorted spark plugs, bad points, defective wiring, worn distributor parts, incorrect point dwell-time, etc. It's easy to use, just connect the leads, start the engine, select the pattern you want, and there on the big 5" screen is the tell-tale trace that helps you pinpoint the trouble. The IO-20 is ideal for professional or hobbyist, for you can use it anywhere, even "on the road" with a DC-AC inverter. Be your own ignition "tuneup" specialist with the IO-20. 15 lbs.

Kit IO-20...no money down, \$9 mo. **\$89.95**
Assembled IO-20...no money down, \$16 mo. **\$169.95**

Ignition TIMING LIGHT Accessory

Plugs into IO-20 Analyzer only. Intense white light shows timing marks even in brightly-lighted areas. Speed range: 0-1250 flashes per minute (0-2500 rpm for 4-cycle engine of current conventional automobiles). Hard rubber pistol-grip case with 10' cable. 6" H x 7 1/2" L x 2" W.

Kit ID-11 ... 2 lbs. **\$14.95**
Assembled ID-11 2 lbs. **\$19.95**

Kit Form
or
Factory
Assembled



Heathkit radio-controlled GARAGE DOOR OPENER

Enjoy the convenience of your own garage door opener! With the touch of a button, your garage can be opened, lighted, and closed without leaving the comfort of your car. No more getting out in the weather . . . no more lifting and straining . . . no more groping in the darkness. Kit includes all parts and instructions for easy assembly. Mechanism may be purchased separately for push-button operation from house or remote location, or complete with transmitter & receiver for radio-controlled operation.

"High Power" transmitter and special receiver design prevent operation from all but strongest of signals. Selectable tone-coding of signal permits operation of similar units in an area without interfering with each other. Mechanism is simple and easy to install, with a minimum of parts for long, reliable, trouble-free operation. Requires just 2 1/2" clearance above highest point of door travel. Any number of switches may be connected to the mechanism to operate door from house or garage, etc.; one is included with kit. Switch circuit uses safe 12 volt line for easy, inexpensive wiring.

Mechanism provides for a light that automatically turns on when door is opened and remains on for several minutes after door closes allowing time to enter house or to switch on main lights. This feature may be extended to control driveway, patio, breezeway lights, etc.

A unique safety device stops door by releasing it from mechanism should it meet an obstruction or fail to operate for any reason. Each direction of door travel has a separate, adjustable safety release. Operating force is adjustable to provide safe, gentle operation and a spring-loaded connecting arm assures a tight weather seal when door is closed. Multiple speed selection provides slower speed required by Jamb and Pivot type doors. Operation cycle is approximately 10 seconds. Order this handy household servant today and enjoy its time and labor saving conveniences!

Kit GD-20; Mechanism, transmitter & receiver... 67 lbs....
 no money down, \$11 mo. **\$109.95**
Kit GDA-20-1; Transmitter... 4 lbs.... no money down, \$5 mo. **\$24.95**
Kit GDA-20-2; Receiver... 3 lbs. **\$16.95**
Kit GDA-20-3; Mechanism... 58 lbs.... no money down, \$7 mo. **\$69.95**

TRANSMITTER SPECIFICATIONS—6 or 12 volt operation, 5 watts max. (FCC requirements) to final, 3 modulation frequencies approx. 2KC, 2.9KC & 3.7KC. Fused, 4 1/4" wide x 6" long x 4" high. 6AU8 & 12BH7. 27,255MC crystal controlled.

RECEIVER SPECIFICATIONS—117 V.A.C. 4 1/4" wide x 6" long x 4" high. 6BH6 & 6CB6. 10 W Idle, 12 W with signal. 27,255 MC. 3 audio filter frequencies approx. 2KC, 2.9KC & 3.7KC adjustable to match Xmitter. Fused.

MECHANISM SPECIFICATIONS—126" length x 8 1/4" high x 13" wide. 100# max. operating force. Operate doors up to 8' high. 117 V.A.C. 1/4 H.P. motor. Fused.

Learn basic electronics the easy, interesting way... with a Heath Educational Kit



Teaches BASIC TRANSISTOR CONCEPTS and practical Circuit Applications

- ▶ Simplified easy-to-understand text
- ▶ Interesting experiments performed as you learn
- ▶ All parts and transistors furnished with kit
- ▶ Final product is a handy two-station intercom
- ▶ Textbook remains a valuable source of information

This Educational kit is designed to teach the basic fundamentals of transistors. These tiny electronic marvels, designed to replace the vacuum tube, offer many superior advantages in modern electronic circuitry, yet are still somewhat shrouded in a veil of mystery. The purpose of this educational kit is to explain in simple, easy-to-understand language the "how" and "why" of transistors and their associated circuitry, without the need of difficult mathematics. Through the concept of learn-by-doing the student learns not only from the textbook, but also from the interesting and detailed experiments performed to illustrate and support the text. Some of the test circuits assembled by the student include a two-transistor radio, wireless broadcaster, audio amplifier, and an audio test oscillator. These are all wired on a special experimental chassis designed for the utmost convenience and accessibility in performing the construction of the circuit and the measurement of each circuit parameter. Also included are all the necessary components and materials required to perform the final experiment . . . the complete assembly of a highly useful and functional two-transistor intercommunication system that will save many steps in the home. Both the "Master" and "Remote" units are housed in distinctively styled metal cabinets. Designed for youngsters and adults alike, the EK-3 provides the necessary background for the understanding of basic transistor theory which will simplify servicing and trouble-shooting of transistorized circuitry and equipment. The well-written textbook contains a storehouse of information that would be valuable in any reference file. 4 lbs.

Basic Transistors (EK-3)* \$16.95

*Learn BASIC RADIO with this practical two-part Heathkit project

- ▶ Combines fun of assembly with learn-by-doing
- ▶ Easy to understand instruction manuals
- ▶ Builds handsome 2-band superheterodyne receiver



Now, with proven "learn-by-doing" techniques, you can quickly and easily grasp the fundamentals of radio theory. This Heathkit educational project is comprised of two parts, Basic Radio—Part I which teaches about basic radio parts and principles of operation as you build a regenerative tube-type receiver, and Basic Radio—Part II which extends your knowledge of radio theory to more advanced circuits. You complete a two-band superheterodyne receiver that picks up standard broadcast, amateur radio, marine and international stations. All concepts are described in everyday language and illustrated by common analogies without mathematics or complicated terminology . . . suitable for youngsters and adults alike.

Basic Radio Part I (Kit EK-2A)* . . . 6 lbs. \$19.95
Basic Radio Part II (Kit EK-2B)* . . . 4 lbs. \$19.95
Accessory Cabinet AK-8: For completed EK-2B receiver . . . 4 lbs. . . . \$3.95

Quick Course for VTVM Owners . . . "How to Understand and Use Your Vacuum Tube Voltmeter"

- ▶ Teaches basic VTVM theory and applications



If you own a VTVM or are about to purchase one; the EF-1 can help you learn its theory, advantages, and applications. A power supply kit is included for experiments detailed in the text. Topics arranged for value to beginner and professional. 3 lbs.

Kit EF-1 . . . (for VTVM owners) \$8.95

See p. 29 for combination price with Heathkit VTVM's.

*Learn BASIC ELECTRICITY This Easy, Practical Way

- ▶ Ideal beginning to Heath Educational Series; meter enhances educational value



Here is the logical starting point for the Heath Basic Education Series. This kit and textbook teaches principles and concepts valuable in themselves in understanding the wonder of electronic living and also basic to the pursuit of other Heathkit courses. Builds handy DC volt-ohm-milliammeter of many uses. 4 lbs.

Basic Electricity (EK-1). \$19.95

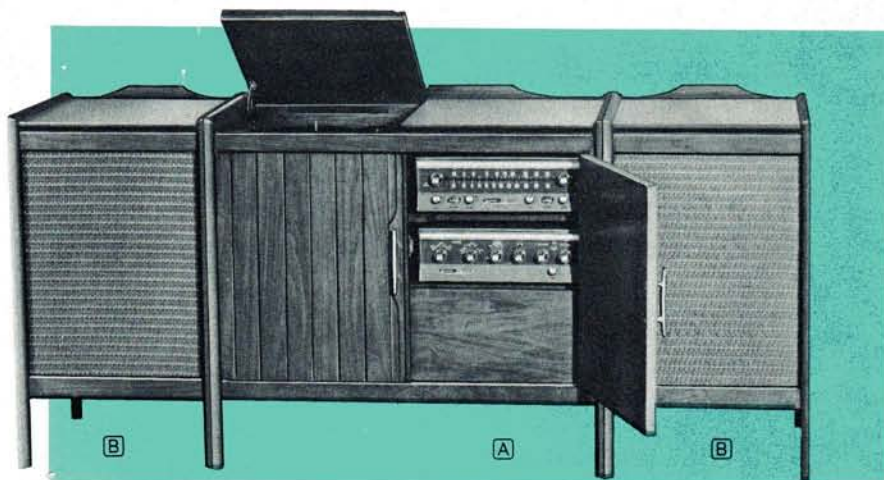
Heathkit® Stereo/Hi-Fi . . . Higher

Buy Your Heathkit Stereo/Hi-Fi Components as a System



SPECIAL NOTICE 5% DISCOUNT ON SYSTEMS!

Pick any selection of Heathkit high fidelity components which will make up a monophonic or stereo music system and take a 5% discount. Your system choice can qualify by including a music source such as tuner, record player, or tape deck; a complete amplifier or combination of amplifiers, and speakers to complete the system. Simply add up the prices of your individual components and deduct 5% on the order blank.



DELUXE CONSOLE with stereo phono and stereo tuner

This superb stereo system, featuring the best of the Heathkit audio line, is an excellent example of the great savings you can enjoy with Heathkit while securing the finest of quality. Compare this system with others costing \$1000 to \$1500! . . . you'll find the only thing missing is the big price tag. This deluxe system includes: New AM /FM / Multiplex Stereo Tuner AJ-41 (p. 18); 50-Watt Stereo Amplifier AA-100 (p. 19); Automatic speed-selecting Stereo /Mono Record Changer AD-60B with Shure diamond stylus cartridge (p. 21); two Jensen H-223F Coaxial 2-way 12" speakers (not shown); two AE-40 Speaker Cabinets and one AE-20 Equipment Cabinet (shown above and described below). Order as a system; save an extra 5%! 264 lbs.

Assembled HFS-49W (walnut finish) . . .
\$108.75 dn., as low as \$40 mo. **\$708.75**
(includes discounts)

Assembled HFS-49M (mahogany finish) . . .
\$108.75 dn., as low as \$40 mo. **\$708.75**
(includes discounts)

MONEY SAVING KIT FORM

Includes preassembled, prefinished cabinets as above. Electronic equipment and changer are in kit form. You assemble and save.

Kit HFS-48W (walnut finish) . . . no money dn., as low as \$38 mo. . . **\$572.14**
(includes discounts)

Kit HFS-48M (mahogany finish)
no money dn., as low as \$38 mo. **\$572.14**
(includes discounts)

A "Custom Designed" EQUIPMENT CABINET

Elegant in appearance, quality in materials and construction, versatile in function, these handsome cabinets were expressly designed for your Heathkit stereo /hi-fi equipment. Two styles of speaker cabinets available to match. Quality woods, hand-rubbed finishes. 81 lbs.

Model AE-20U (unfinished) . . . no money down, \$8 mo. **\$79.95**
Model AE-20W (walnut) . . . no money down, \$10 mo. **\$99.50**
Model AE-20M (mahogany) . . . no money down, \$10 mo. **\$99.50**

EQUIPMENT ACCOMMODATIONS AND SIZES—Cabinet, overall: 36" W x 32 $\frac{3}{8}$ " H x 19" D. **Changer compartment:** 17" W x 15 $\frac{1}{2}$ " D., mounting board height is variable to accept any Heath record changer, lid has adjustable, friction loaded support. **Record-tape recorder compartment:** 14 $\frac{1}{2}$ " H x 17" W x 17" D. for record storage; space is convertible with accessory sliding drawer below to accommodate Heath tape recorders. **Shelf Compartments:** (2) each 17" W x 6" H x 17" D., inside (shelf 14" deep); **Power Amplifier Compartment:** 8 $\frac{1}{2}$ " H x 17" W x 15 $\frac{1}{2}$ " D.

B 12"-15" SPEAKER CABINET

As shown above, completely assembled, factory finished or unfinished ready for installation of your choice of 15" or 12" speakers (adapter ring is included). 3 $\frac{3}{8}$ " x 10-3 /16" slot is provided for use of horn-type tweeter. Tube vented design allows matching the cabinet to the resonant frequency of your speaker by easy cutting of the tube to a specific length as shown in instructions. Suitable speakers are shown in the 1962 Heathkit Catalog. Constructed of $\frac{3}{4}$ " stock, the cabinet measures 18 $\frac{1}{4}$ " W x 19" D x 32 $\frac{3}{8}$ " H outside and weighs 44 lbs.

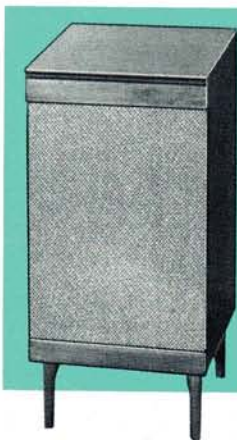
Model AE-40U (Unfinished) . . . no money down, \$5 mo. **\$37.95**
Model AE-40W (walnut) . . . no money down, \$5 mo. **\$44.95**
Model AE-40M (mahogany) . . . no money down, \$5 mo. **\$44.95**



TAPE RECORDER DRAWER

Converts record storage compartment of AE-20 equipment enclosure above to accept tape recorder or player. Holds either Heathkit model AD-70 or TR-1A tape deck. Drawer is assembled and complete with hardware, track and instructions for installation. Measures 11 $\frac{1}{8}$ " H x 14 $\frac{1}{2}$ " D x 16" W outside. 15 lbs.

Model AEA-20U (unfinished) **\$12.95**
Model AEA-20W (walnut) **\$14.95**
Model AEA-20M (mahogany) **\$14.95**



12" SPEAKER CABINET

- ▶ **Accepts all 12" or 8" speakers**
- ▶ **Provision for horn-type tweeter**

Completely assembled, ready for speaker. Designed for 12" speakers with adapter ring for 8" speakers. 3 $\frac{3}{8}$ " x 10 $\frac{3}{16}$ " slot provided for horn-type tweeter. Tube-vented design allows matching cabinet to speaker. Assembled of $\frac{3}{4}$ " stock. 15" W x 19" D x 32 $\frac{3}{8}$ " H outside. 35 lbs.

Model AE-30U (unfinished) . . .
no money down, \$5 mo. ea. **\$31.95**
Model AE-30W (walnut) . . .
no money down, \$5 mo. ea. **\$38.95**
Model AE-30M (mahogany) . . .
no money down, \$5 mo. ea. **\$38.95**

Recommended Speakers for Speaker Cabinets above . . . see page 57 of 1962 catalog.

Quality, Lower Cost

and Save an EXTRA 5%!



Factory assembled SPEAKER SYSTEM

ASW-41U
\$10.95

Kit Form
or
Factory
Assembled

This completely factory-built, low-cost speaker system is just right for small Hi-Fi systems, for extension speakers to other rooms or as a stereo center fill-in speaker. It features a 6" x 9" extended range dual-cone speaker with 70-16,000 cps response. Measures only 11" W x 8" H x 6½" D. Available in walnut finish or unfinished cabinet. Ready to play when you unpack it. 8 lbs.

Assembled ASW-41U (unfinished).....\$10.95
Assembled ASW-41W (walnut finish).....\$12.95

SPECIFICATIONS—Frequency response: 70-16000 cps. **Speaker:** 6" x 9" oval extended range dual cone. **Magnet:** 6.8 oz. Alnico 5. **Power handling capacity:** 12 watts peak. **Impedance:** 8 ohms. **Resonant frequency:** 85 cps. **Leads:** 15' 2-conductor, rubber-covered.

Basic hi-fi SPEAKER SYSTEM . . . a hi-fi favorite!



AS-51U
\$39.95

A tremendously popular speaker system! Features the same fine performance of the Heathkit SS-2 speaker system with brand new styling. Factory assembled cabinets are available in prefinished walnut or mahogany veneers and also in unfinished white hardwood for the finish of your choice. 24 lbs.

Kit AS-51U (unfinished) . . . no money down, \$5 mo. \$39.95
Kit AS-51W (walnut) . . . no money down \$5 mo. \$46.95
Kit AS-51M (mahogany) . . . no money down, \$5 mo. \$46.95

SPECIFICATIONS—Frequency response: ± 5 db, 50 to 12,000 cps; **Crossover frequency:** 1600 cps; **Power rating:** Program Material—25 watts, Single Frequency—15 watts; **Nominal impedance:** 16 ohms; **Speakers:** Low Frequency—8" Jensen (special design), 6.8 oz. Alnico 5; High Frequency—Jensen compression driver with exponential horn (special design), 4.7 oz. Alnico 5; L-pad—level control for high frequency driver. **Dimension:** 11½" H x 23" W x 11½" D.



AS-21U
\$229.95

Kit AS-21W (walnut) . . .
no money down, \$22 mo. **\$239.95**

Kit AS-21M (mahogany) . . .
no money down, \$19 mo. **\$199.95**

Kit AS-21U (unfinished) . . .
no money down, \$18 mo. **\$189.95**

AS-31: All components of AS-21 except cabinet for custom installation. Includes cabinet drawings and schematic diagram. 53 lbs.

. . . no money down, \$18 mo. **\$184.95**

"Legato-Compact" Deluxe SPEAKER SYSTEM

► **Special design 800 cps crossover network**

Words cannot express the thrill you will experience in listening to the "Legato." The sparkling brilliance of this speaker system with its rich, full-bodied sound is the result of a skillful blending of tonal balance, phasing, driver design and acoustical engineering! Truly a masterpiece in design and performance! Two high compliance, Altec Lansing 12" "woofers," a special exponential horn, high frequency driver combination and special crossover network cover the amazing range of 30 to 22,000 cps with extreme smoothness for the ultimate in listening realism! High efficiency design requires only 3 watts to drive, yet handles program material as high as 30 watts. The beautifully styled cabinets of sturdy ¾" stock, factory assembled ready for speaker installation, are available in a choice of finished walnut, mahogany, or unfinished birch to match Heathkit AE-20 equipment cabinets. 132 lbs.

SPECIFICATIONS—Frequency response: 30-22,000 cps. **Power rating:** 30 watts program material. **Nominal impedance:** 16 ohms. **Cabinet type:** Modified infinite baffle. **Dimensions:** 32" L. x 19" D. x 32½" H. **Magnet wts.:** Low-frequency drivers: 1½ lbs. each. High frequency driver: .53 lbs. **Crossover network:** 800 cps constant K high frequency shelving type.

New miniature hi-fi SPEAKER SYSTEM

AS-81U
\$17.50



Delivers amazing reproduction for its size! Unusual bass response is achieved through careful match of enclosure to special design 6" woofer featuring mass-loaded cone and powerful 10 oz. Syntox magnet. A 3" tweeter provides extended high frequency response. The airtight enclosure is completely assembled. You install speakers and wiring. 7 lbs.

Kit AS-81U (unfinished) \$17.50
Kit AS-81W (walnut finish) \$19.95
Kit AS-81M (mahogany finish) \$19.95

SPECIFICATIONS—Frequency response: ± 6 db 65-14500 cps. **Speakers:** 6" woofer, 3" tweeter. **Magnet:** 10 oz. Syntox. **Power handling capacity:** 6 watts peak. **Impedance:** 8 ohms. **Dimensions:** 10½" W x 6½" H x 6½" D.

Acoustic suspension SPEAKER SYSTEM

AS-10U
\$59.95



Extended bass response, brilliant high frequency coverage! Features a 10" acoustic suspension woofer and two 3½" cone-type tweeters for a system response of 30 to 15,000 cps. May be used vertically or horizontally. High frequency control and crossover network included. Preassembled cabinets. 39 lbs.

Kit AS-10U (unfinished) . . . no money down, \$6 mo. \$59.95
Kit AS-10W (walnut) . . . no money down, \$7 mo. \$64.95
Kit AS-10M (mahogany) . . . no money down, \$7 mo. \$64.95

SPECIFICATIONS—Frequency response: ± 5 db to 15,000 cps; **Crossover frequency:** 2250 cps; **Recommended amplifier power:** 10 to 40 watts rms; **Nominal impedance:** 16 ohms; **Tweeter:** two 3½" cone units, in dispersed array, 1.47 oz. Alnico 5 mag.; **Woofer:** 10" Acoustic Suspension, 1 lb. Alnico 5 mag. **Resonant frequency (mounted)** 58 cps.; **Crossover:** L-C network; **Horizontal dispersion:** 90 degrees. **Dimensions:** 24" L x 11½" D x 13½" H.



AS-2U
\$72.95

Here's the famous AR-2 ACOUSTIC SUSPENSION SPEAKER in kit form!

Because of an exclusive license granted to Heath by Acoustic Research, Inc., you can enjoy the quality and savings of the AR-2 system in kit form . . . extended bass response, extremely low harmonic distortion, outstanding high frequency distribution. Cabinet is preassembled, unfinished. 44 lbs.

Kit AS-2U (unfinished) no money dn, \$8 mo. \$72.95

SPECIFICATIONS—Frequency response: ± 5 db, 40 to 15,000 cps; **Crossover frequency:** 1,000 cps; **Recommended amplifier power:** 20 to 40 watts RMS; **Nominal impedance:** 8 ohms; **Tweeter:** two 5" cone units, specially treated and equalized, in dispersed array, 2.15 oz. Alnico 5 Magnet; **Woofer:** 10" Acoustic suspension, 1.1 lb. Alnico 5 Magnet. **Resonant frequency (mounted)** 58 cps; **Crossover:** L-C network; **Horizontal dispersion:** 90°.

Heathkit® Tuners and Converters

HIGH FIDELITY AM TUNER . . .

provides AM reception comparable to FM



AJ-21
\$29.95

- ▶ "Fidelity" selector switch
- ▶ Easy glide flywheel tuning
- ▶ Built-in rod antenna
- ▶ Exciting new styling concept

Beautifully styled to match its FM counterpart, the Heathkit AJ-31, the AJ-21 AM tuner brings you high fidelity AM broadcast radio entertainment with quality approaching that of FM! A fidelity selector switch gives you choice of maximum fidelity or maximum selectivity. This self-powered unit has three tuned stages for high sensitivity and a full wave voltage doubler detector for low distortion. Features include large, easy-to-read slide-rule dial, easy glide flywheel tuning, built-in rod antenna and provision for external antenna. Two outputs are provided, on "variable" for direct driving of power amplifiers and the other "fixed" for use with preamplifiers. The clean, straight-forward circuitry and easy-to-follow Heathkit construction manual assures easy assembly and dependable trouble-free performance. Handsome styling features charcoal grey steel cabinet highlighted by an ivory bezel and lower front panel. 9 lbs.

Kit AJ-21 . . . no money down, \$5 mo. **\$29.95**

SPECIFICATIONS—Tuning range: 550 kc to 1600 kc. Intermediate frequency: 455 kc. Sensitivity (for 20 db quieting IHFM standards): 1000 kc-8 uv. IF bandwidth (6 db down): NORMAL-7 kc.; MAXIMUM-18 kc. Harmonic distortion: (750 uv 95% mod.); Less than 1%. Hum and noise: (500 uv-30% mod.); 40 db. IF rejection: 1000 kc-69 db. Power supply: Transformer operated (fused). Power requirements: 117 V AC, 50/60 cycles at 19 watts. Dimensions: Overall, 4 1/8" H x 13 1/2" W x 6" D.



Add this Heathkit FM STEREO CONVERTER . . . for a thrilling New Dimension in FM listening entertainment



Kit Form or Factory Assembled

AC-11A
\$32.50

- ▶ Use with any FM tuner having multiplex output
- ▶ Built-in power supply
- ▶ Easy to build
- ▶ Color styled to match Heathkit tuners
- ▶ Measures only 3 3/8" H x 3 1/2" W x 9 7/8" D

With the AC-11 converter you can receive stereo FM programs from any good quality FM tuner with multiplex output. Compact and easy to assemble! . . . has 3 tubes, built-in fused power supply and pre-aligned coils. A balanced-diode detector assures low distortion and controlled signal matrixing gives maximum separation of channels for true stereo. Features separation control, and cathode follower outputs. Frequency response is 50 cps to 15 kc with built-in de-emphasis. Color styled to match deluxe or economy Heathkit tuners. Order with your Heathkit tuner today! Connecting cables included. 4 lbs.

Kit AC-11A (black case) . . . no money down, \$5 mo. **\$32.50**

Kit AC-11B (luggage tan case) . . . no money down, \$5 mo. **\$32.50**

Assembled ACW-11A . . . no money down, \$6 mo. **\$56.25**

Assembled ACW-11B . . . no money down, \$6 mo. **\$56.25**

SPECIFICATIONS—Audio frequency response: ±2 db 50 to 15,000 cps. Subcarrier bandpass: ±4 db 23,000 to 53,000 cps. Channel separation: 30 db. Hum and noise: -55 db (relative to 1 volt rms output). Input impedance: 470 K ohms. Output impedance: 3000 ohms each channel (cathode follower output). Input: MULTIPLEX (from tuner). Input signal voltage: .4 volt minimum (from multiplex output of FM tuner). Outputs: LEFT CHANNEL; RIGHT CHANNEL. Switch and controls: OFF-ON switch; CHANNEL SEPARATION control; LEFT CHANNEL LEVEL control; RIGHT CHANNEL LEVEL control. Tube-diode complement: 1-12AU7 Amplifier—Cathode Follower; 1-12AU7 Amplifier—Oscillator; 1-12AU7 Cathode Follower Output; 2-Silicon Diode—Rectifiers; 2-Crystal Diode—Detectors. Power requirements: 117 volts AC, 50/60 cps, 12 watts.

HIGH FIDELITY FM TUNER . . . low cost FM entertainment



Kit Form or Factory Assembled

AJ-31
\$39.95

- ▶ Automatic frequency control (AFC)
- ▶ 5 tube circuit (9 tube function)
- ▶ Engineered for FM stereo—has multiplex output

The AJ-31 FM tuner with its many circuit design features brings you superb high fidelity listening entertainment at low cost. And now it looks as well as it performs with its beautifully styled charcoal grey steel cabinet with ivory colored bezel and lower front panel. Design features include a large slide-rule dial, flywheel tuning, switched AFC for drift-free reception, and multiplex output for FM stereo using Heathkit AC-11 converter. The preassembled, prealigned tuning unit assures factory-built performance and easy assembly. Cathode-follower output offers complete installation flexibility in your high fidelity system. An outstanding value! 8 lbs.

Kit AJ-31 . . . no money down, \$5 mo. **\$39.95**

Assembled AJW-31 . . . no money down, \$7 mo. **\$69.75**

Kit AJ-31S . . . (includes AC-11 FM stereo converter kit) . . . no money down, \$7 mo. . . . 12 lbs. **\$69.95**

Assembled AJW-31S (includes assembled ACW-11 FM stereo converter) . . . no money down, \$12 mo. . . . 12 lbs. **\$121.00**

SPECIFICATIONS—Tuning range: 88 to 108 mc. Quieting sensitivity: 2.5 uv for 20 db of quieting; 3.5 uv for 30 db of quieting; 25 uv for maximum quieting (45 db). IF frequency: 10.7 mc. Image ratio: 45 db. AFC correction factor: 75 kc per volt. AM suppression: 25 db. Frequency response: ±2 db 20-20,000 cps. Harmonic distortion: less than 1.5%, 1100 uv, 400 cycles 100% modulation. Intermodulation distortion: less than 1%, 60 cycles and 6 kc; mixed 4:1 1100 uv, 30% modulation. Antenna: 300 ohms unbalanced. Output impedance: 600 ohms (cathode follower). Output voltage: nominal .5 volt (with 30% modulation, 20 uv signal). Power requirements: 105-125 volts 50/60 cycle AC at 25 watts. Overall dimensions: 4 1/8" H x 13 1/2" W x 6" D.

Heathkit® Stereo/Hi-Fi for Extra Value!



Heathkit AJ-11 AM/FM TUNER

Kit Form
or
Factory
Assembled



AJ-11 \$69⁹⁵

- ▶ Output for FM stereo converter
- ▶ Preassembled, prealigned FM front end
- ▶ Individual flywheel tuning—eye tube indicators
- ▶ 3-position AFC switch—AM fidelity switch

Outstanding AM and FM reception! Beautifully designed in luggage-tan vinyl-clad steel case—charcoal grey front panel. Perfect companion for Heathkit AA-151 amplifier shown below. Large slide-rule dial, flywheel tuning and "magic-eye" indicators make station selection easy. 3-position AFC switch "locks-on" to FM stations, for drift-free reception. AM fidelity switch gives choice of greater selectivity or fidelity. Has output level controls and provision for both external and built-in AM and FM antennas. 18 lbs.

- Kit AJ-11 . . . no money down, \$7 mo. \$69.95
- Kit AJ-11S . . . 23 lbs. . . . (includes AC-11 Multiplex Converter Kit)
no money down, \$10 mo. \$99.95
- Assembled AJW-11 . . . 18 lbs. . . . no money down, \$12 mo. \$129.95
- Assembled AJW-11S . . . 23 lbs. . . . (includes assembled ACW-11 Multiplex
Converter Kit) no money down, \$18 mo. \$181.20

SPECIFICATIONS—(FM): 88-108 mc. **Sensitivity:** 2.5 uv for 20 db quieting. **Frequency response:** ±2 db, 20-20,000 cps. **SPECIFICATIONS—(AM):** 550-1000 kc. **Sensitivity:** Narrow position @1000 kc, 15 uv. **Frequency response:** ±2.5 db, 20-9000 cps. **Dimensions:** 15½" W x 5¼" H x 11" D. **Color and finish:** Panel, charcoal gray; cover, luggage-tan vinyl-clad steel.



Features patented Heath **AA-151 \$59⁹⁵**
ULTRA-LINEAR® circuit!

Kit Form
or
Factory
Assembled

Heathkit AA-151 28-watt STEREO HIGH FIDELITY AMPLIFIER

- ▶ Patented Heath **ULTRA-LINEAR®** circuit
- ▶ 28 hi-fi rated watts (14 per channel)
- ▶ 4 stereo inputs—speaker phasing switch
- ▶ Rich, modern styling—versatile controls

A tremendous preamp/amplifier value! Delivers a full 28 hi-fi rated watts (14 per channel) for rich, full stereo sound. Styling, features and performance exceed that of many competitive units selling for twice the price! Beautiful luggage-tan vinyl-clad steel cabinet and charcoal grey front panel matches AJ-11 tuner (above) perfectly . . . blends attractively with home decor. A 4-position source selector enables you to select Mag. Phono, Crystal Phono, Tuner or Auxiliary inputs. The 6-position mode selector provides "Stereo" and "Stereo Reverse" functions and complete monophonic operation of all inputs. Clutched volume control allows single or dual channel adjustments. Bass & Treble tone controls are ganged to adjust both channels simultaneously. An exceptionally low price for an amplifier of this quality! 27 lbs.

- Kit AA-151 . . . no money down, \$6 mo. \$59.95
- Assembled AAW-151 . . . no money down, \$11 mo. \$119.95

SPECIFICATIONS—Channels: 2. **Power output:** 28 watts (14 w. per channel) Heath Hi-Fi Rating; 32 watts (16 w. per channel) IHFM Music Power Output (0.7% THD, 1 kc). **Power response:** ±1 db from 30 cps to 15 kc at 14 watts output per channel. **Harmonic distortion:** Less than 2%, 30 cps to 15 kc at 14 watts output per channel. **Intermodulation distortion:** Less than 2% at 14 watts output per channel using 60 cps and 6 kc signal mixed 4:1. **Outputs:** 4, 8 and 16 ohms. **Damping factor:** 10. **Tube complement:** 2-6EU7, 2-6AU6, 2-6AN8, 4-EL84/6BO5. **Power requirements:** 117 volts, 50-60 cycles, 130 watts. **Power outlets:** 2 AC receptacles, 1 switched, 1 unswitched. **Dimensions:** 15½" W x 5¼" H x 11" D. **Color and finish:** Panel, charcoal gray; cover, luggage-tan vinyl-clad steel.

Value-Packed STEREO PREAMPLIFIER . . . beautifully styled . . . low in cost

- ▶ Built-in power supply—use with any basic stereo power amplifier
- ▶ Cathode follower outputs for low line loss and distortion
- ▶ 4 inputs in each channel, 8 in all!

Elegant new styling concept—provides every modern convenience for versatile stereo system control. An ideal companion for the Heathkit AA-111 or AA-121 Stereo Power Amplifiers. Four inputs in each channel accept Mag. phono, Crystal or Ceramic phono, Tuners, Tape Recorders, etc. Outputs are provided for tape recording directly from preamp in addition to normal outputs to power amplifiers. Separate Baxandall-type Bass & Treble tone controls give true, natural reproduction. Separate concentric volume controls allow individual or simultaneous control of sound level in each channel. 6-position function selector permits stereo or mono modes of operation. 7 lbs.

Kit AA-141, no money down, \$5 mo. \$34.95

AA-141
\$34⁹⁵



SPECIFICATIONS—Channels: 2. **Inputs:** 4 each channel. **Outputs:** 2 each channel, output to power amp and tape output. **Frequency response:** ±1 db from 20 to 20,000 cps. **Harmonic distortion:** Mag. phono 0.2%, crystal phono and aux. inputs 0.15% at 2.5 volts output. **Intermodulation distortion:** 0.05% at 2.5 volts output. **Hum and noise:** Mag. phono, 50 db or better; crystal phono and aux. inputs 60 db or better below 2.5 volts output. **Channel separation:** 45 db or better. **Tube complement:** 5-12AX7. **Power requirements:** 117v, 50-60 cycles, 17.5 watts. **External power supplied:** 2 AC receptacles, 1 switched, 1 unswitched. **Color and finish:** Panel, charcoal gray; cover, luggage-tan vinyl-clad steel.

Brand New! Deluxe Heathkit® AM/FM Tuner Now With Built-in Stereo FM Multiplex Converter



THROUGH HEATH
NEW
RESEARCH

Kit Form
or
Factory
Assembled



LISTEN TO FM IN STEREO . . . Experience a Thrilling New Dimension in Listening Entertainment

- ▶ Complete AM, FM and FM STEREO reception
- ▶ FM stereo indicator light—adjustable AFC
- ▶ Individual tuning meters for AM & FM with improved meter action
- ▶ FM squelch for low noise between stations
- ▶ Stereo phase control for maximum separation
- ▶ Soft, glare-free illuminated tuning dial
- ▶ Deluxe modern circuit—versatile controls
- ▶ Easy circuit board assembly—fun to build
- ▶ Filters for stereo tape recording

Only Heath could bring you a tuner of such outstanding quality at this low price! The new Heathkit AJ-41 with its magnificent styling concept, superb performance characteristics, and many fine design features now puts top quality within easy reach of all, for unexcelled listening entertainment. In addition to outstanding AM or FM reception the AJ-41 features a built-in stereo converter to bring you the thrilling performance of FM in stereo! Just the flip of a switch is all it takes to select AM, FM or FM stereo. A neon light indicator shows when an FM stereo signal is received and individual tuning meters for AM and FM permit precise station settings.

An FM squelch circuit eliminates noise between stations when tuning across the FM band. Cathode follower outputs provide low line impedance to minimize hum and high frequency losses in the interconnecting audio cables. In monophonic AM or FM modes of operation the output stages are tied together to supply the same informa-

AJ-41
\$119.95

tion to both the left and right channel amplifiers of a stereo system. In FM stereo position both channels function separately. A multiplex phase control permits fine tuning for maximum separation.

Other fine features incorporated include; heavy die-cast flywheels for smooth tuning action, large slide-rule tuning dial with soft, glare-free refracted illumination, automatic frequency control on FM for drift-free reception, and a fidelity switch for normal or maximum AM fidelity. Deluxe styling features a luggage tan vinyl-clad steel cabinet and polished anodized trim. The superbly designed circuit features 3 circuit boards and a pre-assembled, prealigned FM tuning unit for easy assembly. 24 lbs.

Kit AJ-41 . . . no money down, \$11 mo. **\$119.95**
Assembled AJW-41 . . . no money down, \$18 mo. **\$189.95**

SPECIFICATIONS—Tuning range: 88 mc to 108 mc. **IF frequency:** 10.7 mc. **Frequency response:** ±2 db, 20 to 20,000 cps. **Antenna:** 300 ohm balanced (for internal for local reception). **Output voltage:** Nominal .5 volts (with 3 uv 30% modulation in). **Quieting sensitivity:** 2 uv for 20 db of quieting; 20 uv for full quieting (40 db). **Maximum deviation sensitivity:** 5 uv; (400 cycle 100% modulation). **Deviation sensitivity:** 20 KC (1100 uv in). **Harmonic distortion:** Less than 1% (1100 uv 400 cycle 100% modulation). **Image ratio:** 40 db. **AFC correction factor:** 12 db. **Amplitude modulation suppression:** 25 db. **Hum and noise:** 40 db below 30% modulation (20 uv in).

SPECIFICATIONS MULTIPLEX—Audio frequency response: ±2 db, 50 to 15,000 cps. **Sub-carrier bandpass:** ±3 db 23,000 to 53,000 cps. **Channel separation:** 30 db. **Hum and noise:** -55 db (relative to 1 volt rms output). **Output impedance:** Cathode follower, variable to 4,000 ohms (each channel).

SPECIFICATIONS AM—Sensitivity, narrow bandwidth position: 1400 kc, 5 uv; 1000 kc, 6 uv; 600 kc, 10 uv. (standard IRE dummy antenna, .1 volt RMS reference output). **Sensitivity change, narrow to broad position:** -5 db. **IF bandwidth, narrow:** 14 kc, 6 db down; **Broad:** 20 kc, 6 db down. **Image ratio:** 1400 kc 50 db; 600 kc 75 db. **Harmonic distortion:** Less than 1%. **Hum and noise:** 35 db below 30% modulation (1000 kc unmodulated with 100 uv in). **IF rejection ratio:** 1400 kc 42 db; 600 kc 38 db. **Power supply:** Transformer operated 50-60 cycle, 100 watts. **Dimensions:** 5½" H x 15½" W x 14" D.

Kit Form
or
Factory
Assembled

Deluxe Heathkit AM/FM TUNER . . .

Finest quality throughout with performance to match



AJ-30
\$99.95

- ▶ Output for FM multiplex converter
- ▶ Superbly designed 16-tube circuit
- ▶ Soft, glare-free illuminated tuning dial

Similar to the Heathkit AJ-41 above but without the built-in FM multiplex stereo converter. Provision is made for external multiplex unit such as Heathkit AC-11. AM & FM sections of the tuner operate independently permitting use of AM and FM simultaneously. 3 circuit boards and pre-assembled, prealigned FM tuning unit provide

for fast, easy assembly. Features include; individual tuning meters, large slide-rule dial, fly-wheel tuning, automatic frequency control on FM, fidelity switch on AM, and deluxe styling in luggage-tan vinyl-clad steel with polished anodized trim. 24 lbs.

Kit AJ-30, no money down, \$10 mo. **\$99.95**
Assembled AJW-30,
no money down, \$15 mo. **\$159.95**

Purchase Your Heathkit Stereo Hi/Fi On Convenient Monthly Payments

Enjoy your Heathkit components while you pay for them on Heath's new time-pay plan. No money down on any purchase from \$25 to \$600 . . . up to 18 months to pay! See details on the enclosed order blanks.

Heathkit® Deluxe Stereo High Fidelity Components

Heathkit Deluxe 50-watt

STEREO HIGH FIDELITY AMPLIFIER

Kit Form
or
Factory
Assembled



AA-100
\$84.95

- ▶ 2 amplifiers, 2 preamplifiers—all in one!
- ▶ 50 hi-fi rated watts (25 watts per channel)
- ▶ Beautifully styled—softly illuminated control panel
- ▶ 5 stereo inputs—versatile control features

Top of the Heathkit stereo amplifier line! . . . finest preamp/amplifier combination in the kit industry! Delivers a full 25 watts per channel. Features 5 stereo inputs, plus a separate monophonic magnetic phono input. Also takes tape heads directly without external preamp or equalization. Outputs for 4, 8, and 16 ohm speakers are provided, plus a mixed-channel output for stereo center "fill-in" or monophonic sound in other rooms. Cathode follower outputs for tape recorder permit recording directly from preamp. The many controls in this matchless instrument include: pre-amplifier input level controls, power amplifier input level controls, hum controls, speaker phase reversal switch, "mode" selector, "source" selector, balance and separation controls, ganged volume controls and separate concentric bass and treble tone controls. Beautiful styling matches Heathkit AJ-41 Stereo AM/FM Tuner. Together, they form a matched pair of unexcelled quality to bring you finest hi-fi/stereo at lowest cost! 31 lbs.

Kit AA-100 . . . no money down, \$9 mo. \$84.95
Assembled AAW-100 . . . no money down, \$14 mo. \$144.95

SPECIFICATIONS—Channels: 2. **Power outputs:** 50 watts (25 w. per channel), Heath Hi-Fi Rating; 60 watts (30 w. per channel), IHFM Music Power Output (0.7% THD, 1 kc). **Power response:** ± 1 db from 30 cps to 15 kc at 25 watts output per channel. **Harmonic distortion:** Less than 0.5% at 25 watts, 1 kc. Less than 2% at 25 watts, 30-15,000 cps (each channel). **Intermodulation distortion:** Less than 1% at 25 watts, 60 and 6,000 cps signals mixed 4:1 (each channel). **Hum and noise:** Mag phono, 55 db below 25 watts output at 6 mv sensitivity. Tape Head, 35 db below 25 watts output. Tuner and aux. inputs, 70 db below 25 watts output. **Channel separation:** 42 db min. at 1 kc. **Input sensitivity:** For 25 watts output per channel; mono mag. phono, 1.5 mv; stereo mag. phono, 1.5 mv; tape head, 1 mv; tuner, 0.2 v.; aux. 1 & 2, 0.2 v. **Input impedance:** Mag phono, 47 K ohms (may be changed); tape head, 470 K ohms; tuner & aux., 250 K ohms each. **Outputs:** 4, 8 and 16 ohms. **Damping factor:** 15. **Controls:** Function switch (4-position); selector switch (6-position); balance control (total range, 16 db); separation control; ganged level controls; dual concentric bass & treble controls; phase and power switch. **Tube complement:** 2-EF86, 4-12AX7, 2-7199, 4-7591, 1-GZ34, 1-selenium bias rectifier. **Power requirements:** 117 volts, 50-60 cycles, 150 watts. **Power outlets:** 2 AC receptacles, 1 switched, 1 unswitched. **Dimensions:** 5 $\frac{1}{2}$ " H. x 15 $\frac{3}{4}$ " W. x 13 $\frac{1}{2}$ " D. (allow 1" for cables at rear).

A masterpiece in design and performance . . .

deluxe Heathkit stereo PREAMPLIFIER



AA-11
\$84.95

Designed for installation in the most elaborate of stereophonic systems, this magnificent Stereo Pre-amplifier has everything you could ask for in a "master control" center. Note these impressive specifications . . . response ± 0.5 db, 20 to 20,000 cps . . . harmonic distortion .05% max. . . 1M distortion .09% max.; be sure to read the complete specifications below. To go along with this fine performance are extra features, professional quality, and a clean-lined design to provide the ultimate in stereo operation. All basic controls are in open view, and secondary controls, used to set initial conditions, are hidden behind the hinged lower front panel to prevent accidental change in settings. Nine PUSH-BUTTON INPUT SWITCHES select any of 5 stereo inputs, any of 3 monophonic inputs and an on/off switch. Other front panel basic controls consist of a combination dual-tandem VOLUME/LOUDNESS control and separate dual-concentric (friction clutched) Baxandall-type BASS & TREBLE controls. Secondary controls behind the hinged panel include (1) a BLEND control (permits mixing of both channels), (2) STEREO BALANCE control, (3) SCRATCH

- ▶ Push-button selected inputs—greatly simplified operation
- ▶ Separate basic and secondary controls—deluxe styling
- ▶ More stages for more output, lower noise figures
- ▶ Self-powered—DC filaments—use with any mono or stereo power amplifier
- ▶ Cathode follower outputs for stereo tape recording

FILTER switch, (4) RUMBLE FILTER switch, (5) STEREO-MONO switch, (6) CHANNEL REVERSAL switch, (7) PHASE REVERSAL switch, and (8) VOLUME-LOUDNESS switch. All input and output jacks are conveniently located on the rear chassis apron for easy installation in any system. A controlled derived center channel output provides stereo center "fill-in" or mono power to other rooms using an extra amplifier. The output is of the cathode follower type; bass, treble, and volume controls of left and right channels control the center channel output as well. The AA-11 matches the acclaimed styling concept of the Deluxe Heathkit high fidelity line, and is a perfect operating companion for the Heathkit AA-111 or AA-121 Stereo Power Amplifiers. Compare the AA-11 with others and you will recognize its extra value. 19 lbs.

Kit AA-11 . . . no money down, \$9 mo. \$84.95

SPECIFICATIONS—Channels: Two. **Inputs:** 5 stereo each channel and 3 monophonic. **Input impedance:** Tape head, 220 k ohms; Phono, 47 k ohms for magnetic, 75 k ohms when used with ceramic; Microphone, 500 k ohms; Multiplex 600 k ohms and Aux. 600 k ohms. All monophonic inputs 600 k ohms input impedance. **Outputs:** One low impedance to power amplifier and one low impedance to tape recorder in each channel plus a "derived center channel" monophonic output at 180 ohms impedance. **Frequency response:** ± 0.5 db, 20 to 20,000 cps. ± 2 db, 10 to 30,000 cps. **Harmonic distortion:** Max. .05% @ 2.5 volts output. **Intermodulation distortion:** Max. .09% @ 2.5 volts output. **Hum and noise:** All values relative to 2.5 V rms output; 2.5 mv input at Tape Head input, 50 db; 6 mv input at Mag. phono input, 60 db or better; Microphone input, 55 db or better; High Level input 65 db or better. **Channel separation:** 1 kc, 36 db or better. **Rumble filter:** 3 db down at 42 cycles, 12 db attenuation per octave. **Scratch filter:** 3 db down at 5 kc, 20 db attenuation per octave. **Baxandall tone controls:** 12 db boost, 16 db cut at 20 cps; 12 db boost, 20 db cut at 20,000 cps. **Controls:** Separate Bass & Treble, each channel; Volume-Loudness, Blend, Balance, Rumble Filter, Scratch Filter, Volume-Loudness switch, Stereo-Mono switch, 9 push-button Source Selector switch, Phase Reversal switch, and Channel Reversal switch. **Tube complement:** (8) 12AX7, (2) 12AT7. **Power requirements:** 117 V AC, 50-60 cycles. **Dimensions:** 5 $\frac{1}{4}$ " H. x 11 $\frac{1}{4}$ " D. x 15 $\frac{3}{4}$ " W.

Easy-to-build Heathkit® Amplifiers

Save You More



Heathkit Stereo Power Amplifiers...

Powerful... Hi-Fi Rated... Low Cost



AA-111
\$44⁹⁵

Features patented Heath ULTRA-LINEAR® circuit!

28-watt STEREO POWER AMPLIFIER

- ▶ 14 watts per channel—Hi-Fi rated
- ▶ Patented Heath ULTRA-LINEAR® circuit
- ▶ Beautifully styled in bronze and black

Bring the rich, life-like sound of a Heathkit Stereo Music System to your home... begin with this extra-value amplifier. An excellent companion for the Heathkit AA-11 or AA-141 Stereo Preamplifier, this compact dual-channel amplifier delivers a full 28-watts output at low distortion for superb stereo sound reproduction. Outputs are provided for 4, 8 and 16 ohm speakers. Individual amplifier gain controls and speaker phase-reversal switch also featured. Easy to assemble with etched circuit boards and clean, open circuit layout. 21 lbs.

Kit AA-111... no money down, \$5 mo. \$44.95

SPECIFICATIONS—Channels: 2. **Power output:** 28 watts (14 w. per channel) Heath Hi Fi Rating: 32 watts (16 w. per channel) IHFM Music Power Output (0.7% THD, 1 kc). **Power response:** ±1 db from 30 cps to 15 kc at 14 watts output per channel. **Harmonic distortion:** 2% or less at 14 watts, 30 cps to 15 kc. **Intermodulation distortion:** 2% or less 60 and 6,000 cps signals mixed 4:1 at 14 watts output per channel. **Hum and noise:** 76 db below 14 watts output. **Channel separation:** 65 db. **Dimensions:** 13" W, x 8½" D, x 6" H.



AA-121
\$79⁹⁵

Features patented Heath ULTRA-LINEAR® circuit!

80 watt STEREO POWER AMPLIFIER

- ▶ 40 Watts per channel—hi-fi rated
- ▶ Patented Heath ULTRA-LINEAR® circuit
- ▶ extra mixed-channel center speaker output

Power to drive the most demanding speaker system! The Heathkit AA-121 delivers 40 hi-fi-rated watts per channel at low distortion and full range response. Outputs for 4, 8, 16, and 32 ohm speakers plus monophonic center speaker output for "fill-in" sound. Use with the AA-11 or AA-141 Stereo Preamplifiers. Bronze and black color. 39 lbs.

Kit AA-121... no money down, \$8 mo. \$79.95

SPECIFICATIONS—Channels: 2. **Power output:** 80 watts (40 w. per channel) Heath Hi Fi Rating: 98 watts (49 w. per channel) IHFM Music Power Output (0.7% THD, 1 kc). **Power response:** ±0.5 db, 20-20,000 cps, at 40 watts output per channel. **Harmonic distortion:** 1.5% or less, 20-20,000 cps, at 40 watts output per channel. **Intermodulation distortion:** 0.5% or less at 40 watts output per channel, 60 and 6,000 cps mixed 4:1. **Hum and noise:** 85 db below 40 watts output. **Channel separation:** 70 db or better at 1 kc. **Dimensions:** 7¼" H, x 15" W, x 11" D.

Extra-Value Heathkit Monophonic Amplifier/Preamplifier Combinations



AA-161
\$33⁵⁴

Features patented Heath ULTRA-LINEAR® circuit!

14 watt Hi-Fi Rated COMBINATION AMPLIFIER

- ▶ Built-in preamplifier—3 inputs
- ▶ Power amplifier features patented Heath ULTRA-LINEAR® circuit
- ▶ Striking new charcoal and ivory styling

This beautiful little amplifier is a happy combination of features, performance and value which make it ideal for those just starting a hi-fi system, for an extra system in the recreation room, or for converting a present system to stereo capabilities. Features a preamplifier with inputs for magnetic phono, crystal phono, tuner, etc. and a power amplifier with 14 watts of hi-fi rated power. Complete with cabinet in ultra-modern color styling of charcoal and ivory.

Kit AA-161... 15 lbs. no money down, \$5 mo. \$33.54

SPECIFICATIONS—**Power output:** 14 watts Heath Hi Fi Rating 15 watts IHFM Music Power Output (0.7% THD, 1 kc). **Power response:** ±1 db 30-15,000 cps, 14 watts output. **Harmonic distortion:** Less than 2%, 30 cps to 15 kc at 14 watts output. **Intermodulation distortion:** Less than 2% at full output using 60 and 6,000 signals, 4:1. **Dimensions:** 4¾" H x 12½" W x 8¾" D.



AA-181
\$42⁹⁵

Handsome, powerful and economical... 25-watt Hi-Fi rated COMBINATION AMPLIFIER

- ▶ Built-in preamplifier—4 inputs
- ▶ Push-pull output for low distortion
- ▶ Striking new charcoal and ivory styling

This all-in-one monophonic amplifier requires only connection of a speaker and program source to bring you rich, full-range sound reproduction. Four switch-selected inputs and separate bass & treble tone controls let you select and adjust sound to your exact listening requirements. Push-pull 7591 output tubes assure high output with low distortion. Output transformer is tapped at 4, 8, and 16 ohms to match all popular speaker types. 22 lbs.

Kit AA-181... no money down, \$5 mo. \$42.95

SPECIFICATIONS—**Power output:** 25 watts Heath Hi-Fi Rating; 30 watts IHFM music power rating (0.7% THD @ 1 KC). **Power response:** ±1 db, 30 cps to 15 kc, at 25 watts output. **Harmonic distortion:** Less than 2% at 30 cps—15 KC and less than 0.7% at 1 KC at 25 watts. **IM distortion:** Less than 2% at 25 watts using 60 cps and 6000 cps signals 4:1. **Hum and noise:** 55 db or better. **Inputs:** Microphone, mag phono, crystal phono & auxiliary. **Dimensions:** 13½" W x 4½" H x 9½" D.

Heathkit® Record Changers...

Quality with Savings



AD-10C \$32⁹⁵

Low cost STEREO/MONO RECORD PLAYER

▶ 4 speeds—16, 33¹/₃, 45 & 78 rpm

- Kit AD-10C (Sonotone 8TA4-SD ceramic stereo cartridge, diamond-sapphire styli) no money down, \$5 mo. **\$32.95**
- Kit AD-10A (GE VR-227 magnetic stereo cartridge, diamond stylus) no money down, \$5 mo. **\$37.95**
- Kit AD-10B (Shure M8D magnetic stereo cartridge, diamond stylus) no money down, \$5 mo. **\$38.95**
- Kit AD-30 (Mechanism only; less cartridge, base & cables), 7 lbs. **\$22.95**

Heath quality with the fine craftsmanship of Garrard of England. Easy to assemble . . . just connect cables, install cartridge and mount mechanism on base. Features plug-in cartridge holder, stylus pressure adjustment, "pop" filter, 4-pole motor, and automatic shut-off. Flutter and wow below .28% at 33¹/₃ rpm. Turntable is resiliently mounted and has protective rubber pad for record safety. Cocoa brown and beige color. Requires area 15" W x 13" D x 6" H. 9 lbs.

Full automatic convenience, oversize 11" turntable, anti-skate device, and many more features make the AD-80 a special value at this exceptionally low price; Precision mechanism has automatic shut-off, "pop" filter and hum shielded 4-pole motor. Flutter and wow is .2% rms or less. Brown and beige. 13¹/₄" W x 11⁷/₈" D x 5¹¹/₁₆" above and 2³/₈" below. 10 lbs.

- Kit AD-80C (Sonotone 8TA4-SD ceramic stereo cartridge, diamond-sapphire styli) no money down, \$5 mo. **\$37.95**
- Kit AD-80A (GE VR-227 magnetic stereo cartridge, diamond stylus) no money down, \$5 mo. **\$41.95**
- Kit AD-80B (Shure M8D magnetic stereo cartridge, diamond stylus) no money down, \$5 mo. **\$42.95**
- ADA-80-1: 45 RPM adapter spindle, 2 lbs. **\$2.95**

Automatic STEREO RECORD CHANGER

▶ 4 speeds
▶ Plug-in cartridge head **\$37⁹⁵**



Deluxe STEREO/MONO AUTOMATIC RECORD CHANGER

AD-60C \$59⁹⁵

▶ Stereo-mono function switch
▶ Automatic "speedminder" mixes 33¹/₃ & 45 rpm records

Changer Bases for AD-80 and AD-60 models

- Assembled ADA-50M (brown mahogany) (3 lbs.) **\$6.95**
- Assembled ADA-50W (walnut) (3 lbs.) **\$5.95**
- Assembled ADA-50U (unfinished) (3 lbs.) **\$4.95**

Our finest changer kit! . . . provides every automatic convenience with special "anti-skate" device and "turntable pause" features for maximum record protection. Muting switch and "pop" filter eliminate noise during change and "shut-off" cycles. Plays 16, 33¹/₃, 45 & 78 rpm records. Flutter & wow is less than 0.18% rms. 4-pole hum-shielded motor and quick-change cartridge holder also featured. Black and gold. 13¹/₄" W x 12" D x 5¹/₂" above and 3" below. 12 lbs.

- Kit AD-60C (Sonotone 8TA4-SD ceramic stereo cartridge, diamond-sapphire styli) no money down, \$6 mo. **\$59.95**
- Kit AD-60A (GE VR-227 mag. stereo cartridge, diamond stylus) no money down, \$7 mo. **\$61.95**
- Kit AD-60B (Shure M8D mag. stereo cartridge, diamond stylus) no money down, \$7 mo. **\$62.95**
- ADA-60-1 . . . 45 rpm adapter spindle . . . 2 lbs. **\$2.95**

A special offer for the discerning music lover who prefers a turntable! Now available at a new low price . . . exclusive with Heath. These Fairchild components represent the ultimate in precision workmanship. Speed sentinel control assures recording studio accuracy with speed variation of $\pm 1\frac{1}{2}\%$ (strobe disc included); 33¹/₃ and 45 rpm speeds. Many deluxe features for superb reproduction and long life. 36 lbs.

Kit ADP-21, no money down, \$12 mo. **\$124.95**

SPECIFICATIONS—Impedance: 2000 ohms per channel. Inductance: 5000 mh per channel. Dynamic mass: 2 milligrams. Track force: 2.5 grams. Compliance: 5 x 10⁻⁶cm/dyne. Response: 20-15,000 cps (± 2 db). Separation: 20 db (± 2 db) from 20-15,000 cps. Recommended load: 47K ohms per channel. Output: 5 mv at 3.8 cm/sec. Wow: .08% peak to peak. Flutter: Immeasurable. Rumble (vertical and lateral): -56 db below 7 cm/sec at 500 cps. Dimensions: 17¹/₂" W x 15" D, 3¹/₂" below mtg. board.

PROFESSIONAL QUALITY TURNTABLE at special Heath savings!

▶ Includes Fairchild 440 turntable in kit form, 500 tone arm, SM-2 cartridge, .007 diamond stylus and 440 CBW mounting board & base



ADP-21 \$124⁹⁵

Special Combination Offer! Garrard Type A AUTOMATIC TURNTABLE Plus One of the Stereo Cartridges Below for Just 1c More Than The Usual Cost of The Turntable Alone!



ADP-61A \$79⁵¹

▶ Dynamically balanced tone-arm with built-in calibrated pressure gauge
▶ Full-size, heavy-weight, professional turntable
▶ Laboratory balanced precision motor

All the advantages of a turntable plus the convenience of an automatic record changer! The highly advanced tone-arm is put in perfect balance by adjustable counterweight; tracking pressure is set by moving a pointer to desired point on calibrated scale at the side of the arm. The six pound turntable is a "sandwich" of an inside drive table and a cast outside turntable separated by a foam barrier. The completely shielded four-pole motor has a micro-balanced armature and special design shock mounts. Automatic at your option with Garrard's exclusive pusher platform and one-piece center spindle. Automatic shut-off. Not a kit. 15¹/₂" W x 12³/₄" D x 6" above and 2³/₈" below. 19 lbs.

- Model ADP-61A, with GE VR-1000 stereo cart. No money dn., \$8 mo. **\$79.51**
- Model ADP-61B, with Shure M7D stereo cart. No money dn., \$8 mo. **\$79.51**
- Model ADP-61D, with Pickering 380-C stereo cart. No money dn., \$8 mo. **\$79.51**
- ADA-61-1, Garrard 45 rpm spindle, 1 lb. **\$3.80**
- ADA-61-2, Garrard B8U unfinished base, 4 lbs. **\$4.45**
- ADA-61-3, Garrard B8W walnut base, 4 lbs. **\$4.95**

Complete stereo-mono Tape Facilities for any Music System



Webcor Model 2250 Regent "Coronet" STEREO TAPE DECK

- ▶ 3 Speeds—1 7/8, 3 3/4, & 7 1/2 IPS
- ▶ Record & playback 2 or 4 track stereo tapes
- ▶ Built-in preamplifiers for each stereo channel
- ▶ Factory assembled and tested—not a kit

With this versatile new Webcor Stereophonic High Fidelity Tape Deck you can make your own stereo tape recordings on either 2 or 4 tracks, and with a flip of a switch make outstanding monophonic recordings. A brand new feature in the Regent Coronet, "Synchro-Track" permits you to record on one track, rewind, play back the recording and while listening, record a second track simultaneously. Other special features include a heavy-duty, electronically balanced 4-pole motor, three speed belt driven tape transport, professional type editing key, Record safety lock, Automatic shutoff of amplifier and recorder mechanism, VU meter recording level indicator, Monitor-Volume control, Numerical type tape counter, Individual volume controls, "Dual-gang" Bass & Treble controls and function switch. Inputs for microphone and high level line are provided in each channel. Cathode follower outputs permit easy connection to external amplifiers. Recording and Playback preamplifiers are built-in. Angled steel mounting brackets allow easy installation in vertical or horizontal position. 26 lbs.

Assembled Model ADP-32, no money down, \$21 mo. **\$215.55**

Model ADA-32-1 Carrying Case for ADP-32: Webcor's new portable carrying case built especially for this model. Attractive, durable. Ebony and grey color styling. 13 lbs. . . . no money down, \$5 mo. **\$31.85**

SPECIFICATIONS—Frequency response: ± 3 db 40 cps to 14 kc at 7 1/2 ips, ± 2 db 50 cps to 7 kc at 3 3/4 ips, normal voice frequency at 1 7/8 ips. **Wow & flutter**: 0.2% at 7 1/2 ips. **Signal to noise ratio**: Better than 50 db per channel. **Circuit**: 6 tubes plus dual selenium rectifier, DC filaments in 1st and 2nd stages. **Inputs**: 2 each channel, mic. & high level line. **Outputs**: 2. Cathode follower output each channel. **Power requirements**: 117 volts; 60 cycles AC; 90 watts. **Dimensions**: 7 1/2" H x 15" W x 15" D.



ADP-32
\$215.55

Webcor Model EP-2204 Microcorder II TAPE RECORDER

- ▶ Six-transistor, battery powered circuit
- ▶ Plays up to 1 hour on 3" tape reel
- ▶ Factory assembled—not a kit

Use it anywhere! Lightweight and portable, perfect for business or pleasure! Two speed record and playback: 1 7/8 and 3 3/4 IPS. Plays with lid open or closed; 1 hour on 1 7/8 IPS; 1/2 hour on 3 3/4 IPS (using 3" reel 1 mil tape). Four push buttons: Rewind, Stop, Play, Fast Forward. Top Mounted Record Safety Button prevents accidental tape erasure. Remote Control Stop-Start Microphone provided with unit. VU type Record Level and Battery Life Indicator. Tape Counter Scale permits sections on tape to be readily located. 2 1/2 x 3 3/4" PM dynamic 8 ohm speaker. Front panel contains jacks for microphone, external amp., remote, ext. power, and volume control. Capstan drive. Half-track head. Uses 1-9v. battery and 6-penlight batteries. Includes mike, tape, reel, carrying strap, and batteries. Ebony and chrome. 7 lbs.

Assembled ADP-42. . . no money down, \$13 mo. **\$139.95**

SPECIFICATIONS—Frequency response: 250-5,000 cps at 3 3/4 ips; normal voice frequency at 1 7/8 ips. **Power output**: 200 milliwatts. **Flutter & wow**: 0.6% @ 3 3/4 ips; 0.8% @ 1 7/8 ips, max. **Signal to noise ratio**: 35 db min. **Dimensions**: 2-5/16" H x 8" W x 8" D. **Carrying wt.** 4 1/2 lbs.



ADP-42
\$139.95

Low cost 4-track STEREO TAPE RECORDER

- ▶ Record and playback of 4-track stereo tapes
- ▶ Includes mechanism, 2 preamps, 2 mikes
- ▶ Mounts vertically or horizontally

Heath's Popular TR-1AQ provides complete mono and 4-track stereo record and playback at low cost. The tape mechanism has a single control lever for simple selection of "play", "rewind" and "fast-forward" functions. Preamps feature separate record and playback volume controls and "eye-tube" recording level indicators. A safety interlock minimizes possibility of accidental erasure of prerecorded tapes. Will accommodate tape reels up to 7" and operates on 2 speeds, 3 3/4 or 7 1/2 IPS. Fan-cooled motor. 36 lbs.

Kit TR-1AQ, no money down, \$15 mo. **\$159.95**

Kit AD-70 Stereo playback mechanism only . . . 11 lbs. . . . **\$8 mo. . . . \$74.95**

SPECIFICATIONS—Frequency response: ± 3 db 40-15,000 cps @ 7 1/2 IPS. **Flutter & wow**: below 0.35% **Harmonic distortion**: less than 2% at full output. **Dimensions**: 15 1/2" L x 9 1/2" W x 4" D.



TR-1AQ
\$159.95

Heathkit® can fill your every Amateur Radio Need!



Operate any frequency,
any band
with this
**VARIABLE
FREQUENCY
OSCILLATOR**

HG-10
\$34⁹⁵

- ▶ 80 through 2 meter amateur bands
- ▶ Each band separately calibrated on rotating drum-type slide-rule dial
- ▶ 28 to 1 gear reduction tuning

Rugged, reliable and loaded with special features! Covers 80 through 2 meters at far below the cost of crystals for same coverage. Use with most transmitters able to supply 140 v @ 25 ma and 6.3 v AC or DC @ .75 amps. Cathode follower output for isolation, regulated plate voltage for stability. "Spot" switch for off-the-air tuning. Designed for grid-block or cathode keying. Rigid steel chassis. Matches DX-60 transmitter . . . a plug-in accessory. All connecting cables supplied. 12 lbs.

Kit HG-10 . . . no money down, \$5 mo. \$34.95

SPECIFICATIONS—Band coverage: 80, 40, 20, 15, 10, 6 and 2 meters. **Load impedance:** 50 K ohms or more. **Output voltage:** 5 volts R.M.S. or more, with no load. **Output connections:** phono plug. **Front panel controls:** Function Switch (Stby/Opr/Spot), VFO tuning & Band selector. **Tube complement:** 6CH8—oscillator—cathode follower; OB2—Voltage regulator. **Power requirements:** 1. From Accessory socket of DX-60, using cable furnished, 2. From accessory socket of DX-40, with simple changes, 3. From other sources: 140 volts min. @ 25 ma.; 6.3 volts AC or DC at 0.75 amp. **Cabinet size:** 9 3/4" wide, 9" deep, 6 1/2" high.

Switch to SSB for More Talk Power,

Less Fade and Interference



SB-10
\$93⁵⁰

- ▶ Built-in VOX with anti-trip circuit
- ▶ Sealed audio phase shift network
- ▶ Produces USB, LSB or DSB signals with or without carrier insertion

This Single Sideband Adapter lets you enjoy the advantages of SSB operation without affecting the normal AM and CW functions of your transmitter. Designed primarily as a plug-in adapter for the Heathkit TX-1 "Apache" transmitter, the SB-10 may also be used with similar transmitters by making a few simple circuit modifications. The SB-10 uses the phasing method of generating a single sideband signal, allowing operation entirely on fundamental frequencies. The critical audio phase shift network is supplied completely preassembled and wired in a sealed plug-in unit. Produces USB, LSB and DSB signals with or without carrier insertion on 80 through 10 meters. An easy-to-read panel meter indicates relative power output to aid in tuning, and single knob bandswitching provides extra operating convenience. Also featured is a built-in electronic voice control with anti-trip circuit and an EL 84 /6BQ5 for linear RF output. 12 lbs.

Kit SB-10 . . . no money down, \$10 mo. \$93.50

SPECIFICATIONS—Power output: 10 watts P.E.P. (peak envelope power). **Power input:** Less than 3 watts of RF at the fundamental operating frequency required. **Carrier suppression:** 40 DB. **Sideband suppression:** 30 DB. **Output:** Pi network, low impedance, coaxial. **Input:** Low impedance, coaxial. **Band coverage:** 80, 40, 20, 15, 10 meters. **Circuitry:** Phasing method of SSB signal generation with voice control and anti-trip action. **Power requirements:** 350 VDC at 85 ma and 6.3 VAC at 3.5 a. **Meter:** 2 1/2" 200 ua movement, indicates carrier null and relative power output. **Dimensions:** 10" H x 6 3/4" W x 13" D.

New HAM BAND RECEIVER . . .

a perfect mate to DX-60 transmitter



HR-10
\$82⁹⁵

- ▶ Covers 80 through 10 meters
- ▶ Tunes SSB, AM and CW signals
- ▶ Prebuilt, preset coil / bandswitch assembly
- ▶ Transformer power supply

Any Radio Amateur would be proud to own this splendid receiver. Features amateur band coverage only for maximum accuracy and stability. Each band is separately calibrated on a large easy-to-read slide-rule dial with approximately 6" of bandspread for accurate frequency settings. The 7-tube superheterodyne circuit features an RF stage for high sensitivity and a half-lattice crystal filter for excellent selectivity. Other features include panel "S" meter, front panel dial calibration control, and provision for plug-in 100 kc crystal calibrator. Panel controls include: antenna trimmer, bandswitch, tuning, BFO tuning, RF gain, AF gain w/AC on-off switch, xtal. calibrator on/off, STBY/RCV, BFO on/off, AVC on/off and automatic noise limiter on/off. 8 ohm speaker jack and accessory socket for receiver muting, etc. on rear chassis apron. 21 lbs.

Kit HR-10 . . . no money down, \$9 mo. \$82.95

Kit HRA-10-1, Plug-in 100 kc Crystal Calibrator, 1 lb. \$8.95

DX-60 PHONE & CW TRANSMITTER

an outstanding amateur buy!



DX-60
\$82⁹⁵

- ▶ 90 watts phone or CW—80 through 10 meters
- ▶ Neutralized 6146 final amplifier
- ▶ Built-in low pass filter
- ▶ Grid block keying

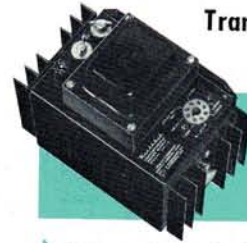
Offers more in quality, performance, and dependability than any other unit in its price and power class! Superbly designed throughout. A front panel switch selects any of four crystal positions or external VFO, such as Heathkit HG-10. Controlled carrier modulator and silicon diode power supply are built in. Single knob bandswitching for 80 through 10 meters and pi-network for complete operating convenience. Panel meter shows final grid or plate current for easy tuning. Assembly is a marvel of simplicity with clean, rugged construction and thoughtful circuit layout. A precut, cabled wiring harness eliminates tedious wiring. May be run at reduced power for novice operation. Less crystals. 25 lbs.

Kit DX-60 . . . no money down, \$9 mo. \$82.95

SPECIFICATIONS—Power input: 90 watts peak, carrier controlled phone or CW. **Output impedance:** 50-72 ohm (coaxial). **Output coupling:** Pi-network. **Operation:** CW or AM phone-crystal or VFO control. **Band coverage:** 80 through 10 meters. **Power requirements:** 105-125 V 50/60.

New! Heathkit® Single Sideband

Now, an All Band Filter Type SSB Transmitter



Transistor mobile
POWER SUPPLY

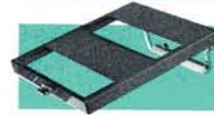
HP-10
\$44⁹⁵

- ▶ All semi-conductor circuit
- ▶ Instant starting—high efficiency
- ▶ Remote relay control of primary power

Ruggedly built for mobile installations! Furnishes all power required to operate both transmitter & receiver. Extruded aluminum heat-sinks provide efficient cooling of two heavy duty power transistors. Octal socket provides simple plug-in connection. Operates from 12 volt DC source. Fused for protection. 10 lbs.

Kit HP-10 . . . no money down, \$5 mo. \$44.95

SPECIFICATIONS—Input voltage: 11 to 15 V DC (12.6 nominal). Input current: 2 to 13 amps (as a function of output load). Total power output: 120 watts continuous, 150 watts normal intermittent operation. Power available: 600 VDC @ 200 ma or 600 VDC @ 150 ma & 300 VDC @ 100 ma, and bias of -125 VDC @ 30 ma. Efficiency: Approximately 75%. Maximum ambient operating temperature: 120 degrees F. at 120 watts continuous, 150 degrees F. at 120 watt intermittent operation (50% duty cycle). Dimensions: 8" W x 7 1/2" H x 6 1/2" D.



Mobile BASE
**MOUNT
Kit**

Designed to hold both transmitter and receiver conveniently at driver's side. Universal bracket has adjustable legs to fit most automobiles. 5 lbs.

Kit AK-6 \$4.95



HR-20
\$134⁵⁰

Available After April 27

Get top mobile results with the exciting new Heathkit HR-20 SSB RECEIVER!

- ▶ Tunes SSB, AM & CW signals—80 through 10 meters
- ▶ Better than 1 uv sensitivity on all bands
- ▶ Crystal bandpass filter for sharp selectivity
- ▶ Crystal controlled BFO for selectable sideband reception
- ▶ Built-in calibrated "S" meter—30-1 gear drive tuning

New features and advanced design are effectively combined in the all-new Heathkit HR-20 to bring you outstanding performance and convenience in fun-filled mobile operations! This modern 8-tube superheterodyne receiver tunes the 80, 40, 20, 15 and 10 meter amateur frequencies in five separately calibrated bands. For operating convenience only the band in use appears in the dial window. The 5 1/2" slide rule dial with a 30 to 1 tuning ratio permits smooth and precise frequency settings.

A tuned RF stage assures maximum sensitivity and a high signal-to-noise ratio for outstanding reception of weak distant stations. A front panel antenna trimmer compensates for the loading effect of various antennas. Outstanding frequency stability is achieved through extensive temperature compensation and voltage regulation of all oscillators.

Other notable receiver features include a product detector for reception of SSB and CW signals and diode detector for AM reception. A series noise limiter, controllable from the front panel, effectively reduces interference on AM from ignition, electrical and other forms of pulse type noises. Front panel selection of either fast or slow AVC tailors receiver response time to suit varying band conditions or types of transmission. S-meter is calibrated in "S" units from 1 to 9 and in db above S9 to +60 db to indicate relative strength of received signals. 8 ohm speaker output plus a separate 500 ohm output for headset or anti-trip circuit in transmitter also provided. 17 lbs. Operates from 12 volt car battery using Heathkit HP-10 Mobile Power Supply.

Kit HR-20 . . . no money down, \$13 mo. \$134.50

SPECIFICATIONS—Frequency range: 80 thru 10 meters in 5 bands. 3.5 to 4.0; 7.0 to 7.3; 14.0 to 14.35; 21.0 to 21.5; 28.0 to 29.7 MC. Intermediate frequency filter: Center frequency, 3.0 MC; Bandwidth at -6 db, 3.0 KC; Bandwidth at -60 db, 10.0 KC Max.; Hermetically sealed. Panel controls: Sideband Select; R.F. gain; A.F. gain—Off-On; Noise Limiter; AVC select; main tuning; band switch; antenna trimmer; SSB, CW-AM switch. Signal-to-noise ratio: 10 db at 1 microvolt or less. Tube complement: 6BZ6—R.F. amp.; 6EA8—Mixer-Oscillator; 6BZ6—1st I.F. amp.; 6EA8—2nd I.F. amp (1/2); 6EA8—S meter amp (1/2); 6BE6—Product detector—BFO; 6BJ7—AM detector-noise limiter—AVC; 6BE8—1st Audio-Audio Output; 6A2—Voltage Regulator. Output impedance: 500 ohms and 8 ohms. Power requirements: 6.3 or 12.6 volts 4 amps AC or DC, 300 volts DC at 120MA. Cabinet size: 6 1/2" H x 12 1/2" W x 19 1/2" D.



RX-1 \$229⁹⁵

Heathkit "Mohawk" deluxe AMATEUR RECEIVER

- ▶ Amateur band coverage only for max. stability & accuracy
- ▶ 1 uv input for 10 db signal to noise ratio
- ▶ Factory assembled and aligned coil/band-switch assembly
- ▶ Built-in 100 kc crystal calibrator

Kit RX-1, no money down, \$28 mo. \$229.95

SPECIFICATIONS—Fifteen tube double conversion superheterodyne receiver with selectable sideband. First IF frequency: 1682 KC. Second IF frequency: 50 KC. Band coverage: 160-10 meters. Selectivity range: 5 kc, 3 kc, 2 kc, 1 kc., 5 kc. Bridged T-notch filter: 50 db rejection notch. Panel controls: RF gain, Tuning, IF Gain, Antenna Trimmer, AF Gain w/on-off switch, Calibrate Set, T-Notch Tuning, Calibrate On, T-Notch Depth, CW-SSB-AM, ANL, Receive Standby, AVC, Upper-Lower Sideband, BFO, Selectivity, Band, Phones. Tube complement: 6BZ6 RF Amplifier, 6CS6 First Mixer, 12AT7 Oscillator-Cathode Follower, 6BA6 1682 kc IF amplifier, 6CS6 Second Mixer, 12AT7 1632-1732 kc crystal Oscillator, 6BA6 50 kc IF amplifier, 6BJ7 DET-AVC-ANL, 6CS6 Product Detector, 12AT7 First Audio S Meter Amp., 6AQ5 Audio Output, 6BA6 100 kc Oscillator, OA2 Voltage Regulator, 5V4 Rectifier. Signal to noise ratio: 10 db at less than 1 microvolt input. Power required: 117 VAC, 50/60 cycle, 75 watts. Cabinet size: 19 1/2" W x 11 3/4" H x 16" D.

Mobile Gear!

Receiver Combination for less than \$395.00 with Power Supply



HP-20
\$29⁹⁵

Operate mobile gear on standard household current . . . Heathkit utility AC POWER SUPPLY

- ▶ Extensive line filtering
- ▶ Bias supply for max. versatility
- ▶ Dependable long-life silicon rectifiers
- ▶ Dynamic regulation—fused for protection

Furnishes filament, B+ and bias voltages to operate Heathkit and most other mobile gear on 117 VAC. Octal socket provides simple plug-in connection. Unit has local on/off switch, pilot light. Fused. 14 lbs.

Kit HP-20 . . . no money down, \$5 mo. . . . \$29.95

SPECIFICATIONS—Power requirements: 117 volts AC, 50/60 cycles, 200 watts. **Total DC continuous power output:** 120 watts (600 volts @ 200 ma or 600 volts @ 150 ma & 300 volts @ 100 ma; bias of -130 volts @ 30 ma also provided). **Filament power:** 6.3 volts @ 8 amperes or 12.6 volts @ 4 amperes. **Regulation:** Approximately 10% (50% load to 100% load, from high voltage tap). **Overall dimensions:** 9" L x 4 3/4" W x 6" H.



Mobile SPEAKER Kit

A matching companion for the HR-20 mobile receiver. Housed in rugged steel case with mounting bracket for easy installation. 5" PM speaker, 8 ohm imp. 3 lbs.

Kit AK-7 \$5.95



HX-20
\$199⁹⁵

Available After April 27

A sensational new value in SSB mobile facilities . . .
Heathkit HX-20 SSB MOBILE TRANSMITTER

- ▶ Hermetically sealed crystal bandpass filter
- ▶ Crystal controlled dual conversion heterodyne circuitry
- ▶ Automatic level control for maximum talk power, low distortion
- ▶ Complete bandswitching of 80 through 10 meter bands
- ▶ All crystals furnished—ideal for mobile or fixed operation

Here is the latest addition to the fine line of Heathkit transmitters. The new HX-20 is a complete single-sideband suppressed carrier transmitter with automatic voice-operated transmit-receive switching (VOX) for SSB operation. A sensational value in SSB mobile facilities also doubles as an excellent fixed station transmitter. Provides complete band coverage with complete band-switching of the 80, 40, 20, 15 meter bands plus three 500 kc segments of the 10 meter band (using crystals furnished). Output frequency is heterodyned from a temperature stable VFO operated from 5.0 to 5.5 mc.

A combination of crystal filtering and balanced modulator circuitry provides long term suppression stability . . . no need to constantly check carrier suppression. The single 6146 power amplifier handles up to 90 watts input for excellent performance as a completely self-contained SSB transmitter. VOX or push-to-talk operation, anti-trip circuitry, fixed loading, "spotting switch" to allow either the talk-on or zero-beat methods of frequency spottings, and attractive, functional styling are also featured.

Special features include a multi-section hermetically sealed filter to shape audio response and provide excellent sideband suppression, dual conversion heterodyne circuitry with high frequency oscillators crystal controlled. Automatic level control for greater talk power without distortion.

An ideal companion for the Heathkit HR-20 mobile receiver, they form a handsome pair equally suited for mobile or fixed station operation using the appropriate Heathkit power supply. Mounted on the AK-6 base both units can be quickly transferred from auto to house offering exceptional versatility in all amateur operations! 19 lbs.

Kit HX-20 . . . no money down, \$19 mo. . . . \$199.95

SPECIFICATIONS—Types of emission: SSB (Upper or lower) and CW. **Power input:** 90 watts PEP, SSB and CW. **Output impedance:** 50 to 75 ohms with not more than approx. 2:1 SWR. **Frequency range:** (MC): 3.5 to 4; 7.0 to 7.5; 14.0 to 14.5; 21.0 to 21.5; 28.0 to 29.5. **Frequency stability:** Overall frequency within 100 CPS after warmup. **Carrier suppression:** 50 DB below peak output. **Unwanted sideband suppression:** 55 DB below peak output. **Keying characteristics:** Grid block keying throughout. **Audio input:** High impedance microphone. **Power requirements:** 6.3 or 12.6 volts 4 amps.; -125 volts 20 milliamps; 300 volts 100 milliamps; 600 volts 130 milliamps (uses Heath HP-20 or HP-10 power supplies). **Cabinet size:** 12 1/4" W x 6 1/2" H x 9 3/4" D.



TX-1 \$252⁵⁰

Famous for value and performance . . .

Heathkit "Apache" AMATEUR TRANSMITTER

- ▶ 150 watts phone, 180 watts SSB & CW ▶ Covers 80 through 10 meters ▶ provision for SSB adapter
- ▶ adjustable low-level speech clipping ▶ time sequence keying—"spotting" button

Kit TX-1, no money down, \$24 mo. . . . 110 lbs. . . . \$252.50

SPECIFICATIONS—Power input: 150 w. AM, 180 w. CW, 180 w. PEP, SSB. **Output impedance:** 50-72 ohms (non-reactive). **Output coupling:** Pi Network (coaxial). **Operation:** Crystal-VFO, AM, SSB, CW (time sequence keying, SSB requires external adapter). **Band coverage:** 80, 40, 20, 15, 10. **Audio output:** 100 watts at 300-3000 cycle (Adjustable low-level speech clipping; 500 ohm output available). **Power requirements:** 115 V AC, 50-60 cycles. **Standby (AM, CW):** 150 watts. **Standby (SSB):** 230 watts. **Transmit (CW):** 420 watts (intermittent). (Phone): 500 watts (peak). (SSB): 500 watts (peak). **Cabinet size:** 19 1/2" W x 11 1/4" H x 16" D.

Heathkit® Amateur Radio Value Sensations!



Heathkit "Marauder"

SINGLE SIDEBAND TRANSMITTER

- ▶ **First complete filter-type SSB transmitter in kit form!**
- ▶ **Unmatched in features and performance at less than twice the price**
- ▶ **Operates SSB (upper or lower sideband), CW, AM & FSK**
- ▶ **180 watts PEP—SSB & CW . . . 80 through 10 meters**
- ▶ **Multi-section, hermetically sealed crystal band-pass filter**
- ▶ **Dual conversion; crystal controlled heterodyne oscillator**
- ▶ **Preheated, temperature compensated VFO**

Over two years were spent in the development of the Heathkit "Marauder" to bring you performance, quality and dependability unheard of in this price range! Its outstanding array of features plus its beautifully styled exterior all add up to an unprecedented amateur value! Complete . . . nothing else to buy . . . all power supplies are built-in . . . all crystals furnished for 80 through 10 meter coverage! Straightforward circuit layout and pre-cut, cabled wiring harness assure easy assembly. Top quality components and heavy-duty partitioned 16 gauge steel chassis and cabinet assure a lifetime of rugged dependability.

Attractive front panel has edge-lighted slide-rule tuning dial, accented with chrome-plated die-cast knobs. All controls are located "out-front" where you want them, for maximum ease of operation . . . no doors or hatches to open! Special 165-to-1 worm-gear tuning assembly provides smooth anti-backlash tuning with approx. 10 kc per turn for sharp, easy frequency selection.

Other features include: air-cooled, shielded final amplifier; noise-free fan; automatic level control; VOX controlled break-in CW operation; Spot control for zero-beat; monitoring oscilloscope jack; separate high Z phone patch input; metered grid, plate, ALC, relative power and high voltage circuits. These and many more convenience features put the Heathkit "Marauder" in the best-buy category . . . a transmitter you will be proud to own and use for years to come. 92 lbs.

Kit HX-10 . . . no money down, as low as \$22 mo. \$334.95

SPECIFICATIONS—Emission: SSB (upper or lower sideband), CW, AM and FSK. **Power input:** 180 watts PEP—SSB and CW, 75 watts AM. **Output impedance:** 50 to 75 ohms with not more than approximately 2:1 SWR. **Frequency range (MC):** 3.5 to 4.1; 6.9 to 7.5; 13.9 to 14.5; 20.9 to 21.5; 27.9 to 28.5; 28.5 to 29.1; 29.1 to 29.7. **Frequency stability:** within 100 cps, overall. **Carrier suppression:** 50 db below peak output. **Unwanted sideband suppression:** 55 db below peak output. **Keying characteristics:** Break-in CW provided by operating VOX from a keyed tone using grid-block keying. **Audio input:** High impedance microphone or phone patch. **Audio frequency response:** 400 to 3000 cps at ± 3 db. **Power requirements:** OFF—4 watts; STANDBY—200 watts; KEY DOWN—400 watts at 117 volts, 50/60 cycles AC. **Cabinet size:** 19" W x 11 $\frac{1}{4}$ " H x 16" D.

COMMUNICATIONS MICROPHONE

An ideal companion for the HX-10 or any other transmitter, this Electro Voice dynamic microphone was specially modified to our specifications for SSB communications. Frequency response is limited from 300 to 3,000 cps voice frequencies with sharp cutoff above 3,000 cps. Rugged, die-cast zinc case and mike stand are chrome plated. Mike stand has grip-to-talk switch with lock position. Hi-Z output. Complete with 6' single and 6' multi-conductor shielded cable plus wiring diagrams for any rig. 2 lbs.

HDP-21 . . . no money down, \$5 mo. \$29.40
26

Heathkit "Warrior" KILOWATT LINEAR . . .

a tremendous value at only \$229.95

- ▶ **Completely self-contained desk-top KW linear**
- ▶ **Operates SSB, AM & CW on 80 through 10 meters**
- ▶ **Exclusive internal RF shielding—811A & 866A tubes**



HA-10
\$229.95

Here's the rig you need for that big boost in amateur transmitting power! This completely self-contained desk-top kilowatt linear is loaded with special features . . . costs only half that of comparable units! Amplifier, and power supplies for HV, filament and bias are built-in. May be driven by any 50 to 100 watt output transmitter (no matching or swamping networks required). Stable grounded-grid circuitry provides up to 70% efficiency. Popular tube complement consists of 4-paralleled 811A's and 2-866A's forced-air cooled by a built-in fan.

Exclusive internal RF shielding, monitor output, neutralized final and many more features put top quality and power-packed performance within easy reach of any radio amateur. Clean, open circuit layout assures fast, easy assembly. Compare the Heathkit "Warrior" . . . feature for feature . . . quality component for quality component . . . you'll find no shortcuts . . . only the finest watts-per-dollar value in a kilowatt linear amplifier anywhere! 99 lbs.

Kit HA-10 . . . no money down, \$22 mo. \$229.95

Assembled HAW-10 . . . no money down, as low as \$22 mo. \$329.95

SPECIFICATIONS—Maximum power input: SSB-1000 watts P.E.P., CW-1000 watts, AM-400 watts (500 watts using controlled carrier modulation), RTTY-650 watts. **Output circuit:** Variable pi-network (50 to 75 ohms). **Driving power required:** 50 to 75 watts—depending on frequency. **Input circuit:** Broad banded—requires no tuning. **Input impedance:** approximately 70 ohms; provides effective match for exciters having 50 ohm output Z. **Band coverage:** 80, 40, 20, 15, 10 meters. **Panel metering:** Switch-selected, grid current, plate current, high voltage and relative power output for ease of loading. **Tube complement:** 4-811A, 2-866A. **Dimensions:** 19 $\frac{1}{2}$ " W x 11 $\frac{1}{4}$ " H x 16" D.

Heathkit "CANTENNA"

TRANSMITTER DUMMY LOAD



HN-31
\$9.95

With the new Heathkit transmitter dummy load you can forget about TVI, FCC violations, QRM, while servicing or testing transmitting equipment! Handles powers up to 1 kilowatt I.C.A.S. with less than 1.5 V.S.W.R. up to 300 megacycles. The wide frequency range makes it ideal for testing commercial, industrial, marine, aircraft, citizen's band equipment, etc. Impedance is 50 ohms. A coax input connector for the transmitter and a phono jack for dc output to VOM or VTVM, for relative power measurement, permit fast, easy connection to equipment. Features a special oil-cooled temperature-stable resistive element. Measures only 8 $\frac{1}{8}$ " H x 7" diameter. Oil capacity is 1 gallon (oil not included). 2 lbs.

Kit HN-31 \$9.95

For the VHF Amateur...

Heathkit® 6 & 2 Meter Gear!



HW-10
\$199.95

Complete mobile and fixed station facilities in these feature-packed 6 or 2 meter TRANSCIVERS

- ▶ Everything you need... transmitter, receiver, power supply... all in one compact unit
- ▶ 3-way power supply operates on 117 V AC, 6 or 12 V DC
- ▶ 10 watt RF output to antenna—6360 final
- ▶ Tracked VFO and exciter stages for single knob tuning

The Heathkit 6 meter "Shawnee" and 2 meter "Pawnee" combine clean, functional styling and latest design features for outstanding performance on the VHF amateur bands. Operates "mobile" or "fixed" with built-in 3-way power supply. Transmitters feature a built-in temperature stabilized VFO and switch-selection of four crystal positions for net, novice, CAP and MARS operation; tracked VFO and exciter stages for convenient single-knob tuning over any 500 kc band segment; a "spotting" switch to zero-in signals; efficient 6360 final RF amplifier for 10 watt output to antenna; built-in low pass filter to suppress harmonics; dual-purpose modulator that doubles as 15 watt PA amplifier; push-to-talk ceramic element microphone. Receivers feature double conversion with first oscillator crystal controlled; voltage regulation on all oscillators for high stability; large, illuminated slide-rule dial for both receiver and VFO; an automatically switched panel meter to read signal strength or relative power output; squelch and noise limiter controls; 3" x 5" PM speaker; RF gain, BFO, and AVC on/off controls. The built-in 3-way power supply features transformer operation on 117 V AC and heavy-duty vibrator for 6 or 12 V DC operation. AC and DC cables are furnished with kit. A primary fused relay controls all power to the transceiver in mobile installations. Sturdy construction features wrap-around steel case and extensive shielding of transmitter, receiver and power supply sections. Mounting bracket included. Recommended for the more experienced kit builder. Average construction time is 60 hours. 34 lbs.

Kit HW-10 (6 meter transceiver)... no money dn., \$19 mo. **\$199.95**
 Kit HW-20 (2 meter transceiver)... no money dn., \$19 mo. **\$199.95**

SPECIFICATIONS—RECEIVER SECTION—Frequency coverage: HW-20: 143.8 to 148.2 mc. HW-10: 49.8 to 54.0 mc. **IF frequencies:** Double conversion—First IF, 22 to 26 mc (tunable); Second IF, 2 mc. **Noise figure:** HW-20: 8.5 db or less, HW-10: 6 db or less. **Sensitivity:** 5 microvolts of input signal will provide an output signal better than 10 db over the noise level. **Squelch sensitivity:** Less than 1 microvolt. **Selectivity:** 15 kc at 6 db down. **Image rejection:** Better than 70 db. **IF rejection:** 50 db. **Input impedance:** 50 to 72 ohm, unbalanced. **Audio power output:** 3 watts (receiver operation); 15 watts (public address operation). **Headphone jack:** Low impedance, accepts PL-85 type plug (standard 2-conductor "X" sleeve). **External speaker socket:** 8 ohm impedance, accepts RCA type phono plug.

TRANSMITTER SECTION—Frequency coverage: HW-20: 143.8 to 148.2 mc (crystal or VFO control). HW-10: 49.8 to 54.0 mc (crystal or VFO control). **Modulation:** .01 volts minimum at 1000 cps = 100%. **RF power output:** 8 watts nominal AM, 10 watts nominal CW, 50 ohm nonreactive load. **Distortion:** 10% or less, with 100% modulation at 1000 cps. **Output impedance:** 50 to 72 ohm, unbalanced. **Low pass filter:** HW-20: 152 mc cutoff frequency. HW-10: 54 mc cutoff frequency. **Key jack:** Accepts PL-55 type plug (standard 2-conductor "X" sleeve). **Crystal sockets:** Accepts FT-243 type holders, pin diameter .093", pin spacing .466". **Microphone:** High impedance ceramic element push-to-talk type with coil cord. **Crystals:** (Not furnished) HW-20: 8 mc fundamental range (8,000 to 8,222 mc for 2 meter band), HW-10: 8 mc fundamental range (8,333 to 9,000 mc for 6 meter band).

GENERAL—Power requirements: Input voltage: 6.3V DC, 12.6V DC, 117V AC. Transmit—14.5 amps, 7.5 amps, 120 watts. Receive—8.5 amps, 4.5 amps, 80 watts. **Cabinet dimensions:** 6" H. x 10" D. x 12" W.



VHF-1
\$179.95

High power 6 & 2 meter "Seneca"

VHF TRANSMITTER

- ▶ Built-in VFO, modulator and power supplies
- ▶ Up to 120 watts input on phone, 140 watts on CW
- ▶ "Spotting" push button for off-the-air tuning
- ▶ Extensive RF shielding—beautifully styled

You'll find the "Seneca" hard to beat for real value and DX power on the VHF amateur bands! Provides up to 120 watts input on phone and 140 watts input on CW on 6 meters. Design features include: controlled carrier phone operation, built-in VFO for both 6 & 2 meters, four switch-selected crystal positions, extensive RF shielding, large slide-rule dial with vernier tuning and rugged, handsome styling. Circuit has two built-in power supplies, four exciter stages, two dual-triode audio stages and two 6156's in the final amplifier. Panel controls select VFO or crystal control, phone or CW operation on both amateur bands. Covers popular CAP and MARS VHF frequencies. 59 lbs.

Kit VHF-1... no money down, \$17 mo. **\$179.95**

SPECIFICATIONS—Power input: 6 meters, 140 watts CW; 120 watts phone (peak). 2 meters, 110 watts CW; 95 watts phone (peak). **Output impedance:** 50 to 72 ohm (non-reactive). **Output coupling:** adjustable link (coaxial connector). **Operation:** crystal, VFO, CW, phone. **Band coverage:** 50 to 54 mc, 144 to 148.3 mc. **Audio:** screen modulated, controlled carrier. **Power requirements:** 117 volts AC, 60 cycles; Standby (phone, CW) 120 watts. Full load (phone, CW) 400 watts (intermittent). **Dimensions:** 16 5/8" W x 10 1/2" H x 10" D.



AM-2
\$15.95

Check antenna system efficiency with the Heathkit REFLECTED POWER METER

- ▶ Indicates percent reflected power or SWR
- ▶ Use on 160 through 6 meters

Handles a peak power of well over 1 kilowatt! May be left in antenna system feed line at all times. Panel meter indicates VSWR from 1:1 to 3:1. Sensitivity control permits adjustment without reducing transmitter output. Matches 50 or 75 ohm lines. 2 lbs.

Kit AM-2... no money down, \$5 mo. **\$15.95**

An excellent CW TRANSMITTER

for novice or general class amateur... Heathkit HX-11



HX-11
\$43.50

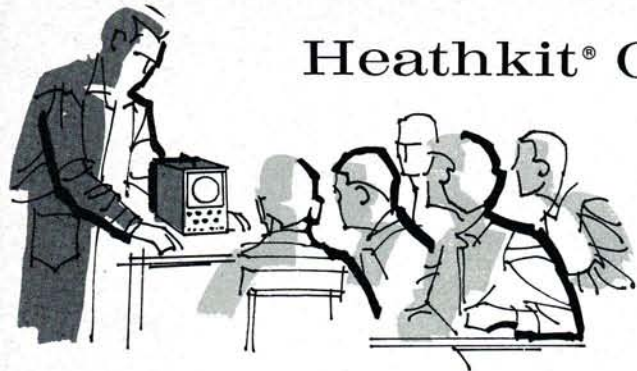
- ▶ New! built-in low pass filter
- ▶ New! "clear view" panel meter
- ▶ New! neutralized final amplifier
- ▶ New! provision for single switch station control

Covers 80 through 10 meters using crystals or external high-output VFO. Efficient circuitry features a single 6DQ6A final amplifier stage with full 50-watt plate power input. Dependable power supply, single-knob band-switching, switched antenna relay power, pi-network output coupling also featured. Easy to assemble with complete instructions furnished. 17 lbs.

Kit HX-11... no money down, \$5 mo. **\$43.50**

SPECIFICATIONS—RF power input: 50 watts CW. **Output impedance:** 50-600 ohm (non-reactive). **Output coupling:** Pi network. **Operation:** Crystal—external VFO. **Low pass filter cutoff frequency:** 34 MC. **Band coverage:** 80, 40, 20, 15, 10 meters. **Tube complement:** 5L4GB rectifier, 6CL6 oscillator, 6DQ6A final amplifier. **Power requirements:** 117 volts AC, 60 cycles, 150 watts. **Dimensions:** 13" W x 8 1/2" H x 7" D.

Heathkit® Oscilloscopes for Every Testing Need



Heathkit "Extra Duty" WIDE BAND 5" OSCILLOSCOPE

- ▶ Full 5 MC bandwidth for color TV servicing
- ▶ Push-pull vertical and horizontal amplifiers
- ▶ Heath patented sweep circuit—10 CPS to 500 KC
- ▶ 2 circuit boards and wiring harness for easy assembly



IO-30
\$69.95

A superbly engineered instrument designed for years of fine performance. Critical waveforms are handled easily, with clear, sharp pattern displays in every application. Excellent linearity and lock-in characteristics allow viewing stable waveform presentations even at upper frequency limits. The unique Heath patented sweep circuit employed in this scope functions reliably from 10 cps to over 500 kc giving you five times the sweep range of most other scopes. This feature coupled with wide band amplifiers, essential for color TV service work, make it ideal for all types of general and specialized circuit investigations.

Two extra "preset" sweep frequency positions allow fast selection of any two frequencies used repeatedly in servicing. Other features include push-pull output amplifiers, positive trace position controls, peak-to-peak calibration reference voltage, 3-step frequency compensated vertical input, automatic sync circuit, Z-axis input, 5U1 CR tube, and cool-running husky power supply. Neat, functional styling and convenient control arrangement for ease of operation. 23 lbs.

Kit IO-30 . . . no money down, \$7 mo. \$69.95

SPECIFICATIONS—(Vertical) sensitivity: 0.025 volt RMS per inch at 1 kc. **Frequency response (referred to 1 kc level):** ±1 db 8 cps to 2.5 mc; +1.5 to -5 db, 3 cps to 5 mc; response at 3.58 mc, -2.2 db. **Rise time:** 0.08 microseconds or less. **Input impedance:** (AT 1 KC) 2.7 megohms at X1; 3.3 megohms at X10 and X100. **(Horizontal channel) sensitivity:** 0.3 volts RMS per inch at 1 kc. **Frequency response:** ±1 db 1 cps to 200 kc; ±3 db 1 cps to 400 kc. **Input impedance:** 4.9 megohms at 1 kc. **Sweep generator:** Range—10 cps to 500 kc in five steps, variable, plus any 2 switch-selected preset sweep frequencies in this range. **Synchronizing:** automatic lock-in circuit using self-limiting synchronizing cathode follower. **Power requirements:** 105-125 volts 50/60 cycles AC at 80 watts; fused. **Dimensions:** 14½" H x 8½" W x 16" D.



IO-21
\$49.95

Heathkit GENERAL PURPOSE 3" OSCILLOSCOPE

- ▶ Push-pull vertical and horizontal amplifiers
- ▶ Wide range sweep generator 20 to 100,000 CPS
- ▶ Automatic sync—retrace blanking
- ▶ Neat, open circuit layout for easy assembly

This amazing 3" oscilloscope is compact, lightweight, and surprisingly versatile in performance . . . fills hundreds of daily requirements. Ideal for home workshop, ham shack, or as an "extra" scope in the service shop. Its low cost makes it the ideal scope for students or beginners not yet ready to make a large investment in test equipment. The exceptionally clean, open circuit layout makes assembly a simple task. Circuit design features identical vertical and horizontal amplifiers with a frequency response of ± 2 db from 2 cps to 200 kc. Sensitivity is .25 volts RMS /inch peak-to-peak deflection at 1 kc. Provision is made for direct connection to the vertical deflection plates of the cathode ray tube . . . ideal for high level R.F. monitoring. The Heath twin-triode sweep generator employed in this scope functions reliably from 20 to 100,000 cps in four switch-selected ranges. Automatic sync and retrace blanking. Provision for internal line sweep and external horizontal input. Other features include a 3RP1 CR tube with special alloy neck shield to minimize trace distortion from external electrical fields; focus and astigmatism controls to assure a sharp, fine trace and a husky power transformer. Power supply is fused for protection. An unbeatable scope value! 14 lbs.

Kit IO-21 . . . no money down, \$5 mo. \$49.95

SPECIFICATIONS—(Vertical and horizontal amplifiers identical): Frequency response: 2 db, 2 cps to 200 kc. **Sensitivity:** .25 volts RMS /inch P-P deflection at 1 kc. **Input Impedance:** 10 megohms shunted by 20 uuf. **Sweep generator:** Range: 20-100,000 cps. Automatic sync, retrace blanking. **Power requirements:** 105-125 volts AC, 50-60 cycle, 40 watts. **Dimensions:** 9½" H x 6½" W x 10" D.

Heathkit PROFESSIONAL 5" DC OSCILLOSCOPE



OP-1
\$184.95

- ▶ Calibrated driven sweep—built-in triggering circuits
- ▶ Calibrated DC coupled vertical amplifier
- ▶ 5ADP2 flat face CR tube—edge lighted grid screen
- ▶ Prewired circuit boards for easy assembly

This sophisticated DC oscilloscope is ideal for light-duty applications where DC coupled vertical and horizontal amplifiers, driven sweep, calibrated sweep and calibrated vertical amplifier are essential. The triggered sweep circuit operates on either internal or external signals, AC or DC coupled. Sweep frequencies are provided by switch-selected base rates of 2 and .2 milliseconds-per-cm and 20, 2, and 1 microseconds-per-cm, with a continuously variable 10 to 1 multiplier. Sweep calibration is within 10% at all control settings. Sweep speed may be reduced by adding capacity to the "Ext. Cap" binding post on the front panel. A 5ADP2 flat face CR

tube is used for accurate readings on an edge lighted grid screen, and a high quality CRT shield prevents stray AC fields from distorting the trace. All critical voltages are regulated with VR tubes for high stability. Five prewired terminal boards and a precut, cabled wiring harness simplify assembly. 34 lbs.

Kit OP-1 . . . no money down, \$18 mo. \$184.95

SPECIFICATIONS—Vertical channel frequency response: within 1 db DC to 2.2 megacycles; within 3 db DC to 3.6 megacycles; within 6 db DC to 4.5 megacycles. **Rise time:** less than .1 microsecond. **Input impedance:** 3.6 megohm shunted by 28 mmf. **Sensitivity:** DC coupled; 0.1 V peak-to-peak for 1 cm deflection; AC coupled; .01 V peak-to-peak for 1 cm deflection (using built-in preamp.). **Coupling:** AC or DC switch selected. **Horizontal channel frequency response:** within 1 db from DC to 450 kc; within 3 db from DC to 600 kc. **Input impedance:** 1 megohm shunted by 37 mmf. **Sensitivity:** 0.2 V peak-to-peak for 1 cm deflection. **Power requirements:** 105-125 VAC, 50/60 cycles, 250 watts max. **Dimensions:** 8½" W. x 14½" H. x 19" D.

Heathkit's VTVM's for Rapid Electronic Measurements



Heathkit deluxe SERVICE BENCH VTVM

- ▶ Large 6" 200 ua meter
- ▶ 11 megohm input for high accuracy
- ▶ Separate low voltage AC scales

Here is a big handsome VTVM specially designed for service bench use! Its over-size 6" 200 ua panel meter with multi-colored scales and high contrast panel screening show at a glance the correct scale and range in use for fast, easy reading of all measurements. Recessed thumbwheel "zero" and "ohms" adjust controls guard against accidental change in settings. Separate 1.5 and 5 volt AC scales for high accuracy, broad frequency response and DB calibrations, in 10 db steps, for relative AC voltage measurements are among the many design features that make this kit of special value in service and lab applications. Clean, open circuit layout and wiring harness assure easy assembly and maintenance. Test leads and battery included. 6 lbs.

Kit IM-10 . . . no money down, \$5 mo. **\$32.95**

Kit EF-1-2: includes IM-10 VTVM and Technical Applications Kit EF-1 described on page (13) 9 lbs. **\$39.95**

SPECIFICATIONS—Meter scales DC & AC (RMS): 0-1.5, 5, 15, 50, 150, 500, 1500 volts full scale (1.5 and 5 volt AC ranges read on separate scales). **Ohmmeter:** Scale with 10 ohm center x1, x10, x100, x1000, x10K, x100K, x1 meg. Measures 1 ohm to 1000 megohms with internal battery. **Multipliers:** 1% precision type. **Meter:** 6" 200 ua movement. **DC input resistance:** 11 megohms (1 megohm in probe) on all ranges. **AC input impedance:** 1 megohm shunted by 30 uuf (measured at input terminals). **Circuit:** Balanced bridge (push-pull) using twin triode. **Accuracy:** DC $\pm 3\%$, AC $\pm 5\%$ of full scale. **Frequency response:** ± 1 db 25 cps to 1 mc (600 ohm source). **Tubes:** 12AU7, 6AL5. **Battery:** 1.5 volt size "C" flashlight cell. **Power requirements:** 105-125 volts 50/60 cycle AC, 10 watts. **Dimensions:** 9 $\frac{1}{2}$ " H x 6 $\frac{1}{2}$ " W x 5" D.

Heathkit HANDYLAB

- ▶ 5 functions in one instrument
- ▶ Simple one switch operation
- ▶ Battery operated for portability
- ▶ Easy to assemble—low in cost



IM-20
\$14.95

Ideal for the hobbyist! A DC voltmeter, transistorized signal generator, continuity checker, resistor and capacitor substitution box all-in-one! Battery powered for complete portability. A single 18-position switch selects any of its functions. A neon bulb indicates AC voltage over 85 volts and a #49 pilot lamp shows continuity up to 50 ohms, adequate for most testing purposes. The many functions of the Handy Lab make it an excellent all-around instrument. Test leads & battery included. 2 lbs.

Kit IM-20 **\$14.95**

SPECIFICATIONS—DC voltmeter: Four ranges, 0-15, 50, 150, 500 volts full scale. **Meter:** 0 to 1 milliamperes. **Accuracy:** $\pm 10\%$ of full scale. **Input resistance:** 1000 ohms-per-volt. **Resistance substitution:** 100, 1000, 10k, 100k, and 1 megohm, 1 watt 5% tolerance. **Condenser substitution:** .001, .005, .02, .1, and 8 uuf (electrolytic) at 400 volts. **AC indicator:** NE-51 neon lamp. **Continuity indicator:** #49 lamp. **Signal generator:** RF SECTION, preset adjustment from 450 kc to 700 kc, approximately 2 millivolts output. **AUDIO SECTION,** Approx. 1000 cps, 50 millivolts output. **Output impedance:** 220 ohm. **Transistors:** Two 2N1274. **Batteries:** Two 1.5 volt penlight cells. **Case:** Molded plastic. **Dimensions:** 6" H x 3 $\frac{1}{2}$ " W x 2 $\frac{1}{4}$ " D.

Heathkit laboratory AC VTVM

- ▶ Extended frequency response ± 1 db 10 cps to 500 kc
- ▶ 10 megohm input impedance for high accuracy
- ▶ 10 voltage ranges—0.01 to 300 volts rms full scale
- ▶ Calibrated db scale—measures -52 to +52db

Kit Form
or
Factory
Assembled



IM-21
\$33.95

Precision AC voltage measurements are a simple task with the new Heathkit IM-21. Indispensable in audio design and development work, servicing and countless laboratory applications, where accurate voltage measurements are a necessity. New features include extended frequency response, high 10 megohm input impedance and new modern styling plus all the fine features of its famous predecessor, the Heathkit AV-3. These include high sensitivity, excellent stability and ease of operation. New design includes a cathode follower stage on all ranges for increased input impedance and a 2-stage amplifier for high output stability and linearity. Meter has VU type ballistic damping, ideal for monitoring audio signals. 4 lbs.

Kit IM-21 . . . no money down, \$5 mo. **\$33.95**
Assembled IMW-21 . . . no money down, \$7 mo. **\$60.25**

SPECIFICATIONS—Frequency response: ± 1 db 10 cps to 500 kc, ± 2 db 10 cps to 1 mc, all ranges. **Ranges—Volts—**Ten ranges from 0.01 to 300 volts RMS full scale. **Decibels:** Total range -52 to +52 db, meter scale -12 to +2 db (0 db = 1 mw in 600 ohms), ten switch selected ranges from -40 db to +50 db in 10 db steps. **Input impedance:** 10 megohms shunted by 12 uuf on ranges 10 to 300 volts, 10 megohms shunted by 22 uuf on ranges .01 to 3 volts. **Tube complement:** (1) 6AW8, (1) 6EJ7/EF-184. **Accuracy:** Within 5% of full scale. **Power requirements:** 105-125 volts AC, 50-60 cycles, 10 watts. **Dimensions:** 7 $\frac{3}{8}$ " H x 4 $\frac{1}{16}$ " W x 4 $\frac{1}{8}$ " D.

Heathkit IM-11 . . . worlds largest selling VTVM

- ▶ Single AC/ohms/DC probe with switch
- ▶ 7 AC, 7 DC, & 7 ohms ranges
- ▶ Easy-to-read 4 $\frac{1}{2}$ " 200 UA meter
- ▶ 1% precision resistors for high accuracy

Kit Form
or
Factory
Assembled



IM-11
\$29.95

No basic service instrument has contributed more to the field of electronics than the world famous Heathkit VTVM. Its quality and performance at low cost has made it a favorite for years and now with new styling, improved low frequency response and single test probe convenience represents an even greater value! Measures AC volts (RMS), AC volts (peak-to-peak), DC volts, resistance and decibels. The all-purpose test probe has a switch on the probe body to select AC/ohms or DC functions. A component circuit board assures stable, uniform circuitry and easy assembly. Test leads and battery included. 5 lbs.

Kit IM-11 . . . no money down, \$5 mo. **\$29.95**
Assembled IMW-11 . . . no money down, \$5 mo. **\$46.75**
Kit EF-1-3: includes IM-11 VTVM and Technical Applications Kit EF-1 described on page (13) 8 lbs. **\$36.95**

SPECIFICATIONS—Meter scales: DC & AC (RMS): 0-1.5, 5, 15, 50, 150, 500, 1500 volts full scale **AC peak-to-peak:** 0-4, 14, 40, 140, 400, 1400, 4000. **Resistance:** 10 ohm center scale x1, x10, x100, x1000, x10K, x100K, x1 meg. Measures .1 ohm to 1000 megohms with internal battery. **Meter:** 4 $\frac{1}{2}$ " 200 ua movement. **Multipliers:** 1% precision type. **Input resistance DC:** 11 megohms (1 megohm in probe) on all ranges. **Circuit:** Balanced bridge (push-pull) using twin triode. **Accuracy:** DC $\pm 3\%$, AC $\pm 5\%$ of full scale. **Frequency response:** ± 1 db, 25 cps to 1 mc (600 ohm source). **Tubes:** 12AU7, 6AL5. **Battery:** 1.5 volt, size "C" flashlight cell. **Power requirements:** 105-125 volt 50/60 cycle AC 10 watts. **Dimensions:** 7 $\frac{3}{8}$ " H x 4 $\frac{1}{16}$ " W x 4 $\frac{1}{8}$ " D.

Two New Extra-Value Heathkit® Tube Testers



IT-21
\$44.95



TT-1A
\$149.95

Test new miniature tubes with this NEW Heathkit mutual conductance TUBE TESTER

- ▶ Built-in adapter for testing new Compactron, Nuvistor, Novar and 10-pin miniature tube types
- ▶ Professional quality and performance
- ▶ Indicates Gm to 24,000 micromhos
- ▶ Ultra-sensitive grid current test
- ▶ Direct reading ohmmeter leakage test
- ▶ Provision for mounting future tube sockets

No finer tube tester in kit form! Provides professional quality and features for deluxe testing facilities at low cost! Tests all tube types, including the new compactron, nuvistor, novar and 10-pin miniature types with adapter housed in cabinet lid. The TT-1A will provide quick and accurate checks of transconductance and grid current in multi-element tubes and will also check diodes, rectifiers, voltage regulators, low-power thyratrons and electron eye-tubes.

In transconductance tests, mutual conductance values are read on an illuminated meter scale from 0 to 3,000 micromhos. Multipliers permit reading Gm values above 3,000. Individual selector switches allow checking any tube type regardless of base pin connections . . . protect against obsolescence! A disconnect switch removes all voltage potentials while setting up tube type. A built-in, switch operated calibration circuit provides for easy calibration and assures continued high accuracy.

All tube test data is provided on the built-in roll chart. Special mechanism design permits the roll chart to run freely throughout its entire length without binding and is spring loaded to keep the chart taut at all times. Ruggedly constructed for years of dependable trouble-free performance. Assembly is simplified by color-coded wiring harnesses and detailed instructions. Average assembly time is 40 hours. Attractive black leatherette case with white trim, nylon feet, removable top. 32 lbs.

Kit TT-1A . . . no money down, \$14 mo. **\$149.95**

Adapter Kit TTA-1-1: Converts earlier model TT-1 to TT-1A. Includes new cabinet, sockets, selector switches, and necessary tube test data. 13 lbs. . . **\$19.95**

SPECIFICATIONS—Power requirements—Voltage: 105-125, 60 cycle AC. **Watts:** 10-60 (dependent upon tube under test). **Plate supply:** (SILICON RECTIFIERS). DC volts: 26, 90, 135, 225 + variable 80 to 200 (Separate DC supply for space charge grids). **AC volts:** 20, 45, 177. **Bias supply:** (SILICON RECTIFIER). **Low range:** 0 to negative 5 volts DC. **High range:** 0 to negative 20 volts DC. **Signal voltages:** 2, 1, .5, .25 volts AC 5000 cycles. **Filament supply voltage:** .65, 1.1, 1.5, 2, 2.5, 3, 3.5, 5, 6.3, 7.5, 10, 13, 20, 27.5, 35, 47, 70 and 115. **Currents:** 300, 450, 600 ma. (Note: Filament voltage is reduced 10% during life test). **Testing circuits GM:** (Mutual conductance-amplifiers) 0-24,000 micro-mhos. **Emission:** Rectifiers and diodes. **Leakage:** Direct reading ohmmeter. **Grid current:** 1/2 microampere sensitivity. **Voltage regulators:** Firing voltage and regulation tolerance. **Low power thyratrons:** Grid characteristics, conduction capabilities. **Eye tubes:** Control grid characteristics. **Meter AC:** 1000 ohms/volt (1 volt full scale). **DC:** 89 ma full scale. **Scales GM:** 0-3000 micromhos. **VR test volts:** 0-200 volts. **Leakage:** 0-10 megohms. **Diodes O.K.** Rectifiers O.K. Line check arrow at midscale. **Tube complement:** (1) 3A4 oscillator, (1) 12AV6 meter control. **Calibration circuit:** Built-in switch operated. **Socket accommodations:** 4-pin, 5-pin, 6-pin, 7-pin combination and pilot light, 5 & 7-pin nuvistor, 7-pin miniature, 7-pin sub-miniature, 8-pin sub-miniature, octal, loctal, 9-pin miniature, 9-pin, Novar, ten-pin miniature, 12-pin Compactron. **Line voltage adjustment:** Continuously variable. **Roll chart mechanism:** Constant tension, free rolling, thumbwheel operated, illuminated. **Dimensions:** Cabinet (outside): 17 1/2" W x 13 3/4" H x 7 1/2" D. **Panel and chassis:** 17" W x 12 1/2" H x 5 1/2" D.

Eliminate guesswork . . . check tubes fast with this NEW Heathkit TUBE CHECKER

- ▶ Latest design features and styling
- ▶ Tests all tube types including new Compactron, Nuvistor, Novar and 10-pin miniatures
- ▶ Multi-colored bad-?-good meter scale
- ▶ Constant tension, free-rolling roll chart mechanism
- ▶ Color-coded wiring harness for easy assembly

With this modern, up-to-date tube checker on your test bench you can test all tube types encountered in everyday radio and TV servicing, including the new compactron, novar, nuvistor and 10-pin miniature tubes. Tubes are tested for quality on the basis of total emission, and for shorts, leakage, open elements and filament continuity. Tube quality is read on a multi-colored "Bad-?-Good" meter scale. A neon bulb indicator shows filament circuit continuity and leakage or shorts between elements.

Flexible overall operation is made possible by the use of multiple filament voltages, adjustable cathode current, variable meter sensitivity and individual tube element switching. Thirteen 3-position lever switches allow checking each tube element individually for open or short conditions. The specially-designed roll chart mechanism features smooth free-rolling action and is spring loaded to keep the chart taut at all times.

A thumbwheel drive knob on each side of the panel permits either hand operation. Roll chart and meter are illuminated for easy reading. A line-adjust control maintains proper test conditions by compensating for differences in AC line voltage. Neat, professional wiring and simplified construction of the tube checker is assured by color-coded wiring harnesses and easy to follow instructions. Handsomely styled to take its proud place on any test bench. An exceptionally fine value! 11 lbs.

Kit IT-21 . . . no money down, \$5 mo. **\$44.95**

SPECIFICATIONS—Tests: Emission, short, leakage, open element, filament continuity. **Sockets:** 4-pin, 5-pin, 6-pin, 7-pin large and pilot light, 7-pin miniature, octal, loctal, 10-pin miniature, 9-pin novar, 12-pin compactron, 5-pin nuvistor, 7-pin nuvistor. **Meter:** 1 ma, BAD-?-GOOD scale, illuminated. **Line voltage adjustment:** Step type. **Roll chart mechanism:** Constant tension, free-rolling, thumbwheel operation, illuminated. **Filament voltage:** .63, 1.4, 2, 2.35, 2.5, 3.15, 4.2, 4.7, 5, 6.3, 7.5, 9.45, 12.6, 15.6, 25, 32, 50, 70, 110 V AC. **Element test voltages:** 30, 100, 250 V AC. **Power requirements:** 105-125 V AC, 50/60 cycles. **Dimensions:** 5 1/2" x 8 3/4" x 13".

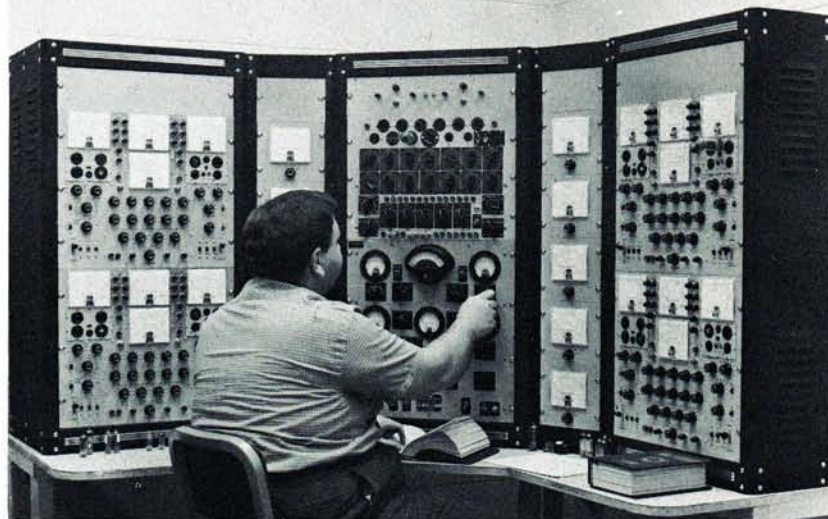
... Plus New Tube Data Subscription Service!

New Tube Data Subscription Service for all Heathkit Tube Checker Owners!

The photo at right shows the unique tube data console developed by Heath engineers to produce roll-chart information for all past and present Heathkit tube checkers. This new service will provide you with latest test data on all new tube types as they become available to assure you of complete, up-to-date testing facilities at all times!

Arrangements have been made with tube manufacturers to supply the necessary samples of new tube types as they are developed. These will be analyzed on the console and the data derived will then be compiled and transferred to roll-chart information.

Every three months all new data will be printed in supplement form and sent to all subscribers. At the end of the year subscribers will receive a new roll-chart incorporating all new data previously published in supplements. Free subscriptions are entered for each new tube checker purchaser, terminating the following January 1, at which time a new roll chart and renewal notice is sent. Customers subscribing to this service during the year will receive a new roll chart plus all supplements to date of subscription. Subscription rates are \$2.50 per year for TT-1A tester and \$1.50 per year on IT-21 and TC series type testers. Enter your order for this valuable service today!



Enjoy Latest Test Facilities with Heathkit Equipment



- ▶ Direct reading scales
- ▶ 16 leakage test voltages
- ▶ Low bridge voltage for miniature electrolytics
- ▶ Comparator circuit

IT-11
\$2995

Test Capacitors the easy way . . . with this Heathkit CONDENSER CHECKER

Tests capacitors of all types for value, leakage, shorts and power factor. Measures resistance from 5 ohms to 50 megohms. Capacity measurements are made in four ranges from 10 mmf to 1000 mfd. All readings are made on direct reading scales . . . no involved calculations. The specially-designed low-voltage bridge circuit permits safe testing of miniature electrolytics used in transistorized equipment. These and many more circuit refinements make the IT-11 one of the most useful instruments in the test lab. A built-in comparator circuit permits measurement of "L" "C" or "R" using an external standard. Easy to assemble. 7 lbs.

Kit IT-11 . . . no money down, \$5 mo. \$29.95



IM-30
\$5488

A Major Break-through in TRANSISTOR TESTERS! . . . Heathkit IM-30

- ▶ Complete DC analysis of all PNP, NPN transistors up to 15 amps
- ▶ DC gain (beta, alpha) read directly on calibrated scales
- ▶ 15 ua basic range for leakage (Icbo, Iceo) tests
- ▶ Handsomely styled—sloping front panel for ease of operation

Superbly engineered circuitry and many unique design features permit complete and thorough DC analysis of all transistor types and fast, easy checks of diode characteristics with high accuracy. Ideal for use in servicing and industry where time, accuracy and versatility are prime factors to be considered.

Operation is simple! . . . four lever switches instantly select the desired test after proper conditions are set by the voltage and current range switches. Four rotary switches (collector voltage, collector current, leak voltage, leak current) allow flexible variation of desired test conditions.

Any operating point of a transistor (0 to 15 amps & 0-50 volts) can be set up for gain tests. DC Beta and DC Alpha are read direct from the calibrated panel scale. All basic tests may be performed using the internal battery supply which furnishes up to 9 volts in 1.5 volt steps. External DC supply terminals and appropriate meter ranges are provided for higher voltages and currents. 7 lbs.

Kit IM-30 . . . no money down, \$6 mo. \$54.88

SPECIFICATIONS—Checks: Transistors up to 15 amps and diodes up to 1.5 amps. **Tests:** Shorts, DC Gain (Beta 0-300) (Alpha 0-.9967), Leakage (Icbo, Iceo), Diode Forward and Reverse Current, **Meter:** Current Ranges: 15 ua, 150 ua, 1.5 ma, 15 ma, 150 ma, 1.5 A, 15 A; Voltage Ranges: 1.5 V, 5V, 15V, 50V, 150V (100K ohm/volt). **Power supply:** Internal, seven 1.5 volt size D batteries provide 1.5, 3, 4.5, 6, 7.5, 9 volts collector supply for gain or leakage and 1.5 volts for bias; External, 0-50 volts for gain, 0-150 volts for leakage and 5 volts max. for bias. **Bias control:** Permits any collector current from 0 to 15 amps for gain tests. **Gain control:** 3% wire-wound potentiometer has calibrated scales to give DC Beta and DC Alpha directly when meter is at null. **Lever switch:** Four spring return levers will individually select the following tests: Base Current, Gain, Collector Voltage, Collector Current, Leak Voltage, Short Test, Icbo, and Iceo or diode currents. **Two voltage selector switches:** Gain and Leak Test Voltages can be individually preset at different voltage levels. **Two current range switches:** Collector and Leak currents can be individually preset on different ranges. **Transistor and diode connections:** Universal transistor socket and binding posts. **External power supply connections:** Binding Posts for Gain, Leak and Bias supplies.

Power Supplies for Every Testing Requirement



BE-5
\$44.95

A handy 6 & 12 V. DC POWER SOURCE for your test bench
Extra low-ripple filter circuit—less than .3% AC ripple

This modern battery eliminator provides a ready, reliable source of 6 or 12 volt DC power for servicing all types of car radios, including transistor and "hybrid" radios which use both tubes and transistors. Transistor and "hybrid" radios can tolerate only a small amount of AC ripple and the special ripple filter circuit employed in the BE-5 holds AC ripple to less than .3%. Output voltage is variable on both ranges from 0-8 volts or 0-16 volts. Two panel meters continuously monitor output voltage and current. Also doubles as an excellent battery charger.

Kit BE-5...19 lbs. NO MONEY DOWN, \$5 mo. \$44.95

SPECIFICATIONS—Continuously variable output: 6 volt range: unfiltered, 10 amp continuous, 15 amp maximum, filtered, 5 amp continuous, less than .3% ripple. 12 volt range: unfiltered, 5 amp continuous, 7.5 amp maximum; filtered .5 amp continuous, less than .3% ripple. **Power requirements:** 105-125 volts 50/60 cycles AC at 200 watts. **Dimensions:** 13" W x 8 1/2" H x 7" D.



Use These Two New Heathkit Decades to provide any one of a billion different R/C combinations!

Useful in all types of design and development work
New styling features sloping front panel for new ease in reading and operating
Precision components for high accuracy

3-DECADE CONDENSER Kit

An accurate, laboratory-type capacitance decade, the IN-21 is ideal for substitution use in tuned circuits, bridge circuits, and filter networks. Often it is faster and easier to determine circuit capacitance values by using the IN-21 than to make involved calculations. Uses precision 1% silver mica capacitors, rated at 350 volts DC, continuous; 500 volts DC, intermittent; and 1000 volts DC test. Provides values from 100 mmfd to 0.111 mfd in 100 mmfd steps. Switches are high quality, low-loss ceramic wafer types with positive detent action. Measures 7 1/8" W x 4" H x 5" D. 3 lbs.

Kit IN-21..... \$17.95

6-DECADE RESISTANCE Kit

The IN-11 is a versatile, accurate, laboratory-type instrument. Pick any resistance value from 1 ohm to 999,999 ohms, the IN-11 will provide it! Add or subtract as little as one ohm, the IN-11 can do it! And all at 1/2 of 1% accuracy! Valuable for use as a multiplier or shunt, a substitution resistor, or as an arm for AC and DC bridges. Ideal for use with the IN-21 capacitance decade where a large range of values are necessary for making resistance and capacitance networks. Range switches have make-before-break action for smooth switching without opening or shorting the circuit. Dimensions: 7 1/8" W x 5" H x 6 3/8" D. 4 lbs.

Kit IN-11.. NO MONEY DOWN, \$5 mo. \$24.95

32

Variable-Voltage REGULATED POWER SUPPLY...

perfect for experimenters, engineers

- ▶ Provides B+, bias, and filament voltages
- ▶ DC output variable from 0 to 400 volts
- ▶ Separate panel meters monitor output voltage and current
- ▶ Quality components throughout



PS-4
\$56.95

An excellent unit for experimenters, hams who "roll their own," or engineers involved in design and development work. Eliminating the need for building up a separate power supply for each new circuit tried, the PS-4 provides adjustable, regulated B+, adjustable bias voltage and 6.3 volts AC for filaments. Voltage and current output are continuously monitored by separate panel meters. Separate filament and high voltage transformers with standby switch eliminate waiting for filament warmup of tubes in equipment under test. Output terminals are separate and well insulated from chassis ground for safety in AC-DC work. Rugged, well-rated components are used throughout for long, reliable service. Instrument is fused for protection. 15 lbs.

Kit PS-4...NO MONEY DOWN, \$6 mo. \$56.95

SPECIFICATIONS—Output: 0-400 volts regulated DC at 0-100 ma, cont., 125 ma intermittent. 0 to -100 volts DC at 1 ma variable bias voltage, 6.3 volts AC at 4 amps, filament voltage. **Regulation:** Output variation less than 1% from no load to full load; Output variation less than ±0.5 volt for a ±10 v. change at 117 v. AC input. **Ripple:** less than 10 millivolts RMS, ripple, jitter and noise. **Output impedance:** less than 10 ohms, DC to 1 mc. **Meters:** Voltmeter 0-400 V or 0-150 V; Milliammeter 0-150 ma. **Dimensions:** 13" W x 8 1/2" H x 7" D.



IP-10
\$54.95

Controls AC line voltage to meet test requirements... Heathkit ISOLATION TRANSFORMER

- ▶ Power rated for color TV work
- ▶ Variable output—90 to 130 volts AC
- ▶ Linear, expanded scale meter
- ▶ Fused for protection

The IP-10 will help solve "tough" service problems. Controls AC line voltage, isolates interference radiating devices from power line, protects against AC/DC set shock hazard, induces breakdown of weak or intermittent components by raising AC input voltage, etc. Many more uses in servicing and design work. Two heavy-duty 8-position switches vary output in .75 volt steps from 90 to 130 volts AC. An expanded scale meter accurately monitors output voltage and a spring-return slide switch gives a fast check of power line input voltage. Two AC receptacles accept 3-prong and standard-type plugs. Fused for protection. 21 lbs.

Kit IP-10...NO MONEY DOWN, \$6 mo. \$54.95

SPECIFICATIONS—Input: 105-125 volts 50/60 cycles. **Output:** Variable from 90-130 volts in steps of approximately .75 volt by means of transformer secondary tap switching. **Meter:** 90-140 volt scale, ± 1 volt accuracy. Switch selection of input or output voltage indication. **Power rating:** 300 watts continuous, 500 watts intermittent. **Fuse:** 8 ampere. **Dimensions:** 6 1/2" W x 9 1/2" H x 5" D.

Dependable Heathkit® RF Signal Generators



A complete signal source for **ALIGNMENT**
of FM Tuners and Receivers



- ▶ Variable 10.7 mc sweep, 200 kc to over 1 mc
- ▶ Switch selection of 90, 100 and 107 mc RF signals
- ▶ 100 kc bandwidth markers for checking bandpass
- ▶ Neat, compact, easy-to-build and operate

FMO-1
\$34.95

This one instrument provides all the generator facilities you need for alignment of FM tuners and receivers! Three switch-selected frequencies (90, 100, and 107 mc) are provided for tracking adjustment of "front ends." A 10.7 mc crystal marker is provided to locate the center of the swept IF channel. Submarkers, 100 kc each side of the center marker, may be used to indicate bandwidth. A 400 cycle signal is available for checking audio stages or to modulate the 10.7 mc marker oscillator for an easy method of adjusting discriminator and ratio detector balance. 4 lbs.

Kit FMO-1... NO MONEY DOWN, \$5 mo. **\$34.95**

SPECIFICATIONS—Output frequencies... for RF alignment: 90, 100 and 107 mc, switch-selected. Modulation: 400 cycle incidental FM. For IF and detector alignment: 10.7 mc sweep. Sweep width: 200 kc to over 1 mc. Markers: 10.7 mc (crystal); 100 kc sub-markers. Modulation: 400 cycle AM. For other applications: 10.0 mc (crystal) and harmonics; 100 kc and 400 cycle audio. Tube complement: (2) 6U8. Power supply: Transformer, selenium rectifier. Power requirements: 105-125 V. 50/60 cycle, 12 watts. Cabinet size: 7 3/4" H. x 4 3/4" W. x 4 3/4" D.

Extended-range RF SIGNAL
GENERATOR Kit



- ▶ Large, easy-to-read dial scales
- ▶ Wide frequency range—100 kc to 220 mc
- ▶ Prewired/prealigned coil/bandswitch for easy assembly

RF-1
\$27.95

A basic instrument on any test bench, the Heathkit RF-1 with its expertly-engineered circuit offers you an accurate, wide range RF signal source at low cost. Signals are available from 100 kc to 110 mc on fundamentals in six bands, and up to 220 mc on calibrated harmonics. Three large easy-to-read dial scales allow precise frequency settings. Sine wave output is achieved with outstanding accuracy (2%) on all bands. Provides modulated (400 cps) or unmodulated output up to 100,000 microvolts, controlled by both step and continuously variable controls. Complete instructions for easy assembly and alignment tips for AM and FM tuners and receivers are included. 6 lbs.

Kit RF-1... NO MONEY DOWN, \$5 mo. **\$27.95**

SPECIFICATIONS—Frequency range: Band A, 100 kc to 320 kc; Band B, 310 kc to 1.1 mc; Band C, 1 mc to 3.2 mc; Band D, 3.1 mc to 11 mc; Band E, 10 mc to 32 mc; Band F, 32 mc to 110 mc. Calibrated harmonics: 110 mc to 220 mc. Accuracy: 2%. Output: Impedance, 50 ohms; Voltage, 100,000 uv. Modulation: Internal, 400 cps, 30% depth; External, approx. 3 V across 50 k ohms for 30%. Audio output: A approx. 10 V open circuit. Tube complement: (1) 12AT7, (1) 6AN6. Power requirements: 105-125 V 50/60 cycles AC, 15 watts. Dimensions: 6 1/2" W. x 9 1/2" H. x 5" D.



Align TV sets fast with this
reliable, time-proven
SWEEP GENERATOR

- ▶ All-electronic sweep circuit for high stability
- ▶ Built-in crystal and variable marker oscillators
- ▶ Complete FM and TV coverage—3.6 mc to 220 mc

TS-4A
\$54.95

Versatile, easy to operate and reliable! The TS-4A with its many special design features provides most of the essential generator facilities for alignment of FM, monochrome TV or Color TV sets. The all-electronic sweep circuit insures stability and covers 3.6 mc to 220 mc in four bands. Sweep deviation is smoothly controllable. The maximum deviation varies with center frequency between 4 and 42 mc. Crystal marker and variable marker oscillators are built in. Crystal (included with kit) provides output at 4.5 mc and multiples thereof. Variable marker provides output from 19 to 60 mc on fundamentals and from 57 to 180 mc on calibrated harmonics. Marker accuracy is assured for it is calibrated against the 4.5 mc crystal supplied. Effective two-way blanking eliminates return trace and a phasing control is also provided. RF output is well over .1 volt and is smoothly controlled to allow alignment of high gain stages without overloading. An outstanding TV test instrument value. 13 lbs.

Kit TS-4A... NO MONEY DOWN, \$6 mo. **\$54.95**

SPECIFICATIONS—Output impedance: 50 ohms terminated at both ends of cable. Sweep deviation: Continuously variable from 0-4 mc lowest max. deviation to 0-42 mc highest max. deviation (depending on base frequency). Marker crystal: 4.5 mc and multiples thereof. Variable: 19 mc to 60 mc on fundamentals, 57 mc to 180 mc on harmonics. External marker terminals: Provided on panel. Attenuators: Step-switch controls sweep and marker oscillators together, plus variable controls for each output. Blanking: Effective blanking eliminates return trace; phasing control also provided. Cables: 3 supplied, output, scope horizontal, scope vertical. Power requirements: 105-125 VAC, 60 cycles, 50 watts. Dimensions: 13" W x 8 1/2" H x 7" D.

Save over 50% on your **COLOR**
BAR and DOT GENERATOR
with Heathkit



- ▶ Crystal controlled frequencies
- ▶ Six patterns for Color or B & W
- ▶ 10 vertical color bars—new shading bar pattern

CD-1
\$64.95

Your best buy for TV service... perfect for Color and Black and White. Six patterns, switch-selected for picture adjustments... white dots, cross hatch, vertical or horizontal bars, 10 color bars and a special shading bar pattern for screen and background adjustments. No sync leads needed, the CD-1 has crystal-controlled sync pulses of the same rate as a TV station for locked in patterns that don't jitter or crawl. Any pattern may be selected without further adjustment of the receiver or generator after the initial setting. Color bars are produced by the off-set carrier method and allow AFC, phase and matrix alignment and include a white leading edge and black trailing edge to check color fit. The 13 tube circuit is easy to build with complete instructions for calibration furnished. Comprehensive instructions are provided on the use of the instrument in color TV work.

Kit is complete with 3 crystals and test leads. 12 lbs.

Kit CD-1... NO MONEY DOWN, \$7 mo. **\$64.95**

SPECIFICATIONS—RF output frequency range: TV channels 2 through 6. Output voltage: Variable from 100 to 100,000 microvolts. Sound carrier: Crystal controlled, unmodulated, 4.5 mc away from picture carrier; off-on switch provided. Video output: Positive or negative output variable from 0-10 volts peak-to-peak open circuit. Modulation: White dot pattern, cross hatch pattern, horizontal bars, vertical bars, 10 vertical color bars, shading bar pattern. Tube complement: 6-12AT7, 4-12AU7, 1-6BQ7, 1-6CS6, 1-OB2. Power requirements: 117 VAC, 50/60 cycles, 70 watts. Dimensions: 13" W. x 8 1/2" H. x 7" D.

Save 50% with Heathkit® Signal Generators

The functions of an AC VTVM, Wattmeter, and IM Analyzer are combined in this Heathkit

- ▶ Big savings over purchase of 3 separate instruments
- ▶ High frequency source built-in for IM tests
- ▶ Built-in load resistors for 4, 8, 16, and 600 ohms
- ▶ Big, easy-to-read meter—simplified switching



AA-1
\$54.95

Put this one instrument on your bench and you can measure power output, noise, gain, overload and intermodulation characteristics. All basic functions are performed using just the two sets of test leads furnished . . . no more clutter, no more massive array of instruments. Loads of 4, 8, 16, 600 ohms, and high impedance are built in. Low and high frequencies are provided within the instrument and can be taken out separately or mixed for IM measurements. 11 lbs.

Kit AA-1 . . . no money down, \$6 mo. **\$54.95**

SPECIFICATIONS—Frequency response—AC VTVM: 10 cycles to 100 kc ± 1 db. Wattmeter: 10 cycles to 50 kc ± 1 db. I.M. Analyzer high pass filter: 2000 cps to 12,000 cps. I.M. Analyzer low pass filter: 10 cps to 600 cps. Range AC VTVM: .01, .03, .1, .3, 1, 3, 10, 30, 100, 300 volts RMS full scale. DBM: -40, -30, -20, -10, 0, +10, +20, +30, +40, +50. Reads from -65 to +52 dbm. Wattmeter: 0.15 mw, 1.5 mw, 15 mw, 150 mw, 1.5 w, 15 w, 150 w, full scale. Maximum continuous power 25 watts, intermittent power to 50 watts. I.M. Analyzer: 1%, 3%, 10%, 30%, 100% full scale. Input impedance—AC VTVM: 1 megohm or 4, 8, 16 or 600 ohm switch selected. I.M. Analyzer: 1 megohm or 4, 8, 16 or 600 ohm switch selected. Wattmeter: 4, 8, 16 or 600 ohm internal load, 10,000 ohm across external load. Output impedance—low and high frequency output: 3000 ohm (600 ohm when shunted with 750 ohm resistor). Internal generator frequencies—low frequency: 60 cycles. High frequency: Approximately 6 kc. Accuracy—AC VTVM and wattmeter: Within 5% of full scale. I.M. Analyzer: Within 10% of full scale. Power requirements: 105-125 volts 50/60 cycles 20 watts. Dimensions: 13" W x 8 1/2" H x 7" D.

Continuously Variable Sine and Square Waves . . . Separately or Simultaneously

- ▶ Covers 20 cps to 1 mc in 5 bands
- ▶ Low source impedance
- ▶ Less than .25% sine wave distortion
- ▶ Less than .15 microsecond rise time on square waves



AG-10
\$49.95

Use the sine and square wave outputs simultaneously or use them separately . . . either way, the high quality outputs of the AG-10 are useful in audio, TV, hi-fi or general lab applications. Outputs are individually controllable for exact levels . . . oscillator is shielded and a special control is provided for tube difference compensation to assure minimum distortion . . . exact frequency calibrating system insures proper dial tracking . . . well-filtered power supply with silicon rectifiers and conservatively rated power transformer offers long life and dependable performance. Engineered for efficient, dependable performance, the AG-10 is an easy-to-build, low cost instrument of many uses. 12 lbs.

Kit AG-10 . . . no money down, \$5 mo. **\$49.95**

SPECIFICATIONS—Sine wave: Frequency range: 20 cycles to 1 mc. Output volts (RMS): 0 to 10 volts, 0 to 1 volt, 0 to .1 volt, or 0 to .01 volt when working into a high impedance load. Source impedance: ($\pm 10\%$): 10 volt range, 0 to 3.5 k ohm; 1V, .1V, and .01V range, 600 ohm. Distortion: Less than .25%, 20 to 20,000 cycles. Frequency response: ± 1.5 db 20 cycles to 1 megacycle. Square wave Frequency range: 20 cycles to 1 mc. Output volts: ($\pm 5\%$): 0 to 10 volt, 0 to 1 volt, 0 to .1 volt, into a high impedance load. Source impedance: ($\pm 10\%$): 10 volt range, 0 to 220 ohm; 1V and .1V ranges, 52 ohm. Rise time: less than .15 microsecond. General: Frequency accuracy: $\pm 5\%$. Power requirements: 105-125V AC, 50/60 cycles, 55 watts. Dimensions: 13" W, x 8 1/2" H, x 7" D.

Resettable Audio Signals with less than 1/10 of 1% Distortion . . . Heathkit AG-9A

- ▶ Switch-selected output, 10 cps to 100 kc
- ▶ .1 of 1% distortion, 20 to 20,000 cps
- ▶ $\pm 5\%$ accuracy of output and frequency indicators
- ▶ Built-in 600 ohm load



AG-9A
\$39.95

With the AG-9A as a signal source you can practically forget about input variations and distortion when working with audio circuits. This uniquely designed instrument features three rotary switches that select two significant figures and a multiplier to determine audio frequency. Frequency can be varied in steps of 1 cps from 10 cps to 100 cps and a 4-position multiplier increases this range in multiples of 10 for an overall range of 10 cps to 100 kc. Accuracy is well within $\pm 5\%$ and distortion is less than .1 of 1% between 20 and 20,000 cps. Output is indicated on a large 4 1/2" panel meter calibrated in volts and decibels. The output attenuator operates in steps of 10 db and is calibrated in 8 full scale meter ranges. A slide switch allows selection of built-in 600 ohm load or external load of higher impedance. A wonderfully engineered kit you will enjoy using. 7 lbs.

Kit AG-9A . . . NO MONEY DOWN, \$5 mo. **\$39.95**

SPECIFICATIONS—Frequency: 10 cps to 100 kc, switch selected, 2 significant figures and multiplier. Output: 6 ranges 0 to .003, .01, .03, .1, .3, 1 volts RMS into external 600 ohm load or with internal load into Hi-Z. 2 ranges 0 to 3, 10 volts RMS into a minimum of 10,000 ohms, -60 db to +22 db in 8 steps -60 db to +2 dbm (0 dbm = 1 mw to 600 ohms). Distortion: less than 1%, 20 to 20,000 cps. Tubes: (1) 6AU6, (1) 6CL6, (1) 6X4. Power: 105-125 volts AC, 50/60 cycles, 40 watts. Dimensions: 9 1/2" W, x 6 1/2" H, x 5" D.

Here's a Low Cost Way to Fast, Easy Distortion Measurements

- ▶ Measures distortion from 20 to 20,000 cps
- ▶ Measures signal-to-noise ratio in DB
- ▶ Meter calibrated in volts RMS, % distortion and DB
- ▶ Easy to build and operate



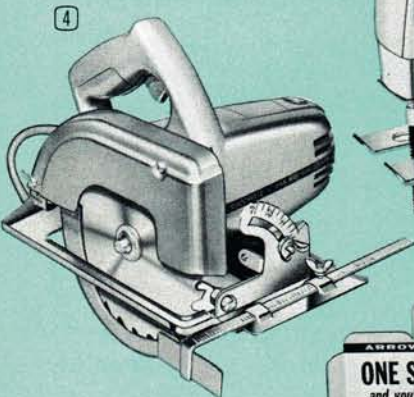
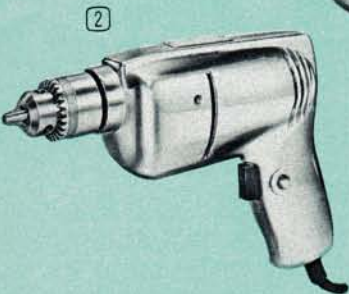
HD-1
\$49.50

Just connect the HD-1 to the output load of the amplifier under test, put a sine wave into the amplifier from a Heathkit AG-9A or AG-10 generator, and you are ready to measure distortion quickly and easily with high accuracy. And you can check distortion in portions of amplifiers, receivers, transmission lines, and speakers! Through thoughtful engineering, the Heathkit HD-1 Distortion Meter reduces the complex and costly equipment usually used for distortion measurements into a simple and easy to build unit of low cost, good accuracy and stability that is easy to use. Distortion figures are read directly on the meter scale; signal to noise figures are read on a separate scale calibrated in DB. Sensitivity and accuracy are assured by high impedance input and 1% resistors. 11 lbs.

Kit HD-1 . . . no money down, \$5 mo. **\$49.50**

SPECIFICATIONS—Frequency: 20 cps to 20,000 cps in three ranges. Distortion: 1, 3, 10, 30, 100% full scale. Voltmeter: 1, 3, 10, 30 volts full scale. Input resistance: 300 k ohm. Minimum input voltage for distortion measurements: 0.3 volts. Output voltage for monitoring: 2.5 volts at full scale meter reading. Accuracy: Voltmeter, $\pm 5\%$; Distortion $\pm 5\%$ of full scale, $\pm 0.1\%$. Tube complement: 6A2, 6X4, 5879, 12AT7, 12AX7, 12BY7. Power requirements: 105-125 V, 50/60 cycles AC, 30 watts. Dimensions: 13" W x 8 1/2" H x 7" D.

Specially Selected "Extra Value" Home Accessories



This special four-page section is devoted to related products for use by hobbyists. These products represent good value and are selected only after careful examination of many similar items. All products are guaranteed and may be purchased on Heath's no-money-down time pay plan.

1 SHOPMATE (740GC) 1/4" ELECTRIC DRILL
 • Precision 3-jaw, geared chuck with key • Lock-type trigger switch • Pistol grip • Powerful 2.6 amp motor • 2000 rpm. Power and performance make this an outstanding buy in 1/4-inch capacity drills. Beautifully designed, precision balanced. Lightweight aluminum die-cast housing with mirror finish. High torque for fast drilling action. Smooth power transmission provided by special oil-retaining bronze bearings. Cool operating temperature maintained by large turbo-type fan and ample air louvers. Takes all twist-lock attachments.
 GDP-251... 4 lbs. **\$10.88**

2 SHOPMATE (748) 3/8" ELECTRIC DRILL
 • 50% more torque than 1/4" drills—1000 rpm • Precision 3-jaw, gear type chuck with key • Instant release lock-type trigger switch. For drilling jobs requiring greater chuck capacity, greater torque, and low motor speeds. Capacity is a full 3/8" in steel, 1/2" in hardwood. Ideal for such jobs as tight quarter drilling in masonry, steel, concrete, etc. Heavy-duty double reduction gears.
 GDP-261... 4 lbs. **\$13.88**

3 SHOPMATE (SJ581) PORTABLE JIG SAW
 • Dynamically balanced for vibration-free performance • Cuts on a 45° bevel on either side • Powerful 2.1 ampere Motor. No other portable power tool matches the versatility of a portable jig saw. Cuts everything from metal to leather! Can easily cut a full 2 x 4... do delicate scroll work... or make perfect circle cuts up to 17 inches in diameter. No need to drill holes for inside cuts... It makes its own starting hole! Powerful air jet keeps cutting area free of chips. Complete with 8" rip and circle cutting guide, and 3 blades.
 GDP-271... 5 lbs. **\$16.88**

4 SHOPMATE PORTABLE POWER SAWS (SC7100BM & SC600M)
 • Automatic safety clutch • Blade guard • Self-lubricating bronze bearings • Bevel, depth and rip guide adjustments. An ideal saw for carpenter or home owner. Lightweight, easy to handle. Perfect for overhead cutting work, cutting panels, sheathing, all interior trim. Automatic safety clutch eliminates kickback, increases motor life up to 15 times. Strong aluminum die-cast housing. Comfortable saw type grip with trigger switch.
 GDP-291 6" SAW (5 amp motor)... 11 lbs. **\$19.95**
 GDP-301 7" SAW (7 amp motor)... 14 lbs. no money dn., \$5 mo. **\$29.88**

5 ARROW (T50MP) MULTI-PURPOSE TACKER KIT
 • 1001 fastening uses • Takes six staple sizes • Powerful drive with minimum squeeze pressure • All steel construction • Chrome finish. This all-purpose tacker shoots a staple wherever you'd drive a nail. Perfect for putting up a ceiling tile, insulating, wire fencing, upholstering and woodworking. Takes six staple sizes, 1/4", 3/8", 1/2", 5/8", 3/4" and ceiling tile staples. Ideal for do-it-yourselfers and carpenters. Kit includes rugged staple gun, staple lifter, box of assorted staples, and three attachments for screen, window shade and wire.
 GDP-311... 6 lbs. **\$14.57**

6 SHOPMATE (K280CM) OSCILLATING SANDER
 • Orbital sanding action • Finger indented hand grip • Tough, silver luster finish • Power packed 2 amp. motor. Lightweight, easy to handle! Perfect for finishing, polishing, or rubbing operations on metals, plastics, compositions, and wood, the 3/8" orbital motion produces a satin smooth finish free of score marks. Large 7 1/2" x 3 1/4" sanding surface. 9 abrasive sheets and lambswool polishing bonnet included.
 GDP-281... 6 lbs. **\$16.88**

7 CORDOMATIC (510D) PORTABLE OUTLET REEL
 • Reel provides neat storage of cord when not in use • 15' retractable cord • Locks and retracts automatically • 10 amp rating. Here's a happy solution to your electrical outlet shortage problem. Just plug in cord and carry the 3-way outlet to work area. Provides 3 outlets to operate several appliances, tools or other electrical equipment from the same cord. Cord rewinds after use to eliminate dangling, hazardous extension cords. Ideal for use indoors or outdoors. Quality built for long life. U/L approved.
 GDP-32... 3 lbs. **\$6.72**

8 CORDOMATIC (500) HANDY-LITE REEL
 • Portable light and electric power • 20' retractable cord • Reel locks... retracts automatically • Wall or ceiling mount • Handy electric outlet in handle • Underwriters approved • 7 amp rating. Handy drop cord and light provide light and power where and when you want it. Eliminates inconvenience and hazards of tangled cords. 20' cord pulls out to any length, locks and retracts automatically after using. Reel mounts on wall or ceiling... requires no junction box, plugs into nearest outlet. Handy outlet in light handle provides power for portable electric tools, etc. Ruggedly built for lifetime use! For home, workshop, basement, garage, attic, garden or patio.
 GDP-22... 5 lbs. **\$6.72**

9 CORDOMATIC (500LA) MULTIPLE-OUTLET REEL
 • Heavy-duty reel mechanism • Mounts on wall or ceiling • 3-way outlet • Universal swivel mount • U/L approved • 7 amp rating. Handy 20' extension cord stores neatly out-of-the-way when not in use... pulls out to provide power for appliances, tools, etc., wherever desired. Gravity mechanism locks cord in position... rewinds it automatically out-of-sight. Ideal for use in home or shop. Heavy gauge steel construction for rugged use. 3-way outlet permits operating several appliances from same cord.
 GDP-42... 4 lbs. **\$5.99**

Special Household Accessories



- 1 CLEAR BEAM "DURA-GOLD" (FM44K) FM ANTENNA KIT**
 • Receives from any direction • 5 year guaranteed corrosion proof • 300 ohm impedance • Complete installation kit. Improved turnstile antenna. Crossed dipoles separated with quarter wave matching harness for perfect 360° polar pattern and exact 300 ohm match. Receives up to 40 miles away from any direction. Kit includes dipoles with complete installation kit with 5' mast, lead-in wire and all necessary hardware. Finished in corrosion proof Dura-Gold. Weight 4 lbs.
 ADP-52..... **\$6.95**
- 2 CLEAR BEAM "SONIC-TONE" (D8FMK) FM ANTENNA KIT**
 • Dual-driven FM broad-band • Long-life Dura-Gold Finish Dipoles • Eight elements • Complete kit for installation. There are eight elements in this Clear Beam FM Yagi array . . . five directors, two driven dipoles and a reflector. Special design blocks reflected (distorted) signals from reaching your FM tuner and provides the highest gain reception available, pulling in signals up to 200 miles from the station. Kit includes antenna, 5' mast, lead-in wire and all necessary hardware. Weight 10 lbs.
 ADP-62..... **\$12.50**
- 3 BLONDER TONGUE (BTC-99R) UHF CONVERTER**
 • Makes any TV set a modern 82 channel receiver • Easy installation at terminals of TV set • Speedy, Accurate one knob tuning. Provides brilliantly clear TV pictures on all UHF channels 14 through 83. Output on VHF channels 5 or 6. Easy installation at antenna terminals of TV set. Provides drift and distortion-free performance with double-tuned UHF inputs and shielded oscillator section. Precise impedance match gives maximum signal conversion power. Easy one knob tuning . . . no VHF channel switching.
 GDP-142 . . . 4 lbs..... **\$16.41**
- 4 BLONDER TONGUE (BTU-2S) UHF CONVERTER**
 • Most powerful UHF converter available • Provides 5 to 8 db gain • Dual-speed channel selector • Easy installation at antenna terminals of TV set • Covers UHF channels 14 to 83. Provides clear, sharp UHF reception even in difficult reception areas. Easy installation at antenna terminals of any standard TV set. Output on VHF channels 5 or 6. Features dual-speed channel selector with direct and fine tuning controls. Maximum signal power conversion with low noise frame-grid amplifier and precise 300 ohm impedance match. Double tuned inputs and shielded oscillator circuit provide sparkling picture quality.
 GDP-152 . . . 4 lbs. . . . no money down, \$5 mo. **\$27.44**
- 5 BLONDER TONGUE (BTA) TV/FM SIGNAL BOOSTER**
 • Provides 7 to 9 db boost in signal power • 300 ohm input and output • Small, compact size—easy to connect. Ideal for fringe area FM or TV set owners. Provides 7 to 9 db boost in signal power for improved FM reception or clearer, sharper TV pictures. No controls or adjustments necessary. Completely factory assembled ready to use. Simple screwdriver connections with stripless terminals for quick hookup on standard 300 ohm lead-in wire. Operates on 110-120 v., 60 cycle AC. Measures 2½" x 6¼" x 3¼".
 GDP-321 . . . 2 lbs. **\$12.69**
- 6 BLONDER TONGUE (IT-3) TRANSISTORIZED TV/FM BOOSTER**
 • Provision for up to four TV and/or FM sets • All transistor circuit • 300 ohm input and output • Easy to install—no adjustments • Stripless terminals for fast hookup. Features an all-transistor circuit for dependable trouble-free performance. Delivers amplified, noise-free signals for up to four sets on a single antenna. Isolated outputs prevent interaction between sets. Operates automatically . . . no controls or adjustments required. Easy to install . . . just connect to antenna terminals and place in back of TV set. Stripless terminals for fast connection to standard 300 ohm lead-in wire. Operates on 110-120 v., 60 cycle AC. Measures only 1½" x 6¼" x 3¼".
 GDP-331 . . . 1 lb. **\$19.60**
- 7 ELECTRO-VOICE MUSICASTER HI-FI SPEAKER**
 • 30 watt power handling capacity. An exceptionally compact, wide-range, integrated loudspeaker for indoor or outdoor use. All parts are weatherproofed for reliable operation under any conditions. Folded-horn design provides phenomenal bass response and high frequencies are smoothly reproduced from the exclusive Radax dual-cone driver assembly. Covers 60 to 13,000 cps for wide range music, and crisp, clear speech. Handles 30 watts program material, 60 watts peak. 8 ohm impedance. Built-in 3500 cps crossover. Mounting bracket converts to carrying handle. Measures 21¼" H x 21¼" W x 8¼" D.
 ASP-32 . . . 34 lbs. . . . no money down, \$6 mo. **\$52.92**
- 8 ELECTRO-VOICE (LT-12) 3-WAY SPEAKER**
 • Perfect for Heathkit AE-30 & AE-40 speaker cabinets • 40 to 18,000 cps response • Powerful 12 oz. ceramic Indox magnet • Built-in crossover network • Rigid die-cast frame • 3-position "Brilliance" switch. Incorporates most recent design features for rich, full-range high fidelity sound reproduction. Actually three speakers in one! Sonophase® VHF driver for extreme high's, extended bass response from 12" woofer with powerful Ceramic Indox magnet and carefully tailored mid-range for presence with Radax® coaxial cone. Together, they establish a degree of musical balance previously unattainable in a single, low-cost loudspeaker. A three-position "brilliance" switch permits matching of response to room acoustics. Quality built with rigid die-cast frame.
 ASP-12 . . . 10 lbs. . . . no money down, \$5 mo. **\$28.91**
- 9 TELEX HDP-53A HIGH FIDELITY STEREO HEADPHONES**
 • Excellent reproduction, 30-15,000 cps response • Soft, foam rubber ear muffs • Lightweight—fully adjustable. Perfect for private high fidelity listening! Provides thrilling reproduction with full depth and direction for exciting stereo realism. Listen for hours without tiring. Headset is lightweight and fully adjustable for perfect fit. Soft, foam rubber ear muffs keep external noises out for superb listening. Use with any stereo or monophonic high fidelity system. 8 ohm impedance. Complete with cord and 3-circuit plug.
 ADP-71 . . . 2 lbs. **\$23.95**
- 10 VICTOREEN (61720) FALLOUT DETECTION METER KIT**
 • Factory calibrated • Hermetically sealed ionization chamber • Direct reading 2½" meter • Easy to build—just 4 wires to solder • Kit form exclusive with Heathkit • Simple, on switch operation. Measures gamma radiation dose rates as high as 500 roentgens per hour in three switch-selected ranges (0-5, 50, 500). Ionization chamber is hermetically sealed to eliminate changes in sensitivity due to altitude, temperature or moisture changes. Ruggedized 2½" meter gives instant direct readings of radiation level. Circuit is transistorized for dependability. Operates over 150 hours on two standard size "D" cells. Housed in rugged metal case. An exceptionally fine instrument at this low Heathkit price.
 GDP-12 . . . 5 lbs. . . . no money down, \$5 mo. **\$39.95**
- 11 BENDIX FAMILY RADIATION MEASUREMENT SET**
 • Simple to use—direct reading • Rugged and reliable • Pocket size • Low in cost • Factory assembled. Certified by Bendix to meet or exceed Office of Civil Defense Mobilization specifications. Set consists of Ratemeter to measure dose rate (0-120 R/hr. 0-12 R/hr.), Dosimeter to measure total accumulated radiation (0-600 roentgens) and a Charger to reset instruments. Complete instructions on use and operation included. Lightweight sensing elements have pocket clips for easy carrying. Easy to use.
 GDP-341 Complete set: . . . 3 lbs. . . . no money down, \$5 mo. **\$24.95**
 GDA-341-1 Dosimeter only . . . 1 lb. **\$11.25**
 GDA-341-2 Ratemeter only . . . 1 lb. **\$11.25**

Specially selected Marine Equipment values

1 KIDDE KOMPACT FIRE EXTINGUISHER (MODEL 2½ DCK)

Kidde's latest and the industry's best! Combines best known extinguishing agent, dry chemical, with most efficient expelling method, pressurization, to assure high initial knockdown and rapid extinguishment. Convenient handle, single finger control. Recharging is simple; just unscrew and discard expended recharge cylinder and replace with fresh one. Capacity 2½ lbs. UL Rating 4-B-C. Height 14 in. Diameter 3 in. Approved by U.S. Coast Guard for marine use and meets requirements of Interstate Commerce Commission. Wt. 5 lbs.

Model MDP-12 \$10.99
Model MDP-22 (refill) \$3.95

2 UPSON/RUGBY RUBBER LANTERN-SEARCHLIGHT

It Floats • Waterproof • Shockproof • Rustproof • Unbreakable • Guaranteed. If you like great value, you'll want the Rugby lantern. It serves you faithfully . . . guaranteed waterproof, rustproof, shockproof, and unbreakable. It actually floats in fresh or salt water. Thick, tough rubber casing; no exposed moving parts; interior of cadmium plated steel; plastic lens complete with adjustable sealing ring. Uses 6 volt battery (not included). 4 lbs.

Model MDP-61 \$10.50

3 AIRGUIDE 1245 MARINE CLOCK

Chrome plated case • 8 day movement • 12 and 14 hour markings. Always a popular piece of nautical fitting, this 8-day, 7-jewel marine clock has a chrome plated die-cast case with white details on a black dial for the 12-hour scale and black details on a white dial for the 24-hour scale. Flange diameter is 4 inches, dial 3 inches. Matches the Airguide marine barometer and speedometer. 2 lbs.

Model MDP-41 . . . no money down, \$5 mo. . . . \$23.75 plus 10% F.E.T.

4 AIRGUIDE 93B RAINBOW MARINE COMPASS

Black Wrinkle-finish Case • Illuminated • Smooth and Steady. This is one of the finest. Big half-point and 5 degree card is easy to read, smooth and steady, mounted in internal gimbals. Compensator magnets mounted in smooth running nylon gears for precise correction. Provision is made for rheostat-controlled lighting. U-bracket allows desired positioning athwartship; bracket may be turned for mounting in line with keel. Die-cast base measures 6" W x 6½" H x 5" D. 4 lbs.

Model MDP-31 . . . no money down, \$5 mo. . . . \$35.62

5 AIRGUIDE 245 MARINE BAROMETER

Chrome plated case • Calibrated in inches and millibars. Designed for dependable nautical service, this sturdily constructed marine barometer has a chrome plated die-cast case with white details on a black dial. Calibrations on the dial are in inches and millibars of pressure. Flange diameter is four inches; the dial diameter is three inches. Matches the Airguide Marine Clock and Speedometer shown for a coordinated panel. Weight 2 lbs.

Model MDP-51 \$9.50

6 AIRGUIDE 50 MPH CONTRALOG 906 SPEEDOMETER SET

Chrome plated case • Everything included for installation to provide smooth, accurate performance. Everything you need for a complete installation is included in the set: the 50 MPH back-connected speedometer, 16 feet of plastic tubing, an over the transom pickup unit with a molded nylon pitot, and all the hardware. The chrome plated case has a four inch flange diameter and a three inch dial diameter to match perfectly with the other Airguide instruments shown. The black and white dial has one mile-per-hour graduations with a red pointer. Weight is 4 lbs.

Model MDP-11 \$13.25

7 AIRGUIDE 76 DASH COMPASS

Chrome plated case • Illuminated • Jeweled movement. This unique compass was designed for dash mounting on your boat. Ideal to give the finishing touch to your boat's instrument group, this handsome compass matches the Airguide Marine Clock, Barometer, and Speedometer in size and shape. Chrome plated die-cast base is four inches in diameter. The jeweled movement has built-in compensators. Has wired socket for battery powered lighting. Requires 2½" hole to recess compass mechanism in rear. Weight 2 lbs.

Model MDP-21 \$9.45

8 ELECTROTONE C-20-M BATTERY CHARGER

Ammeter Monitor • Circuit-breaker • 2 to 3 amp. current. Ideal for overnight charging, this compact charger is capable of delivering 3 amps. Uses full-wave, high density selenium rectifiers. Has a selector switch for 6 and 12 volt batteries. An ammeter continuously monitors the rate of charge. An automatic-reset circuit breaker provides complete protection of both charger and battery. The "Super-grip" copper-plated clips for direct battery terminal charging will handle 50 amps. The instrument case is louvered for cool operation and has a black anodized handle for easy carrying.

Model GDP-112 . . . 4 lbs. . . . \$9.58

9 ELECTROTONE C-60 BATTERY CHARGER

Professional Ammeter • Circuit-Breaker • 6 to 8 amp. current. This heavy duty battery charger will deliver up to 8 amps. Uses full-wave, high density selenium rectifiers. A slide-type switch selects either 6 or 12 volt output. The ammeter continuously monitors the rate of charge. The automatic-reset circuit breaker provides protection for both charger and battery. "Super-grip" copper-plated 50 amp. clips permit direct battery terminal charging. The wrinkle-finish cabinet is perforated for cool operation and has a black anodized handle for carrying purposes.

Model GDP-122 . . . 8 lbs. . . . \$14.73

10 ELECTROTONE C-100 BATTERY CHARGER

Three Charge Rates • Voltmeter and Ammeter • "Off" Switch • Charges through cigarette lighter socket • Pilot Lights. Here is the battery charger that will fulfill every charging need regardless of battery condition, weather or periods of inactivity. The charge-selector chooses three charging rates . . . "slow" to maintain a fresh battery over long periods of inactivity . . . "medium" for a normal charge to prevent sluggish performance . . . "fast" for the battery that must get going fast (recharges a dead battery in three hours; provides enough charge to start engine in ten minutes). Delivers up to 10 amps. Professional ammeter monitors rate of charge. Voltmeter checks dynamic condition of battery, shows if battery is 6 or 12 volts, and indicates the cut-off setting of the generator. Easy to use, just plug it into the cigarette lighter socket to charge the battery; or use the copper-plated 50 amp clips directly on the battery terminals. 3-Way toggle switch selects 6 volt, 12 volt or "off" positions with amber and red pilot light indicators. Selenium Rectifiers. Circuit breaker protection. Louvered cabinet with satin chrome handle.

Model GDP-132 . . . 10 lbs., no money down, \$5 mo. . . . \$28.68



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Complete! . . . tool set included free!

Easy circuit board assembly

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Attractive long-wearing simulated leather case

An outstanding transistor portable radio value! Performance and tone quality far exceed units in similar price range! Assembly is simple! . . . easy to follow instructions and clear pictorial diagrams guarantee your success. All parts mount on a clearly marked circuit board that minimizes the possibility of wiring errors and assures high circuit stability. Coil and I.F. transformers are pre-aligned to exacting factory standards so it is ready to play the moment assembly is completed.

Everything is provided to make this kit as much fun to build as it is to use! Kit includes all parts for radio, a 9-volt battery and all the tools required for assembly. The deluxe 6-transistor superheterodyne receiver features a full-size built-in ferrite rod antenna to pick up distant stations with ease, a large 4" x 6" permanent magnet speaker for amazing tone quality and a special over-load diode for clear, distortion free reception. A single 9-volt cathodic envelope battery pack (included) powers the set 500 to 1000 hours! You'll use this handsome portable everywhere you go!

Kit GR-151, Radio & Tool Set... 5 lbs. **\$21.95**



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100 KC Crystal Calibrator, HD-20, p-73	14.95
10 meter Amateur Band Transceiver, HW-19, p-70	39.95
6 meter Amateur Band Transceiver, HW-29A, p-70	44.95
2 meter Amateur Band Transceiver, HW-30, p-70	44.95
Mobile Amateur Transmitter, MT-1, p-65	105.95
RF Power Meter, PM-2, p-74	12.95

TEST INSTRUMENTS

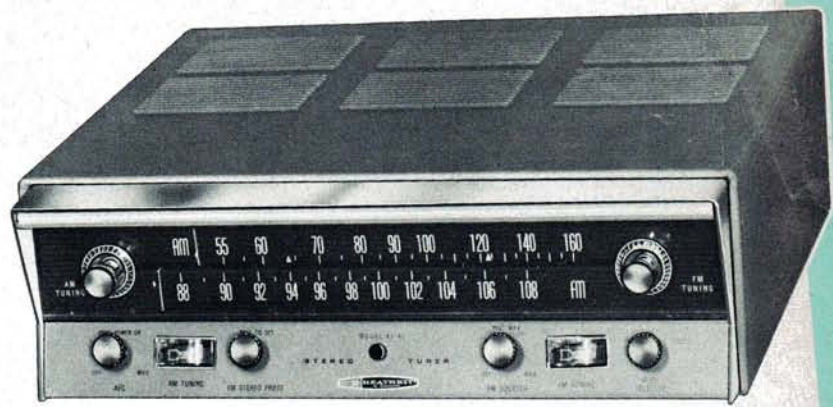
Condenser Checker, C-3, p-81	\$ 19.50
Condenser Substitution Box, CS-1, p-90	5.50
"In-Circuit" Capaci-Tester, CT-1, p-81	10.95
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ES-Series Advanced Modular Analog Computer, p-93	945.00
Impedance Bridge, IB-2A, p-91	69.95
Laboratory RF Generator, LG-1, p-86	48.95
Handitester, M-1, p-76	19.95
20,000 ohms/volt VOM, MM-1, p-76	33.95
"Space Saver", 3" DC Oscilloscope, IO-10 p-95	79.95
"General Research" 5" DC Scope, OR-1, p-97	119.95
"Q" Meter, QM-1, p-91	54.95
Resistance Substitution Box, RS-1, p-90	5.50
Electronic Switch Kit, S-3, p-97	21.95
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Signal Tracer, T-4, p-90	19.95

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Announcing the Most Advanced Tuner in Heathkit History . . .
The New AJ-41 Receives AM, FM, AND STEREO FM MULTIPLEX!

Here's the kit tuner you've asked for . . . the new Heathkit AJ-41! It's unique in features, versatile in performance, high-quality in design, and in keeping with the Heathkit tradition, a fine value. With the AJ-41 you choose your favorite source of broadcast entertainment . . . AM, FM, and FM Stereo! It's complete . . . self-contained . . . with built-in Stereo FM Multiplex Adaptor . . . just plug it in, connect an antenna and your stereo amplifier, and you're ready for any mode of broadcast. With the Automatic Stereo Indicator light you put an end to needless checking to see if the FM station you are listening to is broadcasting in stereo . . . the light will tell you automatically! The new FM Squelch circuit "hushes" the rushing noise usually heard between stations when tuning across the band. Adjustable Automatic Frequency Control allows you to set the amount of control you need for drift-free listening. For accurate station tuning, the improved action of the individual tuning meters for AM and FM bands is invaluable.



AJ-41 \$119⁹⁵



Note These Outstanding Performance Features:

- ▶ Built-in FM multiplex adaptor
- ▶ Broad-band circuitry for full fidelity
- ▶ Automatic stereo indicator light
- ▶ Adjustable FM squelch circuit
- ▶ Stereo phase control for maximum separation
- ▶ Adjustable AFC
- ▶ Individual tuning meters for AM and FM
- ▶ Filters for stereo tape recording
- ▶ Cathode follower outputs
- ▶ Preassembled tuning unit, prealigned coils
- ▶ Easy circuit board construction

To assure top quality results from your stereo tape recording, the AJ-41 outputs have special filters which eliminate the possibility of beat-frequency notes being recorded. Outputs are the cathode-follower type which provide low line impedance to minimize hum pickup and high frequency losses in long cables. For monophonic use both outputs are "tied" together to supply the same information to both left and right channels of your stereo amplifier system.

Styling is in the Heathkit Deluxe motif of luggage-tan vinyl-clad steel cabinet with polished anodized trim. The big slide-rule dial is refraction-lighted for a soft, glare-free, easy-to-see surface.

Whether you choose the easy-to-build kit model which uses three circuit boards for high stability and uniformity (as well as greatly speeding construction) or the factory assembled model, you choose years of fine radio reception with the Heathkit AJ-41. See full specifications on page 18 of this issue and order yours now.

Kit AJ-41 . . . no money down, \$11 mo. \$119.95
Assembled AJW-41 . . . no money down, \$18 mo. \$189.95

All prices quoted are Net F.O.B. Benton Harbor, Michigan, and apply to United States and Possessions only.
 Prices herein effective March 1, 1962
 All prices and specifications subject to change without notice.
 Dealer and export prices slightly higher.

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