

Heathkit Amateur Radio Products

A Brief History





Heathkit's Origins

- Edward Heath founded the Heath Airline Company 1910 in Chicago
- Started making them available as kits to lower cost
- Heath was killed in 1931 in a test flight
- Company taken over and renamed International Aircraft Corporation
- Moved to Niles, MI
- Went bankrupt in 1934
- Remnants of Heath Aircraft Company purchased in 1935 by Howard Anthony for \$300 (\$5700 today) at age 23
- Changed name back to Heath Aircraft Company
- Sold airplane kits, parts. Gov't contracts (Civilian Pilot Training Program)
- Company did fairly well, Anthony became wealthy investing in oil and forming Anthony Oil Company



Heathkit is Born

- 120 employees in 1945
- Post WWII, gov't contracts ended. Went down to 8 employees
- Started buying war surplus materials - mostly radios, electronics, components
- July 1947 - 5 inch oscilloscope kit offered for \$39.50 (based on article in Radio News)
- VTVM, Signal Generator followed
- Name "Heathkits" began



Heathkit Early Amateur Radio Era

- Post WWII, Heath sold surplus military radios - easily converted for ham use
- 1948 - first ham transmitter developed, advertised, never sold.
- Back to surplus conversions
- 1949 - war surplus becoming scarce
- 1949 - AR-1 General Coverage receiver
- 1951 - Novice Class license introduced
- 1953 - AT-1 Transmitter, AR-2 Receiver released
- 1954 - Howard Anthony dies in plane crash
- 1954 - Heathkit sold to Daystrom
- 1955-1957 - New kit every month
- DX-20, 35, 40
- Accessories
- Expansion - added square footage, capacity
- Engineers needed no approvals to prototype a kit
- Often worked at home after hours
- Lots of reverse engineering



A Sampling of their Amateur Radio Line

Not all inclusive

AT-1 and AR-2



DX-100 Transmitter

- Based on E.F. Johnson Viking II
- 1955
- 100 LBS and \$190



TX-1 and RX-1

- Introduced in 1958
- AKA - Apache and Mohawk
- First two-toned green rigs
- TX-1 was \$229.50, RX-1 was \$274.95



Mobile? - Cheyenne and Commanche

- MR-1 RCVR (\$119.95) and MT-1 (\$99.95) XMTR 1959-1961 (No SSB)
- Replaced by HR-20 (\$134.50) and HX-20 in 1962 (\$199.95) (w/ SSB)



Benton Harbor Lunchboxes

- “Tenner” HW-19, “Sixer” HW-29, “Twoer” HW-30 released 1960
- AM, 3 watts, XTAL controlled, with a Regen rcvr
- \$39- \$45
- Sold until 1971





1958 - Collins KWM-1 and S-Line

- KWM-1 - A Transceiver in 1957 for \$870, with SSB
- 32S-1 XMTR and 75S-1 RCVR late 1958 - \$1185 for both (\$10,600 in 2021)
- SSB Featured
- Modern Design



Heathkit Reacts

- Heathkit began work on SB series in 1960
- Used Some Printed Circuit Boards
- VFO and crystal filters subcontracted and preassembled
- SB-300 RCVR Introduced October 1963 - \$265
- SB-400 XMTR Released June 1964 - \$325
- SB-200 Linear Amplifier Released August 1964

Daystrom purchased by Schlumberger 1962.

SB-300/400 Series

- Came out in 1963
- SB-300 RCVR \$264.95, SB-400 XMTR \$325 (w/o supply)
- PCBs and point-to-point
- 1966 - SB-301 (\$260) and SB-401(\$285)
- SB-303 RCVR in 1970 (\$345) - All Solid State



Transceiver Era

- SB-100 Introduced 1965 for \$360 (w/o Power Supply). All tube design
- Patterned after Collins KWM-2
- No AM Capability
- SB-101 in 1967 for \$380 - (CW Filter Option, and External VFO option)
- SB-102 in 1970 for \$380 - (Solid State VFO, Rcvr Sensitivity improvements, Transverter option)
- SB-110 - 6 Meters



HW-100/101 Series

- Lower Cost than SB Series
- HW-100 Introduced 1968 for \$240 (w/o power supply)
- Nearly identical to SB-100, with lower cost VFO
- No CW Filter
- HW-101 in 1970 for \$275
- Improved sensitivity, better main tuning dial, CW filter option
- Made until 1983
- First XARC HF Transceiver
- Estimated that 35,000 units were sold (six a day for 17 years)



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Novice Rigs - 1960s - 70s

- 1961 - HR-10 RCVR \$82.95
- 1960 - DX-60 XMTR \$82.95 XTAL Controlled AM/CW
- 1967 -1975 HR-10B \$75
- 1965 - DX-60A, 1967 DX-60B (\$79.95)
- 1967 - 1976 HW-16 XCVR \$99.50 (80/40/15M) XMTR XTAL Controlled



General Coverage

- Many, many models
- From \$19.95 - \$320
- EK2, GC-1 “Mohican”, GR-54, GR-64, GR-78, GR-81, GR-91, SW-717, SB-313, SW-7800
- First kits for many hams



QRP

- 1972 HW-7 XCVR
- \$79.95
- 40, 20, 15 Meters
- 3, 2.5, 2 watts
- 1976 HW-8 at \$129.95 - Much improved
- 1985 - HW-9 at \$249.95



2 Meter FM

- 1973 - HW-202 \$179.95
- XTAL Controlled
- Very popular - had trouble keeping up with orders
- HW-2021 2 Meter Handheld \$169.95
- Hard to build, number of design problems
- 20 Service bulletins by 1976, many rolling fixes in production
- Nov. 1975 - HW-2026 Synthesized \$289.95
- VF-2031 HT 1978 \$189.95
- VF-7401 1980 \$339.95
- Poor sales - competition



Amplifiers

- 1959 KL-1 Chippewa \$415.00 Linear - Big, Heavy, Expensive
- 1961 HA-10 Warrior \$229.95 Linear
- 1964 SB-200 \$200 1200 Watts Input PEP
- 1978 SB-201 \$429.95
- 20 Year run - more sold than any other amplifier
- 1970 - SB-220 \$359.95 2KW Input PEP
- 1978 - SB-221 \$579.95
- 1974 -SB-230 1200 Watts PEP Input - SB-104 line
- 1987 - SB-1000 \$739.95 - Repackaged Ameritron AL-80A



Accessories

- Test Equipment
- SWR, Wattmeters
- Keyers
- Clocks
- VFOs
- MFJ of it's day
- Too many to cover
- #1 All time seller - Heathkit Antenna Dummy Load
 - HN-31 1962-1983 \$9.95
 - HN-31A 1983-1991 \$24.95
 - Created internally as they needed a dummy load
 - "Might be a good idea for a kit"
 - Management thought it was silly
 - For 30 years, they sold an average of 18 a day, seven days a week. Over 200,000





SB-104 - Move to Solid State

- 1970 - Work on SB-103 started. Solid state w/ tube finals
- December - Full page ad in QST for Yaesu FT-101 Transceiver (fully assembled \$500)
- Internal disagreements at Heathkit about SB-103. Solid-state version of SB-102 (w/tube finals). Many engineers quit.
- Collins bought by Rockwell. Several engineers joined Heathkit.
- SB-103 scrapped. SB-104 project started.
- State-of-the-art. Broadband tuning. Solid-state finals. Digital readout.
- LOTS of parts! Increased chances of error.
- Also lots of employee turnover at the time
- 275 solid-state devices, 31 ICs. Part tolerances an issue.
- Launched too early (XMAS 1974 for \$699.95). Fixes on the fly.
- Lots problems. SB-104A released in 1977.



HW-104, HW-104A

- 1975-1977 \$539.95, \$489.95
- Cheaper version of SB-104, w/o digital display
- Less birdies



HR-1680, HX-1681

- 1976 HR-1680 RCVR \$199.95 - replacing HR-10B
- Fully solid state
- Built-in power supply
- Planned and advertised, HX-1675 never released
- 1979 - HX-1681 finally released for \$239.95
- CW Only, 100 Watts, no WARC Bands
- Discontinued 1982



SS-8000 / SS-9000



- Early 1970s - WARC Conference Scheduled for 1979
- 1974 - New Ham bands discussed, FCC Supports 3 new bands near 10, 18, 24 MHz
- 1977 - SS-8000 Project Starts. Does not include possible new bands
- 1977 - Yaesu FT-901D has provisions for new bands
- 1979 - New bands formalized, Heath marketing demands SS-8000 include WARC Bands
- January 1980 - working on redesign, Teaser ad for SS-8000 in catalog
- Later 1980 - Heath decides SS-8000 too complicated as a kit
- Sept 1982 - SS-9000 in Xmas catalog \$3000 fully assembled (nearly \$8000 in 2021)
- Computer control
- Sales estimated somewhere between 350 and 2000
- Discontinued in 1985



HW-5400

- Originally planned as kit version of Kenwood TS-120S
- Negotiations failed, idea shelved
- 1983 - HW-5400 \$750 (w/o speaker / powersupply) Somewhat based on TS-120
- Enormously complex, challenging for experienced builder - 100 hours+
- Price kept dropping, cleared out at \$550 in 1986
- Fully assembled Icom IC-730 for same price



SB-1400

- 1987 - 1991 Last Attempt, \$739.95
- Rebranded Yaesu FT-747GX
- Fully Assembled





Demise of Heathkit

- Solid state, smaller components
- Ownership changes
 - Schlumberger forced to sell Heathkit after buying Fairchild Semiconductor
 - 1979 Bought by Zenith
- Complexity of modern designs
- Foreign competition
 - Loss of labor savings advantage
 - Fully assembled full featured rigs for same price
- Computers
- Focus changes to home automation and educational products
- 1989 - Zenith Data Systems sold to French Company, Groupe Bull
- Decides kit business was unsustainable
- 1992 - Last catalog



2014 - Heathkit Reborn?

- Heathkit brand purchased, maybe some leftover assets
- Heathkit is Back fanfare, merch
- A handful of products developed, clock, table radio
- Old manuals, equipment service offered
- Website rarely updated, news, updates, sporadic
- Several years ago (2016??) , HM-1002 Precision RF Power Meter announced
- \$575 - Pre-orders taken. Claim they had a 62 page patent filing
- Website still has it for pre-order, though note below says pre-orders closed and that it has entered manufacturing phase. Pre-orders will be filled first.
- This has been the status for several years now



Credits

- WA7ZZE Chuck Penson's book, "Heathkit - A Guide to Amateur Radio Products"
 - A hefty and highly detailed book including info of all of Heathkits amateur radio products
 - <https://wa7zze.com>
- My Heathkits
 - JK-18 Electronic Workshop 35 (lost)
 - GR-64 Shortwave Receiver (Sold mid-70s)
 - HD-16 Code Practice Oscillator (Have)
 - HM-15 SWR Bridge (Sold)
 - DX-60B Transmitter (Sold)
 - HG-10 VFO (Sold)
 - HD-10 Electronic Keyers (Sold)
 - HW-101 Transceiver and Power Supply (Sold)
 - HM-102 Wattmeter (Have)
 - GC-1005 Digital Clock (Have)
 - HDP-21A Desk Mic (Have)