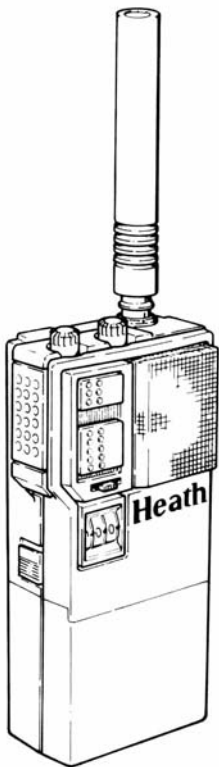


*Owner's Manual  
for the*



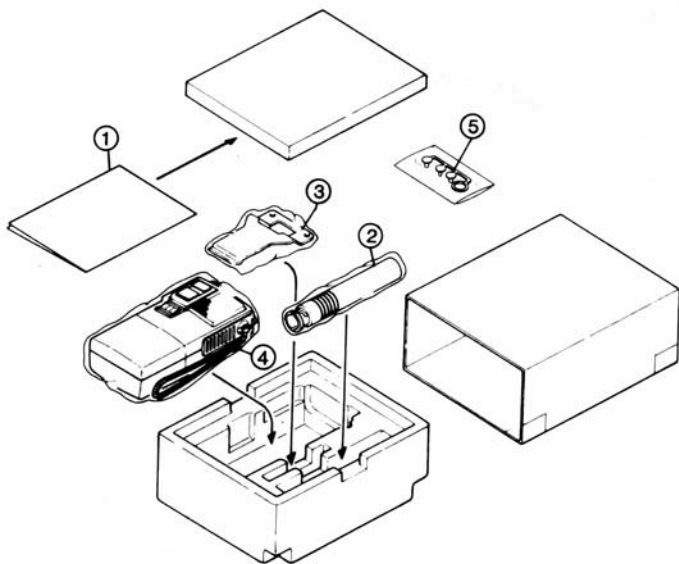
*VHF FM Hand-held  
Transceiver  
Model HW 2*

595-3987



© 1987  
Heath Company  
Benton Harbor, MI 49022

Check that the following are included in the transceiver package:



1. Owner's Manual and Warranty Card
2. Whip Antenna
3. Belt Clip
4. Handstrap (attached to transceiver)
5. Dust/Water Cap Assembly

## **INTRODUCTION**

The Heath HW 2 is a sturdy, compact hand-held VHF FM Transceiver with a frequency range of from 144.00 to 147.995 MHz in 5 kHz steps. It has two power ranges (.4 W and up to 3.0 W) and switchable transmitter repeater offsets of +/- 600kHz.

### **Optional Accessories:**

**HWA 110** Rechargeable Ni-Cad Battery Pack.

**HWA 125** Rechargeable Long Life Ni-Cad Battery Pack.

**HWA 130** Plug-in Battery Charger. For HWA 110 and HWA 125 Battery Packs. Plugs directly into wall outlet.

**HWA 140** Desk to Quick Charger. Quickly charges HWA 110 and HWA 125 Battery Packs.

**HWA 150** Mobile Battery Charger. For use with HWA 110 and HWA 125 Battery Packs. Plug into cigarette lighter.

**HWA 160** Mobile Adapter/Charger. Plugs into cigarette lighter. Use as battery replacement or to charge and use HWA 110 or HWA 125. Use with HWA 230 is not recommended.

**HWA 170** Mobile bracket. For mounting on car or truck door at the window ledge.

**HWA 180** Hand-held speaker/mike with PTT button.

**HWA 190** Headset earphone/mike with separate PTT button.

**HWA 220** Tone Squelch Unit. Mounts inside the transceiver. One of 37 squelch tones selectable.

**HWA 230** DTMF Keypad. Generates DTMF tones for auto patches.

**HWA 240** Transceiver Soft Carrying Case. Not for use with HWA 125, HWA 160 or HWA 230.

# **SPECIFICATIONS**

## **General**

Frequency range .....	144.000 to 147.995 Mhz
Emission type .....	FM F3
Microphone input impedance .....	600 $\Omega$
Speaker impedance .....	8 $\Omega$
Operating voltage range .....	5.5 to 11 V
Battery type .....	(6) AA (Ni-cad or copper-zinc)
Antenna impedance .....	50 $\Omega$
Dimensions .....	5-1/4 "x 2-3/8" x 1-3/8" (HxWxD)(132 x 60 x 34 mm)
Weight (including battery and antenna) .....	14.1 oz (400 g)
Storage Temp. ....	-10°F to 140°F
Operating Temp. ....	14°F to 130°F
Relative Battery Life (EIA standard test cycle)	
With HWA 110 .....	5 Hrs
With HWA 125 .....	10 Hrs

## **Transmitter**

RF power output Hi .....	2.0 W; over 3.0 W with HWA 110 fully charged
RF power output Lo .....	0.4 W
Spurious attenuation .....	More than 60 dB
Max. Freq. Deviation .....	+/-5kHz
Modulation method .....	Reactance

Audio Frequency Response .....	300-3000 Hz
Current consumption (Transmitting)	
Hi .....	approx. 700 mA
Lo .....	approx. 250 mA

## Receiver

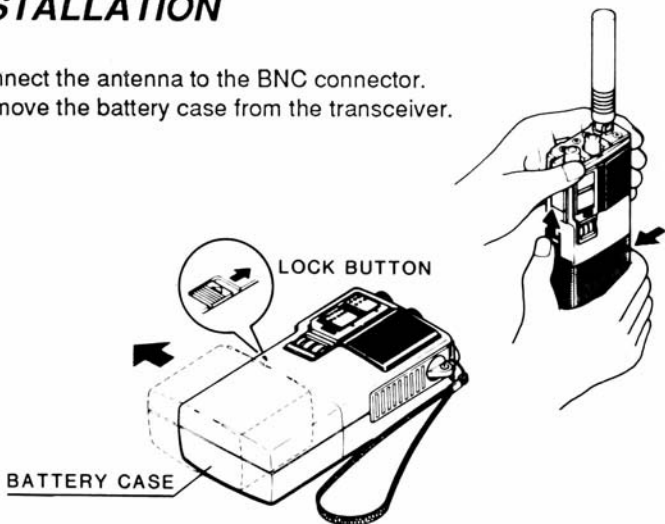
IF Frequencies .....	10.7 MHz and 455 kHz
Sensitivity .....	0.158 $\mu$ V for 12 dB SINAD
S/N .....	30 dB or more at 1 $\mu$ V input.
Pass band .....	+/-7kHz (-6dB)
Selectivity .....	-60 dB
Squelch sensitivity .....	-14 dB below sensitivity
AF output .....	0.4 W (8 $\Omega$ with 10% THD)
Quiescent power consumption .....	approx. 35 mA

## General Precautions

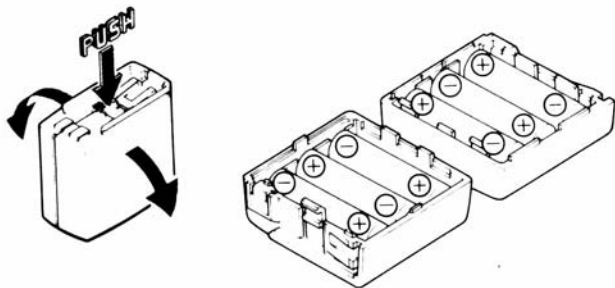
- When installing batteries, observe the polarity.
- Do not open the transceiver and do not attempt to adjust the coils or trimmers. They are adjusted to optimum settings.
- Avoid using the transceiver in hot, humid or dusty places.
- 12V power sources cannot be used. Only use 9V power sources.
- Do not mix battery types. Do not mix old batteries with new batteries.
- Do not dispose of batteries by burning since they may explode.

# INSTALLATION

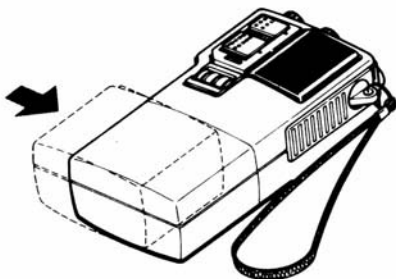
- Connect the antenna to the BNC connector.
- Remove the battery case from the transceiver.



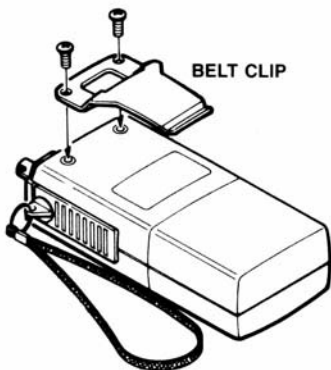
- Putting your thumb on the center of the lock button, push up and slide the battery case towards the lock and off the transceiver.
- Put 6 AA batteries in the battery case making sure the + and - polarity is correct for each battery. Close the case.



- Re-install the battery case by lining up the grooves on the battery case with the grooves on the transceiver and push the battery case onto the transceiver until you hear a click.

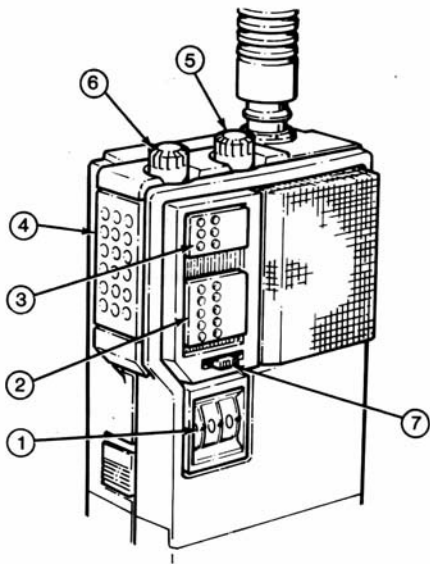


- Install the belt clip. **CAUTION:** Do not use any screws other than those supplied with the transceiver.



# OPERATIONS

Refer to the figure for the location of the following.



**1 – Thumb Wheel Switch** - Selector for transceiver frequency in 10Khz increments. Most significant digit is in MHz. Add 140 MHz to the Thumb wheel setting. A setting of 652 indicates a frequency of 146.520 MHz.

**2 – DIAL/+5k** - Setting the slide switch to +5Khz adds 5Khz to the thumb wheel frequency. In the DIAL position, the frequency is as indicated on the thumb wheel.



**3 – LOW/HIGH** - Selects transmitter power, LO - .4 W and High -2.0 W.

**4 – Push to Talk** - Pushing the PTT button starts transmission. Releasing enables the receiver.

**5 – OFF/VOL** - Combination power and receiver volume control.

**6 – SQL** - Squelch control. Clockwise direction increases the squelch level.

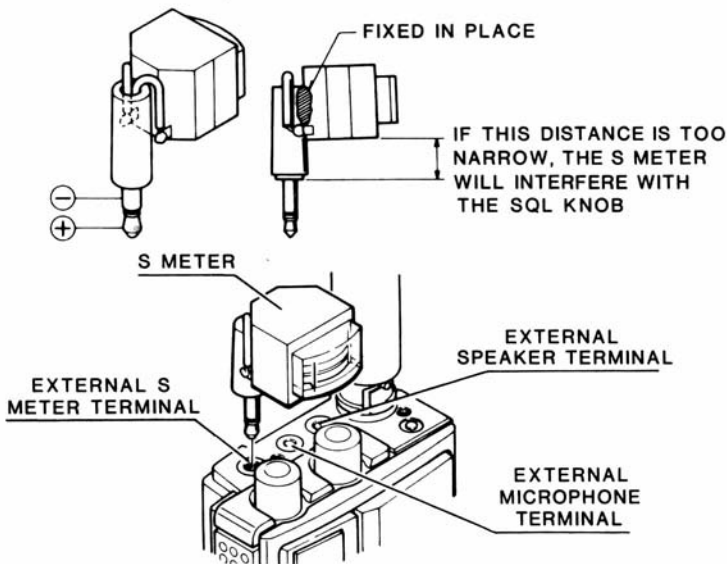
**7 – R1/S/R2** - Repeater offset switch. In the **S** position the transmitter and receiver frequencies are the same. In the **R1** position, the repeater offset (600 kHz) is subtracted from the thumb wheel (receive) frequency to obtain the transmit frequency. In the **R2** position, the repeater offset is added to the thumb wheel frequency to obtain the transmit frequency.

- Switch on the power and turn the volume knob to about mid-scale.
- Slowly turn the squelch knob clockwise until no white noise is heard from the internal speaker.
- To transmit, press the PTT (Push To Talk) button. Release to receive.

## Connections for External Options

**S METER Jack** • The transceiver's S METER jack is designed for an 800  $\Omega$  ammeter with full scale at approximately 200  $\mu$ A.

**External Speaker and External Microphone** • For use with the HWA 180 Speaker Mike or HWA 190 Headset.





Printed In Japan