

• *FLASH*—see back cover for details on FM Multiplex.

HEATHKIT®—the value name in electronic kits

- top quality • low price • easy to build
- guaranteed performance • over 200 kits



HEATH COMPANY BENTON HARBOR, MICHIGAN
Plant Location: St. Joseph, Michigan

a subsidiary of
DAYSTROM, INCORPORATED

I guarantee you can build any Heathkit!



We often get letters from people who want to buy Heathkits but hesitate because they think that they do not have the ability to build a kit product. If you are one of those people, let me reassure you . . . our "check-by-step" instructions are so clear, so well illustrated and so easy to follow, I can give you my personal guarantee that you can build any Heathkit. Our millions of satisfied customers make this guarantee possible, for the great majority of them have no technical backgrounds, yet they have successfully completed their Heathkits.

And when you build a Heathkit you will discover that it's fun! Your Heathkit offers you a relaxing challenge, a real sense of accomplishment, and tangible results you can enjoy for years. And your Heathkit offers two other all-important attributes that are rather unique today . . . finest quality at a money-saving price.

Over the years, our customers have built several million Heathkits. This recognition of Heathkit quality has made our company the world's largest manufacturer of electronic products in kit form. Our employees, many of whom have been on the job for ten to twenty years, continue today with the same individual pride in their workmanship, design, and service that established the Heathkit quality reputation at the outset. Because of our volume and our dedicated workers, Heath can continue to offer you the highest quality merchandise at the lowest possible price.

Order your Heathkit today, confident that you can build it, because we guarantee it. Find out for yourself why Heathkit is the recognized standard of quality and value throughout the world.

Allen W. Greene

PRESIDENT

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.

Do-It-Yourself with an easy-to-build Heathkit®



PROMPT, EFFICIENT SERVICE is a by-word at Heath. Your order receives same-day service from our large office staff and complete shipping facilities (a Post Office in our plant, Express trucks at our door).



AS YOU UNPACK YOUR KIT you'll see that only high quality parts are used. Over the years Heathkit equipment has earned a reputation of being second to none in over-all quality and performance. Everything guaranteed!



YOU'LL BE AMAZED at how easy your Heathkit is to assemble. The manual is written in everyday language with a "check-by-step" instruction system. Large pictorial diagrams show exactly where every part goes.



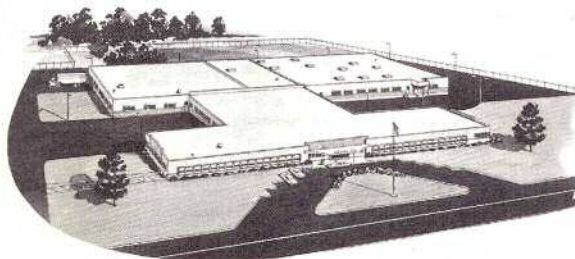
YOU'LL FIND AN ENJOYABLE HOBBY in building your Heathkit. Fun-filled hours working with your hands are in store for you. And you'll gain a knowledge of the functions and capabilities of your equipment.



YOU CAN DEPEND on your Heathkit for years of trouble-free performance. And we are ready to help at any time; our Technical Consultants will answer any questions, our Service facilities are always available.



YOU ARE REWARDED in many ways when you complete your Heathkit. You save up to 50% of the cost of ready-built equipment, you have the fun of building, and the pride and satisfaction of personal accomplishment.



HOME OF HEATHKIT . . . from this large, modern plant on the shores of Lake Michigan comes the finest in electronic equipment . . . Heathkit . . . another of the many product lines of Daystrom, Incorporated . . . a world-wide organization dedicated to serving you, our nation, and industry. When near St. Joseph, Michigan, we invite you to tour the Heath plant and visit our demonstration room where the latest Heathkit equipment is on display.

INDEX (see center pages for special Discount Sale)

GENERAL PRODUCTS

All-band transistorized receiver	29
Citizen's-band transceivers	8, 9
Educational electronic kits	13
*FM table radio	4
*Garage door opener	6
Ignition analyzer	6
*Ignition timing light	6
Portable radios	7
Portable stereo phonograph	4
Portable stereo tape recorder	4
*Public address systems	7
Reverberation system	7
Science series	12

Telephone amplifier	7
-------------------------------	---

MARINE GEAR

Depth sounder	11
Direction finder	11
Marine power converter	11
*Marine Radio-telephone	10
Transceivers, citizens-band	8, 9

HIGH FIDELITY

*Amplifiers, stereo & monophonic	19 to 23
Cabinets, hi-fi equipment	26, 27
Console stereo phonos	5, 26, 27
Hi-fi/stereo systems suggestions	28

Record changers	15
Record players	14
Speaker systems	24, 25
Stereo portable phonograph	4
Stereo tape recorders & players	4, 18
*Tuners, stereo, AM, FM	16, 17

AMATEUR RADIO

Adapter, single sideband	33
Kilowatt amplifier, self-contained	33
Receivers, fixed and mobile	29, 30
Transceivers, 2, 5 & 10 meter	32
Transmitters, fixed & mobile	31, 32, 33
Power supplies	30

TEST EQUIPMENT

Audio generators	36
Computer	39
FM generator	37
Mutual conductance tube tester	36
Oscilloscopes	38, 39
Power supplies	35
RF generators	37
Signal tracer	36
Transistor rectifier checker	35
Vacuum tube voltmeters	34

*New Products

AUTHORIZED HEATHKIT SERVICE CENTERS

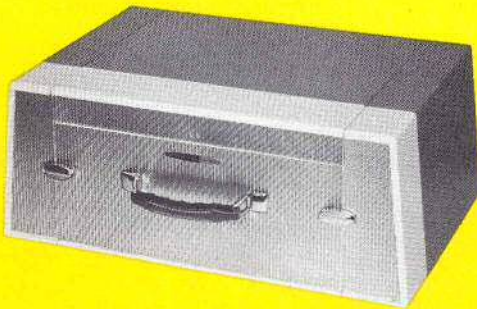
CALIFORNIA: Sound Service Co., 1015 S. Figueroa, Los Angeles 15; Radio Electronics, 350 Jones St., San Francisco 9. **COLORADO:** Applewood Electronics, 2090 Alkire St., Denver (Golden). **ILLINOIS:** Expert Electronics, 7110 S. Rockwell, Chicago. **MASSACHUSETTS:** Park Armature, 1218-30 Columbus Ave., Boston 20. **MISSOURI:** Scherrer Instruments, 5449 Delmar

Bldg., St. Louis, 12. **NEW YORK:** Empire State Elec. Service, 139-40 Hillside Ave., Jamaica 35. **TEXAS:** Nelson Electronic Engineering Co., Inc., 6329 Gaston Ave., Dallas; and 3615 Gulf Freeway, Houston. **WASHINGTON:** A & R Service Co., 2139 Second Ave., Seattle.

Whatever your stereo needs - Heathkit® has the



Kit Form
or
Factory
Assembled



Amazing PORTABLE STEREO TAPE RECORDER

- 4-Track Stereo Record and Playback
- Includes All Amplifiers and Speakers
- 2 Speeds— $3\frac{3}{4}$ " and $7\frac{1}{2}$ "
- Beautifully-styled in Turquoise and White

Enjoy stereo 4-track record and playback with the added convenience of portability. The AD-40 is completely self-contained, having *all* of its own preamplifiers, power amplifiers and speakers. Simple to operate, two controls give instant selection of "record," "play," "fast-forward," and "rewind" functions. Individual tone-balance and level controls. Monitoring switch for listening to programs *as they are recorded*. Two "bar-tube" indicators show recording levels. Detachable speaker wings may be placed for maximum stereo effect. All parts for amplifiers, preamplifiers and power supply are included for assembly. Each wing contains a $7\frac{1}{2}$ " woofer and 2" x 6" oval tweeter. Cabinet and precision tape mechanism are *factory assembled*. Cabinet has storage compartment for tape and accessories. Recommended microphones for use with AD-40; order model AK-1, 1 lb. \$9.95 each

Kit AD-40... 49 lbs... \$18 dn., \$16 mo..... **\$179.95**
Assembled ADW-40... \$30 dn., \$25 mo..... **\$299.95**

SPECIFICATIONS—Power output: 6 watts stereo (3 w. per channel) utility rated. Power response: ± 2 db 50 to 15,000 cps at 3 watts. Total harmonic distortion: less than 2% 50 to 15,000 cps at 3 watts. IM distortion: less than 3% at 3 watts. Hum and noise: —45 db or better at 3 watts. Sensitivity: for 3 watts output, 1.5 mv; microphone, for max. record level, 3 mv; aux. input, for max. record level; .2 volt; low impedance outputs, for aux. power amp, 1 volt. Power requirements: 105-125 V, 60 cycles, 110 watts. Cabinet dimensions: $9\frac{1}{4}$ " H x $22\frac{1}{4}$ " W x 14" D.

FREE OFFER—LIMITED TIME ONLY

With each AD-40 Portable Stereo Tape Recorder you receive an outstanding 4-track Stereo Demonstration Tape plus a 1200 ft. reel of professional grade blank recording tape and an empty take-up reel *absolutely free* . . . total value \$10.95.

See special stereo records offer next page



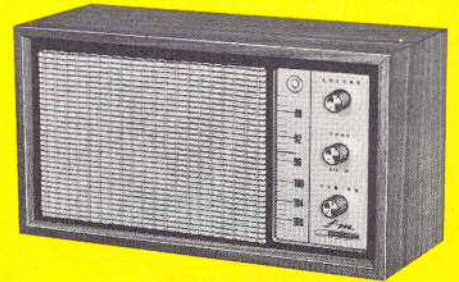
Magnificent STEREO/MONO PORTABLE PHONO

- 4-speed automatic record changer
- Preassembled cabinet and changer
- Turnover diamond and sapphire stereo cartridge

Complete stereophonic and monophonic operation, *plus* portable convenience, at savings never before possible. The *automatic changer* plays 16, $33\frac{1}{3}$, 45 and 78 rpm records, either stereo or mono. Turnover crystal cartridge has *diamond and sapphire* styli. Vacuum tube amplifier has controls for volume, stereo-balance and tone plus ample power. Cabinet is *factory-assembled* with smartly-styled two-tone aqua and white durable vinyl. Detachable speaker wing top permits placement for maximum stereo effect. Special design 5" x 7" oval dual-cone speakers.

SPECIAL FEATURES—Frequency response: ± 5 db, 70-10,000 cps. Power output: 2.5 watts RMS; 5 watts peak per channel at 1 kc. Channel separation: 20 db minimum over entire range. Cartridge: stereo crystal with .7 mil diamond and 3 mil sapphire. Speakers: 5" x 7" 2-cone oval. Power requirements: 117 v AC 60 cycles. Cabinet dimensions: $15\frac{1}{4}$ " W x 18" D x $8\frac{3}{4}$ " H.

Kit GD-10... 28 lbs... \$7 dn., \$7 mo..... **\$69.95**
ADA-50-1... 45 RPM Adapter Spindle 2 lbs..... **\$2.95**



Available for June delivery

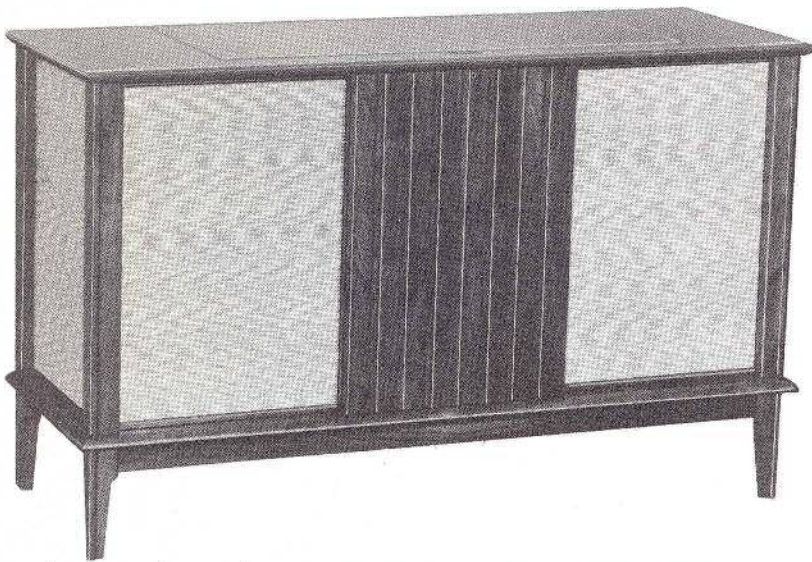
High fidelity FM in table model form

- 88 to 108 mc FM Coverage
- 6 tubes function like 8
- 6" x 9" dual-cone speaker with Alnico-5 magnet
- Preassembled and prefinished walnut cabinet

To the inherited quality performance of the famous FM-4 Tuner, the GR-21 adds an amplifier, speaker and cabinet for convenient one-unit FM operation. The 6" x 9" dual cone speaker with 6.8 oz. magnet gives true high-fidelity sound reproduction. The *preassembled, prealigned tuning unit* makes assembly easy. *Flywheel tuning* with a fine vernier action is assisted by a tuning "eye" and lighted dial for easy station selection. *Automatic Frequency Control* is easily switched on for drift-free reception. The GR-21 is powered by a large AC transformer with silicon diode rectifiers. Other features include: line cord antenna and external antenna terminals; multiplex output jack; tone and volume controls. Housed in a $\frac{1}{2}$ " walnut veneer cabinet with furniture-quality finish and protective back panel, it has a unique "relief" speaker grill which is offset from the front. 15" L x 8" H x 6" D. 16 lbs.

Kit GR-21... \$6 dn., \$6 mo..... **\$59.95**

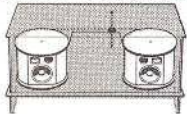
model to suit your purpose and your budget



Exclusive with Heath!—"DIRECTABLE SOUND" STEREO CONSOLE

- "Directable Sound" speaker system
- 30 watt amplifier (60 watt peak power)
- 4-speed "jam-proof" record changer
- Versatile stereo control panel
- Three different models—from \$249.95
- Choose stereo phono or stereo phono + FM, or stereo phono + AM & FM

HEATH'S EXCLUSIVE "DIRECTABLE SOUND"



First in the hi-fi industry, Heath's "Directable Sound" consists of 2 full-range, cylindrical, ported enclosures mounted on vertical axes. They rotate simultaneously

in opposite directions by moving a single control to give the stereo "spread" your room requires.

Just a turn of the knob, and you have "Directable Sound" from this new ready-to-play stereo console. Adjust the stereo sound to fit your room—no matter what the size or shape . . . and you can place the console anywhere you like, even in a corner. There are *two speaker systems*, one for each channel, each with an 8" low-resonance woofer and 3" cone-type high-frequency speaker.

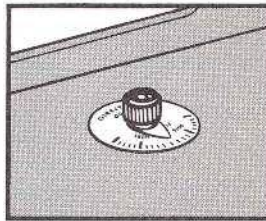
The *30-watt amplifier* (15 w. per channel, EIA Music Power Rated) provides a system response of 50-15,000 cps for clear, clean sound. Six amplifier inputs accept monophonic AM and FM tuners, stereo ceramic phono cartridge, and FM multiplex adapter when available. Dual concentric volume control works as balance control and master volume control; bass and treble controls are separate.

The four-speed *automatic/manual record changer* has Sonotone stereo ceramic turnover cartridge with *diamond and sapphire* styli; plays stereo or mono records. Tone arm can be held during play or change cycle without damage to mechanism. "Anti-skate" device protects records. Will play 1-inch stack of intermixed 10" and 12" records of the same speed.

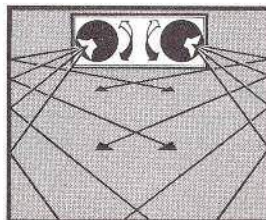
This fabulous phono console can also be equipped for FM music, too! Model GDW-81W is complete with phono and FM tuner—ready to play. The tuner has flywheel tuning, lighted dial, automatic frequency control (AFC) and multiplex adapter output jack. If you want your phono console with AM & FM tuner, order Model GDW-91W. Its tuner features flywheel tuning, lighted dial, "eye-tube" tuning indicators, three position AFC switch and "fidelity" switch.

No matter which model of the "Directable Sound" phono console you choose, the cabinet has a solid walnut frame, walnut veneer top, solid walnut sliding record compartment door and light beige tapestry weave grille cloth on front and sides. Center of top surface lifts to reveal record changer, "Directable Sound" control, amplifier and tuner controls. Each end of top surface is stationary to accommodate lamps, etc. Sliding center panel on front moves aside to reveal ample record storage space. 50½" L x 31" H x 18" D.

Assembled GDW-41W (phono) . . . 135 lbs. . . \$25 dn., \$22 mo.	\$249.95
Assembled GDW-81W (phono + FM) . . . 142 lbs. . . \$30 dn., \$25 mo.	\$299.95
Assembled GDW-91W (phono + AM & FM) . . . 144 lbs. . . \$35 dn., as low as \$21 mo.	\$349.95
ADA-80-1 . . . 45 rpm adapter spindle . . . 2 lbs.	\$2.95



"Directable Sound" control puts stereo anywhere in your room!



True stereo sound regardless of room size, shape or console location

Compact STEREO-PHONO CONSOLE
Ready-to-play—only \$149.95
a low \$129.95 for the kit model



- Six speakers—3 for each channel
- Contemporary walnut cabinet
- 4-Speed Stereo/Mono record changer
- Separate dual bass and treble tone controls
- Choose ready-to-play or kit form

This handsome, compact console brings you life-like stereo sound at a new low price. Perfect for apartment-dwellers or houses with small rooms, the GD-31 will perform with amazing results in all situations. Measuring only 31¾" long by 17¾" wide by 26¾" high, the cabinet has a solid walnut frame, walnut veneer front panel and "wood-grained" masonite sliding top; light beige tapestry grille cloth is used in front and sides. *Six-speaker system* contains: two 12" woofers, two 8" mid-range speakers and two 5" cone-type tweeters to give a full range of sound from rich, full-bodied "lows" to tingling "highs." The completely *automatic record changer* has 16, 33⅓, 45 and 78 rpm speeds. Equipped with record-saving "anti-skate" device and turnover *diamond and sapphire* styli stereo cartridge. You'll be in complete control of your stereophonic or monophonic record performance with the easy-to-operate tone and volume controls on the front panel. The compact *2-channel amplifier* gives thrilling stereo with a response of 60-15,000 cps for full dynamic range. Bring the pleasures of stereo to your home now at a budget price. 70 lbs.

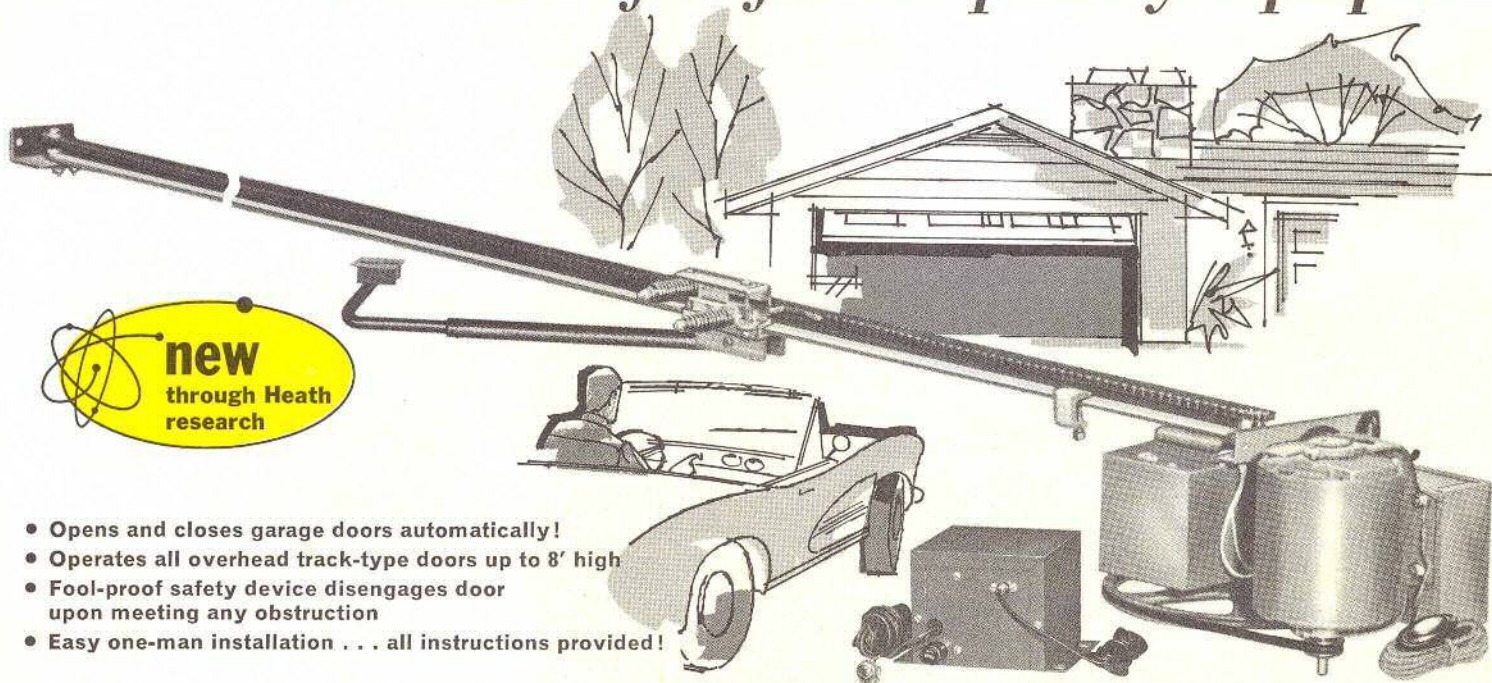
Kit GD-31 . . . \$13 dn., \$11 mo.	\$129.95
Assembled GDW-31 . . . \$15 dn., \$13 mo.	\$149.95
ADA-50-1 . . . 45 rpm adapter spindle . . . 2 lbs.	\$2.95

SPECIAL STEREO RECORDS OFFER!

When you buy either the GD-31 above or the GD-10, opposite page, you are eligible to purchase these stereo record groups:

- 5 for only \$5.95 (order #449-81, 4 lbs.)
 - 10 for only \$9.95 (order #449-82, 7 lbs.)
- Includes London, Westminster, or Mercury first-quality stereo records. Sorry, no title selections or returns permitted.

Heathkit® for finest quality equipment



new
through Heath
research

- Opens and closes garage doors automatically!
- Operates all overhead track-type doors up to 8' high
- Fool-proof safety device disengages door upon meeting any obstruction
- Easy one-man installation . . . all instructions provided!

At your service . . . the new Heathkit GARAGE DOOR OPENER . . . unique in features . . . big in dollar savings

Enjoy the convenience of your own garage 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 of receiver, transmitter and mechanism.

"High Power" transmitter and special design receiver prevents operation from all but strongest of signals. Selectable *tone coding* of signal permits operation of nearby similar units without interference with each other. Transmitter mounts under the hood of your car; push-button mounts under instrument panel; antenna mounts under the car with no drilling. Receiver mounts on garage mechanism.

Each unit uses just two tubes for minimum maintenance and low power consumption. Installation is easily done by one man; requires just 2½" clearance above highest point of door travel. Mechanism is simple with a minimum of parts for long, reliable, trouble-free operation. Any number of push-button switches can be connected to operate door from house, etc.; one is included with kit.

Switch circuit uses safe 12-volt line for easy, inexpensive wiring. Mechanism includes a light that *automatically* turns on when door is opened and remains on several minutes after door closes, allowing time to enter house or to switch on main lights. This feature can be extended to control driveway, patio, breezeway lights, etc., with standard house wiring.

The 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 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. The operation cycle is approximately 10 seconds. Order this handy, household servant now!

- Kit GD-20;** Mechanism, transmitter, & receiver, 65 lbs. . . . \$109.95
 \$11 dn., \$10 mo.
Kit GDA-20-1, extra transmitter, 4 lbs. . . . \$24.95
 \$2.50 dn., \$5 mo.

Everyone can find ignition troubles quickly with this new ANALYZER

- Shows condition of plugs, points, wiring, distributor, etc.
- Switch-select primary, secondary, parade or superimposed patterns to show ignition system performance
- New, improved trigger circuit for steady, locked-in pattern displays
- Vertical and horizontal "expand" for magnified views

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 . . . \$9 dn., \$9 mo. \$89.95**
Assembled IOW-20 . . . \$17 dn., \$15 mo. \$169.95

SPECIFICATIONS—RPM range: 400-5000 rpm. **Displays:** Secondary, Primary, Parade, Superimposed. **Screen size:** 4½" diameter. **Dwell measurement:** 4, 6 & 8 cylinder calibration on face plate. **Pattern height:** Secondary circuit, approx. 1"; Primary circuit, 6 volt system ¾", 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. **Front panel controls:** Vertical position, right edge, left edge. **Front panel switches:** Parade-Superimposed, 6-position rotary; Off, secondary expand, secondary normal, primary normal, primary expand and accessory. **Internal controls:** Focus, astigmatism, trigger adjust. **Trigger method:** Current transformer clamp in rugged plastic housing. **Tube complement:** 6UP1, 1V2, 6EA8, 12AU7(2), 12AX7(2). **Rectifiers:** (3) silicon. **Power requirements:** 105-125 V, 50/60 cycles AC, 30 watts.



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 7½" L x 2" W.

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

at up to 50% savings

New... a high fidelity PUBLIC ADDRESS AMPLIFIER!



- 20 watt output—hi-fi rated
- Two inputs—switch selected input matching
- Electrical mixing—tape recorder output



Something new in the public address field—a 20 watt PA amplifier that provides true *high-fidelity* performance with many special features. *Two inputs*—both are furnished with standard, quick disconnect, 3-terminal plugs and receptacles. “*Matching*” switches on either input allow use with magnetic phono cartridges, high impedance microphones, or high level units such as tuners or tape preamps. When used with the Heathkit AN-11 plug-in matching transformers, the “*matching*” switches will select the proper input impedance for low output, 50, 150, or 300 ohm microphones, or for balanced or unbalanced 600 ohm telephone lines of wired music systems. Designed for 24 hour use with rugged components and well-ventilated cabinet. A versatile PA value for church, store, factory, school, home or professional use. 24 lbs.

Kit AA-31...\$6 dn., \$6 mo.\$59.95

SPECIFICATIONS—Power output: 20 watts, high-fidelity rated. Input sensitivity: (Volts RMS for 20 watts output): Microphone input w/o matching transformer, 1 mv; Magnetic phono input, 6.5 mv; High level input, .25V. Input impedance: 100 K ohm nominal. Output impedance: 4, 8, 16 ohm and 70.7 volt. Tape recorder output level: approximately .15 volt. Tape recorder output impedance: approximately 5 K ohm. Power response: ±1 db 30-15,000 cps @20 watts. Damping factor: approximately 14. Harmonic distortion: (high level input) less than 0.7% @1 KC, 20 watts. Less than 2% @ 20 watts 30-15,000 cps. Intermodulation distortion: Less than 2% @ 20 watts 60 cps and 6000 cps mixed 4:1. Hum & noise: (db below 20 watts output); Microphone input—50 db; Mag. Phono Input—55 db; High Level Input—65 db. Equalization: mag. phono (RIAA). Controls: separate input matching switches separate bass & treble controls, separate input gain control, master gain control, on-off switch, 2 hum balance controls. 117 V. AC power receptacle: provides AC independent of AA-31 on-off switch. Power requirements: 105-125 volts, 50-60 cps AC 100 watts at 117 volts. Tube complement: (3) 6EU7, (1) 7199, (2) 7991, (1) GZ-34.

MODEL AN-11 INPUT MATCHING TRANSFORMER—matches any low impedance microphone or balanced or unbalanced lines. Primary tapped, 4 ranges from 30 to 600 ohms. Hum shielded, *two mu metal* shields and steel outer case.

Kit AN-11...2 lbs.\$11.95

SPECIFICATIONS—Primary impedance: 30/50 ohm, 125/150 ohm, 250/300 ohm, 500/600 ohm. Secondary impedance: 80,000 ohm. Hum shielding: 70 db min. Base: standard octal plug. Dimensions: 1 1/2" square x 2 3/4" H.

High power MOBILE PA for car, boat, trucks



- Hi-efficiency 5-transistor circuit
- 10-watt output
- Easy to build and install

Ideal for all outdoor events! All-transistor circuit operates from 12-volt car battery. Full 10 watts of power with minimum idling current drain. Inputs: low Z mike and hi-Z music source. Automatic “*music-fade*” for voice cut-in. For 8 & 16 ohm speakers. 6 lbs.

Kit AA-80...\$4 dn., \$5 mo.\$39.95

COMMERCIAL SOUND SYSTEM (CSS-1): Includes AA-80 Amplifier, mike, car-top carrier (holds up to 4 spkrs.), one 16 ohm, 15 watt hi-intelligibility reflex horn, cables, hardware. 24 lbs.

Kit CSS-1...\$8.50 dn., \$8 mo.\$84.95

Add concert-hall realism with this REVERBERATION UNIT

- Brings any music vibrantly alive
- Easily connected to any music system
- Assembled walnut or mahogany finish cabinets



Add that *spacious* sound to your favorite recordings and radio programs with the GD-61. You'll

experience a totally-new sensation in listening. *Complete and easy to use* with its own speaker and amplifier, it can be placed anywhere for best effect. Adds reverberation *acoustically*, not by system-disrupting electronic mixing. Just connect the input leads of GD-61 to the amplifier output or to the speaker terminals of your present stereo or monophonic hi-fi system, radio, portable phono, tape recorder, etc., and adjust the controls for just the amount of reverberation you desire. Self-contained; has Hammond Type IV reverberation unit, low distortion 3-watt amplifier with built-in power supply and 8" speaker, all housed in preassembled birch cabinet in your choice of walnut or mahogany finishes. 11 1/2" H x 23" W x 11 3/4" D. 30 lbs.

Kit GD-61W, walnut finish...\$7 dn., \$7 mo.\$69.95

Kit GD-61M, mahogany finish...\$7 dn., \$7 mo.\$69.95

Free your hands... give your phone a "loud-speaker"

- Ideal for office work, conference calls, or busy housewives
- All transistor circuit— instant operation
- One 9-volt battery lasts up to 2,000 3-minute calls!



Just place the handset on the GD-71 Telephone Amplifier cradle and it automatically switches on,

allowing you to carry on a normal 2-way conversation... *hands free!* Volume and sensitivity are adequate to allow talking and listening from any place in most rooms, thereby freeing you from your telephone while carrying on a phone 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. Simple, circuit board construction makes assembly a pleasant project. Ivory colored cabinet, 5" x 6" x 9 1/2".

Kit GD-71...4 lbs.\$19.95



Finest "PORTABLE" you can buy!

- 6-transistor 2-diode circuit
- "Big-set" tone with 4" x 6" speaker
- Built-in antenna

For portable radio fun everywhere!

Operates up to 1,000 hours on 6 standard-size “D” cells. Styled in gleaming mocha-colored plastic or in a sultan simulated leather case, each with gracefully-curved grille in smart beige plastic. Measures 9 1/2" L x 7 1/4" H x 4" D. 5 lbs.

Kit XR-2P (plastic)...\$3 dn., \$5 mo.\$29.95

Kit XR-2L (sim. leather)...\$3.50 dn., \$5 mo.\$34.95



Heathkit®—for high performance

Heathkit's amazing "WALKIE TALKIE" offers dependable, short range citizen's band communication at low cost . . . only \$32.95 each



The Heathkit GW-30 is a convenient and economical "Walkie-Talkie" with a hundred and one uses around the home, at work, on vacations, or in your favorite leisure-time activity. Completely portable, the GW-30 gives you the convenience of a "direct line" to the children who are out at play, to a hunting or fishing companion in another location, or a fellow worker in an out-of-the-way spot.

Operating on the 11 meter citizen's band frequencies, the GW-30's are combination receivers and transmitters with transmitters crystal controlled for high accuracy and dependable performance. Two controls, a volume control with "off-on" switch and a "push-to-talk" button make it easy to operate and convenient in any situation. The four transistor circuit features an easy-to-assemble circuit board which minimizes construction errors and assures reliable operation. A single 9-volt battery (not included) provides up to 75 hours of normal intermittent use.

The entire unit is housed in a simulated leather case of black with a polished aluminum front panel and black plastic knob. With its telescoping 40" whip antenna, the GW-30 communicates efficiently with other similar units up to a mile away (greater range when licensed in the class D Citizen's Band and used for communication with regular Citizen's Band stations—application forms and information included). Each unit has a convenient shoulder strap for carrying.

When you order your Heathkit "Walkie-Talkie" be sure to specify the channel you wish to use. When you order two or more units, matching channel crystals will be provided, unless otherwise specified.

Start enjoying the convenience and economy of a Heathkit "Walkie-Talkie" today. Save unnecessary steps, time and worry no matter what your activity, by simply turning on your "Walkie-Talkie," pushing the button and delivering your message clearly, directly and instantaneously. 3 lbs.



Kit Form
or
Factory
Assembled

- Use in business, sports, travel—at home or away
- No license, forms, tests or age limit
- Push-button convenience—battery powered economy
- Completely portable—hand-held—neatly styled
- Operates up to 1 mile between units—more with regular citizen's band station

SPECIFICATIONS—Receiver: Superregenerative detector. **Sensitivity:** Usable with signals as low as 4 uv at antenna terminals. **Tuning range:** Fixed (by internal adjustment) to any channel, 1 through 23. **Audio power output:** 30 milliwatts. **Speaker:** 3.2 ohm, round. **Controls:** on/off volume, push-to-talk switch. **Transmitter RF input power:** approx. 90 milliwatts. **Transmitter frequency:** Crystal controlled unlicensed channels 2 through 23 (channel 1 through 23 for licensed operation). **Crystal:** Subminiature, plug-in type, .005% tolerance. **Microphone:** 3.2 ohm speaker. **Modulation:** high level AM limited to less than 100%. **Antenna:** 40" whip type, collapsible to 7 1/2". **Battery:** 9V. **Battery life:** Approx. 75 hours, (normal intermittent use). **Transistors:** 2N1108, R424, (2) 2N185. **Dimensions:** 6 1/2" H x 3 3/4" W x 2 3/4" D.

Kit GW-30 (each) . . . \$3.30 dn., \$5 mo.	\$32.95
Kit GW-30-2 (pair) . . . \$6.50 dn., \$6 mo.	\$64.95
Assembled GWW-30 (each) . . .	
\$5.10 dn., \$5 mo.	\$50.95
Assembled GWW-30-2 (pair) . . .	
\$10 dn., \$9 mo.	\$99.95
Battery Set:	
GWA-30 (2 included, 1 for spare) . . . 1 lb.	\$2.95



Convert equipment to mobile use! 6 and 12 volt mobile VIBRATOR POWER SUPPLIES

Ideal for converting the CB-1 Citizen's Band Transceivers, Tener, Sixer and Tower "Ham" transceivers, and other AC equipment for use with 6 or 12 volt batteries. Each unit delivers 260 volts DC at up to 60 milliamperes. Units of the same input voltage may be connected in parallel for increased current at rated output voltage. Measures only 4 1/2" x 4" x 3 7/8". 3 lbs.

Kit VP-1-6 (6 volt), VP-1-12 (12 volt) **\$8.95 ea.**
Assembled VPW-1-6 (6v.), VPW-1-12 (12v.) **\$12.95 ea.**



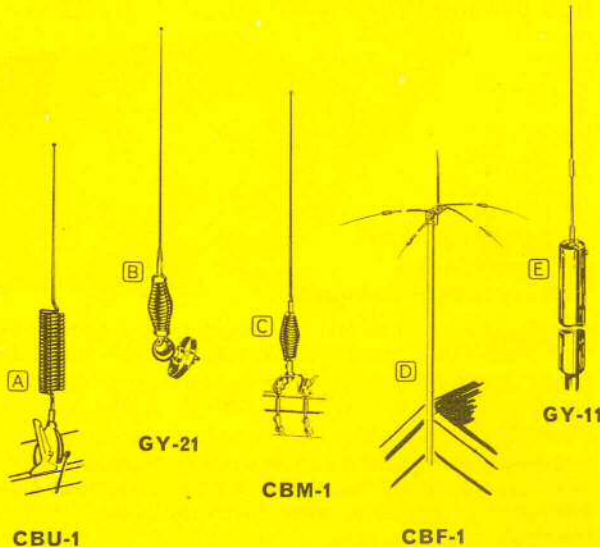
(A) "Utility" ANTENNA

An excellent medium range antenna for temporary mobile or fixed station CB installations. Includes rugged clip mount plus bracket. 45 1/2" base loaded antenna with 12' connecting cable and connector. 2 lbs.

Model CBU-1 **\$9.95**

Kit Form
or
Factory
Assembled

Low cost CB Antennas



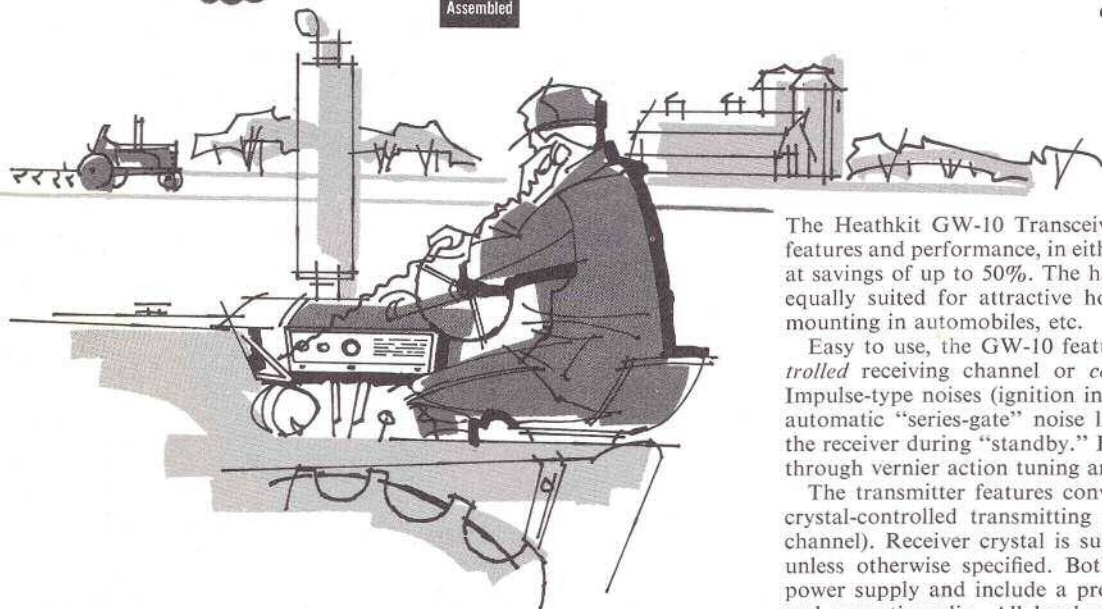
Citizen's Band equipment at low cost

Get twice as much for your CB budget with the Heathkit GW-10



Kit Form
or
Factory
Assembled

- Sensitive superheterodyne receiver
- Adjustable squelch—automatic noise limiter
- 3 crystal controlled transmitting channels
- Single crystal or variable receiver tuning
- Press-to-talk microphone for simple one hand operation
- Easy to build—easy to install—easy to use



The Heathkit GW-10 Transceivers offer outstanding Citizen's Band features and performance, in either mobile or fixed station installations at savings of up to 50%. The handsome low-profile cabinet styling is equally suited for attractive home installations or easy under-dash mounting in automobiles, etc.

Easy to use, the GW-10 features switch-selection of a *crystal controlled* receiving channel or *continuous tuning* of all 23 channels. Impulse-type noises (ignition interference, etc.) are minimized by the automatic "series-gate" noise limiter and *adjustable squelch* silences the receiver during "standby." Fast, easy station selection is provided through vernier action tuning and illuminated dial.

The transmitter features convenient switch-selection of 3 different crystal-controlled transmitting channels (1 crystal supplied, specify channel). Receiver crystal is supplied to match transmitting channel unless otherwise specified. Both AC and DC models have built-in power supply and include a press-to-talk microphone with coil cord and mounting clip. All hardware for mobile installations included. Units are color styled in two-tone mocha and beige. 11 lbs.

Kit GW-10A (117 v. ac)...\$6.30 dn., \$6 mo. **\$62.95**

Assembled GWW-10A (117 v. ac)...\$10 dn., \$9 mo. **\$99.95**

Kit GW-10D (specify 6 or 12 v. dc)...\$6.30 dn., \$6 mo. **\$62.95**

Assembled GWW-10D (specify 6 or 12 v. dc)...\$10 dn., \$9 mo. **\$99.95**

EXTRA TRANSMITTER OR RECEIVER CRYSTALS

Specify channel number, see list. 1 lb. **\$2.95** each

ATTN. GW-10 OWNERS: If you wish to convert your present AC operated GW-10 to DC, order GWA-10D conversion power supply; if you have a DC model you want to convert to AC, order GWA-10A. Unit fits in place of present supply.

3 lbs. **\$14.95** ea.

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 does not exceed 5 watts. **Frequency control:** 3rd overtone quartz crystal. **Frequency control effectiveness:** within .005% of nominal crystal frequency over an ambient temperature range of -20 degrees F to +130 degrees F. **Modulation:** AM plate and screen modulation automatically limited to less than 100%. **Output impedance:** 50-70 ohms. **Tube complement:** (1) 6U8 Triode receiver crystal oscillator, pentode mixer. (1) 6C4 Receiver variable oscillator, (1) 6B6J6 IF amplifier. (1) 6B37 Detector diode, Squelch diode, Noise limiter diode. (1) 6AN8 Pentode first audio amplifier, triode microphone preamplifier. (1) 6AQ5 Combination audio output-modulator, (1) 6AU8 Triode transmitter oscillator, pentode RF final amplifier. **Power requirements:** 117V AC version, 45 watts; 6V DC version, 7.5 amps; 12 V DC version, 4.5 amps. **Dimensions:** 4 1/2" H x 15" W x 5 3/4" D.

CLASS D CITIZEN'S BAND CHANNEL NOS. AND FREQUENCIES

†1. 26.965 mc	7. 27.035 mc	13. 27.115 mc	19. 27.185 mc
2. 26.975 mc	8. 27.055 mc	14. 27.125 mc	20. 27.205 mc
3. 26.985 mc	9. 27.065 mc	15. 27.135 mc	21. 27.215 mc
4. 27.005 mc	10. 27.075 mc	16. 27.155 mc	22. 27.225 mc
5. 27.015 mc	11. 27.085 mc	17. 27.165 mc	*23. 27.235 mc
6. 27.025 mc	12. 27.105 mc	18. 27.175 mc	

†Cannot be used for unlicensed operation of GW-30

*Shared with Class C Radio Control

NOTE: Specify first and second choice of frequencies. When ordering several units, specify frequency for each.

Ⓟ New mobile ANTENNA

For top coverage in permanent mobile installations. Two-section 102" stainless steel whip. Cadmium plated spring base. Swivel ball mount has a thick fiberglass insulator, heavy backup plate, water sealing gasket. Complete with mounting hardware, hold-down clip, 20' RG58AU cable and connector. 5 lbs.

Model GY-21 **\$15.95**

Ⓞ "Mobile" ANTENNA

For fine coverage in temporary or permanent mobile installations. Two-section 102" stainless steel whip antenna. Chain-type bumper mount, with spring base. Includes hold-down clip, 15' RG58AU cable, connector and mounting hardware. 7 lbs.

Model CBM-1 **\$16.95**

Ⓞ "Fixed location" ANTENNA

Excellent coverage non-directional quarter wave "ground plane." Measures 9/4" from bottom of mounting bracket to top of vertical radiator. Complete with 50' RG58AU cable and mounting clamp. 6 lbs.

Model CBF-1 **\$16.95**

Ⓟ New "fixed location" ANTENNA

Omnidirectional, low radiation angle, and low swr for outstanding CB communications. This 18 1/2" wave coaxial antenna consists of a 9' 2-piece aluminum rod top element and a 9' 2-piece 2" diam. aluminum skirt. Mounts on a 12" length of 3/4" IPS pipe (not supplied). Includes 50' RG58AU cable and connectors. 8 lbs.

Model GY-11 **\$21.95**

for safe, carefree boating . . . equip with

New Heathkit 50 watt MARINE RADIOTELEPHONE . . . factory assembled and aligned . . . ready to install . . . and only \$319.95



- Powerful long-range transmitter
- 5 crystal-controlled transmit & receive channels
- Dependable all-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

Boat owners everywhere will thrill to the beauty, performance and versatility of this new Heathkit marine radio-telephone! The intensive investigation and development that has gone into the design of this unit has resulted in an instrument of outstanding quality and dependability. Now you can enjoy complete, high-power, marine communication facilities at the lowest cost ever!

VERSATILE RECEIVER FEATURES

8-transistor circuit . . . dependable, long-life performance with low current drain. 2-band frequency coverage . . . 2-3 mc marine and standard broadcast bands. 5-crystal-controlled marine band channels . . . switch-selected. Variable-tuned broadcast band . . . complete coverage. Front panel squelch and noise limiter controls . . . maximum clarity, minimum noise. Deck hailer power . . . 8-watt PA amplifier capability, just connect deck speaker for monitoring and entertainment or hailing.

POWER-PACKED TRANSMITTER FEATURES

50 watt plate power input . . . powerful signal output for extra distance and added safety. 5 crystal controlled transmitting channels. Push-to-talk microphone . . . with coiled cord and mounting clip, for convenient, single-handed operation. Antenna output . . . matches wide variety of commercial antennas.

RUGGED TRANSMITTER POWER SUPPLY

Heavy-duty vibrator type . . . for high reliability. Operates from 12 volt battery . . . available on most boats. Circuit breaker protection . . . no fuses to change. Polarity reversal protection . . . will not operate unless correctly connected.

BEAUTIFUL STYLING

Two-tone marine color scheme . . . blends and complements. Chrome-plated knobs . . . with easy-to-see marker points. Functionally laid out panel design . . . for easy operation. Channel identification space on panel . . . for quick reference to frequencies and/or functions.

STURDY CONSTRUCTION

Wrap-around, welded aluminum cabinet . . . corrosion-resistant, long life, light weight. Front panel seal . . . vinyl beading seals panel edge against splash and spray.

EASY TO USE, EASY TO INSTALL

Adjustable mounting bracket . . . mounts anywhere, any angle. Front removal . . . chassis and panel slide out front for easy servicing or adjustments. Quick disconnect leads . . . for antenna, microphone and power cable. Compact . . . measures only 10" W x 12" D x 7" H.

GENERAL CIRCUIT DESCRIPTION

Completely factory assembled and tested, the MWW-11 features an 8-transistor receiver/modulator circuit with separate local oscillator, 2 IF stages, squelch amplifier/first audio, audio driver, and push-pull output; two-tube transmitter circuit has dual section oscillator/driver tube and 12DQ6 final amplifier tube. Panel meter automatically switches to indicate proper tuning and signal strength (receiving) or relative power output (transmitting). Includes: transmitter and receiver crystals for two channels (2182 and 2638 kc), mounting bracket, push-to-talk microphone and installation and operating instructions. The remaining three transmit/receive crystal positions can be used for any combination of the remaining Continental U.S. 2-3 mc frequencies for this service. Final installation adjustments must be performed by FCC licensed technician.

Assemble MWW-11 . . . 25 lbs., \$32 dn., \$27 mo. . . . ea. \$319.95
Extra Transmitter & Receiver Crystals; any frequency in Continental U.S. 2-3 mc marine band . . . 1 lb. . . . ea. \$2.95

SPECIFICATIONS—Marine frequency range: 2-3 mc. Broadcast frequency range: .55-1.6 mc. Receiver sensitivity: (providing 6 dB S/N ratio or better). Marine channels: 2 microvolts. Broadcast: 20 microvolts. Speaker: 3" x 5" oval (weatherproof). Audio output: 3 watts. 8 watt PA "deck call" capability. Transistor Complement: (1) 2N1225 Mixer; (2) 2N1110 1st & 2nd IF; (1) 2N254 1st audio & squelch; (1) 2N301 Audio Driver; (2) 2N1147 Audio Output & Modulator; (1) Diodes. RF Input: 50 W. RF Output: 25 W min. Transmitter tube complement: (1) 6BA8 oscillator & buffer amplifier; (1) 12DQ6 final power amplifier. Microphone: carbon element type. Power requirements: 12 volt DC; Receiver only: 0.8 amp; Standby: 2.1 amp; Transmitter: 9 amps. Dimensions: 6 1/2" H x 9 3/4" W x 12 1/2" D.

dependable, economical

Heathkit® Marine Gear

Biggest value in boating safety . . . the Heathkit Deluxe 3-band "MARINER" DIRECTION FINDER

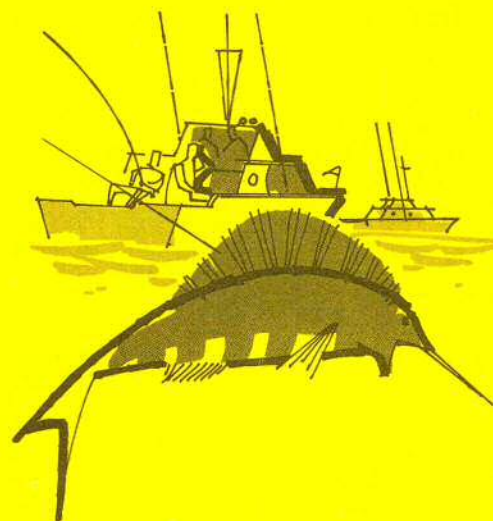
- 9-transistor, 1-diode circuit—flashlight battery power supply
- Covers beacon, broadcast and marine-telephone bands
- "Sense" antenna eliminates confusing double null
- Preassembled, prealigned tuning unit for easy assembly

Any skipper would be proud to have this outstanding performer aboard his own craft! The DF-3 provides superb broadcast radio entertainment and has all the extras for accurate, easy position plotting. The DF-3 lets you "home-in" on radio signals when operating out-of-sight of land, in fog and other inclement weather to make home port in the shortest possible length of time. Designed for maximum dependability and performance, the DF-3 features an *all-transistor* circuit, *self-contained* flashlight battery power supply for complete independence from the boat's electrical system, and a new "sense" antenna which eliminates the confusing double-null to give true directions. Also featured are a *prealigned, preassembled tuning unit*, large 4" x 6" weatherproof speaker, lighted tuning dial and meter for night operation, new modern styling and rugged splash-resistant cabinet for protection of internal components. Bearings are shown on a large 6½" compass rose located under the loop antenna which rotates in any direction. Six standard size "D" flashlight batteries (housed in leakproof plastic holders) provide 500 to 1000 hours operation. Kit includes deck mounting bracket. 12 lbs.

Kit DF-3 . . . \$10 dn., \$9 mo. **\$99.95**



SPECIFICATIONS—Beacon band: 200 to 400 kc. Broadcast band: 550 to 1600 kc. Marine band: 1700 to 3400 kc. Sensitivity for 6 db signal-to-noise ratio: BC band, 150 uv /meter; Beacon band, 150 uv /meter; Marine band 60 uv /meter. Speaker: 4" x 6" weatherproofed. Power requirements: 9 volts from 6 standard size "D" flashlight batteries. Battery drain: 20 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) 2N1107, (2) 2N1108, (1) 2N1109, (1) 2N1110, (1) 2N1111, (1) R251, (2) R250, (1) diode. Dimensions: 9" x 9¼" x 6¾".



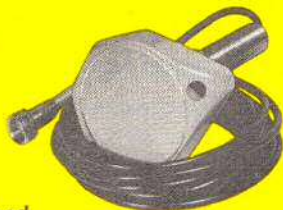
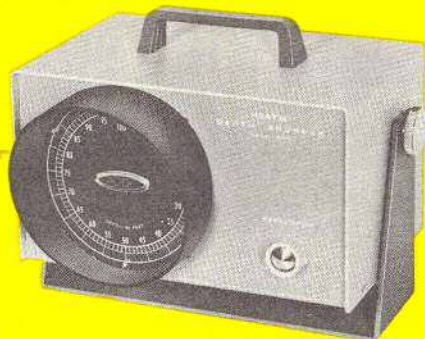
Finest value in a MARINE DEPTH SOUNDER!

- All-transistor battery-operated circuit
- Indicates depth from 0 to 100 feet
- Easy to build with complete instructions furnished

An accurate, dependable depth sounder contributes greatly to boating enjoyment . . . for safety . . . navigation ease . . . boat protection . . . and also for the adventure of locating hidden underwater objects, schools of fish, type of bottom, etc., as well as their depth. The MI-10 features a large 4¾" dial calibrated from 0-100 feet in 1 foot divisions, hooded for easier reading in bright sunlight. Six standard flashlight batteries installed in leak-proof plastic housings provide all power for the transistor circuit for high operating economy and dependability. The transducer (sending and receiving unit) connects to a watertight coaxial connector and may be mounted permanently through the boat's hull or "outboarded" for temporary use. Two-tone marine green color. Swivel mounting bracket included. 9 lbs.

Kit MI-10 . . . \$7 dn., \$7 mo. **\$69.95**

SPECIFICATIONS—Range: 0 to 100 feet indicated on dial calibrated in 1 foot divisions. Gives reliable depth indications to 100 ft. or more for "hard" bottoms; somewhat less for "soft" bottoms. Sounding rate: 1440 soundings per minute or 24 per second. Depth indication: conventional flashing light behind calibrated dial. Transducer: barium titanate crystal encased in a streamlined epoxy housing with brass through-hull fitting and attached coaxial cable. Controls: "on/off"; sensitivity (on front panel). Power supply: 9-volts from six self-contained "D" flashlight batteries. Current drain: 80 milliamperes. Dimensions: 9" wide x 5¼" high x 6" deep. Supplied with bracket for universal mounting.



Enjoy "Shore-side" power aboard your boat with the Heathkit MARINE POWER CONVERTER

- Converts 6 or 12 volt battery power to household 117 volts AC

This easy-to-build-and-install power converter lets you use many of your AC operated household devices aboard your boat. Operates from any 6 or 12 volt storage battery to provide plug-in power for lights, small power tools, test instruments, radios, portable TV sets, etc. Power transistors provide up to 25% more efficiency and instant operation. Finned "heat-sinks" protect transistors during max. power loads. Unit is fused for protection. Two AC receptacles for plug-in connection. Local on/off switch. Measures 7½" x 5" x 5¼". 7 lbs.

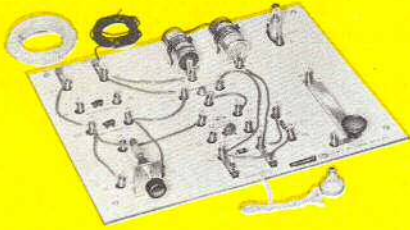
Kit MP-10 . . . \$3 dn., \$5 mo. **\$29.95**

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.

Heathkit® Science Series for fun and learning

Three Electronic Workshops provide hours of fun and facts

Learn while you build these practical devices



ELECTRONIC WORKSHOP "6"

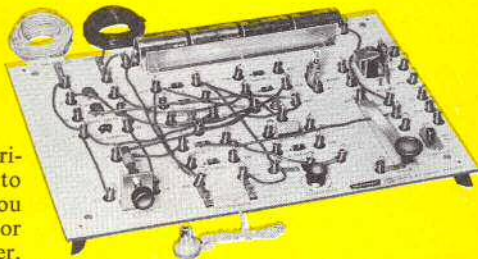
Youngsters of all ages will find hours and hours of entertainment with this exciting new Heathkit. Six different and educational electronic experiments! You can build a code flasher, crystal radio, 2 transistor radios, wireless voice and code transmitters. The kit includes a circuit workboard, transistor, crystal-diode detector, sensitive crystal earphone, slug-tuned coil, capacitors, resistors, all necessary hardware, a screwdriver, solderless connectors, assembly instructions and operating principles. Battery operated, the Heath Electronic Workshop "6" is safe for boys and girls of all ages. Just the thing to start a youngster on the road to scientific knowledge and acquaint him with the fascination of the "scientific '60's"! 2 lbs.

Kit SK-30 \$8.95

ELECTRONIC WORKSHOP "71"

Here are 11 different experiments designed by Heath to entertain while they teach! You can build 3 different transistor radios, a code practice flasher, wireless code and voice transmitters, electronic timer, burglar alarm, electronic flasher, audio signal injector and an intercom. All necessary tools and hardware for building are furnished. No soldering needed. 4 lbs.

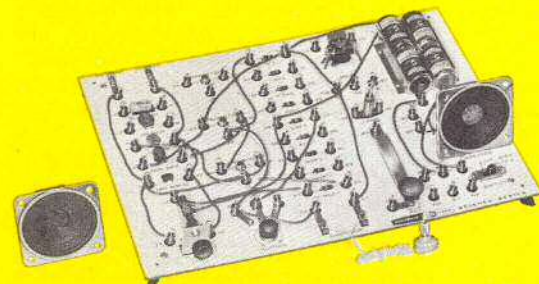
Kit SK-40 \$12.95



ELECTRONIC WORKSHOP "79"—the best ever

This largest Heathkit Workshop contains materials and instructions for building 19 different electronic items including: code flasher, public address system, 5 transistor radios, electronic timer, burglar alarm, electric eye, TV silencer, metronome, voice and capacity-operated relays, and more. Operates

on safe, economical flashlight batteries. Fast solderless spring-type connectors make circuit changes simple. Electronic components mount permanently on circuit workboard—can't get lost. Manual of instructions and operating principles included. 5 lbs.



Kit SK-50 \$19.95



Transistor INTERCOM KIT

Talk from room to room, or house to house, with this exciting Transistor Intercom—a 2-way beauty! "Master" unit and "slave-remote" station powered by inexpensive batteries. "Listen-talk" slide switch, volume control and "on-off" switch on "master." All-transistor circuit. Easy assembly; all parts, tools and manual of operating principles included. 3 lbs.

Kit SK-20 \$13.95



Transistor PORTABLE BROADCASTER

Your voice can be transmitted to any nearby AM radio without wires with this Broadcaster. Children can have hours of fun playing "announcer," "pilot," or "disc-jockey." Complete "check-by-step" assembly instructions and basic radio theory included. Battery powered for safety and convenience. Kit includes all-metal case, all components and tools. 4 lbs.

Kit SK-10 \$9.95

CRYSTAL RADIO KIT

This "do-it-yourself" kit lets any boy or girl build their own private radio receiver. No soldering or batteries are required. Receiver circuit has a fixed diode detector and permeability tuned coil. Kit includes earphones, 50' of antenna wire, instructions and radio principles. Two-tone metal case has authentic looking receiver dial screened on front panel. 1 lb.

Kit SK-70 \$3.95



Transistor RADIO KIT

You'll have lots of fun assembling your own transistor radio! The circuit board and solderless connections make it a "snap."

Included are transistor audio amplifier, germanium diode detector, earphone, all-metal cabinet, circuit board, screwdriver, and manual of instructions and operating principles. Safe for all ages with battery power. 2 lbs.

Kit SK-60 \$7.50

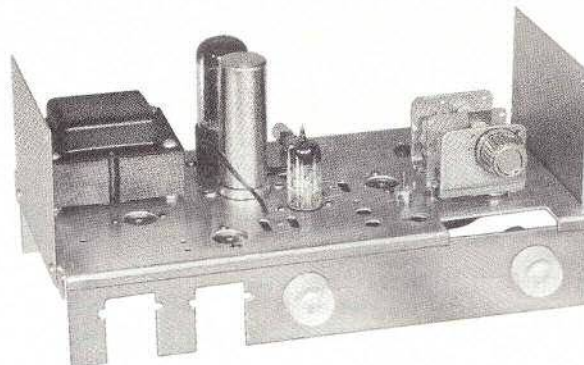


"Learn-by-doing" with Heath Educational Kits

new
through Heath
research



new
through Heath
research



Understand basic radio while you complete Heath EDUCATIONAL KITS EK-2A and EK-2B

- 2-part textbook and kit project
- Easy-to-understand instructions
- You build a superheterodyne receiver

Now everyone can learn basic, practical radio theory and build a useful piece of electronic equipment with this new Heath 2-part kit and text workbook project. Difficult mathematics are eliminated and all reading matter is in simple, easy-to-understand language. Starting with the EK-2A, "Basic Radio—Part I," you learn the elementary theory and basic components of a radio. Such chapters as "What is a detector" or "What is a Tuned Circuit" explore the realm of radio fundamentals to give a working background for you to proceed in building a crystal receiver. As you progress chapter by chapter, you will improve upon this elementary receiver by adding tuned circuits and tubes that will result in a regenerative receiver capable of pulling in stations hundreds of miles away. In the EK-2B "Basic Radio—Part II" you learn from chapters such as "What is a Local Oscillator," "What is a Mixer?", and "What does Alignment Mean?" As you continue to build with the additional parts supplied, you improve upon the receiver constructed with the EK-2A and finish with a 2-band (550-1600 kc & 3-10 mc) superheterodyne receiver that picks up broadcast, amateur radio, marine and international stations. Both of these educational kits are designed for youngsters and adults, alike. We know of no better way to acquire knowledge than by this "learn-by-doing" process, and in addition to the fine radio which you build, you have complete and authoritative information in easy-to-understand manuals.

Kit EK-2A Part I... 6 lbs.....	\$19.95
Kit EK-2B Part II (less cab.)... 4 lbs.....	\$19.95
Accessory Cabinet AK-8 A handsome housing for your completed EK-2B Receiver... 4 lbs.....	\$3.95

EDUCATIONAL KIT EK-1 teaches basic electricity

- Uses everyday language
- Designed by science educators
- You build a handy DC volt-ohm-milliammeter

Youngsters and adults alike will be amazed at the priceless and comprehensive introduction to basic electricity in Heath's EK-1. *Easy-to-understand kit instructions and text-workbook* combine to teach and demonstrate the principles of voltage, current and resistance, the theory and construction of series and parallel direct current circuits, voltmeter, ammeter and ohmmeter circuits and the application of Ohm's law to these circuits. When the kit is completed, you have built a practical DC volt-ohm-milliammeter which can be used for checking automobile circuits, home appliances, etc., by simply following the procedures outlined in the manual. This EK-1 Educational Kit by Heath was designed and developed by science educators especially for the "beginner" in the world of electricity and electronics. Starting with the basics of electricity and progressing through the course to the finished product can be one of the most informative and challenging projects for a "future engineer" or "scientist of tomorrow". The EK-1 is recommended for *anyone* who wants to learn more about electricity and how it works. You'll be glad you invested in this "starter" course . . . it can lead to a whole new world of electronic equipment in your home. 4 lbs.

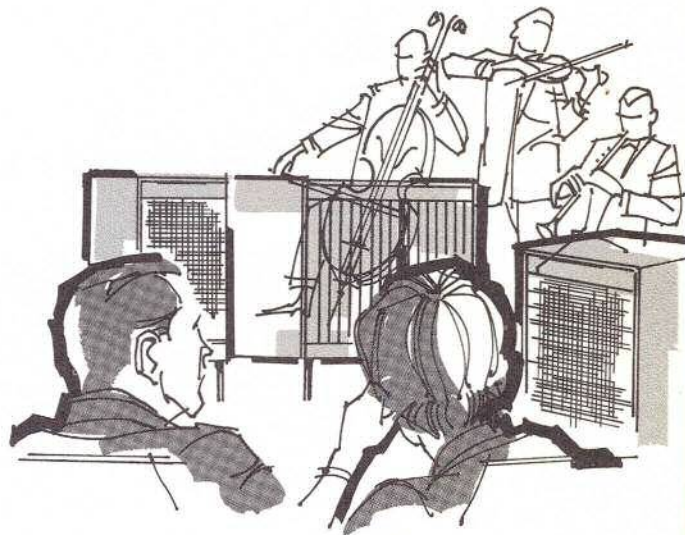
Kit EK-1	\$19.95
-----------------------	----------------



Heathkit® has the finest in stereo/mono record

Memorable performances of the world's greatest music by accomplished artists of the 20th Century have been captured by the recording industry for the appreciation and enjoyment of ours and succeeding generations. Never before has such a wealth of talent and artistic diversity been available to so many millions simply by playing a record. This wonderful world of music is waiting for you and your family when you purchase a Heathkit record player or changer. Only the very best components are used in Heathkit equipment, assuring you of faultless reproduction and true fidelity.

Whether you choose a record player in the economy class or a top-of-the-line instrument, you can be sure that Heath engineers have worked long and hard to provide you with the very finest in electronic equipment, and at the same time, given you easy-to-follow assembly instructions enabling you to experience the satisfaction of building your own equipment and save up to 50% of the usual cost. Take a moment now, and look over the record changers and players offered on these pages. Choose the unit to fit your budget and open the door to the wonderful world of recorded music.



- Garrard of England quality
- 4 speeds—16, 33 $\frac{1}{3}$, 45 & 78 rpm
- Preassembled mechanism, arm and base
- Available with or without cartridge



Budget-priced STEREO/MONO RECORD PLAYER . . . as low as \$22.95

The Heathkit AD-10 brings you Heath's money-saving kit design combined with the quality craftsmanship of an assembled mechanism by *Garrard of England* in a low-priced stereo/mono 4-speed record player. The resiliently mounted, accurately-formed turntable has a protective rubber pad for record safety and care. The convenient finger lift on the tone arm makes placement on record simple. When the arm is moved to right, the mechanism starts. Automatic shut-off at the end of the record disengages the drive mechanism.

OTHER FEATURES INCLUDE: Plug-in cartridge holder. Stylus pressure adjustment. "Pop" filter to reduce switching noises. 4-pole motor. Flutter and wow below .28% at 33 $\frac{1}{3}$ rpm. With 12" record unit requires mounting area 15" W x 13" D x 6" H. Color styled in cocoa brown and beige. Easiest to build, just prepare and connect cables included, install the cartridge, and mount the mechanism on its base. 10 lbs.

- Kit AD-10C** (Sonotone 8TA4-SD ceramic stereo cartridge, diamond and sapphire styli) . . . \$3.30 dn., \$5 mo. **\$32.95**
- Kit AD-10A** (GE VR-227 magnetic stereo cartridge, diamond stylus) . . . \$3.80 dn., \$5 mo. **\$37.95**
- Kit AD-10B** (Shure M8D magnetic stereo cartridge, diamond stylus) . . . \$3.90 dn., \$5 mo. **\$38.95**
- Kit AD-30** Mechanism only; less cartridge, base and cables . . . 7 lbs. **\$22.95**

- New low-price—exclusive with Heath
- 33 $\frac{1}{3}$ & 45 rpm speeds
- "Push-pull" speed selector knob
- Separate on-off switch
- Speed Sentinel Controls and strobe disc.
- Hidden belt drive for rumble-free performance
- Anti-skate arm-transport
- Linear separation, high compliance "moving magnet" stereo cartridge
- .0007" Diamond Stylus
- Rifle-drilled bearing well and heavy aluminum turntable panels
- Anodized aluminum control panels
- Shock-mounted walnut top plate
- Matching walnut wrap-around base

Fairchild precision TURNTABLE and TONE ARM— JUST \$124.95

For the discerning music lover who prefers a turntable, the ADP-21 is the ultimate in precision workmanship. It features the *Fairchild 440* turntable in kit form, a completely assembled *Fairchild 500* tone arm and cartridge, and the *Fairchild 440 CBW* walnut mounting board and base at a new low price—exclusive with Heath. A push-pull selector knob controls the two speeds, 33 $\frac{1}{3}$ and 45 rpm. *Speed Sentinel* control assures recording studio accuracy with speed variation of $\pm 1\frac{1}{2}\%$ (strobe disc included). Contoured solid cast aluminum platter is covered with compliant rubber pad to guard against record wear and damage. The arm transport combines anti-skate device with dynamic balancing. 36 lbs.

Kit ADP-21 . . . \$12.50 dn., \$11 mo. . . . \$124.95

SPECIFICATIONS—Impedance: 200 ohms per channel. **Inductance:** 500 mh per channel. **Dynamic mass:** 2 milligrams. **Track force:** 2.5 grams. **Compliance:** 5 x 10⁻⁶ cm/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):** -66 db below 7 cm/sec at 500 cps. **Dimensions:** 17 $\frac{1}{2}$ " W x 15" D, 3 $\frac{1}{2}$ " below mtg. board.



players and changers...priced to fit your budget

AUTOMATIC STEREO CHANGER... as low as \$37.95

The Heathkit AD-80 has many features found only on costlier units, but the Heath price is as low as \$37.95! The new 11" *oversize* turntable and *anti-skate* device help protect your records. An anti-jam mechanism assures you of trouble-free performance. Cartridge inspection is easy with the *plug-in* mounting head... The AD-80 plays 16, 33 $\frac{1}{3}$, 45 and 78 rpm records either automatically or manually, with automatic shut-off after the last record plays. Easy assembly of the kit requires no special tools. Color styled in brown and beige. This unit is a low cost way to convert to stereo from monophonic operation. 15 lbs.

SPECIFICATIONS—Flutter & wow: .2% rms or less. **Turntable speed:** Accurate within $\pm 2\%$. **Change cycle:** Varies with turntable speed, completed in 8 seconds at 33 $\frac{1}{3}$ rpm. **Motor type:** 4-pole hum shielded. **Type of drive:** Friction. **Tracking force variation:** Less than 0.9 grams from first to last record. **Record capacity:** 10-12". **Control functions:** on-off switch with "pop filter"; manual reject; manual speed selector. **Dimensions:** 13 $\frac{1}{2}$ " W x 11 $\frac{1}{4}$ " D x 5-11/16" above and 2 $\frac{3}{4}$ " below mounting board.

CHANGER BASES FOR AD-80, AD-50, AD-60 MODELS, 3 lbs.

Assembled ADA-50-M (brown mahogany)	\$5.95
Assembled ADA-50W (walnut)	\$5.95
Assembled ADA-50U (unfinished)	\$4.95

- 4 speeds—automatic or manual
- 11" oversize turntable
- Diamond Stylus
- Plug-in cartridge head



Kit AD-80C (Sonotone 8TA4-SD ceramic stereo cart., diamond and sapphire styli) ... \$3.80 dn., \$5 mo.	\$37.95
Kit AD-80A (GE VR-227 magnetic stereo cart., diamond stylus) ... \$4.20 dn., \$5 mo.	\$41.95
Kit AD-80B (Shure M8D magnetic stereo cart., diamond stylus) ... \$4.30 dn., \$5 mo.	\$42.95
ADA-80-1 45 RPM Adapter Spindle... 2 lbs.	\$2.95

AD-50 AUTOMATIC RECORD CHANGER

- 4 Speeds—16, 33 $\frac{1}{3}$, 45 and 78 rpm
- Intermixes 7", 10" & 12" records of same speed
- Quick-change cartridge holder
- Stereo or mono operation

You get top quality performance from the Heathkit AD-50 at significant savings. Four speeds at your command, either manually or automatically. Special *size-selection device* enables you to intermix 7", 10", and 12" records of the same speed. *Muting switch* stops noise during change cycle. Idler wheels retract when "off". Color: Holiday grey. 12 lbs.

Kit AD-50C (Sonotone 8TA4-SD stereo ceramic cart., diamond and sapphire styli) ... \$5 dn., \$5 mo.	\$49.95
Kit AD-50A (GE VR-227 stereo magnetic cart., diamond stylus) ... \$5.40 dn., \$5 mo.	\$53.95
Kit AD-50B (Shure M8D stereo magnetic cart., diamond stylus) ... \$5.50 dn., \$5 mo.	\$54.95
Model ADA-50-1 45 rpm spindle adapter... 2 lbs.	\$2.95

SPECIFICATIONS—Flutter & wow: 0.18% rms or less. **Turntable speed:** Accurate within $\pm 2\%$. **Change cycle:** Completed in 9 seconds. **Motor type:** 4-pole, hum shielded. **Type of drive:** Friction. **Tracking force:** 2 grams reliably initiates change cycle. **Record capacity:** Maximum of 10 records. **Dimensions:** 13 $\frac{1}{2}$ " W x 12" D x 5 $\frac{1}{2}$ " above and 3" below mounting board.

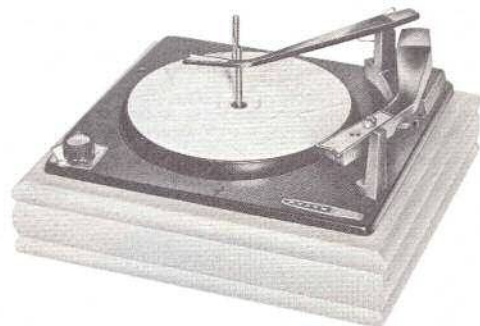


Deluxe AUTOMATIC CHANGER AD-60

- Stereo-mono function switch
- "Speed-minder" lets you mix 33 $\frac{1}{3}$ & 45 rpm
- "Turntable pause" protects records
- Quick-change cartridge holder

The Heathkit AD-60 combines the features of the AD-50 *plus* an automatic "speed-minder" which lets you intermix 33 $\frac{1}{3}$ and 45 rpm records on the same stack, a *stereo-mono switch* for quick conversion, and *turntable pause* that prevents record damage during change cycle. Quick-change cartridge assembly makes changing or inspection simple. Special *anti-skate device* and *jam-proof mechanism* assure long life for the unit and safety for your records. Special AC socket (switched by changer mechanism) accommodates accessory equipment. Color: satin black, gold trim. The AD-60 offers you *more features per dollar*—a real buy! 12 lbs.

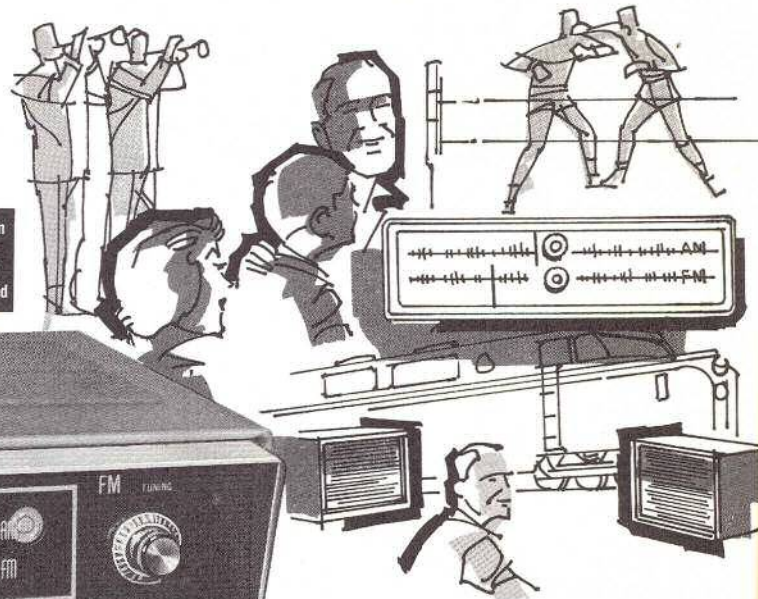
Kit AD-60C (Sonotone 8TA4-SD stereo cart., diamond and sapphire styli) ... \$6 dn., \$6 mo.	\$59.95
Kit AD-60A (GE VR-227 stereo cart., diamond stylus) ... \$6.20 dn., \$6 mo.	\$61.95
Kit AD-60B (Shure M8D stereo cart., diamond stylus) ... \$6.30 dn., \$6 mo.	\$62.95
Model ADA-60-1 ... 45 rpm adapter spindle... 2 lbs.	\$2.95



SPECIFICATIONS—Flutter & Wow: 0.18% rms or less. **Turntable speed:** Accurate within $\pm 2\%$. **Change cycle:** Completed in 9 seconds. **Motor type:** 4-pole, hum shielded. **Type of drive:** Friction. **Tracking force:** 2 grams reliably initiates change cycle. **Record capacity:** Maximum of 10 records. **Control functions:** On-off switch; Manual Reject; Automatic-Manual Speed Selector; Stereo/Mono Switch (parallels the outputs of the two stereo channels for mono operation). **Dimensions:** 13 $\frac{1}{2}$ " W x 12" D x 5 $\frac{1}{2}$ " above and 3" below mounting board.

Heathkit® has top quality AM, FM, and

The popularity and permanence of FM radio as a medium of communication has been proven by the fact that today there are more FM stations broadcasting more hours in more areas of the nation than ever before. There were those who predicted FM's demise with the advent of television, but the attraction of static-free, uninterrupted music offered by FM bolstered public acceptance and attracted more and more followers. Now you can run the gamut from jazz to symphonies, from folk songs to opera, all on FM—and Heath helps you get the best FM reception (and AM, too) with top quality tuners that are priced right for your budget and save you up to 50% over assembled models. Choose your Heathkit tuner—today!



Kit Form
or
Factory
Assembled



- Two eye-tube tuning indicators
- Adjustable AFC on FM
- "Fidelity" switch for AM
- New Built-in FM antenna
- Perfect match for AA-151 Amplifier



Introducing the Heathkit AJ-11— the latest in styling and quality AM/FM performance

Here is the new Heathkit AJ-11 AM/FM tuner, successor to the popular AJ-10, with new features, styling and performance. Smart in its new luggage-tan vinyl-clad steel case and charcoal-grey front panel, this remarkable new tuner offers handsome appearance as well as fine performance. Easy, accurate tuning is yours, thanks to two eye-tube tuning indicators. A pre-assembled, pre-aligned FM front end insures stable drift-free operation. A 3-position AFC switch holds FM stations to proper settings, whether they are weak or strong. An AM Fidelity Switch gives you a choice of increased selectivity or greater fidelity. The AJ-11 also features individual flywheels, for tuning ease and precision. Terminals for external AM & FM antennas are provided on the tuner which also has an FM line antenna as well as an AM rod antenna built-in. The output level controls on both AM and FM are easily adjusted to suit your preamplifier and an extra output jack is provided for use with a multiplex adapter. The large slide-rule dial is edge-lighted to accentuate numbers. Styled and sized perfectly to match the new Heathkit AA-151 Amplifier on page 19. This new AJ-11 Tuner can save you up to 50% in its easy-to-assemble kit form. 21 lbs.

Kit AJ-11...\$7 dn., \$7 mo. **\$69.95**
Assembled AJW-11...\$13 dn. \$11 mo. **\$129.95**



Two eye-tube tuning indicators for both AM and FM tuning accuracy



Automatic frequency control switch with "off," "half," and "full" positions is real help to fine tuning

SPECIFICATIONS (FM)—Tuning range: 88-108 mc. Quieting sensitivity: 2.5 uv for 20 db quieting; 3.5 uv for 30 db; 25 uv for max. quieting (43 db). Image ratio: —45 db, 25 uv, 30% mod., 98 mc. IF frequency: 10.7 mc. IF rejection: (98 mc) —63 db. Output: Cathode follower type, variable to 800 ohms; level: 0.45 v, 25 uv, 30% mod. Frequency response: ±2 db, 20-20,000 cps. Harmonic distortion: Less than 1%, 25 uv, 100% mod., 98 mc. Hum and noise: —43 db, 25 uv, 30% mod. RF stage: 1 tuned RF amplifier. AFC: Switched, 3-positions, off-half-full. Multiplex output: Output supplied for external multiplex adapter.

SPECIFICATIONS (AM)—Tuning range: 550-1600 kc. Sensitivity: Narrow position: 1400 kc, 10 uv; 1,000 kc, 15 uv; 600 kc, 40 uv. Frequency response: ±2.5 db, 20-9,000cps (40b down at 10 kc). Image rejection: 1400 kc, 46 db; 1,000 kc, 45 db; 600 kc, 60 db. IF frequency: 455 kc. IF rejection: 1400 kc, 40 db; 600 kc, 33 db. Output: Cathode follower type, variable to 800 ohms; level, 1 v, 750 uv, 30% mod. Harmonic distortion: less than 1%, 750 uv, 95% mod. Hum and noise: 35 db down (5,000 uv, 30% mod). RF stage: 1 tuned RF amplifier. AVC: Derived from voltage doubler detector.

SPECIFICATIONS (general)—Tuning indicators: 2 magic eye tubes, one AM, one FM. Controls: AM bandwidth, broad/narrow; function selector, AM/Stereo/FM; FM AFC, full/half/off; AC power on/off; AM tuning; FM tuning; AM level; FM level. Tube complement: (AM) 2-6BA6, 1-6BE6, 1-6BN8, 1-6ME5, (FM) 1-6CY5, 1-6E28, 3-6AU6, 1-6BN8, 1-6ME5. Transformer operated, full wave voltage doubler with 2 silicon rectifiers. Power requirements: 117 v, 50-60 cycles, 40 watts. Dimensions: 15 1/4" W. x 5 1/2" H. x 11" D.

The famous AJ-10 AM/FM TUNER... available for a limited time



Kit Form
or
Factory
Assembled

- Predecessor of the AJ-11 above
- Styled in the traditional Heathkit black & gold motif
- Full AM & FM Capabilities

We will continue to offer the AJ-10, predecessor to the new AJ-11 above, for a limited time for the convenience of those of you who have been wanting to match the styling of your other Heathkit equipment with an AM/FM tuner of the same appearance. It features two "magic-eye" indicators for "zeroing-in" on a station and an easy-to-read, well-lighted slide-rule dial. The vinyl-covered steel case is gold-flecked black with contrasting brushed gold panel trim and control knob inserts. A built-in AM rod antenna and terminals for external AM & FM antennas are provided. 13 1/4" W x 4 3/8" H x 8 1/2" D. Order your AJ-10 Tuner today, quantities are limited. 13 lbs.

Kit AJ-10...\$6 dn., \$6 mo. **\$59.95**
Assembled AJW-10...\$11.50 dn., \$11 mo. **\$114.95**

AM/FM tuners in every price range

Kit Form
or
Factory
Assembled

Deluxe AM/FM STEREO TUNER— AJ-30—tops in value and performance

- 16-tubes—completely separate AM and FM circuits—for separate or simultaneous reception of AM and FM
- Individual tuning meters for AM & FM
- Modern styling refracted lighting



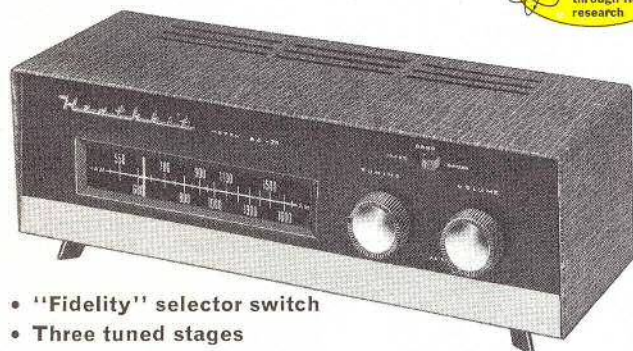
The Heathkit AJ-30 offers you the best value at any price in a completely versatile and quality engineered AM/FM stereo tuner. Compare its many features: 300 ohm FM antenna input; *built-in* FM line coupler antenna; *built-in* AM rod antenna and terminals for *external* AM and FM antennas; balanced, full-wave germanium diode AM detector; *delayed, amplified AVC*; individual *flywheel tuning*; *individual tuning meters*; AFC; AM bandwidth-fidelity switch; FM multiplex adapter output; function selector switch for AM, FM or Stereo AM/FM. In addition, the smartly-designed AJ-30 has a luggage-tan vinyl-clad steel cover and polished, anodized trim. Glare-free refracted lighting from above illuminates the dial. Enjoy the satisfaction of building your own tuner—and know you are building the best—the Heathkit AJ-30. 25 lbs.

Kit AJ-30...\$97.50
Assembled AJW-30...\$152.95

SPECIFICATIONS FM—Tuning range: 88 mc to 108 mc. **IF frequency:** 10.7 mc. **Antenna:** 300 ohm balanced (or internal for local reception). **Output:** low impedance cathode follower variable up to 4000 ohms. **Output voltage:** Nominal .5 volts (with 2 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 AM—Sensitivity, narrow bandwidth position: 1400 kc, 4.5 uv; 1000 kc, 5 uv; 600 kc, 5.5 uv (at antenna terminals through standard IRE dummy antenna, .1 volt RMS reference output). **Reference output .1 volt RMS:** 600 kc 5.5 uv. **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 55 db; 600 kc 80 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 30 db. **Power supply:** Transformer operated 50-60 cycle; 100 watts. **Tube complement:** (6) 6AU6, (3) 6BA6, (1) 6BS8, (1) 6AB4, (1) 12A17, (1) 6AL5, (1) 6BE6, (2) 12AU7. **Dimensions:** 15 1/4" W. x 5 1/2" H. x 13 1/2" D.

Low Cost AM TUNER—Just \$29.95



- "Fidelity" selector switch
- Three tuned stages
- Self-powered

For high-fidelity AM reception at a budget price, you can't beat the Heathkit AJ-20. *Self-powered*, this little giant packs three tuned stages for best sensitivity and a full wave voltage doubler detector for lowest distortion. The "fidelity" selector switch gives you a choice of maximum selectivity or maximum fidelity. One of the two outputs is variable level cathode follower type for direct driving of power amplifiers, regardless of cable length; the other output is "fixed" for use with preamplifiers. A *built-in* rod antenna and terminals for an external antenna are included. *Flywheel tuning* makes station selection quick and the edge-lighted slide-rule dial is easy to read. 9 lbs.

Kit AJ-20...\$3 dn., \$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):** NOR-MAL—7 kc.; MAXIMUM—18 kc. **Output impedance (cathode follower):** 5000 ohms **Input signal for 1 volt output:** 2.5 uv—30% mod. 1000 kc. **Image ratio:** 1000 kc—50 db. **Harmonic distortion (750 uv 95% mod.):** Less than 1%. **Hum and noise (5000 uv—30% mod.):** 40 db. **IF rejection:** 1000 kc—35 db. **Tube complement:** 2—6BA6, RF amplifier—IF amplifier, 1—6BE6, Oscillator-Mixer, 1—12AU7, AF Amplifier-Cathode follower, 2—Crystal Diodes, Audio Detector, 1—Silicon Diode, Rectifier (Power Supply), 1—No. 47 Pilot Lamp (Dial Illumination). **Power supply:** Transformer operated (fused). **Power requirements:** 117 V AC, 50/60 cycles at 19 watts. **Dimensions:** Overall—including cabinet and feet, 4 1/8" high x 13 1/4" wide x 5 1/2" deep.

Low Cost FM TUNER—Just \$39.95

Kit Form
or
Factory
Assembled



- Automatic Frequency Control with On-Off Switch
- 5 tube circuit (7 tube functions)
- Flywheel tuning and slide-rule dial

Enjoy the pleasures of FM radio in your home at low cost with the Heathkit FM-4. From its carefully-engineered, easy-to-build circuit to its rich styling, the FM-4 is truly "value-packed." *Flywheel tuning* and switched Automatic Frequency Control that "locks in" stations for "drift-free" performance are just two of the highlights of this instrument. Vinyl-clad steel cover has black and gold fleck design with gold trim strip and control knob inserts. *Cathode follower output* offers you complete installation flexibility. Extra output jack provided for multiplex adapter. Has built-in power supply. 8 lbs.

Kit FM-4...\$4 dn., \$5 mo.\$39.95

Assembled FMW-4...\$6.30 dn., \$6 mo.\$62.95

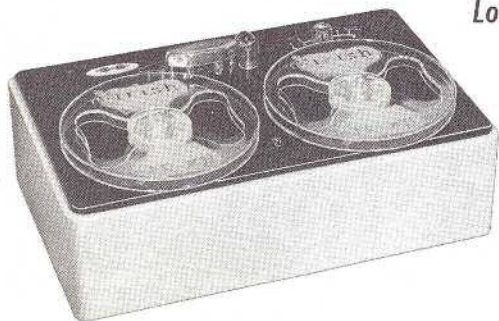
SPECIFICATIONS—Tuning range: 88 to 108 mc. **Quieting sensitivity:** 2.5 uv for 20 db of quieting; 3.5 uv for 30 db of quieting; 25 uv for maximum quieting (45 db). **IF frequency:** 10.7 mc. **Image ratio:** 45 db. **AFC correction factor:** 75 kc per volt. **AM suppression:** 25 db. **Frequency response:** =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 1/4" H. x 13 1/4" W. x 5 1/2" D.



Now you can enjoy the fidelity and convenience of 4-track stereo tape with Heathkit® units that are priced for every budget

Enjoy the growing libraries of 4-track stereo tape music. Distortion-free listening pleasure with the utmost in realism is yours in Heathkit products with prices and features to fit your individual budget need. From the economical AD-70 tape player to the professional TR-1E tape recorder, you'll find the latest and best engineered components. And by following the Heathkit "check-by-step" easy instructions, you experience the satisfaction and pride of accomplishment that comes from assembling a precision instrument yourself. You'll also save up to 50% of the cost of similar preassembled units. Enjoy the wonders of 4-track stereo tape now—with Heathkit!

Lowest price 4-track STEREO TAPE PLAYER



- Plays direct through any "tape head" input
- Single control lever—2 speeds
- Mechanism same as TR-1A

The Heathkit AD-70 is a low-cost 4-track stereo tape player that can operate with any stereo amplifier or preamplifier that has a tape head input, such as Heathkit AA-100 or SP-2A, without extra electronics. A *single control lever* provides easy "play," "fast-forward," or "rewind" functions. 3¾" & 7½" speeds. "On-off" switch provided. Mounts horizontally, vertically or in bases below. 15½" L x 9½" W x 4" D. 11 lbs.

Kit AD-70 (less base) . . . \$7.50 dn., \$7 mo. **\$74.95**

ASSEMBLED TAPE RECORDER BASES:

As shown on AD-70; also fits TR-1A or TR-1A 3 lbs.
 Model ADA-70M: mahogany **\$6.95**
 Model ADA-70W: walnut **\$6.95**
 Model ADA-70U: unfinished **\$4.95**

Record and play 4-track STEREO TAPES at low cost

- Eye-tube recording level indicators
- "Safety-interlock" prevents accidental erasing
- 3¾" & 7½" speeds
- Fan-cooled motor

Heathkit's famous TR-1A 4-track stereo tape recorder lets you record and play mono or stereo tapes with excellent fidelity. The *single control lever* on the tape mechanism allows easy "play," "rewind," and "fast-forward" function switching. Top quality recordings are assured by *separate* record and playback volume controls on *each* amplifier and eye-tube recording level indicators. A *safety interlock* prevents accidental erasure of tapes. Will accommodate tape reels up to 7", and operates on 2 speeds, 3¾ or 7½ IPS. Fan cooled motor. Microphones provided.

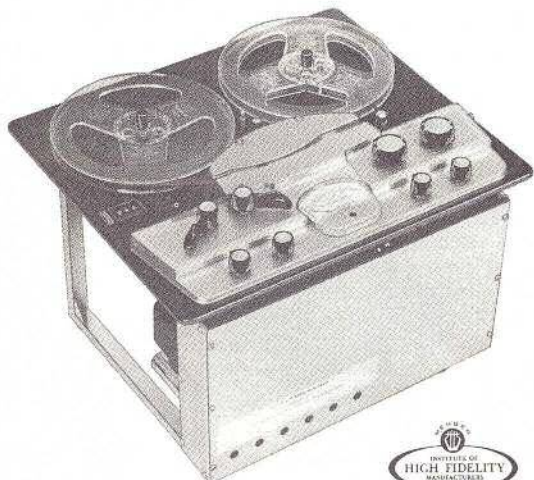
Kit TR-1A (4-track stereo version; has 2 preamps & 2 mikes) . . . 36 lbs. . . . \$15 dn., \$13 mo. **\$149.95**
 Kit TR-1A (half-track mono version; has 1 preamp & 1 mike) . . . 24 lbs. . . . \$10 dn., \$9 mo. **\$99.95**



SPECIFICATIONS—Frequency response: ± 3 db 40-15,000 cps @ 7½ IPS. Flutter and wow: below 0.35%. Harmonic distortion: less than 2% at full output. Dimensions: 15½" L x 9½" W x 4" D. Vertical or horizontal mounting.



Professional-type 4-track STEREO TAPE FACILITIES for only \$169.95



The Heathkit TR-1E provides stereo playback of 4-track tapes plus half-track monophonic record and playback at 3¾ or 7½ IPS tape speeds. Separate record and playback tape heads and preamplifiers permits *monitoring of tape while recording*. *Pause control* makes editing easy. A db meter indicates recording level, bias setting or playback level. Tape mechanism is completely assembled, you build only the electronics. *2 circuit boards* make assembly easy. *Push-pull bias-erase oscillator* assures minimum distortion and low noise level. Features *NARTB tape equalization*. Semi-gloss black panel has gold escutcheon and black control knobs with gold inserts. Compares with other tape recorders selling for \$350 to \$400. 15½" W x 13½" H x 10¾" D. Less mic. 30 lbs.

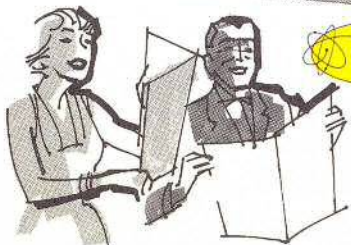
Kit TR-1E . . . \$17 dn., \$15 mo. **\$169.95**
 Kit TR-1C (mono version) half-track mono record & playback . . . \$16 dn., \$14 mo. **\$159.95**
 AK-1, recommended microphone, 1 lb. **\$9.95**

SPECIFICATIONS—Tape speed: 7.5 and 3.75" per second. Maximum reel size: 7" Frequency response: (record-playback): ±2.5 db, 30-12,000 cps at 7.5 IPS. ±2.5 db, 30-6,500 cps at 3.75 IPS. Harmonic distortion: 1% or less at normal recording level; 3% or less at peak recording level. Signal-to-noise ratio: 50 db or better, referred to normal recording level. Flutter and wow: 0.3% RMS at 7.5 IPS. 0.35% RMS at 3.75 IPS. Heads (3): erase, record, and in-line stereo playback. Playback equalization: NARTB curve, within ±2 db. Inputs: (2); Microphone and line. Input impedance: 1 megohm. Outputs: (2); A and B stereo channels. Output levels: approximately 2 volts maximum. Output impedance: Approximately 600 ohms (cathode followers). Recording level indicator: Professional type db meter. Bias-erase frequency: 60 kc. Timing accuracy: ±2%. Power requirements: 105-125 volts AC, 60 cycles, 32 watts. Dimensions: 15½" W x 13½" D x total height 10¾". Mounting: requires minimum of 8¼" below and 1¼" above mounting surface. May be operated in either horizontal or vertical position.



Here's a new and elegantly styled
STEREO AMPLIFIER for only \$59.95

Kit Form
or
Factory
Assembled



- 28 hi fi rated watts (14 per channel)
- 4 stereo inputs—6 versatile controls
- Designed to match the AJ-11 Tuner

With styling features never before found on medium-priced stereo amplifiers, the new Heathkit AA-151 is the proud successor to the famous SA-2, with features, performance, and appearance of units selling for twice the price. Its handsome luggage-tan vinyl-clad steel cabinet and charcoal grey front panel blends with any decor. Delivers a full 28 watts at low cost. Versatile controls give fingertip command of every function. "Stereo", "stereo reverse," and complete monophonic operation is readily programmed through the 6-position mode selector, clutched volume and ganged tone controls; 4 position source selector. Perfect companion to AJ-11 AM/FM Stereo Tuner, p. 16. 28 lbs.

Kit AA-151...\$6 dn., \$6 mo. \$59.95
Assembled AAW-151...\$12 dn., \$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 20 cps to 20 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. **Hum and noise:** Mag. phono input, 55 db below 14 watts; Tuner and crystal phono 65 db below 14 watts. **Channel separation:** Better than 45 db. **Input sensitivity:** For 14 watt output each channel (tone controls in "Flat" position): mag. phono, 0.004 volts at 1 kc; crystal phono, 0.2 volts; tuner and aux., 0.2 volts. **Outputs:** 4, 8 and 16 ohms. **Damping factor:** 10:1. **Controls:** Dual clutched volume, ganged bass; ganged treble; 4-position source selector; 6-position mode selector; speaker phasing switch. **Tube complement:** 2-6EU7, 2-6AU6, 2-6AN8, 4-EL84, 1-GZ34 /5AR4. **Power requirements:** 117 volts, 50-60 cycles, 130 watts. **Power outlets:** 2 AC receptacles, 1 switched, 1 unswitched. **Dimensions:** 15½" W. x 5½" H. x 11" D.

Only \$29.95 for a STEREO COMBINATION AMPLIFIER

- Operates from tuners and crystal or ceramic pickups
- Separate bass and treble tone controls
- Clutched volume controls



An SA-3 Stereo Amplifier from Heath is the low cost way to "start" a stereo system in your home. Or, it can provide the power for that second system in the den, patio, or the children's room. This combination amplifier-preamplifier delivers 3-watts per channel, enough for average listening tastes. Separate dual-channel tone controls, clutched volume controls, 7-position function switch, and 2 high-level inputs per channel make this SA-3 a real bargain for only \$29.95. In satin black with gold trim. Easy assembly saves you money. 12 lbs.

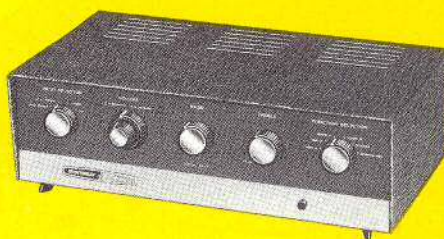
Kit SA-3...\$3 dn., \$5 mo. \$29.95

CLOSE-OUT PRICE ON ASSEMBLED MODEL—See center pages

SPECIFICATIONS—Channels: 2. **Power output:** 6 watts (3 w. per channel) Heath Utility Rating. **Power response:** ±1 db, 50-20,000 cps at 3 watts output per channel. **Harmonic distortion:** Less than 3%, 60-20,000 cps at 3 watts output per channel. **Intermodulation distortion:** Less than 3% at 3 watts output, 60 and 60,000 cps signals, 4:1. **Hum and noise:** 65 db below 3 watts output. **Input sensitivity:** 150 mv for 3 watts output each channel, crystal phono and tuner. **Outputs:** 4, 8 and 16 ohms. **Controls:** Dual clutched volume, ganged treble, ganged bass, 7-position selector switch, speaker phasing switch, on-off switch. **Tube complement:** 2-EL84; 2-7199; 1-EZ81. **Power requirements:** 117 v, 50-60 cycle, 75 watts. **Color and finish:** Satin black, gold trim. **Dimensions:** 12½" W. x 3½" H. x 6½" D.

Limited number of SA-2 AMPLIFIERS still available

Kit Form
or
Factory
Assembled



- Quality performance
- Medium price
- Predecessor of Heathkit AA-151

A limited number of Heathkit SA-2 Stereo Amplifiers are still available for those of you who wish to match the traditional styling of your present Heathkit equipment. Delivering a full 28 watts (14 per stereo channel), the SA-2 features the famous Heathkit black and gold vinyl-clad steel case with black panel and brushed gold trim. 4 stereo inputs, versatile controls and easy to construct. 23 lbs.

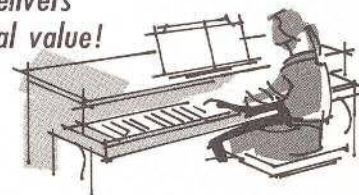
Kit SA-2...\$5.50 dn., \$5 mo. \$54.95
Assembled SAW-2...\$10 dn., \$9 mo. \$99.95

Kit Form
or
Factory
Assembled



Deluxe STEREO AMPLIFIER delivers
50 Hi-Fi rated watts for real value!

- 5 stereo inputs
- mixed-channel speaker output
- separate mono mag. phono cartridge input



Here is the top of the Heathkit stereo amplifier line. The superb AA-100 has quality, value and features throughout, plus the low price tag that made Heath famous. Delivering a full 50 hi-fi rated watts (25 watts per channel), the AA-100 has 5 stereo inputs plus separate monophonic magnetic phono input (also takes tape heads direct without external preamp or equalization). The mixed-channel speaker output can be used for stereo center "fill-in" or monophonic sound in other rooms. Cathode follower outputs are also provided for tape recorder. The list of controls gives you an idea of how versatile this unit is; preamplifier input level controls, power amplifier input level controls, hum controls, "mode" selector, phase reversal switch, balance and separation controls, ganged volume controls and separate concentric bass and treble tone controls. Features a luggage-tan vinyl-clad steel cover with a plastic control panel that is framed by bright metal trim and softly-lighted from above to eliminate glare. Save up to 50% over the cost of similar power in ready-made units by building your own AA-100... it's easy and gives you the best value in stereo today! 31 lbs.

Kit AA-100...\$8.50 dn., \$8 mo. \$84.95
Assembled AAW-100...\$14.50 dn., \$13 mo. \$144.95

SPECIFICATIONS—Channels: 2. **Power output:** 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; cathode follower tape recorder outputs. **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-EF88, 4-12AX7, 2-7119, 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:** 5½" H. x 15½" W. x 13½" D. (allow 1" for cables at rear).



SPECIFICATIONS—Channels: 2. **Inputs:** 4 each channel: Mag. phono, 47 K ohms; crystal phono, 2.4 megohms; aux. 1 & 2, 500 K ohms each. **Input sensitivities:** (For 2.5 v rms output) Mag. phono 0.004 v; crystal phono 0.15 v; aux. 1 & 2, 0.2 v. **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 65 db or better below 2.5 volts output. **Channel separation:** 45 db or better. **Controls:** Separate bass and treble controls each channel; 4-position input selector; separate volume each channel (clutched); 6-position function switch; filament balance. **Tube complement:** 5-12AX7. **Power requirements:** 117 v, 50-60 cycles, 17.5 watts. **External power supplied:** 2 AC receptacles, 1 switched 1 unswitched. **Color and finish:** Panel, black with brushed gold trim; cover, black and gold vinyl-clad steel.

Biggest value STEREO PREAMPLIFIER anywhere!

- Built-in Power Supply
- Concentric Baxandal-type tone controls
- 6-position function selector
- Lower distortion—higher output for less cost

The Heathkit AA-20 Stereo Preamplifier is a low-cost, high-quality unit with amazing versatility. While designed to function with the Heathkit AA-30 and AA-40, it can operate efficiently in front of any stereo amplifier. Includes: *separate concentric Baxandal tone controls* for more flexible bass and treble control; *4-position input selector* for magnetic phonograph (RIAA equalized), crystal or ceramic phonograph, and two auxiliary high level sources (AM/FM tuners, TV, Tape recorder, etc.); *6-position selector switch* for any mode. A *built-in power supply* and 2 accessory AC outlets are also featured. With neat circuit layout and "check-by-step" instructions, the Heathkit AA-20 is easy to assemble. 13 $\frac{1}{8}$ " W. x 3 $\frac{3}{8}$ " H. x 6 $\frac{3}{8}$ " D. 7 lbs.

Kit AA-20 . . . \$3.50 dn., \$5 mo. **\$34.95**



Deluxe STEREO PREAMP SP-2A only \$56.95

- 8 position input/equalization selector
- Tape head input
- Loudness control
- Remote balance control—20' cable
- Built-in power supply

This deluxe stereo preamp features 6 dual inputs, separate bass, treble, loudness and level controls for each channel, scratch filter, remote balance control on 20' cable, 8-position input-equalization selector, 4-position function selector, on-off switches, and hum balance. *Self-powered*. The SP-2A also has NARTB direct tape head input; no need for separate preamp or equalization. 15 $\frac{5}{16}$ " W. x 4 $\frac{5}{8}$ " H. x 8 $\frac{1}{2}$ " D. 14 lbs.

Kit SP-2A . . . \$5.70 dn., \$6 mo. **\$56.95**



SPECIFICATIONS—Channels: 2. **Inputs:** 6 each channel; tape head, 100 K ohm; mag. phono, 47 K ohm; microphone, 1 megohm; 3 auxiliary inputs at 470 K ohms each. **Input sensitivities:** (For 2.5 volt rms output) Tape head, 0.002 v; microphone, 0.015 v; mag. phono, 0.002 v; aux. 1, 2 & 3, 0.25 v. **Outputs:** 2 each channel, to tape recorder and low impedance cathode follower to power amp. **Frequency response:** ± 1 db 20-20,000 cps. **Harmonic distortion:** Max. 0.25% at 2.5 volts output. **Intermodulation distortion:** Max. 0.5% at 2.5 v. output. **Hum and noise:** 2.5 mv at tape head input, 50 db or better below 2.5 v rms; 6 mv at mag. phono. 65 db below 2.5 v rms, 20 mv at microphone input, 65 db below 2.5 v rms; 0.1 v at aux. inputs, 75 db below 2.5 v rms. **Channel separation:** 40 db or better.



Quality MONOPHONIC PREAMP—just \$24.95

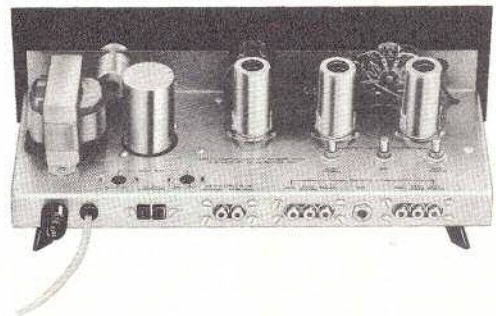
- Self-powered
- Baxandal type tone controls
- 6 inputs for versatility



The Heathkit AA-60 is the new, proud successor to the famed WA-P2 and is already recognized as the finest money-saving value in monophonic preamplifiers today! 6 inputs include mag. phono, tape head (enough gain and NARTB equalized to bypass tape recorder playback electronics), microphone, tuner, crystal phono and auxiliary! *Self-powered*, it can be used with any monophonic power amplifier. *Input level controls* for microphone and crystal phono inputs. *Cathode followers* feeding tape recorder and normal outputs insure minimum high frequency loss despite cable length. *Baxandal type tone controls* provide bass and treble adjustment flexibility. Styled in black and gold vinyl-clad steel with gold trim. 6 lbs.

Kit AA-60 . . . \$2.50 dn., \$5 mo. **\$24.95**

SPECIFICATIONS—Input impedances: (At 1 KC) mag. phono 47 K ohm; tape head 82 K ohm; mike 500 K ohm; tuner 1 megohm; xtal phono 1 megohm; aux. 1 megohm. **Input sensitivity:** (2.5v, rms output at 1 KC) Mag. phono .0035 v; tape head .004 v; mic. .01 v; tuner .1 v; xtal phono .12 v; aux. 1 v. **Outputs:** (2) Normal & Tape recorder. **Frequency response:** ± 1 db 20-20,000 cps. **Harmonic distortion:** 0.2% or less. **IM distortion:** 0.25% or less. **Dimensions:** 4 $\frac{1}{2}$ " H. x 13 $\frac{1}{2}$ " W. x 5 $\frac{1}{2}$ " D.

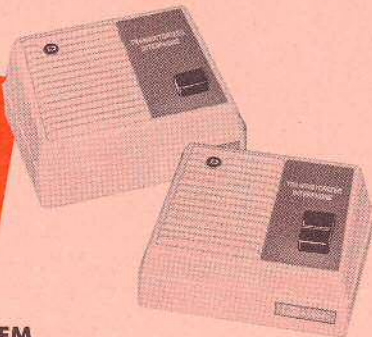


**CLOSE-OUT
SALE**

UP TO 60% DISCOUNT

For the first time in Heathkit history, we are having a close-out sale on brand-new electronic equipment which is being discontinued from our regular line. You can save as much as 60% on the regular cost of these items. These are *not* factory rejects or second-hand products, but top-quality items that carry the standard Heathkit warranty. See previous Heathkit catalogs and flyers for full descriptions. Remember, the *quantities on these items are limited* and orders will be filled on a "first come—first served" basis. Check these bargains now! Never before have there been such savings! Place your order today! Use time payments if you wish on any order over \$25.00 . . . only 10% down.

WAS \$22.95
NOW \$14⁹⁵



2-WAY INTERCOM SYSTEM

"Master" and "Remote" stations; either can signal a call, even with "master" turned off. Sensitive 3-transistor circuit. Completely assembled. Includes 4 penlight cells, 50' of wire. Blue & white plastic.

Assembled GDP-40 . . . 4 lbs. \$14.95

WAS \$42.95
NOW \$37⁹⁵



CITIZEN'S BAND TRANSCEIVERS

The nation's favorite CB unit for fixed or mobile use at a reduced price! Super-regenerative receiver and crystal controlled transmitter in one unit. Includes microphone, power cords, ID card, call letter set, license forms and crystal for one channel (specify). 10 lbs.

Kit CB-1 \$3.80 dn., \$5 mo. \$37.95
Assembled CBW-1 . . . \$5.70 dn., \$6 mo. \$56.95

WAS \$69.95
NOW \$54⁹⁵

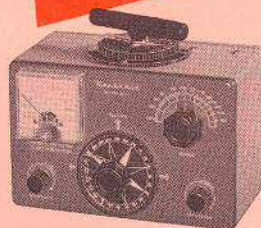


2-BAND TRANSISTOR DIRECTION FINDER

Six-transistor radio direction finder receives beacon and broadcast bands. Meter for easy "tuning" and "null" indications. Six standard flashlight batteries for power; last up to one year. Push-button dial light for night operation. 4" x 6" speaker for "big set" tone. Corrosion-proof aluminum case. 2-tone sea green. 9 1/2" L x 5" D x 8" H. 9 lbs.

Kit DF-2 \$5.50 dn., \$5 mo. \$54.95

WAS \$54.95
NOW \$34⁹⁵

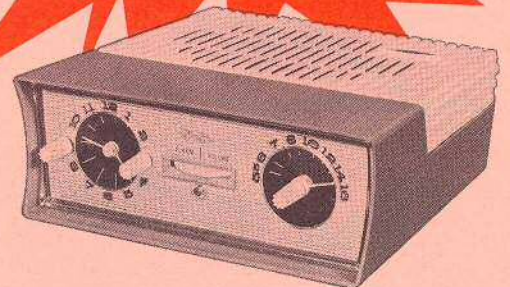


BROADCAST BAND MARINE RADIO DIRECTION FINDER

Standard broadcast band portable radio and radio compass. Self-contained; 6-transistors; directional antenna; meter null and tuning indicator; 7 1/2" W x 5 3/8" H x 5 3/8" D. Kit includes two 9 V batteries, and slip-in-place mtg. brackets. 5 lbs.

Kit DF-1 \$3.50 dn., \$5 mo. \$34.95

WAS \$46.95
NOW \$39⁹⁵



6-TRANSISTOR CLOCK-RADIO

Complete clock-radio portability with economical battery power. Lull-to-sleep control sets radio for up to hour's playing time. Other controls for soft music or electronic buzzer alarm. Turquoise and ivory case 3 1/2" H x 8" W x 7 1/2" D fits into optional leather carrying case. Has RF stage, push-pull output, vernier tuning, built-in rod antenna, 4" x 6" oval speaker for "big set" tone quality, earphone jack for private listening. Requires 7 standard pen-light cells or mercury cells. 5 lbs.

Kit TCR-1 (less batteries) . . . \$4 dn., \$5 mo. \$39.95

Optional Leather Carrying Case
93-3 . . . (2 lbs.) \$4.95

Giant close




**WAS \$79.95
NOW \$69⁹⁵**

**AS-2B
ACOUSTIC SUSPENSION SPEAKER**

Close out of the birch cabinet model of this Heathkit version of the AR-2 acoustic suspension speaker. Prefinished in blond-birch tone. Now same price as unfinished model. See p. 24 for details.

Kit AS-2B...45 lbs....\$7 dn., \$7 mo.....\$69.95



**WAS \$19.95
NOW \$12⁹⁵**

**MIXED LOWS
STEREO
CROSSOVER
NETWORK**

Makes 1 woofer do work of 2! Delivers bass notes below 250 cps from both channels to 1 woofer; passes highs to 1 speakers. Rated 25 w. Matches 8-16 ohms.

Kit AN-10... 10 lbs....\$12.95



**WAS \$24.95
NOW \$9⁹⁵**

SPEEDWINDER KIT

Rewinds recording tape or movie film, 8 or 16 mm. Rewinds 1200' of tape in 40 seconds. Handles up to 10½" reels. Has soft neoprene idler wheel, automatic shut-off or manual. 12 lbs.

Kit SW-1.....was \$24.95...now only \$9.95



**WAS \$55.75
NOW \$44⁹⁵**

**FACTORY
ASSEMBLED
6 WATT STEREO
AMPLIFIER**

Assembled and tested; has a stereo preamp for tuner and crystal/ceramic cartridges plus two 3-watt power amps. Fine for "starter" or extra set. See p. 19 for details. 12 lbs.

Assembled SAW-3
\$4.50 dn., \$5 mo....\$44.95



**WAS \$49.75
NOW \$39⁹⁵**

**20-WATT
HI-FI RATED POWER AMPLIFIER**

Another Heathkit classic in hi-fi being closed out. Dual chassis; amplifier on one, power supply on other. Meets full hi-fi ratings at 20 watts. Features the famous 5881 output tubes and "Acrosound" TO-300 ultra-linear output transformer. Input .85 volts; output for 4, 8 & 16 ohm speakers. Provides preamp. power. Each chassis measures 7" H x 5½" W x 11" L; ideal for "customs."

Kit W-3AM...29 lbs....\$4 dn., \$5 mo.....\$39.95



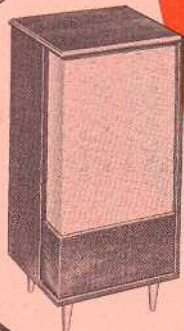
**WAS \$179.95
NOW \$129⁹⁵**

**\$50 OFF ON THIS FINE
STEREO PHONO CONSOLE**

Everything included in this kit; preassembled 4-speed automatic record changer with diamond stylus ceramic stereo cartridge; all parts for stereo amplifier, console and speaker wing cabinets, crossover network; three ready-to-mount speakers. Amplifier has complete controls; peak power 20 w. Cabinets of birch or mahogany, unfinished plywood. Uses "mixed-lows" 8" woofer. 90 lbs.

Kit SD-1M (mahogany) ...\$13 dn., \$12 mo.....\$129.95
Kit SD-1B (birch)\$13 dn., \$12 mo.....\$129.95

Clear-out sale



WAS \$39.95
NOW \$29⁹⁵

STEREO WING SPEAKER CABINET KITS

Ideal for corner stereo spkrs. Houses SS-2 or similar spkrs. Open back; cloth grill; 3/4" solid core unfinished mahog. or birch plywood; right or left styles. Max. inside area: 16" W x 29 1/4" H x 14 1/2" D. 42 lbs.

Kit SC-1BL, birch, left; Kit SC-1BR, birch, right; Kit SC-1ML, mahog., left; Kit SC-1MR, mahog., right. . . \$29.95 ea.



WAS \$7.50
NOW \$5⁹⁵

12" UTILITY SPEAKER

Good quality, 12" utility speaker for PA, wired music systems, small hi-fi systems, replacement or test purposes. Rated 12 watts; response 50-9,000 cps; 8 ohms; 6.8 oz. magnet. Instructions included for enclosure.

US-1...7 lbs. \$5.95



WAS \$59.75
NOW \$44⁹⁵

HI-FI RATED POWER AMPLIFIER 25-WATT

Here's your last chance to get the classic W-5M, the amplifier that set the quality standard in hi-fi for years. Ideal for adding a second channel for stereo. Uses famous KT66 tubes. Input 2.5 v, output 4, 8, 16 ohms; provides preamp power.

Kit W-5M...31 lbs....\$4.50 dn., \$5 mo..... \$44.95

WAS \$109.95
NOW \$84⁹⁵

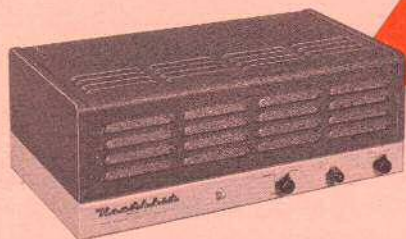


70-WATT PROFESSIONAL-RATED POWER AMPLIFIER

Meets the Heath Professional standards at full 70 watts! Uses 6550 output tubes, special Peerless output transformer, variable damping control; provides preamp power. Input 1 volt; outputs for 4, 8, 16 ohm speakers and 70 volt line (ideal for hi-fi or PA use). Buy two for the ultimate in stereo power!

Kit W-6A...52 lbs....\$8.50 dn., \$8 mo..... \$84.95

WAS \$94.50
NOW \$74⁹⁵



FACTORY ASSEMBLED 55-WATT HI-FI POWER AMPLIFIER

The WW-7A is ready to go when you unpack it. Meets hi-fi and professional standards at 55 watts! Uses EL-34 output tubes; has 4, 8, 16 ohm speaker outputs and 70 volt line output (ideal for PA use); provides preamp power; see p. 22 for full details and specifications.

Assembled WW-7A...28 lbs....\$7.50 dn., \$7 mo. \$74.95

WAS \$4.95
NOW \$2⁹⁵



LEGS FOR SS-2 CABINETS

Attn. SS-2 speaker owners! Convert your SS-2 to handsome console. 4 brass tip legs, 14" long. 3 lbs.

91-26, unfinished.....\$2.95 set

Quantities Limited,
Don't Miss Out!
Order Now—
Pay Later!
See Order Blank
For Time Pay
Details

CLOSE-OUT SALE

No danger of early obsolescence as these "ham" items will not be replaced with new kits.



WAS \$169.95
NOW \$129.95

KILOWATT POWER SUPPLY

Powers a complete DC kilowatt linear amplifier or plate modulated kilowatt phone rig. Oil-filled, hermetically sealed plate transformer and swinging choke. 60-second time delay relay. Max. DC power output 1500 watts; 3000 or 1500 v., average 500 ma, peak 1000 ma. 17 3/4" W x 12" H x 13" D. 105 lbs.

Kit KS-1... \$13 dn., \$11 mo..... \$129.95



WAS \$399.95
NOW \$319.95

FULL GALLON LINEAR AMPLIFIER

SPECIFICATIONS (KL-1)—Driving power required: CLASS AB-1 (tuned grid) 10 watts peak (Max.) (swamped grid) 60 watts; CLASS C (tuned grid) 40 watts (max.); **Power input:** CLASS AB-1 (SSB-voice modulation) 2000 watts PEP; CLASS AB-1 (AM linear) 1000 watts; CLASS C (CW) 1000 watts. **Power output:** CLASS AB-1 (SSB-voice modulation) 1100 watts PEP; CLASS AB-1 (AM linear) 300 watts; CLASS C (CW) 750 watts. **Output impedance:** 50 to 72 ohms unbalanced. **Band coverage:** 80, 40, 20, 15, 10 meters. **Panel metering:** grid current, screen current, plate voltage (selectable); Final plate current (continuous). **Final tubes:** (2) 4-400A. **Power requirements:** AC power (supply primary circuit) 250 watts, 115 volt, 50-60 cycles. DC 3000 volts, 450 ma. **Dimensions:** 19 1/2" W. x 11 1/2" H. x 16" D.

Kit KL-1... \$32 dn., \$27 mo..... \$319.95

WAS \$13.95
NOW \$6.95



CONELRAD MONITOR

Automatically cuts AC power to transmitter when monitored station goes off air. Works with any radio having AVC. Alarm light and pilot light. Self powered.

Kit CA-1... 4 lbs..... \$6.95

ANTENNA COUPLER
NOW \$10.95

ANTENNA COUPLER

Matches transmitter to simple end-fed antenna; has low pass filter for harmonic attenuation. For transmitters up to 100 watts with 52 ohm output Z.

Kit AC-1... 3 lbs... \$10.95

6 & 2 METER CONVERTERS

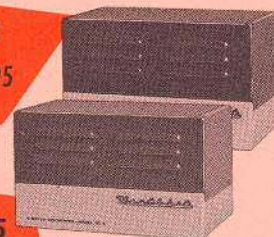
XC-6 converts 50-54 mc signals to 22-26 mc; has two RF stages & osc.-mixer; xtal-control. XC-2 converts 144-148 mc to 22-26 mc. Xtals supplied.

Kit XC-6 (6 meter)... 6 lbs. ... \$19.95

Kit XC-2 (2 meter)

7 lbs.... \$2.70 dn., \$5 mo.... \$26.95

WAS \$36.95
NOW \$26.95



WAS \$26.95
NOW \$19.95

CATHODE RAY TUBE CHECKER

Checks all electromagnetic deflection-type tubes using duo-decal (12 pin) base. No worry about type of focusing, electron gun or screen. Tests for shorts, leakage, and emission capabilities with separate test for beam current.

Kit CC-1... 10 lbs. \$14.95

BATTERY TESTER

Test "A" or "B" batteries under load! Has built-in load resistance for true measurements. Cks 0-15 V. "A" at 100 ma; 0-180 V. "B" at 10 ma.

Kit BT-1 2 lbs. \$6.95

WAS \$8.50
NOW \$6.95



WAS \$24.95
NOW \$14.95





Features patented Heath ULTRA-LINEAR® circuit!



Hi-Fi rated 28-watt STEREO POWER AMPLIFIER

- 2 Channels—conservatively rated at 14 watts each
- Individual amplifier gain controls
- Phase reversal switch
- Supplies preamp power if required

You'll marvel at this compact, elegantly styled Heathkit AA-30 Stereo Power Amplifier . . . it delivers a solid 28-watts for just \$45.95! The two channels are *hi-fi rated* at a full 14 watts each and use Heath's patented ULTRA-LINEAR® circuit to bring you the finest in performance. It's a fine companion for the AA-20, but will work with any preamp, for it supplies 300 VDC @ 10 ma and 6.3 VAC @ 1.1 amp for preamp power. The etched circuit boards mean easy assembly for you. Individual amplifier gain controls, and a speaker phase reversal switch are also included. Four EL/84 tubes pack this AA-30 with real power! The black expanded metal ventilated dust cover is included at no extra cost. The chassis is smartly finished in gold. 13" W x 8½" D x 6" H. 21 lbs.

Kit AA-30 . . . \$4.60 dn., \$5 mo. **\$45.95**

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 80 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. **Input sensitivity:** 0.74 v for 14 watts output per channel. **Input impedance:** 500 K ohm pot. **Outputs:** 4, 8 and 16 ohm. **Damping factor:** 5.25:1, 4 ohm tap; 10.2:1, 8 ohm tap; 11.5:1, 16 ohm tap. **Controls:** Left and right channel gain; AC switch; phase switch. **Tube complement:** 2-7199; 4-EL84/6BQ5; 1-GZ34/5AR4. **Power requirements:** 117 v, 50-60 cycles, 115 watts. **Power outlets:** 2 octal sockets for pre-amp power; supply 300 v at 10 ma, 6.3 volts at 1.1 amps at each socket.

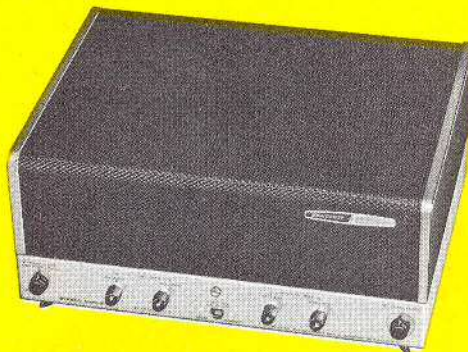
BIG STEREO POWER at just a dollar per watt . . . 80 watts for only \$80.00

- Conservatively Heath Rated at 80 watts—Music power Rated at 98 watts
- Balancing circuit eliminates need for matched tubes
- Mixed-channel center speaker output

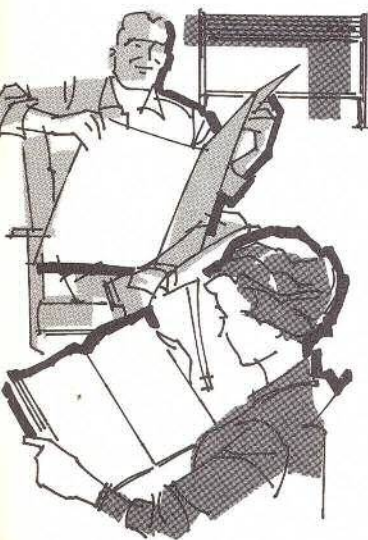
Heathkit's powerful AA-40 Stereo Power Amplifier delivers 40 hi-fi rated watts per channel at a dollar per watt—an unprecedented value in stereo! The extra *mixed-channel center speaker output* provides "fill-in" stereo sound or monophonic power to speakers in other rooms. The *convenient controls* include "A" and "B" channel bias voltage level and balance, audio level for each channel, function selector, speaker phase and power switches. Heath's patented ULTRA-LINEAR® output circuit assures you of superb fidelity, and output stage *balancing circuit* reduces low frequency distortion. 2 AC outlets are provided, 1 switched, 1 unswitched. All these quality features enclosed in a ventilated black finished metal dust cover. Easy assembly of components on spacious gold finished chassis. 7¼" H x 11" D x 15" W. 40 lbs.

Kit AA-40 . . . \$8 dn., \$8 Mo. **\$79.95**

Features patented Heath ULTRA-LINEAR® circuit!



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. **Input sensitivity:** 0.95 volts rms for 40 watts output per channel. **Outputs:** 4, 8, 16, and 32 ohms per channel; center speaker terminals can be used with 4, 8 or 16 ohm speakers. **Damping factor:** 16:1, 8 and 16 ohm taps; 12.5:1, 4 ohm tap. **Controls:** A Channel: bias balance, bias voltage, level, B Channel: bias balance, bias voltage, level, Function selector; phase and power switches. **Tube complement:** 2-6AN8; 4-EL34, 4 silicon diode rectifiers, 1 selenium bias rectifier. **Power requirements:** 117 v, 50-60 cycles, 180-320 watts.

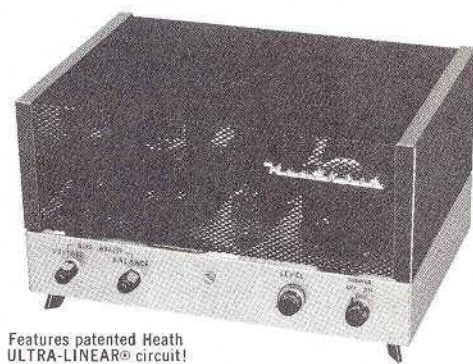


Hi-Fi Rated 35-Watt MONOPHONIC POWER AMPLIFIER only \$49.95

- Ideal power level for most speakers
- Conservative ratings guarantee long life
- Replaces the famous W-5M with higher power and greater sensitivity at less cost

The Heathkit AA-10 delivers a full hi-fi rated 35-watts for a mere \$49.95. That makes this new monophonic power amplifier *10 watts more powerful* than its predecessor, the W-5M, but *\$10 less* in price! It's crammed with special features too . . . the patented "ULTRA LINEAR"™ circuit assures maximum performance . . . bias and balance controls assure low distortion—even with unmatched output tubes . . . built-in level control and AC switch provide extra convenience . . . and specially-designed output transformer. This attractive, compact unit uses a gold finished chassis with a black, ventilated dust-cover of expanded metal. Easy to assemble, the Heathkit AA-10 can save you up to 50% while providing much more value per dollar. 25 lbs.

Kit AA-10 . . . \$5 dn., \$5 mo. **\$49.95**



Features patented Heath ULTRA-LINEAR® circuit!

SPECIFICATIONS—Power output: 35 watts Heath Hi-Fi Rating: 42 watts IHFM Music Power Output (0.7% THD, 1 kc.) **Power response:** ±1 db, 20 cps to 20 kc, at 35 watts. **Harmonic distortion:** Less than 2%, 20-20,000 cps at 35 watts output. **Intermodulation distortion:** 2% or less at 35 watts output 60 and 6,000 cps signals, 4:1. **Hum and noise:** 80 db below 35 watts. **Input sensitivity:** 0.9 v for 35 watts output. **Outputs:** 4, 8, 16, and 32 ohms. **Damping factor:** 16:1 at 8 and 16 ohm taps; 12.5:1 at 4 ohm tap. **Controls:** Bias voltage, Bias balance, Level, On-Off. **Tube complement:** 1-6AN8, 2-EL34, 1-GZ34, 1 selenium bias rectifier. **Power requirements:** 117 v, 50-60 cycles, 100-130 watts. **Power outlets:** 2 AC receptacles, 1 switched 1 unswitched; Octal socket for pre-amp power, supplies 300 v at 10 ma DC and 6.3 VAC at 1.0 amperes. **Color and finish:** Satin gold enamel chassis, black expanded metal cover. **Dimensions:** 12" W x 6¾" H x 8" D.

easy-to-build Heathkit® Amplifiers give you

A 55-watt MONOPHONIC AMPLIFIER for just \$59.95

- Speaker and 70 V. line outputs for any application
- EL-34 output tubes with balancing circuit
- Use with any preamplifiers

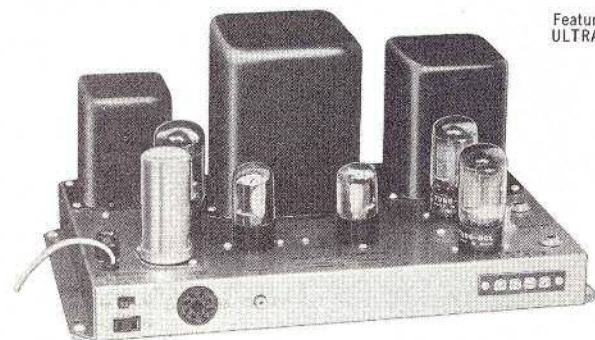
The Heathkit W-7A qualifies for both Professional and Hi-Fi ratings at a full 55 watts. Because of the superior circuit design and a separate 70-volt line output, this monophonic amplifier provides a comfortable margin of distortion-free power for any audio application, including public address systems and wired music circuits in business and commercial establishments. For better regulation and long life, the W-7A uses a silicon diode power supply and a unique tube and power supply protection device which limits current in the transformer primary until all tubes have had adequate time to warm up. The famous Heathkit balancing circuit eliminates the need for an expensive, matched set of EL-34 output tubes. The compact, well-ventilated cabinet is attractively styled for installation anywhere. A convenient pilot light is located on the front of the chassis. Easy to assemble with wiring harness. 28 lbs.

Kit W-7A . . . \$6 dn., \$6 mo. **\$59.95**
Special Sale Price On Assembled Model—See Center Pages



Features patented Heath ULTRA-LINEAR® circuit!

SPECIFICATIONS—Power output: 55 watts Heath Hi-Fi and Professional Rating; 67 watts IHFM Music Power Output (0.7% THD, 1 kc). **Power response:** ±1 db, 20-20,000 cps, at 55 watts output. **Harmonic distortion:** Less than 1% at 55 watts output, 60 and 6,000 cps signals, 4:1. **Hum and noise:** 80 db below 55 watts output. **Input sensitivity:** 2 volts for 55 watts output. **Outputs:** 4, 8 and 16 ohms, plus 70.7 volts line output. **Damping factor:** Switched for unity or max. (20). **Controls:** Gain, on-off, damping factor. Bias voltage, bias balance. **Tube complement:** 1-6AN8, 2-EL34. **Rectifiers:** 4-500 ma silicon rectifiers, 1-selenium bias rectifiers. **Power requirements:** 117 v, 50-60 cycles, 90-160 watts. **Power outlets:** Octal socket for preamp power, supplies 300 volts at 10 ma DC & 6.3 VAC @ 1.0 amperes, 1 AC receptacle-switched. **Color and finish:** Satin gold enamel chassis; black ventilated cover. **Dimensions:** 15" W. x 6 1/2" H. x 8 1/2" D.



Features patented Heath ULTRA-LINEAR® circuit!

20 hi-fi rated WATTS of dependable mono power

- "Williamson" type amplifier circuit
- Use with any preamplifier
- Chassis or remote "on-off" provision
- Chicago Standard output transformer

An excellent value in a medium-power amplifier, the Heathkit W-4B offers a big "power-for-dollar" value. Featuring the "Williamson-type" amplifier circuit with 5881 "push-pull" output tubes and a specially designed "ultra linear" Chicago Standard output transformer, this amplifier gives faithful, full fidelity service in every installation. Special filament balance resistors let you use the W-4B with any self-powered or externally-powered preamplifier. An added feature in this value-packed unit is provision for turning the amplifier on and off at the chassis or from a remote location. The chassis has a satin gold enamel finish and the unit measures 15 1/2" W x 7" H x 8 7/8" D for easy installation in your system. 28 lbs.

Kit W-4B . . . \$3.98 dn., \$5 mo. **\$39.75**

SPECIFICATIONS—Power output: 20 watts Heath Hi-Fi Rating; 20 watts IHFM Music Power Output (0.7% THD, 1 kc). **Power response:** ±1 db, 30 cps to 15 kc, at 20 watts output. **Harmonic distortion:** Less than 2%, 30 cps to 15 kc, at 20 watts output. **Intermodulation distortion:** Less than 2% at 20 watts output using 60 and 6,000 signals, 4:1. **Hum and noise:** 95, 2 db below 20 watts output. **Input sensitivity:** 2 v for 20 watts output. **Outputs:** 4, 8 and 16 ohms. **Damping factor:** 28.5:1. **Controls:** Output tube balance control, on-off switch. **Tube complement:** 2-6881, 2-6SN7, 1-5V4. **Power requirements:** 117 v, 50-60 cycles, 115 watts. **Power outlets:** Octal socket for pre-amp power, supplies 275 v DC at 10 ma, 6.3 v AC at 1.1 amperes; 1 AC outlet switched.

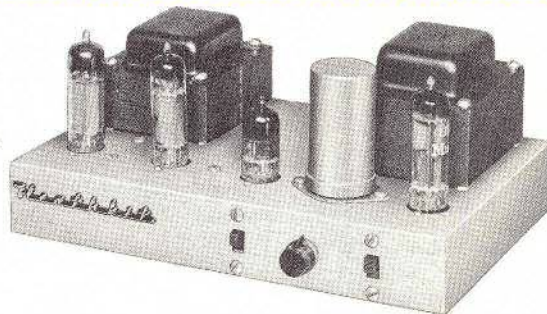
14-watt monophonic POWER AMPLIFIER . . . just \$22.95!

- Meets Heath Hi-Fi standards at 14 watts
- Supplies preamp power
- Input level control
- Variable damping

Where but at Heath could you get so much for so little? 14 watts of hi-fi rated power . . . low distortion with its ULTRA-LINEAR® output circuit . . . improved speaker performance by selection of "unity" or "maximum" damping . . . input level control . . . provision for switching the amplifier on and off at the chassis or from a remote location . . . and the capability of working with either self-powered or unpowered preamps. Truly "universal," this economical amplifier is powerful enough for almost any hi-fi application or it can be used as a line bridging amplifier for unbalanced lines in public address networks, wired music systems, paging, etc. It's easy to build, too, with its straight-forward circuit and comprehensive instructions which also include application notes.

Kit UA-2 . . . 13 lbs. **\$22.95**

Features patented Heath ULTRA-LINEAR® circuit!



SPECIFICATIONS—Power output: 14 watts Heath Hi-Fi Rating; 16 watts IHFM Music Power Output (0.7% THD, 1 kc). **Power response:** ±1 db 20-20,000 cps, at 14 watts output. **Harmonic distortion:** Less than 2%, 20-20,000 cps, at 16 watts output. **Intermodulation distortion:** Less than 2% at 16 watts output, 60 and 6,000 cps signals, 4:1. **Hum and noise:** 73 db below 14 watts. **Input sensitivity:** 0.7 v for 14 watts output. **Outputs:** 4, 8 and 16 ohms. **Damping factor:** Switched for unity or max. (15.86:1). **Controls:** Gain control, damping switch, on-off switch. **Tube complement:** 1-6AN8, 1-EZ81/6CA4, 2-EL84/6BQ5. **Power requirements:** 117 v, 50-60 cycles, 50 watts. **Power outlets:** Octal socket for pre-amp power, supplies 300 v at 10 ma, 6.3 v AC at 1.1 amperes. **Color and finish:** Satin gold enamel. **Dimensions:** 10" W. x 4 3/4" H. x 6 1/2" D.

more for your budget



Features patented Heath ULTRA-LINEAR® circuit!



Hi-Fi rated 14-watt MONO AMPLIFIER

- 3 inputs—complete controls
- Built-in preamplifier
- Separate bass & treble tone controls
- Attractive "bookshelf" styling

Kit Form or Factory Assembled

If your budget has a ceiling, but you are still looking for a dependable and high quality combination amplifier for your monophonic high-fidelity system, the Heathkit EA-3 solves all your problems. This economical unit delivers a full 14 watts of "hi-fi" rated power and combines a top-quality amplifier and preamplifier in a single low-cost package. Rich, full range sound reproduction and low noise and distortion levels are achieved through Heathkit's quality design and engineering "know-how." The use of miniature tubes throughout results in a modern, compact chassis layout. EL-84 output tubes are featured in a push-pull output circuit with a special-design output transformer. A filament-balance control virtually cancels AC hum for superb listening at low volume levels. The EA-3 is equipped with *three separate inputs* to accommodate magnetic and crystal phono cartridges, tape recorder or tuner program sources. For precise adjustment of the sound reproduction, it has *separate bass and treble tone controls*. Housed in a mar-proof steel cabinet covered with a black leather-like textured material with inlaid gold design. The satin black front panel is set off by brushed gold trim and black knobs with gold inserts. 15 lbs.

Kit EA-3 . . . \$3 dn., \$5 mo. **\$29.95**
 Assembled EAW-3 . . . \$5.30 dn., \$5 mo. **\$52.95**

SPECIFICATIONS—Power output: 14 watts Heath Hi-Fi Rating; 15 watts IHFM Music Power Output (0.7% THD, 1 kc). Power response: ±1 db 20-20,000 cps, 14 watts output. Harmonic distortion: Less than 2%, 30 cps to 15 kc, at 14 watts output. Intermodulation distortion: Less than 1% at 16 watts output using 60 and 6,000 signals, 4:1. Hum and noise: mag phono input, 47 db below 14 watts; tuner and crystal phono, 63 db below 14 watts. Input sensitivity: For 14 watts output; mag phono, 0.004 v at 1 kc; crystal phono, 0.2 v; tuner 0.25 v, with tone controls flat. Outputs: 4, 8 and 16 ohms. Damping factor: 4.3:1. Controls: 3-position function selector switch, bass and treble tone controls, volume control. Tube complement: 1-12AX7, 1-6AU6, 1-6AN8, 2-EL84 /6BQ6, 1-EZ81 /6CA4. Power requirements: 117 v, 50-60 cycles, 55 watts. Color and finish: Black panel with brushed gold trim; black and gold vinyl-clad steel cover. Dimensions: 4 3/4" H, x 12 1/2" W, x 8-3/16" D.

ENJOY YOUR HEATHKIT HI-FI SYSTEM NOW!

You can be enjoying your hi-fi system while you pay for it! Terms as low as \$2.50 down, up to 18 months to pay . . . see the order blank for full details.

Economy MONO AMPLIFIER . . . only \$15.95



- 3 Controls—bass, treble, volume
- Two separate inputs
- 3-watt power

You'll get good performance at minimum cost with this Heathkit EA-1 3-watt Amplifier. Just the thing for a "starter" or extra music system, or you can add it to your present radio or television set for *increased power and fidelity*. The built-in preamplifier provides all the necessary tone and volume controls needed for faultless reproduction of your favorite music. Two inputs accommodate tuner or tape recorder, and crystal or ceramic cartridge record player. Outputs provided for 4, 8, and 16 ohm speakers. Handsome black case with gold trim and non-scuffing plastic feet. Easy to build. 7 lbs.

Kit EA-1 **\$15.95**

SPECIFICATIONS—Power output: 3 watts, Heath Utility Rated, Power response: ±1 db, 50-20,000 cps at 3 watts output. Harmonic distortion: Less than 3% 60-20,000 cps at 3 watts output. Intermodulation distortion: Less than 3% at 3 watts output, 60 and 6,000 cps signal mixed 4:1. Hum and noise: 70 db below 3 watts. Input sensitivity: 0.15 v for 3 watts output, crystal phono and tuner. Outputs: 4, 8 and 16 ohms. Controls: bass, treble, volume, input selector switch, on-off switch. Tube complement: 1-EF86, 1-EL84 /6BQ6, 1-6X4. Power requirements: 117 v, 60 cycles, 49 watts. Color and finish: Satin black, gold trim. Dimensions: 8 1/4" W, x 3 3/4" H, x 6" D.

- Mono FM tuner, amplifier and speaker system
- Perfect for beginners
- Easy to install and build—anywhere

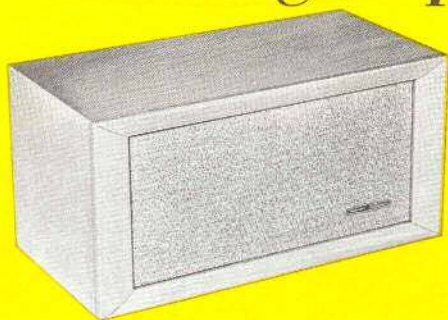


Low cost 3-watt SYSTEM for FM music just \$66.85

That "starter set" you've wanted to get or that "other set" for the den, rec room, patio can be yours from Heath now at a cost of only \$66.85! Now there's no reason for missing the wonderful world of music available through the many FM stations throughout the land. Uninterrupted programs ranging from the classics to jazz can be yours to enjoy every day when you build this system. Three quality units: The Heathkit FM-4 FM Tuner (p. 17); The Heathkit EA-1 3-watt Amplifier (above); and the Heathkit ASW-41 Speaker System (p. 24)—all are included in this one low price. Easy to follow, "check-by-step" instructions in all Heathkits make assembling your tuner and amplifier a "snap", and with the ASW-41 factory assembled speaker, all you have to do is connect it to your completed amplifier. Order your HFS-34 system today, and save up to 50% over similar "ready-made" products. 23 lbs.

System Kit HFS-34U (unfinished speaker cabinet) **\$66.85**
 \$6.70 dn., \$6 mo.
 System Kit HFS-34W (walnut finish speaker cabinet) **\$68.85**
 \$6.90 dn., \$6 mo.

a single speaker or a speaker system . . .



A two-way HI-FI SPEAKER SYSTEM for only \$39.95

- 8" woofer
- Compression-type tweeter
- Special bass-reflex enclosure

Here is one of the most popular speaker systems in the Heathkit line—enjoyed by thousands of music lovers the world over. The reason is its exceptionally low price and its extremely high quality—a true high fidelity speaker system at a nominal cost. This unit contains an 8" woofer and a true *compression-type* tweeter with flared horn. Both of these are mounted in a specially-designed bass-reflex enclosure. The cabinet is suitable for either light or dark finishes and in kit form the cabinet parts are *precut* and *pre-drilled* for easy assembly. The SS-2 features a frequency response of ± 5 db from 50 to 12,000 cps with crossover at 1600 cps. Impedance is 16 ohms; power rating is 25 watts of program material. A *level control* adjusts power to tweeter. 11½" H x 23" W x 11¼" D. 26 lbs.

Kit SS-2 . . . \$4 dn., \$5 mo. **\$39.95**
 Kit SS-2A, Assembled Cab. . . . \$4.40 dn., \$5 mo. **\$43.95**

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.



An ACOUSTIC SUSPENSION SPEAKER SYSTEM for \$59.95!

- 10" acoustic suspension woofer
- Two 3½" cone-type tweeters
- Covers 30-15,000 cps

With the new Heathkit AS-10 Speaker System, you can enjoy the advantages of acoustic suspension speakers . . . *extended bass response* and *brilliant high frequencies* . . . for nominal cost. The bookshelf-size cabinet features a 10" acoustic suspension woofer and two 3½" cone-type tweeters. This amazing speaker system covers 30-15,000 cps and requires *as little as 10 watts to drive*. It can be used either horizontally or vertically and has a *high frequency control* and *crossover network*. The preassembled factory cabinets are prefinished on four sides in either walnut or mahogany. It is also available unfinished. 24" L x 11½" D x 13½" H. Impedance: 16 ohms. 41 lbs.

Kit AS-10U, unfinished . . . \$6 dn., \$6 mo. **\$59.95**
 Kit AS-10M, mahogany fin. . . . \$6.50 dn., \$6 mo. **\$64.95**
 Kit AS-10W, walnut fin. . . . \$6.50 dn., \$6 mo. **\$64.95**

SPECIFICATIONS—Frequency response: ± 5 db 30 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.



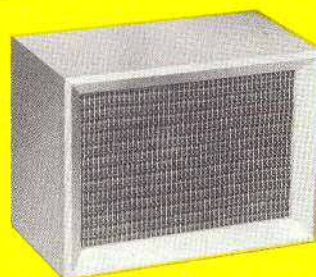
The famous AR-2 SYSTEM now in kit form

- Two 5" cross-fired tweeters
- 10" acoustic suspension woofer
- Preassembled unfinished cabinet

Under exclusive license from *Acoustic Research, Incorporated*, Heath presents the famous AR-2 acoustic suspension speaker in kit form for your enjoyment and savings. The 10" woofer delivers extended bass response with low harmonic distortion. The two *cross-fired tweeters* offer outstanding high frequency distribution. Kit includes parts for a 1000 cps L-C crossover network. The preassembled cabinet is unfinished enabling you to match your decorating plans. *Easy assembly*. 24" W x 13½" H x 11¾" D. 45 lbs.

Kit AS-2U (unfinished) . . . \$7 dn., \$7 mo. **\$69.95**
 Special Sale Price on AS-2B, birch cabinet model . . . see center pages

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: 2 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°.



Low cost HI-FI SPEAKER SYSTEM

- Factory built, completely assembled
- Walnut or unfinished cabinets
- 60-16,000 cps response

There are many ways in which you can put the ASW-41 to use in your music system: as an extension to other rooms, as a center fill-in speaker for stereo, etc. *Completely factory-built* of furniture grade birch veneer plywood, this compact speaker system measures only 11" W x 8" H x 6½" D and comes in a walnut finish or unfinished. The 6" x 9" extended range dual-cone speaker has a response of 60-16,000 cps and 12 watts peak power. To use just unpack and connect its leads to your amplifier. 8 lbs.

Assembled ASW-41U, unfinished **\$10.95**
 Assembled ASW-41W, walnut fin. **\$12.95**

SPECIFICATIONS—Frequency response: 60 to 16,000 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.

Heathkit® offers fine quality at a low cost

The Heathkit AS-21 "Legato-Compact," combines unusual space economy with acoustical excellence to bring you a rare blend of speaker qualities unmatched in value anywhere! Two 12" Altec Lansing *high compliance*, low-frequency speakers cover 30-800 cps with rich, full-bodied tone. A newly-designed special Altec Lansing *exponential horn, high frequency driver combination* covers frequencies from 800 to 22,000 cps with complete fidelity and brilliance of tone. The special 800 cps crossover network is factory assembled and ready to install. The high efficiency of the speakers is another of the versatile features of the "Legato-Compact," wherein amplifiers with just 3 watts output power can drive the system with ease (handles program material of 30 watts). The beautiful *factory-assembled* cabinets are ready for speaker installation when you receive them. Constructed of 3/4" furniture grade plywood, they come with walnut or mahogany finishes or unfinished. 132 lbs.

- Kit AS-21W**, walnut . . .
 \$23 dn., \$20 mo. **\$229.95**
- Kit AS-21M**, mahogany . . .
 \$23 dn., \$20 mo. **\$229.95**
- Kit AS-21U**, unfinished . . .
 \$22.50 dn., \$20 mo. **\$224.95**
- AS-31**: All components of AS-21 except cabinet for custom installations. Cabinet dimensions included . . .
 53 lbs. . . . \$18 dn., \$16 mo. **\$179.95**

"LEGATO-COMPACT" . . . the finest Heathkit speaker system

- Altec Lansing speakers cover 30 to 22,000 cps
- 800 cps crossover network— completely assembled
- Styling matches AE-20 cabinets



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 32 1/2" H. Magnet wts.: Low-frequency drivers: 1 1/2 lbs. each. High-frequency driver: .53 lbs. Crossover network: 800 cps constant K high frequency shelving type. Driving power: as low as 3 watts.



HEATHKIT SPEAKERS for every budget . . . from \$6.95 to \$177.00

A 8" DUAL-CONE SPEAKER

Frequency response: 60 to 15,000 cps. Impedance: 8 ohms. Power rating 8 watts. Recommended enclosure instructions included. 2 lbs.

US-4 **\$6.95**

B 12" DUAL-CONE SPEAKER

Covers 50 to 12,000 cps. Handles up to 14 watts. Impedance is 8 ohms and magnet weight is 6.8 oz. Instructions for a speaker enclosure included. 7 lbs.

US-2 **\$11.95**

C COAXIAL HI-FI SPEAKER

15 watt rating with a frequency response of 50 to 15,000 cps. Uses a 12" PM woofer (6.8 oz. magnet) and a 3" PM tweeter (1.47 oz. magnet). Built-in 2 kc crossover network. Instructions provided. 7 lbs.

US-3 **\$19.95**

D ALTEC 755C 8" SPEAKER

Combines true high-fidelity reproduction, compact size, slim profile and low cost. Unique pancake design is ideal for wide-angle P.A. use or custom hi-fi. Power rating 15 watts. Response 40-13,000 cps. Impedance 8 ohms (2" voice coil); Distribution angle: 90°. Depth 2 1/4". 5 lbs.

AS-20 . . . \$3 dn., \$5 mo. **\$29.95**

E ELECTROVOICE SP12B 12" COAXIAL HI-FI SPEAKERS

Features high-compliance, viscous-damped cloth suspension; resonant frequency 40-50 cycles. Deep 2" voice coil. 16 ohms impedance. 1 1/2 lb. ceramic magnet. Power rating, 20 watts. Response, 40 to 13,000 cps. Mechanical crossover, 4500 cps. 12 lbs.

AS-30 . . . \$3.43 dn., \$5 mo. **\$34.30**

F JENSEN H-223F COAXIAL 2-WAY 12" SPEAKER

Exceptional low frequency performance from special "Flexair" woofer in combination with new concentric re-entrant compression driver tweeter. 20-15,000 cps. 16 ohms impedance. 30 watt power rating. 1 3/4 lb. magnet. 13 lbs.

AS-40 . . . \$7.25 dn., \$7 mo. **\$72.50**

G JBL D130 15" EXTENDED RANGE HI-FI SPEAKER

The only 15" speaker with 4-inch edge-wound aluminum ribbon voice coil. Used in more high-quality systems than any other extended range speaker. Impedance 16 ohms. Power rating 25 watts. 23 lbs.

AS-50 . . . \$9.18 dn., \$9 mo. **\$91.80**

H JENSEN G-600 15" "TRIAx" HI-FI SPEAKER

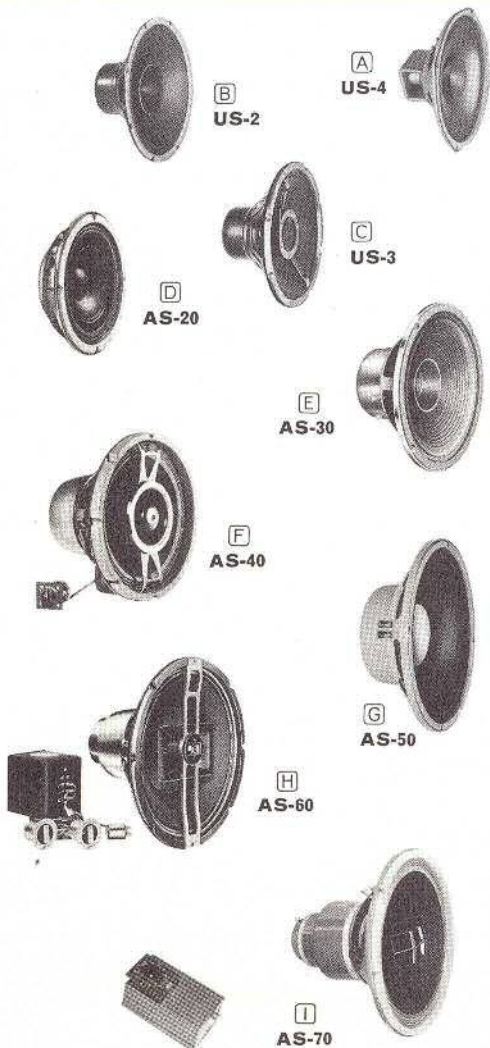
Three electrically and acoustically independent low, medium, and high frequency channels. MF and HF sections employ compression-driver horn-loaded units for low distortion and wide angle dispersion of highs. Separate dual crossover network. Response is 30 cps to upper hearing limit. 16 ohm impedance. 35 watts. 3 1/2 lb. magnet. 37 lbs.

AS-60 . . . \$13.45 dn., \$12 mo. **\$134.50**

I ALTEC 605A 15" DUPLEX HI-FI SPEAKER

The 605A covers 20 to 22,000 cps with unusual smoothness in highs; extremely high linearity and clean transient response in lows. 3" voice-coil for high efficiency, 2 1/4 lb. magnet. High frequency exponential multicellular horn provides 90° horizontal distribution (1/2 lb. magnet). Power rating 35 watts (50 watts peak), cone resonance 25 cps, impedance 16 ohms. 37 lbs.

AS-70 . . . \$17.70 dn., \$15 mo. **\$177.00**



to enclose your stereo/hi-fi system . . .

No matter what your budget—no matter what your decorating taste—there is a Heathkit cabinet available to suit your needs and pocketbook. Whether your high fidelity/stereo system needs an attractive cabinet or your speaker system needs enclosures—Heathkit is the economical answer to these needs. All of the cabinets are superbly built, combining the qualities of master cabinet-makers and professional designers. Each cabinet will blend with any room decor, whether it be modern or classical and the savings you realize with Heathkit cabinets can be utilized on other decorating ideas. You will also find on the bottom of these pages some amazing values in stereo console systems—completely assembled and ready-to-play. These Heathkit systems compare in quality and performance with other manufacturer's consoles selling for up to 50% more. When you compare, you will see that Heathkit gives you the greatest value for your hi-fi dollar, in every way.



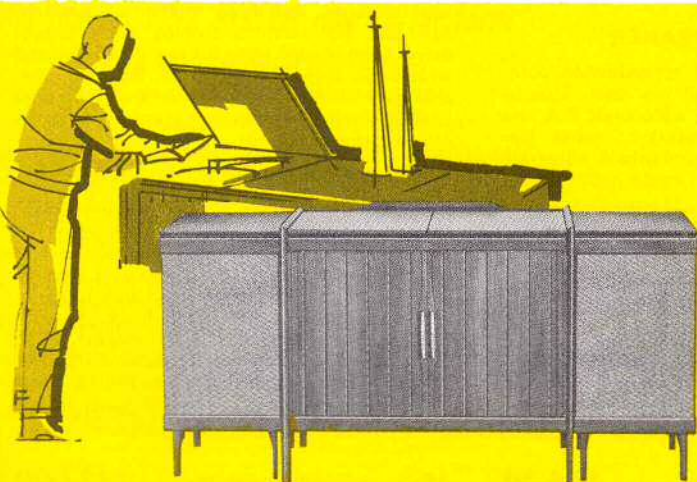
Custom designed EQUIPMENT CABINET for your hi-fi

- Factory-assembled, ready to use
- Walnut or mahogany finishes or unfinished
- Houses complete stereo or mono units

The Heathkit AE-20 Equipment Cabinet is a craftsman-constructed, tastefully-designed unit of furniture that will blend with any room decor. The quality woods are accented by design relief touches which are uncluttered and eye-arresting. The front doors have recessed planes with vertical scoring for shadow-lines. Slim, curved brass handles on each door highlight the "sculptured" effect. The divided top panel is characterized by a "gallery" rail and indented-curve front edge. $\frac{3}{4}$ " stock is used for all exterior front and side panels and supports, solids and veneers for other areas, except ventilated rear half-panel of masonite.

Model AE-20U . . . Unfinished	\$7.45 dn., \$7.00 mo.	\$74.50
Model AE-20W . . . Walnut	\$9.45 dn., \$9.00 mo.	\$94.50
Model AE-20M . . . Mahogany	\$9.45 dn., \$9.00 mo.	\$94.50

EQUIPMENT ACCOMMODATIONS AND SIZES—Cabinet, overall: 36" W. x 32 $\frac{1}{2}$ " 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 or player or Heath AD-70, TR-1A tape recorders; 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); either shelf accepts any Heath Stereo or Mono tuner, Stereo or Mono pre-amplifiers, AA-100 or AA-151 stereo amplifier. **Power amplifier compartment:** 8 $\frac{3}{4}$ " H. x 17" W. x 15 $\frac{1}{2}$ " D. inside; accepts two Heath UA-2's, an AA-30 or AA-40 for stereo power or any Heath monophonic power amplifier. Shipping weight 81 lbs.



Popular-priced stereo/phono CONSOLE with AM/FM tuner

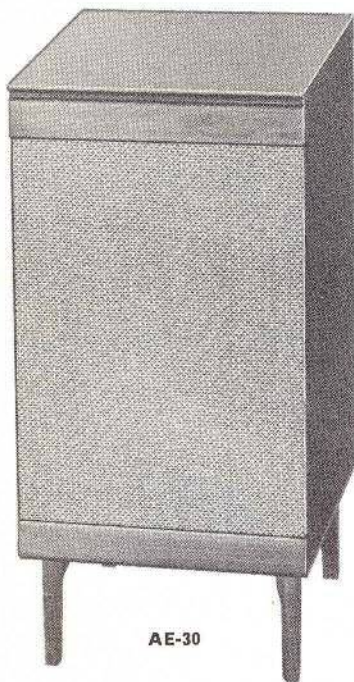
Ready to "plug in" when you receive it, with factory finished cabinets in walnut or mahogany, this quality system is completely assembled. Included are: *New AM/FM Radio Tuner (AJ-11, p. 16) *New 28-Watt Stereo Amplifier (AA-151, P. 19) *4-Speed Automatic Stereo/Mono Record Changer with GE VR-227 Diamond Stylus Stereo Cartridge (AD-50A, p. 15) *2 Coaxial Hi-Fi speakers with 12" woofers, 3" tweeters and built-in crossover networks (US-3, p. 25) *2 AE-30 cabinets (opp. pg.) *AE-20 cabinet (above). 228 lbs.

Assembled HFS-35W (walnut finish) . . . \$50 dn., as low as \$30 mo. . . **\$499.95**
Assembled HFS-35M (mahog. finish) . . . \$50 dn., as low as \$30 mo. . . **\$499.95**

MONEY-SAVING OPTIONAL PLAN includes preassembled, pre-finished cabinets as above. Electronic equipment and changer in kit form. You assemble and save.

Kit HFS-36W (walnut finish) . . . \$38 dn., as low as \$23 mo. . . **\$379.95**
Kit HFS-36M (mahog. finish) . . . \$38 dn., as low as \$23 mo. . . **\$379.95**

new Heathkit® cabinets at big savings!



AE-30



Tape Recorder Drawer

Holds either Heath AD-70, TR-1A, TR-1E or AD-40 Tape Deck. Fits into lower left record storage space of AE-20 Cabinet (page 26). Assembled, 11 $\frac{1}{8}$ " H x 14 $\frac{1}{2}$ " D x 16 $\frac{1}{2}$ " W outside. 15 lbs.

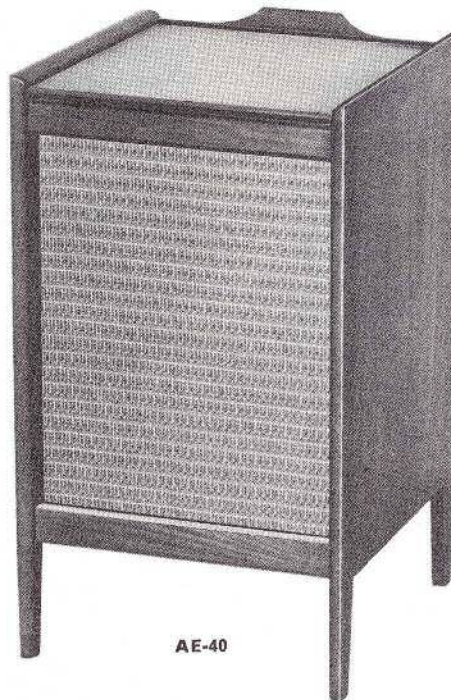
Model AEA-20U . . . (Unfinished)	\$12.95
Model AEA-20W . . . (Walnut fin.)	\$14.95
Model AEA-20M . . . (Mahogany fin.)	\$14.95

12" SPEAKER CABINET

- Accepts 12" or 8" speakers
- Room for horn-type tweeter
- Complements equipment cabinet opposite

Completely assembled, ready for speaker, the Heathkit AE-30 compares with cabinets selling for \$55. Designed for 8" and 12" speakers, with adapter ring for 8" speaker. 3 $\frac{3}{8}$ " x 10 $\frac{3}{16}$ " slot provided for horn-type tweeter. Tube-vented design with instructions for tube modification to match your speaker. Brown and tan grille cloth is changeable. Assembled of $\frac{3}{4}$ " stock. 15" W x 19" D x 32 $\frac{3}{8}$ " H outside. 35 lbs.

Model AE-30U (unfinished) . . . \$2.95 dn., \$5 mo.	\$29.50 ea.
Model AE-30W (walnut fin.) \$3.45 dn., \$5 mo.	\$34.50 ea.
Model AE-30M (mahogany fin.) . . . \$3.45 dn., \$5 mo.	\$34.50 ea.



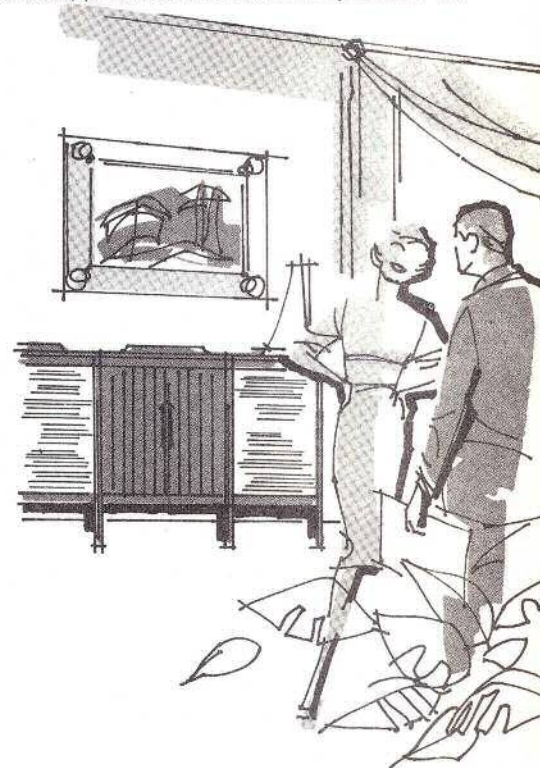
AE-40

15" SPEAKER CABINET

- Accepts 15" or 12" speakers
- Provision for horn-type tweeter
- Matches center cabinet opposite

Completely assembled and factory-finished or unfinished as you choose. An outstanding value for as low as \$35.50. Designed for 12" and 15" speakers. Adapter ring included for 12" speakers. Room for horn-type tweeter in 3 $\frac{3}{8}$ " x 10 $\frac{3}{16}$ " slot provided. Tube-vented design with instructions for tube modification to match your speaker. Suitable speakers described on page 25. 18 $\frac{1}{4}$ " W x 19" D x 32 $\frac{3}{8}$ " H outside. 44 lbs.

Model AE-40U (unfinished) . . . \$3.55 dn., \$5 mo.	\$35.50 ea.
Model AE-40W (walnut fin.) . . . \$4.15 dn., \$5 mo.	\$41.50 ea.
Model AE-40M (mahogany fin.) . . . \$4.15 dn., \$5 mo.	\$41.50 ea.



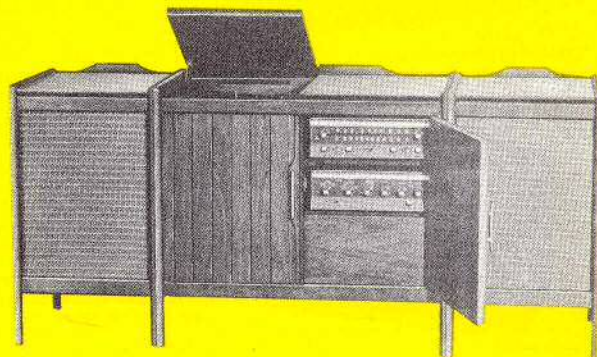
Deluxe stereo-phono CONSOLE with AM/FM tuner

Completely assembled, with factory-finished cabinets in walnut or mahogany, this deluxe system is ready to play when unpacked. Features include: *50-Watt Deluxe Stereo Amplifier (AA-100, p. 19) *16-tube AM/FM Deluxe Tuner (AJ-30, p. 17) *Automatic Speed-Selecting Record Changer with "Turntable Pause" and Shure Stereo Cartridge with Diamond Stylus (AD-60B, p. 15) *2 Jensen H-223F Coaxial 2-Way 12" Speakers (AS-40, p. 25) *2 AE-40 Cabinets (above) *AE-20 Cabinet (opp. page). 264 lbs.

Assembled HFS-28W (Walnut fin.) . . . \$75 dn., as low as \$40 mo.	\$675.00
Assembled HFS-28M (Mahogany fin.) . . . \$75 dn., as low as \$40 mo.	\$675.00

MONEY-SAVING OPTIONAL PLAN includes preassembled, pre-finished cabinets as above. Electronic equipment and changer in kit form. You assemble and save.

Kit HFS-29W (Walnut fin.) . . . \$55 dn., as low as \$32 mo.	\$550.00
Kit HFS-29M (Mahogany fin.) . . . \$55 dn., as low as \$32 mo.	\$550.00



Special money-saving prices on four famous Heathkit® Stereo Systems!



A Heathkit Hi-Fi System is many things . . . versatility . . . quality . . . enjoyment . . . economy. And now, for the first time, if you purchase any of these stereo hi-fi systems shown on this page, you receive the benefit of Heath's special money-saving offer . . . a "special price" lower than the cost of buying each component separately. This is your opportunity to get the hi-fi system to fit your needs and receive a valuable dividend for your budget. And you can use Heath's convenient time-pay plan if you wish . . . see the order blank for details. Pick the system you want today and see how you can have the best in stereo hi-fi at low, low cost with Heath!

HFS-30 6-WATT STEREO PHONO SYSTEM



AD-10C
stereo record
player (p. 14)

Kit Model HFS-30
(unfinished
speaker cabinets)
39 lbs.
\$8 dn., \$8 mo.
\$79⁹⁵

Kit Model HFS-31
(prefinished
walnut cabinets)
39 lbs.
\$8.40 dn., \$8 mo.

\$83⁹⁵



SA-3
6-watt stereo
amplifier (p. 19)



ASW-41U
speaker systems (2)
(p. 24)

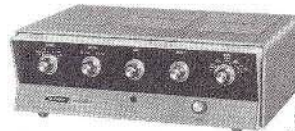
Add FM-4 (p. 17), AJ-20 (p. 17) or
AJ-11 (p. 16) for AM & FM reception.

HFS-32 28-WATT STEREO PHONO SYSTEM

HFS-32
95 lbs.
\$18 dn., \$16 mo.
\$179⁹⁵



AD-80A
stereo record
changer with base
(p. 15)



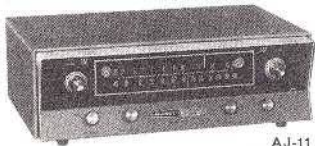
AA-151
28-watt stereo
amplifier (p. 19)



SS-2
speaker systems (2)
(p. 24)

Add AJ-11 (p. 16) for AM/FM reception.

HFS-33 28-WATT STEREO PHONO AM/FM SYSTEM

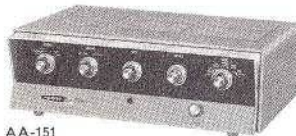


AJ-11
stereo am/fm
tuner (p. 16)

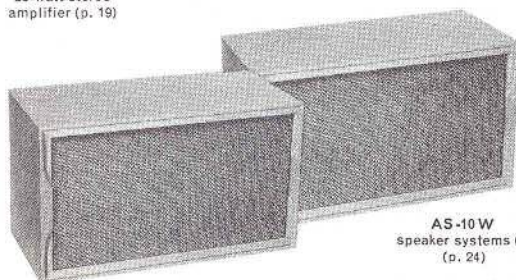
Kit Model HFS-33
143 lbs.
\$30.80 dn., \$26 mo.
\$307⁹⁵



AD-50B
stereo record
changer (p. 15)
with base



AA-151
28-watt stereo
amplifier (p. 19)



AS-10 W
speaker systems (2)
(p. 24)

Add AE-20W or M enclosure to house equipment

HFS-29 50-WATT STEREO PHONO AM/FM SYSTEM

Kit Model HFS-29M
(mahogany finish cabinets)
264 lbs.
\$55 dn., as low as \$32 mo.
\$550⁰⁰



AJ-30
deluxe stereo
am/fm tuner
(p. 17)

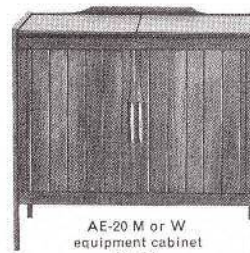


AA-100 deluxe
stereo amplifier
(p. 19)



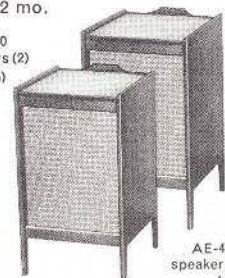
AD-60B
deluxe stereo
record changer
(p. 15)

Kit Model HFS-29W
(walnut finish cabinets)
264 lbs.
\$55 dn., as low as \$32 mo.
\$550⁰⁰



AE-20 M or W
equipment cabinet
(p. 26)

AS-40
speakers (2)
(p. 25)



AE-40 M or W
speaker cabinets (2)
(p. 27)

Add TR-1E (p.18) for 4-track stereo tape music
Add AD-70 tape player(p. 18) to play stereo tapes.

get 5 FREE log books with your Heathkit® Amateur Gear order of \$50 or more!



Here's a special "bonus" for you when you order your Heathkit amateur gear now . . . new style log books and cover free! Recognizing the limitations of today's log books, Heath engineers have come up with a real FB log book, with a page for each QSO and with basic data logged only once. No more laborious transferring of notes for permanent filing. In addition to spaces provided for each station, you have room for additional info such as handle, reports, rig and comments. There's a calendar on each page and space for traffic and schedule summaries. It measures just 8½" x 5½" when closed, just right for your operating position. With your Heathkit Amateur Gear order of \$50 or more, you get five of these special log books and a handsome vinyl cover in which to insert the current log book to keep it neatly in place on your desk ready for instant use . . . all FREE! Order your Heathkits today!



Low cost receiver for the beginning amateur or short wave listener



- Covers 550 kc to 30 mc in four bands
- Large slide rule dial—electrical bandsread
- Neat, efficient circuit layout for easy assembly

Receive 'round the world signals from broadcast band to 10 meters with this low-cost, easy to assemble communications-type receiver. The AR-3 features a modern 5-tube superheterodyne circuit with high sensitivity, good stability and versatile control features. Has *electrical bandsread* (oscillator tuning) for easy station selection and *transformer operated* power supply for safety and high efficiency. Quality components and neat, efficient circuit layout provides for easy assembly and long faithful service. Easily aligned with signal generator and voltmeter. 9 lbs.

Kit AR-3 (less cab.) . . . \$3 dn., \$5 mo. **\$29.95**
Cabinet: For AR-3 above, NO. 91-15. . . 3 lbs. **\$4.95**

SPECIFICATIONS—Frequency range: 550 kc to 30 mc on four bands. Amateur bands plainly marked on dial. **Tube complement:** (1) 12BE6, (1) 12BA6, (1) 12AV6, (1) 12V6, (1) 5Y3. **Controls:** General coverage tuning, Bandsread tuning, Antenna trimmer, Bandswitch, Noise limiter, on/off, Phone-Standby-CW switch, RF gain control /AVC, on/off, audio gain; AC on/off—Headphone jack Accessory socket. **Power requirements:** 105-126 V, 50/60 cycles AC, 40 watts. **Dimensions:** 11½" W. x 5½" H. x 6¾" D.

100 kc CRYSTAL CALIBRATOR KIT



With this handy, low-cost calibration aid you can make precise calibration checks of all types of communications receivers, variable frequency oscillators, laboratory equipment, band limits, etc. Marker frequencies are provided every 100 kc from 100 kc to 54 mc. Circuit is transistorized and powered by a single 9-volt battery for complete portability (battery life is its shelf life). 100 kc crystal supplied. Convenient small size measures only 2½" x 4½" x 2½". 1 lb.

Kit HD-20 **\$14.95**

- Transistorized circuit
- Battery powered
- High accuracy

For the SWL . . . portable convenience! "MOHICAN" general coverage receiver kit



Kit Form
or
Factory
Assembled

- Ten transistor, six diode circuit
- Covers 550 kc to 32 mc in five bands
- Flashlight battery power supply

The avid short wave listener will find this five-band communications receiver ideal for all 'round use. The "Mohican" with its self-contained flashlight battery power supply offers complete portability . . . operates anywhere! . . . and features high sensitivity, selectivity and stability through its many "firsts" in receiver design. The fixed-aligned ceramic IF "Transfilters" used in the "Mohican," which were developed primarily for military use, operate much the same as crystal lattice filters to shape the IF bandpass, and offer superior stability and selectivity. Other features include: 10 transistor circuit, Zener diode voltage regulation, built-in telescoping 50" whip antenna, flywheel tuning, panel tuning meter and large slide-rule tuning dial for easy station selection. Convenient panel controls include: on/off volume control, BFO pitch with on/off switch, RF gain, antenna tuning, electrical bandsread, ANL on/off, AVC on/off and Bandswitch. The GC-1A quickly converts from battery power to 117 VAC household current using the plug-in power supply XP-2. The experienced kit builder can assemble and align this compact kit within 30 hours. Handsome styling features a one-piece cabinet with convenient carrying handle, die-cast metal knobs and green, gray-green color combination. 18 lbs.

Kit GC-1A . . \$11 dn., \$10 mo. **\$109.95**
Assembled GCW-1A . . \$19.35 dn., \$17 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:** 6¾" H. x 12" W. x 10" D.

Heathkit® Amateur Gear—known the world



"COMANCHE" mobile amateur receiver kit

- 1 uv for 10 db signal-to-noise ratio, all bands
- Built-in panel "S" meter
- Crystal lattice-type filter
- Rotating slide rule tuning dial
- 30-1 gear driven tuning assembly

All the features you've ever wanted in a mobile receiver . . . superb styling, rugged construction, lasting quality . . . are provided in the "Comanche" for top mobile performance. Its modern, 8-tube superhet. circuit with crystal-lattice type filter and product detector provide excellent sensitivity, selectivity and stability necessary for fine performance. Operates AM, CW and SSB on 80 through 10 meters. Circuit includes an RF stage, converter, 2 IF stages, 2 detectors, noise limiter, 2 audio stages and voltage regulator.

A 30-1 gear driven, spring-loaded tuning assembly and rotating slide-rule dial assure smooth, easy station selection. Panel controls are provided for BFO tuning, RF gain, AF gain on/off, CW-SSB-AM, NL, AVC, main tuning, band-switch and antenna trimmer. The MR-1, with steel chassis and compartmental construction, is braced to withstand mobile vibrations and shock for long life and reliable communications with lasting quality. Use with Heathkit HP-10 mobile or HP-20 fixed (117 VAC) power supplies. 19 lbs.

Kit MR-1 . . . \$12 dn., \$11 mo. **\$119.95**
 Kit AK-7 Accessory Speaker for MR-1 . . . 4 lbs. **\$5.95**

SPECIFICATIONS—IF frequency: 3 mc. **Frequency coverage:** 80, 40, 20, 15, and 10 meters. **Crystal lattice IF Filter:** Center frequency, 3 mc; Bandwidth at 6 db, 3 kc; at 60 db, 10 kc max. **Sensitivity:** 1 uv for 10 db signal to noise ratio. **Power requirements:** 12.6V @ 1.65 amp or 6.3V @ 3.3 amp AC or DC for filaments. 300 VDC +125 ma for B+. Total power 60 watts. **Dimensions:** 6½" H. x 12½" W. x 10" D.

Finest value of them all . . . "MOHAWK" deluxe amateur receiver

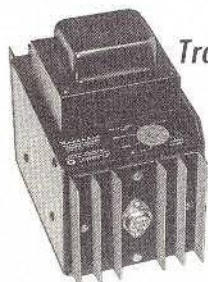
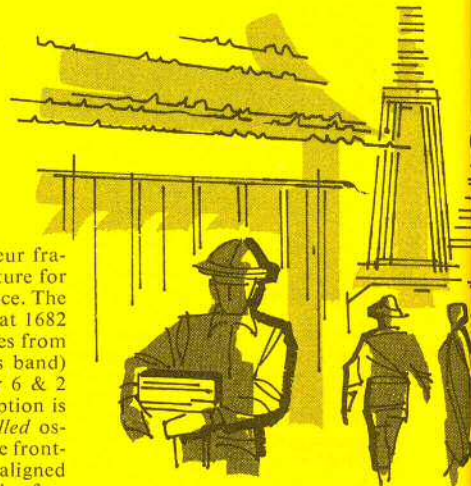


- Amateur band coverage only for maximum stability and accuracy
- 1 uv input for 10 db signal to noise ratio
- Factory assembled and aligned coil/bandswitch assembly
- Rotating slide rule tuning dial with vernier action
- Built-in 100 kc crystal calibrator

Designed to the highest standards set by the amateur fraternity, the "Mohawk" provides every "deluxe" feature for clear, rock-steady reception and operating convenience. The 15-tube circuit features *double conversion* with IF's at 1682 kc and 50 kc and covers all amateur band frequencies from 160 through 10 meters (including 11 meter citizens band) on 7 bands with an extra band calibrated to cover 6 & 2 meters using Heathkit converters. Superb SSB reception is provided by a product detector and *crystal-controlled* oscillators for upper and lower side-band reception. The front-end coil/bandswitch assembly is factory wired and aligned to assure top performance and simplify assembly. Also featured are: 5-selectivity positions, bridged T-notch filter, and built-in 100 kc crystal calibrator. Rugged, well-rated components used throughout with rich, professional styling for the final touch of quality. 66 lbs.

Kit RX-1 . . . \$27.50 dn., \$23 mo. **\$274.95**
 Kit AK-5 Accessory speaker for RX-1 . . . 7 lbs. **\$9.95**

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 Trimmer, AF Gain w/on-off switch, 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 1692-1732 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:** 19½" W x 11½" H x 16" D.



Transistor mobile POWER SUPPLY KIT

- Instant Starting
- High Efficiency
- Rugged Construction

Easily installed in any auto or other mobile installation, the HP-10 furnishes all the power required to operate the Heathkit MT-1 Transmitter and MR-1

Receiver. Operates from 12 volt DC source. Supplies 600 VDC @ 200 ma (or 600 VDC @ 150 ma & 300 VDC @ 100 ma), and bias of -125 VDC @ 30 ma (output voltages isolated from case). Max. ambient temperature is 150°F at 120 watts ICAS. Heat sinks provide efficient cooling of the power transistors. Measures 8" x 7½" x 6½". 10 lbs.

Kit HP-10 . . . \$4.50 dn., \$5 mo. **\$44.95**



Utility AC POWER SUPPLY KIT

- Extensive line filtering
- Silicon diode rectifier
- Less than 1% AC ripple

Enjoy complete versatility by using this top-notch power supply in conjunction with your mobile gear to operate fixed-station as well! Furnishes all power required to operate Heathkit and most other mobile gear on 117 VAC. Delivers 600 VDC @ 200 ma (or 600 VDC @ 150 ma & 300 VDC @ 100 ma) and bias of -130 VDC @ 30 ma. Total DC power output is 120 watts CCS. Filament power available, 6.3 VAC @ 8 amps or 12.6 VAC @ 4 amps. Unit has local on/off switch and pilot light indicator. Fused for protection. 14 lbs.

Kit HP-20 . . . \$3 dn., \$5 mo. **\$29.95**

over for quality and value



"CHEYENNE" mobile amateur transmitter kit . . .
for high power at low cost . . . only \$99.95



- High power output with low battery drain
- 6146 final amplifier—pi network output
- Special design push-to-talk microphone

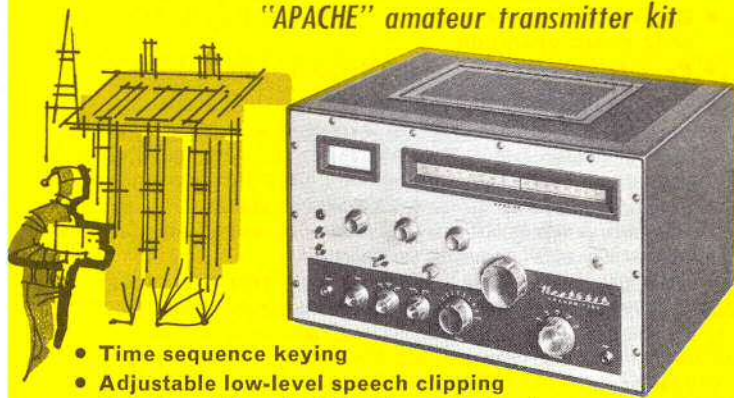
Nothing beats the fun and excitement of mobile amateur operation! The "Cheyenne" provides up to 90 watts input on AM phone or CW on 80 through 10 meters . . . an excellent companion to the "Comanche" mobile receiver. Features include a built-in VFO, controlled carrier modulator, four RF stages, 6146 final amplifier and pi network (coaxial) output. A spotting switch allows off-the-air tuning and a specially-designed ceramic element microphone with push-to-talk switch assures properly shaped audio response for effective modulation with plenty of "punch." Styling features die-cast knobs and front panel with raised "S" meter, tuning dial and control panel escutcheons. 23 lbs.

Kit MT-1 . . . \$10 dn., \$9 mo. **\$99.95**

SPECIFICATIONS—Power input: 90 watt peak controlled carrier phone. Output impedance: 50-72 ohms. Output coupling: Pi network (coaxial). Band coverage: 80, 40, 20, 15, 10 meters. Panel controls: Meter switch, spotting switch, final tuning, driver tuning, bandswitch, VFO tuning, audio (gain), loading, function switch. Power requirements: 500-600 VDC @ 150 ma, 300 VDC @ 100 ma, 6.3 V @ 4.7 amps or 12.6 V @ 2.35 amps AC/DC. Dimensions: 6 $\frac{1}{2}$ " H. x 12 $\frac{1}{2}$ " W. x 10" D.

Famous for value and performance . . .

"APACHE" amateur transmitter kit



- Time sequence keying
- Adjustable low-level speech clipping
- Rotating slide-rule dial with vernier tuning
- Provision for SSB adapter built-in
- 150 watts phone, 180 CW & SSB

All the extras for truly fine amateur performance! A specially-designed VFO for low-drift frequency control, vernier tuning for precise frequency settings, precision mechanical controls, spotting push-button for off-the-air tuning, adjustable low-level speech clipping, time sequence keying and many more features for extra performance and ease of operation. Dual 6146 final amplifier is extensively shielded and neutralized for TVI protection and high stability. The formed one-piece cabinet has top hatch for convenient access to tubes and crystal socket. Provision for plug-in connection of Heathkit SB-10 SSB adapter. 110 lbs.

Kit TX-1 . . . \$24 dn., \$21 mo. **\$239.95**

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. CW: 420 watts (intermittent). Phone: 500 watts (peak). SSB: 500 watts (peak). Cabinet size: 19 $\frac{1}{2}$ " W x 11 $\frac{1}{2}$ " H x 16" D.

DX-60 surpasses quality and performance
of units costing far more!



- Built-in low pass filter
- Neutralized 6146 final amplifier
- Grid block keying
- 90 watts phone or cw

The DX-60 Amateur Transmitter offers far more in quality, performance and ease of assembly than any other unit in its price and power class. This superbly-designed unit features a built-in low pass filter for harmonic suppression, neutralized final for high stability, grid block keying for excellent keying characteristics and easy access to crystal sockets on the rear chassis apron. A front panel switch selects any of four crystal positions or external VFO. Controlled-carrier modulator and silicon diode power supply are built in. Single knob bandswitching for 80 through 10 meters and pi-network output coupling provide complete operating convenience. Panel meter shows final grid or plate current. Assembly of the DX-60 is a marvel of simplicity with its clean, rugged construction and thoughtful circuit layout. A precut and cabled wiring harness eliminates tedious wiring. The complete, informative instructions furnished make it ideal for the novice as well as the general class amateur. May be run at reduced power for novice operation. Handsomely styled in green and gray green. Less crystals. 25 lbs.

Kit DX-60 . . . \$8.30 dn., \$8 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: 117 V 60 cycle AC, 225 watts. Dimensions: 13 $\frac{1}{2}$ " W. x 11 $\frac{1}{2}$ " D. x 6 $\frac{1}{2}$ " H.

High power 6 and 2 meter "SENECA"
VHF transmitter kit

- Built-in VFO, modulator and power supplies
- "Spotting" push button for "zero-beat"
- Extensive RF shielding
- Built for rugged use



From every angle . . . quality, performance, dependability, price . . . you'll find the "Seneca" hard to beat for real value and VHF DX power. It provides up to 120 watts input on phone and 140 watts input on CW on 6 meters with the ratings reduced only slightly on the 2 meter band. Design features include: controlled-carrier phone operation, built-in VFO for both 6 & 2 meters, four slide-selected crystal positions, extensive RF shielding, large slide-rule dial with vernier tuning and rugged, handsome styling. Circuit has two built-in power supplies, five RF stages, two dual-triode audio stages and two 6146's in the final amplifier. A spotting switch is provided for "zero-beating" an incoming signal and tuning of the transmitter before switching on the final amplifier. An auxiliary socket provides for receiver muting, remote operation of an antenna relay and remote voice control of the transmitter. 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 . . . \$16 dn., \$14 mo. **\$159.95**

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. Frequency coverage: 48.9 to 54 mc, 143.7 to 148.3 mc. Audio: screen modulated, controlled carrier. Power requirements: 117 VAC 60 cycles; Standby (phone, CW) 120 watts, full load (phone, CW) 400 watts (intermittent). Dimensions: 16 $\frac{1}{2}$ " W x 10 $\frac{1}{2}$ " H. x 10" D.

Complete AM and CW TRANSMITTER-RECEIVER

Combinations with features unmatched at only \$199.95

- 10 watt nominal CW RF output to antenna—6360 final
- Tracked VFO and exciter stages for single knob tuning
- Built-in low pass filter
- Built-in 3-way power supply for 117 V. AC, 6 V. DC or 12 V. DC operation
- Push-to-talk ceramic element microphone
- Ideal for CAP & MARS operation

You'll be amazed at the quality and performance designed into the new 6 meter "Shawnee" and 2-Meter "Pawnee." Everything you need for complete fixed or mobile operation on the VHF amateur bands is provided in these compact, easy-to-use transceiver models . . . both feature complete AM & CW facilities with the latest in design features for complete versatility and operating convenience!

CHECK THESE MANY TRANSMITTER FEATURES

built-in VFO . . . with all frequency determining components mounted on a "heat sink" plate for temperature stability. **Four switch-selected crystal positions** . . . for net, novice, CAP and MARS operation. **Single knob tuning** . . . VFO and all exciter stages are tracked for convenient tuning over any 500 kc band segment (greater excursions require simple repeaking of final). **VFO spot switch** . . . allows zeroing signals with transmitter off-the-air. **Efficient push-pull RF amplifier** . . . high quality 6360 dual tetrode final RF amplifier provides 10 watts of power output to antenna. **Built-in low pass filter** . . . suppresses harmonics and other spurious radiation. **Dual purpose modulator** . . . provides a full 10 watts of audio for high level plate modulation of the final RF amplifier or 15 watts of audio for public address operation using external speaker. **Push-to-talk microphone** . . . with coil cord and mounting clip.

FUNCTIONAL SUPERHETERODYNE RECEIVER DESIGN

Double conversion . . . with first oscillator crystal controlled first IF and second oscillator gang tuned. **Voltage regulation** . . . of all oscillators for high stability. **Large slide-rule dial** . . . illuminated for easy receiver and VFO tuning. **Tuning meter** . . . automatically switched to read signal strength or relative power output. **Front panel squelch and noise limiter controls** . . . for maximum clarity, minimum noise. **Built-in speaker** . . . weatherproof, 3" x 5" PM speaker. **Additional panel controls** . . . RF gain, BFO and AVC on/off.

BUILT-IN 3-WAY POWER SUPPLY

AC supply . . . transformer-type for operation on 117 volt, 50/60 cycles. **DC supply** . . . heavy-duty, full-wave, split-rect, 8-contact, in-rupture type vibrator for operation on either 6 or 12 volt DC. **Heavy-duty AC & DC power cables** . . . for utmost protection and efficient power supply operation. **Primary fused relay** . . . controls all power to the transceiver in mobile installations.

STURDY CONSTRUCTION

One-piece cabinet . . . wrap-around steel case provides maximum protection. **Complete shielding** . . . power supply, transmitter and receiver sections individually shielded, using feed-through type capacitors for maximum stability and noise free operation. **Compact** . . . measures only 6" H x 12" W x 10" D.



HANDSOMELY STYLED

Two-toned color . . . in traditional Heathkit gray & gray-green. **Functional panel design** . . . all controls located for easy, convenient operation. **Solid die cast knobs** . . . easy to use and handsome.

EASY TO INSTALL AND USE

Adjustable mounting bracket . . . for convenient mobile installations on automobile transmission hump, under dash, etc. **Adjustable thumb nuts** . . . allow tilting unit to desired angle to permit best viewing and operating position. **Easy removal** . . . mounting bracket is slotted to permit removal of unit simply by loosening thumb nuts and quick disconnect leads.

NOTE: Recommended for the more experienced ham kit builder. Average assembly time is 70 hours.

Kit HW-10 (6 meter) Ready in June . . . 34 lbs. . . \$20 dn., \$17 mo. . . . **\$199.95**
Kit HW-20 (2 meter) . . . 34 lbs. . . \$20 dn., \$17 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-55 type plug (standard 2-conductor X² 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, 50 ohm; 10 watts nominal CW, 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 X² 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, 60 watts. **Cabinet dimensions:** 6" H, x 12" W, x 10" D. **Shipping weight:** 34 lbs.

Get on the 2, 6 and 10 METER AMATEUR BANDS with these outstanding transceiver values!



- Crystal controlled transmitters
- Tunable, super-regenerative receiver with RF stage
- Ideal for emergency work—easy to build

These low cost transceiver kits provide excellent performance in emergency work or local net operations. All models have *crystal-controlled* transmitters and *tunable* super-regenerative receivers with RF preamplifiers. The high sensitivity receivers pull in signals as low as 1 uv! Both 6 & 2 meter models multiply to straight-through finals from an oscillator using a fundamental crystal in the 8 mc range. Features include a front-panel transmit-receive switch with transmit-hold position, metering jack, ceramic element microphone, and two power cords (one for built-in AC supply and one for DC). Less crystal. 8 lbs. each.

Kit HW-19 (10 meter) . . . \$4 dn., \$5 mo. . . . **\$39.95**
Kit HW-29A (6 meter) . . . \$4.50 dn., \$5 mo. . . . **\$44.95**
Kit HW-30 (2 meter) . . . \$4.50 dn., \$5 mo. . . . **\$44.95**

SPECIFICATIONS—Receiver type: Superregenerative detector with RF amplifier stage. **Sensitivity:** Usable with signals as low as 1 microvolt at antenna terminals. **Speaker size:** 3 1/2" (round). **Audio power output:** Approximately 1 watt (undistorted). **Transmitter power input to final RF amplifier:** Approx. 5 watts. **Frequency control:** Quartz crystal; 3rd overtone, 10 meter; 8 mc fundamental 6 & 2 meter, (not supplied). **Power requirements:** With built-in supply; 105-125V AC, 50-60 cycle, 35 watts (10 meter), 45 watts (6 & 2 meter); with external power supply; Plate requirements; 260V DC @ 60 ma (10 meter), 90 ma (6 & 2 meter). **Filament requirements:** 6V @ 1.8 amps or 12V @ 0.9 amps (10 meter), 6V @ 2.35 amps or 12V @ 1.2 amps (6 & 2 meter). **Cabinet dimensions:** 6" H, x 6" D, x 9 3/4" W.

The superb value and performance of the "WARRIOR" is winning praise on amateur bands around the world... a tremendous buy at only \$229.95

new
through Heath
research



Kit Form
or
Factory
Assembled

SPECIFICATIONS—Maximum power input: SSB-1000 watts P.E.P., CW-1000 watts, AM-400 watts (600 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:** 50 to 75 ohms. **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. **Size:** 19 1/2" W. x 11 1/2" H. x 16" D.

- Self-contained, desk-top KW linear
- Operates SSB, AM & CW on 80 through 10 meters
- Exclusive internal RF shielding for maximum TVI suppression
- Interlocked switching of HV for maximum circuit protection
- Low cost, high quality, 811A and 866A tubes
- Fan forced-air cooling

Highest quality... half the cost... and many special design features! It's little wonder we have heard so many "raves" and fine comments about this splendid kit. Compare feature for feature... quality component for quality component, and you too will find that the Heathkit "Warrior" represents the finest watts-per-dollar value in a kilowatt linear amplifier anywhere!

CHECK THESE FEATURES

Completely self-contained... Amplifier and HV, filament and bias supplies are built-in. **Versatile**... Requires only 50 to 75 watts driving power. **Efficient**... Stable, grounded-grid circuit puts part of drive in output for up to 70% efficiency. **Inexpensive tubes**... Four paralleled 811A's and two 866A's. **Dynamic Regulation**... Big oil-filled, 8 ufd, 2 KV capacitor and 5 to 50 henry swinging choke for high peak power output with low distortion.

Relative Power Output Metering... Switch selects relative power output, grid current, plate current and plate voltage for exceptionally easy tuneup. **Neutralized**... Careful design provides a high degree of overall stability in conjunction with the grounded-grid circuit configuration. **Monitoring**... Gives constant output to scope regardless of frequency. **Rugged construction**... 16 gauge steel chassis, 1/8" aluminum panel, welded one-piece cabinet. **Easily assembled.**

Kit HA-10... 100 lbs. . . \$23 dn., \$20 mo. **\$229.95**
Assembled HAW-10... 100 lbs. . . \$33 dn., \$28 mo. **\$329.95**

SINGLE SIDEBAND adapter kit



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

Get greater talk power, less fade and interference. Has single-knob band-switch and power output meter. Plugs into TX-1. 12 lbs.

Kit SB-10... \$9 dn., \$9 mo. **\$89.95**

SPECIFICATIONS—Power output: 10 watts P.E.P. Driving power: Less than 3 watts at fundamental. **Band coverage:** 80 through 10 meters. **Output:** Pi network, low Z, coaxial. **Input:** Low Z, coaxial. **Circuitry:** Phasing method. **Unwanted sideband suppression:** 30 db. **Carrier suppression:** 40 db. **Dimensions:** 10" H. x 6 1/2" W. x 13" D.



Hybrid PHONE PATCH KIT

Transfer calls from amateur rig to 600 ohm telephone line with maximum performance and easy, one-switch operation. Allows manual or automatic operation with VOX equipped transmitters. VU meter monitors line level or null depth. Separate transmit/receive gain controls. Special hybrid transformer provides a minimum of 30 db isolation between transmitting and receiving circuits and maintains balanced phone line for minimum hum. Use with 3 to 16 ohm speakers and hi-Z transmitter input. Employs best phone patch design. 3 lbs.

- One switch operation
- VU meter for monitoring line level
- Min. of 30 db isolation
- Allows vox or manual operation

Kit HD-19... \$3.50 dn., \$5 mo. **\$34.95**



A VFO for less than \$20

This low cost, dependable VFO gives you complete coverage of 160 through 10 meters with sufficient output to drive most modern transmitters. Features include: illuminated dial, vernier reduction tuning; bandswitch; standby-on-off switch; voltage regulation for stability; ceramic coil forms on sub-assembly mounting and double-bearing tuning capacitor construction for mechanical stability; separate compartment for frequency determining components to provide rigidity, shielding and temperature stability. Requires 250-350 VDC @ 20-25 ma & 6.3 VAC @ .45 a. 7 lbs.

Kit VF-1... **\$19.50**

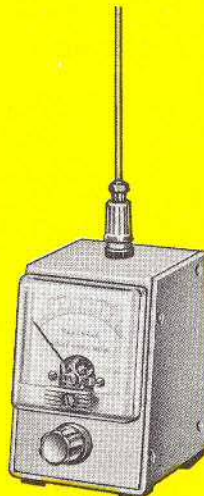


- Covers 160-10 meters
- 10 volt RF output
- Vernier tuning
- Highly stable

Use this RF POWER METER to monitor transmitter output

- Sensitive 200 ua meter
- Requires no external power source
- Stays put in mobile use by means of powerful magnet

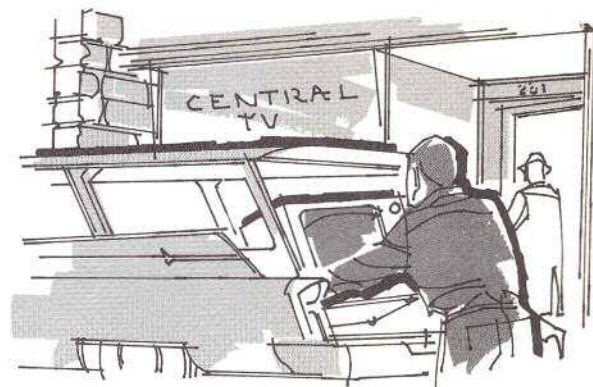
This handy power meter gives a continuous indication of transmitter relative power output by sampling the RF radiation near the antenna. Requires no batteries or other power source. The PM-2 operates with any transmitter, whether it be marine, mobile or fixed, having output frequencies between 100 kc and 250 mc. Sensitivity is 0.3 volts RMS at antenna input terminals for full scale deflection. A sensitive 200 ua meter is used with a control to set sensitivity level. A strong magnet holds the meter on any steel surface such as automobile dashboard. 2 lbs.



Kit PM-2... **\$12.95**

You save 50% or more with do-it-yourself

Do-it-yourself Heathkit test instruments make it possible to equip your electronic workshop with complete laboratory facilities at only a fraction of the cost of comparable ready-built equipment. The many design features incorporated in Heathkit equipment, along with the complete and authoritative instruction manuals, combine to produce accurate and dependable test equipment that is a pleasure to construct and professional in performance. Knowledge gained through actual assembly permits a degree of familiarity that allows far more intelligent application and provides the background for making minor adjustments if needed to keep the instrument in peak operating condition at all times. Look through these pages and note the many Heathkit instruments that will save you money . . . simplify your work . . . make more profit for you!



Leader in its field . . . V-7A, world's largest selling VTVM

No basic service instrument has contributed more to the field of electronics than the world-famous Heathkit V-7A. Its quality and performance at low cost have made it a favorite for years. Functions include AC volts (RMS), AC volts (peak to peak), DC volts, resistance, and db. Front panel controls include a rotary function switch (with DC polarity reversing positions to eliminate lead switching), rotary range selector, zero adjustment, and ohms adjustment controls. Has 11 megohm DC input resistance for reduced circuit loading. Circuit board makes assembly easy. Manual includes application notes. Styled in two-tone grey with high definition white lettering. 6 lbs.

Kit V-7A . . . \$2.60 dn., \$5 mo. **\$25.95**
Assembled VW-7A . . . \$3.60 dn., \$5 mo. **\$35.95**

- Easy-to-read 4 1/2" 200 ua meter
- 7 ac, 7 dc & 7 ohms ranges
- 1% precision resistors

SPECIFICATIONS—Meter scales: DC & AC (RMS): 0-1, 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 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 42 cps to 7.2 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 3/8" H x 4-11/16" W x 4 3/4" D.

Kit Form
or
Factory
Assembled



New large size VTVM . . . for service bench use

All you could ask for in a service bench VTVM and more! The IM-10 takes all the time-proven circuitry of the world famous V-7A and puts deluxe touches to it for even greater ease of operation and accuracy. Its oversized 6" 200 ua meter with *multicolored* scales and *high contrast* panel screening show at a glance the correct scale and range in use for fast, easy reading of all measurements. *Separate* 1.5 and 5 volt AC scales are provided for high accuracy. *Recessed* thumbwheel "zero" and "ohms" adjust controls guard against accidental change in settings. *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 or laboratory applications. The clean, open circuit layout and wiring harness assure easy assembly. Test leads included. 6 lbs.

Kit IM-10 . . . \$3.30 dn., \$5 mo. **\$32.95**

- Oversize 6" 200 ua meter
- High visibility panel screening
- Separate low voltage AC scales

SPECIFICATIONS—Meter scales DC & AC (RMS): 0-1, 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:** 320 K ohm 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 1/2" H x 6 1/2" W x 5" D.



SPECIALLY DESIGNED VTVM FOR AUDIO USE

Emphasizing stability, sensitivity and broad frequency response, the Heathkit AV-3 uses a tried and proven circuit. A cascode amplifier with cathode follower input assures high input impedance (1 megohm at 1 kc) and excellent stability. Increased damping stabilizes the meter circuit for low frequency measurements. The meter circuit uses four germanium diodes in a full wave bridge and negative feedback for good linearity. The wide voltage range, switch selected in 10 db steps, is especially valuable for high fidelity applications as well as laboratory use. The neat, straight-forward circuit layout assures ease of assembly and reliable performance. Test leads included. 4 lbs.

Kit AV-3 . . . \$3.20 dn., \$5 mo. **\$31.95**
Assembled AVV-3 . . . \$4.45 dn., \$5 mo. **\$44.50**

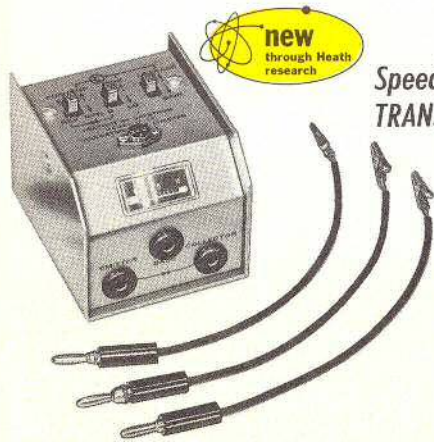
- Wide frequency response
- Easy-to-read 4 1/2" 200 ua meter
- Precision 1% voltage divider resistors

SPECIFICATIONS—Frequency response: ± 1 db, 10 cps to 400 kc, .01 volt through 100 volt ranges ± 2 db from 10 cps to 40 kc, 300 volt range. **Sensitivity:** 10 millivolts full scale (lowest range). **Range volts:** 0.01, 0.03, 0.1, 0.3, 1, 3, 10, 30, 100, 300 volts, RMS, full scale. **Decibels:** Total range -52 db to +52 db. Scale -12 to +2 db. Ten switch selected ranges from -40 to +50 db. **Input impedance:** 1 megohm at 1 kc. **Accuracy:** Within 5% of full scale. **Multipliers:** 1% precision type. **Meter:** 4 1/2" streamlined case with 200 microampere movement. **Tube complement:** (2) 12AT7, (1) 6C4. **Power supply:** Power transformer; selenium rectifier with resistance-capacitance filter. **Power requirement:** 105-125 volts AC, 50/60 cycles, 10 watts. **Dimensions:** 7 1/2" H. x 4 3/4" W. x 4 1/4" D.

Kit Form
or
Factory
Assembled



Heathkit® Test Instruments



new
through Heath
research

Speed service operations with this handy
TRANSISTOR/DIODE CHECKER...only \$6.95

- Tests low and high power transistors
- Tests forward & reverse current of diodes
- Rugged self-protecting case design

SPECIFICATIONS—**Transistor test:** leakage, short, open and current gain. **Diode test:** forward and reverse current. Also serves as a continuity checker. **Switches:** Forward-Reverse /PNP-NPN, Diode /HI-LO Leakage-Gain. **Power supply:** self-contained, two 1.5 volt size "C" flashlight cells. **Dimensions:** 3 3/4" H. x 3 3/4" W x 3 3/4" D.

The great variety of transistorized equipment now in use and the tremendous rate at which transistors are being used in the electronic industry calls for a reliable transistor checker to speed up service and eliminate guesswork. The IT-10 tests transistors, diodes, and also serves as a handy continuity checker . . . just the thing for carrying with you on service calls or for shop use. Easily fits into tool case, glove compartment, etc. Instrument is self-protecting with its extended-edge case. External, removable test leads are provided for checking transistors which do not fit tester socket. The versatile switching system in the IT-10 identifies transistors as to PNP or NPN type and eliminates need for transferring test leads for diode testing. Easily assembled. 2 lbs.

Kit IT-10..... **\$6.95**



new
through Heath
research

Check equipment under exact operating conditions with this **ISOLATION TRANSFORMER!**

- Output variable from 90 to 130 volts AC
- Power rated for color TV work
- Big linear expanded scale meter, 90-140 v
- Protects against AC/DC set shock hazard

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 3/4" W x 9 1/2" H x 5" D.

The IP-10 will help speed and solve "tough" service problems by controlling AC line voltage to meet exact test requirements. It can also be used to isolate interference radiating devices from the power line, reduce shock hazard when working with AC/DC type equipment, protect main fuses, induce breakdown of weak or intermittent components by raising AC input voltage, and many more time-saving applications. Two heavy-duty 8-position switches vary output in .75 volt steps from 90-130 volts. Built-in 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 provided on the front panel will accept 3-prong as well as standard type plugs. Primary of transformer is fused for protection. 22 lbs.

Kit IP-10...\$5.50 dn., \$5 mo..... **\$54.95**

Smooth 6 and 12 V. DC POWER for your test bench!

In the BE-5 battery eliminator you will find a ready, reliable source of 6 or 12 volt DC power to service all types of car radios, including transistor and "hybrid" radios using both tubes and transistors. Transistor and "hybrid" radios can tolerate only a small amount of AC ripple and the special filter circuit employed in the BE-5 holds AC ripple to less than 0.3%. Output voltage is variable on both ranges from 0-8 volts or 0-16 volts. Two panel meters continuously monitor output voltage and current. Doubles as a battery charger or marine converter. Highest quality parts are used throughout for rugged service and long life. 21 lbs.

Kit BE-5...\$4.50 dn., \$5 mo..... **\$44.95**
Assembled BEW-5...\$6.80 dn., \$7 mo..... **\$67.95**

- Less than 0.3% AC ripple
- Panel meters monitor output voltage and current
- Doubles as battery charger

SPECIFICATIONS—**Continuously variable output:** 6 volt range: unfiltered, 10 amp continuous, 15 amp maximum; filtered, 5 amp continuous, less than 0.3% ripple. 12 volt range: unfiltered, 5 amps continuous, 7.5 amp max.; filtered, 5 amp continuous, less than 0.3% ripple. **Power requirements:** 105-125 volts 60/60 cycles AC at 200 watts. **Dimensions:** 13" W x 8 1/2" H x 7" D.



Kit Form or Factory Assembled

Perfect for experimenters, engineers... variable-voltage REGULATED POWER SUPPLY

The PS-4 eliminates the need for building a separate power supply for each new circuit being tried in design and development work. Provides adjustable, regulated B+, adjustable bias voltage and 6.3 volt filament voltage. 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 used throughout for long, reliable service. Instrument is fused for protection. 15 lbs.

Kit PS-4...\$5.70 dn., \$6 mo..... **\$56.95**
Assembled PSW-4...\$8.25 dn., \$8 mo..... **\$82.50**

- Provides B+, bias, and filament voltages
- DC voltages fully adjustable

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.



Kit Form or Factory Assembled

Equip with reliable Heathkit® Instruments



AUDIO GENERATOR KIT

- Metered output voltage
- Built-in 600 ohm load
- Switch selected output frequencies
- Less than 1/10 of 1% distortion

This outstanding audio generator is simple, yet versatile . . . compact, yet easy to build . . . inexpensive, yet quality in design and performance. With the AG-9A as a signal source, you can practically forget about frequency variations and distortion; it may be tuned well within $\pm 5\%$ accuracy and distortion is actually less than .1 of 1% between 20 cps, and 20,000 cps. Output is indicated on a large $4\frac{1}{2}$ " panel meter calibrated in volts and decibels. Three rotary switches select two significant figures and a multiplier to determine audio frequency. Frequency can be varied in steps of 1 cps from 10 to 100 cps and a 4-position multiplier increases this range in multiples of 10, providing an overall range of 10 to 100,000 cps. Output attenuator operates in steps of 10 db and is calibrated in 8 full scale meter ranges. 7 lbs.

Kit AG-9A . . . \$4 dn., \$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:** $9\frac{1}{2}$ " W. x $6\frac{1}{2}$ " H. x 5" D.



High quality SINE & SQUARE WAVE GENERATOR FACILITIES for only \$49.95!

- Covers 20 cps to 1 mc in 5 bands
- Low source impedance
- Less than .25% sine wave distortion
- Less than .15 micro-second square-wave rise time
- Sine and square wave output available simultaneously



The wide frequency range and high quality sine and square waves produced by the AG-10 make it useful in audio, TV, high fidelity and general laboratory applications. Both sine and square wave outputs may be used simultaneously without affecting either waveform; separate output terminals and attenuators are provided for each. The sine wave section has a "Bridged T" oscillator with a cathode follower output for complete isolation between oscillator and output. The square wave section contains a modified cathode-coupled multivibrator and input and output cathode followers. Features include a 5-position range switch, continuously variable tuning, shielded oscillator circuit and separate step and variable output attenuators. Construction manual contains application notes. 12 lbs.

Kit AG-10 . . . \$5 dn., \$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: (P. to P.) $\pm 5\%$; 0 to 10 volt, 0 to 1 volt, 0 to .1 volt, into a high impedance load. Source impedance: ($\pm 10\%$): 0 to 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 $8\frac{1}{2}$ " H. x 7" D.



MUTUAL CONDUCTANCE TUBE TESTER

- Checks over 1100 tube types with data supplied
- Indicates Gm to 24,000 Micro-mhos
- Constant current heater supplies
- Ultra-sensitive grid current test
- Direct-reading ohmmeter leakage test

No finer tube tester in kit form! . . . and professional by any standard of comparison. The Heathkit TT-1 with its functional styling, many unique design features and solid, rugged construction now puts "deluxe" tube testing facilities within easy reach! A built-in, easy to use calibration circuit assures continuing high accuracy. Individual selector switches allow checking any tube type regardless of base pin connections: Housed in handsome black leatherette case with white trim, nylon feet, removable top. Technician assembly time 40 hours. 27 lbs.

Kit TT-1 . . . \$13.50 dn., \$12 mo. **\$134.95**

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, 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: $\frac{1}{2}$ 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: 80 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, 7-pin miniature, 7-pin sub-miniature, 8-pin sub-miniature, octal, loctal, 9-pin miniature, blank. Line voltage adjustment: Continuously variable. Roll chart mechanism: Constant tension, free rolling, thumb wheel operated, illuminated. Dimensions: Cabinet (outside): $17\frac{1}{2}$ " W x $13\frac{1}{2}$ " H x 7 $\frac{1}{2}$ " D. Panel and chassis: 17" W x 12 $\frac{1}{2}$ " H x $5\frac{1}{2}$ " D.

Visual-aural SIGNAL TRACER KIT

- Traces RF, IF and audio signals
- Locates noisy or intermittent components
- Ideal for testing tuners, amplifiers, etc.

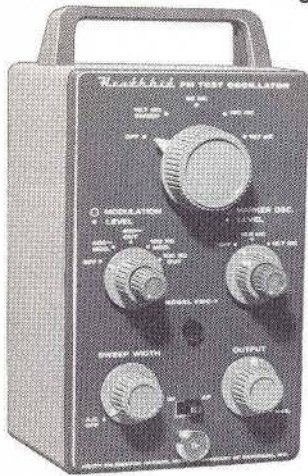
See or hear RF, IF and audio signals; includes "eye" tube, speaker and probe. Also serves as utility speaker and amplifier. Manual gives application tips.

Kit T-4 . . . 4 lbs. **\$19.95**

SPECIFICATIONS — Power supply: Transformer operated. Power requirements: 117 volts 50/60 cycles AC, 25 watts. Tube complement: 12AX7, 12CA5, 1629. Speaker: $3\frac{1}{2}$ " PM. Probe and test leads: 4' input lead for RF and audio with switch on probe body, 2-3' panel test leads with alligator clips. Dimensions: $4\frac{1}{2}$ " W x $7\frac{1}{4}$ " H x 4" D.



for proved performance and big savings



Unique... ALIGNMENT GENERATOR especially for FM

- Variable 10.7 mc sweep, 200 kc to over 1 mc
- Switch-selection of 90, 100 & 107 mc RF signals

Complete alignment generator facilities for FM tuners and receivers are provided in this neat, compact and uniquely designed instrument. Provides 10.7 mc sweep (variable from 200 kc to over 1 mc) with crystal controlled center marker and 100 kc sub-marker oscillator for IF alignment and convenient switch-selection of 90, 100 and 107 mc signals for RF "front-end" alignment. Accuracy of alignment is assured by a built-in 10 mc crystal-controlled oscillator which is used in conjunction with the 10.7 mc crystal to calibrate the instrument and may also be used as a standard in calibrating other equipment. The instructions furnished with this kit guide you through each phase of assembly and the manual contains many helpful application notes. Test leads included. 4 lbs.

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 $\frac{1}{2}$ " H. x 4 $\frac{1}{4}$ " W. x 4 $\frac{1}{4}$ " D.

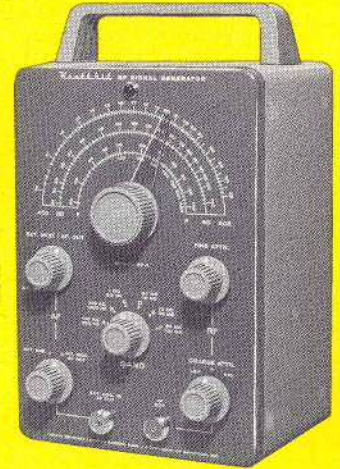
Kit FMO-1 ... \$3.50 dn., \$5 mo. **\$34.95**

Versatile RF SIGNAL GENERATOR ... only \$27.95

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

Build your own generator and save! The Heathkit RF-1 with its expertly engineered circuit provides extended frequency coverage 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. Outstanding accuracy (2%) and sine wave output is achieved on all bands. Modulated (400 cps) or unmodulated output up to 100,000 microvolts is available, controlled by both step and continuously variable output attenuators. Separate terminals are provided for RF and audio outputs. This easy-to-build kit features a prewired/prealigned, coil/bandswitch assembly to speed construction. Manual includes application instructions. 6 lbs.

Kit RF-1 \$2.80 dn., \$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: Approx. 10 V open circuit. Tube complement: (1) 12AT7, (1) 6AN8. Power requirements: 105-125 V 50/60 cycles AC, 15 watts. Dimensions: 6 $\frac{1}{2}$ " W. x 9 $\frac{1}{2}$ " H. x 5" D.



Low cost TV ALIGNMENT GENERATOR

- All-electronic sweep circuit
- Built-in crystal and variable marker oscillators
- Complete FM and TV coverage

This easy-to-build TV sweep generator incorporates many special design features for flexible, easy operation! It features an all-electronic sweep circuit using a controllable inductor for consistent, reliable, trouble-free performance and wide range sweep with excellent linearity. All the essential generator facilities are provided for the alignment of FM, Monochrome TV, or Color TV sets to speed servicing ... make money for you! Frequency coverage is 3.6 mc to 220 mc in four bands. Smooth control of RF output makes it easy to align high-gain stages without danger of overloading. RF output of well over .1 volt allows cold alignment of tuned circuits, filters, traps, etc. Crystal and variable marker oscillators are built in. Marker accuracy is assured for it is calibrated against the 4.5 mc crystal supplied. The many operational features of the TS-4A are unique in the service field and afford a degree of flexibility rarely obtained in an instrument specifically for service men. An outstanding array of features at a tremendous price saving. 13 lbs.

Kit TS-4A ... \$4.95 dn., \$5 mo. **\$49.50**

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: 110 VAC, 50-60 cycles, 50 watts. Dimensions: 13" W. x 8 $\frac{1}{2}$ " H. x 7" D.



TV COLOR BAR and DOT GENERATOR... just \$59.95

- Best buy at 1/2 of competitive prices
- For black & white and color TV servicing
- RF output on TV channels 2 through 6

Perfect for black and white or color TV servicing! The CD-1 produces six different patterns for use in making linearity and other picture adjustments on television receivers. The switch-selected patterns include: white dots, cross hatch, vertical or horizontal bars, 10 color bars and a special shading bar pattern for screen and background adjustments. Crystal-controlled sync pulses at the same frame rate as the TV station lock the patterns firmly on the screen without jitter or crawl ... eliminate bothersome sync leads. Any pattern may be selected without further adjustment of the receiver or generator after initial setting. The 10 color bars are produced by the offset carrier method and allow AFC phase and matrix alignment and include a white leading edge and black trailing edge to check color fit. The CD-1 is compact, light in weight, and features smooth control action. The 13 tube circuit has been carefully laid out to allow ease of assembly and easy-to-follow calibration instructions are furnished with actual oscilloscope patterns to aid in alignment. Complete instructions are provided on the use of the instrument in adjusting color receivers. Kit is complete with 3 crystals and test leads. 12 lbs.

Kit CD-1 ... \$6 dn., \$6 mo. **\$59.95**

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 $\frac{1}{2}$ " H. x 7" D.



only Heathkit® offers you this

"Extra-duty" wide band 5" OSCILLOSCOPE

- Full 5 MC bandwidth for color TV servicing
- Heath patented sweep circuit—10 CPS to 500 KC sweep
- Switch-selection of 2 "pre-set" sweep frequencies
- Push-pull horizontal and vertical amplifiers
- Excellent linearity and sync stability
- 2 circuit boards and wiring harness for easy assembly



Here is an oscilloscope that will fulfill practically every lab or service requirement. Critical waveform observations are handled easily, with clear, sharp pattern displays in every application. Excellent linearity and lock-in characteristics allow viewing stable presentations even at upper frequency limits. The unique Heath patented sweep circuit employed in this scope functions from 10 cps to over 500 kc giving you five times the sweep range found in most other scopes. This feature, coupled with the wide band amplifiers essential to color TV work, make it ideal for specialized as well as general circuit investigation. Two extra, switch selected, *preset sweep frequency positions* are provided for those who use the same frequencies repeatedly. Other features include push-pull output, positive trace position controls, peak-to-peak calibration reference, 3-step frequency compensated vertical input, automatic sync circuit, Z-axis input, 5UPI CR tube, husky power supply, and fresh new styling concept. A superbly-engineered instrument designed for years of fine performance. 25 lbs.

Kit IO-30...\$7.70 dn., \$7 mo. **\$76.95**
 Kit O-12 (Preceding model of above still available)...22 lbs...\$6.60 dn., \$6 mo. **\$65.95**

SPECIFICATIONS—(Vertical channel) 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 8¾" W. x 16" D.



"Space Saver" 3" DC OSCILLOSCOPE

- Identical vertical and horizontal DC coupled amplifiers
- DC to 200 KC bandwidth
- Less than 5° phase shift between channels
- External capacitor binding posts for lower sweep rates
- Small, compact size—measures only 7½" H x 4½" W x 11" D

The many function and size advantages of the IO-10 can be applied in industrial, medical and general service fields . . . and it is ideal as a readout indicator for computers. It features identical vertical and horizontal DC coupled amplifiers with *less than 5°* phase shift between channels and a bandwidth of DC to 200 kc (2 db point). The recurrent type sweep generator covers 5 cps to 50 kc in four overlapping ranges. Lower sweep rates may be obtained by connecting a capacitor across the binding posts provided. Selection of internal or external sync is available at the turn of a switch. Trace distortion due to magnetic fields is minimized through the use of a magnetic shield and an astigmatism control is provided to assure a sharp trace. All critical voltages are regulated and the power supply is transformer operated for safety and high efficiency. Kit is complete with 3RP1 CR tube. The many features of this outstanding scope bring you high performance at lowest cost. 14 lbs.

Kit IO-10...\$8 dn., \$8 mo. **\$79.95**

SPECIFICATIONS—(Vertical and horizontal channels identical): Bandwidth; DC to 200 kc (2db point). **Sensitivity:** 0.1 V (peak-to-peak) per ½" (uncalibrated). **Attenuator:** 3-position, compensated type. **Gain control:** Continuously variable. **Input impedance:** 3.6 megohms shunted by 35 mmf. **Coupling:** Either AC or DC, switch-selected. **Relative phase shift between channels:** Less than 5°. **Sweep generator (recurrent type):** Linear saw-toothed produced by multivibrator type generator covering 5 cps to 50 kc in four overlapping ranges. "External capacity" binding post for lower sweep rates. **Sync provision:** Either internal or external, switch-selected. **Power requirements:** 105-125 V 50-60 cycle AC at 100 watts max. **Dimensions:** 7½" H x 4½" W x 11" D.

Heathkit scope accessories



SCOPE DEMODULATOR PROBE KIT

Lets you observe AM modulation waveform of LF or IF signals. Functions as an AM detector to pass only modulation of signal. Voltage limits are 30 V RMS and 500 V DC. 1 lb.

Kit 337-C..... **\$3.50**

LOW CAPACITY SCOPE PROBE KIT

Prevents loss of gain, circuit loading or distortion by providing correct impedance match to scope. Switch on probe allows direct or (X 10) attenuated operation. 1 lb.

Kit PK-1..... **\$4.95**



VOLTAGE CALIBRATOR KIT

Allows scope to function as a precision peak-to-peak voltmeter by comparing unknown signal levels with known amplitude of 1 kc square wave signals produced by the VC-3. Fixed outputs of 0.03, 0.1, 0.3, 1, 3, 10, 30 and 100 volts peak-to-peak are switched selected. 4 lbs.

Kit VC-3..... **\$12.50**



ELECTRONIC SWITCH KIT

The S-3 permits using an oscilloscope to observe two separate signals simultaneously by providing a dual trace on the scope screen. Separate gain controls are provided for both channels with sync output to lock scope sweep or time base to signal frequency. A position control separates or superimposes the two waveforms. Frequency response is ±1 db from 0 to 100 kc. 8 lbs.

Kit S-3..... **\$21.95**

wide range of oscilloscope values!

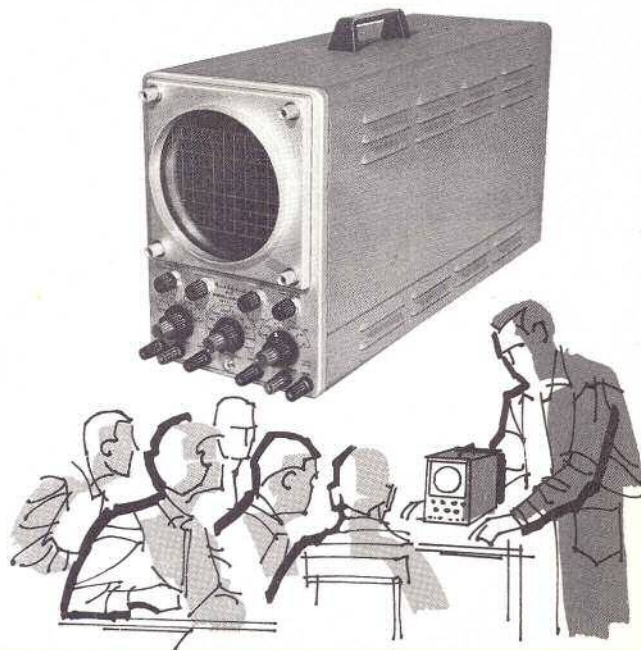
"General Research" 5" DC OSCILLOSCOPE

- Identical DC coupled vertical and horizontal amplifiers
- 5ADP2 flat face CR tube—edge lighted graticule
- External capacity binding posts for lower sweep rates
- Switch-selection of internal or external sync

An excellent scope for all types of DC applications, the OR-1 fills scores of industrial, educational, medical and general service needs. Finest quality components and materials have been used in the design of this scope to bring you high performance and long, reliable service. Identical DC or AC coupled vertical and horizontal amplifiers with less than 5 degree relative phase shift between channels make it ideal as a "read out" indicator for computers. The transformer operated power supply features long-life silicon diode rectifiers in full wave voltage doubler circuits for B+ and bias supplies. All critical voltages are regulated with gas filled VR tubes for stable, reliable performance. Coupling may be either AC or DC as selected by the input attenuator switch. A precut, cabled wiring harness is provided for easy assembly. 21 lbs.

Kit OR-1...\$12 dn., \$11 mo. **\$119.95**

SPECIFICATIONS—(Vertical and horizontal channels identical) bandwidth: DC to 200 kc (1 db point). Sensitivity: 0.1V (peak to peak) per cm (uncalibrated). Attenuator: 3-position, compensated type. Gain control: continuously variable. Input impedance: 3.6 megohms shunted by 28 mmf. Coupling: either AC or DC, switch-selected. Relative phase shift between channels: less than 5 degrees. Sweep generator (recurrent type): linear saw-tooth produced by multivibrator type generator. Frequency coverage: 5 cps to 50 kc in four overlapping ranges. "External capacity" binding post for lower sweep rates. Sync source: either internal or external, switch selected. Power requirements: 105-125 V 50/60 cycle AC at 100 watts max. Dimensions: 11" H. x 6 1/4" W. x 20" D.



Sophisticated 5" DC SCOPE for light duty applications

- Calibrated, driven sweep—built-in triggering circuits
- Calibrated DC coupled vertical amplifier
- 5ADP2 flat face CR tube—edge lighted grid screen

The professional quality and features of this DC oscilloscope make it ideal for any light-duty application 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 and sweep frequencies are provided by switch-selected base rates of 2 and .2 milliseconds-per-cm and 20, 2 and 1 micro-seconds-per-cm in conjunction with a continuously variable 10 to 1 multiplier. Calibration is within 10% at all control settings. The 12-position vertical attenuator is calibrated in volts-per-cm. The horizontal sweep is calibrated in time-per-cm. A 150 volt DC test voltage is provided for vertical channel calibration. All critical voltages are regulated with gas-filled VR tubes. 5 prewired terminal boards and precut cabled wiring harness simplify assembly. 34 lbs.

Kit OP-1...\$18.50 dn., \$16 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; 0.1 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: 8 1/2" W. x 14 1/4" H. x 19" D.

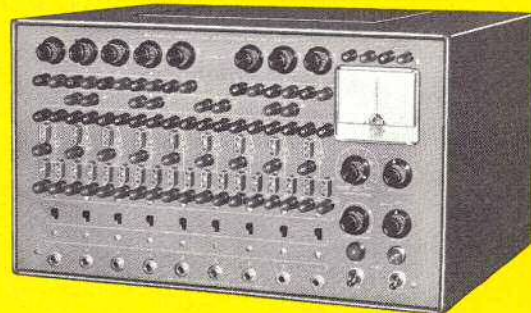


Educational electronic ANALOG COMPUTER... just \$199.95

- Ideal for schools, colleges, industry
- 3 initial condition supplies
- 9 DC operational amplifiers
- Built-in repetitive oscillator
- 5 coefficient potentiometers

The Heathkit model EC-1, lowest cost analog computer of its quality on the market, puts advanced engineering techniques within the reach of everyone! Used widely in industry, the EC-1 is capable of solving a multitude of complex mechanical and mathematical problems with swift electronic accuracy. Many concerns are using the EC-1 to train computer operators and engineers in setting up problems. Schools and colleges find the EC-1 ideal for teaching engineering, physics and math classes the basic principles of analog computer application and design. Featured are: 9 DC operational amplifiers with provision for balancing without removing problem setup; 3 initial condition power supplies; repetitive oscillator and 5 coefficient potentiometers with terminals on the panel. Comprehensive operational manual gives basic computer theory and operating procedures. Housed in rugged steel case with convenient access hatch. Measures 19 3/4" W x 11 1/2" H x 15" D. 43 lbs.

Kit EC-1...\$20 dn., \$17 mo. **\$199.95**

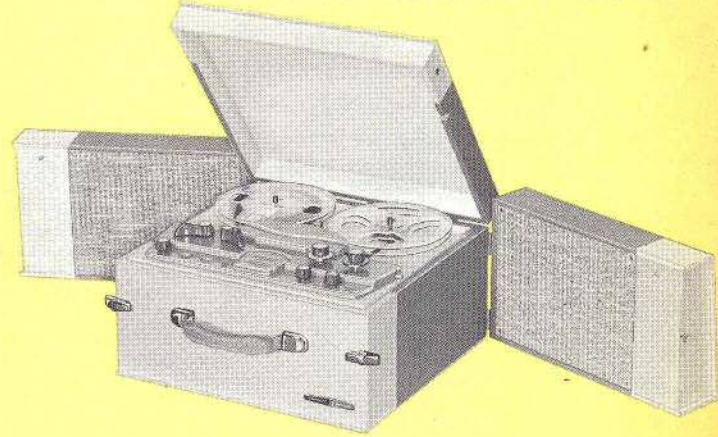


SPECIFICATIONS—Amplifiers: Open loop gain approximately 1000. Output —60 to +60 volts at 7 ma. Power supplies: ±300 volts at 25 ma electronically regulated; variable from +250 to +350 by control with meter reference for setting +300 volts. Negative 150 volts at 40 ma regulated by VR tube. Repetitive operation: Multivibrator cycles a relay at adjustable rates (.1 to 15 cps), to repeat the solution any number of times; permits observation of effect on solution of changing parameters. Meter: 50-0-50 ua movement. Power requirements: 105-125 volts, 50/60 cycles, 100 watts.

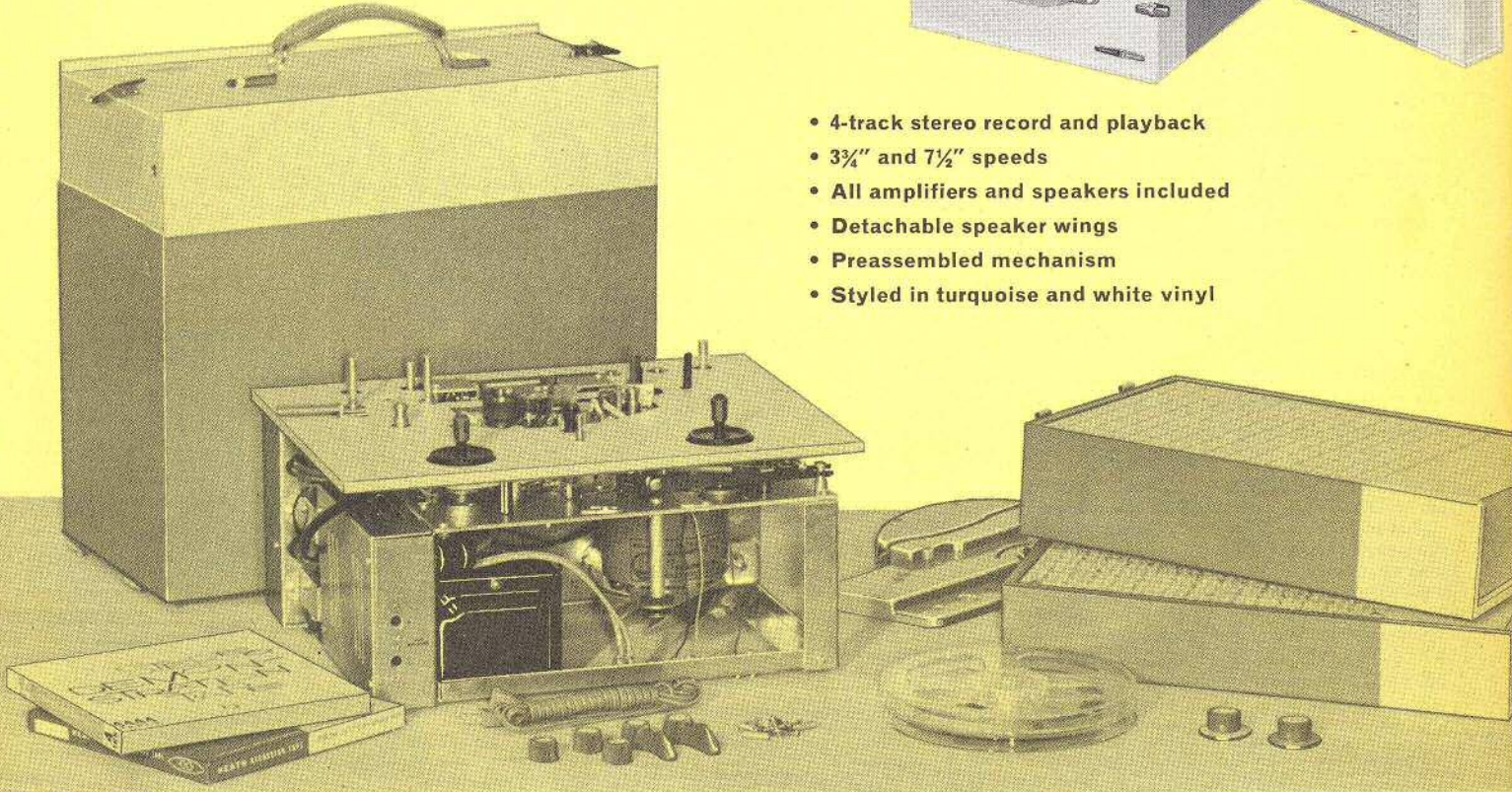
Now the numerous advantages of 4-track stereo tape recording and playback can be yours in a completely portable, quality unit that is priced lower than any competitive model in the industry. The Heathkit AD-40 with its own preamplifiers, power amplifiers and speakers permits its use as a self-contained 4-track stereo recorder and playback unit, as a stereo center for controlling and amplifying tuners and record players, or as a stereo tape music source for separate stereo /hi-fi systems. Easy to operate, two controls select "record" or "play", "fast-forward," or "rewind" functions with ease. Other features: Individual tone-balance and level controls; monitoring switch for listening to programs as they are recorded; pause control for editing; two "bar-tube" indicators of recording levels on each channel; and 2 speeds, 3 3/4" or 7 1/2". Maximum stereo effect is obtainable by positioning the detachable speaker wings; each has a 7 1/2" woofer and 2" x 6" oval tweeter. All parts for amplifiers, preamps, and power supply are ready to assemble. Cabinet and professional-type tape mechanism are factory assembled. Cabinet also has storage space. Less mikes. 49 lbs.

Kit AD-40 . . . \$18 dn., \$16 mo. **\$179.95**
 Assembled ADW-40 . . . \$30 dn., \$25 mo. **\$299.95**
 Recommended microphones: Heathkit Model AK-1 (1 lb.) **\$9.95** each

Enjoy professional-type 4-track stereo tape facilities
 at the lowest price anywhere
 with the Heathkit AD-40 Portable



- 4-track stereo record and playback
- 3 3/4" and 7 1/2" speeds
- All amplifiers and speakers included
- Detachable speaker wings
- Preassembled mechanism
- Styled in turquoise and white vinyl



J. PROSMAN
 2609 WATSON BLVD.
 ENDICOTT, N. Y.
 92

FCC ANNOUNCES NEW FM MULTIPLEX SYSTEM

The Federal Communications Commission has just released standards for an FM Multiplex System which will permit you to receive true high fidelity stereo programs from a single FM station. Here at Heath, we are hard at work on a new multiplex stereo adapter which will conform to these newly-adopted standards. This new system of transmission will provide the frequency response, separation, and noise reduction you need to realize all of the high fidelity performance of FM, plus complete stereo depth and directionality. The new adapter will be usable with the Heathkit FM-4, AD-11, AU-30, PT-1, AD-10, and most other fine tuners (the older model Heathkit FM-3 can be modified by a simple wiring change to work with the adapter). This new Heathkit multiplex adapter will be available in a few weeks; programs will be available in some areas after June 1, 1961. If you are interested in full details on the forthcoming Heathkit multiplex adapter, send us a card with your name and address so we can place your name on a special list for further information and prices.

All prices quoted are Net F.O.B. Benton Harbor, Michigan, and apply to United States and Possessions only. Prices herein effective May 5, 1961. Dealer and export prices slightly higher. All prices and specifications subject to change without notice.

FORM 3547 REQUESTED

HEATH COMPANY
 Benton Harbor, Michigan
 a subsidiary of
DAYSTROM, INCORPORATED

BULK RATE
 U.S. POSTAGE
PAID
 Benton Harbor, Mich.
 Permit No. 273

HEATH COMPANY

Benton Harbor, Michigan



FCC ANNOUNCES NEW FM MULTIPLEX SYSTEM

The Federal Communications Commission has just released standards for an FM Multiplex System which will permit you to receive true high fidelity stereo programs from a single FM station. Here at Heath, we are hard at work on a new multiplex stereo adapter which will conform to these newly-adopted standards. This new system of transmission will provide the frequency response, separation, and noise reduction you need to realize all of the high fidelity performance of FM, plus complete stereo depth and directionality. The new adapter will be usable with the Heathkit FM-4, AJ-11, AJ-30, PT-1, AJ-10, and most other fine tuners (the older model Heathkit FM-3 can be modified by a simple wiring change to work with the adapter). This new Heathkit multiplex adapter will be available in a few weeks; programs will be available in some areas after June 1, 1961. If you are interested in full details on the forthcoming Heathkit multiplex adapter, send us a card with your name and address so we can place your name on a special list for further information and prices.

All prices quoted are Net F.O.B. Benton Harbor, Michigan,
and apply to United States and Possessions only.

Prices herein effective May 5, 1961

All prices and specifications subject to change without notice
Dealer and export prices slightly higher.

FORM 3547 REQUESTED