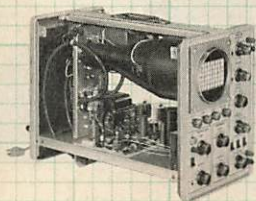
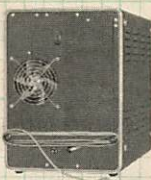


Introducing The World's Best Buy In DC Scopes . . .

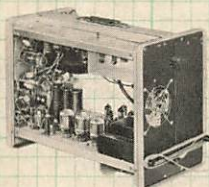
The New HEATHKIT® 10-14



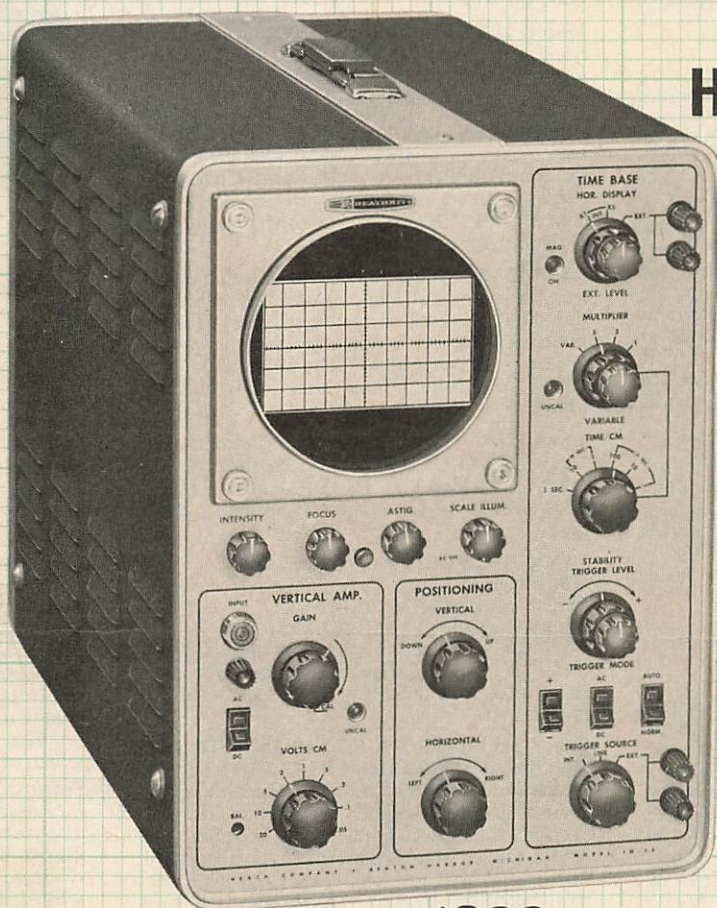
Sharpest Trace—assured by 4,250v. accelerating potential and high-nickel alloy CRT shield. **Matched, Magnetic-Core Delay Lines**—precision, cable type, for fast rise-time pulse work.



Rear Access Door—for direct plate connections. **Circuit Breaker**—for complete protection. **Z-Axis Terminals**. **3-Wire Line Cord**—with holders. **Fan Cooling**—with blade guard.



Easy To Build—5 circuit boards and wiring harness. **Rugged**—heavy-duty transformer—forced-air cooling—"U" girder, all-aluminum construction for rigidity.



- DC to 8 mc bandwidth
- Sensitivity 0.05 v/cm AC or DC
- Rise time 0.04 microseconds
- Precision delay line of 0.25 microseconds
- Calibrated 9-position vertical attenuator
- 18 triggered sweep rates from 0.5 sec/cm to 1 microsecond/cm
- Five-times sweep magnifier extends sweep rate to 0.2 microsecond/cm
- Forced-air ventilation for continuous duty
- Electronically regulated power supply

Kit **\$299** (available April)

Factory Assembled **\$399** (available May)

Full
Details
on Page 42

GOOD NEWS

21" Color TV Kit Now Ready
for IMMEDIATE DELIVERY
No reservations needed.



In Stock—No Waiting
Send Your Order Now. See pg. 3

SPECIAL OFFERS

1. Free walnut cabinets with AJ-43D and AA-21D combination order. See pg. 20
2. Free GH-52 Soldering Iron with AJ-41 and AA-100 or AJ-32 and AA-151 combination orders. See pg. 23
3. Free earphones and world shortwave book with GR-54 radio order. See pg. 8
4. Save Up To 14% On Complete Marine Radiotelephone Systems! See pgs. 12-13
5. Save 5% On Music Systems. See pgs. 18-30
6. Save 5% On 2 or More 5-Watt CB Transceivers! See pgs. 10-11

NEW PRODUCTS THIS ISSUE

1. Deluxe 5" DC 'Scope; pg. 42 & above
2. Part B of the Berkeley Physics Lab with new microwave equipment; pg. 41
3. 21-Speed Electronic Drive for Heath Servo Chart Recorder; pg. 38
4. Dropping Mercury Electrode apparatus for Heath Polarography System; pg. 39
5. Ham radio speaker styled to match deluxe SSB gear; pg. 34

HEATHKIT®

SHOW YOUR ADDRESS ON CORRESPONDENCE

When writing to us for any reason, please show your complete address on your letter. Envelopes occasionally become separated from correspondence, and we cannot always locate your address in our files. As a result, some letters may be delayed, or unanswered.

STOPPING BY FOR FACTORY SERVICE?

If you have a Heathkit that needs servicing, and you would like to drop it off at our plant, our Service Department is open Monday thru Friday, 8 A.M. to 4:15 P.M. E.S.T. If you can't make it during the week, you may leave it with our Sales Representative on Saturdays at our plant Kit Sales/Show Room, which is open 9 A.M. to 3:30 P.M. We suggest that a written description of the problem be attached to the unit—be sure to include date kit was purchased. Repaired equipment & replacement parts can also be picked up at the Kit Sales Room on Saturdays, only if prior arrangements are made with the Service Department. Be sure that all arrangements are clearly understood.

Also, don't forget about the Heathkit Electronic Center and authorized Service Center facilities (see list below). They are fully staffed and equipped to handle any parts or service problem . . . either by mail or across the counter. If there's one in your vicinity, take advantage of it . . . you'll receive faster attention to your needs.

JOB OPPORTUNITIES—ENGINEERS & TECHNICIANS

Due to expansion, we now have job openings in our Service and Engineering departments for technicians and engineers. We offer good salaries, liberal employee benefits, and a pleasant working atmosphere in our modern plant located on the eastern shore of Lake Michigan. Excellent school, shopping and recreational facilities. You'll live within minutes of work. If interested, write to: W. F. Donahue, Director of Personnel, Heath Company, Benton Harbor, Michigan 49022.

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OFF TO MORE SHOWS WE GO!

During the months of March and April, we will exhibit various Heath products at the following special interest and trade shows. If you plan to attend any of these, be sure to stop by and see us. Personnel from the Heath Company plant will be on hand to answer your questions.

March 21-24—Institute of Electronics & Electrical Engineers (IEEE) Show at the Coliseum, New York City—all Heathkit products.

April 1-5—1966 National Science Teachers Association Convention, New York Hilton, New York City—IMPSCOPE, Heath Berkeley Physics Lab Parts A & B, Servo-Chart Recorder, power supplies, Basic electronic courses, and "How To . . ." Instrument Application series.

April 12-15—Federation of American Society For Experimental Biology Meeting, Convention Hall, Atlantic City, New Jersey—IMPSCOPE, new IO-14 Oscilloscope (see page 42), Polarography System, Multi-Speed Chart Drive, Malmstadt-Enke Lab, and the pH Meter.

April 21-24—1966 American Radio Relay League (ARRL) National Convention, Sheraton-Boston Hotel at the Prudential Center, Boston, Mass.—all Heathkit amateur radio gear.

PHONE ORDER ANYTIME DAY OR NIGHT

Days, call Area 616, 983-3961
Nights, call Area 616, 983-3921
Give all information, we will ship C.O.D. After 8 P.M. call Heath from anywhere in the continental U.S. (except Alaska) for \$1 or less.

DO YOU HAVE AN FCC COMMERCIAL PHONE OR TELEGRAPH LICENSE?

If you hold a current, valid FCC Commercial First Class Radiotelephone or First Class or Second Class Radiotelegraph license, we would like to hear from you. A postcard will do—just address to Neal Turner, Heath Company, Benton Harbor, Mich.—and tell him what license you hold.

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LETTER FROM THE PRESIDENT



Dear Friends:

Customer good will depends on so many facets of a business that at any given time it is hard to determine from the customer mail whether we are gaining or losing in the all-important struggle for good-will. It's like the caterpillar who was asked as he stood at the door of the psychiatrist's office . . . "Are you coming or going?" Said the caterpillar "If I knew that I wouldn't be here."

For instance, in 1965 we shipped out more kits on time than ever before. We also shipped more kits late than ever before.

We were in good shape on shipments until November when a quality problem developed. A supplier notified us that some defective material might have gotten into a recent shipment to us. We had three suppliers for this particular part which is used in over 100 different kits. Which kits in our stock contained this manufacturer's component? We did not know; so we opened every kit, extracted the part, and substituted another.

Naturally, shipment was delayed on these kits and a lot of loyal customers were disappointed with Heath's delivery service. But to my knowledge, not a single one was disappointed with Heath quality. Which way did the good-will pointer move? See you at the psychiatrist's.

Sincerely,
C. M. Kirkland, President

HEATHKIT ELECTRONIC CENTERS

Chicago, Illinois 3462-65 W. Devon Ave. Phone: 583-3920	Los Angeles, California 2309 S. Flower Street Phone: RI-9-0261
Denver, Colorado 2901 Sheridan Blvd. Phone: 238-2348	San Diego, California 1300 Market Street Phone: 234-0293
Detroit, Michigan 18645 West 8 Mile Rd. Phone: 535-6480	Redondo Beach, California (Marine Specialists) 202 Harbor Drive Phone: 376-0908
Anaheim, California 330 E. Ball Road Phone: 776-9420	

AUTHORIZED SERVICE CENTERS

United Sound & Television Co. (two locations) 5036 Venice Blvd. Los Angeles, California	Expert Electronics 7201 S. Western Ave. Chicago, Illinois
2010 W. Lincoln Ave. Anaheim, California	Park Armature Company 1218-30 Columbus Ave. Boston, Mass.
Radio Electronics 374 Brannan Street San Francisco, California	Electronic Servicerent of N.Y. 65-37 Queens Blvd. Woodside, New York
Photo Electronics 1300 Market Street San Diego, Calif.	Scientific Radio-TV/HI-FI (two locations) 4122 E. Madison St. Seattle, Washington
Southern Authorized Factory Service 62 N. W. 27th Ave. Miami, Florida	5418 1/2 Sand Point Way N.E. Seattle, Washington

All Heathkit Electronic Centers and Authorized Service Centers are units of Daystrom Products Corporation

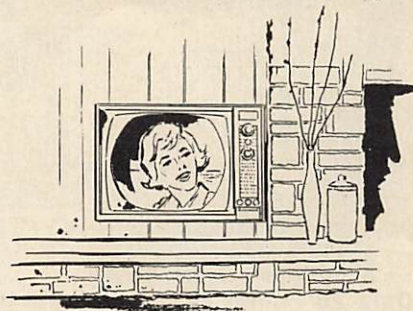
Heathkit® 21" Color TV Available Now!

No Reservation Needed — Immediate Delivery!



GR-53A
\$375.00
(less cabinet)

Only 21" Color TV You Can Install 3 Ways!



1. In a wall
2. In your custom cabinet
3. In either Heath factory-built cabinet

Factory Assembled Deluxe Cabinet (Opposite) . . . matches Heath contemporary hi-fi cabinetry (p. 26). Fits within 3" of wall. Quality crafted of 3/4" walnut solids and veneers with a hand-rubbed finish. Includes special hi-fi 6" x 9" speaker with 6.8 oz. mag. to give you 2-speaker performance with GR-53A chassis (speakers mount behind grille cloth). Size: 44" W x 32 3/8" H x 23 5/8" D (26 1/2" including tube rear cover). See below for Heath economy cabinet.

Assembled GRA-53-7, 82 lbs.

No money down, \$11 month \$108.00

Exclusive Built-In Self-Servicing . . . Versatility Of Installation . . . Plus Hi-Fi Picture & Sound Make The GR-53A A Best Buy!

• Built-in Service Center to adjust & maintain set • 26-tube, 8-diode circuit • Deluxe Standard-Kollsman VHF tuner with "memory" fine tuning • Transistor UHF tuner • High definition 70° 21" "rare-earth" color tube for brighter reds • Anti-glare bonded safety glass • 24,000 volt regulated picture power • Automatic color control for top color quality • Gated automatic gain control for steady "flutter-free" pictures • Tuners, I.F. and high voltage assemblies factory-built & aligned . . . just simple circuit boards to wire • Line Thermistor for longer tube life • Tubes alone list for over \$260 • Transformer operated • Circuit breaker protection • Two hi-fi outputs plus tone control • One-piece metal chassis support for easy set-up & servicing • Mounts in wall, custom cabinet or either Heath cabinet • 1 year warranty on picture tube, 90 days on all other parts

Ends Costly Color TV Servicing . . . a built-in dot generator coupled with a convergence control center allows you to adjust the set yourself for the finest picture at all times. Simple-to-follow instructions and detailed color photos show you exactly what to look for and how to achieve it. No more color fringing or overlap. No more service calls everytime you move the set.

As Easy To Build As A Hi-Fi Amplifier . . . you simply wire 3 circuit boards, mount the parts, connect a color-coded wiring harness, and adjust the picture . . . all critical circuits are pre-assembled and aligned at the factory. You'll finish in about 25 hours. Result? 21" of the best color pictures on TV, plus true hi-fi sound. Install it in a wall, your own cabinet, or either

Heath cabinets. The picture tube is warranted for a year, all other parts 90 days.

Kit GR-53A, all parts including chassis, tubes, mask, UHF & VHF tuners, mounting kit and specially shielded, extended range 6" x 9" speaker. 125 lbs. . . \$38 dn., as low as \$22 mo. \$375.00

GR-53A SPECIFICATIONS—Picture size: 21" round, approx. 265 sq. in. Deflection: Magnetic 70°. Focus: Electro-static. Convergence: Magnetic. Antenna input impedance: 300 ohm balanced. Picture IF carrier frequency: 45.75 mc. Sound IF carrier frequency: 41.25 mc. Color sub-carrier: 42.17 mc. Sound IF frequency: 4.5 mc. Tuning range: VHF TV Channels 2-13, UHF 14-83. Sound cathode follower: Output impedance: 3K. Frequency response: ±1 db, 50-15,000 cps. Harmonic distortion: less than 1%. Output voltage: 2 V. Audio output: Output impedance: 8 ohms. Output power: 2 watts. Frequency response: ±2 db, 50-15,000 cps. Harmonic distortion: Less than 3%. Power requirements: 110 V to 130 V, 60 cycle AC, 300 watts. Wall mounting space required: 25" D x 25" H x 28" W.

Economy Cabinet . . . Only \$46.50!

Attractive, low cost. Constructed of walnut-finished wood and hardboard; tapered wood legs with brass finish ferrules and glides. GR-54A's speaker mounts behind grille cloth on left of cabinet. Cabinet size: 37 3/4" W x 33 1/4" H x 26 1/4" D.

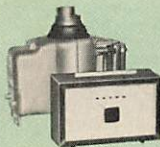
GRA-53-6, 51 lbs. . . no money dn., \$5 mo. \$46.50



Performance-Proven Transistorized Blonder-Tongue FM/TV Booster (IT-4) For Fringe Areas

Dependable, trouble-free signal booster. Accepts up to four FM and TV sets simultaneously. 300 ohm input and output. Easy to install. 1 5/8" x 2 7/8" x 4".

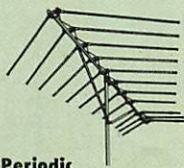
GDP-331, 1 lb. . . Only \$19.40



New! Alliance Tenna-Rotor . . . Save \$16.50

New patented 5-wire bridge type circuit . . . unaffected by motor current, cable length or line voltage variations. Expanded meter scale. Rotates 360° either direction—instantly reversible. Magnetic brake. Lubricated for life. Moisture sealed, 115v AC, 60 cycle.

GDP-214, 11 lbs. . . . \$23.45



JFD Log-Periodic LPV-11 VHF TV Antenna

Receives color, B & W TV (channels 2 thru 13), FM Stereo up to 125 miles away! Patented geometric concept for higher forward gain, sharper directivity, lower VSWR—down to 1.2 to 1, a front-to-back ratio of 35 db, Gold Bond Anodized finish. 11 V-elements!

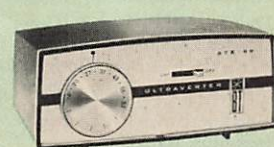
GDP-124, 15 lbs. Mfrs. list \$39.95 Only \$23.45



Taco 4-Bay Model 3044 TV Bow-Tie UHF Antenna

Popular open vee type with pivot mount for rigid locking to existing mast; heavy mesh screen reflector of galvanized 12 gauge steel with 1" x 1 1/2" squares for max. stability and long life.

GDP-233, 5 lbs. Mfrs. list \$8.75 Net \$5.14

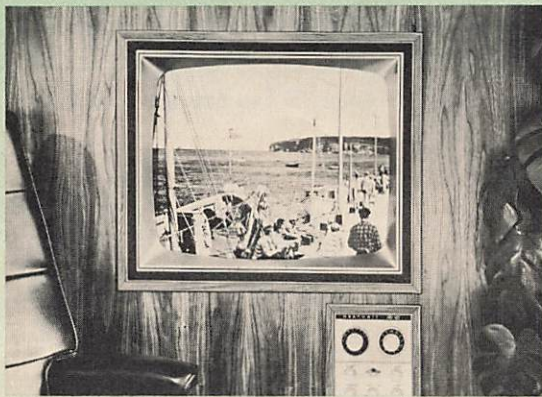


Blonder-Tongue BTX-99A All-Transistor UHF Converter

Adds all UHF channels 14 to 83 to any TV. Ideal for prime signal areas. Performs well with indoor antenna in many areas. All-transistor circuit provides maximum signal power, and drift-free no-distortion performance. UL approved. Not a kit.

Model GDP-595, 2 lbs. \$19.45

Your Best 25" Color TV Buy!



Only 25" Color TV You Can Install 3 Ways!

1. In a Wall
2. In Your Own Custom Cabinet
3. In Heath Factory-Built Cabinet

Space-Saving Rectangular Tube Provides More Picture Area . . . Has "Rare Earth" Phosphor For Livelier Colors . . . And You Can Converge It Anytime For Peak Performance!

• Hi-fi 90° rectangular 25" color tube with anti-glare safety glass and "rare earth" phosphor for better "reds," brighter pictures • 27-tube, 10-diode circuit • 25,000 volt regulated picture power • Automatic degaussing & mobile degaussing coil • Exclusive Heath "Magna-shield" covers entire tube for improved color purity • Built-in servicing facilities to adjust & maintain set • Extra B+ boost for improved picture definition • Dynamic pin-cushioning correction circuit eliminates picture edge distortion • Deluxe VHF turret tuner with "memory fine tuning" & long-life nickel silver contacts • 2-speed, transistor UHF tuner • Automatic color control circuit to reduce color fading • New 3-stage IF strip to reduce interference & improve reception • Gated automatic gain control for steady, flutter-free pictures • Circuit breaker protection • New vertical swing-out chassis for easier servicing & installation • 3-way installation . . . wall, custom cabinet or Heath factory-assembled cabinet • Assembles in just 25 hours with all critical circuits prewired & tested • 1-year warranty on picture tube, 90 days on all other parts

Features Exclusive Built-In Servicing, Automatic Degaussing And Other Color TV Advances For True Hi-Fi Picture & Sound—Compare!

No Cut-Off Corners, No Picture Loss . . . you see the complete picture with a full 295 sq. inches of viewing area . . . yet its rectangular shape takes less space in a cabinet or wall installation. A special "rare earth" phosphor insures brighter, more brilliant colors . . . a 25,000 volt regulated power supply assures a sharp, clear picture . . . and the anti-glare safety glass protects its "good-looking" face.

Picture Tube Is Demagnetized And "Cleaned" everytime you turn the set on from a cold start . . . thanks to the Automatic Degaussing Circuit. Also eliminates any manual degaussing when set is moved. A mobile degaussing coil is included for initial set-up and adjustment.

Exclusive Heath Magna-Shield . . . maintains color purity by shielding entire tube from external magnetic fields.

Higher Resolution, Improved Definition, And Brighter Pictures . . . thanks to the Extra B+ Boost which accelerates electron beams for a smaller spot size.

Straight Picture Edges With No Distortion . . . no more "waves" or contorted corners . . . two pincushion transformers with associated correction circuits assure you of straight vertical and horizontal lines.

2-Speed, Transistor UHF Tuner . . . has high vernier ratio for either fast channel selection of all UHF channels or fine tuning of individual stations.

Deluxe VHF Turret Tuner . . . with "memory" fine tuning . . . no need to readjust when you return to a channel. Long-life silver contacts assure positive switch action. Both channel indicators are lighted for easy reading.

3-Stage Video IF Strip . . . reduces interference and improves definition.

Vertical Swing-Out Chassis . . . hinged to make components more accessible (see illus. right).

Two VHF Antenna Inputs . . . Choose either 300 ohm balanced or 75 ohm coax input to reduce interference in metropolitan or CATV areas.

Tilt-Out, Front-Panel Convergence Controls . . . cabinet speaker grille tilts out to make dynamic convergence easier (see illust. right). No more reaching around the set, or mirrors to set up.

Main Control Panel . . . all tuning controls mount on universal panel for versatile custom installation . . . mounts above, below or to the right of the picture tube, wherever you prefer.

Hi-Fi Sound Outputs . . . accommodate special contained-field 6" x 9" speaker (included). Also has cathode follower output to drive your hi-fi system.



GR-25
\$469⁹⁵
(less cabinet)

25" COLOR TV ON RESERVATION BASIS ONLY!

Demand continues to exceed our tube allocation. To reserve your GR-25 for future delivery, use separate order blank (center of flyer) mark "GR-25 Reservation Only", and return to us. We will promptly acknowledge your reservation and assign a priority number. We will contact you in advance of shipping date to confirm your reservation.

Color Fading Is Reduced . . . thanks to the Automatic Color Control Circuit . . . you always have the best picture.

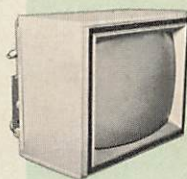
Steady, Jitter-Free Pictures, Even In High Interference Areas . . . Gated Automatic Gain Control provides a balanced picture, even under fast-changing signal conditions, such as airplanes flying over your reception area. A color-killer circuit cuts off color signals when a black & white picture is being received.

No Costly Service Calls For Picture Adjustments Or Simple Repairs . . . built-in servicing facilities include a dot generator to converge set any time. Full color illustrations and simple instructions show you exactly what to look for and how to achieve it.

3-Way Installation . . . install the GR-25 in a wall or custom cabinet . . . required dimensions: 20" D x 21" H x 26" W. Or choose the factory assembled, walnut finish Heath cabinet (above).

Kit GR-25, all parts including chassis, tubes, mask, UHF & VHF tuners, mounting kit and special extended-range 6" x 9" speaker, 131 lbs. . . \$47 dn., as low as \$29 mo. . . . \$469.95
Assembled GRA-25-1, low-cost walnut cabinet, 35 lbs. . . no money dn., \$6 mo. . . . \$59.95

GR-25 SPECIFICATIONS—Picture size: 25", rectangular, approx. 295 sq. inches. **Deflection:** Magnetic 90°. **Focus:** Electrostatic. **Convergence:** Magnetic. **Antenna input impedance:** 300 ohm balanced, or 75 ohm unbalanced (VHF). **Picture IF carrier frequency:** 45.75 mc. **Sound IF carrier frequency:** 41.25 mc. **Color subcarrier:** 42.17 mc. **Video IF bandpass:** 3.58 mc. **Sound IF frequency:** 4.5 mc. **Tuning range:** VHF channels 2-13, UHF channels 14-82. **Sound cathode follower:** Output impedance; 3 K. Frequency response; ±1 db, 50-15,000 cps. Harmonic distortion, less than 1%. Output voltage; 2 v. **Audio output:** Output impedance, 8 ohms. Output power, 2 watts. Frequency response, ±2 db, 50-15,000 cps. Harmonic distortion, less than 3%. **Power requirements:** 110-130 v., 60 cycle AC, 330 watts. **Wall mounting:** 20" D x 21" H x 26" W inside. Control panel, assembly, 6½" W. x 7¾" H. x 7" D.



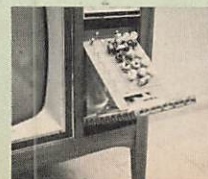
Exclusive Heath Magna-Shield!
Keeps out external magnetic fields and improves color purity by covering entire tube.



Vertical Swing-Out Chassis!
Makes chassis more accessible for servicing and installation.



Universal Main Control Panel!
Contains all main controls for more flexible custom installation . . . top, bottom or right side.



Convergence Control Panel!
Front-panel mounted under "tilt-out" speaker grille section for easier, faster picture convergence.

Home Entertainers

Enjoy Full Professional Organ Features Like Chimes, Rotating Leslie Speaker, and Full-Size 44-Note Keyboards With This Deluxe Heathkit®/Thomas "Coronado" BL-3!



GD-983
\$799⁰⁰
(Including bench)

- All genuine Thomas factory-fabricated components • 17 beautiful, rich organ voices • Two full-size 44-note keyboards • A built-in 2-speed Leslie plus 2-unit Main speaker system • 28 notes of melodious chimes... hundreds of chime variations • 13-note heel & toe pedalboard, range C thru C • Reverb for concert hall realism • Sustain on keyboards & pedals for a variety of special effects • Vibrato for warmth & beauty • New Stereo Chorus Control to create exciting "stereo" effects • Color-tone Attack & Repeat Percussion to produce additional voice effects • Treble Accent for added brilliance • Manual Balance to adjust relative volume of the two keyboards • Pedal Volume to adjust bass pedal loudness • Headset outlet to play without disturbing others • A full 5-year warranty on transistor tone generator boards... the heart of the organ • Luxurious full-bodied walnut finished cabinet... hand-crafted, hand-rubbed, completely assembled • Diode switching on upper keyboard... faithfully reproduces attack and decay of each musical tone with no annoying key "clicks"

Self-Teacher Recorded Lessons... Save \$30!

Complete 48-lesson course on four 12" LP records, and music book with many old-time favorites. Use with GD-983 or new GD-325 (pg. 6) organs.
GDA-232-2, recorded lessons, 5 lbs... Mfrs. list \$50... \$19.95

5-Year Warranty!

The transistorized plug-in tone generator boards, the heart of the organ, are warranted for five years. You buy with confidence when you buy a Heathkit version of the Thomas Organ. Replacement upon prepaid return of undamaged board to the Heath Company.

Like To Hear It Perform?

Send 50c for postage & handling, ask for 7", 33 1/3 rpm demonstration record no. GDA-983-2. You'll convince yourself!

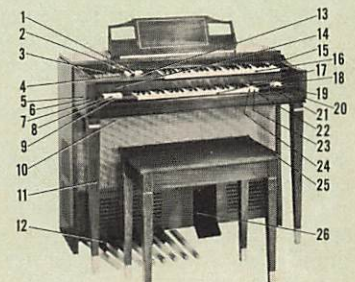
Just Touch A Tab! And create any one of 17 beautiful organ voices... Saxophone 8', French Horn 8', Violin 8', English Horn 8', Oboe 8', Flute 8', Cello 8', Bass Clarinet 16', Trumpet 16', Bourdon 16', Flute D'amour 4', Quint 5 1/4', and Diapason 16' and 8'. And you'll soon learn various combinations to produce additional voices such as the hawaiian guitar, vibraharp, harpsichord, zither, caliope, bagpipes, etc. Plus different musical moods... classical, popular and religious. It's like having an orchestra at your fingertips. The 28 notes of chimes—worth \$500 to \$2000 as an extra on other organs—offer hundreds of variations. And with the 2-speed rotating Leslie speaker, you create the beauty of a full "theatre" organ, or a rich, random liturgical sound.

As High Fidelity Magazine put it: "—this 'kit organ' is no toy or halfway-to-heaven gadget. It is rather a full-fledged, deep throated, authentic sounding organ that should interest the serious musician as well as the hobbyist and amateur."

No Extras, Nothing More To Buy! There are no speakers, amplifiers, or other "hidden necessities" to add as with other organ kits. Even includes a pre-tuned generator to tune it... no special "ear" needed. And what about kit assembly? Popular Science Magazine wrote: "You don't have to be an expert or know anything about electronics to complete the project... Heath engineers have done an excellent job of programming the assembly so that you are never confused."

Kit GD-983, Organ & matching walnut bench, 245 lbs... \$125 dn., as low as \$27 mo... \$799.00

1. Sustain Tab
2. Reverb
3. Swell Keyboard
4. On-Off And Pedal Volume
5. Pedal Tab
6. Pedal Sustain Tab
7. Great Keyboard
8. Vibrato
9. Treble Accent
10. Headphone Jack
11. Leslie Speaker
12. Pedalboard
13. Manual Balance
14. Pilot Light
15. Chimes
16. Swell Keyboard
17. Great Keyboard
18. Leslie Rotor Switch
19. Leslie-Main Speaker
20. Stereo Chorus
21. Color-Tone Percussion Tabs
22. Percussion Repeat Rate
23. Percussion Delay Tabs
24. Repeat Percussion Tab
25. Main Speakers
26. Expression Pedal



Thomas Organ Music Books

Contains complete organ music & registration charts for both GD-983 and GD-325 Heathkit/Thomas Organs.

- HELLO DOLLY... all words and music from this famous musical.
GDP-165, 1 lb... \$2.00
- BERLIN'S BEST... "Always," "Say It Isn't So," 23 Berlin favorites.
GDP-135, 2 lbs... \$2.50

- AROUND THE WORLD IN WALTZTIME... 14 waltz favorites, "Fascination," "My Wild Irish Rose," etc...
GDP-155, 1 lb... \$2.00
- LIGHT CLASSICS... "Serenade," "The Swan," 12 popular classics.
GDP-145, 1 lb... \$2.00

For A Picture As Sharp As A Photograph, And Sound As Clear As An FM Tuner, Choose This Deluxe 23" Black & White TV!



GR-22A
\$169⁰⁰
(less cabinet, mask & speaker)

- UHF & VHF for all-channel (2-83) reception • 16 tubes, 5 diodes give 30 tube performance • 20,000 volt picture power • High definition 23" 90° tube with anti-glare bonded safety glass • Spark-gap socket for picture tube protection • Deluxe Nuvistor VHF & transistor UHF tuners • Transformer power supply • Line circuit breaker, filament and B+ protection • Gated Automatic Gain Control & Noise Canceller for peak reception • Wide-band circuitry with 5 interference traps • DC restorer • Hi-Fi cathode follower output for hi-fi system • Hi-Fi sound-power output for speaker • Finest parts—tubes alone list over \$135 • Easy circuit construction, wiring harness, and prebuilt tuner, IF strip and hi-voltage sections... finish in 12 hours.

Install In A Wall Or Cabinet! Choose the chassis & tubes, and the custom wall mask (GRA-22-5 right) for mounting in either a custom cabinet or wall. Or choose the handsome Heath walnut cabinet (Illust.) that blends with today's decor.

Kit GR-22A, chassis & tubes, 77 lbs... no money dn., \$16 mo... \$169.00

TV Wall & Cabinet Mask

Unfinished. Includes 3/4" mounting board. Cut & drilled. Required mounting space; 19" H x 17 3/4" D x 28 1/2" W.
GRA-22-5, TV wall mount, 13 lbs... \$23.50
GR-62B, TV set with wall mount, 90 lbs...
Save \$7.50... no money dn., \$18 mo... \$185.00

Deluxe TV Cabinet

(Illust.) Assembled. Walnut finish matches Heath Hi-Fi cabinets, pg. 28. Includes mask, mounting board, 6" x 9" speaker. Measures: 36" W x 32 3/4" H x 20 1/2" D.
GRA-22-1, Walnut TV cabinet, 65 lbs... no money dn., \$9 mo... \$84.95
GR-52A, TV set & walnut cabinet, 142 lbs... Save \$8.95, no money dn., \$23 mo... \$245.00

GR-22A SPECIFICATIONS—Picture size: 23" overall diagonal, approximately 282 sq. in. Deflection: Magnetic, 90°. Focus: Electrostatic. Antenna input impedance: 300 ohm balanced. Tuning range: VHF TV Channels 2-13 & UHF Channels 14-83. Picture IF carrier frequency: 45.75 mc. Sound IF carrier frequency: 41.25 mc. Sound IF: 4.5 mc. Video response: to 3.2 mc. Power requirements: 105 V. to 125 V. 60 cycles AC, 210 watts.

How To Play Complete Songs In Minutes Instead of Months. Build The New Heathkit® / Thomas Color-Glo Organ!

Play Melody, Harmony, And Bass The First Time You Try It . . . Even If You've Never Played An Instrument Before!

• Exclusive Thomas Color-Glo to start you playing instantly • All genuine Thomas factory-fabricated components • 10 true organ voices • Variable repeat percussion . . . produces banjo, mandolin, balalaika effects • 13-note heel and toe bass pedals • 2 overhanging 37-note keyboards, range C thru C • 50 watt EIA peak music power amplifier • 12" speaker • Vibrato • Manual balance control • Transistorized plug-in tone generators, the heart of the organ, warranted for 5 years • Fully transistorized for better tone, longer life, trouble-free operation • Handcrafted, hand-rubbed walnut cabinet . . . completely assembled

No Long, Tedious Hours of Study Needed! You and every member of your family start playing many of your favorites instantly . . . with this new Color-Glo version of the Heathkit/Thomas "Artiste" ART-1 Organ. Special key lights show you the correct notes and chords.

Just Match Up The Colors And The Letters . . . It's Easy! Switch on the Color-Glo, and you're ready to play. Each key on the upper keyboard lights up with a letter for you to follow. You simply match the letters on the music with the letters on the keys, and automatically you play the melody. For harmony, there are 3 red keys, 3 black keys and 3 green keys on the lower keyboard. With your left hand, just press and hold the notes that match the background color in the Thomas Color-Glo music book (included).

But that's not all. To add the rich sound of the bass notes, press and hold the pedal that is marked with the same color as the harmony notes, changing to different colors as you change with your left hand. That's all there is to it . . . and you've done it all by yourself.

Touch the magic switch again, and the Color-Glo keys disappear, leaving a beautiful spinet organ console that will be the most admired piece of furniture in your living room. Your Color-Glo music teacher is your secret!

Great For Livening Up Parties! Create live music for dancing and song fests when friends gather for an evening . . . you're a one-man band. And there's no better way to relax. Teens will love the rhythm and bounce of its many musical effects, too. Ten true organ voices in all . . . trombone, reed, flute, oboe, cornet, violin, saxophone, horn, viola, and diapason. All at the simple touch of a tab. Also includes repeat percussion to create banjo and mandolin effects; 13-note heel and toe bass pedals; variable expression pedal to change the volume; two levels of vibrato intensity; variable bass pedal volume; manual balance control; 12" speaker; and a 50-watt EIA peak music power amplifier.

Build It In About 50 Hours! Takes no special skills or knowledge. Includes simple step-by-step instructions . . . genuine Thomas factory fabricated parts . . . diagrammed, easy-to-wire circuit boards . . . factory assembled hand-rubbed walnut cabinet (measures 41¼" H x 39¾" W x 21½" D) that's ready for the sub-assemblies as you complete them. You even tune the organ with the pre-tuned tone generator . . . no "special" ear needed. Then relax and enjoy your newly discovered talent as you take the "light approach" to music . . . with instant-play Color Glo!

Kit GD-325, Organ, 153 lbs. . . \$35 dn., as low as \$21 mo. . . . \$349.95
GDA-232-1, matching walnut bench, 18 lbs. . . no money dn., \$5 mo \$24.95
Export model available for 115/230 VAC, 50-60 cps; write for prices.

Hear It Perform!

Send 50c for postage & handling, and ask for model GDA-232-5, demonstration record (7", 33⅓ rpm).

Special Note To GD-232 (A & B) Organ Owners!

As much as we'd like to, it is not possible to offer a Color-Glo conversion kit because of extensive differences in cabinet structure between the GD-232 models and the new GD-325.



GD-325
\$349⁹⁵
(less bench)



Keys Light Up To Show You Correct Notes & Chords. Thanks to exclusive Color-Glo, you and every member of your family can play melody, harmony and bass notes instantly. Just match up the colors with your left hand, the letters with your right hand . . . and you play complete songs . . . even if you've never played an organ before!



Additional Thomas Color-Glo Music Books

- Color-Glo Music Book No. 2 . . . contains words, music and "color-coded" charts for 56 favorites . . . "Beautiful Brown Eyes," "Camptown Races," "Home On The Range," "Joy To The World," "Goodnight Ladies."
GDP-355, 1 lb. . . . \$2.50
Color-Glo Music Book No. 3 . . . contains words, music and "color-coded" charts for 60 favorites . . . "Away In A Manger," "Bill Bailey," "Glow Worm," "How Dry I Am," "My Darling Clementine," etc.
GDP-365, 1 lb. . . . \$2.50
Color-Glo Organ Course, Vol. I . . . contains sections on using Color-Glo, legato, stop tabs, manual balance control, percussion, plus 22 song favorites.
GDP-375, 1 lb. . . . \$2.50
Color-Glo Supplementary Song Book . . . with words, music, "color-coded" charts for 55 songs . . . "Billy Boy," "God Be With You Till We Meet Again," "Old Soldiers Never Die," "Wait For The Wagon," etc.
GDP-385, 1 lb. . . . \$2.50

Deluxe "Go-Anywhere" Shortwave Portables!



Get The Finest In Portable Listening . . .
Choose This 10-Band Transistor AM/FM/Shortwave Radio!

• 10 bands tune Longwave, Standard Broadcast, FM and 2 mc.-22.5 mc. Shortwave Bands • 16 transistors, 6 diodes and 44 factory assembled and pretuned circuits • Two separate AM & FM tuners and IF strips • Two built-in antennas • Battery saver switch cuts current drain up to 35% • Rotating tuning dial • Dial light • Four simple controls for tuning, volume, tone, AFC and band switching • 4" x 6" PM speaker • Earphone & built-in jack • Optional converter/charger available • Time zone map & "listener's guide"

An Entertaining Companion Wherever You Go. That's the new GR-43. Keeps you informed of the latest happenings on its 550-1600 kc AM band with a tuning sharpness that brings in stations you've never heard before. Its 88-108 mc FM band offers you the quiet beauty of truly fidelity music, thanks to the same tuner and IF strip as used in deluxe Heathkit FM stereo components. For drama and unique listening, its 7 shortwave bands cover the 2-22.5 mc spectrum to bring you thousands of foreign broadcasts, ships at sea, amateur radio operators, weather stations, etc.

16 Transistors, 6 Diodes, 44 Factory-Built & Aligned RF Circuits . . . your assurance of instant, heat-free operation; superior performance; and easy 10-hour assembly. Two separate AM and FM tuners are factory assembled, ready to mount into place . . . eliminates the need for alignment, insures peak performance, and speeds assembly.

Two Built-In Antennas . . . a large ferrite rod neatly housed in the easy-carry handle for AM and longwave. And a 5' telescoping whip that tilts for best FM and shortwave reception. Also has connectors for external AM and FM antennas.

Versatile Controls Offer Added Convenience! Like the Battery-Saver switch that reduces battery drain up to 35% for normal indoor listening, or provides full power for extra strong reception outdoors. A 10-position selector directly drives the rotating turret dial . . . permits easy viewing of any band (a logging scale aids in relocating unknown frequencies). There's a Dial Light switch for nighttime use; Automatic Frequency Control with on-off switch for drift-free FM; an 8½ revolution Tuning knob easily separates stations; a combination on-off switch and tone control for listening as you like it.

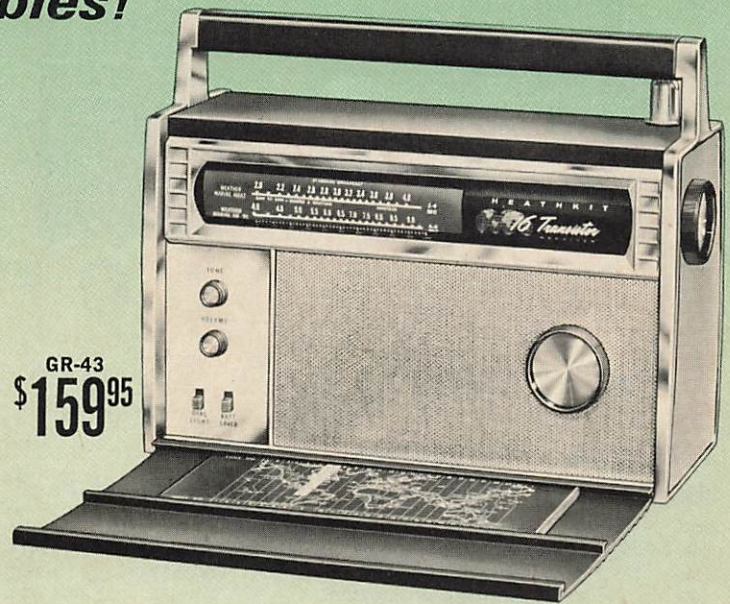
Big 4" X 6" PM Speaker, specially designed to match cabinet acoustics, provides "big-set" sound. Also includes an earphone that plugs into a built-in jack for private listening.

Inexpensive, Flashlight Battery Power. 6 "D" batteries power the radio, and 1 "C" battery operates the dial light (batteries not included). Also operates on 117v. AC as it "float" charges its batteries with an optional converter/charger (see opposite).

Deluxe Styling Matches Deluxe Performance. Jet black extruded aluminum front and back panels contrast beautifully with the chrome-plated, die-cast end pieces. Both panels are hinged . . . open and close easily thanks to special magnetic edges . . . no cumbersome latches or snaps. The front panel can be removed to take less space when used at home. Inside the front panel, you'll find a "listener's guide" with frequencies of worldwide shortwave and U.S. FM stations . . . travels snugly in its own special slot. In addition, there's a special map for easy conversion of world time zones.

Kit GR-43, 19 lbs. . . no money dn., \$15 mo. \$159.95
Model GRA-43-1, Converter/Charger for 117 v. AC, 1 lb. \$6.95

GR-43 SPECIFICATIONS—AM SECTION: Tuning range: Long wave—150-400 kc; Broadcast—550-1600 kc; 2-4 MC—2-4 mc; 4-9 MC—4-9 mc; 31 M—9.2-10.2 mc; 25 M—11.2-12.4 mc; 19 M—14.5-16.1 mc; 16 M—16.8-18.8 mc; 13 M—20.2-22.5 mc. Sensitivity: at External Antenna Input for a 10 db signal-plus-noise to noise ratio. Long Wave—12 uv; Broadcast—10 uv; 2-4 MC—5 uv; 4-9 MC—3 uv; 31 M—3 uv; 25 M—2 uv; 19 M—2 uv; 16 M—2 uv; 13 M—2 uv. Intermediate frequency (IF): 455 kc. FM SECTION: Tuning range: 88-108 mc. Sensitivity: 1½ uv for 20 db of quieting, 2 uv for 30 db of quieting; 3 uv for 40 db of quieting. Intermediate frequency (IF): 10.7 mc. GENERAL: Audio output: Normal; 500 mw; Battery Saver: 160 mv. Speaker: 4" x 6" oval, permanent magnet; 3.2 ohm voice coil impedance. Batteries: 6—size D cells; 1—size C cell. Dimensions: 13½" W x 5½" D x 10½" H, including handle.

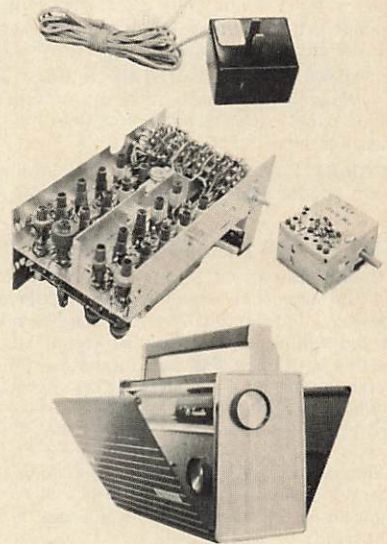


GR-43
\$159.95

Optional Charger/Converter . . . to operate on 117 v. AC. Plugs into built-in jack to "float-charge" batteries while you enjoy good listening without battery drain. Priced at only \$6.95.

Separate AM & FM Tuners —44 R.F. Circuits . . . all factory assembled and aligned to assure finest performance and fast, easy assembly. Just mount entire section in place, and wire 3 small circuit boards.

Convenient! Both front & back panels are hinged . . . close and open easily thanks to special magnetic edges. In addition, the front cover can be completely removed to take less space when in use at home.



1966 World Radio TV Handbook

World recognized authority for information on international radio, TV and tele-communications. Contains a list of all AM, FM, TV and Shortwave broadcasting stations . . . includes call signs, frequencies, transmitter power, address for QSL cards, program details, broadcast times, and hundreds of other items important to the shortwave listener. 300 pages. GDP-315, 2 lb. \$4.95

Enjoy The Good Companionship Of A "Mohican" Portable SWL Receiver!

• Powerful 10 transistor, 6-diode circuit • Tunes 550 kc to 32 mc in five bands • Fixed-aligned ceramic IF "transfilters" for best selectivity • Completely self-contained for portability, yet can operate on 117 V. AC with XP-2 accessory below

Handsome, Compact, Ready To Go Anywhere! In addition to the features above, the GC-1A has Zener diode voltage regulation . . . smooth, easy flywheel tuning . . . built-in 4" x 6" speaker . . . panel tuning meter for precision tuning . . . 50" telescopic whip antenna . . . headphone jack for private listening . . . large, slide-rule dial for accurate station selection. Less batteries. Requires RF generator for final alignment.

Kit GC-1A, 18 lbs. . . no money dn., \$9 mo. \$89.50
Kit XP-2, 117 v. AC plug-in power supply, 2 lbs. \$9.95

GC-1A SPECIFICATIONS—IF Frequency: 455 kc. Frequency coverage: 550 kc to 32 mc in 5 bands with calibrated band-spread scales (oscillator tuning) for 80, 40, 20, 15 and 10 meter amateur bands and 11 meter citizens bands. Selectivity: 3 kc wide at 6 db down. Sensitivity: 10 uv broadcast band, 2 uv shortwave 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.



GC-1A
\$89.50

Low Cost World Cruise . . . On Shortwave Radio!

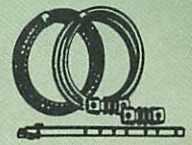
FREE . . . Accessories For Complete Shortwave System . . . \$12 Value!



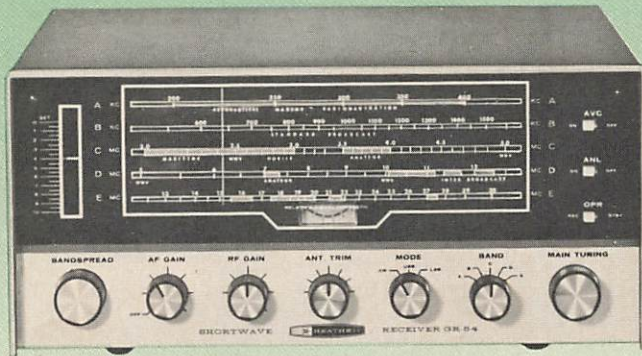
Headphones!



SWL Station Guide!



Shortwave Antenna!



*Offer expires May 31, 1966.

\$84⁹⁵
GR-54

FREE Shortwave Headphones, SWL Book, Antenna . . . When You Buy This Heathkit GR-54 Now!*

Free . . . All Accessories For A Complete Shortwave System! A Superex Headphone (opposite) for "DX-ing" and private listening, 1966 World Radio TV Handbook that lists all AM, FM, TV and Shortwave stations (see pg. 7), plus a 75' shortwave antenna . . . a \$12 value . . . are yours free when you order the GR-54 before May 31!

Deluxe Features For Superb Shortwave Reception. Like the half-lattice crystal filter for razor sharp selectivity; tuned RF stage; a separate diode detector for efficient SSB & CW listening, plus a diode AM detector; a switchable BFO control for upper and lower sideband tuning . . . eliminates "trial & error" SSB tuning.

For Added Savings, You Build & Align The "Front-End" Tuner . . . with or without instruments . . . and get factory-assembled results. Thanks to a unique bandswitch assembly, you align the coils by using the signal strength meter for adjustment readings.

Kit GR-54, 24 lbs. . . no money dn., \$9 mo. \$84.95
Export model available for 115/230 VAC, 50-60 cps; write for prices.

• 5 bands . . . 3 shortwave bands cover 2 mc to 30 mc, plus 550 kc to 1550 kc AM broadcast band, & 180 kc to 420 kc aeronautical & radio navigation band • Tuned RF stage for greater sensitivity • Half lattice crystal filter for sharp selectivity • Separate product detector for efficient SSB & CW reception • Switchable upper or lower sideband mode position • Built-in relative signal strength indicator • Electrical band-spread tuning • 6 tube-6 diode superhet circuit plus 2 silicon diode rectifiers • Built-in code practice monitor plus code key jack • Automatic noise limiter, automatic volume control & antenna trimmer control • "Velvet-touch" 20 revolution main tuning • Built-in 4" x 6" PM speaker • Built-in AM antenna plus external antenna terminals • Standard jack accepts headphones or external speaker • Safe transformer-operated power supply

GR-54 SPECIFICATIONS— Frequency Coverage: Band A 180 kc to 420 kc; Band B 550 kc to 1550 kc; Band C 2 mc to 5 mc; Band D 5 mc to 12.5 mc; Band E 12.5 mc to 30 mc. Sensitivity: AM: Band A 1.6 uv; Band B 8 uv; Band C 1 uv; Band D 1.2 uv; Band E 6 uv. SSB/CW: Band A 0.7 uv; Band C 0.4 uv; Band D 0.5 uv; Band E 4 uv. Signal Level for 10 db, signal plus noise to noise ratio. Selectivity: Half lattice crystal filter; 3 kc minimum at -6 db; 7.5 kc maximum at -20 db. Intermediate frequency: 1682 kc. Antenna Input impedance: 50 ohms nominal—phono connector. Power requirements: 120 volts 50/60 cps AC, 45 watts. Controls: Bandspread, AF Gain/off-on switch; RF Gain; Ant. trim; Mode switch; Band switch; Main tuning; AVC switch; ANL switch; OPR switch; Meter adjust. Audio output impedance: 8 ohms nominal. Meter: Indicates relative signal strength. Speaker: Built-in 4" x 6" permanent magnet. Standard jack: Accepts 8 ohm ext. speaker, or headphones (50 ohm to 10 K ohm). Dimensions: 14 1/2" W x 6-5/16" H x 10-15/16" D.

New! Superex Shortwave Headset Free With Heathkit GR-54*

For "DX-ing" and Private Listening Convenience! Ideal for use with all Heathkit Shortwave (except GR-43) and amateur communication receivers. Provides loud volume where other phones whisper. Features high sensitivity, single lead convenience, comfortable vinyl-covered headband (1 1/4" wide), dual coils, Alnico V magnets, and 2000 ohm impedance. Feather-weight. Not a kit.

GD-396, 1 lb \$5.58

Explore The Exciting World Of Shortwave With This Low Cost Receiver!

• Covers 550 kc to 30 mc—includes broadcast plus 3 shortwave bands • 4-tube superhet circuit plus 2 silicon rectifiers • Built-in 5" PM round speaker • Illuminated 7" slide-rule dial with logging scale • Lighted band-spread tuning dial • Relative signal strength indicator • Variable BFO control • Built-in AM rod antenna • Simple circuit board construction • Headphone jack • Charcoal gray metal cabinet, black panel with green & white markings

Travel To Far-Away Places With Just A Twirl Of A Dial! Intrigue runs high as you tune live broadcasts from the Congo, Ecuador, Japan, Holland . . . hundreds of foreign countries. Your curiosity heightens as you pick up ham operators, ship-to-shore radio, Voice of America, Radio Moscow, etc. Then come home again, and get local news, weather and sports on the popular AM band!

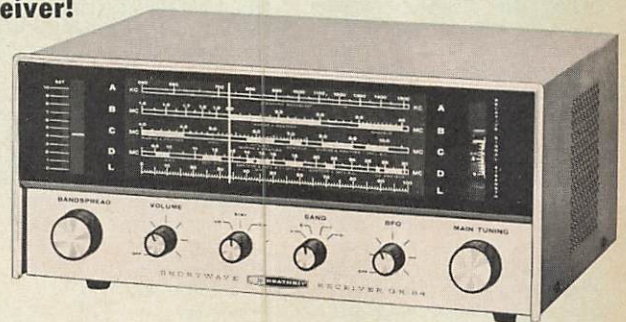
Advanced Features Insure Solid Reception, Easy Operation! A high voltage, transformer-operated power supply insures safety and peak efficiency; a BFO control "unscrambles" code & SSB; a 16-revolution tuning knob makes dialing smooth & effortless; an electrical bandspread maximizes station separation; and there's even a headphone jack for private listening. The back panel has terminals for an external antenna, a Q-multiplier input (see GD-125 opposite) and a noise limiter on/off switch. Assembly takes 8 to 10 hours.

Kit GR-64, 15 lbs. . . No money down, \$5 mo. \$37.95
Export model available for 115/230 VAC, 50-60 cps; write for prices.

Shortwave Antenna Kit GRA-72, 2 lbs. \$1.45

GR-64 SPECIFICATIONS— Frequency range: 550 kc to 30 mc in four bands. Controls: General coverage tuning, Bandspread tuning, Bandswitch, Noise Limiter—ON/OFF, Phone-Standby-CW switch, BFO control, Audio Gain, AC-ON/OFF, Headphone jack, Q-multiplier input. Power requirements: 105-125 V 50/60 cycles AC, 30 watts. Dimensions: 13 1/2" W x 6" H x 9" D.

GR-64
\$37⁹⁵



NEW Heathkit "Q" Multiplier!

New Compact "Low-Boy" Styling! Attractive charcoal cabinet with gray front panel . . . matches GR-64 SWL receiver (above). Ideal for use with GR-64 or similar receivers with IF circuits from 450 to 460 kc. Creates extra-sharp selectivity through an efficient "Q" of 4000, and provides a notch for adjacent signal attenuation. Includes built-in power supply.

Kit GD-125, 3 lbs. \$14.95
Export model available for 115/230 VAC, 50-60 cps; write for prices.



GD-125
\$14⁹⁵

Ideal Kit For Youngsters & "Beginners" . . . Our Lowest Cost Shortwave Radio!

• Covers 140 kc to 18 mc in 4 bands • Transformer operated power supply • Built-in speaker & headphone jack, metal cabinet • Easy to build—from parts to listening in 6 hours

Brings You International Stations . . . amateur radio bands . . . marine & aircraft broadcasts . . . government stations . . . and entertaining AM listening. Simple 3-tube regenerative circuit assembles easily in 6 hours . . . an ideal project for the beginner in radio and electronics! Features provisions for long & short antennas, "shock-free" transformer-operated power supply, headphone jack for private listening, built-in speaker, front-panel controls and green & beige metal cabinet.

Kit GR-81, 12 lbs. \$23.50

GR-81 SPECIFICATIONS— Frequency coverage: 140 kc to 18 mc on four bands. Tube complement: 12A7 Detector/1st Audio, 50C5 Audio Output, 35W4 Rectifier. Power requirements: 105-125 V 50/60 cycle AC only, 30 watts. Fused. Controls: Main tuning (calibrated), Bandspread, Bandswitch, Regeneration, on/off volume, phone jack. Dimensions: 10" W x 7" H x 7" D.

GR-81
\$23⁵⁰



For An Exciting New Listening Experience, Choose A Regency VHF FM Monitoradio!



Regency Aircraft Monitoradio

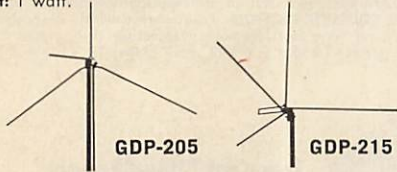
GRP-45
\$79.95

- Covers 108 to 136 mc • 3-gang condenser with nuvistor RF amplifier for 1 uv sensitivity • Adjustable squelch for full quieting • Built-in 5" speaker • Fully tuned RF stage for better image rejection • Illuminated slide-rule dial • External speaker provision • Power transformer • Vinyl laminated leather-grained scratch & marproof metal cabinet • Not a kit

FOR THE SERIOUS AVIATION ENTHUSIAST! Hear aircraft, control towers, approach control, radar approach, ILS, Unicom, Omni-range . . . the whole exciting panorama of America in flight. Outperforms "commercial grade" aircraft receivers. Provides increased sensitivity . . . a stronger, clearer signal . . . improved signal-to-noise ratio . . . reduced oscillator radiation. Measures 12" W x 6 1/4" H x 6 3/8" D.

Model GRP-45, 14 lbs., No money down, \$8 mo. \$79.95

GRP-45 SPECIFICATIONS: Frequency: 108-136 mc. Sensitivity: 1 uv for 10 db S + N/N at 30% modulation. Squelch range: Adjustable from .5 uv to 100 uv. Power output: 1 watt.



GDP-205

GDP-215



Regency Model MR-33B

GRP-55
\$79.95

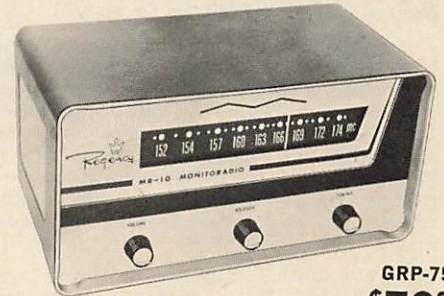
- Covers 30 to 50 mc • Full tuned RF stage insures better image rejection • Built-in 5" speaker • 3-gang condenser • 7 tube circuit with rectifier • Built-in adjustable squelch for complete quieting • Provision for external speaker or headphones • Illuminated slide-rule dial for quick, easy station tuning • Power transformer • UL approved • Not a kit

WIDEN YOUR LISTENING HORIZONS! With this quality engineered special-purpose radio, you keep posted on the latest happenings on power utility, industrial, highway maintenance, forestry, private mobile telephone and radio paging frequencies as well as fire and police calls. Completely assembled. Measures 7 7/8" x 11 1/4" x 6 1/2".

Model GRP-55, 13 lbs., No money down, \$8 mo. \$79.95

GRP-55 SPECIFICATIONS: Frequency: 30-50 mc. Sensitivity: 4.0 uv or better for 20 db quieting. Squelch: 2.0 uv (adjustable). Power output: 0.8 watt @ 10% distortion.

HY-GAIN 1/4 Wavelength Unity Gain Ground Plane Antenna. Ideal for GRP-45 & GRP-75 monitoradio
GDP-205, 3 lbs.
(express or motor freight only) \$5.40



Regency Model MR-10B

GRP-75
\$79.95

- Covers 152-174 mc • 7 tube circuit with rectifier • Fully tuned RF stage for better image rejection • 3-gang condenser • Built-in 5" speaker • Reliable built-in, all-electronic squelch • Provision for external speaker or headphones • Illuminated slide-rule dial for nighttime operation • Power transformer • Listed by Underwriters' Laboratories • Not a kit

A NEW WORLD OF INTRIGUING LISTENING! Just look at the exciting array of broadcasts you can hear with this superb receiver . . . civil defense, police and fire department calls, U.S. Weather Bureau broadcasts, railroads, taxis, private mobile telephone, power utilities, forestry and other emergency services! Comes completely assembled. Just plug into any AC receptacle to enjoy its informative and entertaining coverage. 7 7/8" x 11 1/4" x 6 1/2".

Model GRP-75, 14 lbs., No money down, \$8 mo. \$79.95

GRP-75 SPECIFICATIONS: Frequency: 152-174 mc. Sensitivity: 4.0 uv or better for 20 db quieting. Squelch: 2.2 uv (adjustable). Power output: 0.8 watt @ 10% distortion.

HY-GAIN 1/4 Wavelength Unity Gain Ground Plane Antenna. Omni-directional. Ideal for GRP-55.
GDP-215, 6 lbs.
(express or motor freight only) \$12.95

Ideal For Service Stations Or Car Enthusiasts . . . Low Cost Auto Ignition Analyzer

- Spots ignition troubles—shows results of corrective action • Just flip a switch to select any of 4 different patterns without switching leads • Expand any view horizontally or vertically for a "closer look" • Easy to use—detailed instruction manuals provided for assembly and operation • Use on any internal combustion engine with conventional non-transistor ignition system

Helps Keep Your Car Running Smoothly! Shows shorted plugs, bad points, defective wiring, worn distributor parts, incorrect dwell time, etc. Complete manuals show what to look for on 4 1/2" screen, how to isolate trouble. May be used with external DC to AC inverter. Corrosion-resistant aluminum case. Compact . . . 8" H x 9 1/2" W x 16" D.

Kit IO-20, 17 lbs. . . no money dn., \$9 mo. \$89.95
Export model available for 115/230 VAC, 50-60 cps; write for prices.

IO-20 SPECIFICATIONS—RPM Range: 400-5000 rpm. Displays: Secondary, Primary, Parade, Super-imposed. Screen size: 4 1/2" diameter. Dwell measurement: 4, 6 & 8 cylinder calibration on face plate. Pattern height: Secondary circuit, approx. 1". Primary circuit, 6 volt system 3/4", 12 volt system 1". Vertical expand ratio: 2 to 1. Horizontal expand ratio: 10 to 1. Cable length: 12' pick-up clamp, 2' ground, primary and secondary clips. Power requirements: 105-125 V, 50/60 cycles AC, 30 watts.

Timing Light Kit . . . Accessory To IO-20 Ignition Analyzer!

- Easy to use—just plug into IO-20 Analyzer • Produces intense white light • Hard rubber case—10' connecting cable • Speed range 0-1250 flashes per minute (0-2500 rpm for 4-cycle engines) • Measures 6" H x 7 1/2" L x 2" W

Kit IO-11, 3 lbs. \$14.95

Famous Gilbert-Davis Basic Tester Set For Car Engine Tune Up And Repair!

Ideal For Do-It-Yourselfers & Professionals! Includes a Model 34 Remote Starter Switch with push button and extra long, neoprene insulated lead wires . . . Model 35 Compression Tester that reads 0-300 lbs. on 2 1/2" dial—features short stem with 15° offset to reach back cylinders . . . Model 36 Vacuum/Fuel Pump Tester with 2 1/2" 3-color dial—calibrated 0-30" for vacuum and 0-7 lbs. pressure . . . Model 37 Engine Timing Light with molded plastic case, long leads, and rubber covered connectors. Not a kit.

Model GFP-83, 4 lbs. \$11.95



IO-20
\$89.95

IO-11
\$14.95

GFP-83
\$11.95

Order 2 Or More 5-Watt CB Transceivers & Save 5%

Deluxe 5-Channel "Fixed Or Mobile" CB Transceiver—MW-34

- Front panel crystal socket—allows quick, convenient changing of one transmit crystal without removing cabinet
- Spotting switch—generates a signal to tune receiver to exact frequency of changeable transmit channel
- TVI filter—minimizes interference with TV sets
- Calibrated "S" meter
- 5 crystal-controlled transmit & receive channels
- 3-way power supply—6 or 12 v. DC, 117 v. AC
- Superhet receiver with RF stage for high performance
- Styled in handsome Heathkit marine motif
- Easy to build
- Complements Heath marine radio-telephones as alternative means of communication in many boating areas

IDEAL FOR BOAT, CAR, & HOME! With its compact size, 3-way power supply (117 VAC, 6 or 12 VDC) and mounting bracket, the MW-34 installs virtually anywhere you wish to set up CB communications.

SIMPLE TO BUILD! New 2-color, step-by-step instructions speed assembly. Includes PTT mike, AC & DC power cords, crystals for 1 channel (specify), FCC license pack. Use must comply with Part 95 FCC regulations.

Kit MW-34, 18 lbs. . . no money dn., \$9 mo. \$84.95

MW-34 GENERAL DESCRIPTION: RECEIVER: 5-tube superheterodyne circuit with RF stage, squelch & automatic noise limiter. Variable receiver tuning: Any one of 23 Citizen's Band channels selected by front panel variable tuning dial (frequencies 26.965 to 27.255 mc). Crystal-controlled receiver tuning: Any five of 23 Citizen's Band channels determined by particular crystals installed in unit. Sensitivity: 1/2 uv for 10 db signal-to-noise ratio. Selectivity: 5 kc @ 6 db down from peak response. Input impedance: 50 to 70 ohm. TRANSMITTER SECTION: Nominal power input to final RF amplifier: 5 watts. Output impedance: 50 to 70 ohm. GENERAL SPECIFICATIONS—Meter: For receiving, S9 scale indication corresponds to approximately 30 microvolts signal input. Power requirements: 105-125 volts, 50/60 cps, AC 72 watts. 12 volts DC, 4.5 amperes; 6 volts DC, amperes. Dimensions: Overall; 4 5/8" H x 8 3/8" W x 11" D.



GW-42

\$99.95

- 5 crystal-controlled transmit & receive channels
- Built-in 4 tone selective call circuitry
- All-channel receiver tuning
- Tuning meter
- Built-in 3-way power supply
- Adjustable squelch
- Switchable automatic noise limiter
- Easy to build

Deluxe 5-Channel "Master Station" Fixed Or Mobile CB Transceiver

ATTRACTIVE STYLING, YET RUGGED & READY TO GO ANYWHERE! Car, truck, barn, office, or home . . . anywhere you need complete command of a 2-way CB radio setup. Shorten the time and distance required for efficient farm, business, or personal communications. Includes PTT microphone, AC & DC power cables, FCC license pack, and crystals for 1 channel (specify). Use must comply with Part 95 FCC regulations.

Kit GW-42, 23 lbs. . . no money dn., \$10 mo. \$99.95

GW-42 GENERAL DESCRIPTION—RECEIVER SECTION: 6 tube superheterodyne circuit with RF amplifier, squelch, noise limiter. Intermediate frequency: 455 kilocycles. Sensitivity: 1/2 microvolt or less for a 10 db signal to noise ratio. Selectivity: 40 db attenuation of adjacent channel. TRANSMITTER SECTION: Nominal power input to final RF amplifier: 5 watts. Frequency control: 3rd overtone crystal as selected by 5-position switch. Modulation: AM plate modulation, automatically limited to less than 100%. Output impedance: 50-70 ohm. TONE SQUELCH SECTION: Frequency control: Resonant reed relay; with reeds used for generation of calling tone and frequency selection during monitoring. Power requirements: AC at 105-125 volts, 60 cycles, 70 watts; 6 VDC at 9 amps; 12 VDC at 5 amps. Dimensions: 5 1/8" H x 17 1/2" W 10 1/2" D.



\$47.95

Heathkit 5-Channel CB Transceiver

- 5-crystal-controlled transmit & receive channels
- Superhet receiver with RF stage
- Built-in squelch & automatic noise limiter
- Push-to-talk microphone
- Easy to build

FOR THE ULTIMATE IN VERSATILITY AT LOWEST COST . . . all models include full 5 channel capability, PTT mike, power cable, & crystals for 1 channel (specify). Use must comply with Part 95 FCC regulations.

Kit GW-22A (117 v. AC), 13 lbs. . . No money down, \$5 mo. \$47.95
 Kit GW-22D (6 or 12 v. DC), 13 lbs. . . No money down, \$5 mo. \$49.95
 Kit GW-32A with Selective Call (117 v. AC), 14 lbs.,
 No money down, \$7 mo. \$69.95
 Kit GW-32D with Selective Call (6 or 12 v. DC), 14 lbs.,
 No money down, \$8 mo. \$74.95



\$34.95

Low-Cost "One-Channel" CB Transceiver

- Crystal-controlled transmit & receive channel
- Built-in squelch & automatic noise limiter
- Superheterodyne receiver
- Ideal for fixed or mobile use
- Clean, open circuit layout for quick, easy assembly
- Includes cabinet, PTT mike, & crystals (1 channel-specify)
- Use must comply with Part 95 FCC regulations

Kit GW-12A (AC only), 10 lbs. . . No money down, \$5 mo. \$34.95
 Kit GW-12D (AC & DC), 13 lbs. . . No money down, \$5 mo. \$39.95

Dollar-Saving CB Accessories!

- A** Hy-Gain Roof Top Mobile CB Antenna. The famous Shorty "Roof-Topper". Overall height 22". GDP-245, 2 lbs. \$15.50
- B** Hy-Gain AM/CB Mobile CB Antenna. Telescoping "Duo-Topper". 28" min.—50" extended. Includes coax, coax connector, rf coupler, & AM radio plug . . . all preassembled. GDP-255, 2 lbs. \$14.95
- C** Hy-Gain Trunk Mount Mobile CB Antenna. "Jiffy-Topper". Overall height 50". Includes 16' of coax cable plus connector. GDP-265, 2 lbs. \$13.95
- D** Hy-Gain Dual Beam CB Base Antenna. Duo-Beam 4 model 114DB. 42 watts effective radiated power from a 5-watt rig with this roof-top vertical-element antenna! GDP-275, 16 lbs. . . no money dn., \$5 mo. . . \$39.95

E Colinear CB Base Antenna. Ground plane type antenna. Overall height of radiator . . . 19'10"—length of radials . . . 9'. Provides the most efficient omni-directional base station antenna. GDP-285, 8 lbs. . . no money dn., \$5 mo. . . \$29.95

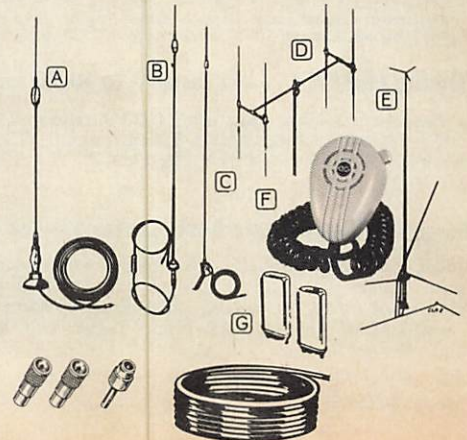
F PTT Microphone. Push-to-talk mike with tailored audio response. Complete with cable. Less plug. GH-12, 2 lbs. \$6.95

G Extra CB Transmit & Receive Crystals, 1 lb., only \$1.99 each with order of any Heathkit CB transceivers . . . reg. \$2.95 each. (Specify base/mobile or hand held transceiver.)

Coax Cables. Ideal for use with any Citizen's Band or Amateur radio communications system. Also ideal for GDP-285 and GDP-275 CB Base Station Antennas

Each kit contains 2 coax plugs & 1 phono plus instructions.

Kit GD-295, 50 ft., 2 lbs. \$3.75
 Kit GD-305, 100 ft., 4 lbs. \$5.50



All-Transistor 23-Channel 5-Watt CB



OPERATES "FIXED" . . . with accessory AC power supply . . . GWA-14-1. AC power switching is accomplished through the ON-OFF-VOLUME control on the "Transceiver" front panel. The GWA-14-1 is a desk-top base for the "Transceiver" and provides all necessary power . . . requires only one plug-in connection.
 Kit GWA-14-1, AC Power Supply, 5 lbs. \$14.95

CRYSTALS ONLY \$1.99 EACH WITH TRANSCIEVER ORDER! If you need more than 1 channel, order the extra crystals along with your transceiver for only \$1.99 each . . . a 96c savings. Regularly \$2.95 each when ordered separately.



Kit GW-14
\$89⁹⁵
 Assembled GWW-14
\$124⁹⁵

COMPLETE 23-CHANNEL CB CRYSTAL PACKAGE \$79.95!
 A regular \$135.70 value! Includes transmit & receive crystals for all CB channels for complete GW-14 operating capability . . . a total of 46 crystals. For maximum versatility, this package is your best dollar buy! GWA-14-2, 1 lb. no money dn., \$8 mo. \$79.95

Even Factory Assembled With All Crystals Installed, This New Heathkit GW-14 Makes All Other Transistor Rigs Overpriced!

- 14 transistor, 6 diode circuitry • Provision for 23 crystal-controlled transmit & receive channels • Full 5 watt performance
- Only 2⁷/₈" H x 7" W x 10¹/₂" D . . . ideal for car, boat, any mobile installation • Front panel "S" meter • Adjustable squelch control
- Automatic noise limiter • Built-in PM speaker • 1/2 uv sensitivity for 10 db signal plus noise to noise ratio • Circuit board construction • Gimbal mounting bracket • Attractive Turner Ceramic PTT Mike • Die-cast, chrome-plated front panel with rust-resistant aluminum charcoal gray cabinet.

squelch control eliminates all speaker hiss during standby. Illuminated channel selector and "S" meter enable convenient nighttime operation.

INCLUDES MICROPHONE & POWER CABLES . . . and crystals for one channel (specify channel no.). For 12 v., negative ground only, (for 117 VAC operation order GWA-14-1 power supply below); FCC license required. Use must comply with Part 95 of FCC Regulations.

Kit GW-14, 8 lbs., no money dn., \$9 mo. \$89.95
 Assembled GWW-14, 8 lbs., no money dn., \$12 mo. \$124.95
 Kit GWA-14-1, AC Power Supply, 5 lbs. \$14.95

ALL-CHANNEL, ALL-TRANSISTOR! Just flip the channel selector to any desired channel and you're ready for instant 2-way communications. The efficient twin "pi" network output assures a *minimum* of 3 watts RF output from the 5-watt circuit . . . assures you of dependable all-channel communications over maximum distance. The GW-14 is all transistorized . . . no component deterioration to let you down, as with tube types. It runs cool, and collected . . . draws only 0.75 amps during "transmit", only 0.12 amps on "receive". Your GW-14 will give you new standards in CB performance.

GW-14 SPECIFICATIONS—RECEIVER SECTION: General description: 6-transistor super-heterodyne circuit with RF amplifier, squelch, noise limiter, 23-channel crystal controlled tuning with tuning and relative signal strength indicator. Intermediate frequency: 455 kc. Sensitivity: 1/2 uv or less for a 10 db signal plus noise to noise ratio. Selectivity: Adjacent channel attenuation is down 30 db. Audio power output: 3 watts minimum. **TRANSMITTER SECTION:** Nominal power input to final RF amplifier: 5 watts. Frequency control: 3rd overtone quartz crystal as selected by the 23-position channel selector switch. Frequency control effectiveness: Operating frequency will be within .005% of nominal crystal frequency over an ambient temperature range of -20 to +130 degrees F. Modulation: High level AM limited to less than 100%. Output impedance: 50 ohms nominal. Output circuit: Twin "PI" matching network. Power output: 3 watts minimum into 50 ohms load. **GENERAL—Controls:** Squelch; off/on volume; channel selector. Tuning meter: For receiving, S-9 corresponds to approximately 100 uv signal input. For transmitting, the meter indicates the presence of power output and modulation peak. Power requirements: Positive 12 volt system (13.4 volts); receiver current drain, standby—120 ma.; transmitter current drain—750 ma. Dimensions: 2-13/16" H x 7" W x 10-7/16" D.

EASY TO BUILD . . . EASY TO OPERATE. All parts mount on a single circuit board, and assembly is completed in a few evenings. Tune-up is easy, requiring only another CB unit. Operation is push-to-talk. The improved adjustable

A Best Buy Long Range 1 Watt Walkie-Talkie

- Efficient 10-transistor, 2-diode circuit for dependable, trouble-free performance
- Up to 3-mile inter-unit communications • Crystal-controlled transmit & receive
- Adjustable squelch control & automatic noise limiter • \$20 rechargeable battery included • Built-in 117 v. AC battery charger • Sturdy, rustproof all-metal case
- Simple to build & operate • Complete with power cords, strap, crystals (specify channel) • FCC license required

Kit GW-52A, 4 lbs. . . . no money dn., \$7 mo. \$69.95
 Kit GW-52-2, (pair), 8 lbs. . . . no money dn., \$12 mo. \$129.95

B Deluxe 9-Transistor Walkie-Talkie

- Range up to one mile between units • Crystal-controlled transmitter & super-heterodyne receiver • Built-in squelch & automatic noise limiter • No license required when operated according to FCC Reg. Part 15 • Includes earphone, strap, crystals (specify channel) • Less battery

Kit GW-21A, 3 lbs. . . . no money down, \$5 mo. \$39.95
 Kit GW-21-2 (pair) 6 lbs. . . . no money down, \$8 mo. \$74.95
 GWA-30, Battery Set (2), 1 lb. \$2.95

C Compact 4-Transistor Walkie-Talkie . . . Ideal for Sports Use

- Range 1/4 mile or more between units • Crystal-controlled transmitter—superregen. receiver • Fits in pocket or purse • No license required when operated according to FCC Reg. Part 15 • Includes crystal (specify channel) • Less battery

Kit GW-31A, 2 lbs. \$19.95
 Kit GW-31-2 (pair), 4 lbs. . . . no money dn., \$5 mo. \$35.00
 GWA-30, Battery Set (2), 1 lb. \$2.95



A GW-52A
\$69⁹⁵
 (pair \$129.95)

B GW-21A
\$39⁹⁵
 (pair \$74.95)

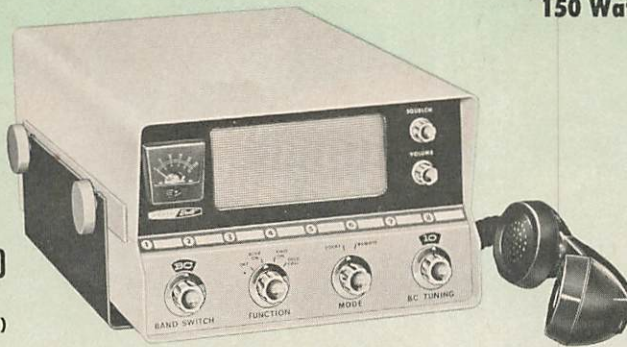
C GW-31A
\$19⁹⁵
 (pair \$35.00)

Heath Marine Electronics . . . Safety

Heath-Built High-Efficiency

150 Watt Marine Radiotelephone

With Optional Remote Control Facilities



MWW-15
\$425⁰⁰
(less remote)

• 150-watt power input • 8 crystal-controlled transmit and receive channels (2-5 mc) • AM broadcast band reception • 15-watt deck hailing capability • All solid-state receiver circuitry • Operates remotely with MWA-15-1 • Includes new "Local-Distance" switch • Completely assembled & tested • FCC type accepted for party boat use & D.O.T. approved Here's Safety & Dependability Afloat . . . power to reach out to other ships, the Coast Guard, or telephone company . . . up to 150 miles away! The selection of 8 channels assures communications even under crowded band conditions, and the new "Local-Distance" switch prevents overloading by strong signals. The relative power meter lets you know you are using full power. Cruise with safety . . . choose the MWW-15. Includes Detailed Installation Manual . . . plus all necessary FCC application forms. Easy to install! Includes crystals for 2182 & 2683 kc. Must be tuned by licensed technician.

Assembled MWW-15, 31 lbs. . . \$43 dn., as low as \$25 mo. . . . \$425.00

Assembled MWW-15R, 41 lbs. . . 150 watt 'phone plus remote control. . . write for credit details. . . . \$524.00

Assembled MWA-15-1 Radiophone remote control unit,

10 lbs. . . no money dn., \$10 mo. . . . \$99.00

Assembled MWA-15-2 Optional Push-to-talk microphone, 2 lbs. . . \$9.95

Extra transmit & receive crystals (specify), 1 lb. . . . ea. \$2.95

24' Radiotelephone Antenna . . . with laydown swivel base & high impact side mount. Ready to install.

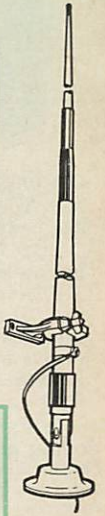
MDP-74, 14 lbs., (Motor Freight or Express Only) . . . no money dn.,

\$7 mo. . . . \$69.95

MWW-15 SPECIFICATIONS—RECEIVER: Frequency range: Marine, 2-5 mc. Broadcast 540-1620 kc. Sensitivity: (providing 10 db S/N ratio or better) Marine channels, 2 microvolts; Broadcast, 10 microvolts. TRANSMITTER: Frequency range: 2-5 mc marine bands. Final power input: 150 watts. RF output: 80 watts. Power requirements: 12 volts DC. Receiver only, 0.6 amp. Standby, 2.9 amp. Transmit, 20 amps. Dimensions: 6 1/2" H x 11 1/4" W x 17" D.



MWA-15-1
\$99⁰⁰



SPECIAL COMBINATION OFFER . . . SAVE \$89.24

Offer Good Until May 31, 1966

Includes MWW-15 Radiophone, MWA-15-1 Remote Unit, MDP-74 24' Antenna, Plus MDP-104 Deck Speaker. Order MWS-2.

\$525⁰⁰

Remote Control For Heath 150 and 75-watt Radiophones

• The smartest remote control to complement the bridge of any boat • Full remote control for MWW-14A or MWW-15 radiophones • Includes on/off, volume, squelch, mode switch, and channel selector • Telephone handset • Universal gimbal mounting bracket • Completely factory assembled with detailed installation/operating manual included • Styled to match MWW-14A & MWW-15 • Includes 25' of interconnecting cable with all connections preassembled

Provides Complete Remote Control Of Your MWW-14A Or MWW-15 Radiotelephone . . . perfect for flying bridge installations! Order model MWW-15R or MWW-14AR for radiophone and remote control combination completely factory assembled and ready to install. Order for Remote Control alone (MWA-15-1) includes "Remote," all necessary hardware, plus drive motor & instructions for installation in radiophone.

Assembled MWA-15-1, 10 lbs. . . no money dn., \$10 mo. . . . \$99.00

MWA-15-1 SPECIFICATIONS—Front panel controls include: Squelch, On/Off and Volume, Mode—internal speaker—external speaker—handset, Channel selector. Dimensions: 5" H x 9" W x 4 1/4" D.

Notice To Radiophone Buyers! Contact your local Heathkit Electronic Center or Heathkit Service Center (Addresses pg. 2) for tuning

up or installation of your Heathkit Radiophone by FCC licensed technician.

Heath-Built 75-Watt Radiotelephone With Optional Remote Control



MWW-14A
\$279⁹⁵

• 75-watt power input • 6 crystal-controlled transmit and receive channels (2-5 mc) • AM broadcast band tuning • 15-watt deck hailing capability • Transistorized receiver • Operates remotely with MWA-15-1 • Includes new "Local-Distance" switch • Assembled & tested • FCC type accepted for "party-boat" use and D.O.T. Approved

SPECIAL COMBINATION OFFER . . . SAVE \$20.19

Offer Good Until May 31, 1966

Includes MWW-14A Radiophone, MDP-13 18' Antenna and MDP-104 Deck Speaker. Order MWS-1.

\$340⁰⁰

Here's A 75-Watt Marine Radiotelephone That Brings Marine Electronics Up To Date. Includes many of the features of the MWW-15, 150-watt radiophone! Plus, the new "Local-Distance" switch to prevent overloading by strong signals. Compact size, dependable solid-state circuitry, high efficiency with low current demands, and layout of controls "human engineered" to be easy to operate make the MWW-14A one of the most modern marine radiophones of its power class.

Owner's Manual Is Complete . . . gives all the information you need, plus hints on good operation. Includes instructions for installation & FCC application forms. Must be tuned by a licensed technician.

Assembled MWW-14A, 31 lbs. . . No money down, \$26 mo. . . . \$279.95

MWA-14-1 Telephone-type hand set. . . 2 lbs. . .

No money down, \$5 mo. . . . \$24.95

Extra transmit & receive crystals (specify), 1 lb. . . each \$2.95

Assembled MWW-14AR, 41 lbs. . . 75-watt Radiophone plus remote control. . . \$38 dn., as low as \$23 mo. . . . \$378.95

Assembled MWA-15-1 Radiophone remote control unit,

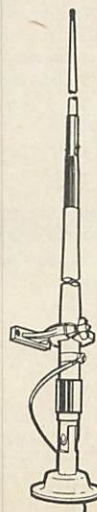
10 lbs. . . no money dn., \$10 mo. . . . \$99.00

18' Radiotelephone Antenna . . . with laydown swivel base & high impact side mount. 2-3 mc band.

MDP-13, 12 lbs., (Motor Freight or Express Only)

No money down. \$6 mo. . . . \$59.95

MWW-14A SPECIFICATIONS—RECEIVER: Frequency range: Marine, 2-5 mc. Broadcast, 540-1620 kc. Sensitivity: (providing 10 db S/N ratio or better) Marine channels, 2 microvolts; Broadcast, 10 microvolts. TRANSMITTER: Frequency range: 2-5 mc marine bands. Final power input: 75 watts. RF output: 40 watts. Power requirements: 12 volts DC. Receiver only, 0.6 amp. Standby, 2.9 amp. Transmit, 16 amps. Dimensions: 6 1/2" H x 11 1/4" W x 17" D.



& Dependability Through Modern Design

**Heath-Built 25-Watt Radiotelephone . . . Perfect For
The Small Sailing Auxiliary Or
Power Craft With Medium Cruising Range**



MWW-13AS
\$189⁹⁵

- Choose the complete MWW-13AS system for owner installation • Choose separate components for installation with technician checkout • 4 crystal-controlled transmit & receive channels • Covers 2-3 mc marine—receives AM broadcast band • 10-transistor, 5-diode, 3-tube circuit • Built-in heavy-duty transistor power supply • FCC type accepted • Factory assembled & tested, ready to install

Dependable Communications For Mariners On The Go . . . Install the pre-tuned MWW-13AS system yourself . . . all accessories are included. Use the outboard motor for a ground. Or you can purchase the MWW-13A radiotelephone separately. It's easy to install . . . instructions are complete. Just have an FCC licensed technician perform final tune-up. Crystals for 2182 & 2638 kc are included. (Ship-to-shore & distress channels). Enjoy safe cruising next season with the Heath-Built 25-watt radiophone.

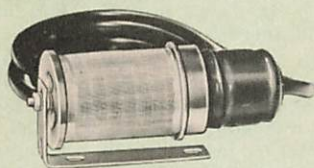
MWW-13A SPECIFICATIONS—Frequency range: 2-3 mc. Broadcast: 550-1600 kc. Receiver sensitivity for 10 DB S/N ratio: Marine—3 microvolts—Broadcast—10 microvolts. Audio output: 3 watts to internal speaker. **Transistor complement:** (1) 2N1525 Mixer; (1) 2N1525 Oscillator; (1) T1364 1st I.F.; (1) 2N1274 1st Audio; (3) 2N1039 Audio Driver & Power Converters; (2) 2N1525 2nd & 3rd I.F.'s; (2) 2N301 Audio Output & Modulator; (6) diodes, AVC, overload, Squelch, Noise Limiter & Detector. **Transmitter RF input:** 25 watts. **RF Output:** 13 RF watts. **Transmitter tube complement:** (1) 6AK6 Oscillator; (2) 6AQ5 amp. **Power requirements:** 12 V DC, receiver only, .350 amps.; standby, 1.2 amps.; transmit, 5 amps. **Dimensions:** 4 1/2" H x 8 1/4" W x 10 1/2" D.

Assembled MWW-13AS, Complete system for do-it-yourself installation on outboard powered boats only, includes radiophone, antenna & instructions, 22 lbs. . . No money dn., \$18 mo. **\$189.95**
Assembled MWW-13A, Radiophone for technician installation on any boat, 17 lbs. . . No money down, \$16 mo. **\$164.95**
MDP-93, 13' Fiberglass Antenna, 5 lbs. . . (Motor Freight or Express only), no money dn., \$5 mo. **\$34.95**
MDP-103, Swivel lay-down base mount, 2 lbs. **\$9.95**
Extra transmit & receive crystals (specify) 1 lb. each **\$2.95**

Complete Package MWW-13AS For Do-It-Yourself Outboard Installation! Includes: 25-watt Radiotelephone, "gimbal" mounting bracket, 13' antenna (MDP-93), antenna cable, ground cable, power cable, crystals, push-to-talk microphone, FCC License pack and complete instructions!



MI-25
\$39⁹⁵



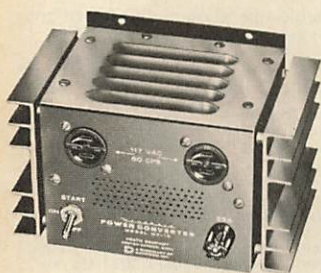
New! Fuel Vapor Detector With Visual And Audible Warning

- New more dependable circuitry • Fully transistorized • Gives both visual and audible warning of combustible gas fumes • Self-testing "Fail-Safe" provision—sounds alarm in the event of component failure • Built-in relay for control of bilge blowers, ignition "disable", or warning lights • Simple to build & install—from package to protection in 3 hours

Fire At Sea! . . . Your Most Fearsome Peril! You can't afford to overlook any precaution or safety feature. A sensitive Fuel Vapor Detector is your best assurance against explosion due to accumulated fumes. The new MI-25 Fuel Vapor Detector features a performance proven detector "head", plus new advanced circuitry to provide even greater security. In addition to the "SAFE—DANGEROUS—EXPLOSIVE" meter reading, a built-in 2500 cps audible alarm sounds whenever fumes are present. Power & detector cables unplug from unit for fast, easy removal from your boat. The Heathkit MI-25 is your best assurance to a safe voyage.

Kit MI-25, 4 lbs. . . no money dn., \$5 mo. **\$39.95**

MI-25 SPECIFICATIONS—Voltage: 12 VDC, ±10%. Current: 1.0 amp nominal. Panel size: 2-1/16" H x 5-11/16" W. Depth: 5". Detector head size: 1 1/2" round x 2 1/2" long. Length of interconnecting cable supplied: 15'. Color: Marine white & black. Material: Aluminum. Temp. range: -20° C. to +80° C. Audio alarm: 2500 cps.



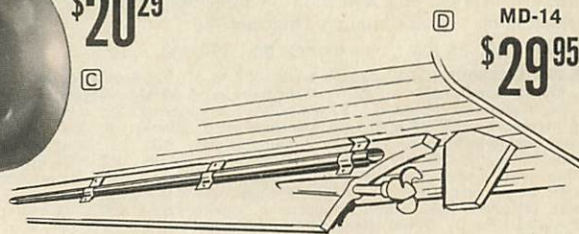
MP-10
\$29⁹⁵



MI-31A
\$24⁹⁵



MDP-104
\$20²⁹



MD-14
\$29⁹⁵

A Heathkit Power Converter . . . For AC Power Afloat

For Boat, Trailer, or Car. Changes 6 or 12 VDC to 110 volt square-wave AC power for small appliances. Not recommended for TV, tape recorders, record players, compressor-type refrigerators which require high starting current and/or standard sine wave current. Write for MP-10 Applications Bulletin.

Kit MP-10, 8 lbs. . . no money dn., \$5 mo. **\$29.95**
Assembled MPW-10, 8 lbs. . . no money dn., \$5 mo. **\$39.95**

B Heathkit All-Transistor Tachometer

Operates On 6, 12, 24 Or 32 V. DC Systems! Works on all inboard or outboard marine & auto engines (1-6 cylinder, 2 cycle or 1-16 cylinder, 4 cycle) that use standard coil & distributor ignition systems. Switch selection of 0-4000 & 0-8000 rpm ranges, plus wiring option for 0-2000 & 0-4000 rpm. Lighted dial. Ball & socket mount. Positive or negative ground.

Kit MI-31A, 3 lbs. . . no money dn., \$5 mo. **\$24.95**

C University Deck Speaker

Heath Recommended Horn Projector . . . Excellent for use as a deck hailer speaker with the MWW-14A & MWW-15 Radiotelephones. Driver unit and horn are weatherproof with marine gray finish and feature "any angle" swivel mounting. May be repainted to color of your choice. Specs.: 25 watts, 8 ohms, 200-13,000 cps.

Model MDP-104, 7 lbs. . . mfrs. list \$34.50. **Net \$20.29**

D Heathkit Marine Electrical Ground System

Extends Radio Range . . . the MD-14 provides adequate grounding for your radiotelephone. Consists of two 8' heavy-gauge copper tubes, tapered at the ends, requires only bolting through keel (min. length 9', max. thick. 5") & one thru-hull fitting. Does not affect balance, steering, or maneuverability.

Kit MD-14, 20 lbs. . . (Motor freight or Express only), no money dn., \$5 mo. **\$29.95**

Heath Marine Navigational Aids



Heathkit "Mariner" 3-Band Radio Direction Finder For Safe, Sure, All Weather Navigation

- Use your "Mariner" for easy, precise offshore navigating • Use it for entertainment listening on AM radio, or for monitoring the marine channels • Covers Beacon/Consolan, AM & Marine telephone bands • All-transistor circuitry for dependability, long life & low battery drain • Independent built-in battery power supply • Simple to build—complete with factory built & aligned "front-end" tuner and prewired component package

Cruise With Safety... Your "Mariner" is always ready to show you exactly where you are through accurate triangulation—as easy as reading a map.

"Mariner" Resolves The Problem Of The Double Null. Strong or weak signals, the front panel "Sensitivity" control sharpens the accuracy of the tuning null. Automatic gain control circuitry makes it a deeper, more distinct null. And a signal phasing sense circuit assures that it is the correct null... the true bearing.

True Nautical Styling And Engineering. The spring-return switch provides dial and meter lighting without putting a continuous load on the batteries. "Mariner" is completely portable and independent from "ship" power, since battery power is internal... with life up to 1000 hours! The cabinet styling is handsome, practical, and makes a worthy addition to any boat. Easy-to-read step-by-step assembly manual includes installation and operating instructions, plus a section on direction finding theory. Cruise with greater safety... take along a "Mariner."

Kit MR-21A, 13 lbs. . . no money dn., \$11 mo. **\$109.95**

MR-21A SPECIFICATIONS—Beacon band: 188 to 410 kc. Broadcast band: 535 to 1620 kc. Marine band: 1650 to 3450 kc. Sensitivity for 6 DB signal-to-noise ratio: BC band, 40 uv/meter; Beacon band, 120 uv/meter; Marine band, 25 uv/meter. Normal bearing accuracy: $\pm 3^\circ$. BFO: 455 kc, switch-selected. Speaker: 4" x 6" weatherproofed. Power requirements: 9 volts from 6 standard size "D" flashlight batteries. Battery drain: 90 ma @ 350 mw max. output level. Battery life: 500-1000 hours. Dial light: Spring-return switch operated. Null & Tuning indicator: 0-1 ma meter. Transistors: (1) 2N409 Sense amplifier; (1) T1363 RF amp.; (1) 4JX-1D925 Oscillator; (1) 2N1526 mixer; (5) 2N1274 AGC amp., audio amp., audio output & BFO oscillator; (2) T1364 1st & 2nd I.F.; (1) crystal diode detector. Dimensions: 10" H x 10" W x 8 1/2" D including base and loop.

Heathkit MI-11A Depth Sounder . . . Best Value Anywhere

- Accurately readable—to 1 foot divisions with 5% accuracy • Reaches down to 200 feet on hard bottoms • Sensitive all-transistor circuit—instant operation, reliable performance • Self-contained or boat battery powered for added convenience • Simple, stable circuit board construction • External power connection & switch on rear panel for easy access

Safety For The Yachtsman . . . A Favorite Aid For The Weekend Fisherman . . . Avoid the embarrassment of running aground . . . or worse yet, the cost of repairs. Spot your favorite fishing ground, or actually "see" schools of fish. Invaluable in a fog. For fun or serious boating, the Heathkit Depth Sounder can be your favorite shipmate.

Compare With More Costly Units! An all-transistor circuit puts your MI-11A in operation instantly . . . keeps it operating faithfully, accurately—within 5% of all readings! And then there's the attractive rustproof metal cabinet with gray, white, black & blue color styling, and gimbal mounting bracket for installation virtually anywhere.

2-Way Power Supply Offers Versatility, Portability! An internal-external battery switch permits convenient selection of self-contained or boat battery operation (uses 9 standard "C" flashlight batteries—not included). Also includes a waterproof transducer.

Assembles In Just 4 To 6 Hours! Fast, stable fiberglass circuit board construction . . . requires no special skills or knowledge.

Kit MI-11A, 8 lbs. . . no money dn., \$7 mo. **\$69.95**

Model MIA-11, Accessory transducer mount, 2 lbs. **\$8.95**

MI-11A SPECIFICATIONS—Dial: 0-200 feet in one foot divisions. Range: 0-200 feet on hard bottoms, 0-100 feet on soft bottoms. Frequency: 200 kc. Sounding rate: 1440 soundings per minute, or 24 per second. Accuracy: Within 5% of actual depth. Depth indication: Neon lamp flashing at 0 feet and again at indicated depth. Transducer: Barium titanate ceramic element encased in a waterproof housing with solid brass fittings; attached 15 foot length of 2 conductor shielded cable. May be mounted permanently to the hull or temporarily with a transom mount. Controls: Combined ON/OFF-Sensitivity. Power supply: 13.5 volts from nine self-contained size C flashlight cells, or external 12 volt battery. Flashlight cells are contained in three leakproof plastic housings. Battery drain: 100 milliamperes. Average battery life: Up to 25 hours intermittent operation. Dimensions: 7 1/4" W x 5 1/4" H x 7 1/2" D.

Heathkit MD-24 . . . Foghorn/Hailer/Boat Horn With A Flip Of A Switch



MD-24
\$79.95

- All-transistor, 30-watts peak power • 10" weatherproof horn speaker for deck mounting • Fused electronics for protection • Gimbal mounting bracket for versatile installation • Fast, stable circuit board construction

Use It As A Foghorn . . . Just set the function switch to "foghorn" . . . the powerful warning tone sounds for six seconds, rests for twenty seconds, then recycles . . . penetrates the foggy atmosphere for more than one mile.

Use It As A Deck Hailer . . . Sound Off! Excellent for docking & hailing other boats.

Use It As A Boat Horn . . . 30-watts peak power at a touch of the button.

Kit MD-24, Includes basic unit, plus PTT mike & 10" deck speaker, 12 lbs. . . no money dn., \$8 mo. **\$79.95**

MD-24 SPECIFICATIONS—Output power: 30 watts peak. 20 watts continuous. Fog horn sequence: 6 second on, 20 seconds off. Cable furnished: 20' speaker cable. Power requirements: 12 v. DC, 4.0 amps. Max. (horn sounding), less than 0.1 amp, no signal. Overall size: 4 7/8" H x 6 1/2" W x 6" D. Color styling: White, gray & black. Cabinet: Aluminum.

Heathkit® Portables With "Big-Set" Sound!

Deluxe Solid-State AM Portable . . . Makes Distant Stations Sound Local . . . Makes Everything Sound Better!



GR-24
\$28²⁵

- 6 silicon transistor, 2 diode circuit gives 8 transistor performance • Uses standard "D" size flashlight batteries . . . only 1/10 the operating cost of typical pocket-size portables • Large 4" x 6" permanent magnet oval speaker for "big-set" sound • Easy-to-read slide-rule dial • "Thumb-touch" controls • Vernier tuning • Tuned RF stage & double-tuned I.F. stage for greater sensitivity & selectivity • Big 1/2" diameter built-in rod antenna for distant station reception • Handsome black simulated leather case • Fast, simple circuit board construction

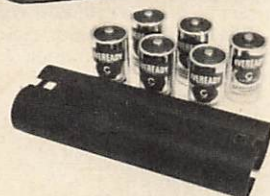
TIRED OF SQUEAKY-VOICED PORTABLES? The kind with the "tinny" sound? The kind that devours batteries? Then it's time you built a Heathkit GR-24. The listening's easy . . . through its large 4" x 6" speaker. No need to turn the volume up full just to hear it. Puts out a full 250 milliwatts from a husky audio output stage that's diode biased for a crisp, bold sound even when battery voltage finally runs low. Its big 1/2" diameter ferrite rod antenna provides pulling power that rivals hi-fi receivers . . . picks up stations miniatures can't get. For extra sensitivity and selectivity, there's a tuned RF stage and a double-tuned IF stage. Carries easily, too . . . with its compact shape, light weight, and easy-grip handle.

MORE ECONOMICAL THAN MINIATURES, TOO! Costs only 1/10th as much as pocket-size models to operate. Uses 6 size "D" batteries (not included) . . . protected against corrosion by a plastic battery holder.

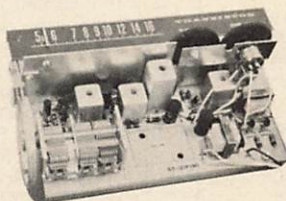
SMART DESIGNER STYLING . . . ASSEMBLES IN 4 HOURS! Handsomely fashioned black simulated leather case with a chrome-finish plastic frame and anodized aluminum grille make the GR-24 an attractive companion. And for quick simple station selection, there are two "thumb-touch" controls and a slide-rule dial. Assembly takes only about 4 to 6 hours with fast circuit board construction.

Kit GR-24, 5 lbs. . . no money dn., \$5 mo. \$28.25

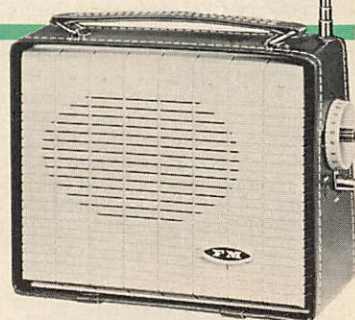
GR-24 SPECIFICATIONS—Tuning range: 535-1620 kc. IF frequency: 455 kc. Sensitivity: 50 uv/m for 10 db signal-to-noise ratio at 50 mw output. Audio output: 250 mw @ 10% distortion. Speaker: 4" x 6" oval permanent magnet type. Battery: 9 v; 6 "D" flashlight cells. Current drain: No signal: 11 ma; 50 mw audio output: 41 ma. Dimensions: 3 3/4" D x 8 3/4" W x 7" H (overall).



Runs On 6 Inexpensive Size "D" Flashlight Batteries . . . only 1/10 the operating cost of pocket-size portables. Plastic battery holder protects against corrosion.



Wide, Open Chassis Layout . . . and simple circuit board construction assure fast, easy assembly. Takes around 4 to 6 hours.



GR-61
\$44⁹⁵

Enjoy The Good Listening Of FM Wherever You Go . . .
With This Deluxe Solid-State Portable!

- 10 transistor, 2-diode circuit for instant operation, long trouble-free life • Large 4" x 6" PM speaker for hi-fi sound • Automatic Frequency Control for locked-in reception • Treble-cut tone control assures crisp, clear tone • Accurate vernier tuning • 34" telescopic antenna-headphone jack • Simple circuit board construction • Smart tan simulated leather case with curved beige plastic grill

A REFRESHING IDEA IN PORTABLE LISTENING . . . the quiet, crystal-clear beauty of FM with its vast selection of classical and standard favorites. Hear it all with the rugged, "go-anywhere" GR-61. Other features include terminals for an external antenna, push-pull output stage, headphone jack for private listening or connection to your hi-fi system, and 3 IF stages for full fidelity. Preassembled "front-end," prealigned IF transformers and simple circuit board construction assure easy 8-10 hour assembly. Operates on 6 "C" flashlight batteries (not included) . . . plastic battery holder protects against corrosion.

Kit GR-61, 6 lbs. . . no money dn., \$5 mo. \$44.95

GR-61 SPECIFICATIONS—Tuning Range: 88 mc to 108 mc. IF Frequency: 10.7 mc. Audio Output: 250 milliwatts. Loudspeaker: 4" x 6" permanent magnet. Tone Control: Treble-cut. Battery: 9 volt, 6 "C" flashlight cells. Battery Life: 300 to 500 hours. Dimensions: 7 3/4" H x 10" L x 4" D. (overall). Styling: Sun-tan simulated leather case, curved beige plastic grille.



GR-151A
\$20⁶⁵

Explore The Fun Of Kit-Building
With This "Beginner's" Solid-State AM Portable . . .
Includes FREE Battery & Tool Kit!

- 6-transistor, 3-diode circuit • 4" x 6" speaker for "big-set" sound • Built-in ferrite rod antenna for distant station pickup • Pre-aligned coil and IF transformers assure peak performance • Rugged simulated tan leather case • Fast, simple circuit board construction

GOES FROM PARTS TO PROGRAMS IN JUST 4 TO 6 HOURS! And everything you need to build it is included . . . solder, soldering iron, wire stripper & cutter, screwdriver, nut starter, alignment tool . . . even a 9 v. battery for up to 300 hours of good listening. Simple step-by-step instructions, large exploded diagrams and fast easy circuit board construction assure your success. Give it a try . . . you'll be surprised how much fun it is!

Kit GR-151A, radio, tool kit & battery, 5 lbs. \$20.65

Heathkit® Intercoms & Table Radios



GD-51A
\$22⁹⁵

Enjoy The Step-Saving Convenience Of A Portable "Wireless" Intercom!

- No connecting wires between units . . . just plug into nearest AC or DC outlet, and you're ready for instant communications
- All-transistor circuit—built-in AC power supply
- Switch-selected choice of 2 operating frequencies
- Compact—fits almost anywhere
- Add as many units as you wish anytime
- Economical—costs less than 3c a month to operate
- Attractive 2-tone beige plastic cabinets . . . match any decor
- New variable squelch to hush background noise

Just Plug It In, Push The Press-To-Talk Bar To Talk, release to listen . . . that's all there is to it. Saves you valuable steps and time . . . eliminates annoying shouting. Use any number anywhere . . . kitchen, basement, bedroom . . . as long as they operate on the same 117 v. AC power line.

Ideal For Baby-Sitting & Dictation! Press-to-talk bar has a spring-return to "listen" and a "dictate" hold position for keeping tabs on baby, or for predominately one-way transmissions. All-transistor circuit assures instant operation, long life. Squelch circuit minimizes background noise. Choose a pair!

Kit GD-51-2 (pair), 10 lbs. . . No money down, \$5 mo. \$45.90
Kit GD-51A (one station), 5 lbs. \$22.95

GD-51A SPECIFICATIONS—Power requirements: 105-125 V. 50/60 cycle AC or DC. Standby power: 2.5 watts. Transmit frequency: 220 kc & 180 kc (switch selected). Size: 6 1/4" H x 8" W x 7 1/2" D.



Complete System
\$44⁸⁵

All-Transistor Indoor-Outdoor Intercom System . . . Provides An Extra Measure Of Household Security!

- Master unit handles up to 5 remote stations
- Ideal for home, offices, commercial institutions
- Weatherproof outdoor remote
- Powerful one-watt output for crisp, clear communications
- Compact, designer-styled cabinets

Outdoor Remote Lets You Identify Callers before opening your door . . . adds to your safety—Especially reassuring late at night or when you're alone. Also ideal for clinics, hospitals, commercial institutions, factories . . . anywhere a network of inside communication is needed.

Private Call Or Paging! Master unit features selective and all-call switches for private inter-unit communications or paging entire remote group. Also any 2 remotes can communicate. Each remote includes 50' of 3 conductor wire & matching beige plastic cabinet. Weatherproof outdoor remote features rust-proof grille, specially-coated speaker, doorbell button & 50' of 3-wire cable. Order the complete set now!

Kit GD-141 Outdoor Remote, 2 lbs. \$5.95
Kit GD-121 Master Station, 6 lbs. . . No money down, \$5 mo. . . \$29.95
Kit GD-131 Indoor Remote, 4 lbs. \$8.95

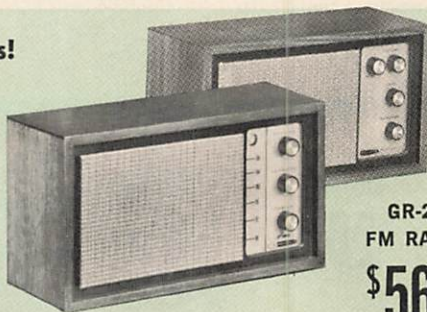
SPECIFICATIONS—Power requirements: 117 v ac 50/60 cycles. 2.5 watts (idling), 3.5 watts (full output). Transistors: four 2N1274. Dimensions: 6 1/4" H x 8" W x 7 1/2" D (master), 5" H x 8" W x 6" D (indoor remote), 5 1/4" x 4 1/2" panel size (outdoor remote).

Here's A Matching Pair For FM Stereo That's Ideal For Limited -Space Areas!

- Monophonic FM table radio covers 88 to 108 mc
- Receives FM stereo when used with matching GRA-21-1 stereo converter
- Large 6" x 9" speakers
- Automatic frequency control
- Preassembled, prealigned tuning unit speeds assembly
- Hand-some walnut cabinets

Place Up To 15' Away For "Concert-Hall" Stereo! Ideal for your rec room, living room, bedroom, or a student's dormitory. GR-21 FM radio may be used separately . . . includes magic "eye" tuning, built-in antenna, lighted dial and safe transformer operation. Both units feature large 6" x 9" dual-cone speakers. Simple controls for mono or stereo FM selection, volume & tone. Each walnut cabinet measures 15" L x 8" H x 6" D.

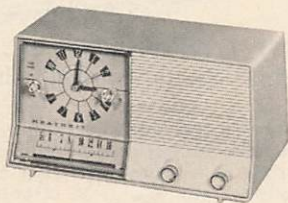
Kit GR-21, FM Table Radio, 18 lbs. . . no money dn., \$6 mo. \$56.95
Kit GRA-21-1, Stereo Converter, 18 lbs. . . no money dn., \$5 mo. \$47.00



GRA-21-1
STEREO CONVERTER
\$47⁰⁰

GR-21
FM RADIO
\$56⁹⁵

GR-121
\$28²⁵

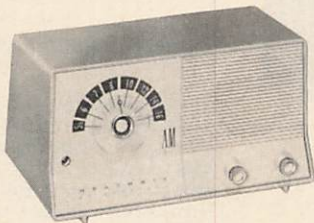


Wake Up In A Happy Mood With This Versatile AM Clock Radio!

- Timer outlet operates household appliances
- Sleep switch—radio alarm—output jack for pillow speaker
- Safe transformer operation

Starts Your Day On The "Bright" Side! Gently wakes you to music, automatically starts the coffee, entertains you throughout the day, then lulls you to sleep at night. 5-tube circuit has built-in antenna and clock/timer with sweep-second hand. Automatically turns itself off at any interval up to an hour. To insure "wake-up" an alarm sounds after 10 minutes. Ivory & beige plastic cabinet. Assembles in 4-6 hours.

Kit GR-121, 8 lbs., no money dn., \$5 mo. \$28.25
GR-121 SPECIFICATIONS—Circuit: 5-tube superheterodyne. Frequency coverage: 535-1620 kc. IF frequency: 455 kc. Power supply: 115 v., 60 cycle, AC only. Speaker: 3" PM. Controls: on/off volume, tuning. "Sleep Switch," "Radio Alarm." Dimensions: 5" H x 10 1/2" W x 5" D.



GR-10
\$16⁹⁵

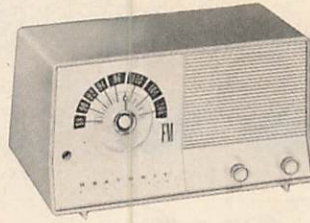
AM Table Radio . . . Ideal For Any Room In The House!

- Transformer operated
- Superheterodyne circuit
- Vernier tuning

Features Superhet Circuit with automatic volume control and vernier tuning for smooth, easy station selection. Includes built-in antenna plus terminals for external antenna. Handsomely fashioned in ivory & beige plastic cabinet. Safe transformer operation. Add that extra radio now with this easy to build, top performer!

Kit GR-10, 7 lbs. \$16.95

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



GR-11
\$23⁵⁰

FM Table Radio . . . Full, Rich Sound, Modern Styling!

- Transformer operated
- Preassembled, pre-aligned tuning unit for easy assembly

Add Superb FM Listening To Any Room with this compact, easy-to-build table radio! Five tubes function as seven in its safe, transformer operated circuit. Features line cord antenna for strong local station reception. All components are pre-tuned for fast assembly . . . goes together in only 4 hours. Handsome ivory & beige plastic cabinet!

Kit GR-11, 7 lbs. \$23.50

GR-11 SPECIFICATIONS—Frequency coverage: 88-108 mc. IF frequency: 10.7 mc. Power requirements: 105-125 volts AC 50/60 cps. Speaker: 3" PM. Antenna: built-in line, provision for external antenna. Dimensions: 5" H x 10" W x 5" D.

Heathkit® Photo Aids!

Don't Waste Paper To Get A Perfect Print . . . Get The RIGHT Exposure The FIRST Time With The Fotoval® Computer!

- Accurately & scientifically indicates correct exposure times & photographic paper grades
- Cuts darkroom time, reduces paper costs, speeds your enlarging
- Quickly produces correctly exposed prints everytime
- Gimbal mounting bracket allows installation in any position
- Completely safe lighted to permit easy darkroom reading of meter indications
- Simple to assemble and operate

Eliminates Costly Makeovers . . . Saves You Time, Paper & Money! The revolutionary Heath/Mitchell Fotoval Darkroom Computer analyzes any negative, and automatically provides correct exposure times . . . matches negative contrast with printing paper. Guesswork is eliminated through accurate measurement . . . you produce perfect enlargements every time! No long, laborious hours wasted in the darkroom.

Monitors Darkroom Variables . . . Leaves You Free For Creative Work! With a unique 35mm Test Negative, you predetermine accurate exposure for each type of paper stock or variable contrast filter you use. Once correct time is established, there's no need for test strips or wasted paper. Next, choose the desired paper type, and insert the corresponding computer scale into the Fotoval. Place the negative you wish to print in the enlarger. With the Fotoval light-sensitive probe positioned on the desired detailed black, adjust the meter to full scale using the enlarging lens diaphragm. Then meter the most desirable highlight, and read the exposure time & paper grade (or filter) directly from the computer. Expose for the indicated time and develop. That's all there is to it. Fotoval even lets you print now, develop later!

For The Novice As Well As The Professional! The easy operation makes it simple for the beginner to experience remarkable results, even if he's never attempted enlarging before. As easy to build as it is to use. Free descriptive brochure available.

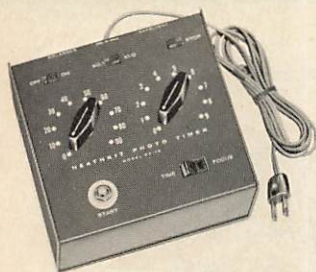
Kit PM-14, 8 lbs. . . . no money dn., \$9 mo. \$89.00



Calibration Negative . . . helps you predetermine correct exposure time for each contrast grade of paper, and best choice for every negative.



Light-Sensitive Probe . . . incorporates all important switching. Measures extremely small light areas when scanning negative for desired highlights. Fits easily in easel corners. Magnetized base.



With The Heathkit Photo Timer, You Control Exposures In Tenths Of A Second!

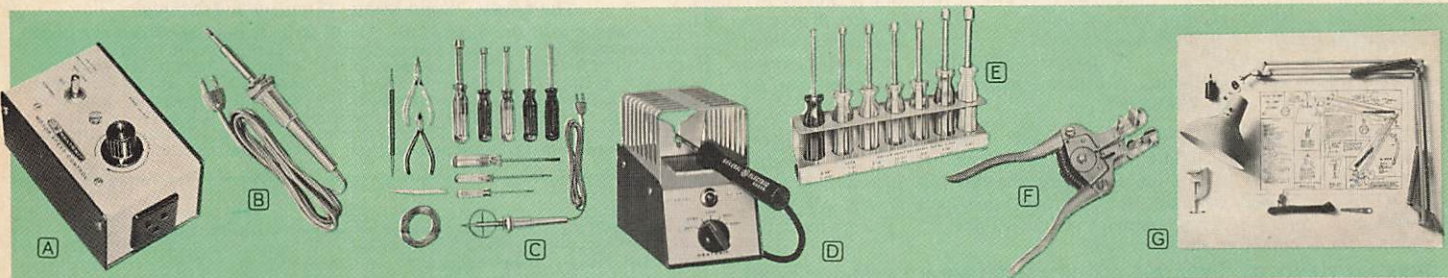
PT-15
\$24.95

- Controls exposure time of contact or enlarging printing
- 2 switch-selected ranges . . . up to 99 seconds in 1 second steps, or 9.9 seconds in 0.1 second steps
- permits accurate resetting of any interval
- Repeatability accurate within 2% on all settings
- Enlarger & safelight AC outlets
- All-electronic circuitry . . . no gear mechanisms to wear out
- Time-Focus rocker switch to turn enlarger on or off manually
- Install on wall, place upright or face up on working surface
- Styled to match Fotoval Computer (above)
- Easy to assemble & use

Quick & Simple To Use! Simply set the desired exposure time and push the "start" button. The PT-15 Photo Timer turns on the enlarger and extinguishes the safelight. At the end of the pre-selected interval, it automatically turns the enlarger off and the safelight on. To quickly expose more than 1 print, just tap the "start" button to repeat the cycle . . . every exposure will be accurate within 2% of the first interval. A spring-return "stop" switch halts exposure process, if you decide time interval is incorrect.

Kit PT-15, 4 lbs. . . . no money dn., \$5 mo. \$24.95

PT-15 SPECIFICATIONS—Timed cycle: x1.0 Range: 1 to 99 seconds in 1-second steps. x0.1 Range: 0.1 to 9.9 seconds in 0.1-second steps. **AC outlets:** Enlarger and safelight; each outlet provides 105-125 v., AC @ 350 watts maximum (3 amperes). **Accuracy:** Actual timed cycle will be within 5% of time selected. **Repeatability:** All timed cycles at one selected setting within 2% of each other. **Switches:** 0-90 seconds, in 10-second steps; 0-9 seconds in 1 second steps; start pushbutton; Time-Focus; Stop; Range, x1.0 & x0.1; On-Off. **Controls:** x1.0 calibration; x0.1 calibration; sensitivity. **Regulation:** Internal circuits regulated at 150 volts DC by an OA2 regulator tube. **Power requirements:** 105-125 v., AC, 50/60 cps, 6 watts. **Dimensions:** 6 3/8" W x 6 1/2" D x 3 1/4" H overall



A Add Longer Life To Drills, Bits, & Blades

With A Heathkit Motor Speed Control!

- Adjustable control dials desired motor speed
 - SCR with feedback circuit slows motor yet maintains high torque power
 - Use with tools, appliances with universal AC-DC motor rating up to 15 amps only. Not for AC induction motors.
- Kit GD-973A, 3 lbs. \$17.50

B "Little Dandy" Soldering Iron . . . Ideal for Kit-Building

- Perfectly balanced, lightweight, easy to handle
 - Reaches working temperature 2 minutes after plug-in, stays hot
 - 30-watt heating element
 - Iron-clad tip won't corrode, doesn't require frequent "tinning"
- Model GDP-105, 1 lb. \$5.40

C New Deluxe Tool Set . . . Use For Kit-Building Or Any Fix-It Job!

- Combination wire stripper & diagonal sidecutter
 - Midget longnose pliers; 3 screwdrivers (3/32", 1/8", 3/16")
 - "Little Dandy" soldering iron (above)
 - 5 nut drivers (3/16", 1/4", 5/16", 3/8", 1/2")
 - Nut starter, soldering aid, radio solder, and "Kit-Builders Guide" with soldering instructions
- Model GH-25, 4 lbs. \$16.95

D Heathkit Soldering Iron—Versatile, Easy To Build & Use

- Lightweight . . . ideal for Kit-building
 - 6 volt, 25 watt GE midget iron with non-corroding tip
 - Transformer operated power supply offers selection of 8 heat ranges for every soldering job
 - Protective metal cage
- Kit GH-52, 5 lbs. \$14.95

E Vaco Hollow Shaft Nut Driver Set No. 5-700

- 7 drivers—sizes: 3/16", 1/4", 5/16", 11/32", 3/8", 7/16", 1/2"
 - Hollow shafts for nut installation on switches, controls
 - Store in self-supporting metal rack
 - Tough, color-coded plastic handles
- Model GDP-204, 3 lbs. \$6.42

F Speedex Wire & Cable Stripper Model 766-1 . . . Save \$4.06!

- Simple to use—insert wire into jaws, squeeze handle—insulation comes off just that fast
 - Graduated jaws accept No. 10, 12, 14, 16, 22 wire
 - Manufactured by General Cement
- Model GDP-663, 2 lbs. . . . Mfrs. list \$9.95 Only \$5.89

G Z-Lyte 210 Extension Lamp Kit

- Assembled extension arm—just attach socket, shade & cord
 - 45" reach, 360° sweep
 - Vented shade
 - Movable
 - U.L. approved
 - Less incandescent bulb
- Kit GDP-202, 5 lbs. . . . Mfrs. list \$14.50 Only \$9.95

Now Choose From Two Heathkit® All-Transistor



AR-13A
\$184⁰⁰

Acclaimed By Experts . . . Praised By Owners . . .
Heathkit 66-Watt AM/FM/FM Stereo Receiver . . .
With All-Transistor Reliability & Performance!

- 46 transistor, 17 diode circuitry for cool, instant, economical operation and the crisp, natural beauty of "transistor sound"
- Compact, yet houses two 33-watt power amplifiers . . . two preamplifiers . . . and wide-band AM/FM/FM Stereo tuner
- Built-in stereo demodulator . . . automatically switches to stereo
- Built-in stereo indicator light
- Filtered outputs for direct, "beat-free" stereo recording
- Provides 66 watts IHF music power, 40 watts rms from 15 to 30,000 cps
- Luxurious walnut cabinet styled in Heathkit low-silhouette motif
- Preassembled, prealigned "front-end" and AM-FM I.F. strip aid construction

NOTED HI-FI EDITOR, JULIAN D. HIRSCH REVIEWS THE AR-13A! In the Nov. '65 issue of Hi-Fi/Stereo Review, Mr. Hirsch said: "Unlike many transistor amplifiers, the AR-13A has low IM distortion at low power levels; under 1 per cent up to 4 watts" . . . "The AR-13A had a remarkably flat power response" . . . "Hum and noise were inaudible" . . . The FM tuner proved to be quite sensitive" . . . "drift is negligible" . . . The FM Stereo channel separation was excellent" . . . "It is one of the finest integrated stereo receivers I have seen, comparable to many factory-wired tuners costing far more". Compare the AR-13A's features!

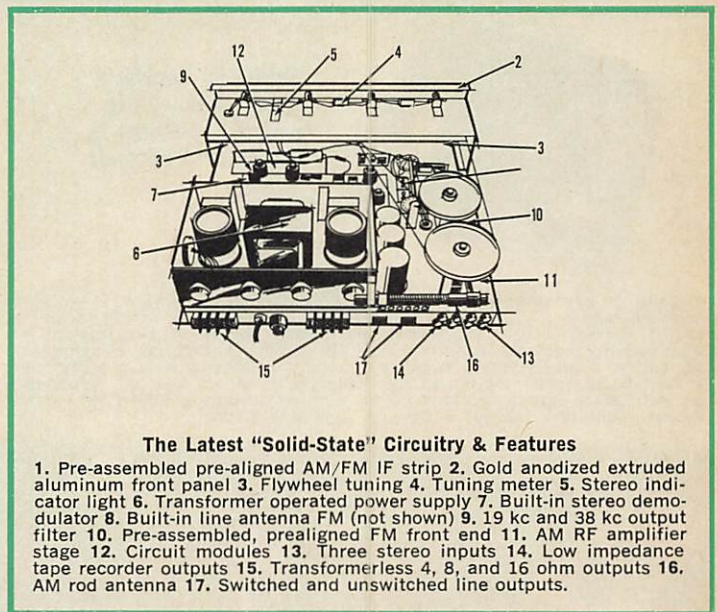
VERSATILE PERFORMANCE! There's wide-band AM, FM, and FM stereo tuning for reception to delight the most critical ear. It has two preamps. And coupled with its two power amplifiers, the AR-13A provides 66 watts of IHF music power, 40 watts of continuous sine-wave power. All this is housed inside one luxurious, compact walnut cabinet . . . just connect two speakers for a complete stereo system.

THERE ARE PLENTY OF OPERATING CONVENIENCES TOO! A solid-state circuit automatically channels the signal through the built-in stereo adapter when stereo is received. Then the automatic stereo indicator lights. The tape recorder outputs are filtered for direct "beat-free" recording. There are dual-tandem controls for simultaneous adjustment of volume, bass, and treble of both channels; a separate control for balancing both channels; and 3 stereo inputs—mag. phono and two auxiliaries. The AM tuner features a high gain RF stage & a high Q rod antenna. The FM tuner has a built-in line cord antenna plus external antenna connectors.

BUT THAT'S NOT ALL! There's a local-distance switch for optimum reception in all signal areas; an FM squelch control; AFC for drift-free reception; plus flywheel tuning, tuning meter, and lighted AM & FM slide-rule dials for fast, easy station selection. The secondary controls are concealed under the hinged lower section of the gold anodized aluminum front panel to prevent accidental system setting changes. Both FM front-end and the AM-FM I.F. strip are pre-assembled and prealigned to simplify construction.

Kit AR-13A, 35 lbs. . . no money dn., \$18 mo. \$184.00
Export model available for 115/230 VAC, 50-60 cps; write for prices.

Important: The AR-13A is exempt from any Special System Discount.

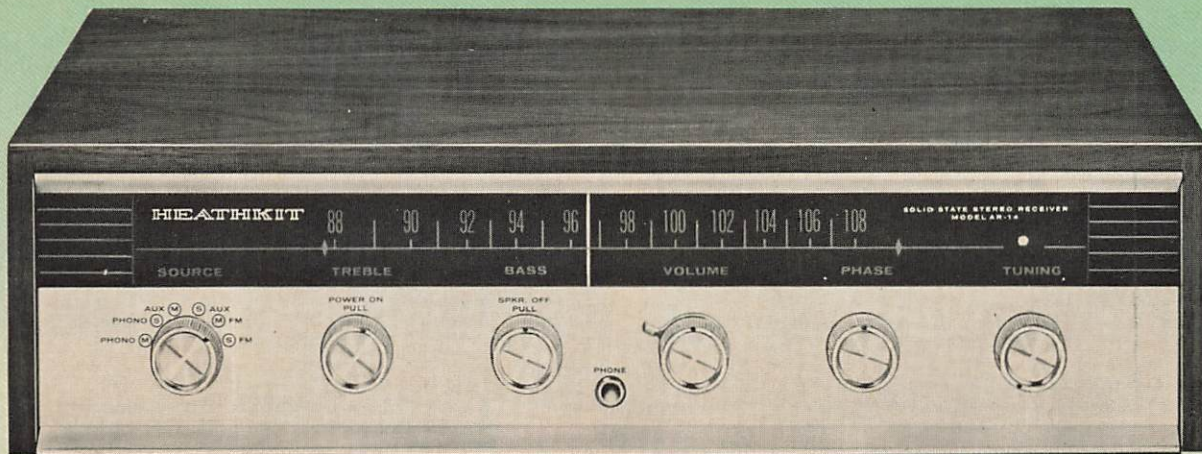


The Latest "Solid-State" Circuitry & Features

1. Pre-assembled pre-aligned AM/FM IF strip 2. Gold anodized extruded aluminum front panel 3. Flywheel tuning 4. Tuning meter 5. Stereo indicator light 6. Transformer operated power supply 7. Built-in stereo demodulator 8. Built-in line antenna FM (not shown) 9. 19 kc and 38 kc output filter 10. Pre-assembled, prealigned FM front end 11. AM RF amplifier stage 12. Circuit modules 13. Three stereo inputs 14. Low impedance tape recorder outputs 15. Transformerless 4, 8, and 16 ohm outputs 16. AM rod antenna 17. Switched and unswitched line outputs.

AR-13A SPECIFICATIONS—Recommended system mates: Speaker systems: AS-10 or AS-51, ppg. 28-29; separate speaker: AS-183, pg. 30; all changers, ppg. 26-27. **AMPLIFIER: Power output per channel (Heath Rating):** 20 watts/8 ohm load, 13.5 watts/16 ohm load, 9 watts/4 ohm load. (IHF Music Power Output): 33 watts/8 ohm load, 18 watt/16 ohm load, 12 watts/4 ohm load @ 0.7% THD, 1 kc. **Frequency response:** ±1 db from 15 cps to 30 kc (@ rated output); ±3 db from 10 cps to 60 kc @ rated output. **Harmonic distortion (at rated output):** Less than 1% @ 20 cps; less than 0.3% @ 1 kc; less than 1% @ 20 kc. **Intermodulation distortion (at rated output):** Less than 1%, 60 & 6,000 cps signal mixed 4:1. **Hum & noise:** Mag. phono, 50 db below rated output; Aux. inputs, 65 db below rated output. **Channel separation:** 40 db @ 20 kc, 60 db @ 1 kc, 40 db @ 20 cps. **Input sensitivity: (for 20 watts output per channel, 8 ohm load):** Mag. phono, 6 mV; Aux. 1, .25 v; Aux. 2, .25 v. **Input impedance:** Mag. phono, 35 K ohm; Aux. 1, 100 K ohm; Aux. 2, 100 K ohm. **Outputs:** 4, 8, & 16 ohm and low impedance tape recorder outputs. **Controls:** 5-position Selector; 3-position Mode; Dual Tandem Volume; Bass & Treble Controls; Balance Control; Phase Switch; Input Level Controls (all inputs except Aux. 2); Push-Pull ON/OFF Switch. **FM: Tuning range:** 88 mc to 108 mc. **IF frequency:** 10.7 mc. **Frequency response:** ±3 db, 20 to 15,000 cps. **Capture ratio:** 3 db. **Antenna:** 300 ohm balanced (internal for local reception). **Quieting sensitivity:** 1½ uv for 20 db of quieting, 2 uv for 30 db of quieting. **Bandwidth:** 325 kc @ 6 db down with 1000 uv input. **Image rejection:** 35 db. **IF rejection:** 70 db. **AM suppression:** 35 db. **Harmonic distortion:** Less than 1%. **STEREO MULTIPLEX: Bandpass:** ±½ db, 50 to 53,000 cps. **Channel separation:** (SCA Filter Off) 30 db, 50 to 2,000 cps. 25 db at 10 kc. **19 KC 38 KC Suppression:** 45 db down from rated output at 1 kc. **SCA Rejection:** 35 db down from rated output. **AM Tuning range:** 535 to 1620 kc. **IF frequency:** 455 kc. **Sensitivity:** 30 uv @ 600 kc; 9 uv @ 1000 kc. **Bandwidth:** 8 kc @ 6 db down. **Image rejection:** 40 db @ 600 kc. **IF rejection:** 55 db @ 1000 kc. **Harmonic distortion:** Less than 2% with 1000 uv input; 400 cps with 30% modulation. **Hum & noise:** 40 db. **Overall dimensions:** 17" L x 5½" H x 14¼" D. **Power requirements:** 105-125 volts, 50-60 cps AC, 30 watts idling, 110 watts max.

Stereo Receivers—66 Watts or 30 Watts



AR-14
\$99⁹⁵
(less cabinet)

OVER-Engineered and UNDER-Priced . . . The New Heathkit 30-Watt FM/FM Stereo Receiver Offers Fine Performance For Only \$99.95

• 31 transistor, 11 diode circuit for cool, instant operation with the transparent, natural sound only transistors can deliver • ± 1 db, 15 to 50,000 cps, at 10 watts per channel continuous (20 watts total), 15 watts per channel IHF music power (30 watts total) • Wideband FM/FM stereo tuner plus two preamplifiers and two power amplifiers • Front panel stereo headphone jack • Compact—just $3\frac{3}{8}$ " H x $15\frac{1}{4}$ " W x 12" D • Custom install it in wall, your own cabinet, or either Heath cabinet • Build it in 20 hours

A Better Performer Than Most, A Better Buy Than Any! That's the new AR-14 Transistor Stereo Receiver with advanced solid-state circuitry to bring you sensitive FM stereo, plus 30 watts of IHF music power . . . all in a single compact unit. And all at the low \$99.95 price . . . proof that your dollar buys more with Heath!

Compare With Far More Costly Receivers! The AR-14 has 31 transistors and 11 diodes for clean, transparent sound . . . cool, instant operation . . . and long, trouble-free life.

Two preamplifiers and two power amps provide an extremely wide frequency-power response of ± 1 db from 15 to 50,000 cps at full power in both channels.

And its sensitive FM tuner eagerly seeks stations, far and near . . . and you'll like the easy way the flywheel tuning dial glides across the band. Built-in AFC automatically locks in stations.

For beat-free tape recordings, the tuner outputs are filtered. And the output power drives all but the most inefficient speaker systems.

A new transformerless complementary output amplifier circuit insures minimum phase shift, widest response, and lowest distortion.

Front-Panel Controls For Full Command! Include a six-position source switch for mono and stereo tuner, phono and an auxiliary; dual concentric volume control to individually adjust each channel for desired loudness; tandem treble control with push-pull power switch; and tandem bass control with push-pull speaker on-off switch for use when listening with stereo headphones from the convenient front panel jack.

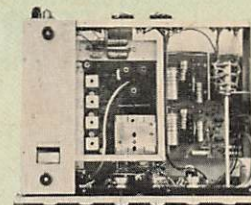
You'll especially appreciate the FM stereo phase control. Just pull out on the control knob and dial for maximum loudness. Then push the control knob in, and you have the best possible stereo separation. There's also a stereo indicator light that automatically signals when stereo is broadcast.

Bookshelf Size, 3-Way Installation Versatility! Measures just $3\frac{3}{8}$ " H x $15\frac{1}{4}$ " W x 12" D . . . a boon for limited-space areas. Looks sleek and modern, too, with its handsome anodized aluminum front panel that fits neatly in a wall, your custom cabinet, or in either of the optional Heath walnut veneer or beige steel cabinets. Marry it with two speakers (handles 4, 8 or 16 ohm impedances), settle back, and enjoy.

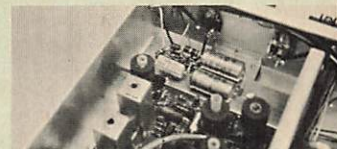
Kit AR-14, 17 lbs., less cab. for custom mtg. . . no money down, \$10 mo. . . . \$99.95
Model AE-55, 6 lbs., walnut veneer cabinet. . . . \$99.95
Model AE-65, 6 lbs., beige steel cabinet. . . . \$3.95
Export model available for 115/230 VAC, 50-60 cps; write for prices.

Important: The AR-14 is exempt from any Special System Discount.

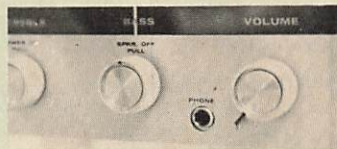
Compact Size . . . only $3\frac{3}{8}$ " H x $15\frac{1}{4}$ " W x 12" D. Yet contains wideband FM/FM Stereo tuner, two preamplifiers and two power amplifiers. Install in a wall, custom or either Heath cabinet.



Solid-State Power Supply . . . Bridge rectifier and 4000 ufd filter circuit. Insures full power at each frequency throughout its wide 15-50,000 cps range.

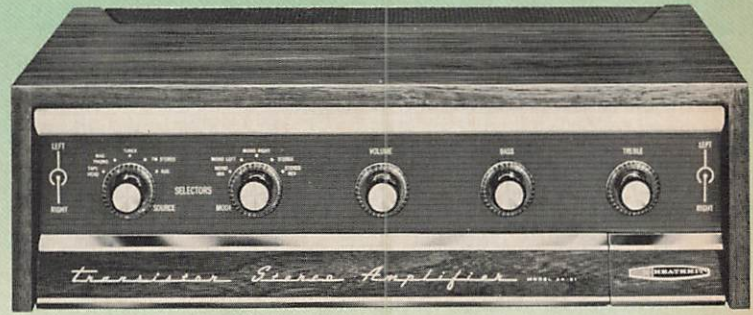
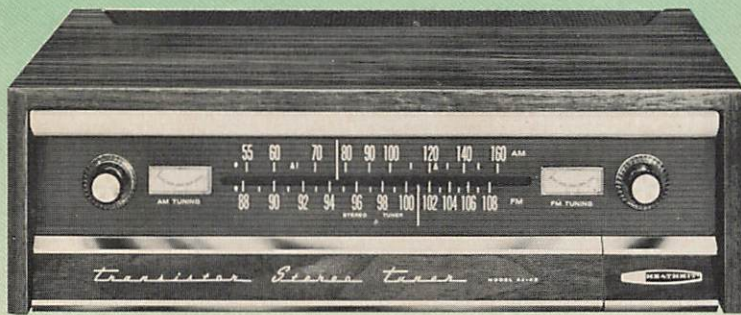


Front Panel Stereo Headphone Jack . . . for the convenience of private listening. Simply plug headphones in, and turn the speakers off with the push-pull on-off switch on the bass control.



AR-14 SPECIFICATIONS—Recommended system mates: All speakers & speaker systems, ppg. 28, 29, 30, except AS-2A & AS-2U; all changers & turntables, ppg. 26 & 27.
AMPLIFIER: Continuous power output: 10 watts each channel—20 watts total. Music power output (IHF): 15 watts per channel. Speaker output impedance: 4 through 16 ohm. Tape output impedance: 3.5K ohm. Damping factor: 50. Hum and noise: Phono: —60 db; Auxiliary: —63 db. Frequency response: 12 to 60,000 cps ± 1 db; 6 to 100,000 cps ± 3 db. Power response: 15 to 50,000 cps ± 1 db; 7 to 90,000 cps ± 3 db. Input sensitivity: Phono: 4.5 mv; Auxiliary: 300 mv. Input impedance: Phono: 47K ohm; Auxiliary: 180K ohm. Channel separation: 45 db or better. Total harmonic distortion (at rated output): .5% or less @ 1000 cps, 1% or less @ 20 & 20,000 cps. Intermodulation distortion (at rated output): Less than 1% (60 & 6,000 cps, 4:1). Phono equalization: RIAA. Transistor complement: (2) 2N3391* 1st preamp; (7) 2N2712* 2nd, 3rd preamp, 1st pre-driver, electronic filter; (2) 2N3416* 2nd pre-driver; (2) 2N3053* driver; (2) TA2577A output; (2) 2N2148* output. Diode complement: (2) 1N3754* Reference diode; (4) 1N4001* Bridge rectifier. Front panel: 6-position Source Switch: Mono-Phono; Stereo Phono; Mono Auxiliary; Stereo Auxiliary; Mono FM; Stereo FM; Volume Control; Bass control; Treble Control; Phone Jack. Rear panel: Fuse AC Power Socket: Switched & Unswitched. Speaker Terminal Blocks; One Left & One Right Speaker. Ground Terminals: 1; Triple Phone Sockets. Power requirement: 105-125 volts 50/60 cps; 32 watts idling; 65 watts full output; (No load on AC power sockets). Dimensions: Overall $15\frac{1}{4}$ " W x $3\frac{3}{8}$ " H x 12" D. Mounting position: Horizontal or Vertical; Cutout required $15\frac{1}{2}$ " x $3\frac{1}{2}$ "; Depth required from front of mounting surface $11\frac{1}{2}$ ". FM: Tuning range: 88-108 mc. Antenna: Balanced input for external 300 ohm antenna. Intermediate frequency: 10.7 mc. Sensitivity (IHF): 5 uv for less than 3% total noise, distortion hum —30 db. Hum & noise (IHF): —50 db. Audio frequency response (IHF): 0 to —3 db from 20 to 15,000 cps. Harmonic distortion (IHF): 1% or less. Image ratio (IHF): —40 db. Capture ratio (IHF): 3 db. AFC correction: 150 KC per volt. AM suppression (IHF): —35 db. IF rejection (IHF): —30 db. FM STEREO: Separation: 30 db @ 1 KC. Transistor complement: (1) TI XM201* RF amp.; (1) TI XM203* osc.; (1) 2 SA240 mixer; (4) 2N2654 IF amp. & Limiter; (7) 2N2712 multiplex amp, 19 KC amp, emitter follower, 38 KC osc., switching detectors, stereo indicator amps.
*or equivalent.

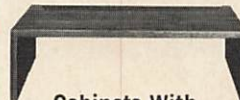
Your Best Values In Transistor Stereo



- 25-transistor, 9-diode circuit for pure, natural "transistor sound", heat-free operation
- AM/FM/FM stereo tuning
- Automatic stereo switching
- Automatic stereo indicator light
- Filtered outputs for direct, beat-free recording
- Separate AM & FM tuning meters
- Stereo phase control for maximum separation, minimum distortion
- Automatic Gain Control for even, steady volume
- Versatile installation . . . choose unit without a cabinet, or with either walnut wood cabinet or tan vinyl-clad steel cabinet

AJ-43D **\$109⁰⁰**
(less cabinet)

FREE...



Cabinets With Deluxe Stereo Combo!
A pair of AE-11 walnut cabinets are yours FREE . . . when you order both the AA-21D amplifier and matching AJ-43D tuner! Offer expires May 31, 1966.

- 26-transistor, 10-diode circuitry for smooth, uncompromising power response . . . 13 to 25,000 cps \pm 1 db at 35 watts rms per channel (50 watts IHF music power)
- Concert hall realism, cool instant operation, complete freedom from microphonics
- Encapsulated, epoxy-covered modules for fast, simple assembly
- Versatile installation . . . choose unit without a cabinet, or with either a walnut wood or tan vinyl-clad steel cabinet . . . matches AJ-43D

AA-21D **\$137⁰⁰**
(less cabinet)

Eagerly Seeks Stations Far And Near . . .

Deluxe Transistor AM/FM/FM Stereo Tuner!

JUST PUSH THE UNIQUE "PUSH-PUSH" SWITCH AND LISTEN! You hear each voice, each instrument, each note like you've never heard it before. The sound is cleaner, more natural thanks to the AJ-43D's all solid-state circuitry. Notice the freedom from distortion and hum . . . the crisp, full reproduction that only transistors can achieve. Notice the cool, instant operation . . . the complete selection of AM/FM/FM Stereo with hyper-sensitive reception. Notice the price . . . only \$109.00 . . . a better-than-ever buy!

DELUXE PERFORMANCE, DELUXE FEATURES . . . like automatic switching to stereo . . . automatic stereo indicator light . . . automatic frequency control for positive tuning . . . emitter-follower outputs for superior fidelity . . . lighted slide rule dial . . . heavy flywheel tuning . . . transformer operated power supply.

EASY TO BUILD. Factory built and aligned "front-end" and 4-stage FM I.F. circuit board gets the job off to a fast start, assures professional performance. You'll enjoy the circuit board construction.

Kit AJ-43D, 15 lbs., less cabinet for custom mounting . . . no money down, \$11 mo. **\$109.00**
Model AE-11, 8 lbs. Luxurious walnut wood cabinet **\$12.95**
Model AE-15, 8 lbs. Tan vinyl-clad steel cabinet **\$6.95**

AJ-43D SPECIFICATIONS—FM SECTION (Monaural Only): Tuning range: 88 to 108 mc. Intermediate frequency: 10.7 mc. Antenna: 300 ohms balanced, internal line antenna provided. Quieting sensitivity: (400 cps, 100% mod.) 1.5 uv for 20 db of quieting; 2 uv for 30 db of quieting; 3 uv for full quieting, 40 db. Image rejection: 35 db. IF rejection: 75 db. Capture ratio: 3 db. AM suppression: 35 db. Bandwidth (Complete Tuner): 325 kc at 6 db down, 1000 uv input. Detector bandwidth (Peak-to-Peak): 600 kc. Harmonic distortion: Less than 1% (IHF). Hum & noise: (Complete tuner) 55 db below full quieting (IHF). Output impedance: (Emitter Follower) Variable to 3000 ohms. Output voltage: 1 V. @ 1000 uv, 400 cps 100% mod. **FM STEREO CONVERTER SECTION:** Converter bandpass: 50 cps to 53,000 cps, \pm 1/4 db. Channel separation: 40 db @ 50 cps to 2,000 cps; 30 db @ 10,000 cps; 20 db @ 15,000 cps. 19 KC suppression: 50 db down. 38 KC suppression: 45 db down. SCA rejection: 30 db min. 64 kc to 70 kc. Hum & noise: 55 db down. Output voltage: 1 V. @ 100 uv input, 400 cps, 100% mod. Output impedance: (Emitter Follower) Variable to 3000 ohms each channel. **AM SECTION:** Tuning range: 535 to 1620 kc. Intermediate frequency (IF): 455 kc. Sensitivity: 600 kc, 7 uv for 10 db. S/N: 1000 kc, 4 uv for 10 db S/N; 1400 kc, 3 uv for 10 db S/N. Antenna: Built-in rod with provisions for external straight wire. Image rejection: 50 db at 600 kc; 70 db at 1400 kc. IF rejection: 55 db at 600 kc; 65 db at 1400 kc. 10 KC rejection: 40 db. Harmonic distortion: Less than 2%. Hum & noise: 30 db below 30% mod. Output impedance: (Normal) Variable to 3000 ohms; (Aux.) Variable to 4000 ohms. Output voltage: 1 volt nominal. Dimensions: 1 1/2" W x 5 1/4" H x 14 1/4" D.

NO MONEY DOWN UP TO \$300

Build your Heathkit now . . . pay later with the convenient Heath Time Payment Plan. No money down and up to 12 months to pay on orders from \$25 to \$300 . . . 10% down and up to 18 months on orders from \$300 to \$500. See Order Blank for details.

Matching 100-Watt Transistor Stereo Amplifier . . .

Easily Handles Any Source, Drives Any Speaker!

CLEAN, UNCOMPROMISING POWER WITH NO FALTERING AT EITHER END OF THE RESPONSE RANGE. A full 100 watts IHF music power, 70 watts RMS from 13 to 25,000 cps at \pm 1 db. Add cool, hum-free operation . . . long, unchanging life . . . transparent, "transistor sound" . . . and host of deluxe operating features. This is the modern performance of the deluxe AA-21D.

COMPLETE CONTROLS On the front panel, those you use most often . . . 5-position source switch, 5-position mode switch, dual-concentric volume control, dual-concentric bass and treble controls. Concealed but accessible behind the hinged lower panel . . . tape-monitor input switch, speaker phase reversal switch, loudness switch (converts volume control to loudness control for compensated low volume levels), plus controls for all inputs.

COMPLETE INPUTS AND OUTPUTS . . . inputs for tapehead, magnetic phono, tuner, stereo tuner, tape monitor, and auxiliary . . . outputs for 4, 8, and 16 ohm speakers plus tape recorder . . . all on the rear chassis panel.

ADVANCED CIRCUITRY. Transformerless output circuit and multiple feedback loops assure fine fidelity, low distortion, minimum phase shift. Easy to build with preamp components encapsulated in 6 epoxy-covered modules.

CHOICE OF INSTALLATION. Install the AA-21D in a wall, custom cabinet, or either Heath tan vinyl covered metal or walnut wood cabinets . . . matches the AJ-43D (opposite).

Kit AA-21D, 23 lbs., everything except a cabinet, no money down, \$13 mo. **\$137.00**
Model AE-11, 8 lbs. . . walnut wood cabinet **\$12.95**
Model AE-15, 8 lbs. . . tan vinyl-clad steel cabinet **\$6.95**
Export model available for 115/230 VAC, 50-60 cps; write for prices.

AA-21D SPECIFICATIONS—RECOMMENDED SYSTEM MATES: Separate Speaker: AS-183, pg. 30. Speaker Systems: AS-2AU, AS-10, pg. 28. All changers & turntables, ppg. 26-27. **Power output per channel:** (Heath Rating) 35 watts/8 ohm load, 26 watts/16 ohm load, 18 watts/4 ohm load; (IHF music power output) 50 watts/8 ohm load, 34 watts/16 ohm load, 25 watts/4 ohm load @ 0.7% THD, 1 kc. **Frequency response:** \pm 1 db from 13 cps to 25 kc @ rated output; \pm 3 db from 8 cps to 40 kc @ rated output. **Harmonic distortion (At rated output):** Less than 1% @ 20 cps, 0.5% @ 1 kc, 2.0% @ 20 kc. **Intermodulation distortion (At rated output):** Less than 1%, 60 & 6,000 cps signal mixed 4:1. **Hum & noise:** Tapehead, 40 db below rated output; Mag. phono, 45 db below rated output; Aux. inputs, 60 db below rated output; Tape monitor, 7 db below rated output. **Channel separation:** 40 db min. @ 20 kc, 55 db min. @ 1 kc, 50 db min. @ 20 cps. **Input sensitivity:** (For 35 watts output per channel, 8 ohm load) Tapehead, 2 mv, Mag. phono, 3 mv; Tuner, 250 mv; FM Stereo, 250 mv; Aux., 250 mv; Tape Monitor, 0.6 V. **Input impedance:** Tapehead, 60 k ohm; Mag. phono, 30 k ohm; Tuner, 100 k ohm; FM Stereo, 100 k ohm; Aux., 100 k ohm; Tape monitor, 47 k ohm. **Outputs:** 4, 8, & 16 ohms and low impedance tape recorder outputs. **Controls:** 5-pos. Selector (dual-concentric), 5-pos. Mode switch, dual-concentric Volume, Bass & Treble controls, Tape monitor sw., Loudness sw., Phase sw., Input level controls (all inputs except Tape Head & Tape Monitor inputs), Push-Push on/off switch. **Semiconductor complement:** 26 Transistors, 10 diodes. **Power requirements:** 105-125 volts, 50-60 cycles AC. 35 watts idling, no signal; 200 watts, full power out, @ 120 volts with no load on AC receptacles. **Power outlets:** 2 AC receptacles, 1 switched, 1 unswitched. Dimensions: 1 1/2" W x 5 1/4" H x 14" D.

Separates... From The Leader—Heathkit®!



AJ-33A
\$94⁵⁰

AA-22
\$99⁹⁵



Modern Sound And Styling . . . Old Fashioned Value . . .

All-Transistor AM/FM/FM Stereo Tuner!

- 23-transistor, 8-diode circuitry • Built-in stereo demodulator
- AFC for drift-free reception • Stereo indicator light • Filtered stereo outputs • Stereo phase control for maximum separation, minimum distortion • Luxurious walnut cabinet included • Matches AA-22 amplifier

WHAT DO AUDIO EXPERTS SAY ABOUT THE AJ-33A? After testing the AJ-33A, Radio-Electronics summed up its performance like this: "Compared with other tuners, the Heath AJ-33 gives the impression that it will get any station that can possibly be pulled in. Dead fringe areas prove to be not so dead as other tuners would have us believe! And noise, which previously seemed inevitable with distant reception, is astoundingly low. The quality is indistinguishable for high quality record reproduction."

ADVANCED FEATURES FOR VERSATILE PERFORMANCE! There's a built-in stereo demodulator; automatic stereo indicator light; AGC for even, steady volume; AFC for drift-free reception; adjustable FM squelch to nullify between-station noise when tuning; a Stereo Phase Control for maximum stereo separation, minimum distortion; filtered Left & Right channel outputs for direct beat-free stereo recording; a tuning meter, illuminated slide-rule dial, and flywheel tuning for precision station selection; and a voltage regulated power supply for high stability.

CONCEALED, EASY-TO-REACH SECONDARY CONTROLS! A hinged lower front panel conceals all secondary controls to avoid accidental system setting changes.

LUXURIOUS WALNUT CABINET INCLUDED! The clean, compact styling of the AJ-33A with pre-built walnut cabinet and extruded brushed gold-anodized aluminum front panel adds a touch of elegance to any room, enhances any decor! And with the prebuilt, prealigned FM "front-end" tuner and AM-FM I.F. circuit board, assembly is fast and simple. Order yours now!

Kit AJ-33A, 16 lbs. . . no money down, \$10 mo. \$94.50

AJ-33A SPECIFICATIONS—FM SECTION: Tuning range: 88 to 108 mc. Intermediate frequency: 10.7 mc. Antenna: 300 ohm balanced or built-in line type. Output impedance (Emitter follower): Variable to 3000 ohms. Output voltage: 1.5 volts. Quieting sensitivity: 2 uv for 20 db; 3 uv for 30 db. Audio frequency response: 20-15,000 cycles ± 3 db. Harmonic distortion: Less than 1%. Image rejection: 35 db. Capture ratio: 3 db. AM suppression: 35 db. Hum & noise: 50 db. **MULTIPLIER SECTION:** Converter bandpass: $\pm 1/2$ db 50 to 53,000 cps. Channel separation: 30 db from 50 to 2 kc and 25 db at 10 kc. **AM SECTION:** Tuning range: 535 to 1620 kc. Intermediate frequency: 455 kc. Usable sensitivity: 8 uv @ 1000 kc. Antenna: Built-in rod with provision for external straight wire. Output voltage: 0.25 V. with 90% modulation. Image rejection: 40 db @ 600 kc. Harmonic distortion: Less than 2% (30% mod. @ 1 mv input). Hum & noise: 40 db. **GENERAL SPECIFICATIONS:** Tuning indicator: Meter. Controls: Tuning; Right Channel level; Left Channel level; FM squelch; Stereo converter—balance, separation and phase. Switches: Mode, AFC, Noise filter, SCA filter, local-distance. Transistors & diodes: 23 transistors, 8 diodes. Power supply: Transformer operated, full wave rectifier. Power requirements: 105-125 volts, 50/60 cycles, 7 watts. Dimensions: 15 3/4" W x 3 3/4" H x 11 1/2" D.

66-Watt All-Transistor Stereo Amplifier . . . Low-Silhouette Styling, Solid State Performance, Easy-On-The-Budget Price!

- 20-transistor, 10-diode circuit • Delivers a full 66 watts of IHF Music Power • Wide-range response ± 1 db, 15 cps to 30 kc • Less than 1% distortion • 5 stereo inputs for any program source • Concealed secondary controls behind hinged lower front panel • Low-silhouette styling • Handsome preassembled walnut cabinet • Perfect match to Heathkit AJ-33A Tuner

THE SOUND ONLY TRANSISTORS CAN GIVE YOU . . . FOR ONLY \$99.95! Pure uncompromising sound . . . with instantaneous bursts of power as the music demands. Effortless transient response . . . freedom from microphonics . . . long, unchanging life with no tubes to deteriorate. This is solid-state performance of the AA-22. And it's yours at the typical money-saving Heathkit price.

PLENTY OF POWER! A full 40 watts continuous, 66 watts IHF music power at ± 1 db from 15 to 30,000 cps into a regular 8 ohm load. More than enough for any stereo task!

HANDLES ANY PROGRAM SOURCE! 5 stereo inputs accommodate stereo mag. phono, stereo-mono tuners, stereo tape recorders and two auxiliary sources. In addition, there are outputs for 4, 8 & 16 ohm speakers, plus tape recorders. A transformerless output circuit assures greater stability and efficiency. The front panel controls include a 5-position selector switch, a 3-position mode switch, dual-tandem volume, bass and treble controls and a push-push power switch. And the hinged lower front panel conceals all secondary controls such as the input level controls, balance control, and speaker phase switch . . . no need to worry about accidental setting changes.

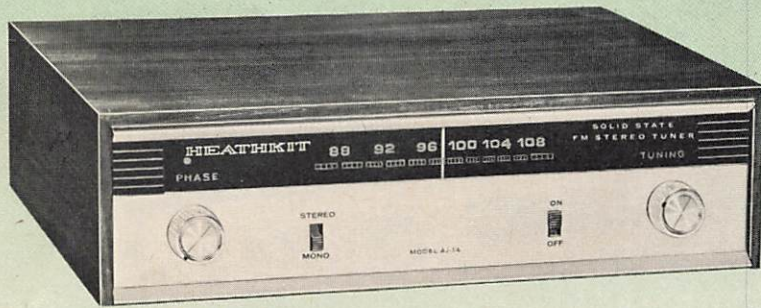
MODERN "LOW-SILHOUETTE" STYLING! Beautiful factory-assembled walnut cabinet with extruded aluminum brushed gold front panel . . . matches the AJ-33A tuner!

Kit AA-22, 22 lbs. . . no money down, \$10 mo. \$99.95
Export model available for 115/230 VAC, 50-60 cps; write for prices.

AA-22 SPECIFICATIONS—Recommended system mates: Speaker systems: AS-10 & AS-51, ppg. 28-29; separate speaker: AS-183 pg. 30; all changers, ppg. 26-27; tuner: AJ-33A, left. **Simultaneous power output per channel:** (Heath Rating) 20 watts/8 ohm load, 13 watts/16 ohm load, 9 watts/4 ohm load. (IHF music power output) 33 watts/8 ohm load; 18 watts/16 ohm load, 16 watts/4 ohm load @ 0.7% THD, 1 kc. **Power response:** ± 1 db from 15 cps to 30 kc @ rated output. ± 3 db from 10 cps to 60 kc @ rated output. **Harmonic distortion:** (at rated output) less than 1% @ 20 cps, 0.3% at 1 kc, 1% @ 20 kc. **Intermodulation distortion:** (at rated output). Less than 1%, 60 and 6,000 cps signal mixed 4:1. **Hum and noise:** Mag phono, 50 db below rated output. Aux inputs 65 db below rated output. **Channel separation:** 40 db. @ 20 cps, 60 db @ 1 kc; 40 db @ 20 kc. **Input sensitivity:** (for 20 watts output per channel, 8-ohm load), Mag phono, 6 mv; Tuner, 250 mv; Tape Recorder, 250 mv; Aux 1, 250 mv; Aux 2, 250 mv. **Input impedance:** Mag phono, 35 K ohm; Tuner, 100 K ohm; Tape Recorder, 100 K ohm; Aux 1, 100 K ohm; Aux 2, 100 K ohm. **Outputs:** 4, 8 and 16 ohm and tape recorder outputs. **Controls:** 5-position selector switch, 3-position mode switch, dual tandem volume, bass and treble controls, phase switch, input level controls, push-on push-off switch. **Semi-conductor complement:** 20 transistors, 10 diodes. **Power requirements:** 105-125 volts, 50-60 cycles AC, 25 watts idling, no signal; 105 watts, full power output @ 120 volts with no load on AC receptacles. **Power outlets:** 2 AC receptacles, 1 switched, 1 unswitched. **Dimensions:** 15 3/4" W x 3 3/4" H x 11 1/2" D (allow 1 1/2" extra for rear projections).

Save 5% On Your Heathkit Stereo/Hi-Fi System—Order Any Program Source, Amplifier, And Speaker; Deduct 5% On Order Blank.

Lowest Cost Transistor Stereo



AJ-14
\$49.95
(less cabinet)

A Word About The AJ-14 Tuner From Owner John K. Cryer, Little Rock, Arkansas
"Why don't you tell people the truth about your Model AJ-14 FM Stereo Tuner? The quick construction time, fabulous performance, and low price have left me at a loss of words to describe my satisfaction."

- 14-transistor, 5 diode circuit for cool, instant operation, and the natural beauty of transistor sound • Stereo phase control to maximize stereo separation, minimize distortion • 4-stage IF section insures high sensitivity & selectivity • Filtered outputs for direct "beat-free" stereo recording • Automatic stereo indicator light • Prealigned, preassembled "front-end" tuner & one-circuit board for fast, simple assembly • Install any of 3 ways . . . wall, custom or either Heath cabinet

How To Get 1966 Performance At 1949 Prices . . . Build This New Solid-State FM/FM Stereo Tuner for Just \$49.95

Why Pay More . . . when you can own this all-transistor FM/FM stereo tuner that performs like expensive factory-built models, yet costs so little! Boasts an IHF sensitivity of 5 mv, distortion of less than 1%, and a stereo response of 50 to 15,000 cps. And you'll like the way it goes together . . . only one circuit board to wire and some parts to mount on the chassis . . . takes from 4 to 6 hours! The "front-end" is preassembled and aligned at the factory to assure the best performance, and to help speed assembly.

Modern Solid-State Circuitry! Delivers a clean sound, without microphonics or heat . . . traits no tube tuner can duplicate. 14 transistors, 5 diodes . . . 3 transistors in the "front-end" tuning section . . . 4 transistors in the 4-stage I.F. section . . . to produce sensitivity and selectivity comparable to much more expensive tuners. Solid-state transformer-operated power supply. Plus filtered outputs for clean tape recordings.

Easy To Operate—Just 4 Controls! An On-Off switch, flywheel Tuning knob, Mono-Stereo switch, and Stereo Phase Control. And you'll like the convenience of an automatic stereo indicator light, edge-lighted slide-rule dial, and external antenna connectors.

Versatile Installation. Its compact 11 $\frac{3}{4}$ " W x 2 $\frac{7}{8}$ " H x 9 $\frac{3}{4}$ " D size fits almost anywhere. And the extruded anodized aluminum front panel looks great mounted in a wall, your own cabinet, or either Heath cabinet (below).

Kit AJ-14, 6 lbs. . . . (less cabinet for custom mounting).
no money down, \$5 mo. \$49.95
Model AE-35, 4 lbs., beige metal cabinet. \$3.50
Model AE-25, 4 lbs. . . . genuine walnut veneer cabinet. \$7.95
Export model available for 115/230 VAC, 50-60 cps; write for prices.

AJ-14 SPECIFICATIONS (RATED IHF STANDARDS)—Tuning range: 88 to 108 mc. Antenna input impedance: 300 ohm, balanced input. Sensitivity (IHF): 5 microvolts. Intermediate frequency: 10.7 mc. Audio frequency response (IHF): -3 db to +0 db. (20 to 15,000 cps). Hum and noise (IHF): -50 db. Output impedance: 20 K ohm. Output voltage: 0.7 volt with a 1,000 microvolt input signal, 400 cps with 100% modulation. Harmonic distortion (IHF): 1% or less. Image ratio (IHF): -45 db. Capture ratio (IHF): 3 db. IF rejection (IHF): -80 db. AFC correction: 150 kc per volt. AM suppression (IHF): -40 db. Channel separation: 30 db or more at 1,000 cps. (Channel separation is measured using a 98 mc, 1,000 microvolt input stereo signal that is 100% modulated.) Dimensions: With Walnut Cabinet 12 $\frac{1}{2}$ " W x 3 $\frac{1}{2}$ " H x 9 $\frac{3}{4}$ " D. Custom mounting dimensions: Horizontal or vertical; cutout required 11 $\frac{3}{4}$ " x 2 $\frac{7}{8}$ "; depth required from front of mounting surface 9 $\frac{3}{4}$ ".

Add This Low Cost 30-Watt Transistor Stereo Amplifier To Your Music System—Costs Just \$59.95, Assembles In Just 10 Hours

- 17 transistors, 6 diodes • ± 1 db, 15 to 50,000 cps at 10 watts per channel continuous power (20 watts total) or 15 watts per channel IHF Music Power (30 watts total) • Concentric, clutched volume control • Tandem bass and treble controls • Edge-lighted control dial • Front panel stereo headphone jack

Compares To Amplifiers Selling for \$100 . . . that's the new AA-14 solid-state 30-Watt stereo amplifier . . . with the ability to handle virtually any source, plus the cool instant operation and clean natural sound of all-transistor circuitry. Compare!

Solid-State Circuitry. Two identical, but separate, preamplifiers and power amplifiers using 17 transistors and 6 diodes produce 30 watts of hi-fi rated power, ± 1 db, throughout the extremely wide range of 15 to 50,000 cps . . . remarkable in any amplifier, unheard of until now in an amplifier of this low price. New transformerless complementary output to insure extended response with minimum phase shift and lowest distortion. Power supply is regulated within 10% . . . rarely found even in more expensive amplifiers.

Professional Features. Six-position source switch with stereo and mono positions; concentric clutched volume control for independent adjustment of each channel if necessary for balance; full-range tandem controls for bass and treble boost and cut; edge-lighted dial indicating all functions; front panel mounted stereo headphone jack; off switch for speakers, allowing private headphone listening.

Smart, Compact Styling. At last, truly bookshelf size . . . just 9 $\frac{3}{4}$ " D x 2 $\frac{7}{8}$ " H x 11 $\frac{3}{4}$ " W. Handsome anodized front panel plus your choice of custom mounting or either of the Heath cabinets below.

Easy To Build, Easy To Own. Fast circuit board construction . . . pack to performance in 10 hours or less!

Kit AA-14, 11 lbs., less cab. for custom mtg., no money dn., \$6 mo. \$59.95
Model AE-35, 4 lbs. . . . beige metal cabinet. \$3.50
Model AE-25, 4 lbs. . . . genuine walnut veneer cabinet. \$7.95
Export model available for 115/230 VAC, 50-60 cps; write for prices.



AA-14
\$59.95
(less cabinet)

AA-14 SPECIFICATIONS—Recommended system mates: All speakers & speaker systems, ppg. 28, 29, 30 except AS-2A & AS-2U, all changes & turntables, ppg. 26 & 27. Continuous power output: 10 watts each channel—20 watts total. Music power output (IHF): 15 watts per channel. Output impedance: 4 through 16 ohm. Damping factor: 50 or better. Hum and noise: Phono: -60 db; Tuner: -70 db; Auxiliary: -63 db. Frequency response: 15 to 50,000 cps ± 1 db; 6 to 100,000 cps ± 3 db. Power response: 15 to 50,000 cps ± 1 db; 7 to 90,000 cps ± 3 db. Input sensitivity: Phono: 4.5 mv; Tuner: 300 mv; Auxiliary: 300 mv. Input impedance: Phono: 47K ohm; Tuner: 180K ohm; Auxiliary: 180K ohm. Channel separation: 45db or better. Total harmonic distortion (at Full Output): .5% or less @ 1000 cps, 1% or less @ 20 & 20,000 cps. Intermodulation distortion (at Rated Output): Less than 1% (60 and 6,000 cps, 4:1). Phono equalization: RIAA. Front panel: 6-Position Source Switch; Mono phono; Stereo phono; Mono tuner; Stereo tuner; Mono Auxiliary; Stereo Auxiliary; Volume Control; Bass Control; Treble Control; Phone Jack; Power Switch; Speaker Switch. Rear panel: Fuse, AC Power Socket; Switched & Unswitched. Speaker Terminal Block; One Left & One Right Speaker. Ground Terminal: 1. Triple Phono Input Sockets. Power requirements: 105-125 volts, 50/60 cps- 20 watts idling; 60 watts full output; (No load on AC power socket). Dimensions: With walnut cabinet 12 $\frac{1}{2}$ " W x 3 $\frac{1}{2}$ " H x 9 $\frac{3}{4}$ " D. Custom mounting dimensions: Horizontal or vertical; cutout required 11 $\frac{3}{4}$ " x 2 $\frac{7}{8}$ "; depth required from front of mounting surface 9 $\frac{3}{4}$ ".

Deluxe "Tube-Type" Stereo

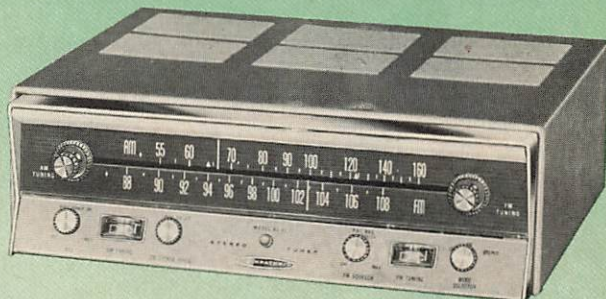


FREE...



With Matching Pair!

An 8-range Heathkit soldering iron (see pg. 17) worth \$14.95 is yours FREE... when you order both the AA-100 amplifier & matching AJ-41 tuner! Offer expires May 31, 1966.



- Hi-Fi rated at 50 watts (25 watts per channel) • 5 stereo inputs • Versatile controls • Mixed channel center speaker output • Separate monophonic phono input • Easy circuit board assembly • Matches the AJ-41 tuner in styling and performance

AA-100
\$84.95

AJ-41
\$112.50

- Built-in FM multiplex adapter • Broad-band circuitry for full fidelity • Automatic FM Stereo indicator light • Adjustable Automatic Frequency Control for locked-in reception • Stereo phase control for maximum separation and lowest distortion • Adjustable FM squelch circuit for low noise between stations • Preassembled tuning unit, prealigned coils

Complete Versatility For Command Of Every Stereo

Function . . . 60-Watt Stereo Amplifier!

Easily Drives Any System . . . with 50 watts RMS, 60 watts IHF music power from 30 to 15,000 cps at ± 1 db. 5 stereo inputs handle mag, phono, FM and AM tuners, tape, and 2 auxiliary sources. In addition, there are outputs for 4, 8 & 16 ohm speakers; "mixed-channel" speaker output for center "fill-in"; preamp and power amp input level controls; hum controls; mode selector; speaker-phase reversal switch; and balance & separation controls. Tape playback heads connect directly without external amplification or equalization. Order with matching AJ-41 tuner and get a \$14.95 soldering iron FREE!

Kit AA-100, 34 lbs., no money dn., \$9 mo. \$84.95
Export model available for 115/230 VAC, 50-60 cps; write for prices.

AA-100 SPECIFICATIONS—Recommended System Mates: Separate Speakers, AS-183, pg. 30; Speaker Systems, AS-10, AS-51, pg. 28 & 29; all changers & turntables, pgs. 26 & 27; Tuner, AJ-41 opposite. **Channels:** 2. **Power output:** 50 watts (25 w. per channel) Heath Hi-Fi Rating: 60 watts (30 w. per channel) IHF 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, 0.2v.; aux. 1 & 2, 0.2v. **Outputs:** 4, 8 and 16 ohms; cathode follower tape recorder outputs. **Dimensions:** 5" H x 15 1/4" W x 13 1/2" D. (allow 1" for cables at rear).

Matching AM/FM/FM Stereo Tuner . . .

Satisfies Any Listening Wish!

Beautifully Clear And Quiet FM . . . maximum fidelity AM . . . or the enveloping realism of FM stereo . . . all at your fingertips when you own the AJ-41. Other features include individual AM & FM tuning meters; lighted slide-rule dial & flywheel tuning for precision station selection; cathode follower outputs to minimize hum & high frequency losses; a fidelity switch for choice of normal or maximum AM; and handsome, tan vinyl-clad steel cabinet.

Kit AJ-41, 26 lbs., no money dn., \$11 mo. \$112.50

AJ-41 SPECIFICATIONS—FM: Tuning range: 88 mc to 108 mc. I. F. frequency: 10.7 mc. Frequency response: ± 2 db, 20 to 20,000 cps. Antenna: 300 ohm balanced (for internal or local reception). **Output voltage:** Nominal .5 volts (with 3 uv 30% modulation in). **Quieting sensitivity:** 2 uv for 20 db of quieting, 20 uv for full quieting (40 db). **Maximum deviation sensitivity:** 5 uv; (400 cycle 100% modulation). **Deviation sensitivity:** 20 kc (1100 uv in). **Harmonic distortion:** Less than 1% (1100 uv 400 cycle 100% modulation). **Image ratio:** 40 db. **AFC correction factor:** 12 db. **Amplitude modulation suppression:** 25 db. **Hum & Noise:** 40 db below 30% modulation (20 uv in). **SPECIFICATIONS MULTIPLEX—Audio frequency response:** ± 2 db, 50 to 15,000 cps. **Sub-carrier bandpass:** ± 3 db 23,000 to 53,000 cps. **Channel separation:** 30 db. **Hum & Noise:** —55 db (relative to 1 volt rms output.) **Output impedance:** Cathode follower, variable to 4,000 ohms (each channel). **SPECIFICATIONS AM—Sensitivity, narrow bandwidth position:** 1400 kc, 3 uv; 1000 kc, 4 uv; 600 kc, 8 uv (standard IRE dummy antenna, .1 volt RMS reference output). **Sensitivity change, narrow to broad position:** —5 db. **I.F. bandwidth, narrow:** 14 kc, 6 db down. **Broad:** 20 kc, 6 db down. **Image ratio:** 1400 kc 50 db; 600 kc 75 db. **Harmonic distortion:** Less than 1%. **Hum & noise:** 35 db below 30% modulation (1000 kc unmodulated with 100 uv in). **I. F. rejection ratio:** 1400 kc 42 db; 600 kc 38 db. **Power supply:** Transformer operated, 117 v., 50-60 cycle, 100 watts. **Dimensions:** 5 1/4" H x 15 1/4" W x 14 1/4" D.



FREE...



With Matching Pair!

An 8-range Heathkit soldering iron (see pg. 17) worth \$14.95 is yours FREE... when you order both the AA-151 amplifier & matching AJ-32 tuner! Offer expires May 31, 1966.



AA-151
\$59.95

32-Watt Stereo Amplifier . . . Famous For Its Performance & Value!

- Two hi-fi rated 14-watt channels, preamps and power amps • Operates stereo or monophonic • Accepts four stereo music sources • Front panel controls • Patented Heath Ultra-Linear® circuit • Matches Heathkit AJ-12 & AJ-32 Tuners

Kit AA-151, 30 lbs., no money dn., \$6 mo. \$59.95
Export model available for 115/230 VAC, 50-60 cps; write for prices.

AA-151 SPECIFICATIONS—Recommended System Mates: Separate Speakers, AS-163, pg. 30; Speaker Systems, AS-51, AS-10 pg. 28 & 29; all changers & turntables, pgs. 26 & 27; Tuner, AJ-32 opposite. **Channels:** 2. **Power output:** 28 watts (14 w. per channel) Heath Hi-Fi Rating: 32 watts (16 w. per channel) IHF 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. **Dimensions:** 15 1/4" W x 5 1/4" H x 11" D.

Matching AM/FM Stereo Tuner . . .

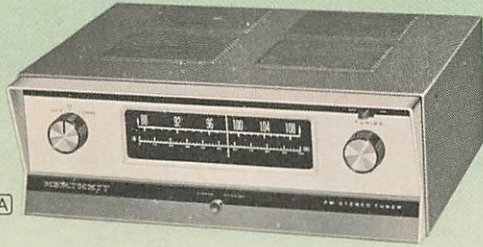
Attractive In Styling & Price!

- Built-in multiplex converter • FM Stereo indicator light • Variable AFC for drift-free reception • 2 bar-type "Eye" tuning indicators • Stereo Phase control • Filtered stereo outputs • Styling matches AA-151 amplifier

Kit AJ-32, AM-FM Stereo Tuner, 23 lbs., no money dn., \$9 mo. . . \$84.95

AJ-32 SPECIFICATIONS—AM Section: Tuning range: 550 kc-1600 kc. Usable sensitivity (normal position): 1400 kc—10 microvolts (20 db of quieting); 1000 kc—15 microvolts (20 db of quieting); 600 kc—40 microvolts (20 db of quieting). **FM Section:** Tuning range: 88 mc-108 mc. Antenna: Balanced input for external 300 ohm antenna. Internal line antenna. **AM suppression:** —27 db. **Quieting sensitivity:** 20 db—2 1/2 microvolts; 30 db—3 1/2 microvolts; 48 db—30 microvolts (max. quieting). **FM Stereo Converter Section:** Audio frequency response: ± 2 db from 50 to 15,000 cps. **Subcarrier bandpass:** ± 3 db from 23,000 to 53,000 cps. **Channel separation:** 30 db or more at 1 kc; 25 db or more at 10 kc. **Output impedance** (cathode follower): Variable to 4000 ohm, each channel. **Size:** 5 1/4" H x 15 1/4" W x 11" D.

Money-Saving "Tube-Type" Stereo / Hi-Fi!



AJ-13 \$47⁰⁰

A Versatile FM/FM Stereo Tuner . . . Simple Operation, Lowest Cost

• Built-in FM stereo circuitry • FM stereo indicator light • Automatic Frequency Control • Pre-assembled, prealigned "front-end" & point-to-point wiring for fast, easy construction • New mocha brown, beige & black color styling . . . matches AA-32 Amplifier below • Filtered outputs for stereo tape recording • Lighted slide-rule dial, flywheel tuning

Kit AJ-13, 14 lbs. . . no money dn., \$5 mo. \$47.00
Export model available for 115/230 VAC, 50-60 cps; write for prices.

AJ-13 SPECIFICATIONS—Tuning range: 88 to 108 mc. Intermediate frequency: 10.7 mc. Quieting sensitivity: 2½ uv for 20 db of quieting; 3½ uv for 30 db of quieting. Audio frequency response: Mono—±1 db from 20 to 20,000 cps. Stereo—±2 db from 50 to 15,000 cps. Antenna: Balanced input for external 300 ohm antenna. Channel separation: 25 db or more at 1000 cps. Front panel controls: Tuning; selector switch, power off-FM-stereo; AFC switch, off-on. Dimensions: 13½" W x 4-11/16" H x 9½" D.



AA-32 \$39⁹⁵

B Fine Performance At An Economy Price . . . Matching 20-Watt Stereo Amplifier

• Four stereo inputs . . . magnetic & ceramic cartridges, tuner & auxiliary • Furnishes 16 watts of continuous stereo power—IHF Music power output of 20 watts • Refreshingly styled in mocha brown and beige with black trim accents • Full-range controls . . . found only on more expensive equipment • Easy to build . . . goes from parts to performance in just a few evenings • Two push-pull output stages plus two 4-stage preamps

Kit AA-32, 16 lbs. . . no money dn., \$5 mo. \$39.95
Export model available for 115/230 VAC, 50-60 cps; write for prices.

AA-32 SPECIFICATIONS—Recommended System Mates: Speaker: AS-133, pg. 30. Speaker systems: AS-22, AS-81, pg. 28. All changers & turntables, pgs. 26 & 27. Simultaneous power output per channel: 8 watts (16 watts total); IHF Music Power Output per channel: 10 watts (20 watts total). Frequency response: ±1 db from 30 cps to 30,000 cps at rated output. Harmonic distortion: (at rated output) 2% @ 30 cps, 0.7% @ 1000 cps, 2% @ 15,000 cps. Intermodulation distortion: (at rated output) Less than 3% using 60 and 6000 cps mixed 4:1. Dimensions: 13½" W x 4-11/16" H x 9½" D.



AJ-63 \$37⁵⁰

C Low Cost FM Tuner . . . Simple To Build, Converts To Stereo!

• Broad-band circuitry, receives stereo with AC-11 Multiplex Converter (below) • Mocha brown & beige color styling with black trim • 5 tube circuit—9 tube function • Automatic Frequency Control for drift-free reception • Easy to build with factory assembled "front-end" tuner, prealigned IF transformers & encapsulated circuit module • Matches AA-13 & AA-23 Amplifiers

Kit AJ-63, 10 lbs., no money dn., \$5 mo. \$37.50
Export model available for 115/230 VAC, 50-60 cps; write for prices.

AJ-63 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 (38 db). IF frequency: 10.7 mc. Image ratio: 40 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 cycles AC at 30 watts. Overall dimensions: 4-11/16" H x 13½" W x 7" D.



AA-13 \$29⁹⁵

D 16-Watt Mono Amplifier . . .

Ideal For That Extra Music System!

• New mocha brown & beige color styling with black trim • Patented Heath Ultra-Linear® circuit • Hi-Fi rated 14-watt output • 30 to 15,000 cps response ±1 db at full rated output • Separate bass & treble controls • Three inputs for any program source • Matches AJ-53 & AJ-63 tuners

Kit AA-13, 17 lbs. . . no money dn., \$5 mo. \$29.95
Export model available for 115/230 VAC, 50-60 cps; write for prices.

AA-13 SPECIFICATIONS—Recommended System Mates: Speaker: AS-133, pg. 30; Speaker System: AS-22, AS-51, pg. 28; all changers & turntables pgs. 26 & 27. Power output: 14 watts Heath Hi-Fi Rating; 16 watts IHF Music Power Output (2% THD, 1 kc). Frequency response: ±1 db 30-15,000 cps, 14 watts output. Harmonic distortion: Less than 2%, 30 cps to 15 kc at 14 watts output. Intermodulation distortion: 2% or less at 14 watts output using 60 and 6000 cps signals, 4:1. Hum & noise: Mag. phono input, 50 db below 14 watts; Tuner and crystal phono, 60 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. Output: 4, 8 and 16 ohms. Damping factor: 10:1. Controls: 3-position function selector switch, bass and treble tone controls, volume control. Power requirements: 117 v, 50-60 cycles, 55 watts. Dimensions: 4-15/16" H x 13½" W x 10½" D.

E 30-Watt Mono Amplifier . . .

Compact Size, King-Size Performance

• Hi-Fi rated at 25 watts continuous power, 30 watts IHF music power rating • New mocha brown & beige color styling with black trim • Four front-panel selected inputs • ±1 db from 30 to 15,000 cps power response • Separate bass & treble controls • Bookshelf size for limited space installations • Easy to build • Matches AJ-63 & AJ-53 tuners

Kit AA-23, 20 lbs. . . no money dn., \$5 mo. \$42.95
Export model available for 115/230 VAC, 50-60 cps; write for prices.



AA-23 \$42⁹⁵

AC-11A \$23⁵⁰



AA-23 SPECIFICATIONS—Recommended System Mates: Speakers: AS-183, AS-163, pg. 30; Speaker Systems: AS-22, AS-51, pg. 28; all changers & turntables, pgs. 26 & 27. Power output: 25 watts Heath hi-fi rating; 30 watts IHF music power rating [0.7% THD @ 1 kc]. Frequency response: ±1 db, 30 cps to 15 kc, at 25 watts output. Harmonic distortion: Less than 2%, 30 cps to 15 kc at 25 watts output, and less than 0.7% at 1 kc at 25 watts output. Intermodulation distortion: Less than 2% at 25 watts using 60 cps and 6000 cps signals 4:1. Hum & noise: Microphone, —60 db or better; Mag. Phono, —53 db or better; Xtal Phono, —55 db or better; Auxiliary, —60 db or better. Input sensitivity: For 25 watts output with tone controls flat; Microphone, 9 mv; Mag. phono, 5 mv (at 1 kc); Xtal Phono, 120 mv; Auxiliary, 200 mv. Outputs: 4, 8, and 16 ohms. Damping factor: 9. Controls: 4-position selector switch, volume control, bass control and treble control with on/off switch. Power requirements: 105-125 volts, 50-60 cps, 120-135 watts. Power outlets: 1 AC receptacle, unswitched. Indicator: Neon pilot light. Dimensions: 13½" W x 4-15/16" H x 9½" D.

F Add Stereo Realism With A Multiplex Adapter

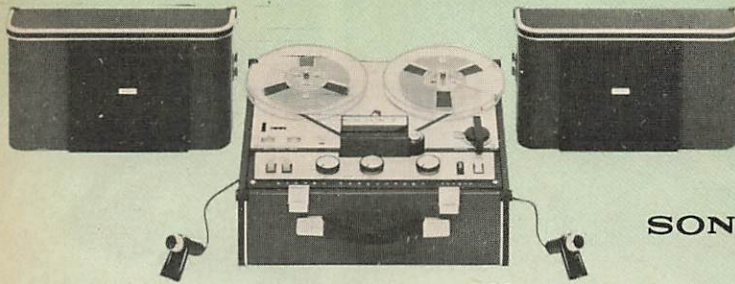
• Use with any FM tuner having multiplex output • Compact . . . fits anywhere • Styled to match Heathkit tuners • Built-in power supply • Easy to build . . . easy to operate

Features Built-In Power Supply with silicon rectifier, 3 tubes, & prealigned coils. Balanced diode detector assures low distortion. Convert now . . . order yours today!

Kit AC-11A, black, 4 lbs. \$23.50
Kit AC-11B, tan, 5 lbs. \$23.50

AC-11 SPECIFICATIONS—Audio frequency response: ±2 db 50 to 15,000 cps. Sub-carrier bandpass: ±4 db 23,000 to 53,000 cps. Channel separation: 30 db. Hum and noise: —55 db (relative to 1 volt rms output). Input impedance: 470 K ohms. Output impedance: 3000 ohms each channel (cathode follower). Input: MULTIPLEX (from tuner). Input signal voltage: .4 volt minimum (from multiplex output of FM tuner). Outputs: LEFT CHANNEL, RIGHT CHANNEL. Switch and controls: OFF-ON switch; CHANNEL SEPARATION control; LEFT CHANNEL LEVEL control; RIGHT CHANNEL LEVEL control. Power requirements: 117 volts AC 50/60 cps, 12 watts. Size: 3½" H x 3½" W x 9½" D.

Sony Stereorecorders & Heathkit® Stereo Separates!



GDP-184B **\$179⁰⁰**

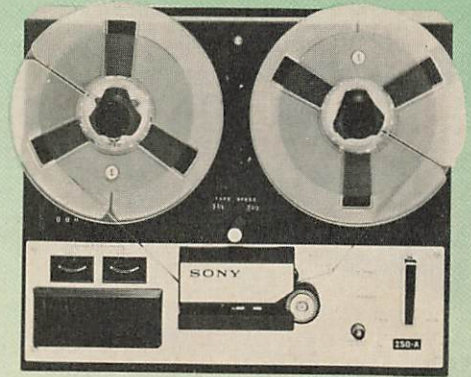
Sony 200-B Stereorecorder... Detachable Speakers Form Lid For Suitcase Portability, Separate For Best Stereo!

- 4-track stereo & mono record & playback at 7½ & 3¾ ips • Full-range stereo speaker system • Sound-on-sound recording capability • Dynamically balanced capstan flywheel • Two V.U. meters • Automatic Tape Lifter • Pause control and digital tape counter • Full 7" reel capacity • FM stereo inputs • Built-in Stereo preamplifiers & power amplifiers • Two Sony F-96 dynamic microphones

Model GDP-184B, 53 lbs... No money down, \$17 mo. \$179.00

GDP-184B SPECIFICATIONS—Power requirements: 70 watts 117 volts, 60 cycles (50 cycles optional). Tape speeds: 7½ and 3¾ ips. Frequency response: 50-14,000 cps @ 7½ ips; 50-10,000 cps @ 3¾ ips. Flutter & wow: Less than 0.19% @ 7½ ips; less than 0.25% @ 3¾ ips. Signal to noise ratio: Better than 45 db. Level indication: 2 VU meters. Input provision: 2 microphone; 2 high level. Output provisions: Pre-amp. Two 600 ohm high level; Power amp. Two 8 ohm external speakers & stereo headsets. Transistor & tube complement: (2) 2SD64, (1) 6267, (3) 30A5, (3) diodes. Dimensions: 15" W x 16" D x 9" H.

SONY **SUPERSCOPE**



GDP-174A **\$135⁰⁰**

New Sony 250-A All-Transistor Stereorecorder... Use Horizontally Or Vertically!

- 4 track stereo & mono record & playback at 7½ & 3¾ ips • All-transistor for instant operation, compact size • Operates in both horizontal or vertical positions • Two V.U. meters • Automatically shuts itself off at end of reel • Dynamically balanced capstan flywheel • Automatic tape lifter • Simple single-knob operation for all functions • Attractive walnut cabinet base

Model GDP-174A, 23 lbs... no money dn., \$13 mo. \$135.00

GDP-174A SPECIFICATIONS—Power requirements: 115 volts, 60 cycles (50 cycles optional). Tape speeds: 7½ and 3¾ ips. Flutter and wow: 0.19% @ 7½ ips; 0.25% @ 3¾ ips. Frequency response: 50-14,000 cps @ 7½ ips. Signal to noise ratio: 50 db or more. Level indication: 2 VU meters. Inputs: Microphone and line per channel. Outputs: High level line per channel. Dimensions: 14½" W x 6½" D x 9" H.

Ideal Control Center For Any System... Low-Cost Stereo Preamplifier!



AA-141A **\$34⁹⁵**

- 4 inputs for each channel • 6-position function selector for stereo or mono • Cathode follower outputs for low line loss, less distortion • Built-in power supply permits use with any basic power amplifier • Baxandall-type tone controls for true, natural sound • Frequency response ±1 db from 20 to 20,000 cps • Low impedance outputs for stereo tape recording

Kit AA-141A, 11 lbs... no money down, \$5 mo. \$34.95
Export model available for 115/230 VAC, 50-60 cps; write for prices.

AA-141A SPECIFICATIONS—Channels: 2. Inputs (each channel): Mag Phono, Xtal Phono, Aux. 1, Aux. 2. Outputs (each channel): Power amplifier, tape recorder. Frequency response: [with the volume control at maximum and the Bass and Treble controls set approximately to the mid position]: ±1 db from 20 to 20,000 cps. Harmonic distortion: (at 2.5 volts rms output, using AUX 1 or 2 input): .1% or less. Intermediate distortion: (at 2.5 volts equivalent rms output using AUX 1 or 2 inputs): .1% or less. Channel separation: 45 db or better 20 to 20,000 cps. Hum and noise (below 2.5 volt RMS): Mag Phono, 55 db (or better); Xtal Phono, 65 db (or better); Aux 1 and 2, 65 db (or better). Dimensions: 15¼" W x 5¼" H x 7¾" D (overall).

Less Than A Dollar A Watt... 98-Watt Stereo Power Amplifier!



AA-121 **\$79⁹⁵**

- Furnishes 98 watts IHF music power, or 80 watts RMS power at ±½ db from 20 to 20,000 cps • Heath patented Ultra-Linear® output circuit • "Bias-Bal" output balancing circuit • Mixed-channel center speaker output • Individual amplifier gain controls • Ideal for use with AA-141A preamplifier

Kit AA-121, 39 lbs... no money down, \$8 mo. \$79.95
Export model available for 115/230 VAC, 50-60 cps; write for prices.

AA-121 SPECIFICATIONS—Recommended System Mates: Speakers: AS-2, AS-2A, AS-10, pg. 31; AS-15, AS-21, pg. 30. Channels: 2. Power output: 80 watts (40 w. per channel). Heath Hi-Fi Rating: 98 watts (49 w. per channel). IHF 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 6000 cps mixed 4:1. Hum and noise: 85 db below 40 watts output. Channel separation: 70 db or better at 1 kc. Outputs: 4, 8, 16, and 32 ohms per channel; center speaker terminals can be used with 4, 8 or 16 ohm speakers. Dimensions: 7½" H x 15" W x 11" D.

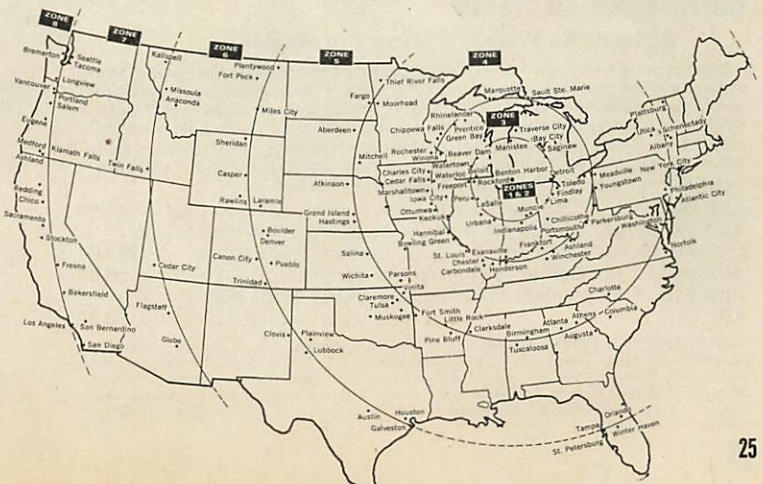
FIND PARCEL POST ZONE ON MAP THEN REFER TO THIS RATE TABLE

Postal Regulations... limit parcel post shipments to 20 pounds to zones 3 to 8, and 40 pounds to zones 1 and 2. EXCEPTION: Shipments up to 70 pounds will still be accepted to RFD addresses, and to APO numbers.

Ship. Wt.	Zone 1&2	Zone 3	Zone 4	Zone 5	Zone 6	Zone 7	Zone 8	Ship. Wt.	Zone 1&2	Zone 3	Zone 4	Zone 5	Zone 6	Zone 7	Zone 8
to 2 lbs.	\$.40	\$.42	\$.46	\$.52	\$.59	\$.66	\$.72	12 lbs.	.93	1.06	1.26	1.58	1.90	2.29	2.66
3 lbs.	.46	.49	.55	.64	.73	.83	.93	13 lbs.	.98	1.12	1.33	1.69	2.02	2.44	2.83
4 lbs.	.51	.55	.64	.75	.88	1.01	1.13	14 lbs.	1.03	1.18	1.41	1.79	2.14	2.60	3.01
5 lbs.	.57	.62	.72	.87	1.02	1.18	1.34	15 lbs.	1.08	1.24	1.48	1.89	2.25	2.75	3.18
6 lbs.	.62	.68	.80	.97	1.15	1.34	1.53	16 lbs.	1.13	1.30	1.56	1.99	2.37	2.90	3.36
7 lbs.	.68	.75	.88	1.07	1.28	1.50	1.73	17 lbs.	1.18	1.36	1.64	2.09	2.49	3.06	3.53
8 lbs.	.73	.81	.95	1.18	1.41	1.66	1.92	18 lbs.	1.23	1.42	1.71	2.20	2.61	3.21	3.71
9 lbs.	.78	.87	1.03	1.28	1.53	1.82	2.12	19 lbs.	1.28	1.48	1.79	2.30	2.73	3.36	3.88
10 lbs.	.83	.93	1.10	1.38	1.66	1.98	2.31	20 lbs.	1.32	1.54	1.86	2.40	2.85	3.51	4.06
11 lbs.	.88	1.00	1.18	1.48	1.78	2.14	2.48								

IMPORTANT: Parcel post rate changes enacted April, 1964 are reflected in this table.

INCLUDE MONEY FOR POSTAGE with your orders as we must pay postage on parcel post packages before we can send your merchandise.



Famous-Name Turntables... Choose



ADP-104
\$84⁵¹
(with 1c cartridge)

Garrard Type A70 Automatic Turntable!

- Exclusive pusher platform offers automatic play without compromise . . . safest automatic record principle ever developed
- Completely new dynamically balanced tone arm for improved tracking capability & resistance to external shock
- New adjustable stylus pressure & tracking force
- Full-sized, heavy-balanced cast "sandwich" turntable
- New adjustable bias compensator
- New lightweight shell
- New ultra-sensitive "frictionless" Delrin® trip assembly
- Double-shielded 4-pole shaded motor
- 4 speeds, automatic or manual

ADP-104, 23 lbs., turntable . . . no money dn., \$9 mo. \$84.50
 ADP-104, 24 lbs., turntable with choice of 1c offer cartridge below (specify by model no.) . . . no money dn., \$9 mo. . . . \$84.51
 ADA-61-1, 1 lb., Garrard LRS3 45 rpm spindle \$3.80
 ADA-63-3, 4 lbs., walnut base, 16-7/16" W x 13-11/16" D x 3" H. \$5.50

ADP-104 SPECIFICATIONS—Speeds: 16²/₃, 33¹/₃, 45 & 78 rpm. Motor: 4-pole shaded, double shielded. Tracking: Will track all cartridges, including high compliance models. Color: Special iridescent charcoal gray and chrome. Wiring: Stereo, 4-pin/5-wire system w/separate ground connection for hum elimination. Cables furnished: Line cord and 2 audio. Power requirements: 100-130 volts, 60 cycles AC. Dimensions: Requires mounting space 16" W., 13¹/₄" D., 6" above and 2¹/₂" below top of motor board.



ADP-114
\$59⁵¹
(with 1c cartridge)

Garrard AT60 Automatic Turntable!

- Tubular tone arm is counterweight-adjusted & dynamically balanced with a built-in stylus gauge
- Automatic intermix record operation
- New automatic bias compensator tracks lightest & most compliant cartridges accurately and without distortion
- Heavy cast, oversize turntable . . . dynamically balanced and non-magnetic
- Lightweight cut-away shell accepts all cartridges
- 4 speeds, automatic or manual

ADP-114, 15 lbs., turntable . . . no money dn., \$6 mo. \$59.50
 ADP-114, 15 lbs., turntable and choice of any 1c offer cartridge below (specify by model no.) . . . no money dn., \$6 mo. . . . \$59.51
 ADA-114-1, 1 lb. . . . Garrard LRS10 45 rpm spindle \$3.80
 ADA-53W, 3 lbs. . . . walnut finish base, 14¹/₈" W x 12³/₄" D x 3" H. \$4.95

ADP-114 SPECIFICATIONS—Speeds: 16²/₃, 33¹/₃, 45 & 78 rpm. Motor: 4-pole shaded, double shielded. Tracking: Will track all cartridges, including high compliance models. Color: Special iridescent charcoal gray. Wiring: Stereo, 4-pin/5-wire system w/separate ground connection for hum elimination. Cables furnished: Line cord, 2 audio cables. Power requirements: 100-130 volts, 60 cycles AC. Dimensions: Requires mounting space 15³/₈" W x 13¹/₈" D x 4¹/₈" below top of motor board.



ADP-124
\$44⁵¹
(with 1c cartridge)

Garrard Model 50 Automatic Turntable!

- Counter weighted tone arm automatically tracks high quality cartridges . . . a first in popular-priced turntables
- New oversize turntable and handsome mat cover for better record support
- Compact . . . fits any cabinet or component installation
- Plays all 4 speeds automatically or manually
- Automatically mixes records of different sizes & same speed
- DuPont Delrin® "frictionless" trip mechanisms
- Completely assembled

ADP-124, changer only, 13 lbs. . . . no money dn., \$5 mo. \$44.50
 ADP-124, turntable with choice of 1c offer cartridge below (specify by model no.), 14 lbs. . . . no money dn., \$5 mo. . . . \$44.51
 ADA-114-1, 1 lb. Garrard LRS10 45 rpm spindle \$3.80
 ADA-53W, 3 lbs., Garrard matching walnut base, 14¹/₈" W x 12³/₄" D x 3" H. \$4.95

ADP-124 SPECIFICATIONS—Speeds: 16²/₃, 33¹/₃, 45 & 78 rpm. Motor: 4-pole, hum shielded. Tracking: Tracks per cartridge specifications. Color: Gray and silver. Wiring: Stereo, Amplok plug. Cables furnished: Line cord and 2 audio. Power requirements: 110-130 volts, 60 cycles AC. Dimensions: 14¹/₄" W x 12¹/₂" D x 4¹/₈" above and 2¹/₈" below top of motor board.



ADP-94
\$99⁵¹
(with 1c cartridge)

Garrard Lab 80 Stereo Automatic Transcription Turntable!

- Dynamically balanced "Afrormosia wood" tone-arm with integral manual cueing device and adjustable tracking force
- New adjustable bias compensator tracks the lightest & most compliant cartridges accurately & without distortion
- New massive, non-magnetic 12" turntable with anti-static mat
- New isolated motor suspension
- Insures professional reproduction of 33¹/₃ & 45 rpm records
- Anti-skate protection
- Delrin® "frictionless" trip mechanism
- Completely assembled

ADP-94, 25 lbs. . . . turntable only . . . no money dn., \$10 mo. . . . \$99.50
 ADP-94, 26 lbs. . . . turntable with choice of any 1c offer cartridge opposite (specify by model no.) . . . no money dn., \$10 mo. . . . \$99.51
 ADA-94-1, 1 lb., Garrard LRS9 45 rpm spindle \$3.80
 ADA-94W, 5 lbs., walnut finish base . . . 16¹/₂" W x 13³/₄" D x 4¹/₄" H. \$6.50

ADP-94 SPECIFICATIONS—Speeds: 33¹/₃ & 45 rpm. Motor: 4-pole shaded, completely isolated. Tracking: Tracks per cartridge specifications. Color: Special iridescent charcoal gray. Wiring: Stereo, 4-pin, 5-wire system with separate ground connection for hum elimination. Cables furnished: Line cord, 2 audio cables. Power requirements: 100-130 volts 60 cycles AC. Dimensions: 17" W x 14¹/₄" D x 5¹/₂" above and 3¹/₂" below motor board.

Special 1c Offer Cartridges With Turntable Orders

Specify By Model No.

Shure M44-7 15 "Dynetic"
 AD-85B MANUFACTURER'S SPECIFICATIONS—Frequency response: 20 to 20,000 cps. Output: 11 mv per channel. Separation: More than 25 db at 1 kc. Load impedance: 47,000 ohms per channel. Stylus: .018 mm diamond. Compliance: 20.0 x 10⁻⁶ cm per dyne. Tracking force: 1 1/2 to 3 grams. Model AD-85B, 1 lb. \$19.95

New! Sonotone 9TAFHC-5D "Ceramic"
 AD-15K MANUFACTURER'S SPECIFICATIONS—Frequency response: 20 to 20,000 cps. Output: .20 volt. Separation: 30 db. Load impedance: 1 to 5 megohms. Stylus: 0.7 mil diamond, 3 mil sapphire. Compliance: 15 x 10⁻⁶ cm/dyne. Tracking force: 1.5-3 grams for professional arms; 3-4 grams for changers. Model AD-15K, 1 lb. \$7.26

New! Empire 888 "Magnetic"
 AD-125G MANUFACTURER'S SPECIFICATIONS—Frequency response: 12-25,000 cps. Output: 8 mv/channel. Separation: 30 db. Load impedance: 47,000 ohms. Stylus: 0.7 mil diamond. Compliance: 10 x 10⁻⁶ cm/dyne. Tracking Force: 3/4-6 grams. Tracking Angle: 15°. Model AD-125G, 1 lb. \$19.95

Pickering V15/AT-2 "Magnetic"
 AD-105J MANUFACTURER'S SPECIFICATIONS—Frequency response: 20 to 20,000 cps. Output: 6.9 mv per cm/sec of recorded level. Load resistance: 47,000 ohms. Stylus: .7 mil diamond. Tracking force: 1 to 4 grams. Vertical tracking angle: 15°. Model AD-105J, 1 lb. \$19.95

New! Shure M55E 15° Stereo Dynetic Cartridge With Elliptical Stylus!

Elliptical diamond stylus and new 15° vertical tracking provide near perfect freedom from distortion, resulting in unmatched purity of sound. Low mass. Scratchproof. Will track at forces of 3/4 to 1 1/2 grams. Only \$10 when you order with a Garrard Lab 80, Type A70, or Dual 1009 and 1019 Turntable, if you do not choose a 1c cartridge above!

Model AD-95R, 1 lb., no money dn., \$5 mo. . . . \$35.50

AD-95R MANUFACTURER'S SPECIFICATIONS — Frequency Response: 20 to 20,000 cps. Output: 6.6 mv per channel @ 1 kc. Separation: Over 25 db @ 1 kc. Load Impedance: 47,000 ohms per channel. Stylus: Elliptical 0.7 mil diamond. Compliance: 25.0 x 10⁻⁶ cm/dyne. Tracking force: 3/4 to 1 1/2 grams.

A Cartridge For Only 1¢ More!

**New! Dual 1019 Auto-Professional Turntable . . .
With 3 Exclusive Features
That Close The Gap
To Perfection!**



ADP-55
\$129⁵¹
(with 1c cartridge)

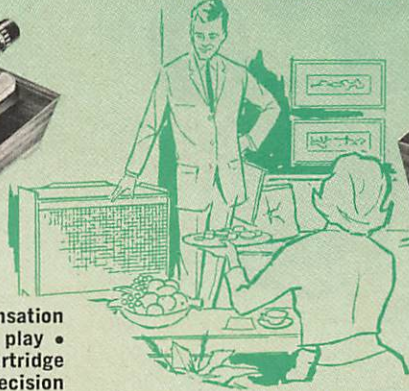
- Exclusive direct dial, continuously variable anti-skating compensation
- Exclusive feather-touch cue-control for manual & automatic play
- Exclusive single-play spindle that rotates with your records
- Cartridge holder adjusts for optimum stylus overhang
- Plus all the precision of the Dual 1009 (opposite)

Exclusive New Features! (1) Direct Dial, Continuously Variable Anti-Skating Compensation . . . so accurate you can balance stylus force in the groove. Eliminates distortion from unbalanced tracking, ends uneven wear. (2) Feather Touch Cue Control . . . cueing as it should be, dead-center on exact groove intended. (3) Single Play Spindle . . . rotates with record like conventional turntables.

Model ADP-55, turntable only, 20 lbs. . . No money dn., \$12 mo. **\$129.50**
Model ADP-55, turntable and choice of any 1c cartridge page 26 (specify by model no.) 21 lbs. . . **\$129.51**
ADA-24W, oiled solid walnut base, 3 lbs. . . **\$11.95**
ADA-24-1, 45 rpm spindle, 2 lbs. . . **\$4.80**

ADP-55 SPECIFICATIONS—Speeds: 16½, 33½, 45 and 78 rpm. Variable over 6% range. **Motor**: High torque continuous pole induction. **Tracking**: Less than 0.2 gram variation from 1st to 10th record. **Turntable**: 7½ lb., dynamically balanced. **Color**: Black/silver. **Cables furnished**: Line cord, 2 audio. **Power requirements**: 100-130 volts, 60 cycles. **Dimensions**: Required mounting space; 10¼" x 12¼" x 6" above and 3" below motor board.

**Surpasses Performance Standards Of The Costliest
. . . The Dual 1009 Auto/Professional Turntable!**



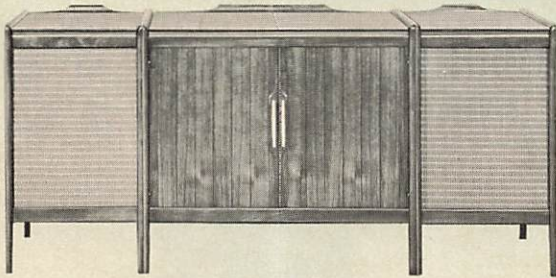
ADP-24
\$99⁵¹
(with 1c cartridge)

- Automatic tone arm tracks below ½ gram, yet trips at zero
- Permits almost 90° tilt without spilling a note
- Anti-skate record protection
- Less than 2/10 gram stylus force increase from first to last record
- 7½ lb. dynamically-balanced platter
- 4 speeds, automatic or manual
- Automatically shuts off amplifier after play
- Can be started manually while record is rotating or at a standstill
- Completely assembled

ADP-24, changer only, 22 lbs. . . no money dn., \$10 mo. . . . **\$99.50**
ADP-24, changer & choice of any 1c offer cartridge, page 26 (specify model no.) 23 lbs. . . no money dn., \$10 mo. . . . **\$99.51**
ADA-24W, oiled solid walnut base, 3 lbs. . . **\$11.95**
ADA-24-1, 45 rpm spindle, 1 lb. . . **\$4.80**

ADP-24 SPECIFICATIONS—Speeds: 16½, 33½, 45 and 78 rpm. **Turntable speed**: All 4 speeds accurate within 0.1% with one to ten records. **Motor type**: 4-pole induction, shock & vibration shielded. **Type of drive**: Friction. **Tracking force variations**: Less than 0.2 grams from 1st to 10th record. **Record capacity**: Up to 10 records. **Record sizes**: 7", 10", 12". **Control functions**: Manual Speed Selector; Manual Record Size Selector; Stop/Start Manual/Automatic switch. **Dimensions**: 10¼" x 12¼", 6" clearance above, 3" below. **Power requirements**: 117 VAC, 60 cps.

The Center Of Attraction In Any Room . . . Deluxe Stereo Furniture!



**Contemporary Styling With Practical Component
Layout . . . Exclusive Heath Stereo/Hi-Fi Cabinetry!**

- Custom designed for Heathkit Stereo/Hi-Fi components . . . accommodates most makes
- Beautifully finished in modern walnut
- Factory assembled, ready to use
- Speaker cabinet can be matched to any 12" or 15" speaker for best tone

Clean, Flowing Lines . . . "Sculptured" Accents! This skillfully crafted equipment cabinet is a masterpiece of sumptuous furniture you'll be proud to place in your home. It is solidly constructed of fine furniture woods which are accented with clean, eye-arresting reliefs. Slim, curved brass door handles highlight the "sculptured" effect. And the modern walnut finish adds a richness that reflects good taste. Completely assembled, ready to house your hi-fi components.

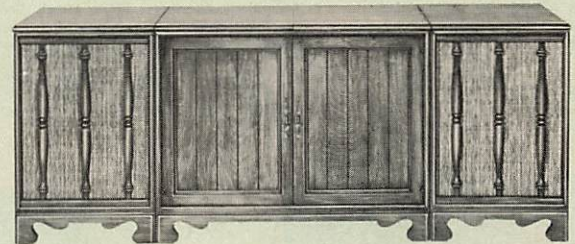
Model AE-20W (walnut), 82 lbs. . . no money dn., \$10 mo. . . . **\$99.50**
Model AEA-12-4, uncut walnut recorder drawer (7" H x 16" W x 16½" D, Wood ¾" thick) 15 lbs. . . **\$19.95**

Matching Speaker Cabinet!

Use with 12" or 15" speakers. Also has 3⅝" x 10⅞" slot for optional horn tweeter. Measures 18½" W x 19" D x 32¾" H.

Model AE-40W (walnut), 58 lbs. . . no money dn., \$5 mo. . . Each **\$44.95**

AE-20 EQUIPMENT ACCOMMODATIONS AND SIZES—Cabinet, overall: 36" W x 32¾" H x 19" D. **Changer compartment**: 17" W x 15¼" D, mounting board is uncut and can be adjusted in height to accept all record changers sold by Heath, lid has adjustable friction-loaded support. **Record-tape recorder compartment**: 14½" H x 17" W x 17¼" D, for record storage; space is convertible with accessory sliding drawers below to accommodate tape recorder. **Shelf compartment**: (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 preamplifier or stereo or mono combination amplifier. **Power amplifier compartments**: 8¼" H x 17" W x 15¼" D inside, accepts any Heathkit stereo or mono amplifier.



**Early American Stereo Center . . . Custom Designed For
Audiophiles With An Eye As Appreciative As Their Ear!**

- Beautifully finished in stunning salem-maple
- Exclusively styled, a special Heathkit design
- Custom-designed for Heathkit stereo components
- Holds most hi-fi/stereo components
- Factory assembled, ready to use

Crafted Of Specially-Selected Woods! Maple veneers and solids all beautifully finished in popular Salem Maple! "Lancaster-Antique" solid-brass handles. Completely assembled & finished.

Model AE-13S, 77 lbs. . . no money dn., \$11 mo. . . . **\$115.00**
Model AEA-13-1, uncut recorder drawer (7" H x 16" W x 16½" D, wood ¾" thick), 16 lbs. . . **\$20.00**

Matching Speaker Cabinet!

Use 12" or 15" speakers, has 3⅝" x 10-3/16" slot for optional horn tweeter. Measures 18¼" W x 18¾" D x 28" H.

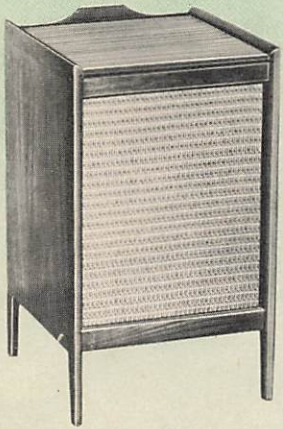
Model AE-23S, 55 lbs. . . no money dn., \$6 mo. . . . Each **\$55.00**

AE-13S EQUIPMENT ACCOMMODATIONS AND SIZES: Cabinet, overall: 28" H x 36" W x 18¼" D. **Changer compartment**: 17" W x 16" D x 5¼" H. Mounting board is uncut and can be adjusted in height to accept all record changers sold by Heath, lid has adjustable friction-loaded support. **Record-tape recorder compartment**: 14¼" H x 17" W x 17¼" D for record storage; space is convertible with accessory sliding drawers to accommodate tape recorder. **Shelf compartments**: Top shelf, 6¼" H x 17" W x 15⅞" D. Middle shelf, 6" H x 17" W x 15⅞" D. Bottom shelf, 9" H x 17" W x 17" D. Shelves accept any Heath stereo or mono tuner, stereo or mono preamplifier, or stereo or mono combination amplifier.

NO MONEY DOWN UP TO \$300

Build your Heathkit now . . . pay later with the convenient Heath Time Payment Plan. No money down and up to 12 months to pay on orders from \$25 to \$300 . . . 10% down and up to 18 months on orders from \$300 to \$500. See Order Blank for details.

Heathkit® Speaker Systems . . .



AS-15
\$144⁹⁵



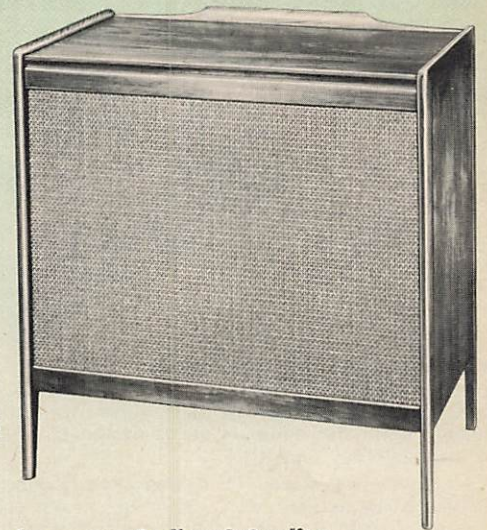
In The Trend To Larger Speaker Systems . . . New Deluxe Heathkit 3-Way System

• 12" high compliance, low resonance woofer • Two special design 2" direct radiator dome-type mid-range speakers • Special design 1" direct radiator dome-type ultra-high frequency tweeter • Response 40 to 20,000 cps • Big voice coils • Heavy ceramic ring magnets • 50-watt program material power capability • High frequency attenuator • Middle frequency attenuator • Preassembled walnut finish enclosure measures 18½" W x 19" D x 32¾" H • Tube vented, bass reflex design • Styled to match Heath contemporary equipment center

High Compliance Woofer . . . Direct Radiator Mid-Range & Tweeter Components. Both mid-range units have 6¼" frames with 4½", 1 lb. ceramic ring magnets. The ultra-high frequency tweeter has a 4¼" frame with a 2¼", 6 oz. ceramic ring magnet. Its 1" radiating surface is driven by a 1" voice coil. 12" high compliance woofer features a 1½" voice coil and 1 lb. 11 oz. ceramic ring magnet. Free air resonance is 25 cps. Also features 3-way crossover networks, LC and RC types. Crossover points: 1000 cps and 10,000 cps. Floor model cabinet.

Kit AS-15, 82 lbs. . . No money dn., \$14 mo. \$144.95

AS-15 SPECIFICATIONS—Recommended Amplifiers: AR-13A, pg. 18; AR-14, pg. 19; AA-21D, pg. 20; AA-22, pg. 21; AA-100, pg. 23; AA-151, pg. 23; AA-32, pg. 23; AA-13 & AA-23, pg. 24; AA-14, pg. 22. **Frequency Response:** 40 to 20 kc. **Crossover Frequencies:** Low 1000 cps to high frequency 10 kc. **Power Rating:** 50 watts of program material. **Nominal Impedance:** 8 ohms. **Speakers:** (1) 12" Jensen high compliance, low resonance, low frequency; (2) 2" direct radiator dome-type mid-frequency; (1) 1" Jensen direct radiator dome-type ultra high frequency speaker. **Crossover Network:** **Three Channel:** Low frequency, low pass LC type; Mid-frequency, bandpass LC type; High frequency, high pass RC type filter. **Cabinet:** Walnut finished, tube vented type. **Dimensions:** Overall; 18½" W x 19" D x 32¾" H.



AS-21W
\$239⁹⁵

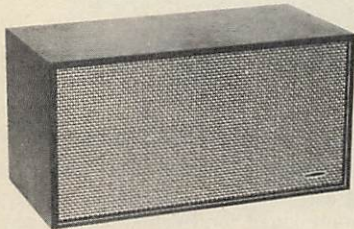
Masterpiece of Performance, Styling & Quality . . . The Famous "Legato Compact"!

• Speakers cover 30-22,000 cps • 800 cps crossover network—completely assembled • Can be driven by as little as 3 watts, handles up to 30 watts • Preassembled walnut-finish cabinet, ready for simple speaker installation • Styling matches AE-20 hi-fi equipment cabinet

Designed For The Discerning. Known by audiophiles the world over for its acoustical excellence—recognized by engineers for achievement in sound technology. Features two Altec Lansing "high compliance" low-frequency speakers that cover the 30 to 800 cps range with a rich, full-bodied tone . . . a specially-designed Altec Lansing exponential horn and high frequency driver combination that recreates the 800 to 22,000 cps range with full fidelity and brilliance. The special 800 cps crossover network is factory assembled, ready for installation in the carefully crafted, acoustically correct cabinet.

Kit AS-21W, 142 lbs. . . no money dn., \$22 mo. \$239.95

AS-21 SPECIFICATIONS—Recommended amplifiers: AR-13A, pg. 18; AA-21D, pg. 20; AA-22, pg. 21; AA-100, pg. 23; AA-14, pg. 22; AR-14, pg. 19. **Frequency response:** 30 to 22,000 cps. **Impedance:** 16 ohms. **Capacity:** 30 watts. **Enclosure:** Modified infinite baffle. **Speakers:** Low frequency, two Altec Lansing 12" high compliance woofers, 1½ lb. magnets; High frequency, one Altec Lansing 800 cycle exponential horn and driver, 53 lb. magnet. **Crossover:** 800 cycle constant K type, assembled. **Control:** high frequency shelving. **Dispersion:** 90° horizontal. **Cabinet:** Factory assembled furniture-grade ¾" plywood. **Dimensions:** 32" W x 19" D x 32¾" H.



AS-51U
\$39⁹⁵

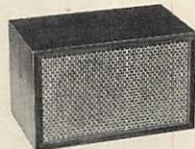
2-Way Hi-Fi Speaker System

• Specially designed speakers—8" woofer and compression-type tweeter with flared exponential horn • Built-in crossover • Tweeter level control • Preassembled unfinished or walnut finish cabinets

Reliable Performance! Covers 50 to 12,000 cps. Use in vertical or horizontal positions. Simply mount speakers and wire crossover network—everything else is pre-built. Works with amplifiers having as little as 3 watts power. Order a pair for stereo.

Kit AS-51U, unfinished, 27 lbs. . . No money dn., \$5 mo. \$39.95
Kit AS-51W, Walnut, 27 lbs. . . No money dn., \$5 mo. \$46.95

AS-51 SPECIFICATIONS—Recommended amplifiers: AR-14, pg. 19; AA-14, pg. 22; AA-32, pg. 23; AA-151, pg. 23; AA-21D, pg. 20; AA-22, pg. 21; AA-100, pg. 23; AA-13 & AA-23, pg. 24. **Frequency response:** 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. **Dimensions:** 11½" H x 23" W x 11¼" D.



AS-81U
\$17⁵⁰

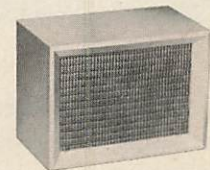
Miniature Hi-Fi 2-Speaker System

• 6" high compliance, mass-loaded woofer • 3" closed back tweeter • Fast, easy assembly • Preassembled unfinished or walnut finish cabinets

Compact Size Ideal For Small Spaces! Yet provides wide 70-14,000 cps response. High compliance woofer with mass-loaded cone matches enclosure. Closed-back cone-type, high frequency tweeter prevents speaker interaction. Assembles in a couple of hours.

Kit AS-81U, unfinished, 10 lbs. \$17.50
Kit AS-81W, walnut, 10 lbs. \$19.95

AS-81 SPECIFICATIONS—Recommended amplifiers: AA-14, pg. 22; AA-32, pg. 23; AA-13, pg. 24; AA-151, pg. 23; AR-14, pg. 19. **Frequency response:** From 70 to 14,000 cps. **Crossover frequency:** 4000 cps. **Recommended amplifier power:** 6 watts. **Nominal impedance:** 8 ohms. **Cabinet:** Type: infinite. **Dimensions:** 10¼" W x 6½" H x 6-3/16" D; material, ½" veneer plywood. **Speakers:** Tweeter, 3" cone type, 8 ohms, .53 oz. Alnico 5 magnet; Woofer, 5½" cone type, 8 ohms, 10 oz. Syn-tox No. 6 magnet. **Crossover:** Capacitor type.



AS-41U
\$10⁹⁵

Lowest Cost Hi-Fi Speaker System

• 6" x 9" extended range dual-cone speaker • Easy assembly • Preassembled unfinished or walnut finish cabinets

Versatile And Easy On The Budget! Fills the bill in a variety of installations . . . place in an extra room, use as an extension speaker to other rooms, or as a center fill-in for a stereo system. Covers 70 to 16,000 cps. Handles 12 watts. Compact in size and price.

Kit AS-41U, unfinished, 8 lbs. \$10.95
Kit AS-41W, walnut, 8 lbs. \$12.95

AS-41 SPECIFICATIONS—Recommended amplifiers: AA-14, pg. 22; AA-32, pg. 23; AA-151, pg. 23; AA-13, pg. 24; AR-14, pg. 19. **Frequency response:** 70 to 16,000 cps. **Impedance:** 8 ohms. **Capacity:** 12 watts. **Enclosure:** Rear vented box. **Speaker:** 6" x 9" extended range dual cone, 6.8 oz. Alnico 5 magnet. **Cabinet:** Factory assembled, furniture-grade ½" plywood. **Dimensions:** 8" H x 11" W x 6½" D.

NO MONEY DOWN UP TO \$300

Build your Heathkit now . . . pay later with the convenient Heath Time Payment Plan. No money down and up to 12 months to pay on orders from \$25 to \$300 . . . 10% down and up to 18 months on orders from \$300 to \$500. See Order Blank for details.

More Sound For Your Dollar!



AS-10U \$59⁹⁵

Enjoy The Advantages Of Acoustic Suspension With This Low Cost Speaker System!

• 10" acoustic suspension woofer, two 3½" cone-type tweeters • Takes only 10 watts to drive, yet handles up to 40 watts • Preassembled cabinets, use vertically or horizontally
 Easy To Buy, Easy To Drive! Enjoy the extended bass, smooth high frequency response, and the low distortion that has made acoustic suspension systems an audiophile favorite. Covers the 30 to 15,000 cps frequency range. Includes a high frequency level control and L-C crossover network. Handles high wattage program material and is easily driven! Can easily be assembled in 3 hours or less. Choose a pair for stereo.

Kit AS-10U, unfinished, 43 lbs...no money down, \$6 mo.....\$59.95
 Kit AS-10W, walnut, 42 lbs...no money down, \$7 mo.....\$64.95

AS-10 SPECIFICATIONS—Recommended amplifiers: AA-21D, pg. 20; AA-22, pg. 21; AA-100, pg. 23; AA-151, pg. 23; AA-13 & AA-23, pg. 24; AR-13A, pg. 18. Frequency response: 30 to 15,000 cps. Impedance: 16 ohms. Recommended amplifier power: 10 to 40 watts. Enclosure: Infinite baffle, sealed. Speakers: Woofer, 10" Acoustic Suspension, Syntox 6 ceramic magnet; Tweeter, two 3½" cone units in dispersed array, 1.47 oz. Alnico 5 magnets. Crossover: L-C network, 2250 cps. Control: High frequency level. Dispersion: 90° horizontal. Cabinet: Factory assembled ¾" furniture-grade plywood. Dimensions: 13½" H x 24" W x 11½" D.



AS-2U \$69⁹⁵

This Versatile Acoustic Suspension System Features Acoustic Research Inc. Woofer!

• 10" acoustic suspension woofer manufactured by Acoustic Research Inc. • Two 5" cross-fired tweeters • Wide-range sound with compact speaker versatility • Easy to build with preassembled cabinet

Distortion-Free Sound In A Compact Enclosure! Fits almost anywhere to accommodate a host of installations. Large 10" woofer with heavy Alnico 5 magnet delivers extended bass response. 2000 cps L-C crossover network plus specially treated and equalized 5" cross-fired tweeters provide unusually clear high frequency distribution. Cabinet is unfinished, so you can apply a finish to match any decor. Order 2 for stereo.

Kit AS-2U, unfinished, 45 lbs...no money down, \$7 mo.\$69.95

AS-2U SPECIFICATIONS—Recommended amplifiers: AA-21D, pg. 20; AA-100, pg. 23; AA-22, pg. 21; AA-23, pg. 24; AR-13A, pg. 18. Frequency response: 40 to 15,000 cps. Crossover frequency: 2,000 cps. Recommended amplifier power: 20 to 40 watts RMS. Nominal impedance: 8 ohms. Tweeter: Two 5" cone units, specially treated and equalized, in dispersed array, 2.15 oz. Alnico 5 magnet. Woofer: 10" Acoustic Suspension, 1.1 lb. Alnico 5 magnet. Resonant Frequency (mounted) 58 cps. Crossover: L-C network. Horizontal dispersion: 90°. Size: 24" W x 13½" H x 11½" D.



AS-2AU \$89⁹⁵

Designed For Today's Advanced Systems . . . Deluxe Acoustic Suspension System!

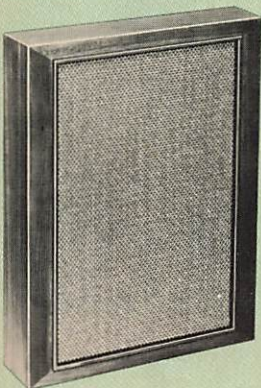
• Added super tweeter for extended high frequency response • Built-in crossover networks • High frequency level controls • Genuine Acoustic Research Inc. 10" suspension woofer • Two 5" cross-fired tweeters, plus 1¾" dome-type super-tweeter • Preassembled cabinets

Wide 40-20,000 cps Response! A specially designed super tweeter, dual mid-range, and acoustic suspended woofer combine to reproduce clean, distortion-free sound. Super tweeter and two mid-range cross-fired speakers are controlled by separate level controls. Order a pair for truly superb stereo.

Kit AS-2AU, unfinished, white hardboard, 51 lbs...no money down, \$9 mo.....\$89.95

Kit AS-2AW, finished walnut, 51 lbs...no money down, \$10 mo.....\$96.50

AS-2A SPECIFICATIONS—Recommended amplifiers: AA-21D, pg. 20; AA-100, pg. 23; AA-22, pg. 21; AA-23, pg. 24; AR-13A, pg. 18. Frequency response: ±5 db, 40 to 20,000 cps. Impedance: 8 ohms. Recommended amplifier power: 20 watts minimum. Enclosure: Infinite baffle, sealed. Speakers: Woofer, 10" Acoustic Suspension, 1.1 lb. Alnico 5 magnet; Midrange, two 5" cone units, in dispersed array, 2.15 oz. Alnico 5 magnets; Super-tweeter, 1¾" dome-type construction. Crossover: L-C network, 2000 & 7500 cps. Controls: Individual levels for tweeter and mid-range speakers. Dispersion: 90° horizontal. Cabinet: Factory assembled ¾" furniture-grade plywood. Dimensions: 13½" H x 24" W x 11¾" D.



"Profile" . . . The 3-Way Speaker System That Fits Virtually Anywhere!

• 3 specially-designed speakers—10", 6", 3½" • 5" slim . . . ideal for floor, shelf, or wall installation • Factory assembled, tube-tuned bass reflex cabinet, available unfinished or walnut finish

AS-22U \$49⁹⁵

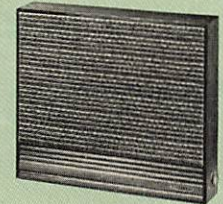
Slim, Trim & Short! Only 5" deep, 25" high and 19½" wide . . . install the Heathkit "Profile" virtually anywhere! Set it on the floor, suspend it on a wall, or tuck it horizontally or vertically into a bookcase or on a shelf. Superior Sound! Invented-design 10" woofer with 1 lb. Alnico magnet, 6" close back speaker to handle mid-ranges, and a 3½" tweeter produces the "highs". Factory assembled cabinets available unfinished or in walnut. Hangers & felt feet included.

Kit AS-22U, unfinished, 34 lbs...no money dn., \$5 mo.....\$49.95
 Kit AS-22W, walnut, 35 lbs...no money dn., \$6 mo.....\$54.95

AS-22 SPECIFICATIONS—Recommended amplifiers: AR-13A, pg. 18; AA-22, pg. 21; AA-151, pg. 23; AA-21D, pg. 20; AA-100, pg. 23; AA-23 & AA-13, pg. 24; AA-14, pg. 22; AR-14, pg. 19. Frequency response: 55 to 12,500 cps. Crossover frequency: 2250 cps. Recommended amplifier power: 10 to 25 watts. Nominal impedance: 8 ohms. Woofer: 10" special inverted design 1.1 lb. Alnico V magnet. Mid-range: 6" closed back, 2.15 oz. Alnico V magnet. Tweeter: 3½" closed back, 2.15 oz. Alnico V magnet. Cabinet: Bass reflex, tube-tuned, factory assembled of ¾" furniture-grade plywood. Dimensions: 19½" W x 25½" H x 5" D.

Low Cost 2-Way System . . . 3 Speakers In Flat Miniature Wall Mount Cabinet!

• 5¾" woofer and two 3" tweeters • Side mounted level control • Easy to assemble • Compact—ideal for wall, shelf or table • Preassembled unfinished or walnut finish cabinets



AS-193U \$22⁵⁰

Fits On A Table, Shelf Or Bookcase . . . yet performs like a speaker twice its size. Ideal for rec room extension, too! Boasts a special 5¾" woofer and two 3" tweeters that cover 65-14,000 cps. Use with amplifiers having 4, 8 or 16 ohm impedances and up to 6 watts power—higher rated amplifiers, adjusted for reasonable listening levels also may be used. Simple to build—just mount the three speakers in the preassembled cabinet. Pick a pair for stereo!

Kit AS-193U, unfinished, 12 lbs.....\$22.50

Kit AS-193W, walnut, 12 lbs...no money dn., \$5 mo.....\$24.95

AS-193 SPECIFICATIONS—Recommended amplifiers: AA-14, pg. 22; AA-32, pg. 23; AA-151, pg. 23; AR-14, pg. 19; AA-13, pg. 24. Impedance: May be used with amplifier having 4, 8, or 16 ohm output. Frequency range: 65-14,000 cps. Crossover frequency: 4,000 cps. Speaker power rating: 6 watts. Higher rated amplifiers, adjusted for reasonable listening levels, may be used. Adequate room sound with 1 watt to speaker. Nom. woofer size: 5½" cone type. Dimensions: 12¾" H x 15½" W x 2¾" D.

Separate Speakers & Accessories

Our Finest . . . 12" 2-Way High Compliance, Edge-Damped Hi-Fi Speaker!

Connoisseur Quality Throughout! Finest Materials available for tonal realism . . . smooth 20 to 15,000 cps response . . . high compliance edge-damped woofer cone . . . low crossover frequency . . . reflexed-horn high frequency unit . . . 1½" & 1" voice coils . . . die-cast metal frame . . . tan & cinnamon color styling; polarized binding posts; 1-year guarantee; high frequency separate level control; cabinet recommendations.

Model AS-183, 15 lbs. . . no money dn., \$5 mo. \$49.95
 Model AS-183-2, 30 lbs. . . no money dn., \$10 mo. Special Pair Price \$95.00

AS-183 SPECIFICATIONS—Size: 12". Impedance: 8 ohms. Power rating: 30 watts. Frequency response: 20-15,000 cps. Cone resonance: 25 cps. Magnet weights: 1¾ lbs., 4.65 oz.

Accommodates 25 Watts . . . 12" 3-Way High Compliance, Edge-Damped Hi-Fi Speaker!

Superb Reproduction Over Entire 35-15,000 cps Range! Features high compliance, edge-damped woofer for deep, rich bass; high compliance cone for mid-range realism; and a special tweeter for crystal clear highs. Polarized speaker terminals provide proper phasing; 1¾ lb. ceramic annular-ring magnet; built-in crossover network; separate high frequency level control; cinnamon & tan color styling; 1-year guarantee.

Model AS-173, 14 lbs. . . no money dn., \$5 mo. \$39.95
 Model AS-173-2, 28 lbs. . . no money dn., \$8 mo. Special Pair Price \$76.00

AS-173 SPECIFICATIONS—Size: 12". Impedance: 8 ohms. Power rating: 25 watts. Frequency response: 35-15,000 cps. Cone resonance: 40 cps. Magnet weights: 1¾ lbs., 2½ oz.

Boasts 3 Radiating Elements . . . 12" 3-Way Coaxial Hi-Fi Speaker! ions

Features True Coaxial Design . . . with 3 separate radiating elements . . . woofer, tweeter and special-design horn tweeter. Mechanical & electrical crossover networks; die-cast frame construction assures precise alignment of speaker elements; high efficiency annular-ring magnets; polarized speaker terminals; separate high frequency level control; 1-year guarantee; cinnamon & tan color styling; cabinet recommendations.

Model AS-163, 12 lbs. . . no money dn., \$5 mo. \$29.95
 Model AS-163-2, 24 lbs. . . no money dn., \$6 mo. Special Pair Price \$57.00

AS-163 SPECIFICATIONS—Size: 12". Impedance: 8 ohms. Power rating: 20 watts. Frequency response: 40-15,000 cps. Cone resonance: 60 cps. Magnet weights: 13 oz., 1 oz. Voice coil sizes: 1½" and 1".

Handles 15 Watts, Covers 50-15,000 cps . . . 12" 2-Way Coaxial Hi-Fi Speaker!

Full-Range Sound At Big Savings! True coaxial design features separate woofer & tweeter with a built-in capacitive crossover network. High frequency level control permits balancing of highs and lows to fit room acoustics. Includes rigid die-cast metal frame, polarized binding posts; cinnamon & tan color styling; 1-year guarantee; cabinet recommendations.

Model AS-153, 10 lbs. \$19.95
 Model AS-153-2, 20 lbs. . . no money dn., \$5 mo. Special Pair Price \$38.00

AS-153 SPECIFICATIONS—Size: 12". Impedance: 8 ohms. Power rating: 15 watts. Frequency response: 50-15,000 cps. Cone resonance: 60 cps. Magnet weights: 10 oz., 1.47 oz. Voice coil sizes: 1" and ¾".

Have A Space Problem? Then Choose This 8" 2-Way Coaxial Hi-Fi Speaker!

Top Value In An 8" Speaker! Features separate cone woofer & tweeter, plus built-in capacitive crossover network and high frequency level control. Only 3½" deep . . . ideal for limited space enclosures. Has die-cast frame; polarized binding posts; cinnamon & tan color styling; 1-year guarantee; cabinet recommendations.

Model AS-133, 6 lbs. \$14.95
 Model AS-133-2, 12 lbs. . . no money dn., \$5 mo. Special Pair Price \$28.50

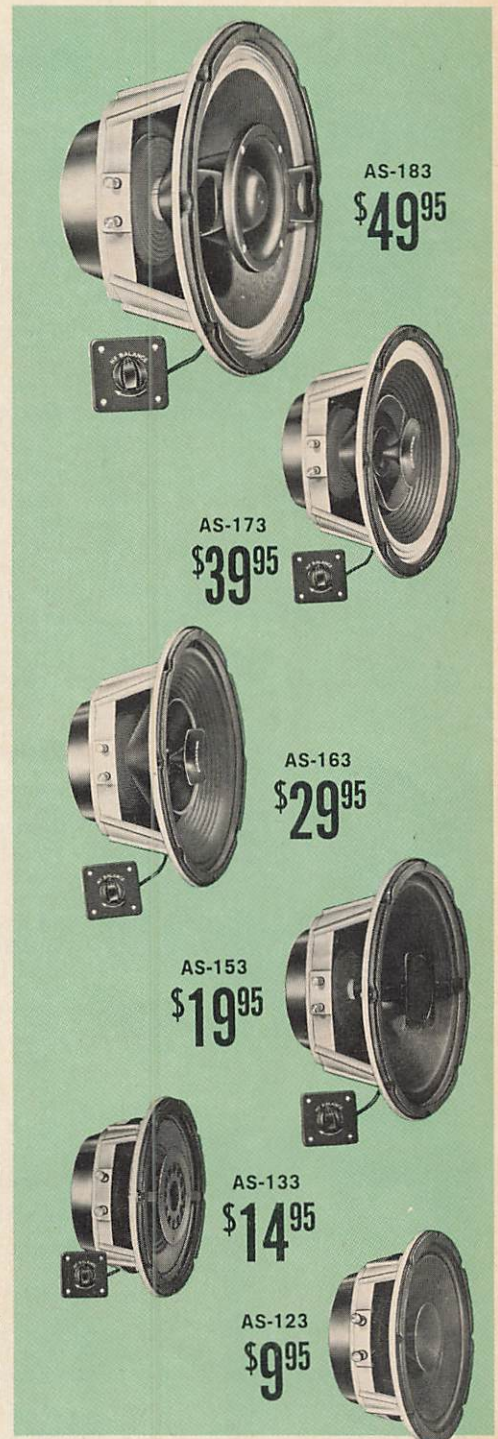
AS-133 SPECIFICATIONS—Size: 8". Impedance: 8 ohms. Power rating: 12 watts. Frequency response: 50-14,000 cps. Cone resonance: 70 cps. Magnet weights: 10 oz., 0.68 oz. Voice coil sizes: 1" and ¾".

Another Space-Saver . . . Low Cost 8" Dual-Cone Hi-Fi Speaker!

Ideal Where Space Is At A Premium! Only 3½" deep . . . perfect for "in-wall" installations & shallow cabinets. Features die-cast frame; polarized binding posts; dual-cone design; 10-ounce annular-ring magnet; cinnamon & tan color styling; 1-year guarantee; cabinet recommendations.

Model AS-123, 5 lbs. \$9.95
 Model AS-123-2, 10 lbs. . . Special Pair Price \$19.00

AS-123 SPECIFICATIONS—Size: 8". Impedance: 8 ohms. Power rating: 12 watts. Frequency response: 50-12,000 cps. Cone resonance: 70 cps. Magnet weight: 10 oz. Voice coil size: 1".



Enjoy Added Realism & Armchair Comfort With These Stereo Accessories!



A New! Telex "Adjustatone" Stereo Headset

Big 3½" speakers . . . over 7 sq. in. of cone area . . . deliver wide response. Exclusive "Forward Sound" acoustic effect puts stereo up front for "audience seat" listening. Adjust to normal "in-head" stereo by simply reversing headphones. Lightweight foam cushions . . . easily adjustable. 8' cord with phono plug.

MODEL ADP-135, 2 lbs. \$15.95

ADP-135 SPECIFICATIONS—Driver Element: Dynamic. Sensitivity: 100 db/mv. Frequency Response: 10-15,000 cps. Impedance: Designed to operate from 3-16 ohm output sources. Distortion: At Normal Listening Levels, less than 1%. Cord Length: 8 ft. 4-wire with 3-circuit phono plug.

B Telex ST-11 Stereo Headset

Relax and enjoy your favorite music anywhere in the room without destroying the "true" stereo effect! Soft, pliable foam rubber muffs shut out "unwanted" outside noise . . . help develop excellent bass response and wide frequency range! Comfortable, lightweight! Easy-to-clean stainless steel headband and yoke. Order yours now!

MODEL ADP-92, 2 lbs. \$23.92

ADP-92 SPECIFICATIONS—Driver element: Dynamic. Sensitivity: better than 95 db. Frequency response: 16 to 15,000 cps. Impedance: 8 ohms for use with 3 to 16 ohm sources. Power input: 15 milliwatts, 1 watt maximum. Cord: 4-wire 12 ft. long with spade terminals. Color: Tan & Brown.

C Stereo Headphone Control Box!

Simply switch from speaker to headphone listening *without* leaving your favorite chair! Connects to any amplifier regardless of power, & has standard jacks to accommodate *any impedance* stereo headset! Allows separate control of 2 headsets, plus individual adjustment for each ear! Includes 15' of cable & assembles easily in 1½ hours! Compact . . . 3" W x 6" D x 3¼" H . . . fits anywhere! Order yours now!

Kit AC-13, 3 lbs. \$9.95

Amateur Radio Electronics



Heathkit "Single-Bander" SSB Transceivers . . .

Choose 80, 40, or 20 Meter Models

- True transceivers for 80, 40, or 20 meter SSB operation • LSB on 80 & 40 meters, USB on 20 meters • 200 watts P.E.P. input—Two 6GE5 RF amplifiers • Excellent exciter for operation with the KW Kompact • Crystal filter type SSB generation • ALC, AVC, and S-meter • Built-in VOX & push-to-talk circuitry • Stable low frequency VFO • 2 kc dial divisions—6" bandspread—vernier tuning

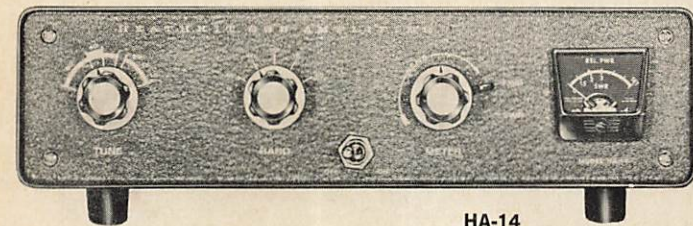
For The Ham On The Move . . . Or For The Economy Minded . . . Here are filter type SSB transceivers which operate either fixed or mobile!

- Kit HW-12: 80-meter, 15 lbs. . . No money down, \$11 mo. \$119.95
- Kit HW-22: 40-meter, 15 lbs. . . No money down, \$11 mo. \$119.95
- Kit HW-32: 20-meter, 15 lbs. . . No money down, \$11 mo. \$119.95
- GH-12, Push-to-talk and VOX microphone. . . 2 lbs. \$6.95
- Kit HRA-10-1, Plug-in 100 kc crystal calibrator. . . 1 lb. \$8.95
- Kit HP-13, DC Power Supply (Mobile) 7 lbs. . . no money dn., \$6 mo. \$59.95
- Kit HP-23, AC Power Supply (Fixed station), 19 lbs. . . no money dn., \$5 mo. \$39.95
- Kit HS-24, Mobile Speaker, 4 lbs. \$7.00

SPECIFICATIONS—RF input: 200 watts PEP. **Sideband generation:** Crystal lattice band-pass filter method. **Stability:** 200 cps per hour after warm-up. **Carrier & unwanted sideband suppression:** 45 db. **Frequency coverage:** HW-12, 3.8—4.0 mc; HW-22, 7.2—7.3 mc; HW-32, 14.2—14.35 mc. **Receiver sensitivity:** 1 uv for 15 db (S+N)/N ratio. **Receiver selectivity:** 2.7 kc @ 6 db, 6.0 kc @ 50 db. **Output:** 50 ohm fixed (unbalanced). **Operation:** HW-12 & HW-22, LSB; HW-32, USB. **Audio output:** 1 watt @ 8 ohms. **Mike input:** Hi-Z. **Panel controls:** Frequency, final tune, function (OFF-PTT-VOX-TUNE), RF gain, AF gain (pull for crystal calibrator), VOX gain, meter. **Front panel screw-driver adjust** for S-meter and VOX delay. **Rear panel controls:** Mike gain, tune level, final bias. **Tube complement:** Fourteen tube heterodyne circuit; (3) 6EA8's mic. amp., VOX relay amp., IF amp, RF amp., Recvr. mixer; (5) 6AU6's, VFO, VOX amp., IF amps., Xmtr. mixer; (1) 6BE6, VFO isolator (HW-12), Het. osc. and mixer (HW-22 & HW-32); (1) 12BY7 Driver; (1) 12AT7 Xtal. osc., product det.; (1) 6EB8 Audio amp. and output; (2) 6GE5 RF output. **Power requirements:** 800 VDC @ 250 MA peak, 250 VDC @ 100 MA, —130 VDC @ 5 MA, 12 VAC or VDC @ 3.75 amperes. **Cabinet dimensions:** 6 1/4" H x 12 1/4" W x 10" D.



HW-12
\$119⁹⁵



HA-14
\$99⁹⁵

Heathkit "KW Kompact" . . . A New Dimension In Amateur Radio . . . 1000 Watts x 1 Foot Wide x \$99.95

- 1000 watts P.E.P. • Tunes 80 through 10 meters • ALC output to exciter • Built-in antenna change-over relay • Built-in SWR meter aids antenna adjustments on the road & monitors for maximum efficiency • Pretuned broad-band input circuit requires no tuning • Engineered with a pair of rugged tubes ideally suited to mobile operation (572-B's or T-160-L's) • Full provision for control of "remotely" located AC or DC power supply

The World's Smallest Kilowatt SSB Linear Amplifier . . . gives mobile signals added strength for reliable communication. With the appropriate power supply, the "KW Kompact" operates fixed or mobile. It can be driven by most SSB transmitters in the 100 watt output range. Go "KW Kompact" with a "Single-Bander" or SB-100 and get top performance . . . fixed or mobile.

- Kit HA-14, 10 lbs. . . No money down, \$10 mo. \$99.95
- Kit HP-14, D.C. Power Supply, 10 lbs., no money dn., \$9 mo. \$89.95
- Kit HP-24, A.C. Power Supply, 22 lbs., no money dn., \$5 mo. \$49.95

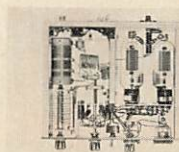
HA-14 SPECIFICATIONS—Band coverage: 80, 40, 20, 15, and 10 meters. **Maximum power input:** SSB, 1000 watts P.E.P. **Driving power required:** 100 watts P.E.P. **Duty cycle:** 50% (SSB voice modulation). **Third order distortion:**—30 db or better at 1000 watts P.E.P. **Output impedance:** Fixed 52 ohms unbalanced. **SWR** not to exceed 2:1. **Input impedance:** 52 ohms unbalanced; broad-band pretuned input circuit. **Meter functions:** 0.6 relative power & 1:1 to 3:1 SWR. **Front panel controls:** Tuning, band switch, relative power sensitivity control, meter switch (FWD & SWR), power switch (off, on). **Tube complement:** Two 572-B (or two T160-L) in parallel. **Power requirements:** 2000 VDC at 500 ma SSB peak, —110 VDC at 60 ma, and 12.6 V. AC or DC at 4 amperes. **Cabinet Size:** 12-3/16" W x 3-3/16" H x 10" D.



Picture a "KW Kompact" on your operating desk. Handsome design, small size. Ideal for portable operation, too!



A kilowatt in a car? Stack your KW Kompact with your transceiver . . . in most cars there's room to spare.

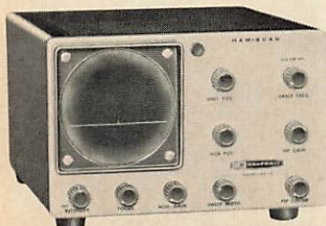


Inside, a neat layout that makes assembly easy . . . quality components for dependable operation.

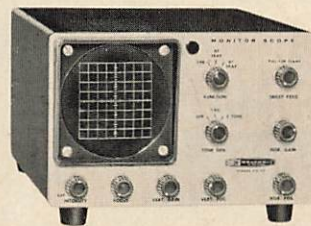
Heathkit "Ham-Scan" Spectrum Monitor

"Ham-Scan" Visually Shows All Signals Within Your Receiver Bandpass And Up To 50 KC Above And Below The Frequency To Which You Are Tuned . . . adds sight to sound for signal reports. Operates with IF's of 455, 1600, 1650, 1681, 2075, 2215, 2445, 3000, 3055, 3395 kc. Identifies emission types . . . pinpoints spurious signals.

- Kit HO-13, 13 lbs., . . . no money dn., \$9 mo. \$82.95
- Export model available for 115/230 VAC, 50-60 cps; write for prices.



HO-13
\$82⁹⁵



HO-10
\$64⁹⁵

HO-10 Signal Monitor

Here's The Most Widely Chosen Amateur Scope On The Market . . . Displays envelope, AF & RF trapezoid patterns, handling power outputs from 5 watts to 1 kilowatt. Simple to connect, yet the HO-10 provides the true, accurate picture of your transmitted envelope . . . positively spots over-modulation.

- Kit HO-10, 13 lbs., no money dn., \$7 mo. \$64.95
- Export model available for 115/230 VAC, 50-60 cps; write for prices.

Heathkit® Deluxe SB-Series Sets The Pace

See The
New SB-600
Matching
Speaker
On Page 34

SB-300
\$250⁰⁰

- A New standard of amateur performance & value • Complete coverage of 80 through 10 meter amateur bands with all crystals furnished, plus provision for VHF converters • Crystal-controlled front-end for same rate tuning on all bands • 1 kc dial calibrations—100 kc per dial revolution • Bandspread equal to 10 feet per megacycle • Tuning dial to knob ratio approx. 1-to-4 • Provision for Transceive operation with matching SB-400 Transmitter • Pre-built Linear Master Oscillator (LMO), wiring harness and two heavy-duty circuit boards for fast, easy assembly • Professional styling & features at 60% savings

SB-400
\$325⁰⁰

- Built-in power supply • Complete transceive capability with SB-300 Receiver • Linear master oscillator frequency control • Built-in antenna change-over relay • All crystals supplied for complete 80-10 meter coverage • Automatic level control for higher talk power, minimum distortion • 180 watts PEP SSB, 170 watts CW • Crystal filter type SSB generation • Operates SSB (upper or lower sideband) & CW • VOX & PTT control in SSB operation, VOX operated CW break-in using CW sidetone • CW "shift" transceive operation to eliminate transceiver chasing • Crystal controlled heterodyne oscillators • 1 kc dial calibration—100 kc per dial revolution • Dial bandspread equal to 10 feet per megacycle • 500 kc coverage per bandswitch position • Switched 120 V AC for external amplifier antenna relay

SB-200
\$200⁰⁰

- 1200 watts P.E.P. input SSB—1000 watts CW • 80 through 10 meter band coverage • Built-in SWR meter—Antenna relay—Solid-state power supply • Automatic Level Control (ALC) • Shielded, fan-cooled amplifier compartment • Pre-tuned cathode input circuit for maximum efficiency & low distortion • Circuit-breaker power supply protection—no fuses • Designed for 120/240 volt operation

Heathkit SB-300 Amateur Receiver

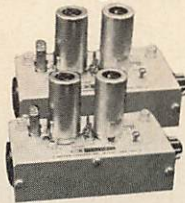
Your Best Buy In An Amateur Radio Receiver! The Heathkit SB-300, the first in this deluxe series of SSB equipment, has set the standards for value & performance in amateur-band receivers. A high-performance, five-band, 80-10 meter receiver with built-in power supplies, optional 6 and 2 meter converters, and tuning for AM, CW, and SSB... the SB-300, at a fraction of the cost of others, is a receiver that outperforms them all! To believe it, check out the reviews in the magazines... or better yet, get on the air, and talk to a ham who owns one.

Stable, Accurate, Versatile. Drift less than 100 cps per hour after warm up... less than 100 cps with a 10% line voltage variation! A linear master oscillator with 1 kc dial calibrations that is electrically accurate to within 400 cps on all bands and visually accurate within 200 cps! And there's a built-in crystal calibrator and a no-backlash vernier dial drive to help. Nothing's been left out in this design... a sealed 2.1 kc crystal bandpass filter; optional AM and CW crystal filters; provision for optional VHF converters; provision for transceive mode with the SB-400 below... everything you need to put it to work in your shack and in exactly the way you've been wanting a receiver to work.

Order Your SB-300 Now! This is the one you've been waiting for... a deluxe, professional receiver with a realistic price tag... know the enjoyment of operating with the best... with your own SB-300!

Kit SB-300, less speaker, 23 lbs., no money dn., \$23 mo. \$250.00
 SBA-300-1 Optional AM crystal filter (3.75 kc), 1 lb. \$19.95
 SBA-300-2 Optional CW crystal filter (400 cps), 1 lb. \$19.95
 Export model available for 115/230 VAC, 50-60 cps; write for prices.

SB-300 SPECIFICATIONS—Frequency range (megacycles): 3.5 to 4.0, 7.0 to 7.5, 14.0 to 14.5, 21.0 to 21.5, 28.0 to 28.5, 28.5 to 29.0, 29.0, to 29.5, 29.5 to 30. Intermediate frequency: 3.395 megacycles. Frequency stability: Less than 100 cps per hour after 20 min. warmup under normal ambient conditions. Less than 100 cps for $\pm 10\%$ line voltage variation. Visual dial accuracy: Within 200 cps on all bands. Electric dial accuracy: Within 400 cps on all bands after calibration at nearest 100 kc point. Backlash: No more than 50 cps. Sensitivity: Less than 1 microvolt for 15 db signal plus noise-to-noise ratio for SSB operation. Modes of operation: Switch selected; LSB, USB, CW, AM. Selectivity: SSB: 2.1 kc at 6 db down, 5.0 kc at 60 db down (crystal filter supplied). AM: 3.75 kc at 6 db down, 10 kc at 60 db down (crystal filter available as accessory). CW: 400 cps at 6 db down, 2.5 kc at 60 db down (crystal filter available as accessory). Spurious response: Image and IF rejection better than 50 db. Internal spurious signals below equivalent antenna input of 1 microvolt. Audio response: SSB: 350 to 2450 cps nominal at 6 db. AM: 200 to 3500 cps nominal at 6 db. CW: 800 to 1200 cps nominal at 6 db. Audio output impedance: Unbalanced nominal 8 ohm speaker and high impedance headphone. Audio output power: 1 watt with less than 8% distortion. Antenna input impedance: 50 ohms nominal. Muting: Open external ground at Mute socket. Crystal calibrator: 100 kc crystal. Front panel controls: Main tuning dial; function switch; mode switch; AGC switch; band switch; AF gain control; RF gain control; preselector; phone jack. Rear apron connections: Accessory power plug; HF antenna; VHF #1 antenna; VHF #2 antenna; mute; spare; anti-trip; 500 ohm; 8 ohm speaker; line cord socket; heterodyne oscillator output; LMO output; BFO output; VHF converter switch. Tube complement: (1) 6BZ6 RF amplifier; (1) 6AU6 Heterodyne mixer; (1) 6AB4 Heterodyne oscillator; (1) 6AU6 LM osc.; (1) 6AU6 LMO mixer; (2) 6BA6 IF amplifier; (1) 6AU6 Crystal calibrator; (1) 6HF8 1st audio, audio output; (1) 6AS11 Product Detector, BFO, BFO Amplifier. Power supply: Transformer operated with silicon diode rectifiers. Power requirements: 120 volts AC, 50/60 cps, 50 watts. Dimensions: 14 $\frac{1}{8}$ " W x 6 $\frac{1}{8}$ " H x 13 $\frac{1}{8}$ " D. Net weight: 17 lbs.



Plug-in VHF Converters For SB-300

6 meter model extends coverage from 48-54 mc (50-52 mc crystal supplied). 2 meter model extends coverage from 142-150 mc (144-146 mc crystal supplied). Designed to plug-in to SB-300, but work with any receiver having proper voltages and 10 meter coverage.

SBA-300-3 (6 meter), 2 lbs. \$19.95
 SBA-300-4 (2 meter), 2 lbs. \$19.95

Heathkit SB-400 Transmitter

Incomparable In Value, Performance, & Design! The Heathkit SB-400 brings you the finest SSB Transmitter at tremendous dollar savings. The unique design features of the SB-400 include the use of compactron tubes for space-saving component layout, and heavy-duty circuit board construction plus a precut wiring harness for fast assembly, stable operating characteristics, and years of trouble-free performance. The SB-400 is the ideal "mate" for the SB-300, and offers complete transceive capability. It is your best value in SSB transmitters, bar none!

Check These Quality Features. Unique mechanical design combined with a prebuilt Linear Master Oscillator (LMO) for smooth, effortless tuning... 1 kc dial calibrations for precise frequency settings... 100 kc per dial revolution for bandspread equal to 10 feet per megacycle... a zero-set knob for precise calibration to a secondary standard... complete shielding and isolation of circuits for high stability and maximum TVI protection... built-in heavy-duty power supply (a feature not found in more expensive comparable transmitters)... and many more extras.

Beautiful Styling—Sturdy Construction. Neat, modern low-profile cabinet is attractively finished in light gray-green and fully perforated for

good ventilation. Cabinet top is hinged for easy access to all inside-top components. Front panel features green "textured" finish with dark green molded dial escutcheon and knobs with spun aluminum inserts. Heavy-gauge aluminum chassis construction provides extra strength without excessive weight.

Easy To Build Too! Factory built LMO and crystal filter; just two easy circuit boards and the help of three wiring harnesses.

Order Your SB-400 Now! It belongs in your ham shack.

Kit SB-400, 34 lbs., \$33 dn., \$28 mo. \$325.00
 Export model available for 115/230 VAC, 50-60 cps; write for prices.

HDP-21 (SSB "Ham" Mike, see pg. 35), 4 lbs., no money dn., \$5 mo. \$29.40

SB-400 SPECIFICATIONS—Emission: SSB (upper or lower sideband) and CW. Power input: 170 watts CW, 180 watts P.E.P. SSB. Power output: 100 watts (80-15 meters), 80 watts (10 meters). Output impedance: 50 to 75 ohm—less than 2:1 SWR. Frequency range: (mc) 3.5—4.0; 7.0—7.5; 14.0—14.5; 21.0—21.5; 28.0—28.5; 28.5—29.0; 29.0—29.5; 29.5—30.0. Frequency stability: Less than 100 cps per hr. after 20 min. warmup. Carrier suppression: 55 db below peak output. Unwanted sideband suppression: 55 db @ 1 kc. Intermodulation distortion: 30 db below peak output (two-tone test). Keying characteristics: Break-in CW provided by operating VOX from a keyed tone (Grid block keying). CW sidetone: 1000 cps. ALC characteristics: 10 db or greater @ 0.2 ma final grid current. Noise level: 40 db below rated carrier. Visual dial accuracy: Within 200 cps (all bands). Electrical dial accuracy: Within 400 cps after calibration at nearest 100 kc point (all bands). Backlash: Less than 50 cps. Oscillator feed-through mixer products: 55 db below rated output (except 3910 kc crossover which is 45 db). Harmonic radiation: 35 db below rated output. Audio input: High impedance microphone or phone patch. Audio frequency response: 350 to 2450 cps ± 3 db. Power requirements: 80 watts STBY, 260 watts key down @ 120 V AC line. Dimensions: 14 $\frac{1}{8}$ " W x 6 $\frac{1}{8}$ " H x 13 $\frac{1}{8}$ " D.

Heathkit SB-200 Kilowatt Linear Amplifier

A Husky Fixed-Station Kilowatt Linear... Complete With Built-In Power Supply... Only \$200.00! Here's a compact, self-contained final amplifier that provides 1200 watts P.E.P. input SSB, and 1000 watts CW, and matches the clean, uncluttered styling of the SB-300 & SB-400.

Completely Versatile. A high efficiency grounded-grid amplifier, the SB-200 can be driven by most popular SSB & CW exciters in the 150-200 watt power range. Can be operated from 120 or 240 VAC, feeds into the popular 52 ohm (or 75 ohm) unbalanced transmission line.

Loaded With Features. Such as the pre-tuned cathode input circuit for maximum efficiency and low distortion... Automatic Level Control output for automatic exciter control... two heavy-duty 572B/T-160L final amplifier tubes, fan-cooled for maximum life... complete shielding for TVI protection and stability... separate pi-network output coils for 80-20 & 15-10... conservatively rated solid-state power supply for long life and dependability... circuit breaker protection... built-in antenna relay for operating convenience (antenna is automatically switched to exciter when linear is turned off)... built-in panel meter that measures SWR, Relative Power, plate current, grid current, and

high voltage... sturdy, but lightweight, one piece aluminum chassis that is partitioned for extra strength and isolation (the whole thing only weighs 35 lbs.).

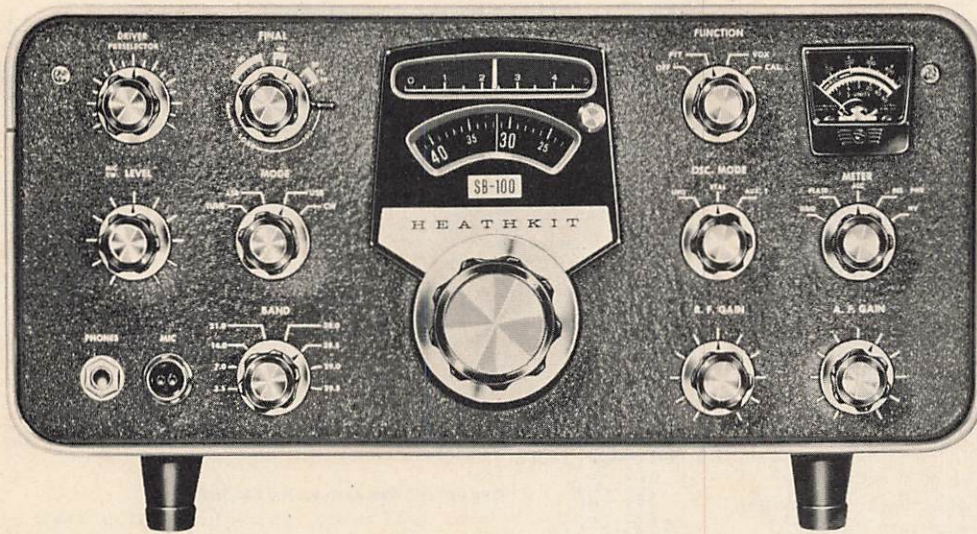
Easy To Build. Wide open layout plus a heavy duty circuit board for the power supply.

Now Is The Time! If you've been yearning for a full gallon, put this one on your desk top. For here is high quality, high power SSB at the price you've been waiting for... six watts per dollar! Order your SB-200 today!

Kit SB-200, 41 lbs., no money, \$19 mo. \$200.00

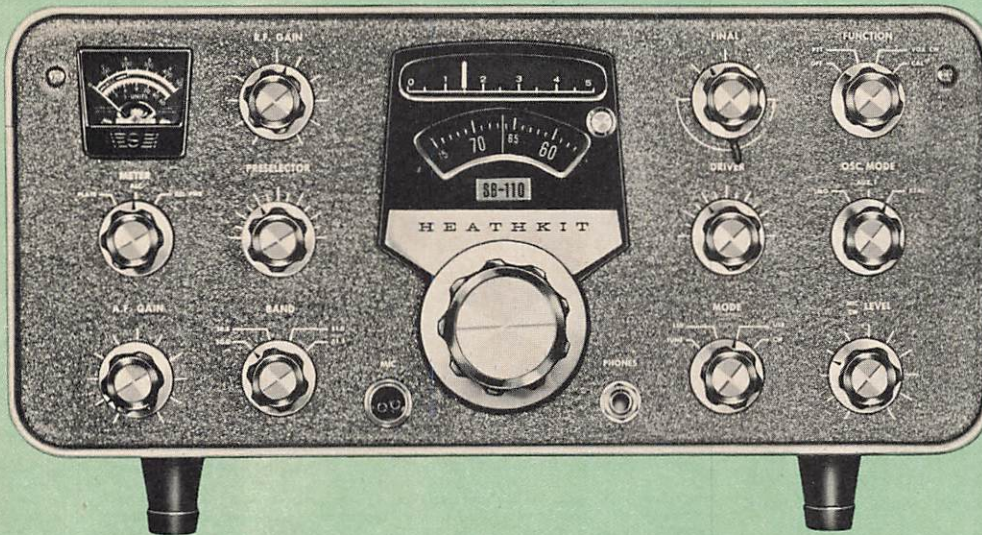
SB-200 SPECIFICATIONS—Band coverage: 80, 40, 20, 15 & 10 meters. Maximum power input: 1200 watts P.E.P. SSB, 1000 watts CW. Driving power required: 100 watts. Duty cycle: SSB, continuous voice modulation; CW, 50% (key down time not to exceed 5 min.). Third order distortion: 30 db or better at 1000 watts P.E.P. Output impedance: 50 to 75 ohm unbalanced; variable pi-output circuit. SWR not to exceed 2:1. Input impedance: 52 ohm unbalanced; broad-band pretuned input circuit requires no tuning. Meter functions: 0-100 ma grid current, 0-1000 ma plate current, 0-1000 relative power, 1:1 to 3:1 SWR, 1500 to 3000 volts high voltage. Front panel controls: Load; Tune; Band; Relative Power Sensitivity; Meter Switch; Grid-Plate-Rel. Power-SWR-HV; and Power Switch, on/off. Tube complement: Two 572B/T-160-L (in parallel). Power requirements: 120 volts AC @ 16 amperes (max.), 240 volts AC @ 8 amperes (max.). Cabinet size: 14 $\frac{1}{8}$ " W x 6 $\frac{1}{8}$ " H x 13 $\frac{1}{8}$ " D. Net weight: 35 lbs.

The World's Most Advanced SSB



- 180 watts input P.E.P. SSB—170 watts input CW on five bands, 80-10 meters
- Switch selection of Upper or Lower sideband or CW
- Built-in CW sidetone
- Operates PTT or VOX
- Transceiver tuning with Heath SB-Series LMO (Linear Master Oscillator; features 1KC dial calibration) or xtal-control transmit with VFO receive or crystal-control transceive
- Separate offset CW carrier crystal
- Triple Action Level Control™
- Built-in 100 kc crystal calibrator
- Quiet, enclosed relays
- Fixed or mobile operation with appropriate power supply
- Fast assembly with circuit boards and wiring harnesses
- Simple alignment—requires only a VTVM or VOM, a dummy load and a broadcast receiver

SB-100
\$360⁰⁰



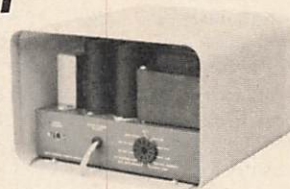
- Features the Heath SB-Series LMO (Linear Master Oscillator) for high stability, linear tuning, and 1 kc dial calibration
- Full SSB-CW transceive operation on six meters
- 180 watts input PEP SSB—150 watts CW
- Switch select for Upper Sideband/Lower Sideband/CW operation
- Separate offset CW carrier crystal for clear, pure, CW note
- ALC & ANL
- Built-in 100 kc calibrator & antenna switching
- Covers 50-52 mc with crystals supplied — total coverage 49.5-54 mc
- Crystal filter SSB generator
- Fixed station or mobile operation with the Heathkit HP-23 or HP-13 power supplies and SBA-100-1 mobile mount

SB-110
\$320⁰⁰

NEW! Heathkit Communications Speaker—Matches SB-Series Gear!

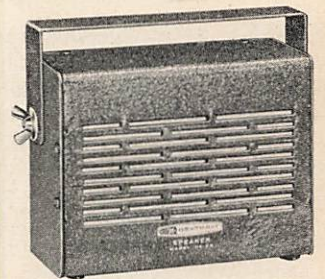


SB-600 Available Late April
\$17⁹⁵



Room inside for SSB Power supply (HP-23).

Heathkit Mobile Speaker Kit



HS-24
\$7⁰⁰

Now You Can Have A Truly Professional Looking SB-Series Fixed Station . . . by completing your rig with this matching speaker. Plus, the SB-600 enclosure includes space for mounting the HP-23 AC Power Supply for the SB-100 or SB-110. Engineered to provide the best audio from any make equipment. The 8 ohm, 6" x 9" speaker features 300 to 3,000 cps response for maximum SSB readability. Cabinet dimensions: 10" W x 6½" H x 10½" D.

SB-600, 5 lbs. \$17.95

Here's The Ideal Speaker For Use With All Heathkit Mobile Installations! This weatherproof 8 ohm, 4" x 6" oval speaker and rugged steel cabinet combination is especially designed for maximum communications intelligibility. Mounts most anywhere. Measures 6½" W x 4¾" H x 2½" D. Complete with gimbal mounting bracket.

Kit HS-24, 4 lbs. \$7.00

Amateur Band Transceivers



The Heathkit SB-100 80 Through 10 Meter SSB Transceiver

SB-100 Features Engineering Unequaled In The Industry! . . . It includes all of the high-performance innovations you've read, heard, talked about, or experienced on the already famous SB-Series equipment. A 6 pole crystal lattice filter, producing a superior 2 to 1 shape factor and symmetrical pass band . . . TALC and Switch-board construction . . . the versatility of 180 watt P.E.P. input power . . . fixed or mobile power supplies . . . and many more Heath-engineered features make this the most up-to-date amateur band SSB transceiver on the market today.

Heathkit Switch-Board™ Technique Produces Better Than Factory Assembled Results! . . . virtually eliminates point-to-point wiring of tuning circuitry. The removable switch shaft makes the assembly of Switch-Boards easy . . . makes tuning coils readily accessible.

TALC™ (Triple Action Level Control) Sets New Standards For Automatic Level Control. Three separate circuits are combined in TALC to provide greater speech compression . . . allow for even more variation in speech level . . . and boost the performance of the SB-100 still higher.

Order The SB-100 For The Best Value In SSB Transceivers . . . Regardless! We invite comparison of the SB-100 specs with those of any other make of SSB transceiver. (Write to Heath for complete specs with schematic.) You will agree that the SB-100 is the best investment you can make in amateur radio equipment. (Recommended for hams with previous electronic or kit building experience.)

- Kit SB-100, 23 lbs., \$36 dn., \$31 mo. \$360.00
- SBA-100-1, Mobile Mounting Kit, 6 lbs. \$14.95
- Kit HP-13, DC Power Supply, 7 lbs.
- no money dn., \$6 mo. \$59.95
- Kit HP-23, AC Power Supply, 19 lbs.
- no money dn., \$5 mo. \$39.95

PARTIAL SB-100 SPECIFICATIONS—Receiver section: Sensitivity: Less than 1 microvolt for 15 db signal-plus-noise to noise ratio for SSB operation. **SSB selectivity:** 2.1 kc minimum at 6 db down, 5 kc maximum at 60 db down—2:1 nominal shape factor—6:60 db. **Power output:** 2 watts. **Spurious response:** Image and IF rejection better than 50 db. Internal spurious signals below equivalent antenna input of 1 microvolt. **Transmitter section: DC power input: SSB:** 180 watts P.E.P. continuous voice. **CW:** 170 watts—50% duty cycle. **RF power output:** 100 watts on 80 through 15 meters; 80 watts on 10 meters (50 ohm nonreactive load). **Output impedance:** 50 ohms to 75 ohms. **Oscillator feed-through or mixer products:** 55 db below rated output. **Harmonic radiation:** 35 db below rated output. **Carrier suppression:** 50 db down from single-tone output. **Unwanted sideband suppression:** 55 db down from single-tone output at 1000 cps reference. **Third order distortion:** 30 db down from two-tone output. **Noise level:** At least 40 db below single-tone carrier. **General: Frequency coverage:** 3.5 to 4.0; 7.0 to 7.3; 14.0 to 14.5; 21.0 to 21.5; 28.0 to 28.5; 28.5 to 29.0; 29.0 to 29.5; 29.5 to 30.0 (megacycles). **Frequency stability:** Less than 100 cps per hour after 20 minutes warmup from normal ambient conditions. Less than 100 cps for ±10% line voltage variations. **Modes of operation:** Selectable upper or lower sideband (suppressed carrier) and CW. **Dial accuracy—“Resetability”:** Within 200 cps on all bands. **Electrical dial accuracy:** Within 400 cps after calibration at nearest 100 kc point. **Dial mechanism backlash:** Less than 50 cps. **Calibration:** 100 kc crystal. **Audio frequency response:** 350 to 2450 cps. **Power requirements:** 700 to 800 volts at 250 ma; 300 volts at 150 ma; —110 volts at 10 ma; 12 volts at 4.76 amps. **Cabinet dimensions:** 14 7/8" W x 6 5/8" H x 13 3/8" D.

The Heathkit SB-110 6-Meter Transceiver

SB-110 Puts The Famous Heathkit SB-Series On 6 Meters. Now you can work six with a truly high-performance rig. Here's a 180-watt P.E.P. input SSB rig with "DC Band" stability, plus PTT or VOX control, single knob tuning, switch selected modes for either crystal controlled transceiver or crystal controlled transmit, variable receive operation and works CW or cross-mode for added versatility.

A Truly Great Heritage! The SB-110 provides full 6 meter transceiver operation with the same selectivity, stability, calibration, performance, and value already made famous by the Heathkit SB Series equipment for operation on 80-10 meters. Enjoy operating features that cannot be found in any other comparable transceiver on the market today! Discover the satisfaction of having a 6 meter signal with the real punch of SSB . . . of completing "solid copy" QSO's when band openings are minimal . . . of extending ground wave coverage . . . of owning and operating a high performance 6 meter rig you have assembled yourself.

- Kit SB-110, 23 lbs. . . \$32 dn., \$27 mo. \$320.00
- Kit HP-13, DC Power Supply, 7 lbs. . . no money dn., \$6 mo. \$59.95

- Kit HP-23, AC Power Supply, 19 lbs. . . no money dn., \$5 mo. \$39.95
- Kit SBA-100-1, Mobile Mounting Kit, 6 lbs. \$14.95

PARTIAL SB-110 SPECIFICATIONS—RECEIVER SECTION: Sensitivity: 0.1 uv for 10 db signal-plus-noise to noise ratio. **Selectivity:** 2.1 kc @ 6 db down, 5 kc max. @ 60 db down. **Image rejection:** 50 db or better. **IF rejection:** 50 db or better. **Audio output power:** 1 watt. **AGC characteristics:** Audio output level varies less than 12 db for 50 db change of input signal level (0.5 uv to 150 uv). **TRANSMITTER SECTION: DC power input:** SSB, 180 watts PEP; CW, 150 watts. **RF power output:** SSB, 100 watts PEP. CW, 90 watts (50 ohm non-reactive load). **Output impedance:** 50 ohm nominal with not more than 2:1 SWR. **Carrier suppression:** 55 db down from rated output. **Unwanted sideband suppression:** 55 db down from rated output @ 1000 cps & higher. **Distortion products:** 30 db down from rated PEP output. **Hum & noise:** 40 db or better below rated carrier. **Keying characteristics:** VOX operated from keyed tone using grid-block keying. **GENERAL: Frequency coverage:** 49.5 to 54.0 mc in 500 kc segments (50.0 to 52.0 mc with crystals supplied). **Frequency selection:** Built-in LMO or crystal control. **Frequency stability:** Less than 100 cps drift per hour after 20 minutes warmup under normal ambient conditions. Less than 100 cps drift for ±10% supply voltage variations. **Dial Accuracy:** Electrical, within 400 cps on all band segments, after calibration at nearest 100 kc point. Visual, within 200 cps. **Dial backlash:** No more than 50 cps. **Calibration:** Every 100 kc. **Power requirements:** High voltage, +700 v. DC @ 250 ma with 1% max. ripple. Low voltage, +250 v. DC @ 100 ma with .05% max. ripple. Bias voltage, —115 v. DC @ 10 ma with .5% max. ripple. Filament voltage, 12.6 v. AC/DC @ 4.355 amps. **Dimensions:** 14 7/8" W x 6 5/8" H x 13 3/8" D.

A Special SSB "Ham" Microphone

The Perfect Mike For Use With The SB-100, SB-110, or SB-400. Special response, 300 to 3,000 cps, favors voice frequencies for clear, sharp SSB communications. Mike stand has grip-to-talk switch with lock position. Hi-Z output. Rugged die-cast zinc case. Complete with wiring diagrams for use with any rig. Cables included.

- HDP-21, 4 lbs. . . No money down, \$5 mo. \$29.40

B Push-To-Talk Mobile Microphone

Here's A Longtime Favorite Mobile Mike! The GH-12 features a ceramic element with shaped response for voice frequencies—excellent for either AM or SSB communications. It's also ideally suited to the rugged work-out given to mobile equipment—stands up well even under the temperature extremes that sometimes occur in parked cars. Complete with cable, less connector.

- Model GH-12, 2 lbs. \$6.95

C Universal Mobile Mounting Bracket For SB-100 & SB-110

Go Mobile With The SB-100 or SB-110! The SBA-100-1 permits easy installation of either transceiver on the transmission hump or under the dash. Heath-Engineered cantilever suspension provides firm support . . . allows quick plug-in of either transceiver (not interchangeable) in your car for quick transfer from fixed to mobile operation.

- Kit SBA-100-1, 6 lbs. \$14.95



World's Largest

Heathkit Solid-State Electronic Keyer

- Dependable solid-state circuitry • Speed range—15 to 60 words per min. Slow-speed option—10 to 20 wpm • Self-completing dashes • Solid-state switching—no relays to stick or chatter—no contact bounce to punch holes in characters • Built-in paddle—"feel" is adjustable to your fist during assembly • Adaptable to either right or left handed operators • Engineered to convert easily to semi-automatic operation if desired • Variable dot-space ratio • Hold switch for transmitter tuning • Built-in side-tone • Built-in transformer-operated power supply isolates the keyer from the power line • Fused for protection

Kit HD-10, 6 lbs., no money dn., \$5 mo. \$39.95

HD-10 SPECIFICATIONS—Keying: Speed range—15 to 60 wpm. Slow speed option—10 to 20 wpm. Keying output: Keyed line to chassis ground. Voltage polarity: Negative to ground only. Maximum open circuit or spike voltage: 105 volts. Key-closed voltage: 0.2 volts, max. Key-closed current: 35 milliamperes, max. General: Audio: Internal speaker or high impedance headphone jack. Transistor complement: (7) 2N407 PNP; (3) 2N2712 NPN; (1) 2N398A PNP. Controls: Off-Operate-Hold switch; Speed control; Dot-To-Space ratio control. Rear panel connections: Keyed line; receiver audio; battery +45 volts; battery +22½ volts. External key options: hand key, dash arm, dash, dot. Power requirements: AC operation, 105-125 V. AC, 50-60 cps. Battery operation, 45 volts with 22½ V. tap; 14 milliamperes. Dimensions: 3¼" W x 4¼" H x 10½" D.

HD-10
\$39.95



HR-10
\$75.00

Heathkit HR-10 Amateur Band Receiver

An Excellent Performer For The Beginning Ham

- Amateur band coverage only for maximum stability & accuracy • Tunes SSB, AM, & CW on 80-10 meter bands • Lattice-type crystal filter for high selectivity • 100 kc crystal calibrator plugs in inside receiver enclosure • Superheterodyne with RF stage for extra sensitivity • Prebuilt, prealigned tuning unit for fast, simple assembly

A Fine Receiver Any Amateur Would Be Proud To Own! HR-10 includes an "S" meter, separate RF and AF gain controls, an accessory power socket, and BFO tuning. It has the solid stability you need for listening to SSB or working CW . . . the sensitivity you need to pull weak signals out of the "mud." The HR-10 will prove itself a real performer, whatever your test for receiver quality.

Kit HR-10, 20 lbs., no money dn., \$8 mo. \$75.00
Kit HRA-10-1, Plug-in 100 kc crystal calibrator, 1 lb. \$8.95
Kit HS-24, Speaker, 4 lbs. (See page 34 for details) \$7.00
Export model available for 115/230 VAC, 50-60 cps; write for prices.

HR-10 SPECIFICATIONS—Frequency coverage: 80 through 10 meters. IF frequency: 1681 kc. Sensitivity: 1 uv for 10 db signal-to-noise ratio. Image rejection: 40 db or better. Selectivity: 3 kc at 6 db, 9 kc at 40 db. Input impedance: 50 to 75 ohm, coaxial. Audio output impedance: 8 or 500 ohm. Tube complement: 6BZ6, (2) 6EAB, 6BA6, 6BJ7, 6EB8, 6X4. Power requirements: 117 volts AC, 50/60 cycles, 50 watts. Dimensions: 13¼" W x 11½" D x 6½" H.



DX-60A
\$79.95

Heathkit DX-60A Phone & CW Transmitter . . . Mate To The HR-10

- 90 watts phone or CW—80 through 10 meters • Neutralized 6146 final amplifier • Built-in low pass filter • Grid block keying—easy access to crystal sockets • May be run at reduced power for novice operation • Transmitter mate of the HR-10

Novice Or Old-Timer, Choose The DX-60A! If you're a novice, the DX-60A is right for you. Operate it at the required 75-watt maximum (crystal control) for novice class CW . . . and later when you get your general class phone license, go to VFO control and use the DX-60A's full 90 watts of power. (See the HG-10 VFO below, an excellent VFO for the DX-60A). No transmitter in this price range will offer you more.

Check These Advanced Features . . . a low-pass filter suppresses harmonic interference, a neutralized final amplifier for high stability, excellent grid block keying, switch selection of four crystal positions or external VFO for full coverage of amateur bands, and single-knob bandswitching. Compare! . . . you'll choose the Heathkit DX-60A.

Kit DX-60A, 24 lbs. . . (less crystals) . . . no money dn., \$8 mo. . . \$79.95
Export model available for 115/230 VAC, 50-60 cps; write for prices.

DX-60A SPECIFICATIONS—Power input: 90 watts peak; controlled carrier phone, or CW. Output impedance: 50-75 ohm (coaxial). Output coupling: Pi-network. Operation: CW or AM phone—crystal or VFO control. Band coverage: 80 through 10 meters. Power Requirements: 105-125 V., 50-60 cps, 225 watts. Dimensions: 13¼" W x 11½" D x 6½" H.

Heathkit VFO . . . For 80-2 Meters

HG-10
\$34.95

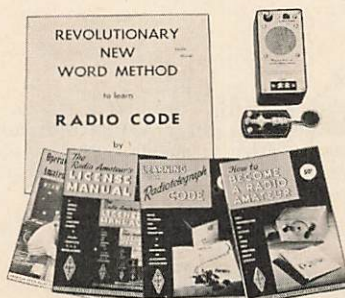


- Perfect VFO for DX-60A transmitter
- Will drive most other transmitters—provides 5 volts RMS output
- Smooth vernier tuning has 28 to 1 ratio
- "Spot" switch for off-the-air tuning
- Output 3.5 to 4 & 7 to 9 mc range

Now! . . . work VFO on all bands . . . enjoy the operating convenience of being able to QSY anywhere within the bands. Styled to match the DX-60A, the HG-10 will compliment any outfit. Rugged, stable design. Keys beautifully.
Kit HG-10, 12 lbs., no money dn., \$5 mo. \$34.95

Learn About Amateur Radio

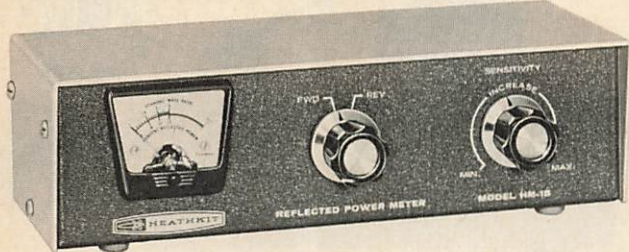
Obtain Your FCC License Fast . . . Course includes 4 authentic American Radio Relay League handbooks: "How To Become A Radio Amateur"; "Radio Amateur's License Manual"; "Learning The Radio-Telegraph Code"; "Operating an Amateur Radio Station"; and code oscillator kit. Plus —3 records that teach code by revolutionary "word-method."



HDP-22, Amateur Radio Starter Group, 6 lbs., Save \$3.00 . . . \$15.95
HDP-32, Code Records only, 2 lbs. \$9.50
HDP-42, ARRL Books only (4), 2 lbs. \$2.00
Kit CO-1, Oscillator plus Key only, 2 lbs. \$7.95

Selection Of Amateur Radio Equipment

New! Heathkit HM-15 Reflected Power Meter



NEW LOW PRICE!
HM-15
\$14.95

- Indicates forward or reflected power and SWR • Band coverage is 160 through 6 meters
- Handles peak power of well over 1 kilowatt • Matches 50 or 75 ohm lines • Matches Heathkit SB-Series equipment • Easy to assemble

Heathkit Reflected Power Meter (SWR Meter) Shows Antenna/Transmission Line Match . . . enables you to design your antennas for maximum efficiency. HM-15 measures forward and reflected power for direct reading of percentage of forward and reflected power, and voltage-standing-wave-ratio (SWR) from 1:1 to over 3:1. Sensitivity control adjusts for full-scale readings at nominal transmitter output. Ideal for matching impedances between exciters and final amplifiers, or for designing multielement antennas.

Kit HM-15, 2 lbs. \$14.95

HM-15 SPECIFICATIONS—Operation: Indicates percentage of forward and reflected power, and voltage standing wave ratio (SWR). RF Power Handling Capability: One kilowatt. Input And Output Impedance: 50 or 75 ohm. Band Coverage: 160 through 6 meters. Meter: 100 microamperes, full scale. Dimensions: 9 1/4" L x 3 3/8" W x 2 3/8" H.

New! Heathkit HD-15 Hybrid Phone Patch . . . More Features, Lower Price!



NEW LOW PRICE
HD-15
\$24.95

- Features individual gain controls for receiver-to-line & line-to-transmitter audio level • VU meter to monitor audio levels • Operates with VOX or PTT • Convenient one-switch operation

Efficient Transfer Of Amateur Radio Communications To Telephone Lines With A Flip-Of-A-Switch . . . ideal for heavy SSB phone patch traffic. The HD-15 transfers audio to 600 ohm telephone lines with negligible hum or crosstalk. Operates with virtually all transmitters and receivers. Styled to match the new Heathkit SB series equipment. Use with 3 to 16 ohm speakers and Hi-Z or 600 ohm transmitter phone patch inputs.

The HD-15 Hybrid Phone Patch is a fun kit to build! . . . assembles in just one evening. It's the perfect complement to the well outfitted amateur station.

Kit HD-15, 3 lbs., no money dn., \$5 mo. \$24.95

HD-15 SPECIFICATIONS—Circuit: Telephone hybrid circuit. Allows voice control or manual operation. Single switch places unit in full operation. Telephone Line Input Impedance: Approximately 600 ohm. Meter: Standard VU meter for constant output monitoring and null depth indication. Null Depth: At least 30 db isolation between transmit and receive circuits. Receiver Impedance: Effective match from 3 to 16 ohm. Transmitter Impedance: 600 ohm or high impedance output. Cabinet Size: 9 1/4" L x 3 3/8" W x 2 3/8" H.

Go VHF For Less Than \$50.00 With Benton Harbor Lunch Boxes!

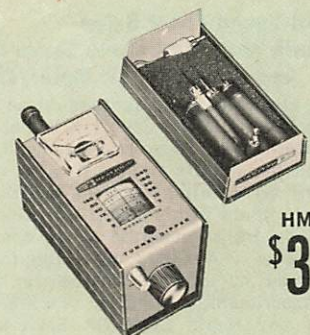
- Ideal for CAP, MARS, local net or emergency operations • Crystal controlled transmitter—5 watt input
- HW-30 2-meter model capable of operation on new USCG Auxiliary frequency 143.28 mc.

Complete Transceivers . . . Include ceramic microphone, meter jack, and power cables for mobile operation. Use Heathkit GP-11 for mobile power. Crystals (not supplied) are in 8 mc range.

Kit HW-29A (6 meter), 9 lbs., no money dn., \$5 mo. \$44.95
Kit HW-30 (2 meter), 9 lbs., no money dn., \$5 mo. \$44.95
Kit GP-11, Mobile Power Supply, 6 lbs. \$16.88



HW-29A
\$44.95



HM-10A
\$34.95

Heathkit HM-10A "Tunnel Dipper"

One Of The Handiest Instruments A Ham Can Own. Here's the modern version of the grid-dip meter. The all solid-state tunnel diode oscillator covers 3 to 260 mc . . . indicates resonance with the circuit under test (coils, antennas, etc.) by a dip in the meter reading. Doubles as an absorption wave meter. Easy to build. Gear-drive tuning provides smooth frequency control. Coils are epoxy coated for durability, and color coded to match the dial scales. Less battery.

Kit HM-10A, 3 lbs., no money dn., \$5 mo. \$34.95

"Antenna" Dummy Load

Make "On-The-Air" Transmitter Checks Without Creating Harmful Interference. Run up to a kw with less than 1.5 V.S.W.R. on 50 ohm input. Usable to 300 mc. Less oil.

Kit HN-31, 3 lbs. \$9.95

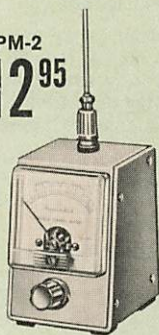


HN-31
\$9.95

PM-2
\$12.95

Heathkit Handy RF Power Meter

Shows Relative Power Output Of Transmitter . . . for checkup and tuning. Samples the RF field near the transmitter antenna. Range: 100 kc-250 mc. Kit PM-2, 2 lbs. \$12.95



Heathkit Crystal Calibrator

For Calibrating Communications Receivers . . . provides accurate signals every 100 kc from 100 kc to over 54 mc. Uses 9 v. battery . . . NEDA type 1600. (Not included.) Kit HD-20, 1 lb. \$14.95



HD-20
\$14.95



HDP-293
\$4.00

Radio Amateur's Handbook

Latest Edition . . . covers all phases of amateur radio electronics, plus tube & transistor data.

HDP-293, 3 lbs. \$4.00

Heath Malmstadt-Enke Laboratory



New! . . . Multi-Speed Chart Drive For Heath Malmstadt-Enke Servo-Chart Recorders And Recording pH Meter/Electrometer

- All solid-state electronics • Instantaneous selection of 21 accurate speeds from 5 seconds to 2 hours per inch (12 inches/minute to 0.5 inches/hour) —when using internal line frequency signal • Unlimited variation in speeds up to 12 inches per minute when using an external chart drive signal • 21-position chart drive switch features five rate scales—seconds per inch, minutes per inch, hours per inch, inches per minute, and inches per hour • All chart speeds are as accurate as 60 cps AC line signal, when using internal drive signal • Auxiliary input terminals enable the chart motor to be programmed by external chart-drive signals • Output signal for synchronizing experimental events or synchronizing other recorders • Can be installed in any Heath EUW-20A Servo-Chart Recorder or EUW-301 Recording pH Meter/Electrometer • Includes complete, detailed instruction manual, giving step-by-step procedure for installation in Heath recorders • Factory wired and tested

New Heath Malmstadt-Enke Multi-Speed Chart Drive Sets New Standard For Laboratory Equipment . . . allows immediate selection of any one of 21 chart speeds from 12 inches per minute using internal signal (60 cps) to ½ inch per hour or an unlimited selection of chart speeds from 0 to 12 inches per minute (5 seconds/inch). This unique Heath Malmstadt-Enke innovation provides instantaneous switch selected changes on chart speed and is free from the backlash which is characteristic of gear-drive multispeed systems. Its pulse-type electronic circuitry enables other events to be synchronized with recorder readout (or the recorder to be operated in slave to the data system). Check out the specifications below.

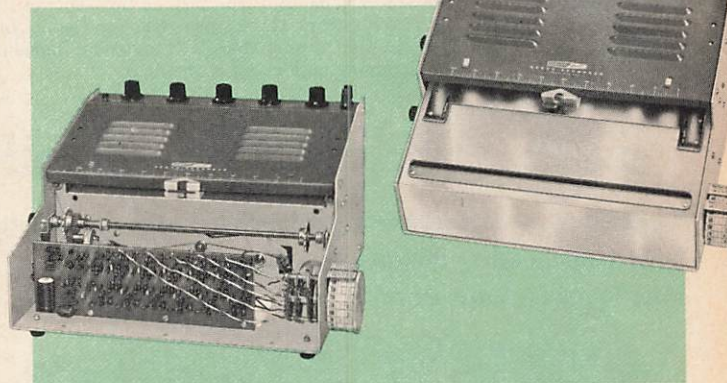
EUA-20-26 Multi-speed Chart Drive, 4 lbs. \$89.00

EUA-20-26 SPECIFICATIONS—Chart Speeds: 5 seconds to 2 hours per inch in 21 speeds, with internal signal. Any speed up to 5 seconds per inch with external signal. **External input:** Input terminals for external chart drive signals. **External signal requirements:** Sine Wave; 22 volts P-P min., 15-100 cps, 3 volts P-P min., 100 cps—10 kc. Square Wave; 3 volts P-P min., 0-10 kc. with 20 usec max rise & fall time. **Pulses:** 0-10,000 pulses per second—with minimum amplitude dependent on pulse duration. **Auxiliary output signal:** 4 v. P-P square wave, 20 usec rise time & 0.2 usec fall. **Auxiliary output impedance:** 68 ohms. **Controls:** 21-position Chart Speed Switch & External-Internal signal switch 32 diodes, 29 silicon transistors. **Power requirements:** 105-125 VAC 60 cps 30 watts.

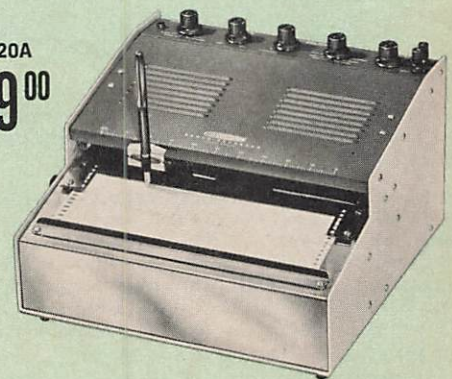


EUA-20-26
\$89⁰⁰

Available Late April



EUW-20A
\$199⁰⁰



Heath-Built Servo Chart Recorder . . . For Research & Education

- Completely assembled, tested, ready to operate • Ideal for lab & school use • True potentiometric input on all ranges (10, 25, 50, 100 & 250 mv) • Plug-in 5-pin connectors for special ranges & modular plug-on accessory chassis • Input source resistance capability of greater than 100K ohms • Rapid chart advance, pen lift, paper tear-off guide • Excellent long-period stability

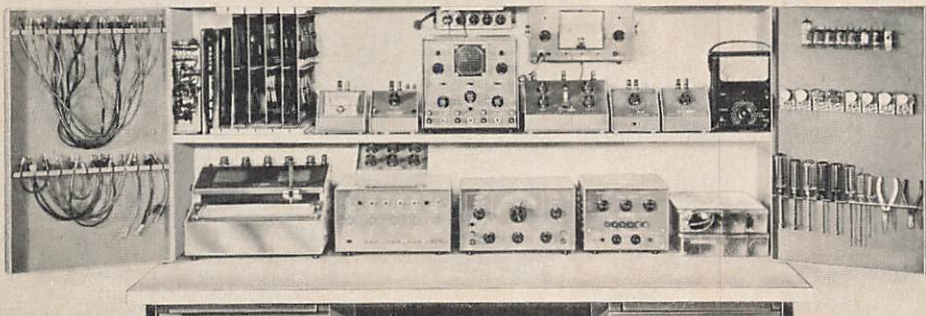
Can Be Used For "Read-Out" From A Multitude Of Experimental Set-Ups. Optional chart drive motors, or the multi-speed chart drive permit broad versatility to the available time scales, and the potentiometric input enables the Heath Servo Chart Recorder to be used with nearly all data outputs.

Send For Free Heath Malmstadt-Enke Laboratory Brochure . . . fully describes the Servo Chart Recorder as well as all other instruments of the basic lab.

EUW-20A, Chart Recorder, 23 lbs. \$199.00

EUA-20-1, blank plug-in adapter chassis, 5 lbs. \$9.00

Heath Malmstadt-Enke Instrumentation Laboratory



Here's A Complete Electronics Lab For Scientists And Engineers. All equipment is factory wired & tested. Provides a complete electronics adjunct to chemistry research or biochem lab . . . provides a complete university-level classroom unit for teaching electronics and instrumentation. Complete test & lab manual included.

EU-100A, 151 lbs. \$990.00

EUP-22A, All-steel desk top cabinet, 105 lbs. \$130.00

Free . . . Heath Malmstadt-Enke Laboratory Brochure

Describes the concept underlying Heath Malmstadt-Enke instrumentation. Gives full specifications and descriptions of the instruments in the basic Lab System.



Electronics And Instrumentation

Heath Malmstadt-Enke Controlled Potential Polarography System



EUW-401
Complete Electronics

\$480⁰⁰

- Includes all necessary electronic instrumentation for 2-electrode (conventional), 3-electrode (non-aqueous or high-resistance), manual polarography, and amperometric titrations
- Provides schemes for qualitative & quantitative electrochemical analysis
- May be used in both inorganic and organic chemistry—i.e., tests for traces of metallic ions in petroleum distillates, urine, etc., or for tests of purity from pesticides in dilute aqueous solutions
- May be used for a multitude of highly sophisticated polarographic techniques when operated with suitable accessories
- Completely assembled and tested
- Includes detailed manual

An Outgrowth Of The Heath Malmstadt-Enke Concept Of Modular Electronics . . . the Heath Polarography Module EUA-19-2 couples by direct plug-in to the Malmstadt-Enke series Operational Amplifier EUW-19A, providing a highly versatile precision instrument for investigating polarographic chemistry.



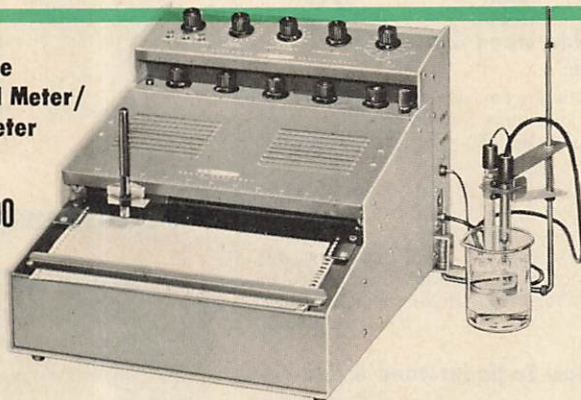
EUA-19-2 Polarography Module, 8 lbs.	\$185.00
EUW-19A Operational Amplifier, 22 lbs.	\$135.00
EUW-20A Chart Recorder, 23 lbs.	\$199.00
EUW-401 Complete Polarography System (consists of EUA-19-2, EUW-19A, EUW-20A), 53 lbs.	\$480.00

Free Brochure

Provides complete specifications of the EUW-401 System. Discusses the techniques of polarography. Briefly outlines experimental setups for various modes of polarography.

Heath Malmstadt-Enke Recording pH Meter/ Recording Electrometer

EUW-301
\$300⁰⁰



For Classroom Use Or Educational Research . . . here's the perfect recording pH meter. Full scale spans of 1, 2, 5, 10, and 14 pH units (e.g.; shows full scale span of pH 4 to 5, or any other one pH unit from 0 to 14). Readable to 0.1% full scale. Repeatable to 0.5% full scale. Excellent readout for pH Stat, or control for automatic burettes.

Install The New Multi-Speed Chart Drive For A New High In Versatility! Virtually perfect stability of the pH Recorder, plus the new chart speeds available allow long period pH monitor such as pH monitor of lakes & streams, of biological processes, the growth of enzymes, as well as conventional titrations, etc.

EUW-301, pH Recording Electrometer, 32 lbs. (pH electrodes not included) . . . no money down, \$28 month.	\$300.00
EUA-20-23 New Sargent Combination pH Electrode.	\$38.00
EUA-20-11, pH Module only, 12 lbs. (converts Heath EUW-20A Servo-Recorder to pH Recording Electrometer) . . . no money down, \$12 month.	\$125.00
EUA-301-1, Parts Kit, 2 lbs. (chopper, three 5-prong plugs and back cover) to convert recorder in EUW-301 to standard EUW-20A chart recorder	\$20.00



Send For FREE Brochure!

A brochure describing the functions and applications of the EUW-301 pH Recording Electrometer in detail is yours FREE by simply dropping a note or card with your name & address to the Heath Company, Benton Harbor, Michigan 49023.



THROUGH HEATH
NEW
RESEARCH

EUA-19-6
\$149⁰⁰

Available
Mid-April

New Equipment For Polarography! Heath Malmstadt-Enke Dropping Mercury Electrode Apparatus

- Includes all electrodes for 3-electrode controlled potential polarography—dropping mercury electrode (less Hg⁰), calomel reference electrode, platinum counter electrode
 - Exceptionally versatile—can be used for 2 or 3-electrode polarography, controlled potential electrolysis, controlled current electrolysis, chronopotentiometry, and amperometric titrations with Dropping Mercury Electrode
 - Easy to set up
 - Simple to operate
 - Teflon® stop cock on mercury supply
 - Adjustable mercury height
 - Mercury head scale adjusts to read height directly in mm.
 - Spring loaded cell holder for quick change of samples—usable with a wide variety of sample containers
 - Complete facilities for nitrogen purging—includes micrometer nitrogen flow valve
 - High mechanical stability
 - Built-in plumb for rapid leveling
 - Built from heavy gauge aluminum with enamel finish to resist corrosion
 - Upper section (less base) can be removed and attached to any standard laboratory rack
 - Includes all cables and connectors (preassembled) for operation with the Heath Malmstadt/Enke EUW-401 Polarography System
- EUA-19-6 Dropping Mercury Electrode Apparatus, 15 lbs. \$149.00

Heathkit® Educational Instruments



EK-1
\$19⁹⁵

Basic Electricity Kit

Students & Beginners! . . . Learn basic electronics as you build this handy DC Volt-Ohm-Milliammeter. Kit-textbook combination. You'll discover a whole new world of knowledge as you probe into the mysteries of electronics.
Kit EK-1 (Less batteries), 4 lbs. \$19.95



EK-2A
\$18⁷⁵

Basic Radio Course—2 Parts

Part I begins with elementary theory—ends with the completion of a sensitive regenerative receiver. Part II continues with "learn-by-doing"—concludes with a 2-band superheterodyne receiver (requires EK-1 VOM above or equivalent to complete all experiments).

Basic Radio Part I (EK-2A), 7 lbs. \$18.75
Basic Radio Part II (EK-2B), 5 lbs. \$18.75
Accessory cabinet for completed receiver, AK-8, 3 lbs. \$3.95
Export model available for 115/230 VAC, 50-60 cps; write for prices.



EK-3
\$16⁹⁵

Basic Transistors . . .

This excellent "beginner" or "refresher" course reveals the "How" & "Why" of transistors. Probes into the nature of matter. You learn-by-doing as you build a two-transistor radio, wireless broadcaster, audio amplifier, test oscillator, and finally a 2-station intercom.
Kit EK-3, Basic Transistors, 4 lbs. \$16.95



EF-1
"Text & Chassis"
\$8⁹⁵

EF-1-4
"Text, Chassis & Instrument"
\$39⁹⁵

"How To Understand & Use Your Vacuum Tube Voltmeter"

Learn theory, advantages, & applications of VTVM by "doing" with this kit-textbook course. Excellent for formal classes or self-teaching.

Kit EF-1, Text & special power supply (for VTVM owners), 3 lbs. \$8.95
Kit EF-1-3 (EF-1 & IM-11 VTVM, pg. 44), 8 lbs., no money dn., \$5 mo. \$32.50
Kit EF-1-4 (EF-1 & IM-13 VTVM, pg. 44), 10 lbs., no money dn., \$5 mo. \$39.95
Manuals only for EF-1 (single copy) . . . \$5.00 (10 or more) ea. \$3.00



EF-2
"Text & Chassis"
\$9⁹⁵

EF-2-3
"Text, Chassis & Instrument"
\$66⁹⁵

"How To Understand & Use Your Oscilloscope"

Here's a stimulating course which is neither over the heads of beginners nor on too low a level for professionals. Big 169-page text is a valuable reference book.

Kit EF-2, Text, chassis & parts, 4 lbs. . . \$9.95
Kit EF-2-3 (EF-2 & IO-21 Oscilloscope, pg. 43), 16 lbs., no money dn., \$7 mo. \$66.95
Kit EF-2-4 (EF-2 & IO-12 Oscilloscope, pg. 43), 28 lbs., no money dn., \$9 mo. \$87.95
Manuals only for EF-2 (single copy) . . . \$5.00 (10 or more) ea. \$3.00

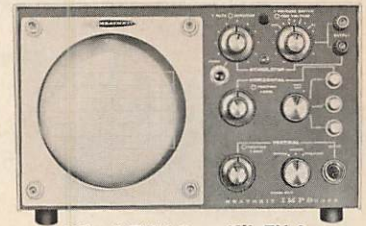


EF-3
"Text & Chassis"
\$11⁹⁵

EF-3-3
"Text, Chassis & Instrument"
\$61⁹⁵

Learn the proper use of signal generators through this kit-text-book course. Includes test chassis with solderless "spring-clip" components plus valuable reference text.

Kit EF-3, Text, chassis & parts, 4 lbs. . . \$11.95
Kit EF-3-2 (EF-3 & IG-102 RF Signal Generator, pg. 45), 10 lbs., no money down, \$5 mo. \$37.95
Kit EF-3-3 (EF-3 & IG-82 Sine-Square Audio Generator, pg. 46), 18 lbs. \$61.95
Manuals only for EF-3 (single copy) . . . \$5.00 (10 or more) ea. \$3.00



Wired EVW-3 Kit EV-3
\$265⁰⁰ \$175⁰⁰

Heathkit IMPscope Displays Electrical Phenomena Of Muscles & Nerves . . . Brings Modern Instrumentation To School Biology & Physiology Labs

- Brings the most recent physiological instrumentation to the classroom • Shows human EKG, frog EKG, nerve & muscle action potentials • Stimulates new insight • Readily comprehensible—even by high school and junior high students • A high-gain oscilloscope with built-in stimulator • Not intended for medical diagnostic use

Kit EV-3, 27 lbs. no money down, \$17 month. \$175.00
Assembled EVW-3, 28 lbs. no money down, \$23 month. \$265.00

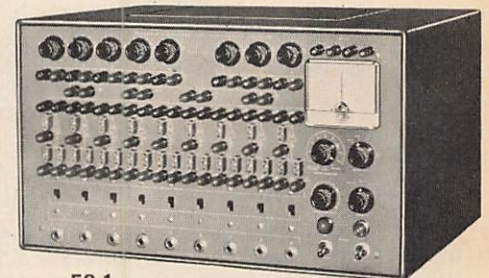
Export model available for 115/230 VAC, 50-60 cps; write for prices.

EVA-3-1, Accessory Package: Includes nerve chamber, vector dolly, plethysmograph, frog electrodes & manual of instructions.

4 lbs. \$35.00
EVW-3-1, Factory Assembled Accessories, 3 lbs. \$50.00



Send For Free Brochure!
Describes IMPscope, including full specifications. Discusses applications such as Human EKG, Frog EKG, Frog Sciatic Nerve Impulse, and many more.



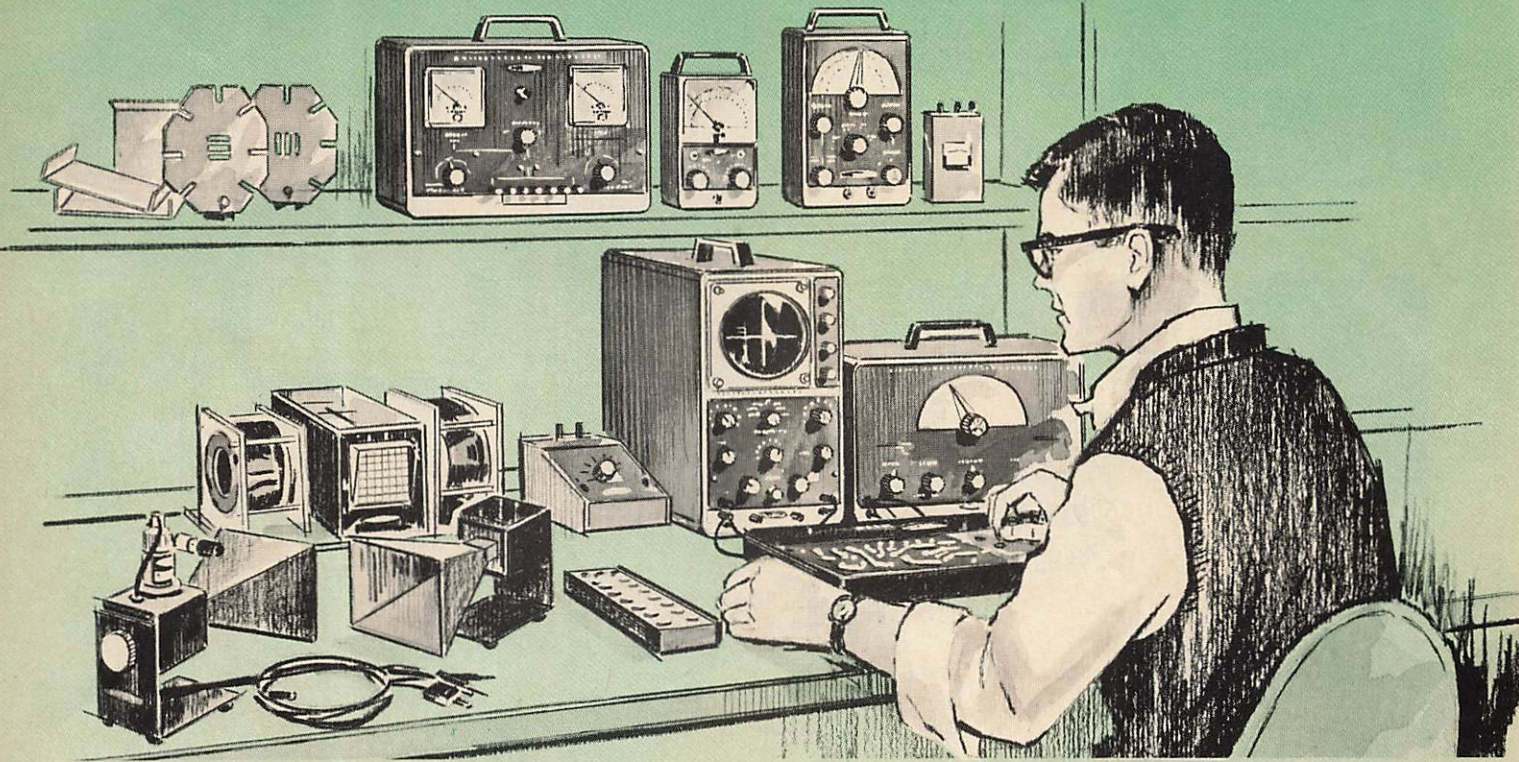
EC-1
\$199⁹⁵

Heathkit Educational Electronic Analog Computer

Handles Scores Of Computer Problems! Adds, subtracts, multiplies, divides . . . solves problems as complex as two simultaneous 2nd order differential equations. Features 9 DC amplifiers, 3 initial condition power supplies, and 5 coefficient potentiometers. Provisions for balancing without removing problem setup.

Kit EC-1 . . . 48 lbs., no money dn., \$19 mo. \$199.95
Export model available for 115/230 VAC, 50-60 cps; write for prices.

Berkeley Physics Laboratory... Now With New Part B Instrumentation



Berkeley Physics Laboratory...Now With Parts A & B

Heath, Manufacturer Of Test Instruments & Materials As Used At Berkeley . . . now provides complete instrumentation facilities for outfitting Berkeley-type college physics laboratories. One basic Heath Berkeley Physics Laboratory station includes all the instruments needed by two student groups to perform all of the experiments of the Berkeley course. Special component groups for Parts A, B & C, of the course can be supplied separately as they continue to become available. Order the instruments, plus the components for Parts A & B for initial outfitting.

A Modern And Complete Lab System . . . The Berkeley Physics Laboratory Part A consists of six high quality test instruments and two laboratory component sets plus battery set. Each instrument is rated for professional research and testing and will provide classroom experience comparable to the modern electronics or research laboratory. The component sets, test chassis and cathode ray tube with deflection coils, are up to date in every respect, and reflect the leadership in electronics and instrumentation gained by Heath. All units meet the instrumentation and power requirements for the Berkeley Physics Laboratory.

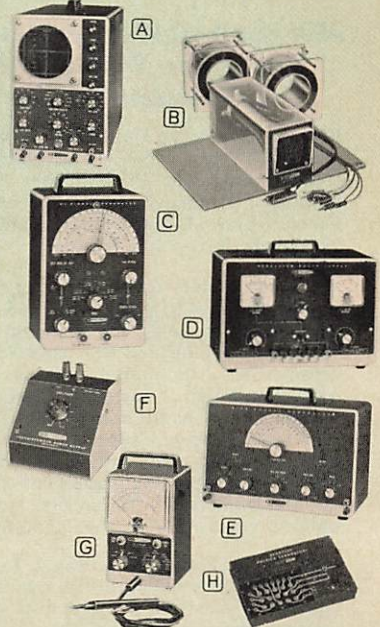
Accurate, Dependable Data Starts Here . . . The Heath components for Part B of the Berkeley Physics Laboratory are designed for efficiency and practicality. Large microwave horn antennas give "workable" strength to signals. The klystron is readily available (should replacement ever be necessary). The delay line, housed in a sturdy enclosure, features banana-jack plug-in for quick, sure electrical contact. And standard small parts permit "open-ended" experiments at very low cost.

Complete Specifications On Each Instrument & Component . . . are shown in the FREE Berkeley Physics Laboratory brochure supplied by Heath. The Berkeley Physics Laboratory Manual is available from McGraw-Hill Book Co. and Heath Co. And only Heath offers a complete instrumentation manual (The Heath Berkeley Physics Instrumentation Manual), showing both schematic and pictorial wiring diagrams for Berkeley Laboratory experimental setups, as well as complete descriptions of each instrument . . . write for this valuable manual! Part A, Order Nos. 595-764 & 7012P246. . . \$2.00 Part B, Order Nos. 595-812 & 7012P297. . . \$2.00

Kit EP-100A, complete 2-student lab station with Part A, 110 lbs. \$399.00
Assembled EPW-100A, complete 2-student lab station with Part A, 110 lbs. \$559.00

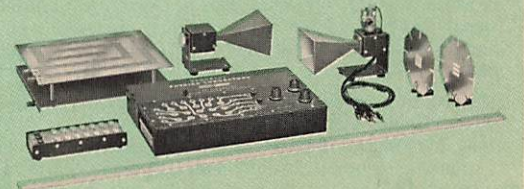
Kit EP-100B, complete 2-student lab station with Part B, 100 lbs. \$439.00
Assembled EPW-100B, complete 2-student lab station with Part B, 100 lbs. \$599.00

- A Laboratory 5" Oscilloscope**
Kit IO-12S \$79.95
Assembled IOW-12S \$134.95
 - B Cathode-Ray Tube & Deflection Coil Set**
Includes binder & lab manual for Part A, Assembled EPW-24, 33 lbs. . \$115.00
 - C RF Signal Generator**
Kit IG-102S \$30.00
Assembled IGW-102S \$60.00
 - D Regulated Power Supply**
Kit IP-32 \$56.95
Assembled IPW-32 \$84.95
 - E Sine-Square Wave Generator**
Kit IG-82 \$51.95
Assembled EUW-27 \$94.00
 - F Transistorized Power Supply**
Assembled EUW-17.
0-35 VDC. \$20.00
 - G Vacuum Tube Voltmeter**
Kit Model IM-11 \$24.95
Assembled IMW-11 \$39.95
 - H Test Chassis And Small Parts**
Includes binder & lab manual for Part A. Assembled.
EPW-14, 9 lbs. \$60.00
- EPA-10-1 Battery Set For Berkeley Physics Lab (Not Shown)**
Consists of one 0-22½-45 V. battery & one 0-1½-3-4½-6-7½ V. battery. 2 lbs. \$5.00

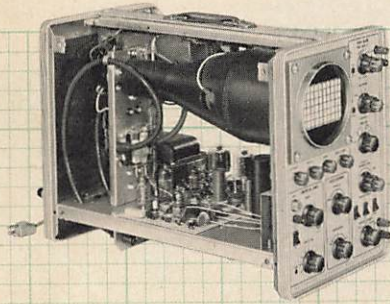


New Part B Accessories . . . Order For April Delivery

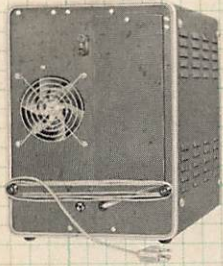
- Test Chassis & Accessories, Part B. Assembled EPW-15, 14 lbs. \$125.00
- Microwave Transmitter And Receiver Set, Part B. Assembled EPW-25, 8 lbs. \$115.00
- Battery Set, Part B. Not shown. EPA-10-2, 2 lbs. \$5.00



Heath Research . . . Creating Innovations



Sharpest Trace—assured by 4,250v. accelerating potential and high-nickel alloy CRT shield. **Matched, Magnetic-Core Delay Lines**—precision, cable type, for fast rise-time pulse work.



Rear Access Door—for direct plate connections. **Circuit Breaker**—for complete protection. **Z-Axis Terminals**. **3-Wire Line Cord**—with holders. **Fan Cooling**—with blade guard.

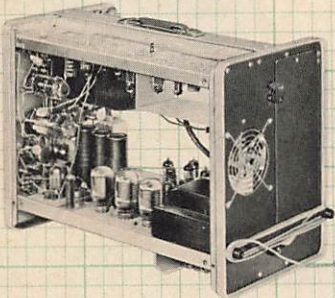


Kit IO-14
\$299⁰⁰

Available Mid-April

Assembled IO-14
\$399⁰⁰

Available Late May



Easy To Build—5 circuit boards and wiring harness. **Rugged**—heavy-duty transformer—forced-air cooling—"U" girder, all-aluminum construction for rigidity.

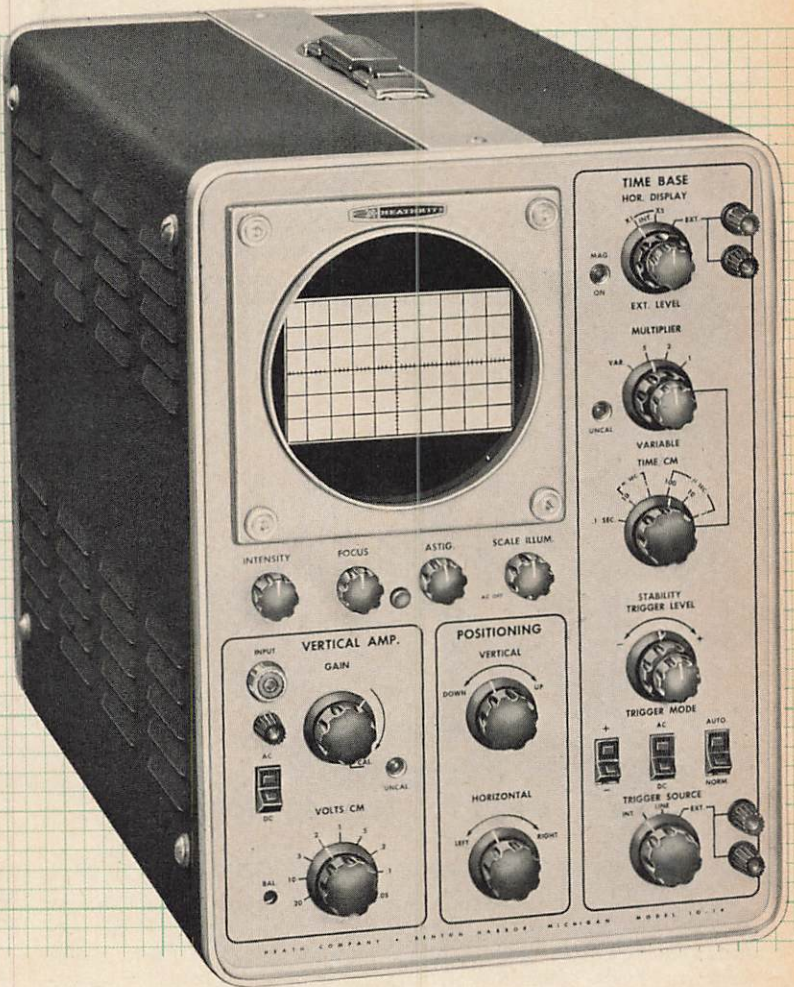
NEW Heathkit IO-14 Professional DC Oscilloscope Sets A New Precedent For Performance And Value In Precision Test Instruments

Eighteen Years Ago Heath Broke The Price Barrier On Oscilloscopes With A Low-Cost Scope For Hams, Hobbyists, And Service Technicians. Now Heath Breaks The Price Barrier Again! . . . With A Precision, Fast-Response, Triggered Sweep, Delay Line Oscilloscope For The Serious Experimenter, Industrial Or Academic Laboratory, And Medical Or Physiology Research Laboratory.

- A high stability 5" DC oscilloscope with triggered sweep • DC to 8 mc bandwidth and 40 nanosecond rise time • Vertical signal delay through high linearity delay lines—capable of faithful reproduction of signal waveforms far beyond the bandwidth of the scope • Calibrated vertical attenuation • Calibrated time base • Forced air cooling • Input for Z axis modulation • Input for direct access to vertical deflection plates • Easy circuit board construction & wiring harness assembly • Components are packaged separately for each phase of construction • Easy to align • Fulfills many production and laboratory requirements at far less cost than comparable equipment—particularly scopes capable of fast-rise waveform analysis • No special order for export version required—wiring options enable 115/230 volt, 50-60 cycle operation

Here Is A Truly Sophisticated Instrument . . . designed with modern circuitry, engineered with high quality, precision-tolerance components, and capable of satisfying the most critical demands for performance. The IO-14 features precision delay-line circuitry to allow the horizontal sweep to trigger "ahead" of the incoming vertical signal. This allows the leading edge of the signal waveform to be accurately displayed after the sweep is initiated. What is more, the IO-14's delay line is capable of reproducing sharp rise time signals far beyond the high frequency limitations of the oscilloscope. This assures the utmost ability for critical analysis of signal waveform characteristics . . . right up to the limits of the published specifications.

The IO-14 Provides Features You Expect Only In High Priced Oscilloscopes. For example, a calibrated vertical attenuator, a 5X sweep magnifier, and a magnifier indicator lamp . . . external sweep input and external trigger input . . . and many others, including an accurately engraved graticule with variable intensity lighting for optimum results in 'scope photography.



Precision Small Parts Are Used Throughout. Switches are quality, ball-detent type. All major control potentiometers are precision, high-quality sealed components. All critical resistors are 1% precision. And circuit boards are low-loss fiber glass laminate.

Built For Continuous Use . . . Rugged Abuse. The IO-14's cabinet is heavy gauge aluminum. The chassis and components are well supported structurally. The CR tube is shielded against stray magnetic fields, and forced air ventilation allows the IO-14 to be operated continuously under the demands of industrial use. Even the power transformer is husky, well rated, and constructed with a copper band enclosing the windings & iron to limit the external magnetic field. Here is a scope that's built to "take it."

Order The IO-14 For The Ultimate Value In Oscilloscopes.

Kit IO-14, 45 lbs. . . no money dn., \$28 mo. \$299.00
Assembled IO-14, 45 lbs. . . \$40 dn., as low as \$23 mo. \$399.00

Kit IOA-14-1, Scope Probe. Features: Switch selection of direct or X10 attenuation, adjustable trimmer capacitor to match IO-14 input, "squeeze-to-grip" tip. Available soon.

IO-14 SPECIFICATIONS—(Vertical) Sensitivity: 0.05 v/cm AC or DC. Frequency response: DC to 5 mc, —1 db or less; DC to 8 mc, —3 db or less. Rise time: 40 nsec (0.04 micro-seconds) or less. Input impedance: 1 megohm shunted by 15 uuf. Signal delay: 0.25 microsecond. Attenuator: 9-position, compensated, calibrated in 1, 2, 5 sequence from 0.05 v/cm. Accuracy: ±3% on each step with continuously variable control (uncalibrated) between each step. Maximum input voltage: 600 volts peak-to-peak; 120 volts provides full 6 cm pattern in least sensitive position. (Horizontal) Time base: Triggered with 18 calibrated rates in 1, 2, 5 sequence from 0.5 sec/cm to 1 microsecond/cm with ±3% accuracy or continuously variable control position (uncalibrated). Sweep magnifier: X5, so that fastest sweep rate becomes 0.2 microsecond/cm with magnifier on. (Overall time base accuracy ±5% when magnifier is on.) Triggering capability: Internal, external, or line signals may be switch selected. Switch selection of + or — slope. Variable control on slope level. Either AC or DC coupling. "Auto" position. Triggering requirements: Internal; 1/2 cm to 6 cm display. External: 0.5 volts to 120 volts peak-to-peak. Horizontal input: 1.0 v/cm sensitivity (uncalibrated) continuous gain control. Bandwidth: DC to 200 kc ± 3 db. (General) 5ADP31 or 5ADP2 Flat Face C.R.T. interchangeable with any 5AD or 5AB series tube for different phosphor characteristics. 4250 V. accelerating potential. 6 x 10 cm edge lighted graticule with 1 cm major divisions & 2 mm minor divisions. Power supply: All voltages electronically regulated over range of 105-125 VAC or 210-250 VAC 50/60 cycle input. Z Axis Input provided. DC coupled CRT unblanking for complete retrace suppression. Power requirements: 285 watts. 115 or 230 VAC 50-60 cps. Cabinet dimensions: 15" H x 10 1/2" W x 22" D. includes clearance for handle and knobs. Net weight: 40 lbs.

In Electronics For Nearly Two Decades

Heathkit "Extra-Duty" Wide-Band 5" Oscilloscope!

- Full 5 mc bandwidth for color TV servicing • Heath patented sweep circuit—10 cps to 500 kc
- Push-pull vertical & horizontal output • Two circuit boards & wiring harness for fast, easy assembly • Available kit or wired

Thousands In Use Across The Nation! Service shops, laboratories, schools, industry and home workshops at home & abroad attest to its fine performance. Boasts clear, sharp pattern displays . . . excellent linearity and lock-in characteristics . . . wide band amplifiers . . . peak-to-peak calibration reference . . . automatic sync circuit . . . Z-axis input . . . positive trace position controls . . . and much more for versatile performance.

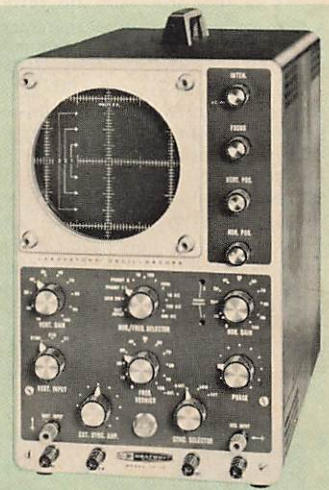
Kit IO-12, 24 lbs., no money dn., \$8 mo. \$79.95

Assembled IO-12, 24 lbs., no money dn., \$13 mo. \$134.95

Export model available for 115/230 VAC, 50-60 cps; write for prices.

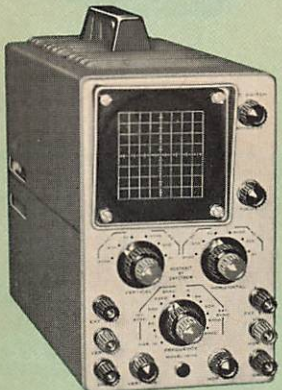
See page 40 for combination offer with EF-2 Applications Course. \$87.95

IO-12 SPECIFICATIONS—Vertical Sensitivity: 0.025 volts 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 micro-seconds or less. Input impedance: (AT 1 KC) 2.7 megohms at X1, 3.3 megohms at X10 and X100. Horizontal 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: 14 $\frac{1}{2}$ " H x 8 $\frac{1}{2}$ " W x 16" D.



Kit
\$79⁹⁵

Wired
\$134⁹⁵



IO-10
\$94⁹⁵

Heathkit "Space-Saver" 3" DC Oscilloscope . . . Ideal For AC Or DC Applications!

- Identical DC or AC coupled vertical & horizontal amplifiers • DC to 200 kc bandwidth • Recurrent sweep generator, 5 cps to 50 kc in four ranges • Small, compact, easy to carry

Excellent Where Extremely Low Sweep Rates Are Desired! Features front-panel mounted external capacitance binding posts for lower sweep rates. Ideal for tests "on" or "away" from the test bench. Serves many applications in medical and industrial fields as well as general service work. Other features include 3RP1 CR tube, special-alloy CR tube shield to minimize trace distortion, regulated power supply, astigmatism control, and less than 5° phase-shift between channels.

Kit IO-10, 16 lbs., no money dn., \$10 mo. \$94.95

Export model available for 115/230 VAC, 50-60 cps; write for prices.

IO-10 SPECIFICATIONS—(Vertical and horizontal channels identical): Bandwidth: DC to 200 kc (2 db point). Sensitivity: 0.1 V (peak-to-peak) per 1/4" (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-tooth produced by multi-vibrator type generator covering 5 cps to 50 kc in four overlapping ranges. "External capacitance" 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: 7 $\frac{1}{2}$ " H x 4 $\frac{1}{2}$ " W x 11" D.



IO-21
\$58⁹⁵

Heathkit "General Purpose" 3" Oscilloscope . . . An Ideal "First" Scope!

- Push-pull vertical & horizontal amplifiers • Wide range sweep—20 to 100,000 cps • Automatic sync • Retrace blanking • Clean open circuit layout for easy assembly

Compact . . . Lightweight . . . Versatile! Fills hundreds of daily requirements in servicing! Ideal for home workshop, ham shack, or an extra scope for all-around use . . . perfect for students or beginners just starting in electronics. Other features include input sensitivity of .25 volts RMS/inch peak-to-peak deflection at 1 kc; focus & astigmatism control for sharp, fine trace; well-rated power supply & special alloy neck shield for 3RP1 CR tube to minimize trace distortion.

Kit IO-21, 12 lbs., no money dn., \$6 mo. \$58.95

Export model available for 115/230 VAC, 50-60 cps; write for prices.

See page 40 for combination offer with EF-2 Applications Course.

IO-21 SPECIFICATIONS—(Vertical and horizontal amplifiers identical): Frequency response: ± 2 db, 2 cps to 200 kc. Sensitivity: .25 volts RMS/inch P-P deflection at 1 kc. Input impedance: 10 megohms shunted by 20 uuf. (Direct connection to vertical CRT plates on rear panel). Sweep generator: Range, 20-100,000 cps. Automatic sync. retrace blanking. Tube complement: (1) 3RP1 (CR tube), (4) 12AU7 (deflection amplifiers), (1) 12AX7 (sweep generator), (1) 6x4 (LV rectifier), (1) 1V2 (HV rectifier). Controls: Gain controls, Horizontal & Vertical; Centering controls, Horizontal & Vertical; Frequency Vernier; Horizontal Input, Sweep Range switch. (Focus and Astigmatism controls mounted on chassis). Power requirements: 105-125 volts AC, 50-60 cycle, 40 watts. Dimensions: 9 $\frac{1}{2}$ " H x 6 $\frac{1}{2}$ " W x 10" D.

Scope Demodulator Probe Kit

Adds versatility to oscilloscope applications by permitting visual observation of the modulation envelope waveform of RF and IF signals. Useful in both radio and AM servicing in checking for distortion and presence or absence of modulation. Functions as an AM detector . . . passes only modulation of signal. Voltage limits are 30 volts RMS, 500 volts DC.

Kit 337-C, 1 lb. \$3.50

Assembled 337W-C, 1 lb. \$4.50

Low-Capacitance Oscilloscope Probe Kit

An essential aid for high frequency work! The PK-1 minimizes loss of gain, circuit loading or distortion due to overloading of scope input. A switch on the probe body provides direct or X10 attenuated operation and an adjustable trimmer capacitor provides proper match to scope input. Kit includes an assortment of connectors to match most oscilloscope terminals.

Kit PK-1, 1 lb. \$4.95

Heathkit Electronic Switch Kit

Extends oscilloscope operation by permitting simultaneous observation of two different signals on CR tube screen. Produces both signals alternately at any one of four switching rates. Position control allows superimposing or separating signals for comparison purposes. ± 1 db from 0 to 100 kc.

Kit ID-22, 7 lbs. \$23.95

Export model available for 115/230 VAC, 50-60 cps; write for prices.

SCOPE PROBE ACCESSORIES

Kit Form
or
Factory
Assembled



337-C
\$3⁵⁰

PK-1
\$4⁹⁵



ID-22
\$23⁹⁵



Engineered For Quality . . .

Price Is Just One Reason Why This Is The World's Most Popular VTVM

- One probe makes all measurements • 7 AC, 7 DC, 7 Ohms ranges • Easy to read, sensitive 4 1/2" 200 ua meter • 1% precision resistors • Extended frequency response ± 1 db 25 cps to 1 mc • Measures RMS and Peak-to-Peak • Easy, stable circuit board construction

It's true that the Heathkit IM-11 costs just 45c more than its predecessor of 15 years ago, but it also embodies numerous circuit refinements and improvements which make it a highly accurate and dependable instrument for any phase of electronic measurement. Just compare its features and specifications. Test leads and probe are included, but not the battery. Order your IM-11 today, find out why hundreds of thousands are in use the world over.

Kit IM-11, 5 lbs., no money dn., \$5 mo. \$24.95

Assembled IMW-11, 5 lbs., no money dn., \$5 mo. \$39.95

Export model available for 115/230 VAC, 50-60 cps; write for prices.

See page 40 for combination offer with EF-1 Applications Course. No money dn., \$5 mo. . \$32.50

IM-11 SPECIFICATIONS—Meter scales: DC & AC (RMS): 0-1.5, 5, 15, 50, 150, 500, 1500 volts full scale. AC peak-to-peak: 0.4, 14, 40, 140, 400, 1400, 4000. Resistance: 10 ohm center scale x1, x10, x100, x1000, x10k, x100k, x1 meg. Measures .1 ohm to 1000 megohms with internal battery. Meter: 4 1/2" 200 ua movement. Multipliers: 1% precision type. Input resistance DC: 11 megohms (1 megohm in probe) on all ranges. Circuit: Balanced bridge (push-pull) using twin triode. Accuracy: DC $\pm 3\%$, AC $\pm 5\%$ of full scale. Frequency response: ± 1 db 25 cps to 1 mc (600 ohm source). Tubes: 12AU7, 6AL5. Battery requirements: 1.5 volt, size "C" flashlight cell (not included). Power requirements: 105-125 volt 50/60 cycle AC, 10 watts. Dimensions: 7 3/4" H x 4-11/16" W x 4 1/4" D.



Kit
\$24⁹⁵

Wired
\$39⁹⁵

Kit Form
or
Factory
Assembled

Kit Form or
Factory Assembled

336 30,000 Volt DC High Voltage Probe

Extends DC ranges of any 11-megohm VTVM to 30,000 volts for TV service work and other high voltage applications.

Kit 336, 1 lb. \$4.50

Assembled 336W, 1 lb. \$5.50

\$4⁵⁰

Heathkit "Service Bench" VTVM . . . Professional Features & Performance!

Engineered Right, Shaped Right, Priced Right For "In-Shop" Servicing! Easy-to-read 6" 200 ua meter features multi-color scales with separate 1.5 & 5 v. AC scales. No more confusing tangle of test leads, thanks to single AC/Ohms/DC test probe. Simple to operate . . . just a function selector and range selector, separate Zero & Ohms adjust controls. All calibration controls accessible from front panel. Available kit or factory assembled.

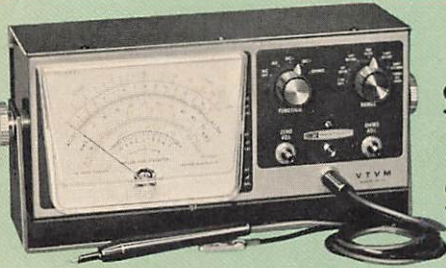
Kit IM-13, 7 lbs., no money dn., \$5 mo. \$32.95

Assembled IMW-13, 8 lbs., no money dn., \$5 mo. \$49.95

Export model available for 115/230 VAC, 50-60 cps; write for prices.

See page 40 for combination offer with EF-1 Applications Course.

IM-13 SPECIFICATIONS—Meter scales DC & AC (RMS): 0-1.5, 5, 15, 50, 150, 500, 1500 volts full scale (1.5 and 5 volt AC ranges read on separate scales). Ohmmeter: Scale with 10 ohm center x1, x10, x100, x1000, x10k, x100k, x1 meg. Measures .1 ohm to 1000 megohms with internal battery. Dividers: 1% precision type. Meter: 6" 200 ua movement. DC input resistance: 11 megohms (1 megohm in probe) on all ranges. AC input impedance: 1 megohm shunted by 40 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: 5" H x 12-11/16" W x 4 3/4" D.



Kit
\$32⁹⁵

Wired
\$49⁹⁵

- Measures AC volts, DC volts, Resistance & DB • Separate 1.5 & 5 volt AC scales for high accuracy • Gimbal bracket for easy under-shelf, bench top or wall mounting • Tilts to any angle for best viewing • Big 6" 200 ua meter • Single test probe for operating convenience • 1% precision resistors

309-C Etched Circuit RF Probe

Use with any 11-megohm VTVM to extend RF measurements up to 250 megacycles.

Kit 309-C, 1 lb. \$3.50

Assembled 309W-C, 1 lb. \$4.50

Kit Form
or
Factory
Assembled

\$3⁵⁰



Heathkit 20,000 Ohms/Volt VOM... Portable, Highly Accurate!

MM-1
\$29⁹⁵

- Measures voltage, current & resistance • 35 meter ranges on 2-color scale • Sensitive 50 microampere 4 1/2" meter • 1% precision resistors for high accuracy • Polarity reversing switch—eliminates transferring test leads • Molded plastic case

Ideal Meter For All-Around Service Applications! Provides wide voltage, current, resistance & db ranges to cover virtually any service requirement. Battery power, compact size make it equally useful for field or test bench applications. Test leads included. Less batteries.

Kit MM-1, 5 lbs., no money dn., \$5 mo. \$29.95

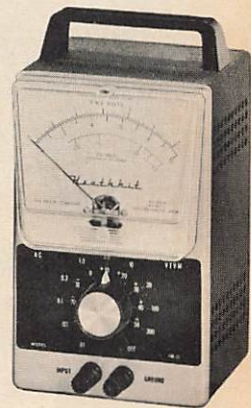
MM-1 SPECIFICATIONS—Sensitivity: 20,000 ohms/volt DC, 5,000 ohms/volt AC. Range AC & DC volts: Full scale, 1.5, 5, 50, 150, 500, 1500, 5000. Direct current: 150 microamperes, 15, 150, 500 milliamperes, 15 amperes. Ohmmeter: 0.2 ohms to 20 megohms in three ranges. Decibels: -10 to +65 db. Resistors: 1% precision type. Accuracy: $\pm 3\%$ of full scale. Controls: Range switch, Output—AC—DC—reverse DC switch, Ohms adjust control. Batteries: 1 type "C" cell, 4 penlight cells. Dimensions: 7 1/2" x 5 1/2" x 4".

For Precision AC Work, Choose This Heathkit Laboratory AC VTVM!

- 10 voltage ranges—0.01 to 300 volts RMS full scale • Extended frequency response, ± 1 db from 10 cps to 500 kc • 10 megohm input impedance for high accuracy • Calibrated DB scale for audio measurements

Kit
\$33⁹⁵

Wired
\$52⁹⁵



Accurate Low-Level AC Measurements! Measures AC voltages from 1 millivolt to 300 volts RMS with excellent accuracy. VU-type ballistic damping of meter movement, high input impedance, wide frequency response, high sensitivity, & the excellent stability designed into this instrument assure outstanding results in every application. Order yours now!

Kit IM-21, 5 lbs., no money dn., \$5 mo. \$33.95

Assembled IMW-21, 5 lbs., no money dn., \$6 mo. \$52.95

Export model available for 115/230 VAC, 50-60 cps; write for prices.

IM-21 SPECIFICATIONS—Frequency response: ± 1 db 10 cps to 500 kc, ± 2 db 10 cps to 1 mc, all ranges. Ranges: Ten ranges from 0.01 to 300 volts RMS full scale. Decibels: ten switch selected ranges from -40 db to +50 db in 10 db steps. Input impedance: Total range -52 to +52 db, meter scale -12 to +2 db, (0 db = 1 mw in 600 ohms), 10 megohms shunted by 12 uuf on ranges 10 to 300 volts, 10 megohms shunted by 22 uuf on ranges .01 to 3 volts. Tube complement: (1) 6AW8, (1) 6EJ7/EF-184. Accuracy: Within 5% of full scale. Power requirements: 105-125 volts AC, 50-60 cycles, 10 watts. Dimensions: 7 3/8" H x 4-11/16" W x 4 1/8" D.

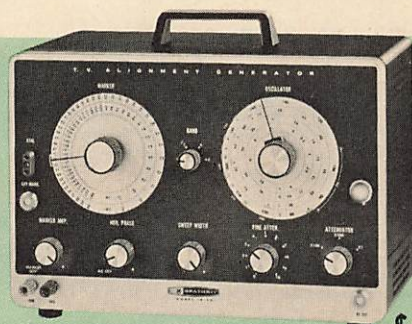
Priced For Savings . . . Heathkit® Test Gear

TV Sweep Alignment Generator . . . Speeds Alignment Of FM & TV Receivers!

• Stable, all-electronic sweep circuit • Complete FM & VHF TV coverage—3.6 to 220 mc • Built-in crystal & variable marker oscillators • Versatile, easy to operate, reliable
Produces Wide Range Sweeps With Excellent Linearity & Stability! Fixed & variable attenuators give smooth control of signal output to allow alignment of high gain stages without danger of overloading. Crystal included provides output at 4.5 mc & multiples thereof for calibrating built-in variable marker oscillator.

Kit IG-52, 14 lbs., no money dn., \$7 mo. \$67.95
Export model available for 115/230 VAC, 50-60 cps; write for prices.

IG-52 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). Crystal marker: 4.5 mc and multiples thereof. Variable marker: 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: Converts return trace into zero reference line, phasing control also provided. Cables: 3 supplied, output, scope horizontal, scope vertical. Power requirements: 105-125 VAC, 60 cycles, 50 watts. Dimensions: 13" W x 8½" H x 7" D.



IG-52
\$67.95

Heathkit Color Bar & Dot Generator . . . Simplifies Color & B/W TV Servicing!

• Produces 6 different patterns for picture adjustment • 10 vertical color bars • Special shading bar pattern for screen & background adjustments • Crystal-controlled for accuracy & stability

Best Buy In Color TV Service Instrument! Provides instant switch selection of 6 different patterns . . . white dots, crosshatch, vertical bars, horizontal bars, 10 color bars & a special shading pattern. Crystal-controlled sync pulses lock patterns firmly on screen for linearity, color or convergence adjustments. Complete with crystals, test lead & instructions. Easy to build.

Kit IG-62, 13 lbs., no money dn., \$7 mo. \$64.95
Export model available for 115/230 VAC, 50-60 cps; write for prices.

IG-62 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. Power requirements: 117 VAC, 50/60 cycles, 70 watts. Dimensions: 13" W x 8½" H x 7" D.



IG-62
\$64.95

Heathkit FM Stereo Generator . . . Adds Extra Profits To Service Operations!

• Provides virtually all signals required for trouble-shooting & alignment of multiplex adapters, FM tuners & receivers • Switch selection of 400 cps, 1000 cps, 5000 cps, 19 kc, 38 kc & 65 kc or 67 kc SCA signals • Built-in marker oscillator for I.F. and dial tracking checks

A Self-Contained FM Service Center! Produces an audio or composite stereo signal for multiplex adapter adjustments . . . an RF carrier for tuner & receiver adjustments . . . a "phase-test" function for accurate adjustment of sub-carrier transformers . . . a variable level crystal-controlled 19 kc (±2 cps) pilot signal to check lock-in range of stereo receivers, and built-in sweep & marker signals for overall RF & IF alignment. Complete with test leads, and detailed stereo alignment instructions.

Kit IG-112, 11 lbs., no money dn., \$10 mo. \$99.00
Export model available for 115/230 VAC, 50-60 cps; write for prices.

IG-112 SPECIFICATIONS—RF Signal output: Center frequency: 100 mc adjustable by approx. ±2 mc. Pilot modulating frequency: 19 kc ±2 cps. FM Modulation: Left channel (stereo), right channel (stereo). Phase test (left plus right channel in phase), Monophonic FM. Deviation: Adjustable to 75 kc. Sweep rate: (use for RF and IF alignment) 60 cps. Sweep width: (use for RF and IF alignment) Adjustable to 750 kc. RF Attenuator range: 60 db in 20 db steps. Crystal-controlled markers: 10.7, 90.95, 96.30, 101.65, & 107 mc. Composite signal output: Left channel (stereo); Right channel (stereo). Phase test (left plus right channels in phase). Audio output: 400, 1000, & 5000 cps; 19 kc (±2 cps), 38 kc; & SCA (65 or 67 kc). Distortion: (At 400, 1000 & 5000 cps) Less than 5%. Front panel controls: 19 kc pilot level control, deviation—sweep width-composite level-audio level control, function switch, frequency switch, & RF attenuator switches. Rear panel adjustments: Balance adjust, 38 kc sync, pilot level adjust, & SCA frequency switch. Chassis adjustments: Oscillator adjust, frequency adjust & modulation adjust. Power requirements: 105-125 volts AC, 50/60 cps, 35 watts. Dimensions: 10¼" H x 8" D x 13" W.



IG-112
\$99.00

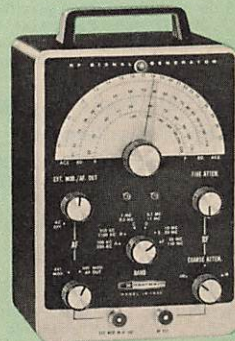
Heathkit RF Signal Generator . . . A Valuable Addition To Any Test Bench!

• Covers 100 kc to 220 mc in 6 bands • Large, accurately calibrated dial scales • Prewired, prealigned coil/handswitch assembly • Modulated or unmodulated RF output • 400 cps signal for audio tests

Countless Applications In Radio & TV Service Work! Provides all essential generator facilities for fast, easy alignment of RF & IF circuits in AM tuners and receivers. Achieves 2% accuracy on all bands for pinpoint frequency settings. RF output controlled by both fixed-step & variable attenuators. Internal 400 cps signal with 10 volt output available separately for audio tests.

Kit IG-102, 6 lbs., no money dn., \$5 mo. \$27.95
Assembled IGW-102, 6 lbs., no money dn., \$6 mo. \$54.95
Export model available for 115/230 VAC, 50-60 cps; write for prices.

IG-102 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. Power requirements: 105-125 V 50/60 cycles AC, 15 watts. Dimensions: 6½" W x 9½" H x 5" D.



Kit IG-102
\$27.95

Wired IGW-102
\$54.95

Laboratory RF Generator . . . Ideal For Design & Development Work!

• Metered output voltage and % modulation • Operates on fundamentals—100 kc to 30 mc in five bands • Double shielding of all oscillator circuits • Easy to build

Professional Quality Throughout! Ideal for stage gain measurements and RF alignment work. Features transformer operated power supply . . . generous filter design and voltage regulation for smooth plate voltage . . . 50 ohm generator output impedance . . . and variable modulation from 0 to 50% at 400 cycles internally, between 60 to 10,000 cps externally.

Kit IG-42, 15 lbs., no money dn., \$6 mo. \$56.95
Export model available for 115/230 VAC, 50-60 cps; write for prices.

IG-42 SPECIFICATIONS—Frequency ranges: Band A, 100 to 290 kc; Band B, 280 to 1000 kc; Band C, 0.95 to 3.1 mc; Band D, 2.9 to 9.5 mc; Band E, 9 to 31 mc. RF output: Impedance, 50 ohms—voltage, 100,000 microvolts max. Attenuator: 10:1 per step, 5 steps—Fine, 10:1 continuous, indicated on meter. Amplitude modulation: CW, internal 400 cycles or external audio frequencies. Modulation depth: 0 to 50% variable, indicated on meter. Power requirements: 105-125 V. 50/60 cycles. Dimensions: 13" W x 8½" H x 7" D.



IG-42
\$56.95

World's Value Leader

Heathkit "Low-Ripple" Battery Eliminator . . .

A "Must" For Servicing Mobile Equipment

• Convenient switch-selection of 6 or 12 volt DC power • Special ripple filter circuit holds AC ripple to less than .3% • Panel metered output voltage & current • Doubles as a convenient battery charger • Heavy-duty well-rated components throughout

Provides smooth 6 or 12 volt DC power for transistorized or hybrid radios.

Kit IP-12, 18 lbs., no money dn., \$5 mo. \$47.50
 Assembled IPW-12, 17 lbs., no money dn., \$6 mo. \$59.95
 Export model available for 115/230 VAC, 50-60 cps; write for prices.

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

Heathkit Variable-Voltage Regulated Power Supply

• Furnishes B+, Bias, & Filament voltages • DC output variable from 0 to 400 volts • Separate panel meters monitor output voltage & current • Output terminals isolated for safety in AC/DC work

Separate switching allows high voltages to be switched "off" while filaments remain "on".
 Kit IP-32, 17 lbs., no money dn., \$6 mo. \$56.95
 Assembled IPW-32, 18 lbs., no money dn., \$9 mo. \$84.95

IP-32 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 1% 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.

"Solid-State" Regulated DC Power Supply . . .

0.5 To 50 VDC @ Up To 1.5 Amperes With Less Than 150 Microvolts AC Ripple!

• All-transistor solid-state circuitry • Relay protected against short circuit & overload • Four current ranges, 50 MA, 150 MA, 500 MA & 1.5 A. • Adjustable current limiter, 30 to 100% on each range • Series type voltage regulator, zener diode reference

A Tremendous Value In A DC Supply! . . . Both current & voltage regulation.
 Kit IP-20, 13 lbs., no money dn., \$8 mo. \$72.95
 Assembled IPW-20, 16 lbs., no money dn., \$11 mo. \$114.95

IP-20 SPECIFICATIONS—Input: 105-125 volts 60 cps; 125 watts at full load (50V, 1.5A). Output: 0.5-50 volts DC; 1.5 amps max. DC. Load regulation: ± 15 millivolts, can be adjusted for no change. Line regulation: (105 to 125 VAC): Less than .005% change. Ripple & noise: Less than 150 microvolts. Transient response: Less than 25 microseconds. Output impedance: Less than .1 ohm DC to 10 kc; less than .5 ohms 10 kc & up. Overload protection: Current limiter & relay. Meter: 3 1/2", 1 ma, 50 ohm. Meter current ranges: 50 ma, 150 ma, 500 ma, 1.5 amp. Meter voltage ranges: 5V, 15V, 50V. Front panel controls: On/Off, Coarse voltage switch, Fine voltage adjust, Current range switch, Current limit adjust, Meter slide switch, DC regulation, Reset Standby toggle switch. Output terminals: (3), plus (+), minus (-), chassis ground. Dimensions: 9 1/2" H x 6 1/2" W x 11" D.

Heathkit Sine-Square Wave Generator

• Covers 20 cps to 1 mc in 5 bands . . . from bottom of audio band to half way through the broadcast band • Less than .25% sine wave distortion • Less than .15 microsecond square wave rise time • Sine and square wave output available simultaneously

A Dependable Instrument For Hi-Fi And General Audio Testing.
 Kit IG-82, 14 lbs., no money dn., \$6 mo. \$51.95
 Assembled model EUW-27, pg. 34, 14 lbs., no money dn., \$10 mo. \$94.00
 Export model available for 115/230 VAC, 50-60 cps; write for prices.

IG-82 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: ($\pm 10\%$): 10 volt range, 0 to 220 ohm; 1V and .1V ranges, 52 ohm. Rise time: less than .15 microsecond. GENERAL: Frequency accuracy: $\pm 5\%$. Power requirements: 105-125V AC, 50/60 cycles, 55 watts. Dimensions: 13" W. x 8 1/2" H. x 7" D.

Heathkit Switch-Selected Audio Frequency Generator Produces Near-Perfect Sine Wave Signals

• Switch-selected output frequencies—10 cps to 100 kc • Less than 0.1 of 1% distortion—20 to 20,000 cps • Panel metered output is calibrated in volts & db • Output level and frequency accurate to within $\pm 5\%$

Metered Output Voltage Enables Accurate Hi-Fi Circuit Analysis.
 Kit IG-72, 8 lbs., no money dn., \$5 mo. \$41.95
 Assembled IGW-72, 9 lbs., no money dn., \$7 mo. \$64.95
 Export model available for 115/230 VAC, 50-60 cps; write for prices.

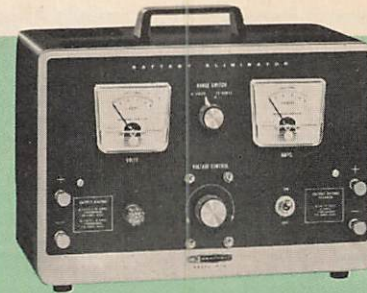
IG-72 SPECIFICATIONS—Frequency: 10 cps to 100 kc, switch selected, 2 significant figures and multiplier. Output: 6 ranges 0 to .003, .01, .03, .1, .3, 1 volt RMS into external 600 ohm load or with internal load into Hi-Z, 2 ranges 0 to 3, 10 volts RMS into a minimum of 10,000 ohms, -60 db to +22 db in 8 steps, -60 dbm to +2 dbm (0 dbm=1 mw into 600 ohms). Distortion: less than .1%, 20 to 20,000 cps. Tubes: (1) 6AU6, (1) 6CL6, (1) 6X4. Power: 105-125 volts AC, 50/60 cycles, 40 watts. Dimensions: 9 1/2" W x 6 1/2" H x 5" D.

Heathkit Capacitor Checker

• Tests all capacitor types • Low bridge voltage for safe testing of miniature electrolytics • 16 leakage testing voltages • Direct reading scales—no involved calculations • Measures resistance from 5 ohms to 50 megohms • Measures capacitance from 10 uuf to 1,000 mfd • Comparator circuit—measures "L", "C", or "R" with external standard • Calibrated power factor control • "Eye" tube null & leakage indicator

Kit IT-11, 7 lbs., no money dn., \$5 mo. \$29.95
 Assembled ITW-11, 9 lbs., no money dn., \$5 mo. \$49.95
 Export model available for 115/230 VAC, 50-60 cps; write for prices.

IT-11 SPECIFICATIONS—Test circuit: AC bridge, powered through special bridge transformer by an internal 60 cycle supply or by an external audio generator with 10 volts output. Upper frequency limit: 10 kc. Capacitance, 4 ranges: 10 uuf to .005 ufd; .001 ufd to .5 ufd; .1 ufd to 50 ufd; 20 ufd to 1000 ufd. Capacitor leakage: DC test voltages from 3 to 600 volts in 16 steps. Resistance, 3 ranges: 5 ohms to 5000 ohms; 500 ohms to 500 K ohms; 50 K ohms to 50 megohms. Comparator circuit: External standard R, L or C; Max. Ratio 25:1. Power supply: Transformer-operated, half-wave rectifier. Power requirements: 105-125 volts AC, 50/60 cycles, 30 watts. Dimensions: 9 1/2" high x 6 1/2" wide x 5" deep.

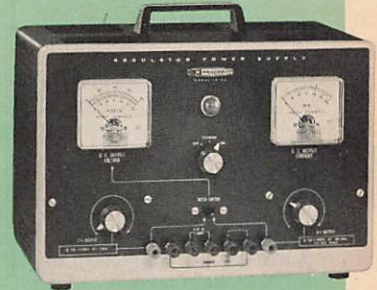


Kit IP-12
\$47⁵⁰

Wired IPW-12
\$59⁹⁵

Kit IP-32
\$56⁹⁵

Wired IPW-32
\$84⁹⁵



Kit IP-20
\$72⁹⁵

Wired IPW-20
\$114⁹⁵

Kit IG-82
\$51⁹⁵

Wired (as model EUW-27)
\$94⁰⁰



Kit IG-72
\$41⁹⁵

Wired IGW-72
\$64⁹⁵



Kit IT-11
\$29⁹⁵

Wired ITW-11
\$49⁹⁵



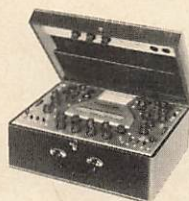
Now Available Kit or Assembled... Heathkit Laboratory Transistor Tester

IM-30
\$54⁸⁸

- Provides complete DC analysis of PNP & NPN transistors
- Provisions for checking high voltage & high current transistors through external supplies

Kit IM-30, 9 lbs., no money dn., \$6 mo. \$54.88
Assembled IMW-30, 10 lbs., no money dn., \$9 mo. \$84.95

IM-30 SPECIFICATIONS—Checks: Transistors up to 15 amps and diodes up to 1.5 amps. Tests: Shorts, DC Gain (Beta 0-300) (Alpha 0-.9967), Leakage (I_{cb0}, I_{ceo}), Diode Forward & Reverse Current. Power supply: Internal, seven 1.5 volt size D batteries provide 1.5, 3, 4.5, 6, 7.5, 9 volts collector supply for gain or leakage and 1.5 volts for bias; external, 0-50 volts for gain, 0-150 volts for leakage and 0-5 volts for bias. Bias control: Permits any collector current from 10 ua to 15 amps for gain tests. Gain control: 3% wire-wound potentiometer has calibrated scales to give DC Beta and DC Alpha directly when meter is at null. Transistor & diode connections: Universal transistor socket and binding posts.



Heathkit Mutual-Conductance Tube Tester

TT-1A
\$149⁹⁵

- No finer tube tester in kit form anywhere!
- Indicates Gm to 24,000 micromhos
- Ultra-sensitive grid current test
- Built-in calibration circuit for high accuracy

Kit TT-1A, 33 lbs...no money dn., \$14 mo. \$149.95

TT-1A SPECIFICATIONS—Power requirements: Voltage: 105-125, 60 cycle AC. Watts: 10-60. Testing circuits: Gm; mutual conductance for amplifiers, 0-24,000 micromhos. Emission: rectifiers & diodes. Leakage: direct reading ohmmeter. Grid current: 1/4 microampere sensitivity. Voltage regulator: firing voltage and regulation tolerance. Low power thyatron: grid characteristics, conduction capabilities. Eye tubes: control grid characteristics. Line voltage adjustment: Continuously variable. Roll chart mechanism: Constant tension, illuminated. Dimensions: Cabinet (outside): 17 3/4" W x 13 1/2" H x 8" D. Panel & chassis: 17" W x 12 3/4" H x 5 1/2" D.



IT-21
\$44⁹⁵

Heathkit Tube Checker

- Tests standard types plus Compactrons, Nuvistors, Novars, and 10-pin miniatures
- Multi-colored "bad-?-good" meter scale
- Lighted meter
- Constant tension roll chart
- Easy assembly

Kit IT-21, 12 lbs., no money dn., \$5 mo. \$44.95

IT-21 SPECIFICATIONS—Tests: Emission, short, leakage, open element, filament continuity. Sockets: 4-pin, 5-pin, 6-pin, 7-pin combination and pilot light, 7-pin miniature, octal, loctal, 10-pin miniature, 9-pin novar, 12-pin compactron, 5-pin nuvistor, 7-pin nuvistor. Meter: 1 ma, BAD-?-GOOD scale, illuminated. Line voltage adjustment: Step type. Roll chart mechanism: Constant tension, illuminated. Power requirements: 105-125 VAC, 50/60 cps. Dimensions: 5 1/2" x 8 1/2" x 13".

Heathkit Audio Analyzer

- Combines the functions of 3 separate instruments — AC VTVM, Wattmeter & Intermodulation Analyzer
- Built-in high & low frequency sources for IM tests (60 cps & 6 kc)
- Built-in load resistors for 4, 8, 16 & 600 ohms
- Meter calibrated in VAC, Watts (.15 mw to 150 w), db from -65 to + 52 dbm



IM-22
\$56⁹⁵

Kit IM-22, 13 lbs., no money dn., \$6 mo. \$56.95
Export model available for 115/230 VAC, 50-60 cps; write for prices.



IM-12
\$54⁹⁵

Heathkit Harmonic Distortion Meter

- Measures harmonic distortion from 20 to 20,000 cps
- Distortion is read direct—volts RMS, % distortion, & db
- Measures noise levels down to -60 dbm

Kit IM-12, 13 lbs., no money dn., \$6 mo. \$54.95
Export model available for 115/230 VAC, 50-60 cps; write for prices.

IM-12 SPECIFICATIONS—Frequency: 20-20,000 cps. Distortion: 1 to 100% full scale, 5 ranges. Voltmeter: 1, 3, 10, 30 volts full scale. Minimum input: 0.3 volts. Input resistance: 300k ohm. Accuracy: Voltmeter & distortion ±5% full scale. Power requirements: 105-125V. 50/60 cps. AC, 30 watts. Dimensions: 13" W x 8 1/2" H x 7" D.



IT-22
\$10⁹⁵

Heathkit "In-Circuit" Capaci-Tester

- Spots open, shorted, or intermittent capacitors without removing them from the circuit
- Fast & simple to use
- Built-in self test

Kit IT-22, 4 lbs. \$10.95
Export model available for 115/230 VAC, 50-60 cps; write for prices.

IT-22 SPECIFICATIONS—Range: Open Test, 50 uufd to infinity, shunted by more than 2 K ohms at 50 uufd, 400 ohms at 100 uufd, 30 ohms at 350 uufd or more. Short test, up to 20 ufd shunted by at least 10 ohms. Test frequencies: Short test, 60 cycles. Open test, 19 mc. Power requirements: 105-125 V, 50-60 cycles AC, 5 watts. Cabinet size: 7 3/8" H x 4-11/16" W x 4 1/4" D.

Heathkit Visual-Aural Signal Tracer

- Traces RF, IF and audio signals
- Quickly locates defective stage in circuit under test
- Single, convenient audio-RF probe with switch
- Doubles as a test-bench utility amplifier/speaker

Kit IT-12, 6 lbs. \$19.95
Export model available for 115/230 VAC, 50-60 cps; write for prices.



IT-12
\$19⁹⁵



IT-10
\$6⁹⁵

Heathkit Transistor-Diode Checker

- Checks for leakage, short, open, and tests for current gain
- Checks diode forward and reverse current
- Operates on two standard size "C" flashlight batteries
- Quick to assemble

Kit IT-10, 2 lbs. \$6.95

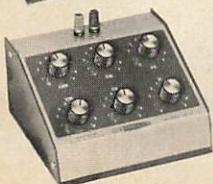


IN-21
\$17⁹⁵

Heathkit Decade Boxes

3-Decade Condenser Kit... provides switch-selected capacitance values from 100 uuf to 0.111 uf in 100 uuf steps and ±1% accuracy. Cabinet—7 1/8" W x 4" H x 5" D.

Kit IN-21, 3 lbs. \$17.95



IN-11
\$24⁹⁵

6-Decade Resistance Kit... for 1/2% accurate resistance values from 1 to 999,999 ohms in one ohm steps. 1-watt resistors. Dimensions: 7 1/2" W x 5" H x 6 5/8" D.

Kit IN-11, 3 lbs., no money dn., \$5 mo. \$24.95



IN-12
\$5⁹⁵

Heathkit Component Substitution Boxes

Resistance Substitution Box Kit... switch selects any one of 36 E.I.A. standard 10% 1-watt resistors ranging from 15 ohms to 10 megohms. Case 5 3/8" L x 3 1/8" W x 3" H.

Kit IN-12, 2 lbs. \$5.95

Condenser Substitution Box Kit... selects any one of 18 common E.I.A. standard capacitor values ranging from 0.0001 uf to 0.22 uf, 400 v. minimum. Case 5 3/8" L x 3 1/8" W x 3" H.

Kit IN-22, 2 lbs. \$5.50

HEATH COMPANY

Benton Harbor, Michigan 49022

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Job Opportunities ENGINEERS & TECHNICIANS

Due to expansion, we now have job openings in our Service and Engineering departments for technicians and engineers. We offer good salaries, liberal employee benefits, and a pleasant working atmosphere in our modern plant located on the eastern shore of Lake Michigan. Excellent school, shopping and recreational facilities. You'll live within minutes of work. If interested, write to:

W. F. Donahue
Director of Personnel
Heath Company
Benton Harbor, Michigan 49022

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2

3-16-66

All prices quoted are Net F.O.B. Benton Harbor, Michigan and apply to United States and Possessions only. Prices and Special Offers herein effective March 1, 1966. All prices and specifications subject to change without notice. Dealers and export prices slightly higher.

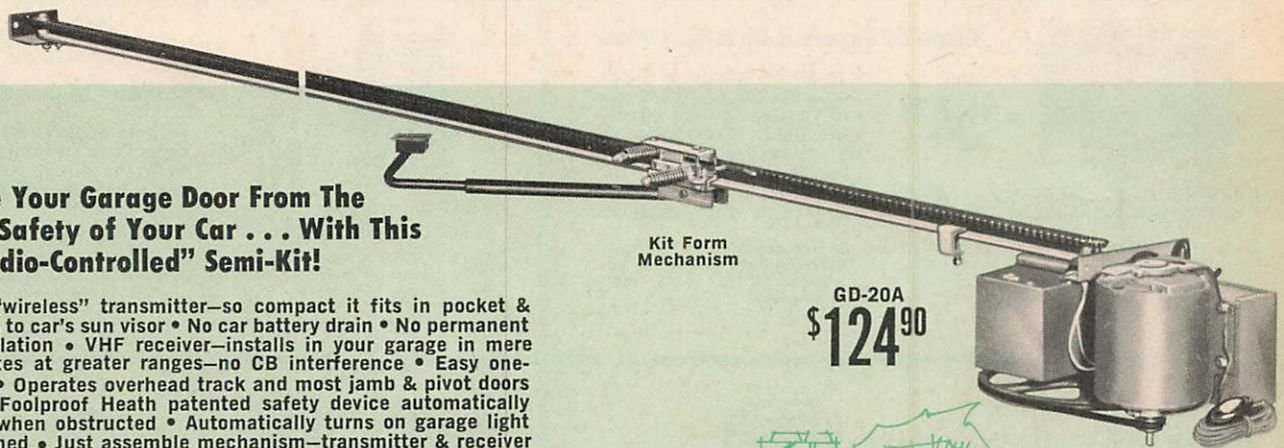
Open & Close Your Garage Door From The Comfort and Safety of Your Car . . . With This Heathkit "Radio-Controlled" Semi-Kit!

- VHF portable "wireless" transmitter—so compact it fits in pocket & purse, or attaches to car's sun visor • No car battery drain • No permanent under-hood installation • VHF receiver—installs in your garage in mere minutes • Operates at greater ranges—no CB interference • Easy one-man installation • Operates overhead track and most jamb & pivot doors up to 8' high • Foolproof Heath patented safety device automatically disengages door when obstructed • Automatically turns on garage light when door is opened • Just assemble mechanism—transmitter & receiver are completely assembled, ready to use • No FCC license required—complies with FCC regulations • Operates well within new FCC radiation limits . . . won't interfere with aircraft radio frequencies • 2 year warranty on receiver & transmitter

Especially Convenient in Bad Weather Or Late At Night . . . especially convenient for Mom or elder members of your household! Just a touch of the button on the "wireless" transmitter as you pull into your driveway, and your garage door opens and the light goes on. Another touch of the button once you're safely inside and the door closes automatically. A time delay on the mechanism-operated light allows plenty of time to enter the house or turn on the main lights.

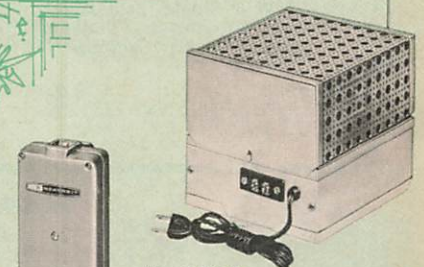
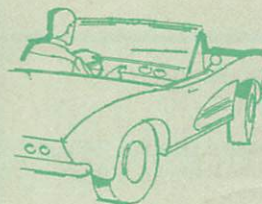
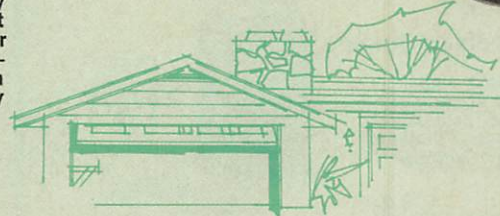
Won't Interfere With Similar Neighborhood Units . . . Easy To Use From Car To Car! Simply clip the pocket-size transmitter to sun visor, or store in glove compartment. And since it's wireless, there's no complicated mounting under the hood or dash. A self-contained battery eliminates car battery drain. You build only the mechanism . . . transmitter & receiver are preassembled. Automatic light feature may be extended to control driveway or patio lights.

- GD-20A, 69 lbs. . . . mechanism, (1) transmitter, (1) receiver . . . no money down, \$12 mo. . . . \$124.90
- GD-20B, 69 lbs. . . . mechanism, (2) transmitters, (1) receiver . . . no money down, \$14 mo. . . . \$144.90
- Kit GDA-20-3 Heathkit mechanism, 61 lbs. no money dn., \$7 mo. . . \$69.95
- GDA-20-4, (1) Transmitter, (1) Receiver . . . 8 lbs. . . . no money dn., \$6 mo. . . . \$54.95
- GDA-20-5, (2) Transmitters, (1) Receiver . . . 8 lbs. . . . no money dn., \$8 mo. . . . \$74.95



Kit Form Mechanism

GD-20A
\$124⁹⁰



Assembled Transmitter & Receiver

KIT MECHANISM SPECIFICATIONS—125" long x 8 3/8" high x 13" wide. 100# max. operating force. Operates overhead track and most jamb & pivot doors up to 8' high. 117 V. AC. 1/2 H.P. motor. Fused.
VHF TRANSMITTER SPECIFICATIONS—Powered by two Eveready #E-91 alkaline batteries. Uses one of six modulation frequencies approx. 16 kc, 18 kc, 20 kc, 22 kc, 24 kc, 26 kc. CK 5676 RF osc. tube, 2N270 audio osc. transistor. 5 1/2" H x 3" W x 1 3/4" D.
VHF RECEIVER SPECIFICATIONS—117 VAC, 10 watts. 6AB4 RF amplifier, 12AT7 detector-amplifier, 12A7 amplifier-rectifier, 5696 relay control. RF frequencies approx. 225 mc, 230 mc, 235 mc, 250 mc, 255 mc, 290 mc, 295 mc. 5 3/4" H x 6" W x 6 1/2" D.