

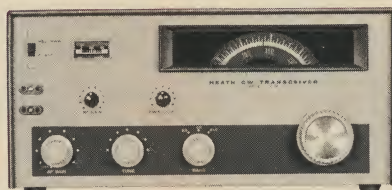
HEATHKIT® June 1967

20th year of world leadership in electronic kits

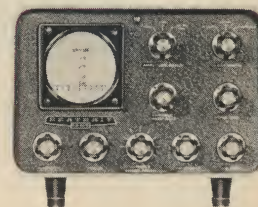
NEW KITS THIS ISSUE—In Stock, Ready For Delivery



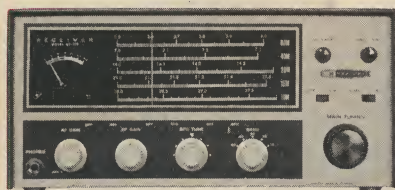
Teens! Go Mod! Go Stereo with this new 4-Speed Solid-State Portable Phonograph. See back cover.



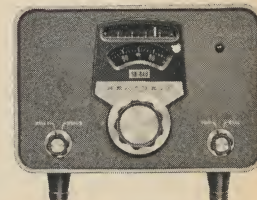
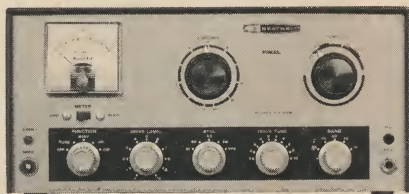
Interested In A New Hobby? Explore the wide world of amateur radio with this new HW-16 Novice CW Transceiver for only \$99.50. Pg. 28



Hams! Now ready for immediate delivery . . . New SB-620 "Scanalyzer" Spectrum Monitor and Analyzer. Pg. 30



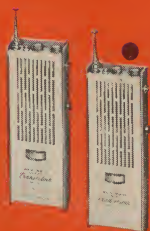
NEW color styling on low cost novice amateur radio receiver matching novice transmitter and VFO. Pg. 29



NEW External Linear Master Oscillator SB-640 for independent transmit & receive frequency control of SB-101 . . . See pg. 31

Now New Low Prices On These Famous Kits!

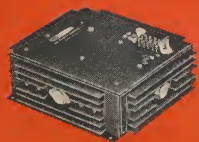
Save \$30 on Deluxe "180" Color TV . . . See pg. 3



● SAVE UP TO \$10 ON AJ-33A & AJ-13 Stereo Tuners . . . this offer expires Aug. 11 . . . See pg. 14

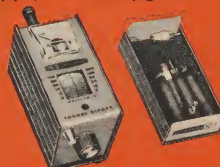
● SAVE \$5 On 1-Watt Walkie-Talkies . . . See pg. 10

● SAVE \$13 On 23-Channel 5-Watt Solid-State CB Kit, Save \$33.70 On A Pair . . . See pg. 10



● SAVE \$10 On HP-14 Amateur Radio Mobile Power Supply . . . See pg. 30

● SAVE \$5 On Amateur Radio Tunnel Dipper . . . See pg. 29



● FREE long-wire antenna kit with purchase of GR-64 Shortwave Receiver . . . this offer expires Aug. 11 . . . See pg. 6



Heath Company • Benton Harbor, Michigan 49022

Plant Location: St. Joseph, Michigan • Catalog Supplement 800/74 • Copyright 1967, Heath Company

NEWS AND VIEWS OF HEATHKIT®



PRESIDENT'S LETTER

Dear Friends:

As most of our CB friends know, the FCC recently issued two proposed rulemakings, one requiring type acceptance for all citizen's band transceivers, the other requiring type approval for unlicensed 100 mw walkie-talkies. In addition, the walkie-talkie operating frequencies will be shifted to 49.9-50.0 MHz. The proposals, if adopted, will allow a minimum of 5 years usage of any existing equipment before compliance would be required.

The CB proposal provides no means for kits to be type accepted, so we have petitioned the FCC to amend its proposed rules accordingly. At the time of writing this letter no action has been taken on either of the FCC proposed rulemakings or on our petition.

While we support the FCC in these proposals as a step toward solution to the overall problem of CB rule enforcement, we cannot agree that CB equipment in kit form need be excluded.

It may be months before a final decision is made. We will keep you advised on further developments. In the meantime, any CB equipment purchased now can be used for a minimum of 5 years, regardless of the outcome of the proposed FCC rulings.

We would like to hear from you if there are any questions. If you care to make any comments regarding the accommodation of kits in the FCC proposals, you may write directly to the Secretary, Federal Communications Commission, Washington, D. C. 20554, referencing Docket Numbers 17196 and 17364.

Sincerely,
D. W. Nurse,
President

Job Opportunities ELECTRICAL ENGINEERS— ELECTRONIC TECHNICIANS MANUAL ILLUSTRATORS & WRITERS

Expansion and growth provides continual job openings. Graduate electrical engineers for design and development in all product lines. Solid state circuit design a must. Electronic technicians with two years electronic school type background and/or experience for service testing and trouble shooting.

Manual illustrators and writers to prepare the kit assembly manuals.

You will receive a good salary and generous fringe benefits while working in our modern plant in the vacation area on the eastern shore of Lake Michigan.

If interested write to: Jack Schoenberg, Director of Personnel, Heath Company, Benton Harbor, Michigan 49022

ATTENTION HEATHKIT PORTABLE RADIO OWNERS

If you're having trouble finding a replacement 9 volt battery for your Heathkit GR-61, GR-131, GR-151 or GR-151A portable radio we now have a modification kit that will permit you to use readily available "C" cell flashlight batteries instead. For less than the usual price of the batteries alone, you get the "mod" kit which includes all parts needed to assemble a battery holder, plus 6 "C" cell batteries. The kit occupies the same space as the original battery pack. Order kit model no. GRA-61-1. Price is \$1.10.

RETURNING A KIT FOR SERVICE?

IMPORTANT! If your kit has a wood cabinet, remove the cabinet before shipping. Remember that the original kit carton was designed for shipping parts only, not assembled units. You may use this carton as an inner-pack with at least 3 inches of packing material on all sides between it and an outer carton.

STOPPING BY FOR FACTORY SERVICE?

Our Service Department is open Monday thru Friday, 8 a.m. to 4 p.m. EST. If you can't make it during the week, you may leave it with our Sales Representative on Saturdays at our plant Kit Sales/Showroom which is open 9 a.m. to 3 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 and 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 understood.

ARE YOU MOVING?

Then don't forget to send us your new address, including zip code, to insure that you receive future Heathkit catalogs and flyers. Also, if the address label on the back cover of this flyer is incorrect, please cut it out and return it to us along with any corrections. Thanks for your help.

ATTENTION HAMS!

Here's a couple of helpful hints from our technical correspondence department.

For SB-400 SSB Transmitter Owners. Change R71 (terminal board HP, lugs 3 and 13) from a 68 K ohm ½ watt resistor to 68 K ohm 1 watt. The higher wattage rating will provide better heat dissipation and greater safety during prolonged operations. Refer to Pictorial #11 in your SB-400 manual.

For SB-401 SSB Transmitter Owners Only. Locate coils CN and CM, Pictorial 4-2, pg. 46 of SB-401 manual. Remove bus wire connected to lugs 1 of the coils. Install a 100 ohm resistor in place of the bus wire. This will improve the drive on 10 and 20 meters.

INDEX

GENERAL PRODUCTS	3 to 9, 22, Back Cover
Color TV.....	3
B & W Portable TV.....	4
Portable Phonograph.....	4
New! Stereo Portable Phonograph.....	Back Cover
Shortwave Radio.....	5, 6
AM, FM Radios.....	5, 6, 7
Garage Door Opener.....	7
Intercoms.....	7
Electronic Organs.....	8
Electric Guitars & Amplifier.....	9
Ignition Analyzer.....	9
Home & Hobby Tools.....	6
Photo Aids.....	22
CITIZENS BAND RADIO	10
MARINE ELECTRONICS	11
STEREO HI-FIDELITY	12 to 21
Transistor Stereo Receivers.....	12, 13
Tuners.....	14
Amplifiers.....	15
Cartridges.....	20
Changers & Turntables.....	20
Speakers.....	21
Tape Recorders.....	19

EDUCATIONAL PRODUCTS	22 to 24
Home & Classroom Study Kits.....	22
Instrument Application Series.....	22
Berkeley Physics Lab.....	23
Malmstadt-Enke Lab.....	23
Single & Multi-Speed Chart Recorders.....	24
pH Recording Electrometer.....	24
Polarography Lab.....	24
Zener Reference Power Supply.....	24
TEST & LAB INSTRUMENTS	25 to 27
Meters.....	25, 27
Oscilloscopes.....	26
Test Probes.....	26
Generators.....	27
Power Supplies.....	27
AMATEUR RADIO	28 to 31
New! Novice Transceiver.....	28
Reflected Power Meter.....	28
Transmitters.....	29, 31
Receivers.....	29, 31
Transceivers.....	30, 31
Code Practice Oscillator.....	29
80 Thru 2 Meter VFO.....	29
Linear Amplifiers.....	30, 31
New! Linear Master Oscillator.....	31
Power Supplies.....	30, 31
Spectrum Monitor.....	30
Signal Monitor.....	30

HEATHKIT ELECTRONIC CENTERS (Sales & Service)

Chicago, Illinois 3482-66 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	New York, New York 35 West 45th Street Phone: 765-4590
Detroit, Michigan 18645 West 8 Mile Rd. Phone: 535-6480	San Diego, California 1300 Market Street Phone: 234-0293
Anaheim, California 330 E. Ball Road Phone: 776-9420	Philadelphia, Pennsylvania 6318 Roosevelt Road Phone: 288-0180
	Rockville, Maryland 5542 Nicholson Lane Phone: 942-4506

AUTHORIZED SERVICE CENTERS (Service & Replacement Parts)

United Sound & Television Co. (two locations) 5036 Venice Blvd. Los Angeles, California	Park Armature Company 1218-30 Columbus Ave. Boston, Mass.
2010 W. Lincoln Ave. Anaheim, California	Electronic Service Center of N.Y. 65-37 Queen Blvd. Woodside, New York
Radio Electronics 374 Brannan Street San Francisco, California	Scientific Radio-TV/Hi-Fi 4122 E. Madison Street Seattle, Washington
Southern Authorized Factory Service 62 N. W. 27th Ave. Miami, Florida	

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

Heath Company, Benton Harbor, Michigan—Plant Location: St. Joseph, Michigan
Affiliated Companies: Daystrom Ltd., Cooksville, Ontario, Canada • Schlumberger Svenska A.B., Lidingsö 1, Sweden • Daystrom Ltd., Gloucester, England • Schlumberger Overseas G.m.b.H. Vienna, Austria • Schlumberger Instrumentation S.A., Geneva, Switzerland • Schlumberger Instrumentation A.G., Zurich, Switzerland • Heathkit-Geräte G.m.b.H., West Germany
For names of authorized distributors elsewhere, contact: Heath Company International Division, Benton Harbor, Michigan

Deluxe Heathkit® Color TV... Both Models Now Available!

NOW READY FOR IMMEDIATE DELIVERY . . . Deluxe "295" Color TV With RCA "Perma-Chrome" Tube . . . New Improved Phosphors For The Brightest Pictures And Most Vivid Colors In The Industry

- New hi-fi 90° rectangular RCA "Perma-Chrome" color tube with 295 sq. inch viewing area, anti-glare safety glass
- New phosphors for brighter pictures, stronger contrast and better viewing under normal home lighting conditions
- 27-tube, 10-diode circuit
- 25,000 volt regulated picture power
- Automatic degaussing & mobile degaussing coils
- 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 pincushioning correction circuit eliminates picture edge distortion
- Deluxe VHF turret tuner with "memory fine tuning"
- 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 cabinets
- Assembles in just 25 hours with all critical circuits wired & tested
- 1-year warranty on picture tube, 90 days on all other parts
- Tubes alone list over \$277

Another Expert Acclaims The GR-295! May '67 issue of High Fidelity Magazine: ". . . the Heathkit GR-295, is a 'do-it-yourself' color television set which strikes us as being equal to the best factory produced set on today's market. Our verdict, by the way, is seconded by others who own big-name color sets and who have stared in amazement (and envy) at the pictures received on our own home-built Heathkit." "Reasons for this high performance? The circuit design, to begin with, uses many advanced and 'sophisticated' electronic techniques; the parts are of high quality and no scrimping or short-cuts have been taken in the chassis. The engineers at Heath, in fact, have leaned over to the side of the cautious so to speak, just to provide a wide margin for the varying ability of diverse kit-builders." "The sound is distinctly better than what you hear from most TV sets." ". . . the GR-295 boasts a very up-to-date color convergence circuit which not only makes for sharply defined, lifelike color images but which permits the owner to initially adjust the set, and readjust it later if need be, without the use of instruments or test gear." ". . . the Heathkit set produces pictures that are as good as high-quality color film, or better."

Kit GR-295, all parts including chassis, tubes, mask, UHF & VHF tuners, mounting kit and special extended-range 6" x 9" speaker, 131 lbs. (REA or motor freight) . . . \$48 dn., as low as \$29 mo. **\$479.95**

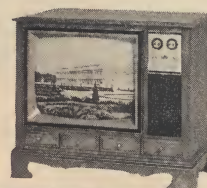
GR-295 SPECIFICATIONS—Picture size: Rectangular viewing area approx. 295 sq. inches (23" diagonally, 20" horizontal, 16" vertical). **Tube Size:** 25" overall diagonal measurement. **Deflection:** Magnetic 90°. **Focus:** Electrostatic. **Convergence:** Magnetic. **Antenna input impedance:** 300 ohm balanced, or 75 ohm unbalanced (VHF). **Picture IF carrier frequency:** 45.75 MHz. **Sound IF carrier frequency:** 41.25 MHz. **Color subcarrier:** 42.17 MHz. **Video IF bandpass:** 3.58 MHz. **Sound IF frequency:** 4.5 MHz. **Tuning range:** VHF channels 2-13, UHF channels 14-82. **Sound cathode follower:** Output impedance; 3 K. **Frequency response;** ±1 db, 50-15,000 Hz. **Harmonic distortion,** less than 1%. **Output voltage;** 2 v. **Audio output:** Output impedance, 8 ohms. **Output power,** 2 watts. **Frequency response,** ±2 db, 50-10,000 Hz. **Harmonic distortion,** less than 3%. **Power requirements:** 110-130 v., 60 Hertz AC, 330 watts. **Wall mounting:** 20" D x 21" H x 26" W inside. **Control panel assembly,** 6 1/2" W x 7 7/8" H x 7" D.



Kit GR-295
\$479.95
(less cabinet)



Contemporary Walnut Cabinet
Factory-built of veneers and solids with oil-rubbed walnut finish. 19" D x 31" H x 34 1/2" W.
Assembled **GRA-295-1**, 56 lbs. . . Express or motor freight, no money dn., \$7 mo. **\$62.95**



Deluxe Early American TV Cabinet
Special combination of veneers & solids finished in salem-maple. 19 1/4" D x 31" H x 36" W.
Assembled **GRA-295-2**, 67 lbs. . . Express or motor freight, no money dn., \$10 mo. **\$99.95**

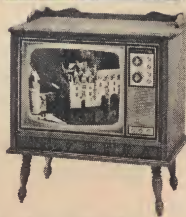


Deluxe Contemporary TV Cabinet
Made of veneers and solids with walnut finish . . . matches AE-20W hi-fi furniture, pg. 21. 19 1/4" D x 33 1/2" H x 41" W.
Assembled **GRA-295-3**, 67 lbs. . . Express or motor freight, no money dn., \$10 mo. **\$94.50**



NEW LOWER PRICE—YOU SAVE \$30 . . . Deluxe "180" Color TV Now A Better Buy Than Ever . . . And Available For Immediate Delivery

Kit GR-180
Was \$379.95
NOW ONLY
\$349.95
(less cabinet)



- Hi-fi 90° 180 sq. inch rectangular color tube with anti-glare safety glass
- Rare earth phosphors plus smaller dot size for brighter, livelier colors and better picture definition
- 27 tube, 10 diode, 1 transistor circuit
- 24,000 volt regulated picture power
- Automatic degaussing
- Exclusive Heath Magna-Shield covers entire tube to assure color purity at all times
- Built-in servicing facilities to adjust and maintain set at peak performance
- Automatic color control circuit to reduce color fading
- Gated automatic gain control (AGC) for steady, flutter-free pictures
- Extra B+ boost for improved picture definition
- 2-speed transistor UHF tuner
- Deluxe VHF turret tuner with "memory" fine tuning
- 3-stage IF strip reduces interference, improves reception
- Hi-fi sound output
- Circuit breaker protection
- Vertical swing-out chassis for easier servicing & installation
- 3-way installation . . . in a wall, custom cabinet or Heath cabinets
- Assembles in just 25 hours . . . all critical circuits prewired and tested
- 1-year warranty on picture tube, 90 days on all other parts
- Tubes alone list over \$245

Kit GR-180, all parts including chassis, tubes, mask, UHF & VHF tuners, mounting kit and special limited-field 4" x 6" speaker, 102 lbs. (REA or motor frt.) . . . \$35 dn., as low as \$21 mo. **\$349.95**

GR-180 SPECIFICATIONS—Picture size: Rectangular viewing area approx. 180 sq. inches, (18" diagonally, 16" horizontally, 12" vertically.) **Tube Size:** 19" overall diagonal measurement. **Deflection:** Magnetic 90°. **Focus:** Electrostatic. **Convergence:** Magnetic and Dynamic. **Antenna input impedance:** 300 ohm balanced, 75 ohm unbalanced VHF. **Picture IF carrier frequency:** 45.75 Meg. Hz. **Sound IF carrier frequency:** 41.25 Meg. Hz. **Color subcarrier frequency:** 42.17 Meg. Hz. **Video IF bandpass frequency:** 3.58 Meg. Hz. **Sound IF frequency:** 4.5 Meg. Hz. **Tuning range:** VHF channels 2-13 & UHF channels 14-82. **Tube & Diode Complement:** 27 tubes, 10 diodes, 1 transistor. **Sound cathode follower:** Output impedance 3K ohm, frequency response ±1 db, 50-15,000 Hz. **Harmonic distortion** less than 1%, **output voltage** 2V. **Audio output:** Output impedance—8 ohm; **Output power**—2 watts; **Frequency response**—±2 db, 50-10,000 Hz. **Harmonic distortion**—less than 3%. **Power requirements:** 110-130 V., 60 Hz AC, 330 watts. **Wall mounting (mask):** 15 1/8" H x 24 1/4" W. **Chassis room:** 17 1/2" H x 26" W x 18" D. (This is with 1/4" clearance on both sides and the top).



Contemporary Walnut Cabinet
Combination of veneers and solids in oil-rubbed walnut finish. 18 1/4" D x 28 1/4" W x 29" H.
Assembled **GRA-180-1**, 41 lbs. . . (REA or motor frt.) . . . no money dn., \$5 mo. **\$49.95**

Deluxe Early American Cabinet
Special combination of veneers and solids finished in popular Salem-Maple. 18 1/4" D x 28 1/4" W x 31 3/4" H.
Assembled **GRA-180-2**, 48 lbs. (REA or motor frt.) no money dn., \$8 mo. **\$75.00**

Save On These TV Accessories

JFD Log-Periodic LPV-II VHF TV Antenna
Receives color, B & W TV, FM stereo up to 125 miles away. Gold bond anodized finish.
GDP-124, 15 lbs. . . (Express or motor freight only). Mfrs. list \$39.95. Only **\$23.45**

Taco 4-Bay Bow-Tie UHF Antenna
Open vee type with pivot mount locks to existing mast. Heavy galvanized steel mesh screen reflector.
GDP-233, 5 lbs. . . Mfrs. list \$8.75 Only **\$5.14**

Finco UVF-24 UHF-VHF-FM Stereo "Color Ve-Log" Antenna
One down lead does the work of 3! For color, B & W TV, FM mono and stereo. 24 elements. Corrosion-resistant.
Model GDP-27, 12 lbs. (Express or motor frt. only), no money down, \$5 mo., Mfrs. list \$59.95. Only **\$34.95**

Finco VL-18 VHF-FM "Color Ve-Log" Antenna
Receives B & W and color TV, FM mono or stereo. 18 elements. Corrosion-resistant.
Model GDP-17, 16 lbs., (Express or Motor frt. only), no money down, \$5 mo. Mfrs. list \$54.50. Only **\$31.95**

Alliance Tenna-Rotor . . . Save \$16.50
Rotates 360° either direction—Instantly reversible. Life lubricated, 115 v. AC, 60 Hz.
GDP-214, 11 lbs. **\$23.45**

Cornell-Dubilier AR-22A Automatic Antenna Rotator
360° rotation in 6° increments. Handles up to 150 lbs. Permanently lubricated. Requires 4-conductor cable. 117 v. AC 50-60 Hz.
Model GDP-37, 16 lbs. (Express or motor frt. only) . . . no money down, \$5 mo. **\$32.83**

Deluxe Transistor B & W Portable TV



GR-104
\$119⁹⁵
(less battery pack)



Hinged, One-Piece Chassis
Swings out for easy servicing
... helps speed kit assembly.

Space-Age Integrated Sound Circuit ... contains 12 transistors, 12 diodes, and 15 resistors ... replaces sound I. F., detector, and preamp.



Rechargeable Battery Pack Base Mount Plus Sun Shield
Combination rechargeable batteries and charging circuit for play-anywhere operation. Batteries automatically recharge when plugged into any 120 v. AC outlet, & GR-104 turned off. Sun shield for outdoor viewing.
Kit **GRA-104-1**, 9 lbs. ... no money dn., \$5 mo. ... **\$39.95**

Features 12" Diagonal Picture ... Integrated Circuit ... Plus "Play-Anywhere" Operation With Optional Battery Pack!

- 74 sq. inch (picture diagonal 12") 110° shell bond picture tube • 36 transistor, 25 diode circuitry including new integrated sound circuit that replaces 39 component parts • Plays anywhere ... runs on household 117 v. AC, any 12 v. battery or accessory rechargeable battery pack • Instant "On" AC operation • Covers all channels, 2 through 83 • UHF dual speed tuning • VHF "memory" fine tuning—no need to fine tune when switching channels • 3-stage IF for maximum gain with controlled bandwidth • Gated automatic gain control for steady, jitter-free pictures • Transformer regulated power supply • Circuit breaker protection • One-piece, swing-out chassis for easy assembly and servicing • Rugged high-impact, designer styled plastic cabinet with carrying handle • Preassembled and aligned tuners assure peak performance, speed construction ... takes only 12 hours • Front panel-mounted speaker • 1-year warranty on picture tube, 90 days on all other parts

Don't Miss The Excitement Of Summer TV! Keep posted on major league baseball, the pro golf circuit, on-the-spot news coverage plus all the summertime specials and regular programs ... all on this go-anywhere easy-to-carry GR-104. With the optional battery pack, you can take it fishing, camping, hunting, on a picnic, to the beach ... anywhere you go. If you're a boat

owner, run it off the boat's 12 v. battery. Or plug it into any household AC outlet for 82 channels of crisp, clean pictures in the kitchen, bedroom, recreation room ... any room in the house. Includes a built-in telescopic VHF whip antenna, plus an 8" UHF loop that attaches to back panel. Also has inputs for 300 ohm antennas. Handsome blue-gray plastic cabinet with pearl mask. Build in 12-15 hours.

Kit **GR-104**, portable TV for 117 v. AC and 12 v. DC operation, 27 lbs. ... no money dn., \$11 mo. ... **\$119.95**
Kit **GRA-104-1**, rechargeable battery pack & Outdoor Sunshield, 9 lbs. ... no money down, \$5 mo. ... **\$39.95**
GRA-104-2, Outdoor Sunshield Only, 1 lb. ... **\$1.95**

GR-104 SPECIFICATIONS: Picture Size: 74 sq. in. viewing area, picture diagonal 12". Deflection: Magnetic, 110 degrees, 20 mm neck. Focus: Electrostatic. Antenna Input Impedance: 300 ohm balanced. Tuning Range: VHF TV Channels 2 thru 13, UHF TV channels 14 thru 83. Picture IF Carrier: 45.75 MHz. Sound Carrier: 41.25 MHz. Sound IF Carrier: 4.5 MHz. Video Response: To 3.5 MHz. Audio Power Output: 500 milliwatts into 24 ohm load. Controls (front panel): UHF coarse tuning, UHF fine tuning, VHF channel selector, VHF fine tuning, OFF/ON volume, brightness, contrast, vertical hold, horizontal hold. Controls (rear panel): Vertical linearity, Vertical height, Low voltage adjust, AGC. Transistor & Diode Complement: 36 transistors, 25 diodes, 1 picture tube. Power Requirement: 110-130 volts AC @ 0.35 amperes, 40 watts; 12 volts DC @ 1.7 amperes, 20 watts. Overall Size: 11 1/2" H x 15 3/4" W x 9-5/16" Deep. Net Weight: 20 lbs.

Portable Solid-State 4-Speed Mono Phonograph ... Worth At Least 50% More ... Assemble In 1 To 2 Hours

- Automatic monophonic play of 16, 33 1/3, 45 & 78 rpm records • Plays stereo records monophonically, too, without damage • All solid-state circuitry for cool, instant operation • Ceramic cartridge with dual Sapphire styli for LP's or 78's • Compact size, light weight and easy-grip handle for portable convenience • Separate volume & tone controls • Operates on any 120 v. AC household source • Includes 4" x 6" speaker, 45 rpm adapter spindle, and preassembled pressed wood cabinet covered with attractive, durable olive and ivory polyethylene • Easily assembles in just 1 to 2 hours

Introduce The Fun Of Kit-Building To Any Youngster with this handsome easy-to-carry portable phonograph. They'll appreciate having their own phonograph to play their favorite records, and to use whenever the gang gets together for parties, dances, etc. The changer and cabinet are preassembled ... just one small circuit board to wire, a 4" x 6" speaker to mount and two connectors to plug into the changer. Takes only an hour or two.

Cool, Solid-State Circuitry ... 4 transistors and 1 diode provide instant, dependable operation—no warm-up time or tubes to deteriorate. The automatic mono changer plays 16, 33 1/3, 45, and 78 rpm's. Handles a stack of 6 records of the same size. Features separate record size and speed selectors, plus an on/off/reject switch. The ceramic cartridge has a dual turnover Sapphire stylus for LP's and 78's. Also has an adapter spindle for 45 rpm's, and separate volume and tone controls. Easy to operate, too ... just flip the on/off/rej. switch to play ... automatically shuts itself off after the last record.

Handsome Olive & Ivory Cabinet ... made of pressed wood with textured polyethylene covering. Changer tilts into case for easy carrying. Compartment under the changer holds ten 45 rpm discs.

Kit **GD-16**, 25 lbs. ... no money dn., \$5 mo. ... **\$39.95**

GD-16
\$39⁹⁵



Suitcase Portability ... compact size, light weight, easy-grip handle and fold-up changer for easy carrying from room to room, or house to house. Use on any 120 v. AC household source.

GD-16 SPECIFICATIONS—Changer speeds: 16, 33 1/3, 45 and 78 rpm. Cartridge type: Ceramic. Stylus: dual turnover, 0.7 mil Sapphire and 3 mil Sapphire. Frequency response: ±5 db from 100 Hz to 10 kHz with RIAA Equalization. Power output: 2 watts music power. Cabinet dimensions: 14" H x 7 3/4" D x 20 1/2" W. Speaker: 4" x 6", 25 ohm voice coil. Transistors & diode complement: 4 transistors, 1 diode. Controls: Volume and Tone. Power requirements: 120 v. AC, 60 Hz, 15 watts.

Entertaining Companions... Heathkit® Portables

SAVE \$20 On This Deluxe AM/FM/Shortwave Transistor Portable

Now Save \$20 On Our Finest Portable . . . and just in time for summer when you'll want to enjoy world-wide listening plus FM wherever you go. Orbits the globe to bring you dozens of foreign broadcasts, ships at sea, ham operators, weather stations, and Voice of America on the wide 2 MHz to 22.5 MHz shortwave spectrum. Features the same FM tuner and IF strip as used in deluxe Heathkit hi-fi components for the most quiet and sensitive FM ever heard on a portable. Uses communication-quality components in the AM bands for really long-distance reception. And for a new listening adventure you'll enjoy the aircraft and marine broadcasts on the 150-400 kHz Longwave band . . . plus the latest pop records, up-to-the-minute news, weather and sports on AM.

Other Features Include dial light for nighttime use, 8½ revolution tuning knob for easy tuning, built-in ferrite rod antenna for LW & AM, plus 5' telescopic whip for FM and shortwave, handsome jet black aluminum panels with die-cast end-pieces. Runs on 7 flashlight batteries (not included), optional charger/converter available.

Kit GR-43, 19 lbs. . . no money dn., \$13 mo. **\$139.95**
Model GRA-43-1, Converter/Charger for 117 v. AC, 60 Hz; 1 lb. . . . **\$6.95**

GR-43 SPECIFICATIONS—AM SECTION: Tuning range: Long wave—150-400 kHz. Broadcast—550-1600 kHz. Shortwave—2.4 MHz; 4.9 MHz; 31 M—9.2-10.2 MHz; 25 M—11.2-12.4 MHz; 19 M—14.5-16.1 MHz; 16 M—16.8-18.8 MHz; 13 M—20.2-22.4 MHz. Sensitivity: At external antenna input for a 10 db signal-plus-noise to noise ratio. Long Wave—12 uv; Broadcast—10 uv; 2.4 MHz—5 uv; 4.9 MHz—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 kHz. **FM SECTION:** Tuning range: 88-108 MHz. 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 MHz. **GENERAL:** Audio output: Normal: 500 mw; Battery Saver: 160 mw. Speaker: 4" x 6" oval; permanent magnet; 3.2 ohm voice coil. Batteries: 6 size D cells; 1 size C cell. Dimensions: 13½" W x 5½" D x 10½" H including handle.

**NEW
LOW
KIT
PRICE**

GR-43
\$139⁹⁵



- 10 bands tune Longwave, Standard Broadcast, FM and 2 MHz—22.5 MHz 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"



GC-1A
\$89⁵⁰

Deluxe "Mohican" 5-Band Shortwave Portable . . . Keeps You Up-To-Date On World Happenings

Rugged & Ready To Go Anywhere! Features Zener diode voltage regulation . . . smooth, easy flywheel tuning . . . 10 transistor, 6 diode circuit . . . 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 . . . handsome 2-tone green metal cabinet. Less batteries. Requires RF generator for final alignment. Operates on 117 v. AC with AC power supply below.

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 kHz. **Frequency coverage:** 550 kHz to 32 MHz in 5 bands with calibrated bandsread scales (oscillator tuning) for 80, 40, 20, 15 and 10 meter amateur bands and 11 meter citizens band. **Selectivity:** 3 kHz 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.



GR-24
\$28²⁵

Deluxe Solid-State AM Portable . . . Bold, Crisp Sound You Can't Get From Miniatures!

- 6 silicon transistor, 2-diode circuit gives 8 transistor performance • Uses 6 standard "D" size flashlight batteries (not included) . . . 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 ½" diameter built-in rod antenna for distant station reception • Handsome black simulated leather case • Fast, simple circuit board construction

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

A Concerto At The Beach? It's Easy When You Bring Along This 10-Transistor FM 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 clear, balanced tone • Accurate vernier tuning • 34" telescopic antenna—headphone jack • Simple circuit board construction • Smart tan simulated leather case with curved beige plastic grille • 3 IF amplifier stages for extra sensitivity • Operates on 6 "C" flashlight batteries (not included) • 8-10 Hour assembly • Measures 7¾" H x 10" L x 4" D
- Kit GR-61**, 6 lbs. . . no money down, \$5 mo. **\$44.95**

Ideal Beginner's Kit . . . 6-Transistor AM Portable . . . Includes Free Batteries & 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 coils 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. Includes everything you need to begin this fascinating, kit-building hobby . . . solder, soldering iron, wire stripper & cutter, screw-driver, nut starter, alignment tool—even the batteries to power your new radio.

Kit GR-151A, radio, tool kit and 6 "C" cell batteries, 5 lbs. **\$20.65**



GR-61
\$44⁹⁵

GR-151A
\$20⁶⁵

Special Limited-Time Offer . . .
FREE Long-Wire Antenna If You Buy
This Low-Cost 4-Band Shortwave
Receiver Before August 11, 1967!

- Covers 550 kHz to 30 MHz—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 bandspread 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

Hear Live Broadcasts From Around The Globe . . . China, France, Latin America, hundreds of foreign countries. Tune in ham & CB operators, ship-to-shore, Voice of America, Radio Moscow and popular AM. Also features high voltage, transformer-operated power supply; electrical bandspread tuning; terminals for external antenna; Q-multiplier input and noise limiter on/off switch. Assemble in 8-10 hours.

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

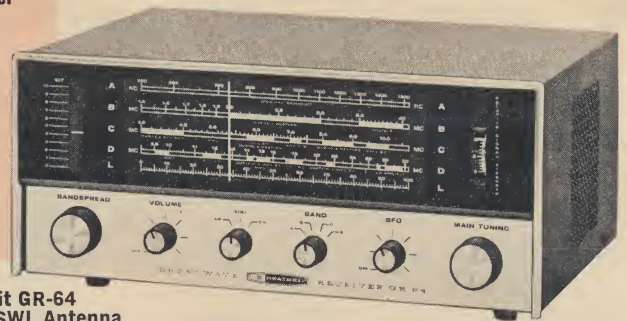
GR-64 SPECIFICATIONS—Frequency range: 550 kHz to 30 MHz in four bands. Controls: General coverage tuning, Bandspread tuning, Bandswitch, Noise Limiter—ON/OFF, Phone-Standby-CW switch, BFO control, Audio Gain, AC-ON/OFF, Headphone jack, Q-multiplier input. Power requirements: 120 V 50/60 Hz AC, 30 watts. Dimensions: 13½" W x 6" H x 9" D.

FREE . . . \$1.45 Antenna
With GR-64 Receiver



Includes 75' long-wire antenna, 30' lead-in wire, porcelain insulators and grounding hardware w/instructions. Also FREE with GR-54 receiver below.
GRA-72, 2 lbs. \$1.45

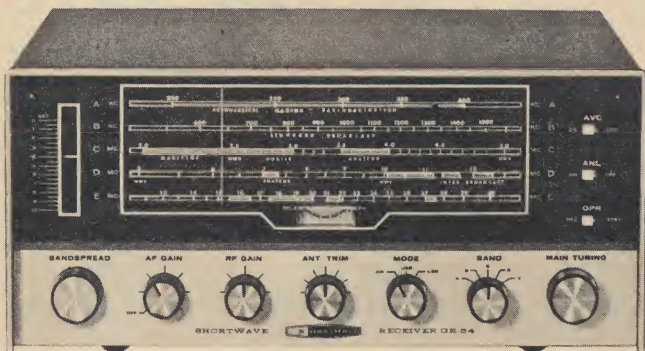
Save With Heathkit®



Kit GR-64
& 75' SWL Antenna
Only \$37.95
 (offer ends Aug. 11, 1967)

Heathkit "Q" Multiplier

Ideal for use with GR-64 or similar receivers with 450 to 500 kHz IF's. Creates extra-sharp selectivity through an effective "Q" of 4000, and provides notch for adjacent signal attenuation. Built-in power supply.
Kit GD-125, 3 lbs. \$14.95
 Export model avail., write for prices.



GR-54

Deluxe 5-Band Shortwave Receiver . . .
Compare To Sets Costing \$150 And More!

- 5 bands . . . 3 shortwave bands cover 2 MHz to 30 MHz, plus 550 kHz to 1550 kHz AM broadcast band, & 180 kHz to 420 kHz aeronautical & radio navigation band • Tuned RF stage for greater sensitivity • 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 bandspread 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" 16 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 • Charcoal gray metal cabinet • GRA-72 antenna included

\$84.95

Kit GR-54, 25 lbs. . . no money dn., \$9 mo. \$84.95
 Export model available for 115/230 VAC, 50-60 Hz; write for prices.

GR-54 SPECIFICATIONS—Frequency Coverage: Band A 180 kHz to 420 kHz; Band B 550 kHz to 1550 kHz; Band C 2 MHz to 5 MHz; Band D 5 MHz to 12.5 MHz; Band E 12.5 MHz to 30 MHz. 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: Crystal filter; 3 kHz minimum at —6 db; 7.5 kHz maximum at —20 db. Intermediate frequency: 1682 kHz. Antenna input impedance: 50 ohms nominal—phone connector. Power requirements: 120 volts 50/60 Hz 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: 14½" W x 6-5/16" H x 10-15/16" D.

SWL Station Guide

Latest World Radio TV Handbook! Lists AM, FM, TV and Shortwave stations . . . includes call signs, frequencies, transmitter power, address for QSL cards, program details, broadcast times, etc. 300 pages.
GDP-315, 2 lbs. \$4.95



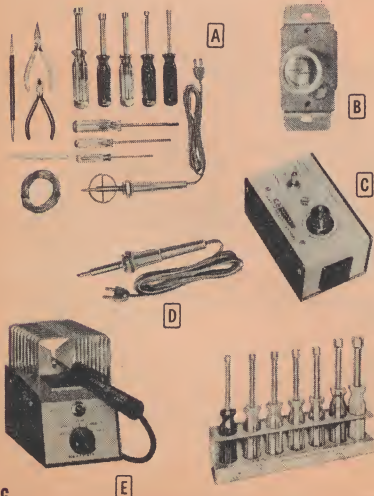
Superex Shortwave Headphones

For DX-ing, Private Listening! Use with all Heathkit shortwave (except GR-43) and amateur radio receivers. Features single lead convenience, vinyl-clad headband (1½" wide), dual coils, Alnico V magnets, 2000 ohm impedance. Not a kit.
GD-396, 1 lb. \$3.50



Full Features For The Seasoned SWL! Features like the crystal filter for extra-sharp selectivity . . . tuned RF stage for added amplification and image rejection . . . separate product detector for efficient SSB and CW listening, plus AM diode detector . . . switchable BFO control for upper and lower sideband tuning to eliminate "trial & error" SSB tuning . . . and complete controls for all functions (see specifications). Build in 12 to 15 hours.

Tools For Faster, Easier Kit Assembly



A Ideal Tool Set For Kit-Building Or Any Fix-It Job!

Here's a work and time saving tool set that will add to the fun, ease and speed of kit-building . . . and easily handle a host of household fix-it jobs. Features combination wire stripper & diagonal sidecutter; midget longnose pliers; 3 screwdrivers (3/32", 1/8", 3/16"); "Little Dandy" soldering iron (below); 5 nut drivers (3/16", 1/4", 5/16", 3/8", 1/2"); nut starter; soldering aid; radio solder; and "Kit-Builders' Guide".
Model GH-25, 4 lbs. \$16.95

B Solid-State Electric Light Dimmer

500 watt U.L. approved. Dial desired light in any room. Save on light bills & bulbs. Variable from "off" to 500 watts. Separate on/off switch for any light level. Replaces any 117 v. AC 2-way light switch. 3-year warranty.
Model GDP-166, 1 lb. \$7.95

C Heathkit Motor Speed Control

Saves power, blades, bits, saws, etc. 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

D "Little Dandy" Soldering Iron

Balanced, lightweight, easy-to-handle. 30-watt element. Iron-clad tip won't corrode, doesn't need frequent "tinning". Just right for circuit boards.
Model GDP-105, 1 lb. \$5.40

E Heathkit 8-Range Soldering Iron

6 volt, 25-watt GE midget iron with non-corroding tip. Transformer operated power supply. Protective metal cage.
Kit GH-52, 5 lbs. \$14.95

F Vaco Hollow Shaft Nut Driver Set

7 drivers—3/16", 1/4", 3/8", 1/2", 5/8", 3/4", 7/8". Self-supporting rack. Color-coded plastic handles.
Model GDP-204, 3 lbs. \$6.42



JK-27
\$13.95

NEW! Heathkit Junior Electronic Workshop "19"

Perfect For Any Youngster Who Wants To Explore The Mysteries Of Electronics. He'll have hours of fun experimenting with circuits that are safe, educational and really work! Contains all material and step-by-step instructions for building 19 different electronic projects . . . code flasher, burglar alarm, public address system, 5 different transistor radios, electronic timer, TV silencer, electronic eye, metronome, voice and capacity operated relays and more. Solderless spring-type connectors speed assembly, and can be used repeatedly for building favorite projects. Operates on safe, economical flashlight batteries.

JK-27, 4 lbs. \$13.95

SWL & Table Radios... Tools... Auto Kits... Intercoms

Now With Factory-Assembled LINEAR® Solid-State Transmitter & Receiver . . . HEATHKIT® Garage Door Opener

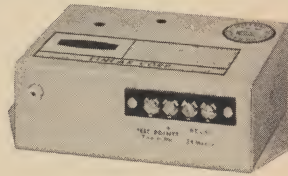


Miniature Portable "Wireless" VHF Transmitter

No larger than a pack of cigarettes . . . fits easily in glove compartment, pocket, purse or attach to sun visor. Easy to move from car to car. Operates up to 150 feet from receiver.

New Sensitive, Solid-State VHF Receiver

Installs in minutes in your garage. Operates on 250 to 300 megahertz . . . requires no license. Selectable tone coding prevents interference with similar neighborhood units. Compact 5 1/2" x 3 3/4" x 2" size.



Kit Form Mechanism Assembled Transmitter & Receiver

GD-177A
\$112.95

- Selectable tone coding prevents interference with similar neighborhood units • New factory assembled solid-state VHF transmitter & receiver . . . operates over entire -50° F to +140° F temperature range • Miniature portable "wireless" transmitter • Operates up to 150 feet with no CB interference • Easy one-man installation • Operates overhead track, and most jamb & pivot doors up to 8' high • Foolproof safety device automatically disengages door when obstructed • No FCC license required—complies with FCC regulations • Won't interfere with aircraft radio frequencies • 5-year warranty on transmitter & receiver, 1-year unconditional
- GD-177A, 66 lbs. (REA Express or Motor Frt. only), mechanism, (1) transmitter, (1) receiver . . . no money down, \$11 mo. **\$112.95**
 GD-177B, 67 lbs. (REA Express or Motor Frt. only), mechanism, (2) transmitters, (1) receiver . . . no money down, \$12 mo. **\$124.95**
 GDP-147, 2 lbs., (1) transmitter, (1) receiver . . . no money down, \$5 mo. **\$49.95**

- GDP-157, 3 lbs., (2) transmitters, (1) receiver . . . no money down, \$7 mo. **\$64.95**
 GDP-167, 1 lb., Transmitter only **\$15.95**

KIT MECHANISM SPECIFICATIONS—125" long x 8 3/4" high x 13" wide, 100# max. operating force. Operates overhead track and most jamb & pivot doors up to 8' high. 117 v. AC 1/4 H.P. motor. Fused.

VHF TRANSMITTER SPECIFICATIONS: Powered by standard 9-volt transistor type battery (Eveready No. 216 or equivalent). **RF Frequencies**: Approx. 250-300 MHz. **Operating Range**: Up to 150' from receiver (adjustable). **Useful Temperature Range**: -50° to +140° F. **Size**: 3 3/4" x 2 1/4" x 1 1/8". **Weight**: 5 ounces.

VHF RECEIVER SPECIFICATIONS: 105 to 140 v. AC 0.8 watts nominal. **RF Frequencies**: approx. 250-300 MHz. **Selectivity**: 4 MHz @ 500 uv. **Useful Temperature Range**: -50° to +140° F. **Size**: Approx. 5 1/2" x 3 3/4" x 2". **Power Requirements**: 105 to 140 volts 60 Hz 0.8 watt nominal. **Relay Voltage**: 24 volts NEC Class II circuit.

Diagnoses Auto Ignition Troubles . . . Shows Results of Corrective Action . . . Low Cost Heathkit IO-20 Analyzer

Shows Shorted Plugs, bad points, defective wiring, worn distributor parts, incorrect dwell time, etc. Manual shows what to look for on 4 1/2" screen, how to isolate trouble. Use mobile with external DC to AC inverter. Aluminum case. 8" H x 9 1/2" W x 16" D.

Kit IO-20, 17 lbs. . . no money down, \$10 mo. **\$94.95**
 Export model available for 115/230 VAC, 50-60 Hz; 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, ground, primary and secondary clip leads extend 2' beyond pick-up clamp. **Power requirements**: 105-125 V, 50/60 Hz AC, 30 watts.

Timing Light Kit . . . Accessory To IO-20 Ignition 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 ID-11, 3 lbs. **\$14.95**



IO-20
\$94.95

ID-11
\$14.95



GR-36
\$69.95

Deluxe Solid-State FM/FM Stereo Table Radio

- All transistor circuit for clean, natural sound—cool, instant operation
- Automatic switching to stereo • Automatic stereo indicator light • Fixed Automatic Frequency Control for ease of tuning • Adjustable phase control for best stereo • Easy-to-read slide-rule dial • Tone control • Preamplified, prealigned "front-end" • Handsome, rich walnut finish cabinet
- Assembles in about 10 hours

Ideal For Apartments, Family Room, Student Dorm . . . any place you want to add the beauty of FM stereo. Features same RF tuner and IF circuit used in Heathkit transistor stereo components to literally fill any room with truly deluxe hi-fi. Yet its compact size and shape require a minimum of space. Also has two 5 1/4" PM speakers, clutch-release volume control for independent or simultaneous audio adjustment of both channels, automatic frequency control and a luxurious walnut cabinet. Assembles in around 10 hours.

Kit GR-36, 17 lbs. . . no money down, \$7 mo. **\$69.95**

GR-36 SPECIFICATIONS—Frequency coverage: 88 to 108 MHz. **Sensitivity***: 5 microvolts. **Intermediate Frequency (IF)**: 10.7 MHz. **Image Ratio***: -45 db. **Capture Ratio***: 3 db. **IF Rejection***: -80 db. **AFC Correction**: 150 kHz per volt. **AM Suppression***: -40 db. **Channel Separation**: 30 db or more at 1000 Hz. **Antenna Input Impedance**: 300 ohms balanced. **Stereo Music Power Output**: 2 1/2 watts EIA. **Speakers**: Two 5 1/4" speakers, permanent-magnet type. **Power Supply**: Transformer operated. **Power Requirements**: 105-125 volts, 50/60 Hz, 6 watts. **Cabinet**: Wood, walnut finish. **Dimensions**: 19" W x 9 1/4" H x 6 1/2" D.

(*rated by Institute of High Fidelity (IHF) standards)



All Units Shown
\$44.85

Solid-State Indoor-Outdoor Intercom System

Now Identify Callers Before Opening The Door . . . adds to household safety. Master unit handles up to 5 remotes . . . has selective and all-call switches for private inter-unit communications or paging entire group . . . can be preset so any 2 remotes can communicate. Matching beige plastic cabinets. Weatherproof outdoor remote with doorbell button. Each remote has 50' of 3-conductor wire. **Kit GD-121 Master Station**, 6 lbs. . . no money down, \$5 mo. **\$29.95**
Kit GD-131 Indoor Remote, 4 lbs. **\$8.95**
Kit GD-141 Outdoor Remote, 2 lbs. **\$5.95**

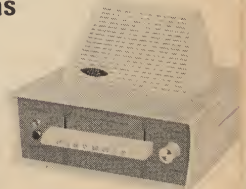
SPECIFICATIONS—Power requirements: 117 V. AC 50/60 hertz, 2.5 watts (idling), 3.5 watts (full output). **Transistors**: Four 2N1274. **Dimensions**: 6 1/4" H x 8" W x 7 1/2" D (master), 5" H x 8" W x 6" D (indoor remote) 5 3/4" x 4 1/2" panel size (outdoor remote).

Portable "Wireless" Transistor Intercoms

Saves Valuable Steps And Time . . . eliminates annoying shouting. Use any number anywhere as long as they operate on same power line. Push-To-Talk bar has spring return to "listen" and a "dictate" hold position for baby-sitting or one-way transmissions. Beige plastic cabinet.

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: 105-125V. 50/60 Hz AC or DC. **Standby power**: 2.5 watts. **Transmit frequency**: 220 kHz & 180 kHz (switch selected). **Size**: 6 1/4" H x 8" W x 7 1/2" D.



GD-51A
\$22.95

Heathkit®/Thomas Organs

America's Lowest Cost Two Keyboard Organ . . .
**Ten Voices, 75-Watt Peak Power,
 Instant Play Color-Glo At Up To \$185 Savings!**

• 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 • 75 watt 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, handrubbed walnut cabinet and bench

Learn To Play Your Favorite Songs In Minutes on this Heathkit/Thomas Color-Glo organ. Exclusive key lights show you the correct notes and chords. Just match up the colors with your left hand, the letters with your right . . . and you play complete songs with melody, harmony and bass . . . even if you've never played an organ before!

Features 10 Organ Voices . . . trombone, reed, flute, oboe, cornet, violin, saxophone, horn, viola and diapason; space-age solid-state circuitry for long, dependable life; and handsome preassembled walnut cabinet and bench that measures 41¼" H x 39¾" W x 21½" D. Assembles in about 50 hours . . . you even tune the organ with a pretuned tone generator.

Kit GD-325B, organ and matching bench, 172 lbs. . . \$40 dn., as low as \$23 mo. (REA or motor freight only) . . . \$394.90
 Export model available for 115-230 v. AC, 50-60 Hz; write for prices.

GDA-325-1, (7", 33⅓ rpm demonstration record) . . . ppd. 50c
 GDA-232-2, 40-lesson Self-Teacher Recorded Lessons for both GD-325B and TO-67 organs . . . Mfrs. List \$50 . . . Only \$19.95



GD-325B
\$394⁹⁰
 (including bench)

**Deluxe Heathkit®/Thomas "Paramount" Transistor
 Theatre Organ . . . 19 Organ Voices, 200 Watts Peak
 Power, Horseshoe Shaped Console And Full Professional
 Features At Over \$500 Savings!**



Horseshoe Console Plus Color-Glo Keys . . . a rainbow of multi-colored stop tablets at your fingertips for instant selection of all 19 voices. Plus Color-Glo lighted keys so you can play complete songs the first time you try it . . . even if you've never played an organ before!

• All genuine Thomas factory-fabricated components • 19 organ voices . . . 15 keyboard, 4 pedal • Exclusive Thomas instant-play Color-Glo • 200 watts peak power produced by two separate transistor amplifiers • "Stereo" sound • Two separate speaker systems . . . 2-speed Leslie, plus main system with two 12" speakers • Two 44-note keyboards • 28 notes of electronic chimes • 13-note bass pedals • Selective repeat percussion • Selective attack percussion • Manual balance control • Keyboard and pedal sustain • Timbre mellow • 3 tremulant tabs . . . vibrato, tremolo & slow • Pedal percussion • Variable pedal volume • Expression pedal • Stereo headset outlet • Reverb • Assembled Walnut finish hardwood cabinet and bench
 19 True Organ Voices . . . With Hundreds Of Voice Combinations Possible!
 15 keyboard voices, 4 pedal voices . . . all at the flip of a tab. For solo work . . . diapason 16', bass clarinet 16', trumpet 16', English horn 8', oboe 8', violin 8' and tibia 16', 8', 5½' and 4'. For accompaniment . . . diapason 8', saxophone 8', French horn 8', oboe horn 8' and cello 8'. And now, four pedal voices . . . diapason 16', major flute 8', bass clarinet 8', and string bass 8'. And you'll soon learn voice combinations to produce the sounds for the Spanish guitar, zither, bagpipes, calliope, banjo, etc. Plus other variations for every musical mood . . . show tunes, classical, religious, even rock & roll.

200 Watts Peak Power is produced by the all-transistor "stereo" system . . . two separate amplifiers, one for the Leslie speaker system, the other for the main system.

Two Separate Speaker Systems . . . a built-in 2-speed rotating Leslie plus a main speaker system with two special 12" speakers. With the Leslie you can create the liquid tremolo beauty of a full theatre organ, or the rich randomness of sound suitable for religious music. You can even add voicing variety by playing some voices through each system.

"Stereo" Sound . . . the Leslie speaker system can also double as a second standard channel with the press of a tab. The music from one manual is fed through the main system, while the music from the other manual is fed through the Leslie system . . . thus creating a rich "stereo" sound.

Luxurious Hardwood Cabinet and Bench . . . handcrafted and handrubbed with a lustrous walnut finish . . . ready for the sub-assemblies as you complete them. Cabinet measures 40" H x 48" W x 25" D.



TO-67
\$995⁰⁰
 (Without Band Box)

Famous Heath Engi-nuity Makes Assembly Easy . . . you even tune the organ with a pretuned tone generator. No musical ear needed. Assembly time 80 to 100 hours, and you enjoy the savings. Hear it perform! Send for demonstration record.

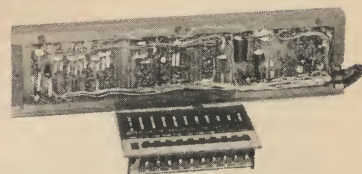
Kit TO-67, organ & matching bench, 265 lbs. . . Express or motor frt., \$200 dn., as low as \$29 mo. . . \$995.00
 Export model available for 115-230 v. AC, 50-60 Hz; write for prices.

TOA-67-3, (7", 33⅓ rpm demonstration record) . . . ppd. 50c

Add The Full Orchestra Sound of Band Box Percussion

Automatically adds Bass Drums, two different Bongos, Castanet, Brush and Crash Cymbals, Block, Clave, Snare Drum and Drum Roll . . . ten different percussion instruments to the music you play. One or all may be pre-selected to sound as you play the lower manual, pedals or both. Adjustable volume control. Assembles easily in just 4 to 6 hours.

Kit TOA-67-1, 8 lbs. . . no money dn., \$14 mo. . . Available August . . . \$145.00



Attention Heathkit/Thomas Organ Owners! The Thomas Band Box may be added to all previous and present Heathkit/Thomas organ kits. Special drawer and slides are required for support (except with new TO-67).
 TOA-67-2, 3 lbs. . . Band Box drawer and slides. Available August . . . no money down, \$5 mo. . . \$35.00

Save Up To \$141.55 On A Harmony[®]-by-Heathkit[®] Guitar

TG-46
Was \$219.95
Now Only
\$189⁹⁵
(Including accessories
shown opposite)

VU-TUNER[®] Tuning Aid . . . a \$2 Value . . . included with each guitar kit. Provides visual indication for exact tuning. Resonant reed shows when 6th string is in tune. Other strings are tuned in unison with instructions.



TG-36
Was \$119.95
Now Only
\$94⁵⁰
(Including accessories
shown opposite)

TG-26
Was \$99.95
Now Only
\$88⁵⁰
(Including accessories
shown opposite)

A Deluxe Harmony Model H78 Electric Guitar By Heathkit

- Double cutaway • Ultra-slim ovalled rosewood fingerboard with short 24¹/₄" scale for easy play • Ultra-slim neck with adjustable Torque-Lok reinforcing rod • 3 pickups with individually adjustable pole-pieces under each string for balance & emphasis
- Flat wound strings • 3 silent switches select 7 pickup combinations • 3 volume & 3 tone controls • Professional Bigsby vibrato tail-piece • Curly maple hollow body—15³/₄" x 40¹/₂" x 2" thick—factory buffed & polished gleaming cherry red—lightly shaded

Kit TG-46, 17 lbs. . . (REA or motor freight. Parcel Post to RFD and APO only) . . . no money dn., \$18 mo. Total list price \$331.50 Only \$189.95

B Harmony "Rocket" Model H56 Electric Guitar By Heathkit

- Single cutaway • Ultra-slim ebonized fingerboard with 24¹/₄" scale • Ultra-slim neck—adjustable steel rod reinforced • 2 pickups with individual adjustable pole-pieces under each string • Silent switch selects 3 pickup combinations • 2 volume & 2 tone controls • Harmony type "W" vibrato tailpiece • Laminated maple ultra-thin hollow body—15³/₄" x 40¹/₂" x 2" thick—factory buffed & polished rich cherry lightly shaded

Kit TG-36, 15 lbs. . . (REA or motor freight. Parcel Post to RFD and APO only) . . . no money dn., \$10 mo. Total list price \$160.50 Only \$94.50

C Harmony "Silhouette" Model H17 Electric Guitar By Heathkit

- Modified single cutaway—"free form" profile • 15 frets clear of body • Ultra-slim ebonized fingerboard with 24¹/₄" scale • Ultra-slim neck—adjustable steel rod reinforced • 2 pickups with individual adjustable pole-pieces under each string • 3-position switch selects either or both pickups • 2 volume & 2 tone controls • Harmony type "W" vibrato tailpiece • Hardwood solid body—12³/₄" x 36³/₄" x 1¹/₂" thick—factory buffed & polished, gleaming cherry red

Kit TG-26, 13 lbs. . . (REA or motor freight. Parcel Post to RFD and APO only) . . . no money dn., \$9 mo. Total list price \$147 Only \$88.50

All Guitar Kits Include These Valuable Accessories



Worth \$19.50 to \$31.50 depending on model. Each guitar includes vinylized chipboard carrying case, deluxe red leather neck strap, connecting cord, tuning & instruction record & book, pick and Vu-Tuner.

Heathkit "Starmaker" 60-Watt Solid-State Guitar Amplifier



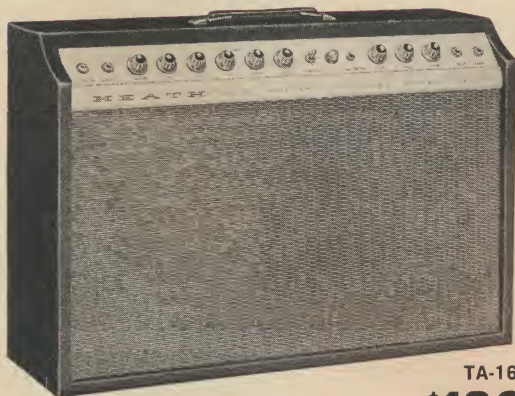
At Your Fingertips . . . Complete Command Of All Functions!

- 60 watts peak power—maximum power from Fail-Safe Complementary Transistor Output Circuit • Two channels—one normal for accompaniment, microphone, etc.—the other for special effects, lead, and solo guitars, has reverb and tremolo • 2 inputs each channel • Variable Reverb uses Hammond double spring delay unit • Specially designed LDR Tremolo circuit is variable in both speed and depth • Line bypass reversing switch for hum reduction • 2 special design 12" heavy-duty ceramic magnet speakers • Two foot switches in heavy die cast housing for hands-free control of tremolo and reverb
- One simple to build circuit board with 13 transistors and 6 diodes • Heavy-duty power transformer—120 v. or 240 v. AC 50/60 Hz • Leather-textured black vinyl covered cabinet of 3/4" stock . . . measures 28" W x 9" D x 19³/₄" H • Black and white patterned grille cloth • Extruded aluminum front panel with black nomenclature and chrome-plated knobs with black inserts

All The Features Guitarists Want Most In An Amplifier, plus the coolest 60 watts of peak power you've ever heard. And since it's all solid-state, there are no tubes to deteriorate or wear out—you get peak performance at all times.

Easy To Build In Just 8 To 10 Hours . . . and you enjoy savings up to \$170. Just one circuit board to wire, a few parts to mount on the chassis, plus two speakers, controls and switches to install. For today's best value in a guitar amplifier, choose the Heathkit "Starmaker".

Kit TA-16, 52 lbs. (REA or motor frt.), no money dn., \$12 mo. \$129.95

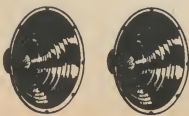


TA-16
\$129⁹⁵

One Easy-to-Build Circuit Board . . . 13 transistors, and 6 diodes for cool, instant operation; high stability.



Two 12" Heavy-Duty Speakers with 10-ounce magnets deliver 60 watts peak power.



Two Foot Switches in heavy die-cast base for hand-free control of tremolo and reverb.

Keep In Touch With Heathkit® CB

**SAVE \$13 On Kit Version Of Deluxe
Solid-State 23-Channel 5-Watt CB Transceiver . . .
Buy Two And SAVE \$33.70 With
Additional 5% Pair Discount!**

- 14 transistor, 6 diode circuitry • Provision for 23 crystal-controlled transmit & receive channels • Full 5 watt performance • Only 2 7/8" H x 7" W x 11" 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

Kit GW-14 Now Only \$76.95 . . . a \$13 savings that makes it an even better than ever buy. And you can buy two GW-14 kits for only \$146.20 by taking the additional 5% CB pair discount . . . a savings of \$33.70. 12 v. neg. ground only . . . operates on 117 v. AC and 6 v. DC with optional power supply and converter accessories below. Crystals for one channel included (specify).

Kit GW-14, 8 lbs. . . no money dn., \$8 mo. . . Was \$89.95 . . . Now Only \$76.95
Assembled GWW-14, 8 lbs., no money dn., \$12 mo. \$124.95
Export model available for 115/230 VAC, 50-60 Hz; write for prices.

Kit GWA-14-1, AC Power Supply, 5 lbs. \$14.95
Kit GWA-14-4, 6 to 12 v. DC converter, 3 lbs. \$14.95

GW-14 SPECIFICATIONS—RECEIVER SECTION: General description: 6-transistor superheterodyne circuit with RF amplifier, squelch, noise limiter, 23-channel crystal controlled tuning with tuning and relative signal strength indicator. Intermediate frequency: 455 kHz. 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 peaks. Power requirements: Positive 12 volt system (13.5 volts); receiver current drain, standby—120 ma; transmitter current drain—750 ma. Dimensions: 2 7/8" H x 7" W x 11" D.



Kit GW-14
Was \$89.95
Now Only

\$76⁹⁵

Wired 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



Deluxe 5-Watt, 5-Channel CB Transceiver . . . Fixed Or Mobile Operation . . . Variable Receiver Tuning

- 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 • Superhet receiver with RF stage receives all 23 channels • Styled in handsome Heathkit marine motif • Easy to build • Complements Heath marine radio-telephones as alternative means of communications in many boating areas

Ideal For Boat, Car, Or Home . . . with its compact size, 3-way power supply (120 VAC, & 6 or 12 VDC), and gimbal mounting bracket, the MW-34 installs virtually anywhere you wish to set up CB communications.

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 MHz). 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: 5kHz @ 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: 120 volts, 60 Hz, AC 72 watts. 12 volts DC, 4.5 amperes; 6 volts DC, 9 amperes. Dimensions: Overall; 4 3/4" H x 8 3/8" W x 11" D.

Extra Transmit & Receive Crystals. Only \$1.99 each with any Heathkit transceiver order! Otherwise \$2.95 each. Specify base/mobile or handheld transceiver. 1 lb.

SAVE \$5 On Deluxe 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. Was \$69.95, Now Only \$64.95
Kit GW-52-2 (pair), 8 lbs. . . no money dn., \$11 mo. Was \$129.95, Now Only \$119.95

Compact 4-Transistor Walkie-Talkie . . . Operates 1/4 Mile Or More

- Operates 1/4 mile or more between similar units • Built-in battery power • No license, forms, tests or age limit • Crystal-controlled transmitter—super-regenerative receiver • Compact—fits easily in pocket, purse • Steel case

Here's The Walkie-Talkie For Boy Scouts, Campers, & For The Ski Lodge Or Summer Camp. Price includes crystal for one channel (specify).

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

GW-31A SPECIFICATIONS—Receiver: Super-regenerative detector. Sensitivity: Usable with signals as low as 4 uv at antenna. Transmitter: Crystal-controlled any channel 2 to 23 (unlicensed) in 11 meter citizens band. RF input power: 90 milliwatt. Battery: 9-volt. Antenna: 36" whip. Circuit: 4-transistor. Dimensions: 5 7/8" H x 3 1/8" W x 1 1/2" D.

NEW LOW KIT PRICE
Kit GW-52A
Was \$69.95
Now Only
\$64⁹⁵
(pair Now Only \$119.95)



GW-31A
\$19⁹⁵
(pair)
\$35.00

Save Up To 50% With Heath Marine Electronics

Heathkit "Mariner" 3-Band Radio Direction Finder . . . Shows You The Way Home

• 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

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

MR-21A SPECIFICATIONS—Beacon band: 188 to 410 kHz. Broadcast band: 535 to 1620 kHz. Marine band: 1650 to 3450 kHz. Sensitivity for 6 DB signal-to-noise ratio: BC band, 40 uv/meter; Beacon band, 70 uv/meter; Marine band, 20 uv/meter. Normal bearing accuracy: $\pm 3^\circ$. BFO: 455 kHz, switch-selected. Speaker: 4" x 6" weather-proofed. 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-ID925 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.

MR-21A
\$109⁹⁵



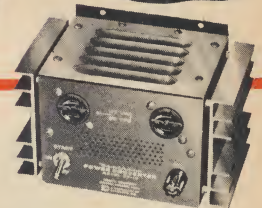
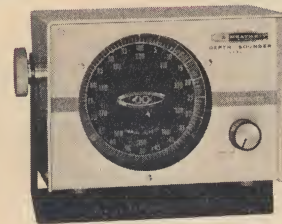
Solid-State Depth Sounder . . . Range to 200 Feet Assures Safe Navigation In Any Water

• 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

Kit MI-11A, 8 lbs. . . no money down, \$7 mo. \$69.95
Accessory transducer mount; Model MIA-11, 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 kHz. 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.

MI-11A
\$69⁹⁵



Solid-State Fuel Vapor Detector



MI-25
\$39⁹⁵



• Fully transistorized • Gives both visual and audible warning of combustible gas fumes • Self-testing • Built-in "Fail-Safe" provision—sounds alarm in the event of component failure • Built-in relay circuits for control of bilge blower & additional warning devices • Simple to build and install—from package to protection in 3 hours

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

MI-25 SPECIFICATIONS—Voltage: 12 VDC. 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 kHz.

Kit MP-10
\$29⁹⁵

Heathkit Marine Power Converter

Converts 6 or 12 v. battery power to square wave 117 v. AC. Delivers up to 175 watts for lamps, electric shavers, small appliances. 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 down, \$5 mo. \$39.95



MWW-15
\$375⁰⁰



Factory Assembled 150-Watt Radiophone . . . Up to 150 Mile Range

• 150 watt power input • Exceptionally low current demands for a 150-watt radiophone • 8 crystal-controlled transmit & receive channels • Covers 2-3 and 4-5 MHz marine bands • Receives standard AM broadcast • Built-in 15 watt deck hailer • Full provisions for remote control operation with the MWA-15-1 Remote Unit • High-performance all-transistor receiver with R.F. amplifier stage and "Local-Distance" switch • Ceramic Transfilters® for extra selectivity to reduce interference • Built-in heavy-duty power supply • FCC type-accepted for commercial (party boat) use and DOT approved • Completely assembled and tested • Owner's manual includes all information for installation & operation

Assembled MWW-15, 31 lbs. . . \$38 dn., as low as \$22 mo. \$375.00

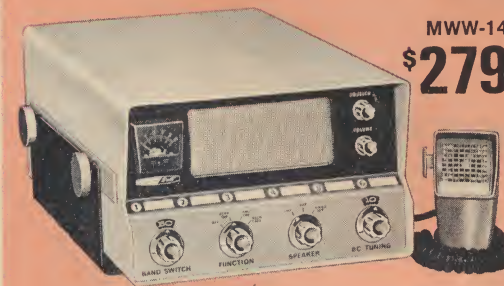
Assembled MWW-15R, 41 lbs. 150 watt 'phone plus remote control. \$474.00

write for credit details. \$99.00

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. each \$2.95



MWW-14A
\$279⁹⁵



75-Watt Radiophone . . . Dependable Communications Up to 75 Miles

• 6 crystal-controlled transmit and receive channels (2-5 MHz) • Exceptionally low current demands for a 75-watt radiophone • AM broadcast band tuning • 15 watt deck hailing capability • Transistorized receiver • Factory assembled & tested • FCC type accepted for "party-boat" use and D.O.T. approved

Assembled MWW-14A, 30 lbs., no money dn., \$26 mo. \$279.95

Assembled MWW-14AR, 41 lbs. . 75-watt Radiophone plus Remote Control. \$378.95

\$38 dn., as low as \$23 mo. \$24.95

MWA-14-1, Optional Telephone hand set. . 2 lbs. . no money dn., \$5 mo. \$24.95

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



MWW-13A
\$164⁹⁵

For Medium Cruising-Range Craft . . . 25-Watt Radiophone

• Choose the complete MWW-13AS system for owner installation on outboards • Choose the MWW-13A for installation on any boat, with FCC licensed technician checkout • Features 4 crystal-controlled transmit & receive channels • Covers 2-3 MHz marine bands • Exceptionally low current demands • Receives AM standard broadcast • Built-in heavy-duty solid-state power supply • FCC type accepted • Compact, factory assembled & ready to install

Assembled MWW-13AS, Complete system for do-it-yourself installation on outboard powered boats only, includes radiophone, antenna & instructions, 22 lbs. \$189.95

(Express or Motor Frt.) no money dn., \$18 mo. \$164.95

Assembled MWW-13A, Radiophone for technician installation on any boat, 17 lbs. \$164.95

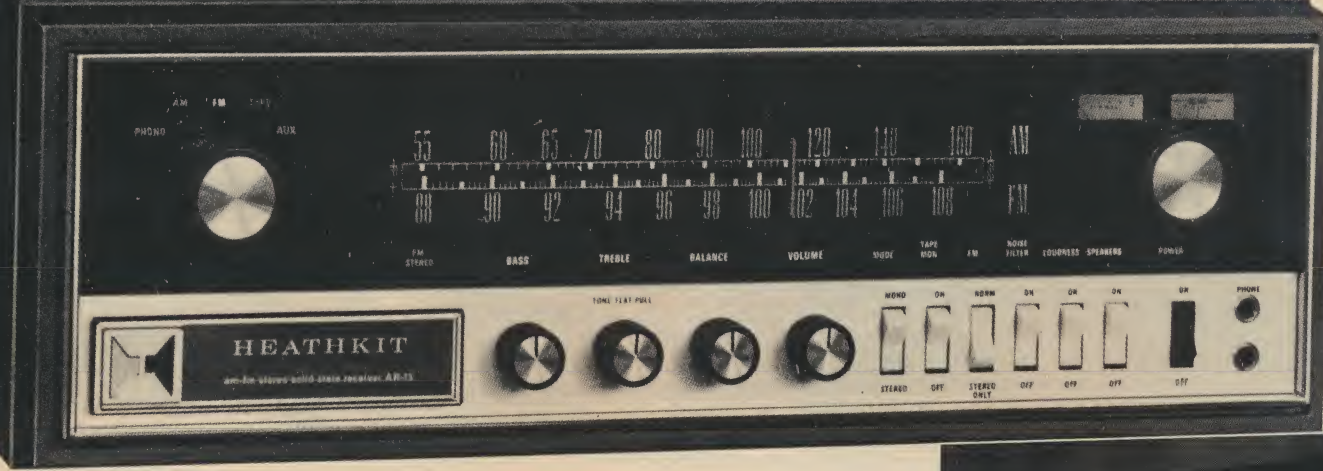
no money down, \$16 mo. \$34.95

MDP-93, 13' Fiberglass Antenna, 5 lbs. \$9.95

(Motor Freight or Express only), no money dn., \$5 mo. \$9.95

MDP-103, Swivel lay-down base mount, 2 lbs. each \$2.95

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



AR-15
\$329.95
 (less cabinet)

Read What The Experts Say About This Amazing New Receiver! Heathkit® Solid-State AM/FM/FM Stereo AR-15...\$329.95†



- All-silicon transistor circuitry . . . 69 transistors, 43 diodes, 2 IC's • 150 watts dynamic music power at ±1 db from 6 to 50,000 Hz • Field effect transistor FM tuner, completely shielded and assembled • Positive circuit protection • Two calibrated tuning meters . . . signal strength and "Center-Tune" • Stereo threshold control for automatic switching to stereo and mono • Tone-flat switch • Automatic noise-operated FM squelch circuit • Adjustable phase control • Stereo Only switch • Magnetic phono inputs with 98 db range • Two stereo headphone jacks • Built-in test circuit VOM • Direct coupled output circuit • Capacitor coupling to speaker terminals • Super SCA filter • Filtered channels for direct stereo recording • Electronic filter circuit • Circuit board construction • Choice of installation

Julian Hirsch, Noted Audio Critic, Said In The May '67 Issue Of Hi-Fi/Stereo Review: "Heath in their literature implies strongly that the AR-15 represents a new high in advanced performance and circuit concepts. After testing and living with the AR-15 for a while, we must concur. In most respects, it is superior to any manufactured receiver we have tested, and in several respects its FM tuner outperforms any other we know of."

"The FM tuner's front end uses field-effect transistors (FET's) for high sensitivity and freedom from cross-modulation. The FM i.f. amplifier is unique and marks the first use of integrated circuits in a kit receiver. Each IC, about the size of a transistor, contains ten transistors, seven diodes and eleven resistors. Instead of the usual i.f. transformers, which require periodic alignment and have less-than-ideal response characteristics, the Heath AR-15 uses two crystal-lattice filters. Though costly, these have a virtually ideal flat-topped response characteristic, with extremely steep skirts which offer a degree of adjacent channel selectivity unobtainable with conventional i.f. transformers."

"This is the most sensitive FM tuner we have ever tested, and it has by far the best limiting characteristic. Its IHF sensitivity was 1.45 microvolts and limiting was complete at about 2 microvolts. We could not find any stations that did not limit fully, with silent backgrounds. We were also able to receive stereo broadcasts from a distance of 70 miles, only 200 kHz from a powerful local station, without interference, a feat not matched by any other tuner in our experience."

"We found the Heath AR-15 a very easy receiver to use and to listen to. Its enormous reserves of clean power make for effortless listening at any level, and the FM tuner brought in more listenable FM broadcasts (as many as fifteen to twenty on a single sweep of the dial) than we had realized existed in our area."

"We know of only a few amplifiers that can match or surpass the AR-15 in power or ultra-low distortion, and most of them cost considerably more than the entire AR-15 receiver. No other tuner we have used can compare with it in sensitivity. Considering these facts, the AR-15 is a remarkable value at \$329.95 in kit form. Several people have commented to us that, for the price of the AR-15 kit, they could buy a very good manufactured receiver. So they could—but not one that would match the superb overall performance of the Heath AR-15."

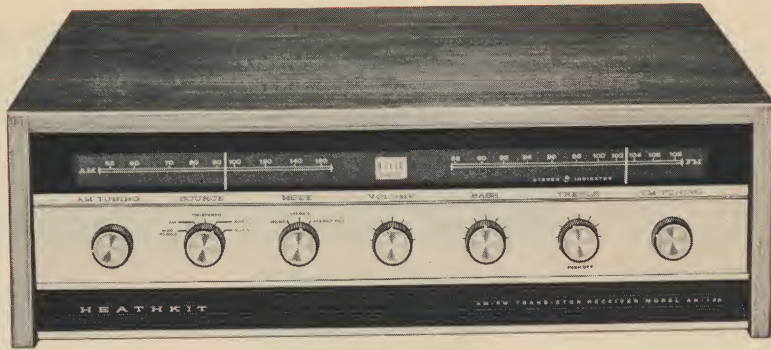
C. G. McProud, Editor and Publisher Of Audio Magazine, Said In The May Issue: ". . . the entire unit performs considerably better than the published specifications." "The amplifier provides a continuous average power of slightly better than 60 watts per channel with both channels operating into 8-ohm loads and distortion measuring 0.3 percent; with 4 and 16 ohm loads, the output at the same distortion measured 54 and 47 watts, respectively. At 50 watts output, distortion is less than 0.2 percent at 1000 Hz, and less than 0.5 percent from 8 Hz to 40 kHz; at the 1-watt level, THD is less than 0.1 percent at 1000 kHz, and less than 0.25 percent from 8 Hz to 27 kHz. At full output, IM distortion is less than 0.5 percent, and at 1 watt is only 0.15 percent."

†Kit AR-15 (less cabinet), 34 lbs. . . \$33dn., \$28 mo. \$329.95
 Assembled AE-16, 10 lbs., optional walnut cabinet. \$19.95

Important: The AR-15 is exempt from any Special System Discount.

AR-15 SPECIFICATIONS—AMPLIFIER SECTION: Dynamic Power Output Per Channel (Music Power Rating): 8 ohm load; 75 watts. Continuous Power Output, Per Channel*: 8 ohm load; 50 watts. Power Bandwidth For Constant 0.5% Total Harmonic Distortion*: 6 Hz to 30 kHz. Frequency Response (1 watt level): ±1 db, 6 Hz to 50 kHz. ±3 db, 4 Hz to 80 kHz. Harmonic Distortion: Less than 0.5% from 20 Hz to 20 kHz at 50 watts output. Less than 0.2% at 1,000 Hz with 50 watts output. Less than 0.2% at 1,000 Hz with 1 watt output. Intermodulation Distortion (60 Hz: 6,000 Hz=4:1): Less than 0.5% with 50 watts output. Less than 0.2% with 1 watt output. Damping Factor: 45. Input sensitivity: PHONO; 2.2 millivolts (overload 155 mv). TAPE; 200 millivolts (overload 4.5v). AUX; 200 millivolts (overload 4.5v). Hum & Noise: Volume control at minimum position; —80 db. PHONO; (10 millivolt reference); —60 db. TAPE & AUX. (200 millivolt reference); —65 db. Channel Separation: PHONO; 45 db. TAPE & AUX.; 55 db. Output Impedance (each channel): 4, 8 & 16 ohms. Tape Output Impedance: 100 ohms. Input Impedance: PHONO; 51 K ohm (**RIAA equalized). AUX., TAPE & TAPE MON.; 100 K ohm. Tape Output: 0.17 volt. FM SECTION (Monophonic): Tuning Range: 88 to 108 MHz. Intermediate Frequency: 10.7 MHz. Frequency Response: ±1 db, 20 Hz to 15 kHz. Antenna: Balanced input for external 300 ohm antenna, unbalanced, 75 ohm. Volume Sensitivity: Below measurable level. Selectivity: 70 db*. Image Rejection: 90 db. IF Rejection: 90 db minimum*. Capture Ratio: 1.5 db*. AM Suppression: 50 db*. Harmonic Distortion: 0.5% or less*. Intermodulation Distortion: 0.5% or less*. Hum & Noise: 65 db*. Sensitivity: 1.8 uv*. Spurious Rejection: 100 db*. FM SECTION (Stereo-Phonic): Channel Separation: 40 db or greater. Frequency Response: ±1 db, 20 Hz to 15 kHz. Harmonic Distortion: Less than 1% at 1,000 Hz with 100% modulation. 19 & 38 kHz Suppression: 55 db or greater. SCA Suppression: 50 db. AM SECTION: Tuning Range: 535 to 1620 kHz. Intermediate Frequency: 455 kHz. Sensitivity: 12 microvolts at 1,000 kHz. AM Antenna: Built-in rod type, connections for external antenna. Image Rejection: 60 db at 600 kHz. 40 db at 1,400 kHz. IF Rejection: 70 db at 1,000 kHz. Harmonic Distortion: Less than 1.5% at 400 Hz, 90% modulation. Hum & Noise: 45 db. GENERAL: Transistor & Diode Complement: 69 transistors, 43 diodes & 2 integrated circuits. Front Panel Controls & Switches: AM & FM Tuning; 535 to 1620 Hz and 88 to 108 MHz. SOURCE Switch; PHONO, AM, FM, TAPE & AUX. Dual Tandem VOLUME Control; Dual Tandem BASS Control; provides 15 db boost and 17 db cut at 20 Hz. Dual Tandem TREBLE Control; provides 15 db boost and 15 db cut at 20 kHz. The Bass and Treble controls can be disabled for FLAT frequency response. BALANCE Control. SPEAKERS Switch. POWER Switch. MODE Switch. TAPE MON. Switch. FM Switch. NOISE FILTER Switch. LOUDNESS Switch. PHASE Control. SQUELCH Control. STEREO THRESH (Threshold) Control. L & R AUX. Controls. AM-FM Level Controls. PHONO Level Controls. TAPE Level Controls. TAPE MONITOR Level Controls. SEP ADJ (Separation Adjust) Control. 19 kHz Test-Adjust Switch. SIGNAL Meter V, R, Normal Switch. AC Outlet Sockets: Accessory outlets, rear chassis apron, one switched (350 watts maximum), and two unswitched (350 watts maximum). Power Requirements: 105-125 or 210-250 volt 50/60 Hz AC. Dimensions: Overall, 16 7/8" wide x 4 3/4" high x 14 1/2" deep.
 *Rated IHF (Institute of High Fidelity) Standards.
 **RIAA (Record Industry Association of America).

America's Best Values In Solid-State Stereo Receivers



AR-13A
\$184⁰⁰



Heathkit 66-Watt Transistor AM/FM Stereo Receiver . . . Now A Better Buy Than Ever With Special 5% System Discount

- 46 transistor, 17 diode circuit • Compact, yet houses two 33-watt power amplifiers . . . two preamplifiers . . . and wideband AM/FM stereo tuner
- Built-in stereo demodulator . . . automatically switches to stereo • Stereo indicator light • Filtered outputs for direct stereo recording • Provides 66 watts IHF music power, 40 watts RMS from 15 to 30,000 Hz • Luxurious walnut cabinet • Preassembled, prealigned "front-end" and AM-FM I.F. strip

Now Qualifies For Special Heath Stereo System Discount . . . just buy the AR-13A along with a pair of speakers (see pg. 21) and any Heath recommended turntable (see pg. 20) and deduct 5% from the total price! Makes the AR-13A an even greater value. Even includes a luxurious walnut cabinet at no extra cost. And the sound? Clean and natural as only transistors can make it.

Plenty Of Operating Conveniences, Too! A solid-state circuit automatically routes the signal through the stereo adapter when stereo is received. Then the automatic stereo indicator lights. The outputs are filtered for direct, "beat-free" stereo 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 and 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 pin-pointing stations. 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 preassembled and aligned to aid construction.

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

AR-13A SPECIFICATIONS—Recommended system mates: Speaker systems: AS-16, AS-15, pg. 21; AS-10 or AS-51, pg. 21. All changers, pg. 20. **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 watts/16 ohm load, 12 watts/4 ohm load @ 0.7% THD, 1 kHz. **Frequency response:** ±1 db from 15 Hz to 30 kHz @ rated output; ±3 db from 10 Hz to 60 kHz @ rated output. **Harmonic distortion (at rated output):** Less than 1% @ 20 Hz; less than 0.3% @ 1 kHz; less than 1% @ 20 kHz. **Intermodulation distortion (at rated output):** Less than 1%, 60 & 6,000 Hz 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 kHz, 60 db @ 1 kHz, 40 db @ 20 Hz. **Input sensitivity: (for 20 watts output per channel, 8 ohm load):** Mag. phono, 6 mV; Aux. 1, .25v; Aux. 2, .25 v. **Input impedance:** Mag. phono, 35 K ohm; Aux. 1, 100 K ohm; Aux. 2, 100 K ohm. **Output:** 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 MHz to 108 MHz. **IF frequency:** 10.7 MHz. **Frequency response:** ±3 db, 20 to 15,000 Hz. **Capture ratio:** 3 db. **Antenna:** 300 ohm balanced (internal for local reception). **Quieting sensitivity:** 1 1/2 uv for 20 db of quieting, 2 uv for 30 db of quieting. **Bandwidth:** 325 kHz @ 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:** ±1/4 db, 50 to 53,000 Hz. **Channel separation:** (SCA Filter Off) 30 db, 50 to 2,000 Hz. 25 db at 10 kHz. **19 kHz Suppression:** 45 db down from rated output at 1 kHz. **SCA Rejection:** 35 db down from rated output. **AM: Tuning range:** 535 to 1620 kHz. **IF frequency:** 455 kHz. **Sensitivity:** 30 uv @ 600 kHz; 9 uv @ 1000 kHz. **Bandwidth:** 8 kHz @ 6 db down. **Image rejection:** 40 db @ 600 kHz. **IF rejection:** 55 db @ 1000 kHz. **Harmonic distortion:** Less than 2%, with 1000 uv input; 400 Hz with 30% modulation. **Hum & noise:** 40 db. **Overall dimensions:** 17" L x 5 1/2" H x 16" D. **Power requirements:** 105-125 volts, 50-60 Hz AC, 30 watts idling, 110 watts max.

Now Save 5% On A Complete Stereo System With The Heathkit Transistor 30-Watt FM Stereo Receiver

- 31 transistor, 10 diode circuit • 30 watts IHF, 20 watts RMS from 15 to 50,000 Hz at ±1 db • Wideband FM/FM stereo plus two preamplifiers and two power amplifiers • Front panel stereo headphone jack • Bookshelf size—37 3/8" H x 15 1/4" W x 12" D • Custom install in a wall, your own cabinet, or either Heath cabinet

America's Best Transistor Stereo Value now becomes an even better buy with the special 5% Heath stereo system discount. Just order the AR-14 with a turntable (see pg. 20) and two speakers (see pg. 21), and subtract 5% from the total price! And what performance! Delivers 30 of the coolest watts you've ever heard. And the FM tuner pulls in stations far and near . . . you'll discover stations you've never heard before. For beat-free stereo taping the tuner outputs are filtered.

New Transformerless Output Circuit . . . for clear, uncolored sound. Each channel has two complementary PNP and NPN transistors. This superior design delivers lower phase shift, minimum distortion and wider response. Other features include a stereo headphone jack for private listening; stereo indicator light; complete controls for full command of all functions; and choice of 3-way installation . . . wall, custom cabinet or either Heath factory-assembled walnut or beige metal cabinet. The attractive AR-14 anodized aluminum front panel looks great in any surroundings. Circuit board construction . . . build it in a weekend.

Kit AR-14, 18 lbs., less cabinet for custom mounting. . .
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 Hz; write for prices.



AR-14 \$99⁹⁵

(less Cabinet)

AR-14 SPECIFICATIONS—Recommended system mates: All speaker systems, except AS-2A & AS-2U pg. 21; all changers & turntables, pg. 20. **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 Hz ±1 db; 6 to 100,000 Hz ±3 db. **Power response:** 15 to 50,000 Hz ±1db; 7 to 90,000 Hz ±3 db. **Input sensitivity:** Phono: 4.5 mv; Auxiliary: 300 mv. **Input impedance:** Phono: 47 K ohm; Auxiliary: 180K ohm. **Channel separation:** 45 db or better. **Total harmonic distortion (at rated output):** .5% or less @ 1000 Hz; 1% or less @ 20 & 20,000 Hz. **Intermodulation distortion (at rated output):** Less than 1% (60 & 60,000 Hz, 4:1). **Phono equalization:** RIAA. **Front panel:** 6-position Source Switch; Mono-Phono; Stereo Phono; Mono Auxiliary; Stereo Auxiliary; Mono FM; Stereo FM; Volume Control; Bass Control; Treble Control; Phase 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 Hz; 32 watts idling; 65 watts full output; (No load on AC power sockets). **Dimensions:** Overall 15 1/4" W x 3 3/8" H x 12" D. **Mounting position:** Horizontal or Vertical; Cutout required 15" x 3 1/2"; Depth required from front of mounting surface 11 1/2". **FM: Tuning range:** 88-108 MHz. **Antenna:** Balanced input for external 300 ohm antenna. **Intermediate frequency:** 10.7 MHz. **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 Hz. **Harmonic distortion (IHF):** 1% or less. **Image ratio (IHF):** —45 db. **Capture ratio (IHF):** 3 db. **AFC correction:** 150 kHz per volt. **AM suppression (IHF):** —35 db. **IF rejection (IHF):** —80 db. **FM STEREO: Separation:** 30 db @ 1 kHz.

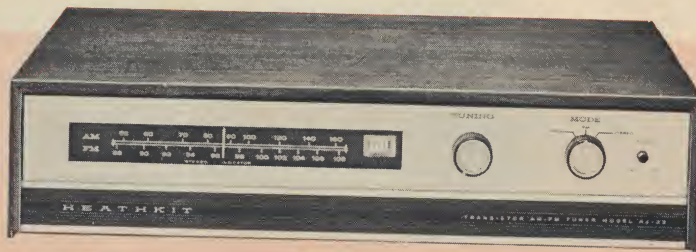
Proof That Your Dollar Buys

SPECIAL LIMITED-TIME OFFER! SAVE \$10 On This Popular Transistor AM/FM Stereo Tuner ... Act Now, Offer Ends August 11, 1967!

- 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

AJ-33A SPECIFICATIONS—FM SECTION: Tuning range: 88 to 108 MHz. Intermediate frequency: 10.7 MHz. 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 Hertz \pm 3 db. Harmonic distortion: Less than 1%. Image rejection: 35 db. Capture ratio: 3 db. AM suppression: 35 db. Hum & noise: 50 db. MULTIPLEX SECTION: Converter bandpass: \pm 1/4 db 50 to 53,000 Hz. Channel separation: 30 db from 50 to 2 kHz and 25 db at 10 kHz. AM SECTION: Tuning range: 535 to 1620 kHz. Intermediate frequency: 455 kHz. Usable sensitivity: 8 uv @ 1000 kHz. Antenna: Built-in rod with provision for external straight wire. Output voltage: 0.25 V. with 90% modulation. Image rejection: 40 db @ 600 kHz. 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 Hertz, 7 watts. Dimensions: 15 1/2" W x 3 3/4" H x 11 1/2" D.

AJ-33A, 16 lbs. . . no money dn., \$9 mo. Reg. \$94.50.
Limited Time Only **\$84.50**



SPECIAL LIMITED-TIME OFFER!

Kit AJ-33A
Reg. \$94.50
Limited Time Only
\$84.50

(offer expires Aug. 11, 1967)

SPECIAL LIMITED-TIME OFFER! SAVE \$5 On This Tube-Type FM Stereo Tuner ... Act Now, Offer Ends August 11, 1967

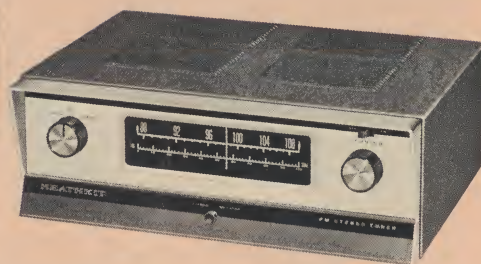
AJ-13 SPECIFICATIONS—Tuning range: 88 to 108 MHz. Intermediate frequency: 10.7 MHz. Quieting sensitivity: 2 1/2 uv for 20 db of quieting; 3 1/2 uv for 30 db of quieting. Audio frequency response: Mono— \pm 1 db from 20 to 20,000 Hz. Stereo— \pm 2 db from 50 to 15,000 Hz. Antenna: Balanced input for external 300 ohm antenna. Channel separation: 25 db or more at 1000 Hz. Front panel controls: Tuning selector switch, power off-FM-stereo; AFC switch, off-on. Dimensions: Overall: 13 1/2" W x 4 1/4" H x 9 1/2" D.

Kit AJ-13, 14 lbs. . . no money dn., \$5 mo.
Reg. \$47.00. Limited Time Only **\$42.00**

SPECIAL LIMITED-TIME OFFER!

Kit AJ-13
Regular \$47.00
Limited Time Only
\$42.00

(offer expires Aug. 11, 1967)



- Built-in FM stereo circuitry • FM stereo indicator light • Automatic Frequency Control snaps-in stations . . . eliminates drift • Preassembled, prealigned "front-end" assures top performance, fast, easy construction
- Mocha brown, beige & black color styling . . . matches AA-32 amplifier opposite page

Deluxe Transistor AM/FM Stereo Tuner . . . Ultra-Sensitive Reception . . . Choice of Installation

Kit AJ-43D, 15 lbs., less cabinet, 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 MHz. Intermediate frequency: 10.7 MHz. Antenna: 300 ohms balanced, internal line antenna provided. Quieting sensitivity: (400 Hz, 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 kHz at 6 db down, 1000 uv input. Detector bandwidth (Peak-to-Peak): 600 kHz. Harmonic distortion: Less than 1% (IHF). Hum & noise: (Complete tuner) 55 db below full quieting (IHF). Output impedance: (Emitter Follower) Variable to 3000 ohms each channel. AM SECTION: Tuning range: 535 to 1620 kHz. Intermediate frequency (IF): 455 kHz. Sensitivity: 600 kHz, 7 uv for 10 db S/N; 1000 kHz 4 uv for 10 db S/N; 1400 kHz 3 uv for 10 db S/N. Antenna: Built-in rod with provisions for external straight wire. Image rejection: 50 db at 600 kHz; 70 db at 1400 kHz. IF rejection: 55 db at 600 kHz; 65 db at 1400 kHz. 10 kHz 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: 15 1/2" W x 5 1/4" H x 14 1/4" D.



AJ-43D
\$109.00
(less cabinet)

- 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

Today's Best Value In A Transistor FM Stereo Tuner ... And Builds In Only 4-6 Hours

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 Hz; write for prices.

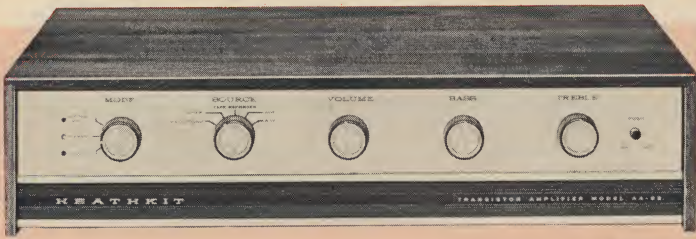
AJ-14 SPECIFICATIONS (RATED IHF STANDARDS)—Tuning range: 88 to 108 MHz. Antenna input impedance: 300 ohm, balanced input. Sensitivity (IHF): 5 microvolts. Intermediate frequency: 10.7 MHz. Audio frequency response (IHF): —3 db to 0 db. (20 to 15,000 Hz). Hum and noise (IHF): —50 db. Output impedance: 20 K ohm. Output voltage: 0.7 volt with a 1,000 microvolt input signal. 400 Hz 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 kHz per volt. AM suppression (IHF): —40 db. Channel separation: 30 db or more at 1,000 Hz. (Channel separation is measured using a 98 MHz, 1,000 microvolt input stereo signal that is 100% modulated.) Dimensions: With Walnut Cabinet 12 1/2" W x 3 1/2" H x 9 3/8" D. Custom mounting dimensions: Horizontal or vertical, cutout required 11 3/4" x 2 7/8", depth required from front of mounting surface 9 3/4".



AJ-14 \$49.95 (less cabinet)

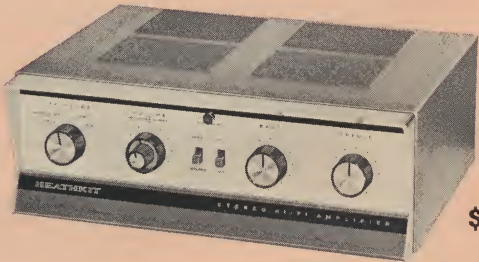
- 14-transistor, 5 diode circuit for cool, instant operation, and the natural beauty of transistor sound • Stereo phase control to maximize stereo separation, minimize distortion • 4-stage IF section insures high sensitivity & selectivity • Filtered outputs for direct "beat-free" stereo recording • Automatic 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

More With Heathkit® Stereo/Hi-Fi



AA-22
\$99⁹⁵

- 20-transistor, 10-diode circuit • Delivers a full 66 watts of IHF Music Power • Wide-range response ± 1 db, 15 Hz to 30 kHz • 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



AA-32
\$39⁹⁵

- Four stereo inputs . . . magnetic & ceramic cartridges, tuner & auxiliary • Furnishes 20 watts IHF music power • Full-range controls . . . found only on more expensive equipment • Handsomely styled in mocha brown and beige with black trim • Easy to build . . . goes from parts to performance in a few evenings



AA-21D
\$137⁰⁰
(less cabinet)

- 26-transistor, 10-diode circuitry for smooth, uncompromising power response . . . 13 to 25,000 Hz ± 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-14 \$59⁹⁵ (less cabinet)

- 17 transistors, 6 diodes • ± 1 db, 15 to 50,000 Hz 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

Matching 66-Watt Transistor Stereo Amplifier . . .

Acclaimed By Critics & Owners Alike!

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

AA-22 SPECIFICATIONS—Recommended system mates: Speakers: AS-15; AS-10 & AS-51 & AS-16 pg. 21; all changers and turntables, p. 20. **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 kHz. **Power response:** ± 1 db from 15 Hz to 30 kHz @ rated output. ± 3 db from 10 Hz to 60 kHz @ rated output. **Harmonic distortion:** (at rated output): Less than 1% @ 20 Hz. 0.3% @ 1 kHz, 1% @ 20 kHz. **Intermodulation distortion:** (at rated output) Less than 1%, 60 and 6,000 Hz 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 Hz, 60 db @ 1 kHz, 40 db @ 20 kHz. **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. **Semiconductor complement:** 20 transistors, 10 diodes. **Power requirements:** 105-125 volts, 50-60 Hz 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 $\frac{1}{8}$ " W x 3 $\frac{3}{4}$ " H x 11 $\frac{1}{8}$ " D.

Matching Tube-Type 20-Watt Stereo Amplifier . . .

Full Controls . . . Operates With Magnetic And Ceramic Cartridges

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

AA-32 SPECIFICATIONS—Recommended System Mates: Speaker Systems: AS-51, p. 21. Changers & turntables, p. 20. **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 Hz to 30,000 Hz at rated output. **Harmonic distortion:** (at rated output) 2% @ 30 Hz; 0.7% @ 1000 Hz., 2% @ 15,000 Hz. **Intermodulation Distortion:** (at rated output) Less than 3% using 60 and 6000 Hz mixed 4:1. **Dimensions:** 13 $\frac{1}{2}$ " W x 4 $\frac{1}{16}$ " H x 9 $\frac{1}{4}$ " D.

Matching Deluxe 100-Watt Transistor Stereo Amplifier

. . . Plenty Of Power For Any Hi-Fi Task

Kit AA-21D, 23 lbs., less cabinet, No money down, \$13 mo. \$137.00
Export model available for 115/230 VAC, 50-60 Hz, write for prices.

Model AE-11, 8 lbs. . . walnut wood cabinet. \$12.95

Model AE-15, 8 lbs. . . tan vinyl-clad steel cabinet. \$6.95

AA-21D SPECIFICATIONS—RECOMMENDED SYSTEM MATES: Speaker Systems AS-16, AS-15, AS-2AU, AS-10, AS-51, pg. 21. All changers & turntables, p. 20. **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 kHz. **Frequency response:** ± 1 db from 13 Hz to 25 Hz @ rated output; ± 3 db from 8 Hz to 40 Hz @ rated output. **Harmonic distortion (At rated output):** Less than 1% @ 20 Hz, 0.5% @ 1 kHz, 2.0% @ 20 kHz. **Intermodulation distortion (at rated output):** Less than 1%, 60 & 6,000 Hz 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, 70 db below rated output. **Channel separation:** 40 db min. @ 20 kHz, 55 db min. @ 1 kHz, 50 db min. @ 20 kHz. **Input separation:** (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 or 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 Hz AC, 35 watts idling, no signal; 200 watts, full power output, @ 120 volts with no load on AC receptacles. **Power outlets:** 2 AC receptacles, 1 switched, 1 unswitched. **Dimensions:** 15 $\frac{1}{2}$ " W x 5 $\frac{1}{4}$ " H x 14" D.

Matching 30-Watt Transistor Stereo Amplifier . . .

Easy 10 Hour Assembly . . . Unbeatable Value

Kit AA-14, 11 lbs. . . (less cabinet for custom mounting)
no money down, \$6 mo. \$59.95
Export model available for 115/230 VAC, 50-60 Hz; write for prices.

Model AE-35, 4 lbs. . . beige metal cabinet. \$3.50

Model AE-25, 4 lbs. . . genuine walnut veneer cabinet. \$7.95

AA-14 SPECIFICATIONS—Recommended system mates: All speakers & speaker systems, pg. 21 except AS-2A, AS-2U, AS-10U, all changers & turntables pg. 20. **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: —63 db; Auxiliary: —63 db. **Frequency response:** 12 to 60,000 Hz ± 1 db; 6 to 100,000 Hz ± 3 db. **Power response:** 15 to 50,000 Hz ± 1 db; 7 to 90,000 Hz ± 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:** 45 db or better. **Total harmonic distortion (at Full Output):** .5% or less @ 1000 Hz; 1% or less @ 20 & 20,000 Hz. **Intermodulation distortion (at Rated Output):** Less than 1% (60 and 6,000 Hz, 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 Hz, 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 $\frac{1}{8}$ " D. **Custom mounting dimensions:** Horizontal or vertical; cutout required 11 $\frac{3}{4}$ " x 2 $\frac{1}{8}$ "; depth required from front of mounting surface 10 $\frac{1}{4}$ ".

How To Order The Easy Heathkit® Way

1. BY MAIL

Complete the simple-to-follow Heath order form—including the reverse side if you wish to use the liberal Heath Time-Payment Plan.

Always Use The **SAME Name Whenever You Order**. Enclose your check or money order to cover the type of payment plan you've chosen, plus shipping charges only if item can be mailed Parcel Post (see Rate information, below).



2. BY TELEPHONE ... ANYTIME DAY OR NIGHT

Days 8 a.m. to 4:30 p.m. EST. Call Area 616, 983-3961 for personal service.

Nights 4:30 p.m. to 8 a.m. EST. Call Area 616, 983-3921, and our Electronic Secretary will record your order. After 8 p.m. (your time) you can call from anywhere in the U. S. (except Hawaii and Alaska) for \$1 or less.



3. VISIT OUR FACTORY SALES/SHOWROOM

Heath is located on Hilltop Rd., in St. Joseph, Michigan. And our Sales/Showroom is open Mon. thru Fri. from 8:30 a.m. to 5 p.m., and on Saturdays from 9 a.m. to 3 p.m. You can take your kit with you, or arrange for shipment to your home.



ZIP ZONE CHART

Now Use Your Zip Code To Find Parcel Post Zone. To determine the cost of a parcel post shipment to your area, use the first three digits (prefix) of your zip code and find your zone in the Zone Chart. Then refer to the Parcel Post Rate Table below. For Example, If Your Zip Code is 10036, use the first 3 numbers . . . 100 . . . and Check The Chart below for your Parcel Postal Zone, which is 5.

Zip Code Prefixes	Zone	Zip Code Prefixes	Zone	Zip Code Prefixes	Zone	Zip Code Prefixes	Zone	Zip Code Prefixes	Zone	Zip Code Prefixes	Zone
006-009	8	260-261	3	370-385	4	478	3	600-609	2	823-826	6
010-069	5	262-278	4	387	5	479-489	2	610-619	3	827	5
070-089	4	279	5	388	4	490-491	1	620-623	4	828-832	6
090-099	5	280-283	4	389-397	5	492	2	624-628	3	833	6
		284-285	5			493-495	1	629-668	4	834	7
100-108	5	286-293	4	400-406	3	496-499	3	669-679	5	835-838	7
109	4	294-295	5	407-409	4			680-687	4	840-847	6
110-119	5	296-297	4	410-412	3	500-516	4	688-693	5	850-864	7
120-123	4	298-299	5	413-422	4	520-524	3	700-722	5	865-884	6
124-126	5			423	3	525	4	723-727	4	890-898	7
127-128	4	300-303	4	424-426	4	526-528	3	728-768	5		
129	5	304	5	427-432	3	530-534	2	769	6	900-921	8
130-152	4	305-307	4	433-436	2	535-539	3	770-778	5	922-928	7
153	3	308-329	5	437-457	3	540	4	779-789	6	930-934	8
154-160	4	330-334	6	458	2	541-546	3	790-792	5	935	7
161	3	335-338	5	460-462	3	547-548	3	793-799	6	936-960	8
162-163	4	339	6	463-464	2	549	3			961	7
164-165	3	350-352	4	465-466	1	550-566	4	800-803	5	962-976	8
166-199	4	354	5	467-469	2	567	5	804-805	6	977-979	7
		355-359	4	470-472	3	570-572	4	806-807	5	980-987	8
200-232	4	360-361	5	473	2	573-588	5	808-816	6	988-994	7
233-237	5	362	4	474-475	3	590-597	6	820-822	5	995-999	8
238-259	4	363-369	5	476-477	4	598-599	7				

PARCEL POST RATE TABLE

Zones 1 & 2 We can ship up to 40 pounds per package to your address.

Zones 3 thru 8 Up to 20 pounds per package can be shipped.

RFD & APO Shipments can be up to 70 pounds per package.

IMPORTANT: Figure postage separately for each kit ordered and remit full amount. When we can combine packages to save you money, the difference will be refunded to you.

(For shipments exceeding parcel post limits refer to REA & Motor Freight instructions)*

Ship. Wt.	Zone 1 & 2	Zone 3	Zone 4	Zone 5	Zone 6	Zone 7	Zone 8
2 lbs.	\$0.50	\$0.50	\$0.55	\$0.60	\$0.70	\$0.75	\$0.80
3 lbs.	.55	.60	.65	.75	.85	.95	1.05
4 lbs.	.60	.65	.75	.85	1.00	1.10	1.25
5 lbs.	.65	.70	.80	.95	1.10	1.30	1.45
6 lbs.	.70	.80	.90	1.05	1.25	1.45	1.65
7 lbs.	.85	.85	1.00	1.15	1.40	1.60	1.85
8 lbs.	.85	.90	1.05	1.30	1.50	1.75	2.00
9 lbs.	.90	.95	1.15	1.40	1.65	1.90	2.20
10 lbs.	.95	1.05	1.20	1.50	1.75	2.10	2.40
11 lbs.	1.00	1.10	1.30	1.60	1.90	2.25	2.60
12 lbs.	1.05	1.15	1.35	1.70	2.00	2.40	2.75
13 lbs.	1.10	1.20	1.45	1.80	2.10	2.55	2.95
14 lbs.	1.15	1.30	1.50	1.90	2.25	2.70	3.10
15 lbs.	1.20	1.35	1.60	2.00	2.35	2.85	3.30
16 lbs.	1.25	1.40	1.65	2.10	2.45	3.00	3.45
17 lbs.	1.30	1.45	1.75	2.20	2.60	3.15	3.65
18 lbs.	1.35	1.50	1.80	2.30	2.70	3.30	3.80
19 lbs.	1.40	1.60	1.90	2.40	2.85	3.45	4.00
20 lbs.	1.40	1.65	1.95	2.50	2.95	3.60	4.15
21 lbs.	1.45	1.70	2.05	2.60	3.05	3.75	4.35
22 lbs.	1.50	1.75	2.10	2.65	3.15	3.90	4.50
23 lbs.	1.55	1.80	2.15	2.75	3.30	4.05	4.65
24 lbs.	1.60	1.85	2.20	2.85	3.40	4.15	4.85
25 lbs.	\$1.60	\$1.90	\$2.30	\$2.90	\$3.50	\$4.30	\$5.00
26 lbs.	1.65	1.95	2.35	3.00	3.60	4.45	5.20
27 lbs.	1.70	1.95	2.40	3.10	3.70	4.60	5.35
28 lbs.	1.75	2.00	2.50	3.20	3.85	4.75	5.50
29 lbs.	1.80	2.05	2.55	3.25	3.95	4.85	5.70
30 lbs.	1.80	2.10	2.60	3.35	4.05	5.00	5.85
31 lbs.	1.85	2.15	2.65	3.45	4.15	5.15	6.05
32 lbs.	1.90	2.20	2.75	3.50	4.25	5.30	6.20
33 lbs.	1.95	2.25	2.80	3.60	4.40	5.45	6.35
34 lbs.	1.95	2.30	2.85	3.70	4.50	5.55	6.55
35 lbs.	2.00	2.35	2.90	3.75	4.60	5.70	6.70
36 lbs.	2.05	2.40	3.00	3.85	4.70	5.85	6.90
37 lbs.	2.10	2.45	3.05	3.95	4.80	6.00	7.05
38 lbs.	2.15	2.50	3.10	4.05	4.95	6.15	7.20
39 lbs.	2.15	2.55	3.20	4.10	5.05	6.25	7.40
40 lbs.	2.20	2.60	3.25	4.20	5.15	6.40	7.55
45 lbs.	2.40	2.80	3.55	4.60	5.70	7.10	8.35
50 lbs.	2.60	3.05	3.90	5.05	6.25	7.80	9.15
55 lbs.	2.75	3.30	4.20	5.45	6.80	8.45	9.95
60 lbs.	2.90	3.50	4.50	5.85	7.35	9.10	10.75
65 lbs.	3.05	3.75	4.80	6.25	7.90	9.75	11.55
70 lbs.	3.25	4.00	5.10	6.65	8.45	10.40	12.35

IMPORTANT: Parcel Post rate changes enacted Jan. 15, 1967 are reflected in this table.

INSURED PARCEL POST (Add to Postage)

Liability:	Fee
\$0.01 to \$15	\$0.20
\$15.01 to \$50	.30
\$50.01 to \$100	.40
\$100.01 to \$150	.50
\$150.01 to \$200	.60

Liability for insured mail is limited to \$200.

C.O.D. PARCEL POST

Up to \$10.00	.60 cents
\$10.01 to \$25.00	.70 cents
\$25.01 to \$50.00	.80 cents
\$50.01 to \$100.00	.90 cents
\$100.01 to \$200.00	\$1.00

Note: If C.O.D. shipment cannot be made in one package, we reserve the right to change routing. C.O.D. shipments cannot be made if balance is over \$200.00.

*REA EXPRESS

& MOTOR FREIGHT INSTRUCTIONS

For shipments exceeding parcel post limits. Non-mailable items will be sent to you by Motor Freight or REA Express. We suggest that you check with these local carriers to determine the service available for delivery in your area. Do not enclose money for Motor Freight or Express. Shipping charges will be collected by the carrier.

Please note that it may be necessary for us to change routings because of irregularities in service from our city, or at points of transfer en route.

SPECIAL ACCOUNTS FOR GOVERNMENT, BUSINESS AND EDUCATIONAL INSTITUTIONS

We offer 30 day terms to governmental, business and educational institutions. An acceptable Dun and Bradstreet rating or names and addresses of five firms with whom you are presently doing business are required.

Rates on this page were in effect when this catalog was published.

They are subject to change without notice.

PREMIUM ROUTINGS

We can ship via Air Parcel Post, Parcel Post Special Handling, or Special Delivery, Air Express, Bus or Air Freight, if you so request. Contact your local office for rates and delivery information.

HEATHKIT OVERSEAS

Many Heathkits are available in special export versions for 115/230 v. AC, 50-60 Hz operation. Look for the "Export model available" note at the bottom of the price lines. For details on international orders and shipments, see the list of overseas units on page 2, or write to International Division, Heath Company, Benton Harbor, Michigan 49022.

Open Your Heath Account - Liberal Terms

HERE'S ALL YOU DO

- 1 Fill out order blank in the catalog.
- 2 Sign your name in the Time Payment Agreement below.
- 3 Fill in the Credit Statement and the monthly payment (see chart).
- 4 Send the above to the Heath Company, Benton Harbor, Michigan . . . we'll take care of the details.

EASY PAYMENT CHART

Unpaid Balance	Carrying Charge	Up To 12 Monthly Payments*	Unpaid Balance	Carrying Charge	Up To 12 Monthly Payments*	*All monthly payments are for the amount shown; last payment is for the odd amount remaining due.	
Up to \$20.00	\$ 2.00	\$ 5.00	\$250.01-260	\$26.00	\$24.00		
\$ 20.01-30	3.00	5.00	260.01-270	27.00	25.00		
30.01-40	4.00	5.00	270.01-280	28.00	26.00		
40.01-50	5.00	5.00	280.01-290	29.00	27.00		
50.01-60	6.00	6.00	290.01-300	30.00	28.00		
60.01-70	7.00	7.00	300.01-310	31.00	29.00		
70.01-80	8.00	8.00	310.01-320	32.00	30.00		
80.01-90	9.00	9.00	320.01-330	33.00	31.00		
90.01-100	10.00	10.00	330.01-340	34.00	32.00		
100.01-110	11.00	11.00	340.01-350	35.00	33.00		
110.01-120	12.00	11.00	350.01-360	36.00	34.00		
120.01-130	13.00	12.00	360.01-370	37.00	35.00		
130.01-140	14.00	13.00	370.01-380	38.00	36.00		
140.01-150	15.00	14.00	380.01-390	39.00	37.00		
150.01-160	16.00	15.00	390.01-400	40.00	38.00		
160.01-170	17.00	16.00	400.01-410	41.00	39.00		
170.01-180	18.00	17.00	410.01-420	42.00	40.00		
180.01-190	19.00	18.00	420.01-430	43.00	41.00		
190.01-200	20.00	19.00	430.01-440	44.00	42.00		
200.01-210	21.00	20.00	440.01-450	45.00	43.00		
210.01-220	22.00	21.00	450.01-460	46.00	44.00		
220.01-230	23.00	22.00	460.01-470	47.00	45.00		
230.01-240	24.00	22.00	470.01-480	48.00	46.00		
240.01-250	25.00	23.00	480.01-490	49.00	47.00		
			490.01-500	50.00	48.00		

"ADD ON" Purchases—Once your credit is established and you have made at least three payments, you can "add-on" purchases of \$25.00 or more with no down payment. List the items you want on the reverse side, check (8) the "add on" box and give your account number. Be sure to sign the Time Payment Agreement and send to us with your original Payment Book.

Time Payments are available to anyone in the U.S. or FPO and APO areas. Residents of Puerto Rico and other U. S. possessions, write for details!

LIBERAL TERMS! No money down on orders up to \$300 (Down payments reduce monthly payments and carrying charges). 10% down and up to 18 months to pay on orders over \$300. Write for details on order over \$500.

NOTICE TO BUYER:

Mail Order/Retail Installment Contract

Do not sign this contract before you read it. Under the law you have the following rights among others:

A. To pay off in advance the full amount due.

B. Under certain conditions to redeem the property, if repossessed for a default.

Check if balance is over \$300 and 18 mos. desired

If full amount is paid when first installment due (30 days after shipment) then you save entire carrying charges.

TIME PAYMENT AGREEMENT

NOTE: Time payment agreement cannot be accepted from persons under 21 years of age. If you are under 21, have this form filled out by a person of legal age, regularly employed or engaged in business. He can make the purchase for you, and will be responsible for payment.

TO: HEATH COMPANY BENTON HARBOR, MICHIGAN

Enclosed is a deposit of \$_____ on the Easy Payment cost of the equipment on the reverse side. I will pay \$_____ each month to you at the above address starting 30 days after shipment, until the total time payment price is paid.

Title to and right of possession of said equipment shall remain with you until all payments have been made. Upon default on any payment due on this contract, the full amount unpaid hereon, at your option, shall become immediately due and payable and you may either hold me liable for said amount or repossess the equipment. If you shall repossess, all payments made may be retained as rent for the use and depreciation of said equipment. The loss, injury or destruction of the equipment after I have received it shall not operate as payment or in any manner release me from any obligation hereunder.

If this order is not accepted, you shall refund the down payment with notice of non-acceptance. Acceptance shall be effected when the equipment designated on the reverse side hereof is shipped to me. I certify that all statements in the Credit Statement set forth below are true and complete and are made for the purpose of obtaining credit. This contract is to be governed by the laws of the State of Michigan.

Enter Date _____ Sign Here _____

CREDIT STATEMENT

(IMPORTANT: Please fill in completely. Omissions and errors cause delays.)

PRINT FULL NAME _____ Age _____ Military Serial No. _____ (if serviceman)

WIFE'S NAME _____ Names of Children and ages _____

Residence _____ City _____ State _____ How Long _____

Own or Buying Landlords If Owned Rent Live with Parents No. of Rooms _____ Paid Monthly \$ _____ Phone No. _____

Name _____ Mtg. Held By _____ Street _____ City _____ State _____

Previous Address _____ City _____ State _____ How Long _____

Previous Landlord _____ Address _____

Employed by _____ Street _____ City _____ State _____

Position _____ How Long _____ Dept. or Badge No. _____ Salary \$ _____

Previous Employer _____ Street _____ City _____ State _____ How Long _____

Wife's Employer _____ Street _____ City & State _____

Position _____ How Long _____ Dept. or Badge No. _____ Salary \$ _____

Other Income—Give Details _____ Total Family Income \$ _____

Your Bank _____ Address _____ Type of Account _____

CREDIT REFERENCE (Give 2 Merchants, Firms or Finance Companies with whom you do or have done business.)

First Credit Reference _____ Address _____ Present Balance \$ _____ Monthly Payment \$ _____

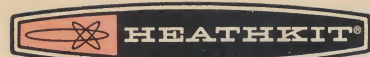
Second Credit Reference _____ Address _____ Present Balance \$ _____ Monthly Payment \$ _____

Nearest Relative _____ Address _____ Relationship _____ (Do not list those with whom you are living)

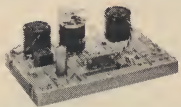
NO MONEY DOWN FROM \$25 UP TO \$300 ... 12 MONTHS TO PAY



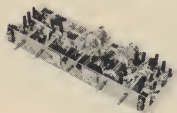
Deluxe Stereo Tape Recorder



Save \$170 On Professional Heathkit®/Magnetic® 1020 . . .
4-Track Stereo Or Mono . . . Solid-State Circuit . . .
3 Separate Motors . . . Solenoid Operation



3 Separate Motors . . . a hysteresis synchronous capstan motor for constant speed, and two permanent split-capacitor types to drive the reels.



All Solid-State Circuitry . . . 21 transistors, 4 diodes for cool instant operation, long trouble-free life.



3 Professional Tape Heads . . . 4-track stereo or mono record and playback—sound-on-sound record—sound-with-sound record—echo effects.



8 Push-Button Controls . . . for easy operation of tape movement . . . Power On-Off, Stop, Rewind, Record, Safety, Cue, Play and Hi-Fwd.



2 V.U. Meters . . . for visual monitoring of signal levels from either tape or source.



Complete Inputs and Outputs . . . jacks for monitor output and tape output, and auxiliary inputs on the rear chassis. Inputs for microphones and two stereo outputs for headphones on the front panel.



\$399⁵⁰

(deck & electronics)

- 4-track stereo or mono record and playback at 7½ & 3¾ ips • Sound-on-sound, sound-with-sound and echo capabilities • 21-transistor, 4-diode circuit for cool, instant operation, long life • 3 separate motors . . . hysteresis synchronous capstan motor for constant speed, two split-capacitor torque motors to drive supply and takeup reels • Automatically shuts itself off at end of reel • Two V.U. meters • Digital counter with push button zero reset • Stereo microphone inputs and headphone outputs . . . front panel mounted for easy access • Operates in vertical or horizontal positions • Individual gain controls for each channel • Mount in wall, cabinet, tape drawer or place on shelf with optional walnut base • All push-button controls for operational modes • Requires amplifier and speakers for playback

Versatile Professional Recording. With the AD-16 you can record "live" from microphones or from auxiliary sources like tuners, TV's, etc. and playback . . . in 4-track stereo or mono at either 7½ or 3¾ ips. And you can make sound-on-sound, or sound-with-sound (mixing) recordings, or create interesting echo effects.

3 Professional Tape Heads. Selectable ¼ track erase, record and play. Removable shields afford double protection against external magnetic fields. Protective, snap-mounted head covers provide easy access for cleaning and demagnetizing.

Other Professional Features. Solenoid-operated differential band brakes for instant, gentle stops; heavy die-cast top plate that won't warp; two VU meters for visual monitoring of signal levels from either tape or source; inputs for microphones, stereo outputs for 2 pairs of stereo headphones; individual gain controls for each channel; digital counter with zero reset button; and low impedance emitter-follower outputs that deliver 1 volt or more to external stereo amplifier inputs.

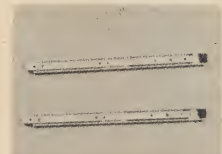
What About Quality? Radio-TV Experimenter in the Feb.-March 1967 issue said: "A professional recorder of the type you could very well find in a broadcast or recording studio." "Heath took an already existing 'professional' recorder, reduced it to its component parts, and eliminated some tricky equalization adjustments that could give the nontechnical user some headaches. Heath then added a construction manual, packed the unit in a shipping carton, and offered it at a savings of almost \$200 below the wired (Magnetic) price."

- Kit AD-16, deck & electronics, 45 lbs. \$40 dn., as low as \$23 mo. **\$399.50**
- ADA-16-1, walnut base, 11 lbs. **\$19.95**
- ADA-16-2, adapter ring for cabinet or wall mounting, 2 lbs. **\$4.75**
- ADA-16-3, slides (combine with walnut base for tape drawer), 6 lbs. **\$9.95**

AD-16 SPECIFICATIONS—Tape speeds: 7½ ips and 3¾ ips. Speed accuracy: ±1% at 7½ ips; ±2% at 3¾ ips. Wow and flutter: 0.18% rms at 7½ ips; 0.25% at 3¾ ips. Tape size: ¼" wide; 1.5, 1.0, 0.75 or 0.5 mil thick. Reel size: Standard N.A.B. 5", 7", reels, and 8¼" Magnetic reel. Rewind and hi-fwd time: 1200 ft. in 80 seconds or less. Digital counter: 3-digit counter with zero reset. Heads: ¼ track erase, record and playback. Circuitry: 21 transistors, 4 diodes. Frequency response: ±3 db, 30 to 10,000 Hz at 3.75 ips; ±2 db, 45 to 18,000 Hz at 7.5 ips. Signal-to-noise ratio: 48 db at 3.75 ips; 52 db at 7.5 ips. Inputs per channel: Hi-Z microphone, auxiliary. Outputs: Emitter follower, output level at 0 VU ±2 V at 400 Hz. Power supplies: Transformer-operated, full-wave rectifier, series regulated—17 volt DC supply. Half-wave rectifier solenoid power supply. Dimensions: Overall, without base, 17½" W x 13½" D x 8¼" H. Minimum Space Required For Cabinet Mounting: 15½" H x 18¼" W x 8½" D; allow 19½" W when using 8¼" reels. For wall or shelf mounting using adaptor ring, allow 1½" from ring front to recorder front; allow 6¼" from ring rear surface to rear of recorder. Power requirements: 110-130 v. AC, 60 Hz, 140 watts.



Optional Walnut Base . . . for mounting AD-16 on a shelf or bookcase. Measures 19¼" W x 14¾" D x 6½" H. Converts to tape drawer when combined with ADA-16-3 slides (opposite). ADA-16-1, 11 lbs. . . **\$19.95**



Optional Tape Drawer Slides . . . combine with walnut base (opposite) for tape drawer mounting of AD-16. Mounts sideways in Heath hi-fi furniture with back panel removed or cut out. ADA-16-3, 6 lbs. . . . **\$9.95**



Adapter Ring . . . provides sturdy support when mounting AD-16 in a cabinet or wall. Handsome brushed extruded aluminum. ADA-16-2, 2 lbs. . . . **\$4.75**

Famous-Name Factory Assembled Tape Recorders



Solid-State Sonymatic "105" Portable

- 4-track mono record & playback • 7½, 3¾ & 1½ ips speeds • 10 watts music power • Automatic volume control • Full 7" reel • Retracting Pinch Roller for easy threading • Pause control & digital counter • Built-in speakers • Automatic shut-off • Fully assembled, ready to use

Model GDP-36, 27 lbs. . . no money dn., \$13 mo. **\$139.50**



Concord Solid-State F-90 Radiorecorder

- Use it as an AM radio, to record while listening, as a tape player or recorder • 1½ & 3¾ ips • Push-button operation • Remote control microphone • Recording time over 2 hours • Runs on "C" flashlight batteries or 117 v. AC • 9½" H x 4¾" D x 10½" W

Model GDP-137, 7 lbs. . . no money dn., \$7 mo. **\$69.50**

Sony Solid-State Stereorecorder 250-A

- 4-track stereo/mono record & playback at 7½ & 3¾ ips • FM stereo inputs • Dynamically balanced capstan flywheel • Automatic shut-off • Pause control & tape counter • Operates vertically or horizontally • Requires amplifier & speakers for playback • Walnut cabinet • Assembled

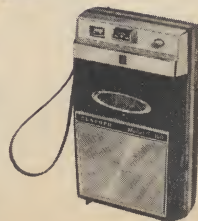
Model GDP-174A, 23 lbs. . . no money dn., \$13 mo. **\$135.00**



Concord Solid-State F-100 Cartridge Tape Recorder

- Records & plays anywhere . . . "live", from radio, records or other tape recorder • Instant loading tape cartridge • Automatic shut-off after play & wind • Remote control mike • Records & plays over 2 hours • Runs on "C" flashlight batteries or 117 v. with AC adaptor (included) • Miniature 8" x 4¾" x 2¾"

Model GDP-127, 6 lbs.; no money dn., \$8 mo. **\$79.50**



NEW

Famous Name Turntables & Cartridges



A GD-187
\$29.95



C ADP-56
\$54.51
(with 1c cartridge)



E ADP-76
\$84.51
(with 1c cartridge)



B ADP-46
\$44.51
(with 1c cartridge)



D ADP-66
\$74.51
(with 1c cartridge)



F ADP-86
\$99.51
(with 1c cartridge)

A NEW Maestro Automatic Stereo Changer

• Same high-quality changer as used in new Heathkit GD-107 phonograph (back cover) • Use with amplifiers with ceramic cartridge inputs • Automatic or manual play of any size 78, 45, 33 1/3 and 16 rpm records • Separate record size and speed selectors • Handles a stack of six records of same size • Sonotone 24-TA ceramic cartridge has diamond stylus for LP's, sapphire for 78's • Cartridge comes wired for stereo, can be re-wired for mono—output 0.26 volt • Beautifully styled walnut-grained vinyl-covered wood base • Measures 2 3/4" H x 14 1/8" W x 12 3/8" D overall • Includes two 3' audio cables • 45 rpm spindle adaptor • Completely assembled

GD-187, 11 lbs... no money dn., \$5 mo.... \$29.95

B Garrard 40 MK II Stereo Turntable

• Plays all four speeds automatically or manually • Automatically intermixes records of different size • Oversize turntable and attractive mat cover for better record support • Counterweighted cast aluminum tone arm with adjustable stylus pressure tracks high quality cartridges • Super-sensitive DuPont Delrin® "frictionless" trip mechanism • Compact... completely assembled

ADP-46, turntable, 13 lbs... no money dn., \$5 mo.... \$44.50
ADP-46, turntable with choice of 1c offer cartridge, below (specify by model no.) 14 lbs... no money dn., \$5 mo.... \$44.51
ADA-66-2, Garrard LRS20 45 rpm spindle, 1 lb. \$5.95
ADA-66-3, matching base, 3 lbs. \$4.50

C Garrard 50 MK II Stereo Turntable

• Automatically or manually plays all four speeds • Manual cueing and pause device • Automatically intermixes records of different size • 4-pole shaded "Induction-Surge" motor, with dynamically balanced rotor, shielded from hum • Large diecast turntable with decorative mat • Newly designed plug-in shell • Super-sensitive trip with DuPont Delrin® • New stylus pressure adjustor with gram markings • Newly designed control center • Lightweight tubular arm with resiliently mounted non-adjustable counterweight • Completely assembled

ADP-56, turntable, 14 lbs... no money dn., \$5 mo.... \$54.50
ADP-56, turntable with choice of 1c offer cartridge, below (specify by model no.) 15 lbs... no money dn., \$5 mo.... \$54.51
ADA-66-2, Garrard LRS20 45 rpm spindle, 1 lb. \$5.95
ADA-66-3, matching base, 3 lbs. \$4.50

D Garrard 60 MK II Stereo Turntable

• 4 speed automatic or manual play • New resiliently mounted counterweight to reduce rumble and resonance • New stylus pressure adjustment for smooth, accurate tracking force settings • Manual cueing and pause device • Tubular dynamically-balanced counterweight adjusted tone arm • Double-shielded Laboratory Series® 4-pole shaded motor • Super-sensitive DuPont Delrin® trip mechanism • Automatically intermixes records of different size • Heavy, cast oversized turntable, with mat • Completely assembled

ADP-66, turntable, 16 lbs... no money dn., \$7 mo.... \$74.50
ADP-66, turntable with choice of 1c offer cartridge, below (specify by model no.) 16 lbs... no money dn., \$8 mo.... \$74.51
ADA-66-2, Garrard LRS20 45 rpm spindle, 1 lb. \$5.95
ADA-66-3, matching base, 3 lbs. \$4.50

E Garrard 70 MK II Stereo Turntable

• 4-Speed automatic or manual play • Dynamically balanced tone arm for improved tracking capability and resistance to external shock • Adjustable stylus pressure and tracking force • Full size heavy-balanced cast "sandwich" turntable • Adjustable bias compensator • Double-shielded Laboratory Series® 4-pole shaded motor • Exclusive pusher platform for automatic play • Completely assembled

ADP-76, turntable, 23 lbs. no money dn., \$9 mo.... \$84.50
ADP-76, turntable and choice of any 1c cartridge, below (specify by model no.), 24 lbs... no money dn., \$9 mo.... \$84.51
ADA-76-3, matching base, 4 lbs. \$5.50
ADA-76-2, Garrard LRS3 45 rpm spindle, 1 lb. \$5.95

F Garrard Lab 80 MK II Stereo Turntable

• Insures professional performance of 33 1/3 and 45 rpm records • Heavy, cast turntable and special mat with deep rings at the 12", 10", and 7" positions • New provision for automatic play of single record • Hydraulically controlled integrated cueing device • New anti-skating compensator with 1/2 gram marking and counterweight with a window for easy setting • Repeats records as often as desired • Dynamically balanced "Afrormosia wood" tone arm • Laboratory Series® 4-pole shaded motor • Motor isolation system • Delrin® trip mechanism with magnetic repulsion

ADP-86, turntable, 25 lbs... no money dn., \$10 mo.... \$99.50
ADP-86, turntable and choice of any 1c cartridge, below (specify by model no.), 26 lbs... no money dn., \$10 mo.... \$99.51
ADA-86-3, matching base, 4 lbs. \$5.50
ADA-86-2, Garrard LRS9 45 rpm spindle, 1 lb. \$5.95

Choose Your Special Offer Cartridge — Limit One Per Changer Ordered.

Special Cartridge Offers With Changer Order—Specify By Heath Model Number

Shure M44-7 15 Dynetic

AD-85B MANUFACTURER'S SPECIFICATIONS — Frequency response: 20 to 20,000 Hz. Output: 11 mv per channel. Separation: More than 25 db at 1 kHz. Load Impedance: 47,000 ohms per channel. Stylus: .018 mm diamond. Compliance: 20.0x10⁻⁶ cm per dyne. Tracking force: 1 1/2 to 3 grams.
Model AD-85B, 1 lb.. \$19.95

Empire 888 Magnetic

AD-125S MANUFACTURER'S SPECIFICATIONS — Frequency response: 12-25,000 Hz. 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 to 6 grams. Tracking Angle: 15°.
Model AD-125S, 1 lb. \$19.95

Pickering V15AT-2

"Magnetic"
AD-105I MANUFACTURER'S SPECIFICATIONS — Frequency response: 20 to 20,000 Hz. Output: 6.9 mv per cm/sec of recorded level. Load resistance: 47,000 ohms. Stylus: 0.7 mil diamond. Tracking force: 1 to 4 grams. Vertical tracking angle: 15°.
Model AD-105I, 1 lb.. \$19.95

Shure M55E 15° Dynetic 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.

Model AD-95R, 1 lb.. \$35.50
AD-95R MANUFACTURER'S SPECIFICATIONS — Frequency response: 20 to 20,000 Hz. Output: 6.6 mv per channel @ 1 kHz. Separation: Over 25 db @ 1 kHz. 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.

Shure M44E 15° Magnetic Elliptical Stylus

AD-106Q MANUFACTURER'S SPECIFICATIONS — Frequency response: 20-20,000 Hz. Output: 9.3 mv. Separation: More than 25 db at 1 kHz. Load Impedance: 47,000 ohms per channel. Stylus: Elliptical 0.7 mil diamond. Compliance: 15.0 x 10⁻⁶ cm/dyne. Tracking force: 1 1/4 to 4 grams.
Model AD-106Q, 1 lb. \$34.50

Empire 888E Magnetic

AD-96H MANUFACTURER'S SPECIFICATIONS — Frequency response: 10 to 30,000 Hz. Output: 8 mv per channel. Separation: 30 db. Load Impedance: 47,000 ohms. Stylus: .4 x .9 mil elliptical diamond. Compliance: 12 x 10⁻⁶ cm/dyne. Tracking force: 3/4 to 6 grams. Vertical tracking angle: 15°.
Model AD-96H, 1 lb.. \$34.95

Pickering V15ATE-2 Magnetic
AD-26M MANUFACTURER'S SPECIFICATIONS — Frequency response: 10 to 25,000 Hz. Output: 6.9 mv. Separation: 35 db. Load Impedance: 47,000 ohms. Stylus: elliptical diamond. Tracking force: 2 to 5 grams. Vertical tracking angle: 15°.
Model AD-26M, 1 lb.. \$34.95

Pickering V15ATE-3

"Magnetic". With Lint Brush
AD-36N MANUFACTURER'S SPECIFICATIONS — Frequency response: 10 to 25,000 Hz. Output: 6.0 mv. Separation: 35 db. Load Impedance: 47,000 ohms. Stylus: elliptical diamond. Tracking force: 2 to 5 grams. Vertical tracking angle: 15°.
Model AD-36N, 1 lb... with lint brush \$39.95

CHANGER MODEL	Choose One For 1c More With Purchase of Models Shown	Or Choose One For \$5 More	Or Choose One For \$10 More
Garrard: 80 MK II	Pickering V15AT-2	Empire 888E ShureM55E	Pickering V15ATE-3
70 MK II	Shure M44-7		
60 MK II	Empire 888 Pickering V15ATE-2 Shure M44E		
Dual: 1019			
1009SK			
Garrard: 50 MK II	Pickering V15AT-2	Shure M44E Pickering V15ATE-2	
40 MK II	Shure M44-7		
Dual: 1010A	Empire 888		

Top Value Heathkit® Speaker Systems



Compact Acoustic Suspension 2-Way Speaker System

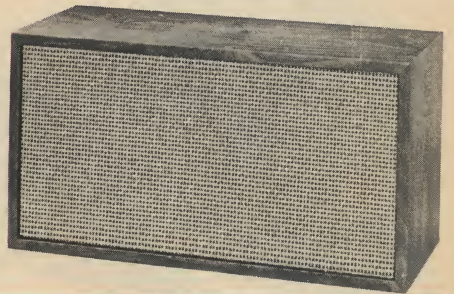
• 8" acoustic suspension woofer • 3½" tweeter with 4.8 oz. Endox IV magnet • Wide frequency response—45 to 20,000 Hz • Handles 10 to 25 watts of program material • High frequency level control • Handsome walnut veneer cabinet with scratchproof vinyl covering • Compact 10" H x 19" W x 8¼" D.

Quick And Easy To Build . . . Both speakers come cabinet-mounted . . . just wire the 1500 Hz crossover network . . . total assembly time 1 to 2 hours. Order a pair for stereo.

Kit AS-16, 22 lbs., no money dn., \$5 mo. **\$49.95**

AS-16 SPECIFICATIONS—Recommended Amplifiers: AR-13A, pg. 13; AR-14, pg. 13; AA-22, pg. 15; AA-21D, pg. 15. Frequency response: 45 to 20,000 Hz. Crossover frequency: 1500 Hz. Power rating: Program material—25 watts. Peak capacity—50 watts. Nominal impedance: 8 ohms. Speakers: Low frequency—8" Electro-Voice 6.8 oz. Alnico IV magnet. High frequency—3½" Electro-Voice 4.8 oz. Endox IV magnet. Adjustable high frequency level control. Dimensions: 10" H x 19" W x 8¼" D.

AS-16
\$49⁹⁵



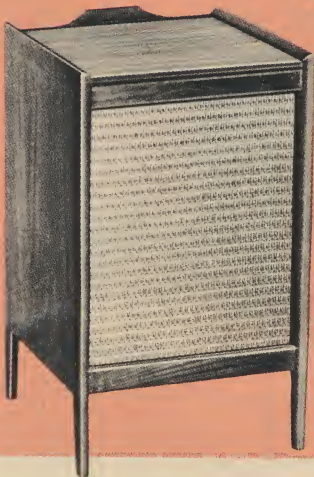
AS-17
Speakers,
Crossover Parts,
Mounting Baffle,
Grille Cloth

\$89⁵⁰



AS-15
4 Speakers
& Assembled Cabinet

\$134⁹⁵



Mount These 4 Special-Design Speakers In Custom Or Heath Cabinets

• 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 • Frequency response 40 to 20,000 Hz • Big voice coils • Heavy ceramic ring magnets • 3-way crossover networks, LC and RC type • High and mid-frequency attenuators • Includes cabinet recommendations and pre-cut and fitted speaker mounting baffle

Enjoy The Advantages Of Direct Radiating Speakers with their brilliance and clarity. Both mid-range units feature 6¼" frames with 4½" 1 lb. ceramic ring magnets, and 2" dome radiators driven by 1½" voice coils. Ultra-high frequency tweeter has a 4¼" frame with a 2¼" ceramic ring magnet weighing 6 oz. Its 1" radiating surface is driven by a 1" voice coil. The bass notes originate from a 12" high compliance woofer with a 1½" voice coil and 1 lb. 11 oz. ceramic ring magnet. Free air resonance is 25 Hz. Includes pre-cut and fitted speaker mounting baffle. Handles 5 to 50 watts of power. Buy the speakers separately, or order with a walnut-finish enclosure measuring 18½" W x 19" D x 32¾" H.

Kit AS-17, 4 speakers & mounting board, 31 lbs. no money dn., \$9 mo. **\$89.50**

Kit AS-17-2, 62 lbs. . . no money dn., \$16 mo. . . **Special Pair Price \$170.00**

Kit AS-15, 4 speakers & assembled cabinet, 82 lbs.

(REA express or motor frt. only) . . no money dn., \$13 mo. **\$134.95**

Kit AS-15-2, 164 lbs. . . no money dn., \$24 mo.

(REA express or motor frt. only) **Special Pair Price \$259.00**

AS-15 SPECIFICATIONS—Recommended Amplifiers: AR-15, pg. 12; AR-13A, pg. 13; AR-14, pg. 13; AA-21D, pg. 15; AA-22, pg. 15; AA-32, pg. 15; AA-14, pg. 15. Frequency response: 40 Hz to 20 kHz. Crossover frequencies: Low 1000 Hz to high frequency 10 kHz. Power rating: 50 watts of program material. Nominal impedance: 8 ohms. Speakers: (1) 12" high compliance, low resonance, low frequency; (2) 2" direct radiator dome-type mid-frequency; (1) 1" 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.

Acoustic Suspension Performance With Kit Form Economy

• 10" acoustic suspension woofer, two 3½" cone-type tweeters • 30 to 15,000 Hz frequency range • Takes only 10 watts to drive, yet handles up to 40 watts • Preassembled cabinets for vertical or horizontal use

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. 15; AA-22, pg. 15; AR-13A, pg. 13; AR-15, pg. 12. Frequency response: 30 to 15,000 Hz. Impedance: 16 ohms. Recommended amplifier power: 10 to 40 watts. Enclosure: infinite baffle, sealed. Speakers: Woofer, 10" acoustic suspension ceramic magnet; Tweeter, two 3½" cone units in dispersed array, 1.47 oz. Alnico 5 magnets. Crossover: L-C network, 2250 Hz. 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 Features 10" Acoustic Suspension Woofer

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

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

AS-2U SPECIFICATIONS—Recommended amplifiers: AA-21D, pg. 15; AA-22, pg. 15; AR-13A, pg. 13; AR-15, pg. 12. Frequency response: 40 to 15,000 Hz. Crossover frequency: 2,000 Hz. Recommended amplifier power: 20 to 40 watts RMS. Nominal impedance: 8 ohms. Tweeter: Two 5" cone units, specially treated and equalized, in dispersed array. Woofer: 10" acoustic suspension. Resonant Frequency (mounted) 58 Hz. Crossover: L-C network. Horizontal dispersion: 90°. Dimensions: 24" W x 13½" H x 11½" D.

Extra Performance AS-2A System—Features Super Tweeter

• Added super tweeter extends high frequency response • Built-in crossover networks • High frequency level controls • 10" acoustic suspension woofer • Two 5" cross-fired tweeters • A 1¾" dome-type super-tweeter • Preassembled cabinet

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. 15; AA-22, pg. 15; AR-13A, pg. 13; AR-15, pg. 12. Frequency response: ±5 db, 40 to 20,000 Hz. Impedance: 8 ohms. Recommended amplifier power: 20 watts minimum. Enclosure: Infinite baffle, sealed. Speakers: Woofer, 10" Acoustic Suspension, Midrange, two 5" cone units, in dispersed array, Super-tweeter, 1¾" dome-type construction. Crossover: L-C network, 2000 & 7500 Hz. 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.

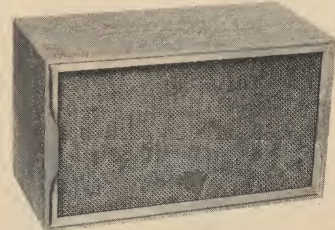
Heathkit Low-Cost 2-Way Speaker System . . . Chosen By Thousands

• Specially designed speakers . . . 8" woofer & compression-type tweeter with flared horn • Built-in 1600 Hz crossover network • Tweeter level control • Cabinets available unfinished or in walnut finish

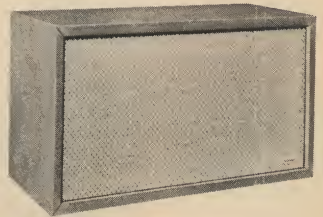
Kit AS-51U, unfinished, 27 lbs. . . no money dn., \$5 mo. **\$39.95**

Kit AS-51W, Walnut, 27 lbs. . . no money dn., \$5 mo. **\$46.95**

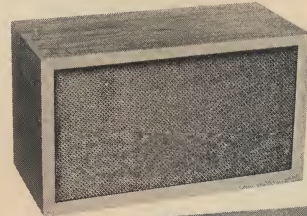
AS-51 SPECIFICATIONS—Recommended amplifiers: AR-14, pg. 13; AA-14, pg. 15; AA-32, pg. 15; AA-21D, pg. 15; AA-22, pg. 15. Frequency response: 50 to 12,000 Hz. Crossover frequency: 1600 Hz. Power rating: Program material—25 watts. Single frequency—15 watts. Nominal impedance: 16 ohms. Speakers: Low frequency—8" (special design) 6.8 oz. Alnico 5; High frequency—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 11¾" D.



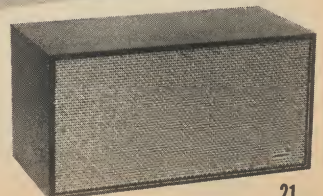
AS-10U
\$59⁹⁵



AS-2U
\$69⁹⁵



AS-2AU
\$89⁹⁵



AS-51U
\$39⁹⁵

Kits For Home Or Classroom Study



"How To Understand & Use Your Vacuum Tube Voltmeter"

Covers theory, advantages & applications.

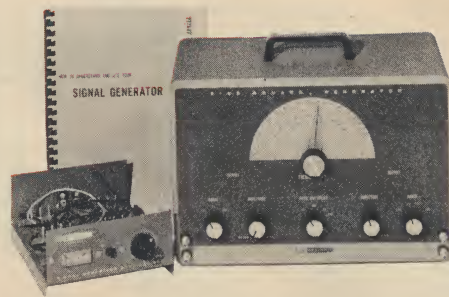
- Kit EF-1, Text & special power supply (for VTVM owners), 3 lbs. \$8.95
- Kit EF-1-3 (EF-1 & IM-11 VTVM, pg. 25) 8 lbs., no money dn., \$5 mo. \$34.50
- Kit EF-1-4 (EF-1 & IM-13 VTVM, pg. 25) 10 lbs., no money dn., \$5 mo. \$42.00
- Manuals only for EF-1 (single copy) . . . \$5.00 (10 or more) ea. \$3.00



"How To Understand & Use Your Oscilloscope"

A Stimulating Course For The Beginner Or Professional. Includes 169-page text-reference.

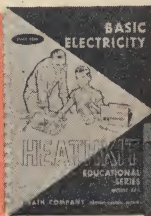
- Kit EF-2, Text, Chassis & parts, 4 lbs. . . . \$9.95
- Kit EF-2-3 (EF-2 & IO-21 Oscilloscope, pg. 26), 16 lbs., no money dn., \$7 mo. . . \$66.95
- Kit EF-2-4 (EF-2 & IO-12 Oscilloscope, pg. 26), 28 lbs., no money dn., \$9 mo. . . \$89.95
- Manuals only for EF-2 (single copy) . . . \$5.00 (10 or more) ea. \$3.00



"How To Understand & Use Your Signal Generator"

Here's how to get the most from your signal generator.

- Kit EF-3, Text, chassis & parts, 4 lbs. . \$11.95
- Kit EF-3-2 (EF-3 & IG-102 RF Signal Generator, pg. 27), 10 lbs., no money dn., \$5 mo. . \$37.95
- Kit EF-3-3 (EF-3 & IG-82 Sine-Square Audio Generator, pg. 27), 18 lbs., no money dn., \$7 mo. \$61.95
- Manuals only for EF-3 (single copy) . . . \$5.00 (10 or more) ea. \$3.00



Basic Electricity Kit-Course

Students & Beginners . . . discover the basic principles of voltage, current, and resistance as you build this handy DC Volt-Ohm-Milliammeter. Then use this VOM for further study (EK-2A) or for your home workshop . . . text becomes a useful reference.

- Kit EK-1 (less batteries), 4 lbs. \$19.95



Basic Radio—A 2-Part Course

Part I Begins With Elementary Theory—ends with the completion of a sensitive regenerative receiver.

Part II Continues To The Completion Of A Two-Band Superheterodyne Receiver (550 to 1600 kHz and 3 to 10 MHz). Requires EK-1 VOM or equivalent.

- Basic Radio Part I (EK-2A), 7 lbs. \$18.75
- Basic Radio Part II (EK-2B), 5 lbs. \$18.75
- AK-8, Cabinet for completed receiver, 3 lbs. \$3.95



Basic Transistors Kit-Course

An Excellent Introduction For The Student, Or Refresher For The Technician . . . reveals the "How" and "Why" of transistors. Probes into the nature of matter. You learn theory and build a two-transistor radio, broadcaster, amplifier, oscillator, and 2 station intercom.

- Kit EK-3, Basic Transistors, 4 lbs. \$16.95



PM-14
\$89⁰⁰

Heath/Mitchell FOTOVAL® Darkroom Computer . . . Gives You The Right Exposure The First Time

- Accurately & scientifically indicates optimum paper grade & exposure time
- Cuts darkroom time, reduces paper costs, speeds your enlarging
- Quickly produces correctly exposed prints everytime
- Gimballed mounting bracket allows installation in any position
- Completely safe lighted to permit easy darkroom reading of meter indications

Eliminates Costly Makeovers . . . Saves You Time, Paper And Money. The Heath/Mitchell Fotoval Darkroom Computer analyzes any black and white negative and automatically provides correct exposure times . . . tells you what paper grade to use . . . guesswork is eliminated.

Frees You For Creative Work . . . no wasted time on test strips. You can make prints and let others do the developing. Includes 35mm Calibration Negative to predetermine exposure for each type of paper or contrast filter you use.

- Kit PM-14, Fotoval & 35mm Calibration Negative, 8 lbs. . . no money dn., \$9 mo. \$89.00
- Optional test negative for 4" x 5" enlargers available. Order PMA-14-1, \$15.00 ppd.

Heathkit Photo-Timer . . . Accurate Exposures Every Time

- Controls exposure time of all printing operations—contact or enlarging
- Two 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 to within 2% on all settings
- Two AC outlets . . . enlarger & safelight
- All-electronic circuitry . . . no gear drive mechanisms to wear out as with "clock-motor" devices
- Enlarger may be turned on or off manually with Time-Focus rocker switch
- Install on wall, place upright or face up on working surface
- Styled to match Heath/Mitchell Fotoval® Computer
- Easy to assemble and use

- 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 Hz, 6 watts. Dimensions: 6 3/4" W x 6 1/2" D x 3 1/4" H overall.



PT-15
\$24⁹⁵

Berkeley Physics Laboratory

Part C Of Berkeley Physics Laboratory Now Ready For Delivery

Heath, manufacturer of the original components used at Berkeley in the development of this unique method of teaching physics, announces Part C components and materials are ready for immediate delivery. Order now for use in your fall teaching programs.

A modern and complete lab system, the Berkeley Physics Laboratory as supplied by Heath is available in several different groupings to meet your exact needs.

The basic lab instruments group consists of five high quality Heath instruments . . . professionally rated for accuracy and professional in presentation to afford students classroom experience comparable to modern electronics labs. The group includes a regulated power supply, a 5" oscilloscope, an RF signal generator, a sine-square wave generator, and a vacuum tube voltmeter.

Components for Part A of Berkeley Physics course include an experiment chassis and small parts set plus a cathode-ray tube and deflection coil set, and are available separately.

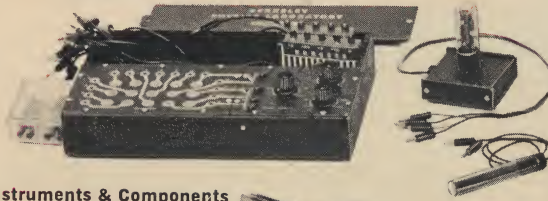
Components for Part B of Berkeley Physics include a microwave transmitter and receiver set plus an experiment chassis and accessory set. Accessories include transmission line and delay line. Each is available separately.

Components for Part C include an experiment chassis and small parts, test leads, guard ring diode assembly, Geiger-Mueller probe assembly, and radioactive samples. Optical components are available separately (model EPW-26) and include a mercury light source, line source, photomultiplier tube and base, 925 and 929 phototubes and base, interference and diffraction slit film demonstrator and holder, filters for principle mercury lines, polarizers and depolarizer, quarter-wave retardation plates, diffraction grating replica, lenses, holders for lenses and filters, accessory holders and projection screen.

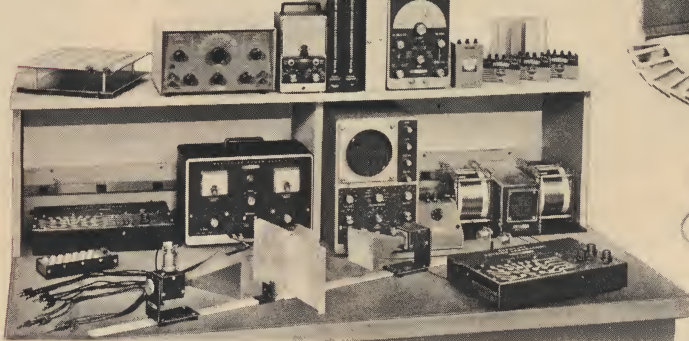
Sources, bases and holders may be used with or without meter stick. Filter holders may be used with the accessory holder or on the interferometer. Each filter holder will accept two standard 2" x 2" slide binders, glass filters or 54mm diameter lenses. Filters may be positioned in 45° increments. The rotating filter holder is calibrated in 15° increments. The Michelson interferometer has two adjustable front surface mirrors and a beam splitting mirror which may be removed and turned 180° to allow left or right position of light source. Filter holders may be placed in front of each front surface mirror, light source, and detector. Filters are supplied in 2" x 2" plastic slide binders with anti-newton ring glass, and may be opened to accept other types of gelatine filters.

If you are just setting up your Berkeley Physics laboratory, you will need the basic instrument group plus the components for as many of the Parts of the Lab as you intend to teach. Each instrument group and component set will serve two students simultaneously.

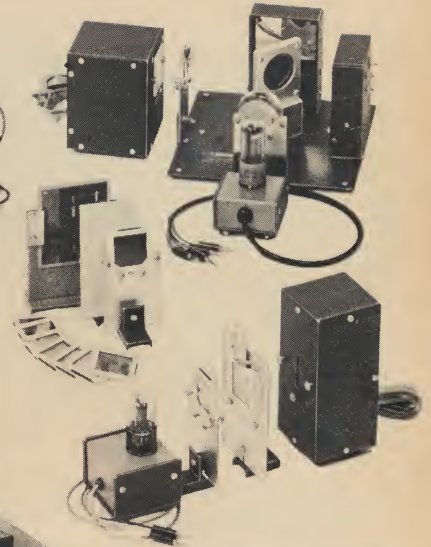
Experiment Chassis & Components For Part C



Instruments & Components For Parts A & B



Optical Components For Part C



HEATH BASIC INSTRUMENT GROUP (Required for Parts A, B, & C)

	Wired	Price
Vacuum Tube Voltmeter	IMW-11	\$ 44.95
Laboratory 5" Oscilloscope	IOW-12S	137.50
R.F. Signal Generator	IGW-102S	60.00
Sine-Square Wave Generator	IGW-47	94.00
Regulated Power Supply	IPW-32	84.95
EPW-100G, Basic Instrument Group		<u>\$421.40</u>

HEATH COMPONENTS FOR PART A

EPW-14, Experiment Chassis and Small Parts	\$ 60.00
EUW-17, Transistor Power Supply	20.00
EPW-24, Cathode-Ray Tube & Deflection Coil Set	115.00
EPA-10-1, Battery Set	5.00
	<u>\$200.00</u>

GROUP PRICE, PART A, Components plus instruments above.

Wired EPW-100A \$565.00

HEATH COMPONENTS FOR PART B

EPW-25, Microwave Transmitter & Receiver Set	\$115.00
EPW-15, Experiment Chassis & Accessories	125.00
EPA-10-2, Battery Set	5.00
	<u>\$245.00</u>

GROUP PRICE, PART B, Components plus instruments above.

Wired EPW-100B \$599.00

HEATH COMPONENTS FOR PART C

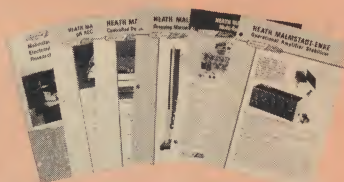
EPW-16, Experiment Chassis & Accessories	\$135.00
EPW-26, Optical Components Set	180.00
EPA-10-2, Battery Set	5.00
EUW-17, Transistor Power Supply	20.00
	<u>\$340.00</u>

GROUP PRICE, PART C, Components plus instruments above.

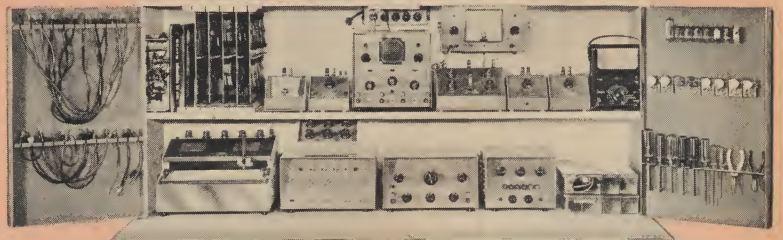
Wired EPW-100C \$699.00

Heath Malmstadt-Enke Electronics For Education & Research

Write For FREE Brochures



1. Malmstadt-Enke Electronics, Education & Research Instrumentation—Fully describes basic lab station and concept for teaching & research.
2. Heath Malmstadt-Enke pH Recording Electrometer. Descriptions and specifications of pH Meter/Electrometer and companion equipment.
3. Heath Malmstadt-Enke Controlled Potential Polarography System. Discusses polarography, plus specifications of system electronics.
4. Heath Malmstadt-Enke Dropping Mercury Electrode Apparatus. Complete specifications and detailed illustration of Heath D.M.E.
5. Heath Malmstadt-Enke Multi-Speed Chart Drive. Fully describes 21-speed chart drive for Heath Servo-Chart and pH Recorders.
6. Heath Malmstadt-Enke Operational Amplifier Stabilizer. Features, operation and circuit description of stabilizer for Heath operational amplifier systems.



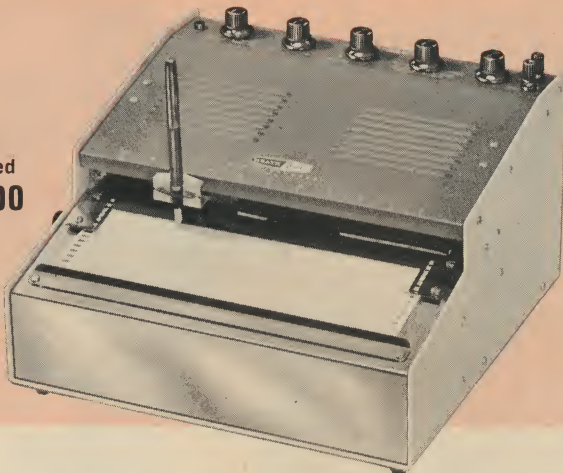
Malmstadt-Enke Instrumentation Laboratory

• A complete electronics lab for scientists & engineers • All equipment factory wired & tested • Ideal for teaching electronics to both graduate and undergraduate scientists • Perfect for every day use in research labs • "Solderless" spring-clip connectors in experimental parts groups allow fast, easy circuit changes • Authoritative Malmstadt-Enke textbook "Electronics For Scientists" • Multi-purpose units with features not matched at any price

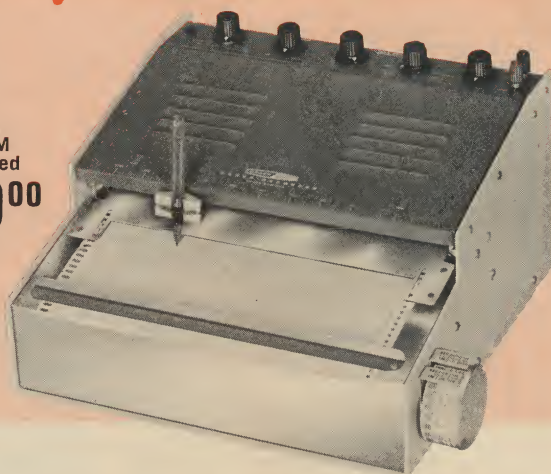
EU-100A, Special Group Price with Single-Speed Chart Recorder	\$990.00
EU-100M, Special Group Price with Multi-Speed Chart Recorder	\$1080.00
EUP-22A, All-steel desk top cabinet	\$130.00

Heath Malmstadt-Enke Laboratory Instrumentation

EUW-20A
Single-Speed
\$199⁰⁰



EUW-20M
Multi-Speed
\$289⁰⁰

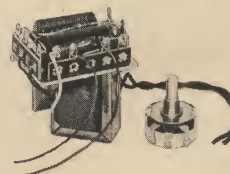


Factory Assembled Lab-Type Precision Recorders . . . Choice of Single Or Multi-Speed

Compare The Features, The Specifications, The Prices. 10 inch linear scale: Scale and chart grid are accurately ruled with ten 1" major divisions and one hundred 0.1" minor divisions. **Multi-Ranges:** True potentiometric null-point balance on all five ranges of input sensitivity, which are factory-calibrated to 10, 25, 50, 100 & 250 millivolts full scale. **Range Vernier:** Panel-mounted control provides variable sensitivity from each calibrated range switch position. In full counter-clockwise position, recorder is "CALIBRATED." Rotating control to full clockwise increases sensitivity from each calibrated range by an approximate factor of 3. **Accuracy:** Better than 1% of full scale on all ranges. **Repeatability** is 0.2%. **Variable Zero Position:** Zero volts pen position is fully adjustable across the entire chart grid on all ranges of sensitivity. **Fast Response:** Pen response is 0.1 sec./inch . . . 1 second for full scale pen travel. **Variable Damping:** Adjusts the pen response to transients and fast-rise or impulse-type signals. **Time Scale:** Easily changed on Multi-Speed model with the turn of a knob—21 chart speeds from 12 inches/min. to 0.5 inches/hour. Single-speed model supplied with 2 in./min. motor; extra motors available. **Auxiliary Chart Drive Input:** Enables the Multi-Speed recorder to be synchronized in time or in other parameters of the data-source apparatus. **Provisions For Plug-in Modules:** Removable back panel and plug-in connectors permit modular adaptations of the basic recorder. **Highly Functional Design:** Unique Heath mechanical and electronic engineering permits convenient modification of the instrument for specialized setups. Includes inexpensive, easy-to-fill cartridge-type pen. Rapid chart advance. Pen lift. Paper tear-off guide. "Standby" and "Servo" positions on control switch. Many more features. **Calibrate Control:** Easily accessible screwdriver adjustment on side panel permits quick calibration (using the Heath EUA-20-12 pH Millivolt Test Unit, the Heath EUW-16A Voltage Reference Source, or another standard).

EUW-20A, Single-Speed Chart Recorder, 23 lbs., (REA Express or Motor Frt. only) **\$199.00**
EUW-20M, Multi-Speed Servo Chart Recorder, 26 lbs., (REA Express or Motor Frt. only) **\$289.00**
Export model available for 115/230 VAC, 50-60 Hz; write for prices.
EUA-20-1, Blank plug-in adapter chassis, 5 lbs. **\$9.00**
EUA-20-26, Multi-Speed Chart Drive, 5 lbs. **\$89.00**

RECORDER SPECIFICATIONS—Chart Paper: Grid width, 10". Length, 120 foot roll. Markings, 0-100, right to left. **Chart Speed:** Model EUW-20M 5 seconds per inch to 2 hours per inch in 21 speeds, with internal signal. Any speed up to 5 seconds per inch with external signal. Model EUW-20A features standard speed 2 inches per minute only with additional chart-drive motors available. **Chart Span:** Five fixed ranges: 10, 25, 50, 100, and 250 mv, plus a sensitivity control to permit adjustment for any value from 10 to 250 mv. Also external position available for special plug-in ranges. **Pen:** Standard fountain pen, cartridge-type. **Balancing Times:** 0.1 second per inch, 1 second full scale (10"). **Error** (includes dead zone): Less than 1% of full scale for all ranges. 10 to 250 mv. **Repeatability:** 0.2%. **Maximum Source Resistance:** 50 K ohm. **Reference System:** Mercury cell. **Reference Cell Life:** 300 hours (approx.). **Power Requirements:** 105-125 volts 60 Hz AC; 45 watts. **Dimensions:** (includes clearance for control knobs) 15" W x 8 3/4" H x 13 3/4" D.



EUA-20-27
\$20⁰⁰

Assembled Zener Reference Supply

Replaces the mercury cell supplied in Heath EUW-20A and EUW-20M Servo Chart recorders (above) to improve stability. Easy to install and calibrate.

EUA-20-27, reference supply plus control, 2 lbs. **\$20.00**

EUA-20-27 SPECIFICATIONS—Load Current: 4.1 ma for optimum voltage stability. **Output Voltage Stability:** with 300 ohm load, regulation 0.1% from 100-130 VAC. **Temperature Stability:** essentially that of zener diodes, 0.005% per degree centigrade, 0 to 70 degrees centigrade. **Power Requirements:** 105-125 volts AC, 50-60 Hz, 2.5 watts. **Size:** 2 1/2" H x 2 1/4" W x 1 3/4" D.

Polarography Laboratory For 3-Electrode Controlled-Potential Polarography

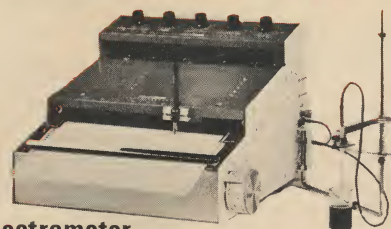
Performs 3-electrode controlled potential polarography, 2-electrode polarography, manual polarography, controlled potential electrolysis, controlled current electrolysis, chronopotentiometry, amperometric titrations and other electrochemical operations.

EUA-19-2, Polarography Module . . . 8 lbs. **\$185.00**
EUW-19B, Operational Amplifier . . . 20 lbs. **\$135.00**
EUW-20A, Servo-Chart Recorder . . . 23 lbs. **\$199.00**
EUW-401, Electronic Polarography Instrumentation (EUA-19-2, EUW-19B, EUW-20A) . . . 53 lbs. **\$480.00**
EUA-19-6, Dropping Mercury Electrode Apparatus . . . 20 lbs. **\$149.00**
EUW-402, Complete Polarography Laboratory (EUW-401 and EUA-19-6) . . . 73 lbs. **\$599.00**
All Express or Motor Freight Only, Except EUA-19-2.
EUW-20M, Multi-Speed Servo Chart Recorder, 26 lbs. **\$289.00**
EUW-402M, Complete Polarography Laboratory with Multi-Speed Recorder readout (EUA-19-2, EUW-19B, EUW-20M, & EUA-19-6), 79 lbs. **\$695.00**

EUW-402M
\$695⁰⁰



EUW-301M
\$369⁰⁰



Recording pH Meter/Electrometer With Multi-Speed Chart Drive

- Direct reading on a 10" linear scale—use it as a pH meter or as a pH recorder
- Electronic multi-speed chart drive—select from 21 chart speeds 5 sec./inch to 2 hours/inch (12 inches/min. to 1/2 inch/hour) • Auxiliary input to Multi-Speed Chart Drive permits chart drive to be slaved to experimental events
- Multiple pH ranges—full scale pH spans of 1, 2, 5, 10, & 14. Any 1 or 2 pH units etc. over the full pH range can be switched to full scale • Accuracy better than 0.5% of any calibrated full span—to 0.005 pH on a 1 pH span—readable to 0.001 pH on the 1 pH span • Input connectors accept all high quality electrodes, such as Beckman, Coleman, Sargent, etc.

EUW-301M, pH Recording Electrometer with Multi-Speed Chart Drive . . . 34 lbs. **\$369.00**
EUW-301, pH Recording Electrometer with interchangeable chart drive motor (2" min. provided) . . . 32 lbs. **\$280.00**
EUA-20-23, New Sargent Combination pH Electrode . . . 1 lb. **\$38.00**
EUA-20-11, pH Module only, 12 lbs. (converts Heath EUW-20A or EUW-20M to pH Recording Electrometer) **\$125.00**
EUA-301-1, Parts Kit, 2 lbs. (chopper kit converts EUW-301 or EUW-301M recorder portion to standard EUW-20A or EUW-20M Servo Chart Recorder) **\$20.00**

New Solid-State High Impedance VOM . . . Operates On Built-In AC Supply Or Batteries

- 13 Silicon Transistors Plus 2 Field Effect Transistors
- 11 Megohm Input Impedance on DC
- 10 Megohm Input Impedance on AC
- 9 DC Voltage Ranges from 150 Millivolts Full Scale to 1500 Volts Full Scale . . . Accuracy $\pm 3\%$ Full Scale
- 9 AC Voltage Ranges from 150 Millivolts Full Scale to 1500 Volts Full Scale . . . Accuracy $\pm 5\%$ Full Scale
- 7 Resistance Ranges, 10 Ohms Center Scale x1, x10, x100, x1k, x10k, x100k, x1 meg . . . Measures from one ohm to 1000 megohms
- 11 Current Ranges from 15 μ A Full Scale to 1.5 A. Full Scale
- Superior Accuracy on Current Measurements . . . $\pm 4\%$ on DC . . . $\pm 5\%$ on AC
- Separate Switch For Each Function Eliminates Constant Changing
- Ten-Turn Thumbwheel Zero Adjustment For Precision Settings
- Built-In 120/240 VAC, 50-60 Hz Power Supply Plus In-Cabinet Holders For Battery Supply During Portable Operation
- AC Response to 100 kHz
- 6", 200 μ A Meter With Zero Center Scales For Positive and Negative Voltage Measurements Without Switching
- 1% Precision Resistors
- Easy Circuit Board Assembly
- New Heath Instrument Styling With "Unitized" Construction and Low Profile Appearance; Color Styled in Handsome Beige and Black

Performs All Measurement Functions normally required in tube or transistor circuit development and service. And it does them with the no-loading high impedance of a VTVM, the convenience and versatility of a VOM, and the accuracy and sensitivity of separate lab instruments.

Accuracy Of Specifications Assured By Careful Attention To Design Details. For example, the IM-25 input "floats," isolating the circuit ground from the cabinet. The cabinet is grounded by a 3-wire line cord. Maximum isolation from 60 Hz pickup due to troublesome ground loops is achieved by simply shifting to internal battery operation and disconnecting the line cord. Double Zener-diode regulation minimizes the zero shift when changing from line to battery operation. Ohms scale calibration is a set-and-forget adjustment. DC voltage measurements require only a shorted input check of meter zero for maximum specified accuracy. And zero settings are really precise with the 10-turn thumbwheel adjustment. Applied voltage during resistance measurements is less than 100 millivolts from a constant-current source to avoid the possibility of erroneous readings or circuitry damage. FET's in the IM-25's all-transistor circuitry provide the high accuracy and high impedance input characteristics normally found only in VTVM's.

Choice Of Kit Or Factory Assembled. You'll find the kit version far easier to build than any other kit meter we've ever offered. Most components mount on just one circuit board . . . even the switches. No more tedious divider circuit wiring. And point-to-point connections are easy with the special wiring harness provided.

Advanced New Unitized Construction. The IM-25's die-cast panel bevel ties both front and rear panels together with the circuit board supported between. This permits removal of the cabinet shells without impairing the operation of the instrument. The new push-on knobs have spring loaded inserts to end knob slipping. And convenient carrying handles are recessed in each of the cabinet shell mounted strips.

Kit IM-25, 10 lbs. . . no money dn., \$8 mo. \$80.00
Assembled IMW-25, 10 lbs., no money dn., \$11 mo. \$115.00

Save With Heathkit® Meters

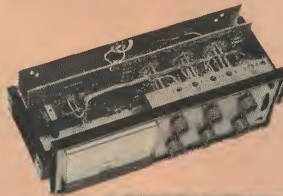


Kit IM-25
\$80⁰⁰

Wired IMW-25
\$115⁰⁰



Improved Probe. Finger-tip switch for convenience. Threaded point to accept alligator clip for clip-on circuit monitoring.



Unitized Construction. Cabinet shells are removable for easy access to calibration controls and battery holders.

Space Age Design. All transistors, all components, even the switches, mount on one circuit board for easier assembly, improved layout, superior stability, easier servicing.



6", 200 Microamp Meter. Big, bold and readable . . . 150 millivolts is a full-scale reading—15 microamps is a full-scale reading. Easy—accurate.

IM-25 SPECIFICATIONS—DC VOLTMETER—9 Ranges: 0-0.15, 0.5, 1.5, 15, 50, 150, 500, 1500 volts full scale. **Input resistance:** 11 megohms on all ranges. **Accuracy:** $\pm 3\%$ of full scale. **DC MILLIAMMETER—11 Ranges:** 0-.015, .05, 0.15, 0.5, 1.5, 5, 15, 50, 150, 500, 1500 mA full scale. **Input resistance:** 0.10 ohm (1500 mA) to 10k ohm (.015 mA). **Accuracy:** $\pm 4\%$ of full scale. **AC VOLTMETER—9 Ranges:** 0-0.15, 0.5, 1.5, 15, 50, 150, 500, 1500 volts full scale. **Input resistance:** 10 megohm shunted by 150 uuf (measured at probe tip). **Accuracy:** $\pm 5\%$ of full scale. **Frequency response:** ± 2 db, 10 Hz to 100 kHz. **AC MILLIAMMETER—11 Ranges:** 0-.015, .05, 0.15, 0.5, 1.5, 5, 15, 50, 150, 500, 1500 mA full scale. **Input Resistance:** .1 ohm (1500 mA) to 10k ohm (.015 mA). **Accuracy:** $\pm 5\%$ of full scale. **OHMMETER—7 Ranges:** 10 ohm center scale x1, x10, x100, x1k, x10k, x100k, x1 meg. **Probe:** Combined AC-OHMS-DC switching probe, single jack input for Probe and Ground connections. Circuit ground isolated from cabinet. **Dividers:** 1% Precision Type. **Meter:** 6", 200 μ A, 100° movement. **Transistors & Diodes:** (2) 2N4304 FETransistor, (13) 2N3393 silicon junction transistor, (1) 9.1 V zener diode, (1) 13 V zener diode, (4) 1N191 germanium diode, (1) Silicon Power Supply diode. **POWER SUPPLIES—Ohms circuit:** 3 volts, ("C" cells). **Ohms circuit bias:** 1.35 volt mercury cell. **Amplifier circuit:** 18 volts. Battery operation; "C" cells. Line operation; Transformer operated $\frac{1}{2}$ wave circuit, operable on either 120 or 240 V AC, 50-60 Hz. **Dimensions:** 13 $\frac{1}{2}$ " W x 5 $\frac{1}{8}$ " H x 6 $\frac{1}{4}$ " D.



(A) Popular Heathkit IM-11 VTVM

- One probe for all measurements • 7 AC, 7 DC, 7 Ohm ranges • 4 $\frac{1}{2}$ ", 200 μ A meter • 1% precision resistors
- Response ± 1 db 25 Hz to 1 MHz • Measure RMS and Peak-to-Peak • Easy to build

Kit IM-11, 5 lbs. . . no money down, \$5 mo. \$26.95
Assembled IMW-11, 5 lbs. . . no money down, \$5 mo. \$44.95
Export model available for 115/230 VAC, 50-60 Hz; write for prices.

Kit EF-1-3, Combination Offer with EF-1 Applications Course, page 22, 8 lbs. . . no money dn., \$5 mo. \$34.50

IM-11 SPECIFICATIONS—Meter scales: DC & AC (RMS): 0-1.5, 5, 15, 50, 150, 500, 1500 volts full scale. **AC peak-to-peak:** 4.0, 14, 40, 140, 400, 1400, 4000. **Resistance:** 10 ohm center scale x1, x10, x100, x1000, x10k, x100k, x1 meg. Measures 0.1 ohm to 1000 megohms. **Meter:** 4 $\frac{1}{2}$ " 200 μ A movement. **Dividers:** 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 Hz to 1MHz (600 ohm source). **Tubes:** 12AU7, 6AL5. **Battery requirements:** 1.5 volt, size "C" flashlight cell. **Power requirements:** 105-125 volt AC 50/60 Hz, 10 watts. **Dimensions:** 7 $\frac{3}{8}$ " H x 4 $\frac{3}{4}$ " W x 4 $\frac{1}{8}$ " D.

(B) Heathkit "Service Bench" VTVM

Kit IM-13, 7 lbs. . . no money down, \$5 mo. \$34.95
Assembled IMW-13, 7 lbs. . . no money down, \$6 mo. \$52.95

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

Kit EF-1-4, Combination Offer with EF-1 Applications Course, page 22, 10 lbs. . . no money down, \$5 mo. \$42.00

IM-13 SPECIFICATIONS—Same as IM-11 above except with 6" meter and separate 1.5 & 5 VAC RMS replacing Peak-to-Peak scales. Dimensions: 5" H x 12 $\frac{1}{4}$ " W x 4 $\frac{1}{8}$ " D.

(C) Heathkit Laboratory AC VTVM

Kit IM-21, 5 lbs. . . no money down, \$5 mo. \$33.95
Assembled IMW-21, 5 lbs. . . no money down, \$6 mo. \$52.95

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

IM-21 SPECIFICATIONS—Frequency response: ± 1 db 10 Hz to 500 kHz, ± 2 db 10 Hz to 1 MHz, all ranges. **Ranges:** Ten ranges from 0.01 to 300 volts RMS full scale. **Decibels:** Total range —52 to +52 db; meter scale —12 to +2 db (0 db = 1 mw in 600 ohms), ten switch selected ranges from —40 db to +50 db in 10 db steps. **Input impedance:** 10 megohms shunted by 12 pf on ranges 10 to 300 volts, 10 megohms shunted by 22 pf on ranges .01 to 3 volts. **Tube complement:** (1) 6AW8, (1) 6EJ7/EF184. **Accuracy:** Within 5% of full scale. **Power requirements:** 105-125 volts, AC, 50-60 Hz, 10 watts. **Dimensions:** 7 $\frac{3}{8}$ " H x 4 $\frac{3}{4}$ " W x 4 $\frac{1}{8}$ " D.

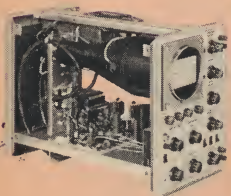
Save Up To 50% With Heathkit® Lab

NOW SAVE \$40 On Professional 5" DC Oscilloscope Kit

- A high stability 5" DC oscilloscope with triggered sweep • DC to 8 MHz 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 • 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 Hz operation

Kit IO-14, 53 lbs., Express or Motor Freight, no money dn., \$24 mo. Now Only \$259.00
 Was \$299.00.
 Assembled IO-14, 47 lbs., Express or Motor Freight, \$40 dn., as low as \$26 mo. \$399.00
 Assembled IO-14S, (with P7 phosphor), 47 lbs., Express or Motor Freight. \$410.00

IO-14 SPECIFICATIONS—(Vertical) Sensitivity: 0.05 v/cm AC or DC. **Frequency response:** DC to 5 MHz —1 db or less; DC to 8 MHz —3db or less. **Rise time:** 40 nsec (0.04 microseconds) 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 microseconds/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; 0.5 cm to 6 cm display. External; 0.5 volts to 120 volts peak-to-peak. **Triggering frequency response:** DC to 2.5 MHz approx. **Horizontal input:** 1.0 v/cm sensitivity (uncalibrated) continuous gain control. **Bandwidth:** DC to 200 kHz ±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 Hz input. Z axis Input provided. DC coupled CRT unblanking for complete retrace suppression. **Power requirements:** 285 watts. 115 or 230 VAC 50-60 Hz. **Cabinet dimensions:** 15" H x 10½" W x 22" D includes clearance for handle and knobs. **Net weight:** 40 lbs.

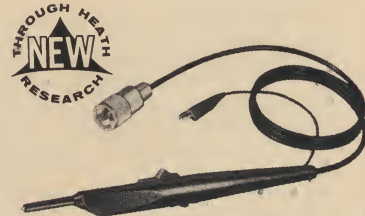


Kit IO-14
 Was \$299.00
 Now Only
\$259.00
 Wired IO-14
\$399.00

New Assembled Low Capacitance Scope Probe

Essential To High Frequency Waveform Analysis . . . minimizes circuit loading or distortion. For scopes with 1 megohm input such as Heathkit IO-14. Features switch for X1 direct or X10 attenuated operation. Response is DC to 25 MHz; max. DC voltage 600 v. Sliding spring-loaded tip is notched to hook into wiring, terminals, etc., for hands-free operation.

Wired PKW-2, 1 lb. \$12.00



Heathkit "Extra Duty" Wide-Band 5" Oscilloscope For The Laboratory—For B & W And Color TV Trouble-Shooting

- 5 MHz bandwidth for TV signal analysis • Heath patented sweep circuit—10 Hz to 500 kHz • Two extra sweep switch positions which may be adjusted to often used sweep rates • Built-in peak-to-peak calibration reference • Combination circuit board and wiring harness construction speeds assembly time • Up to 50% savings over equivalent oscilloscopes

Kit IO-12, 24 lbs. . . no money down, \$9 mo. \$81.95
 Assembled IO-12, 23 lbs. . . no money down, \$13 mo. \$137.50
 Assembled IO-12S, Wired Berkeley Physics Version, 24 lbs. \$137.50
 Export model available for 115/230 VAC, 50-60 Hz; write for prices.

See Page 22 for comb. offer with EF-2 Applications Course. EF-2-4. \$89.95

IO-12 SPECIFICATIONS—(Vertical) Sensitivity: 0.025 volts RMS per inch at 1 kHz. **Frequency response (referred to 1 kHz level):** ±1 db, 8 Hz to 2.5 MHz; +1.5 to —5 db, 3 Hz to 5 MHz; response at 3.58 MHz —2.2 db. **Rise time:** 0.08 microseconds or less. **Input impedance:** (At 1 kHz) 2.7 megohms at X1, 3.3 megohms at X10 and X100. **Horizontal sensitivity:** 0.3 volts RMS per inch at 1 kHz. **Frequency response:** ±1 db, 1 Hz to 200 kHz; ±3 db, 1 Hz to 400 kHz. **Input impedance:** 4.9 megohms at 1 kHz. **Sweep generator:** Range —10 Hz to 500 kHz 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 AC 50/60 Hz at 80 watts, fused. **Dimensions:** 14½" H x 8½" W x 16" D.

Heathkit General Purpose 3" Oscilloscope

- Push-pull vertical and horizontal amplifiers for minimum trace distortion • Wide-range sweep—20 to 100,000 Hz • Automatic sync • Retrace blanking • Compact, lightweight, versatile • Dependable, well-rated oscilloscope for general purpose requirements • Assembles easily—clean, open circuit layout

Kit IO-21, 12 lbs. . . no money down, \$6 mo. \$58.95
 Export model available for 115/230 VAC, 50-60 Hz; write for prices.

See page 22 for comb. offer with EF-2 Applications Course. EF-2-3. \$66.95

IO-21 SPECIFICATIONS—(Vertical and horizontal amplifiers identical): Frequency response: ±2 db, 2 Hz, to 200 kHz. Sensitivity: 0.25 volts RMS/inch P-P deflection at 1 kHz. Input impedance: 10 megohms shunted by 20 uuf. (Direct connection to vertical CRT plates on rear panel). **Sweep generator:** Range 20-100,000 Hz. Automatic sync., retrace blanking. **Tube complement:** (1) 3RP7 (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 Hz, 40 watts. **Dimensions:** 9½" H x 6½" W x 10" D.

Heathkit Ultra-Compact 3" DC Oscilloscope

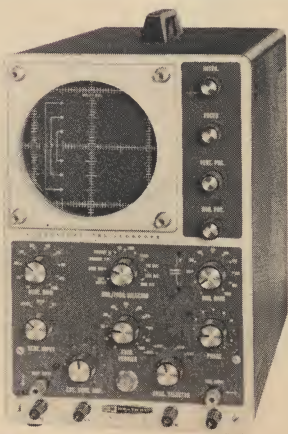
- Identical DC or AC coupled vertical & horizontal amplifiers • Less than 5° phase shift between channels • DC to 200 kHz bandwidth • Recurrent sweep generator—5 Hz to 50 kHz in four ranges • External binding posts for additional capacitance to provide extremely low sweep rates

Kit IO-10, 16 lbs. . . no money down, \$10 mo. \$94.95
 Export model available for 115/230 VAC, 50-60 Hz; write for prices.

IO-10 SPECIFICATIONS—(Vertical and horizontal channels identical): Bandwidth: DC to 200 kHz (2 db point). Sensitivity: 0.1 V (peak-to-peak) per ¼" (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 sawtooth produced by multi-vibrator type generator covering 5 Hz to 50 kHz 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 AC 50-60 Hz at 100 watts max. **Dimensions:** 8½" H x 4½" W x 12¼" D.

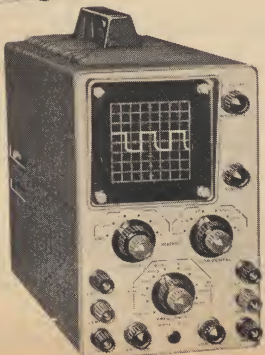
Kit IO-12
\$81.95

Wired IO-12
\$137.50



IO-21
\$58.95

IO-10
\$94.95



Harmonic Distortion Meter For Accurate Analysis Of Hi-Fi Equipment

- Measures harmonic distortion as low as 1% full-scale from 20 to 20,000 Hz • Meter scales calibrated in volts RMS, % distortion, and db • Measures noise levels down to -60 dbm • Quality components for precision measurements • Easy to assemble and operate

Kit IM-12, 13 lbs. . . no money down, \$6 mo. \$54.95
Export model available for 115/230 VAC, 50-60 Hz; write for prices.

IM-12 SPECIFICATIONS—Frequency: 20 Hz to 20,000 Hz in three ranges. Distortion: 1, 3, 10, 30, 100% full scale. Voltmeter: 1, 3, 10, 30 volts full scale. Input resistance: 300 k ohm. Minimum input voltage for distortion measurements: 0.3 volts. Output voltage for monitoring: 2.5 volts at full scale meter reading. Accuracy: Voltmeter, $\pm 5\%$; Distortion, $\pm 5\%$ of full scale. Tube complement: OA2, 6X4, 5879, 12AX7, 12AT7, 12BY7. Power requirements: 105-125 V. 50/60 Hz AC, 30 watts. Dimensions: 13" W x 8 1/2" H x 7" D.

Your Best Buy General Purpose RF Generator

- 2% Tuning Accuracy • 100 kHz to 220 MHz tuning range • Unmodulated or 400 Hz modulated RF output • 400 Hz audio signal for audio frequency checks • Critical circuits pre-wired & tuned

Kit IG-102, 7 lbs. . . no money down, \$5 mo. \$27.95

Assembled IGW-102, 6 lbs. . . no money down, \$6 mo. \$54.95

Assembled IGW-102S, wired Berkeley Physics version, 7 lbs. \$60.00

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

IG-102 SPECIFICATIONS—Frequency range: Band A, 100 kHz to 320 kHz; Band B, 310 kHz to 1.1 MHz; Band C, 1 MHz to 3.2 MHz; Band D, 3.1 MHz to 11 MHz; Band E, 10 MHz to 32 MHz; Band F, 32 MHz to 110 MHz. Calibrated harmonics: 100 MHz to 220 MHz. Accuracy: 2%. Output: Impedance, 50 ohms; Voltage, 100,000 μ V. Modulation: Internal, 400 Hz, 30% depth; External, approx. 3 V across 50 k ohms for 30%. Audio output: Approx. 10 V open circuit. Tube complement: (1) 12AT7, (1) 6AN8. Power requirements: 105-125 VAC, 50/60 Hz, 15 watts. Dimensions: 6 1/2" W x 9 1/2" H x 5" D.

Heathkit Solid-State Regulated DC Power Supply

- 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 • 0.5 to 50 VDC at 1.5 Amps with less than 150 microvolts AC ripple

Kit IP-20, 13 lbs. . . no money down, \$8 mo. \$72.95

Assembled IPW-20, 16 lbs. . . no money down, \$11 mo. \$114.95

IP-20 SPECIFICATIONS—Input: 105-125 volts 60 Hz, 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 0.1 ohm DC to 10 kHz; less than 0.5 ohms 10 kHz & 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 20,000 Ohms Per Volt VOM . . . Easy-to-Read, Portable, Accurate

- 20,000 Ohms/Volt meter movement • 2-color meter scale • Sensitive 50 microampere 4 1/2" meter
- 1% precision resistors for accuracy & stability • Polarity reversing switch

Kit MM-1, 5 lbs. . . no money down, \$5 mo. \$29.95

MM-1 SPECIFICATIONS—Sensitivity: 20,000 ohms/volt DC, 5,000 ohms/volt AC. Ranges: 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".

Low Distortion, Fast Rise Time Sine-Square Audio Generator

- Continuous tuning from 20 Hz to 1 MHz in five bands • Less than 0.25% sine wave distortion
- Less than 0.15 microsecond square wave rise time • Sine and square wave output available simultaneously

Kit IG-82, 14 lbs. . . no money down, \$6 mo. \$51.95

Assembled model IGW-47, 14 lbs., styling matches equipment on p. 23. (REA Express or Motor Frt. only). no money down, \$10 mo. \$94.00

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

IG-82 SPECIFICATIONS—SINE WAVE: Frequency range: 20 Hz to 1 MHz. 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 Hz. Frequency response: ± 1.5 db 20 Hz to 1 MHz. SQUARE WAVE: Frequency range: 20 Hz to 1 MHz. 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: 105-125 VAC, 50/60 Hz, 55 watts. Dimensions: 13" W x 8 1/2" H x 7" D.

Low Distortion, Switch-Selected Audio Generator

- Less than 0.1% distortion—20 to 20,000 Hz • Output is indicated on panel meter calibrated in volts and db • Output level and frequency accurate to $\pm 5\%$

Kit IG-72, 8 lbs. . . no money down, \$5 mo. \$41.95

Assembled IGW-72, 9 lbs. . . no money down, \$7 mo. \$64.95

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

IG-72 SPECIFICATIONS—Frequency: 10 Hz to 100 kHz, switch selected, 2 significant figures and multiplier. Output: 6 ranges; 0 to .003, .01, .03, .1, .3, 1 volts RMS into external 600 ohm load or with internal load into Hi-Z; 2 ranges; 0 to 3, 10 volts RMS into a minimum of 10,000 ohms. -60 db to +22 db in 8 steps, -60 dbm to +2 dbm (0 dbm=1 mw into 600 ohms). Distortion: Less than 0.1%, 20 to 20,000 Hz. Tubes: (1) 6AU6, (1) 6CL6, (1) 6X4. Power: 105-125 volts AC, 50/60 Hz, 40 watts. Dimensions: 9 1/2" W x 6 1/2" H x 5" D.

TV Alignment Generator For FM & TV "Front End" And IF Alignment

- Complete FM & VHF TV coverage—3.6 to 220 MHz • Stable all-electronic sweep circuit produces a wide range of sweeps with excellent linearity & stability • Built-in marker oscillators—4.5 MHz crystal & 19 to 60 MHz variable (57 to 180 MHz on harmonics)

Kit IG-52, 14 lbs. . . no money down, \$7 mo. \$67.95

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

IG-52 SPECIFICATIONS—Output impedance: 50 ohms. Sweep deviation: Continuously variable from 0-4 MHz to 0-42 MHz (depending on base frequency). Crystal marker: 4.5 MHz and multiples thereof. Variable marker: 19 MHz to 60 MHz on fundamentals, 57 MHz to 180 MHz 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, 50/60 Hz, 50 watts. Dimensions: 13" W x 8 1/2" H x 7" 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 or speaker

Kit IT-12, 6 lbs. \$19.95

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



IM-12
\$54.95



Kit IG-102
\$27.95

Wired IGW-102
\$54.95



Kit IP-20
\$72.95

Wired IPW-20
\$114.95



MM-1
\$29.95



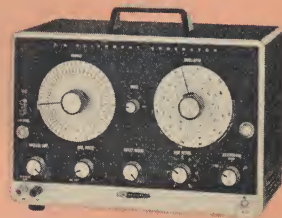
Kit IG-82
\$51.95

Wired IGW-47
\$94.00



Kit IG-72
\$41.95

Wired IGW-72
\$64.95



IG-52
\$67.95

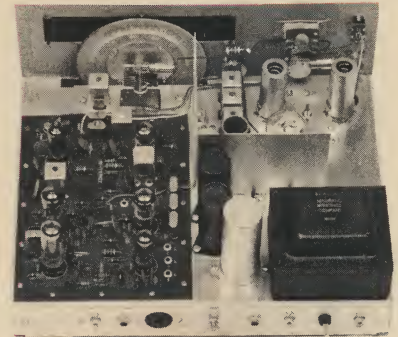


IT-12
\$19.95

Novices! Get Transceiver Performance



HW-16
\$99⁵⁰



Circuit board construction and neat, open layout. You'll be proud of your HW-16.

Now You Can Get Transceiver Performance In A Novice CW Rig . . . The New Heathkit HW-16

• An unequalled value for the beginning ham • Provides optimum CW operation on the first 250 kHz of the 80, 40, & 15 meter bands • True "break-in" CW operation—solid-state TR switching & receiver muting • 75-watt input power level for novice class CW • Up to 90 watts input power for general class operation • Crystal control transmit with VFO receiver tuning • Provisions for VFO control in "transmit" with the Heathkit HG-10B VFO • High quality crystal lattice filter for CW selectivity comparable to "expensive" receivers • RF amplifier stage in receiver for better than 1 microvolt sensitivity • Built-in sidetone • Grid-block keying—keys beautifully with the Heathkit HD-10 Electronic Keyer • Easy to assemble and put on the air—requires only a VTVM, dummy load, and crystals for the bands in which you intend to operate

Novices! . . . New Hams! Here's How You Can Get On-The-Air With A High-Performance Rig For Less Than \$100! Choose the Heathkit HW-16 Novice CW Transceiver. All you need in addition to your HW-16 are crystals in the novice band of your choice, headphones or an 8 ohm speaker, an antenna, and a radiotelegraph key. Then you're ready to explore the excitement of amateur radio. Use the HW-16 at your beginning five words a minute or so—the built-in sidetone lets you hear what you send, helps you build up speed, helps you develop a near-perfect fist. What's more, with built-in antenna change over and automatic receiver muting, you'll never outgrow your HW-16. You can work fast break-in rag chews and high speed traffic nets with ease. You'll discover your HW-16 will stand up well against even the "expensive" rigs.

A Fine Rig For Any Avid CW Operator. The HW-16 features high stability thanks to a dual conversion superheterodyne circuit with a crystal controlled "front end" and low frequency local oscillator. Through the added gain of the dual conversion circuits, plus an RF amplifier stage, the HW-16 has the high sensitivity you need for working DX. And that RF amplifier means excellent image rejection for "clean" reception and superior weak signal

capability. Because Heath engineers chose a crystal lattice filter similar to those used in the Heath SB-Series, you'll enjoy the sharp (500 Hz) selectivity you need to peel through crowded nighttime amateur bands. You'll discover the pleasure of pulling those weak DX signals up out of the mud for solid copy QSO's.

Easy Assembly Gets You On-The-Air Fast! Component layout is open, uncluttered. Solder points are easy to get at. The HW-16 goes together with a combination of circuit board construction and rugged chassis mounting of components that makes simple, straight-forward assembly—assures electrical and mechanical stability. It is an ideal first kit for the novice or new ham operator. The assembly manual leads you carefully, step-by-step through the assembly and then checkout procedures. With every turn of the page you can see your new rig grow toward completion. Order your HW-16 today.

- Kit HW-16, 25 lbs., no money dn., \$10 mo. \$99.50
- GD-396, Headphones (not a kit), 1 lb. \$3.50
- Kit HS-24, Speaker, 4 lbs. \$7.00
- Kit HD-10, Electronic Keyer, 6 lbs. . . no money dn., \$5 mo. \$39.95
- Kit HG-10B, VFO, 12 lbs. . . no money dn., \$5 mo. \$37.95

HW-16 SPECIFICATIONS—TRANSMITTER SECTION: RF power input: 50 to 90 watts (adjustable). Frequency control: 80-meter crystal or VFO on 80-meter band. 80 or 40-meter crystal, or VFO on 40-meter band. 15-meter crystal or VFO on 15-meter band. **Keying:** Grid-block. Break-in with automatic antenna switching and receiver muting. **Output impedance:** 50 ohm, unbalanced. SWR less than 2:1. **Sidetone:** Neon lamp relaxation oscillator. **RECEIVER SECTION:** Sensitivity: Less than 1 microvolt for 10 db signal-plus-noise to noise ratio. Selectivity: 500 Hz at 6 db down. **Intermediate frequency:** 3396 kHz. **Antenna impedance:** 50 ohm, unbalanced. **External speaker impedance:** 8 ohm. **GENERAL:** Frequency coverage: 3.5 to 3.75 MHz. 7.0 to 7.25 MHz. 21.0 to 21.25 MHz. **Power:** 120 VAC, 50-60 Hz. **Transmitter tube complement:** 6CL6 Crystal Oscillator; 6CL6 Driver; 6GE5 Final. **Receiver tube complement:** 6EW6 RF Amplifier; 6EA8 Heterodyne Mixer-Oscillator; 6EA8 VFO Mixer-Oscillator; 6EW6 IF Amplifier; 12AX7 Product Detector-Oscillator; 6HF8 1st Audio and Audio Output. **Transistor complement:** 2N1274 muting circuit. **Dimensions:** 13 3/4" W. x 11 1/2" D. x 6 1/2" H.

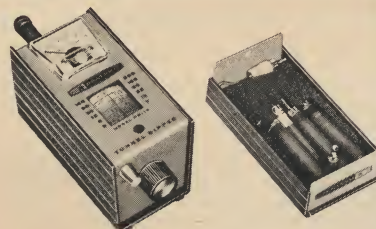


HM-15
\$14⁹⁵

Heathkit SWR Meter

Voltage-Standing-Wave-Ratio (VSWR) & Percentage Of Forward And Reflected Power Are Read Directly . . . Heathkit HM-15 allows you to adjust your antennas for maximum efficiency. Meter shows VSWR from 1:1 to over 3:1. Matches 50 or 75 ohm lines and handles up to 1 kw on 160 through 6 meters. Ideal accessory for new HW-16 Transceiver.

Kit HM-15, 2 lbs. \$14.95



NEW LOW PRICE
HM-10A
Was \$34.95
Now Only
\$29⁹⁵

Save \$5 On Solid-State "Tunnel Dipper"

Tunnel Diode Oscillator Covers 3 To 260 MHz . . . indicates resonance with the circuit under test by a "dip" in meter reading. Smooth gear-drive tuning. Durable epoxy-coated plug-in coils are color coded to match dial scales. Built-in enclosure for coil storage. A modern equivalent to the grid-dip meter plus a sensitive wavemeter. Requires AA penlite cell.

Kit HM-10A, 3 lbs., no money dn., \$5 mo. \$29.95

Or Choose Low-Cost Separates



HR-10B \$75⁰⁰

Heathkit HR-10B Amateur Band Receiver . . . New Color Styling & Wrinkle Finish Keeps Your HR-10B Looking Better Longer

- New up-to-date deep forest-green cabinet and pale grey-green panel matches Single-Banders and new HW-16 • "Amateur bands only" coverage for high stability and excellent tuning accuracy • Tunes SSB, AM & CW on 80-10 meter bands • High quality lattice-type crystal filter for optimum communications selectivity • Optional plug-in 100 kHz crystal calibrator • RF amplifier for extra sensitivity—high image rejection • Prebuilt, pre-aligned tuning unit for easy assembly

The HR-10B Is A Quality Receiver Any Ham Would Be Proud To Own . . . perfect for the novice who wants the all-around versatility of a separate receiver for tuning AM, CW, and SSB. It features the solid stability you need for copying CW or SSB, and separate RF and AF gain controls and BFO tuning make receiving CW and SSB a real pleasure. It also features an "S" meter to indicate relative signal strength and provisions for the optional plug-in 100 kHz crystal calibrator. The HR-10B will prove itself a fine performer, whatever your test for receiver quality.

Kit HR-10B, 20 lbs., no money dn., \$8 mo. \$75.00
Kit HRA-10-1, Plug-in 100 kHz crystal calibrator, 1 lb. \$8.95

HR-10B SPECIFICATIONS—Frequency coverage: 80 through 10 meters. IF frequency: 1681 kHz. Sensitivity: 1 uv for 10 db signal-to-noise ratio. Image rejection: 40 db or better. Selectivity: 3 kHz at 6 db, 9 kHz at 40 db. Input impedance: 50 to 75 ohm, coaxial. Audio output impedance: 8 or 500 ohm. Tube complement: 6BZ6, (2) 6EA8, 6BA6, 6BJ7, 6EBB, 6X4. Power requirements: 117 volts AC, 50/60 Hz, 50 watts. Dimensions: 13 3/4" W x 11 1/2" D x 6 1/2" H.



DX-60B \$79⁹⁵

Heathkit DX-60B Phone & CW Transmitter Now With New Color Styling In Durable Wrinkle Finish

- New color styling—deep forest-green cabinet & pale gray-green panel
- 90 watts phone or CW—80 through 10 meters • Neutralized 6146 final amplifier for stable, dependable operation on all bands • Built-in low pass filter to eliminate TVI • Grid-block keying—keys beautifully with the HD-10 Electronic Keyer • Easy access to the four crystal sockets • Full provisions for operation with the matching HG-10B VFO • Operates at reduced power for Novice Class

When You Choose "Separates" You Get More For Your Money With The DX-60A . . . run 75 watts CW input power for novice class operation—then run the full 90 watts input power on phone or CW (with VFO control by the HG-10B) when you get your general class license. Pi network output circuit enables easy tuneup to any 50-75 ohm load. Drive Level Control, grid-plate current meter, and Drive Tune control enable you to peakup your DX-60B for maximum output, minimum radiated harmonics, best quality audio characteristics. You will not outgrow your DX-60B. No other transmitter in this price range can offer you more.

Kit DX-60B, 24 lbs. . . (less crystals) . . . no money down, \$8 mo. \$79.95
GH-12, PTT Mike, 2 lbs. \$6.95
Kit HD-10, Electronic Keyer, 6 lbs., no money dn., \$5 mo. \$39.95
Export model available for 115/230 VAC, 50-60 Hz; write for prices.

DX-60B 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 Hz, 225 watts. Dimensions: 13 3/4" W x 11 1/2" D x 6 1/2" H.

Heathkit Code Practice Oscillator

Here's The Way To Learn Radio-Telegraph Code . . . practice with the new Heathkit HD-16. Ideal for beginning hams, or boy scouts working toward merit badge. Now utilizes a unijunction transistor with separate controls to vary tone frequency and volume. Hear tone through the built-in speaker or a headphone set . . . features separate phone jacks for key and headphone outlet. For visual monitoring, just flip a front panel switch, and watch the top-panel blinker light. Includes key with phone plug and cord. Gray-green metal cabinet. Requires two 9 v. transistor radio batteries, and one "C" cell (not included).



HD-16 \$8⁹⁵

Kit HD-16, 3 lbs. \$8.95



HDP-22 \$16⁹⁵

Complete Amateur Radio License Course

Includes 4 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"; plus the Heathkit HD-16 code oscillator kit with key and 3 records that teach code by the "word-method".

HDP-22, Complete Amateur Radio Starter Group, 6 lbs., Save \$3.00. \$16.95
HDP-32, Code Records Only, 2 lbs. \$9.50
HDP-42, ARRL Books Only (4), 2 lbs. \$2.00
Kit HD-16, Oscillator plus Key only (left) 3 lbs. \$8.95

New Color Styling For HG-10B VFO! . . . Matches DX-60B & HW-16

Novices! Choose The HG-10B When You Get Your General Class License . . . work VFO with your DX-60B or HW-16 for more QSO's and less QRM. The HG-10B is calibrated for 80 through 2 meters and provides 5 volts RMS output (enough to drive most transmitters). Output is in the 3.5 to 4; 7 to 7.425; and 8 to 9 MHz ranges. Accurate dial calibration, plus smooth 28-to-1 dial drive and a "spot" switch for off-the-air tuning allow you to tune up anywhere within the band for most efficient communications.

Kit HG-10B, 12 lbs., no money dn., \$5 mo. \$37.95



HG-10B \$37⁹⁵

Look To Heath For "State of the Art"

Now You Can Get The Most Modern Amateur Radio Spectrum Monitor Ever Offered . . . The SB-620 "Scanalyzer" For Only \$119.95

- New narrow fixed sweep function with crystal filter for single signal analysis—10 kHz, 50 kHz, and variable control to 500 kHz
- Increased sweep width capability for monitoring larger band segments—up to 500 kHz for IF's above 455 kHz, and up to 100 kHz for 455 kHz IF's
- Matches SB-Series in style and performance
- Operates with common receiver IF's up to 6 MHz
- Both linear and logarithmic amplitude displays
- Long persistence CRT for optimum display of narrow band segments
- New improved voltage doubler power supply
- Mu-metal fully shielded CRT
- Simple connection to receiver
- Plus all of the versatile performance and operating features already made famous by the HO-13 Spectrum Monitor

The Most Versatile Amateur Radio Spectrum Monitor On The Market Today! Displays up to 250 kHz either side of receiver tuned frequency. Allows you to work DX and band openings without tedious hunting & tuning. Permits measurement of carrier, sideband, and distortion product suppression. Operates with practically all receivers . . . see specifications below.

Kit SB-620, 15 lbs. . . no money dn., \$11 mo. \$119.95

SB-620 SPECIFICATIONS—RF AMPLIFIER: Input frequencies: One of the following; 455 kHz, 1000 kHz, 1600 to 1680 kHz, 2075 kHz, 2215 kHz, 2445 kHz, 3000 kHz, 3055 kHz, 3395 kHz, 5000 to 6000 kHz. Frequency response: ± 0.5 db at ± 50 kHz from receiver IF. IF frequency: 350 kHz. Sensitivity: Approximately 10 uv input signal provides a visible signal (40 db mark) at full pip gain setting. Spectrum analyzer: Test signal input frequencies up to 50 MHz. **HORIZONTAL DEFLECTION:** Horizontal sweep generator: Sawtooth sweep produced by neon lamp relaxation oscillator. **Sweep Rate (Approximate frequencies):** 10 kHz preset; 0.5 Hz, 50 kHz preset; 2 Hz to 2.5 Hz. Variable: 5 Hz to 15 Hz. **Preset sweep width:** 10 kHz preset; 10 kHz, 50 kHz preset; 50 kHz. **Variable sweep width:** * 455 kHz (10 to 100 kHz); 1000 kHz (50 to 100 kHz); 1600 kHz (50 to 500 kHz); 1680 kHz (50 to 500 kHz); 2075 kHz (50 to 500 kHz); 2215 kHz (50 to 500 kHz); 2445 kHz (50 to 500 kHz); 3000 kHz (100 to 500 kHz); 3055 kHz (100 to 500 kHz); 3395 kHz (100 to 500 kHz); 5200 kHz (100 to 500 kHz); 6000 kHz (100 to 500 kHz). **Resolution:** 1 kHz. Note: Resolution is defined as the frequency separation between two equal adjacent signals such that the intersection between their respective pip indications is 30% below the apex amplitude. **Amplitude scales:** Linear: 20 db (10:1) range. Log: 40 db (100:1) range—20 db Log: (Extends calibrated range to 60 db). **POWER SUPPLY:** Type: Transformer operated; fused at 1/2 ampere. **Low voltage:** Full-wave voltage doubler circuit, using four silicon diodes. **High voltage:** Full-wave voltage doubler circuit, using two selenium diodes. **Bias voltage:** Full-wave bridge circuit, using four silicon diodes. **Power requirements:** 120 or 240 volts AC, 50/60 Hz, 40 watts. **GENERAL:** Tube complement: (1) 3RP7 CRT, high persistence (yellow trace with screen filter). (1) 6AT6, detector vertical amplifier. (1) 6AU6, IF Log amplifier. (1) 6EA8, sweep oscillator, mixer. (1) 6EW6, RF amplifier. (1) 6EW6, IF amplifier. (1) 12AU7, horizontal, push-pull amplifier. **Diode complement:** (8) Silicon diodes, low voltage rectifier, DC filament rectifier. (2) Selenium diodes, high voltage rectifiers. (1) Silicon diode, voltage-variable capacitor. **Dimensions:** 10" W. x 6 1/2" H. x 10 1/2" D. *These sweep widths are minimum values. Actual sweep width ranges will be greater than those listed, depending on the receiver IF frequency for which unit is wired.



SB-620
\$119.95



SB-610
\$69.95

SB-610 Signal Monitor . . . Shows Transmitted & Received Signal

- Operates with transmitters 160 through 6 meters, 15 watts through 1 KW—operates with receiver IF's through 6 MHz—includes full capability for displaying RTTY signals
- Designed & styled to operate with Heath SB-Series equipment
- Provisions to operate with virtually any other equipment on the market
- Displays signal envelope, AF & RF trapezoid patterns
- Fully mu-metal shielded CR tube
- Improved two-tone audio test oscillator with separate balance and output level controls
- New improved voltage doubler power supply
- Easier & faster assembly
- Simple to connect and operate
- Shows the quality of signals you transmit & receive
- Manual includes instructions for interpreting waveforms

Kit SB-610, 14 lbs. . . no money dn., \$7 mo. \$69.95
Export model available for 115/230 VAC, 50-60 Hz; write for prices.

SB-610 SPECIFICATIONS—Receiver IF's: Up to 455, 1600 to 1680, 2075, 2215, 2475, 3000, 3055, 3395, and 5000 to 6000 kHz. **VERTICAL AMPLIFIER:** Vertical response (for 1 inch deflection): Untuned: RTTY, 1 volt nominal; 20 kHz-455 kHz, less than 500 mv. Tuned: 455 kHz, 70 mv nominal; 1600-2500 kHz, less than 200 mv; 3000-3400 kHz, less than 500 mv; 5000-6000 kHz, less than 700 mv. Input resistance: 100 k ohm. **HORIZONTAL AMPLIFIER:** Horizontal response: ± 3 db from 3 Hz to 15 kHz. Sensitivity: 800 mv per inch deflection. Input resistance: 1 megohm. **Sweep generator:** Recurrent type, sawtooth 15 to 200 Hz (variable). **Tone oscillators:** Approximately 1500 & 1950 Hz with 100 mv (nominal) output. **GENERAL:** Frequency coverage: 160 6 meters (50-75 ohm coaxial input). **Power limits:** 15 watts to 1 kilowatt (with special instructions for CB power levels). **Front panel controls:** Function Selector, Sweep Frequency, Tone Generator, Horizontal Gain, Horizontal Position, Vertical Position, Vertical Gain, Focus, Intensity/Off. **Rear control:** Xmr. Atten. Attenuates 0 to 24 db at approximately 8 db per step. **Power supply:** Transformer operated, fused 1/2 amp. **Power requirements:** 120 VAC 50/60 Hz, 35 watts. **Dimensions:** 6" H x 10" W x 11 1/2" D (including knobs).

New Heathkit Single-Banders . . . Choose Your Band—80, 40, 20 Meter Models

- 200 watts P.E.P. input upper or lower sideband on all Single-Banders
- 2 kHz dial calibration
- ALC input for use with linear amplifiers such as SB-200 or HA-14
- Crystal filter SSB generation
- Built-in S-meter, VOX, PTT, and ALC
- Fixed or mobile power supply option

Kit HW-12A, 80-meter, 15 lbs., no money dn., \$10 mo. \$99.95
Kit HW-22A, 40-meter, 15 lbs., no money dn., \$11 mo. \$104.95
Kit HW-32A, 20-meter, 15 lbs., no money dn., \$11 mo. \$104.95
Kit HP-13, DC Power Supply (Mobile), 7 lbs. . . no money dn., \$6 mo. \$64.95
Kit HP-23, AC Power Supply (Fixed station), 19 lbs. . . no money dn., \$5 mo. \$49.95

SPECIFICATIONS—RF input: 200 watts PEP. **Sideband generation:** Crystal lattice bandpass filter method. **Stability:** 200 Hz per hour after warm-up. **Carrier & unwanted sideband suppression:** 45 db. **Frequency coverage:** HW-12A, 3.8—4.0 MHz; HW-22A, 7.2—7.3 MHz; HW-32A, 14.2—14.35 MHz. **Receiver sensitivity:** 1 uv for 15 db (S+N)/N ratio. **Operation:** LSB, USB. **Audio output:** 1 watt @ 8 ohms. **Mike input:** Hi-Z. **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-12A
\$99.95



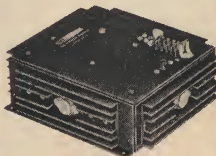
"KW KOMPACT" Fixed-Mobile Kilowatt Liner Amplifier

HA-14
\$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 (527-B's or T-160-L's)
- Full provision for control of "remotely" located AC or DC power supply

Kit HA-14, 10 lbs. . . No money down, \$10 mo. \$99.95
Kit HP-14, DC Power Supply, 10 lbs., no money dn., \$8 mo. \$79.95
Kit HP-24, AC Power Supply, 22 lbs., no money dn., \$5 mo. \$49.95

Save \$10 On Kilowatt Mobile Power Supply



New Low Price!
Save \$10
HP-14
\$79.95

Provides all Necessary Operating Voltages For The "KW Kompact" . . . includes all required interconnecting cables. Circuit breaker protection. For alternator equipped neg. ground cars. Kit HP-14, 10 lbs., no money dn., \$8 mo. Now Only \$79.95

NEW Communications Headset



New HDP-17
\$17.95

A Complete "No Hands" Communications Set . . . features 2000 ohm headphones with soft ear cushions and high impedance ceramic microphone. Includes 5 ft. cord . . . less mike connector. HDP-17, 1 lb. \$17.95

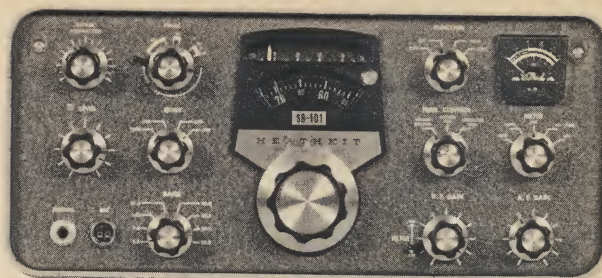
In Amateur Radio Design

SB-101 80-10 Meter SSB/CW Transceiver

Only SSB/CW Transceiver On The Market With Front Panel Selection Of SSB Or CW Bandpass Filters. The SB-101 includes the switch and mounting for installation and operation of the optional SBA-301-2 crystal filter, providing symmetrical 400 Hz passband (800 to 1200 Hz at the 6 db points). The 170 watts input in CW operation is an ideal power level for either barefoot operation or for driving a high power final.

Use The New SB-640 For Separate Transmitter Frequency Control. Provides switch-selectable dual LMO's for transceiving, crystal control of frequency, or independent receiver and transmitter tuning.

Assembled SBW-101, 23 lbs., write for terms. \$540.00
 Kit SB-101, 23 lbs., \$36 dn., \$31 mo. \$360.00
 SBA-301-2, Optional 400 Hz CW crystal filter, 1 lb. \$20.95
 Kit HP-13, DC Power Supply, 7 lbs., no money dn., \$6 mo. \$64.95
 Kit HP-23, AC Power Supply, 19 lbs., no money dn., \$5 mo. \$49.95
 Kit SBA-100-1, Mobile Mounting Bracket, 6 lbs. \$14.95



Kit SB-101 Wired SBW-101
\$360⁰⁰ \$540⁰⁰

• Surpasses every other make of SSB transceiver . . . regardless of price • Now with front-panel-switch-selection of standard 2.1 kHz SSB filter or the optional 400 Hz CW filter, the SBA-301-2 • Simplified assembly with sub-pack packaging & assembly techniques

New! SB-640 External LMO (Linear Master Oscillator) For Versatile Transmitter/Receiver Frequency Control Of Heathkit SB-101 SSB/CW Transceivers

• Identical to the calibration and smooth dial mechanism already famous in the SB-101 • Red panel light indicates whenever SB-640 is in control of frequency • For operation with SB-101 model transceivers only

Features Four Modes Of Operation—

1. Locked Normal—SB-101 internal LMO controls both transmitting and receiving frequency (true transceiving).
2. Locked Auxiliary—SB-640 LMO controls both transmitting and receiving frequency (transceiving with SB-640 control).
3. Unlocked Auxiliary—SB-101 LMO controls the receiving frequency—SB-640 LMO controls the transmitting frequency.
4. Crystal Controlled Auxiliary—With SB-640 in its XTAL mode of operation, either of two crystals may be used for frequency control . . . for true transceiver control of the SB-101, or for crystal control of the SB-101 transmitter only.

Kit SB-640, 9 lbs., no money dn., \$10 mo. \$99

SB-640 SPECIFICATIONS—Frequency output, LMO: 5 to 5.5 MHz. Frequency output, crystal: 4.975 to 5.525 MHz. Frequency stability: Less than 100 Hz per hour after 20 minutes warmup from normal ambient conditions. Less than 100 Hz for ±10% line voltage variations. Visual dial accuracy: Within 200 Hz on all bands. Electrical dial accuracy: Within 400 Hz after calibration at nearest 100 kHz point. Dial mechanism backlash: Less than 50 Hz. Front panel controls: Main (LMO) Tuning dial; LMO/XTAL switch; Crystal Selector switch—XTAL 1/XTAL 2. Panel light: ON when transmitting or transceiving frequency is controlled by External LMO. Rear apron facilities: Connector to SB-101. Frequency Adjust trimmers XTAL 1 and XTAL 2. Power requirements (from SB-101 Transceiver): 150 VDC at 5 ma. 12.6 VAC at 450 ma. Dimensions: 6 1/2" H. (plus feet) x 10" W x 11 3/8" D. (including knobs).



SB-640
\$99⁰⁰

Famous Heathkit SB-301 Amateur Band Receiver

• Increased sensitivity over the SB-300, the original pace-setter of the SB-Series • Receives AM, CW, SSB, and RTTY • 80, 40, 20, 15, & 10 meter coverage with 15 to 15.3 MHz for WWV reception • Front panel switch position for control of 6 & 2 meter plug-in converters • Built-in switch-selected ANL • Truly linear tuning by Heath pre-built & calibrated LMO • Less than 100 Hz per hour drift after 20 min. warm-up • 1 kHz dial calibrations • Built-in 100 kHz crystal calibrator • Operates transceive with SB-401 • Built-in power supply

The SB-301 Sets High Standards For Amateur Band Receivers . . . features better than 0.3 microvolt sensitivity for 10 db signal-plus-noise to noise ratio in SSB mode, plus famous Heath LMO tuning and crystal lattice filter for optimum selectivity and pass band characteristics. Write to Heath for full specifications and schematic diagram.

Kit SB-301, less speaker, 25 lbs. . . no money dn., \$24 mo. \$260.00

SBA-301-1 Optional AM crystal filter (3.75 kHz), 1 lb. \$20.95

SBA-301-2 Optional CW crystal filter (400 Hz), 1 lb. \$20.95

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



SB-301
\$260⁰⁰

Heathkit SB-401 SSB Amateur Band Transmitter

• Single panel switch selects transceive or independent operation of SB-401 and SB-301 (or SB-300) combination—no cable changing required • Can be operated as an independent transmitter with any receiver when SBA-401-1 crystal group is installed • New simplified assembly procedure through modular "sub-pack" packaging & assembly techniques • Built-in power supply • Built-in antenna change-over relay • LMO (Linear Master Oscillator) frequency control • ALC (Automatic Level Control) for higher talk power • 180 watts PEP SSB, 170 watts CW • Crystal filter SSB generation • Operates upper or lower sideband • VOX and PTT control • 1 kHz dial calibration—100 kHz per dial revolution • 500 kHz coverage per band-switch position

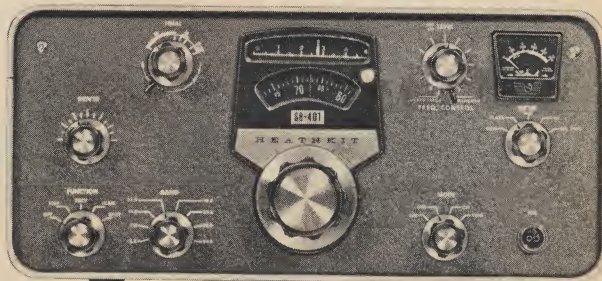
Operates USB/LSB & CW and features 1 kHz dial calibration with true linear tuning on all bands, thanks to Heath LMO tuning. 500 kHz coverage per band switch position. Write for complete specifications plus schematic.

Kit SB-401, 36 lbs. . . no money down, \$27 mo. \$285.00

SBA-401-1 Crystal Pack, 1 lb. . . no money down, \$5 mo. \$29.95

(Required for SB-401 operation without the SB-301 or SB-300 Receiver)

HDP-21A SSB "Ham" Microphone, 4 lbs., no money dn., \$5 mo. \$29.40



SB-401
\$285⁰⁰

HEATH COMPANY

Benton Harbor, Michigan 49022

THIRD CLASS

Postmaster: If undeliverable
DO NOT RETURN

Job Opportunities ELECTRICAL ENGINEERS, ELECTRONIC TECHNICIANS, MANUAL ILLUSTRATORS & WRITERS

Expansion and growth provides continual job openings. Graduate Electrical Engineers for design and development in all product lines. Solid-state circuit design a must.

Electronic Technicians with two years electronic school type background and/or experience for service testing and trouble shooting.

Manual Illustrators and Writers to prepare the kit assembly manuals.

You will receive a good salary and generous fringe benefits while working in our modern plant in the vacation area on the eastern shore of Lake Michigan. If interested write to: Jack Schoenberg, Director of Personnel, Heath Company, Benton Harbor, Michigan 49022

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 June 1, 1967. All prices and specifications subject to change without notice. Dealers and export prices slightly higher.

BULK RATE
U.S. POSTAGE
PAID
Hinsdale, Ill.
Permit No. 300

12603NLS06T1546BOX POU

T NELSON
BOX 1546
POUGHKEEPSIE NY 12603 4



NOW Swing To The Solid Sounds Of Stereo With This NEW Heathkit® 4-Speed Transistor Portable Phonograph . . . Builds In 4 Hours!

- Automatic or manual stereo and mono play of any size 16, 33 $\frac{1}{3}$, 45 & 78 rpm records • All solid-state circuit for cool, instant operation and long, trouble-free life • Ceramic cartridge with dual Diamond/Sapphire styli for LP's or 78's • Fold-up changer and easy-grip handle for portability • Volume, Stereo Balance and Tone controls • Twin 4" x 6" speakers and "in-depth" cabinet design for crisp, robust sound others can't match • Safe, "shockproof" operation • Plays on any 120 v. 60 cycle source • 45 rpm adaptor spindle • Preassembled, pressed wood cabinet covered in handsome avocado green and ivory polyethylene with red speaker grilles • Builds easily in just 3 to 4 hours

Go "Mod"! Go Stereo with the new pleasure-packin' Heathkit GD-107 . . . a solid-state 4-speed portable phonograph featuring big-set sound and modern, compact styling. And, like its little brother the GD-16 mono portable (pg. 4), the new GD-107 makes an ideal birthday, graduation or Christmas gift for a teenager. Also makes an ideal second system for the rec room, patio . . . any room in the house.

Runs Cool and Collected with an 8-transistor amplifier that delivers up to 1 $\frac{1}{2}$ watts per channel through two 4" x 6" speakers. There are 3 separate, front-panel controls . . . volume control, a tone control to accent the "high" or "low," and a balance control for equal sound levels. The automatic changer plays all sizes, all speeds—stereo or mono . . . handles a 6-stack of records. Even shuts itself off automatically. And the ceramic cartridge features a dual stylus . . . diamond for LP's, sapphire for 78's.

"Mod" Styling . . . Easy 3 or 4-Hour Kit Assembly. Housed in a sturdy preassembled, pressed wood cabinet covered with fashionable avocado green and ivory polyethylene. The speaker grilles are a brilliant sunfire red. Smart in any surroundings. Just one circuit board to wire, mount the speakers and plug in the preassembled changer . . . finish in one evening. And it's as easy to carry as a suitcase. Completely self-contained . . . all you add are records. Adaptor spindle included.

Kit GD-107, 29 lbs. . . (Express or motor frt.)
no money dn., \$5 mo. \$49.95

GD-107 SPECIFICATIONS—AMPLIFIER: Frequency response: ± 5 db from 100 Hz to 10 kHz. Phono equalization: RIAA (Record Industry Association of America). Music power output: 3 watts (1 $\frac{1}{2}$ watts per channel). * Controls: Volume, Tone, and Balance. Speakers: 2 PM, 4" x 6", 25 ohm voice coils. Transistor & diode complement: (4) 2N3393; (2) 2N2430; (2) 2N2431 (1) Silicon diode. CHANGER: Type: Maestro Model 52-93. Turntable speeds: 16, 33 $\frac{1}{3}$, 45 and 78 rpm. Record size: 12", 10" or 7". Cartridge type: Ceramic stereo cartridge. Stylus: .7 mil diamond for LP records, 3 mil sapphire for 78 rpm records. GENERAL: Power requirements: 105-125 volts, 60 Hz AC, 15 watts.

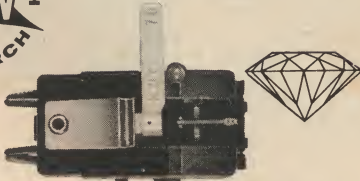
*Rated EIA (Electronic Industries Association) standards.



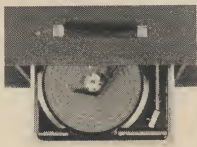
GD-107
\$49⁹⁵



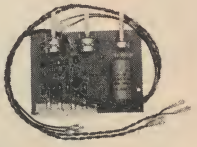
Take It Where The Gang Goes . . . compact size and shape, easy-grip handle and fold-up changer for suitcase portability. Simple to carry from room to room, or house to house. Use on any 120 v. 60 cycle source.



Stereo Ceramic Cartridge with long-life diamond stylus for LP's and sapphire stylus for 78's. Comes already installed in changer tone arm.



4-Speed Automatic Changer handles a six-stack of stereo or mono records of the same size. Separate record size and speed selectors. Automatic shut-off after last record.



Solid-State Circuit . . . Build In 4 Hours. 8-transistor stereo amplifier delivers up to 3 watts of music power . . . runs cool and collected. Only one circuit board to wire, mount the speakers and plug in the pre-assembled changer . . . finish in 3 to 4 hours. Controls for volume, balance and tone.

NAME

ADDRESS

CITY & STATE ZIP

PLACE
STAMP
HERE

HEATH COMPANY
BENTON HARBOR,
MICHIGAN 49022

Heathkit Catalogs for your friends . . .

Everyone interested in electronics will want the new Heathkit 1967 Catalog . . . it's the world's biggest kit catalog!

We'll be happy to send your friends their own personal catalogs.

Name _____

Address _____

City _____ State _____ Zip _____

Name _____

Address _____

City _____ State _____ Zip _____

Name _____

Address _____

City _____ State _____ Zip _____

Name _____

Address _____

City _____ State _____ Zip _____