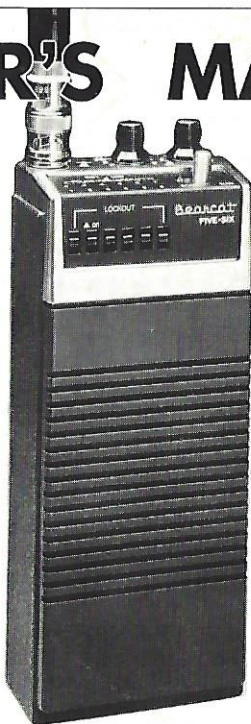


OWNER'S MANUAL



Bearcat[®] FIVE-SIX

5 BAND, 6 CHANNEL HAND-HELD SCANNER

Low Band : 33 MHz to 47 MHz (FM)
Aircraft Band : 118 MHz to 136 MHz (AM)
High Band : 152 MHz to 164 MHz (FM)
UHF Band : 450 MHz to 470 MHz (Track-Tuned) (FM)
UHF (T) Band : 470 MHz to 512 MHz (Track-Tuned) (FM)



Electra Company
Division of Masco Corp. of Indiana
300 East County Line Road
Cumberland, Indiana 46229

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A.C. Adaptor/Battery Charger is
UNDERWRITERS
LABORATORIES
LISTED

Certified in accordance with
 FCC Rules and Regulations
 Part 15.63 as of date of
 manufacture.

CAUTION

TO PREVENT FIRE OR SHOCK
 HAZARD, DO NOT EXPOSE THIS
 APPLIANCE TO RAIN
 OR MOISTURE.

For future reference, write the model number and serial number
 below. You will find them printed on the back of your unit.

Model No. BC FIVE-SIX Serial No. 2647

Purchased from: IRON HORSE HOBBIES Date 5-16-84

TECHNICAL SPECIFICATIONS*

Size:	2-7/8" W×6-3/4" H×1-11/16" D
Weight:	1 lb. 9 ozs.
Power Requirements:	6 Vdc (4 penlight batteries) 5 Vdc (4 Nickel Cadmium rechargeable batteries) 9 Vdc external power
Audio Output:	0.3 W Typical
Antenna:	Flexible rubber antenna and wire antenna (supplied)
Sensitivity:	0.6 uv for 20 dB quieting L/H, Typical 1.0 uv for 10 dB quieting Aircraft, Typical 2.0 uv for 20 dB quieting U/T, Typical
Channels:	Up to 6 crystal controlled channels may be scanned automatically or selected individually
Frequency Range:	Low Band: 33 MHz to 47 MHz (FM) Aircraft Band: 118 MHz to 136 MHz (AM) High Band: 152 MHz to 164 MHz (FM) UHF Band: 450 MHz to 470 MHz (Track-Tuned) (FM) UHF (T) Band: 470 MHz to 512 MHz (Track-Tuned) (FM)
Scan Rate:	Approximately 8 channels per second
Crystals:	Miniature plug-in type A-135 for easy user installation
Accessories Supplied:	Flexible "rubber ducky" antenna, convenient wire antenna, A.C. converter/ battery charger
Panel Features:	Squelch Control Volume On-Off Control Combined Automatic-Manual-Channel Select Switch LED Battery Low Indicator 6 Channel Lockout Switches 6 LED Channel Indicators BNC Antenna Connector External Antenna Jack Forward Facing 2" Speaker

*Specifications are typical and subject to change without notice.

GENERAL DESCRIPTION

The Bearcat® FIVE-SIX is a hand-held, five-band, FM/AM monitor receiver providing automatic scanning of six channels in the most active VHF Low (33-47 MHz), Aircraft (118-136 MHz), VHF High (152-164 MHz), and UHF and T (450-470 MHz and 470-512 MHz) Public Safety/Business Bands.

It features: Up to 6 plug-in crystals in any band combination may be used; automatic or manual scanning; each of six channels can be bypassed; solid state Light Emitting Diode channel indicators; quieting squelch control; front-mounted 2" speaker; external earphone jack; battery low LED indicator; external power/charger jack and operation from a single flexible antenna.

INSTRUCTIONS FOR INITIAL USE

Please read the following instructions carefully and completely before operating your scanner.

1. Carefully remove the unit from the carton and custom inner packing. (Save these materials for possible future use.) Check your scanner and accessories for shipping damage; if damage has occurred, contact your dealer immediately.
2. Insert flexible antenna provided into receptacle on top of unit and turn to lock (BNC) connector in place.

CRYSTAL INSTALLATION

NOTE: LEAVE POWER OFF WHILE INSTALLING CRYSTALS

An access door is provided on the back of the radio so that crystals can be inserted without removing the case. To remove the Crystal Compartment Cover, place a coin in the slot provided at the side of the cover and twist the coin carefully (See Fig. 2). Crystal socket location is shown on the inside of the cover.

Up to six crystals may be installed in any combination of Low, High, Air or U and T bands. Figure 1 shows the crystal socket layout. For U and T band crystals, use the left end, and the third from the left end crystal socket holes.

For High band crystals, use the second from the left end and third from the right end crystal socket holes. For Low band crystals, use the third from the left end and second from the right end crystal socket holes. For Air band crystals, use the right end and third from the right end crystal socket holes. Channel 1 is nearest the top of the radio. Carefully insert the crystals into the sockets.

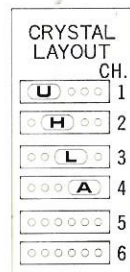


Figure 1.

NOTE: Do not install two crystals of the same frequency.

Rigid quality standards are applied to crystals furnished by Electra Company to assure full performance, therefore, our warranty does not include correcting poor operation caused by crystals from other sources.

The Low band alignment spread is 33 MHz to 47 MHz, the Aircraft band alignment spread is 118 MHz to 136 MHz, and the High band is 152 MHz to 164 MHz. New frequencies may be added within these spreads; if they are outside, performance may be reduced and extensive realignment may be required.

The U and T band alignment spread is 450 MHz to 512 MHz. New frequencies may be added within this spread.

Electra Type A-135 crystals should be used. If your dealer cannot supply the exact frequency you desire, you may order directly from Electra by writing to:

ELECTRA COMPANY
P.O. Box 29243
Cumberland, Indiana 46229
ATTN: Sales Department

Specify:

1. Model number and serial number of scanner
2. Exact frequency you wish to receive
3. Enclose check or money order of \$5.00 for each crystal.

CRYSTAL FORMULAS

Low band: $\text{Received frequency} + 10.80 \text{ MHz} = \text{crystal frequency}$
Example: $40.00 \text{ MHz} + 10.80 \text{ MHz} = 50.80000 \text{ MHz}$

Aircraft band: $\frac{\text{Received frequency} + 10.80 \text{ MHz}}{3} = \text{crystal frequency}$

Example: $\frac{127.05 + 10.80 \text{ MHz}}{3} = 45.950000 \text{ MHz}$

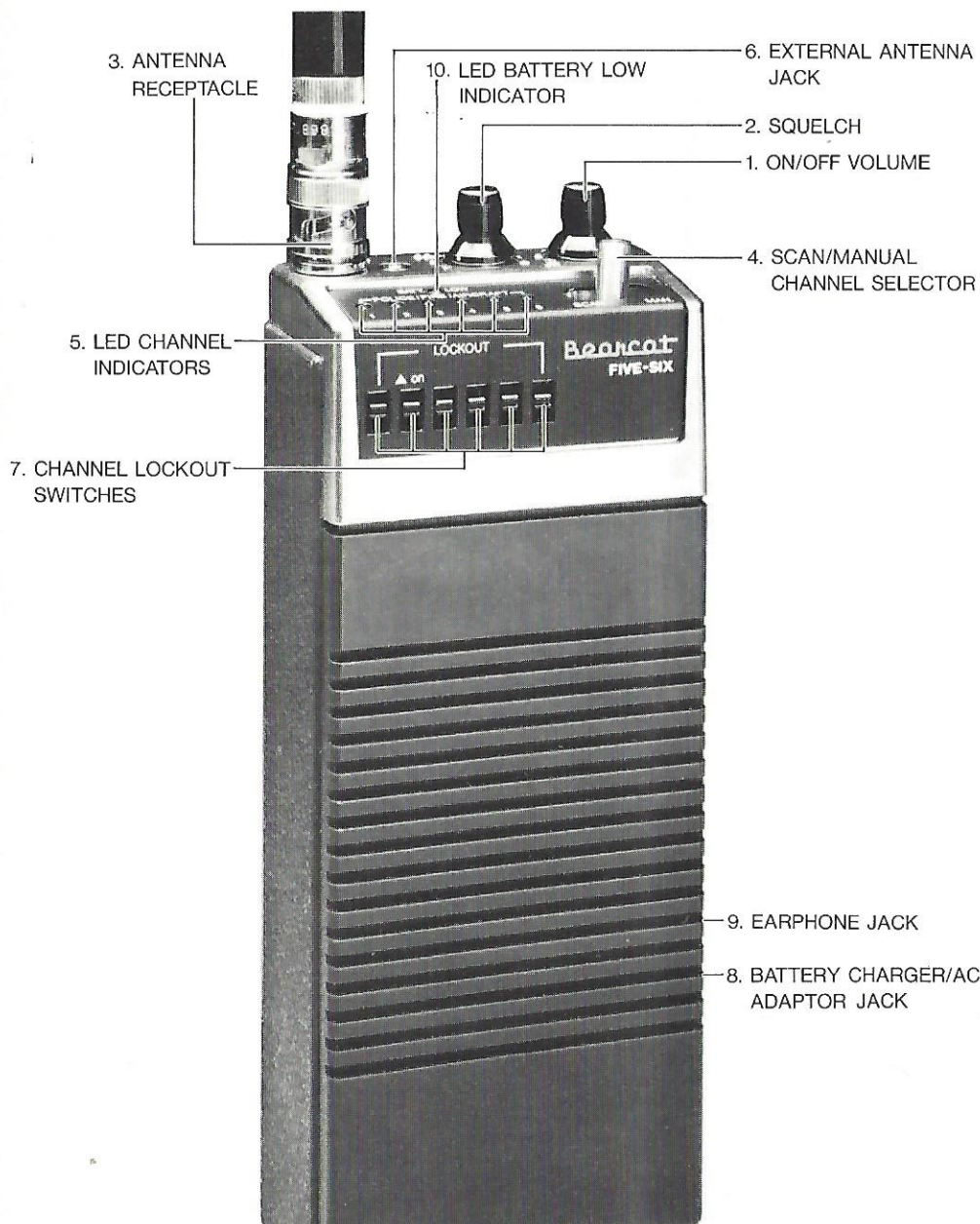
High band: $\frac{\text{Received frequency} - 10.80 \text{ MHz}}{3} = \text{crystal frequency}$

Example: $\frac{155.01 - 10.80 \text{ MHz}}{3} = 48.07000 \text{ MHz}$

U and T bands: $\frac{\text{Received frequency} - 10.80 \text{ MHz}}{9} = \text{crystal frequency}$

Example: $\frac{459.9 - 10.80 \text{ MHz}}{9} = 49.900000 \text{ MHz}$

DESCRIPTION OF FEATURES



1. ON/OFF VOLUME: Top mounted rotary control turns receiver ON and OFF, and adjusts VOLUME level.
2. SQUELCH: The radio should be squelched (muted) when a signal is not present. The squelch control sets the radio signal level that will cause the scanner to "unsquelch" and produce an audio output. Turn the control clockwise to receive more distant (weaker) signals.
3. ANTENNA RECEPTACLE: Connector (BNC) for custom flexible antenna.
4. SCAN/MANUAL CHANNEL SELECTOR: When in Scan position, automatically scans all channels not currently locked out and stops when a broadcast is received. When in Man. position, user may step from channel to channel one at a time.
5. LED CHANNEL INDICATORS: Sequence to show SCANNING cycle and stop on an active channel or when manually stepping through channels.
6. EXTERNAL ANTENNA JACK: For insertion of a wire antenna for weak low band reception. When using the wire antenna, the flexible antenna is automatically disconnected. (An external antenna cable may also be connected to the BNC connector.)
7. CHANNEL LOCKOUT SWITCHES: Push down switches to lock out channels not of current interest.
8. BATTERY CHARGER/AC ADAPTOR JACK: For use with the battery charger/AC adaptor included with your unit.
9. EARPHONE JACK: 3.5 mm jack for connection of earphone for private listening (disconnects main speaker when earphone is in use).
10. LED BATTERY LOW INDICATOR: Illuminates when batteries are low. Recharge batteries or replace. Continued use of radio will cause LED indicator not to light at all. (See Page 8 for further instructions.)

BATTERY INSTALLATION

CAUTION: Improper installation of the batteries may cause damage to the batteries, the charger, or scanner, and possible injury from burn or explosion.

To remove the battery compartment cover, press down and outward and slide the cover in the direction of the cabinet bottom. Remove battery holder by pulling up on cloth tab.

Insert batteries in the battery holder carefully observing the + and - signs indicated. (If batteries are incorrectly inserted, the radio will not operate and rechargeable batteries may be damaged.)

For installation, see Figure 2. Replace the battery holder with the contact pins touching the two contacts in the scanner.

Reinstall the battery compartment cover.

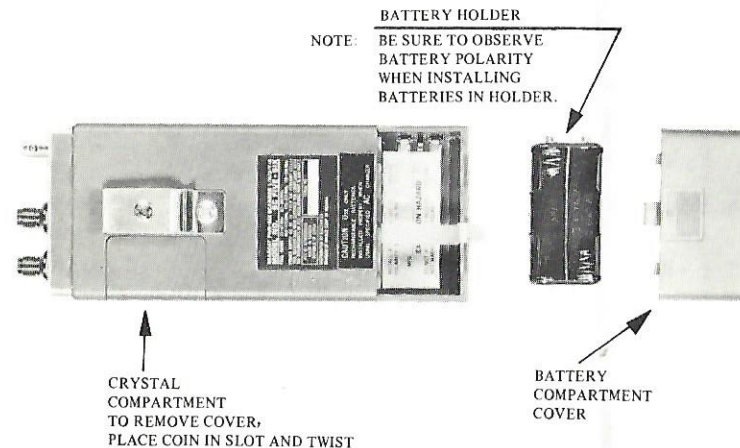


Figure 2.

OPERATING INSTRUCTIONS

1. With batteries, crystals and an antenna properly installed, turn the receiver ON by rotating the "VOLUME" control clockwise.
2. Place the six channel lockout switches in the up (ON) position.
3. Set the "SCAN-MAN.-CH.-SEL." switch to center position.
4. Adjust the "SQUELCH" control clockwise until the rushing noise is heard. Then adjust the "SQUELCH" control counterclockwise until the radio is quiet.
5. Press the "SCAN-MAN.-CH.-SEL." switch toward "MAN.", and continue to step through all channels. If the noise should "break the squelch" on any channel, adjust the squelch control counterclockwise again slightly to quiet the receiver. **THIS MUST BE DONE BETWEEN STATION TRANSMISSIONS.**
6. The "SCAN-MAN.-CH.-SEL." switch may now be used to select and monitor any desired channel.
7. To scan all channels automatically, return the "SCAN-MAN.-CH.-SEL." switch to "SCAN". Any channel may be omitted as desired by moving the individual channel switch downward (LOCK-OUT).

BATTERY RECHARGING

CAUTION: Use only the AC adaptor/charger provided with your Bearcat FIVE-SIX so as to avoid the possibility of improper charging, damage to the batteries, the charger, or the scanner, or an injury from burn or explosion.

Your Bearcat FIVE-SIX can be powered by four (4) "AA" Ni-Cad rechargeable batteries rated at 1.2 Vdc each for a total of 4.8 Vdc. When fully charged, these batteries will power the scanner for about 8 hours of normal usage.

WARNING: DO NOT ATTEMPT TO USE ANY OTHER THAN NI-CAD TYPE BATTERIES WHEN USING AC ADAPTOR/CHARGER.

This charger provides an output of 9 Vdc at 200 ma when connected to a 120 Vac outlet for recharging of the batteries in the radio. When recharging batteries from the AC adaptor/charger with the scanner ON, very little battery recharging is being done. When the scanner is OFF, batteries need 14 to 16 hours for full recharge. Battery suppliers specify that Ni-Cad batteries may be recharged up to 1000 times or more under normal conditions. Actual battery life depends on scanner activity, how many stations are active, how high volume is set, length of broadcasts, etc. Battery age and temperature are also factors.

SERVICE

If your scanner does not seem to be functioning properly:

1. Refer to operating instructions to confirm that the proper procedure for operation has been followed.
2. Be sure the batteries are charged.
3. Is it turned ON?
4. Check that the flexible antenna is properly installed.
5. If it is determined that the receiver requires servicing, refer to the list of authorized service centers enclosed with your unit for the proper repair facility.
6. When preparing the receiver for shipment, remove the flexible antenna, and the batteries, and return these with the AC adaptor and the crystals installed.
7. Pack the unit in its original packing carton, and include a brief, concise description of the observed problem you are having along with your name, address, phone number, and a copy of your purchase receipt.

LIMITED WARRANTY

This Bearcat[®] receiver is warranted to the original consumer purchaser to be free from defects in material and workmanship for a period of one (1) year from the date of purchase as shown on purchaser's receipt.

Electra will repair or replace, AT ITS OPTION AND FREE OF CHARGE, during the warranty period, any part which proves defective in material or workmanship under normal installation, use, and service, provided the receiver is returned to our factory (address below) or to one of our authorized Service Centers (list enclosed), TRANSPORTATION CHARGES PREPAID. Receivers returned to our factory or authorized Service Center must be accompanied by a copy of purchase receipt. In the absence of such purchase receipt, the warranty period shall be one (1) year from the date of manufacture as indicated by the serial number on your unit.

Any damage to this receiver as a result of misuse, abuse, neglect, accident, improper installation, destruction or alteration of the serial number, repair or alteration outside our factory or Service Center, or any use violative of instructions furnished by us WILL VOID THE WARRANTY.

THIS WARRANTY IS LIMITED TO DEFECTIVE PARTS REPAIR AND/OR REPLACEMENT ONLY AND EXCLUDES ANY INCIDENTAL AND CONSEQUENTIAL DAMAGES CONNECTED THEREWITH.

Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you.

This warranty gives you specific legal rights, and you may also have other rights which vary from state to state. In the event of a problem with warranty service or performance, you may be able to go to a small claims court, a state court, or a federal district court.

The logo for Electra, featuring the word "Electra" in a stylized, bold, sans-serif font. The letters are black and set against a white background within a rectangular border. The 'E' and 'l' are particularly prominent.

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