LIMITED WARRANTY

This receiver is warranteed to be free from defects in material and workmanship. We agree to remedy such defect or to furnish a new part in exchange for any part which, under normal installation, use and service, discloses such defect, provided the receiver is delivered to us, intact, for our examination, with all transportation charges prepaid to our factory, within one year from the date of sale to the original purchaser, and provided such examination discloses, in our judgement, that it is thus defective.

This warranty does not apply if the receiver has been subject to misuse, neglect, accidents, incorrect wiring not our own; improper installation, destruction of serial number, or to use in violation of instructions furnished by us, nor to receivers that have been repaired or altered outside our factory.

This warranty excludes all oral or other implied warranties, and the manufacturer shall in no event be liable for damages for a breach of warranty in any amount exceeding the purchase price of the alleged defective equipment.

TO PLACE WARRANTY IN FORCE FILL OUT AND RETURN WARRANTY CARD WITHIN TEN (10) DAYS OF PURCHASE.

ELECTRA COMPANY
P.O. Box 29243 • 300 S. on E. County Line Road
Cumberland, Indiana 46229

OWNERS MANUAL

Bearcat ALERT™ WARNING RADIO

National Weather Service switches radio on automatically to signal severe weather or disaster alerts. Receives weather reports at a touch.

Electra COMPANY

DIVISION OF MASCO CORPORATION OF INDIANA
CUMBERLAND, INDIANA 46229

INDEX

UL® 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.

GENERAL INFORMATION

NOAA VHF RADIO WEATHER

NOAA VHF Radio Weather is a new and expanding service from the National Weather Service of NOAA, the National Oceanic and Atmospheric Administration of the U.S. Department of Commerce. Part of the Nationwide Natural Disaster Warning (NADWARN) system, these VHF-FM continuous weather transmissions are designed to speed warnings of environmental hazards to people in threatened areas.

NOAA VHF Radio Weather transmissions are broadcast at frequencies of 162.55 MHz, 162.475 MHz, and 162.40 MHz from National Weather Service offices across the Nation, 24 hours a day. The taped messages are repeated every four to six minutes, and routinely revised every two to three hours, and amended as needed to match the changing weather.

Special information is provided for the general public, motorists, campers, sportsmen, boaters, and others who need a detailed weather picture. But the emphasis is on public safety. When dangerous weather threatens, routine transmissions are interrupted and an emergency warning is broadcast.

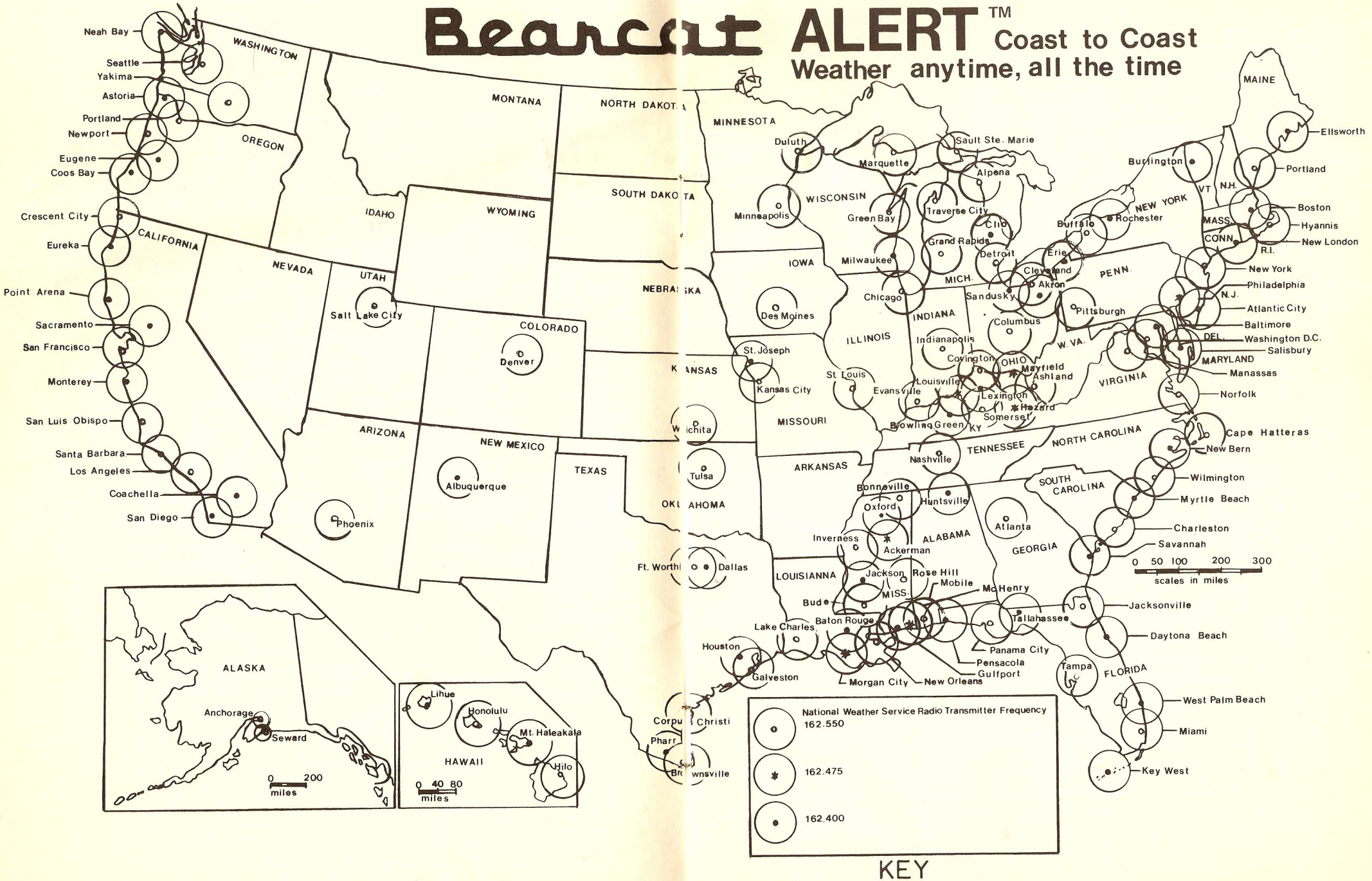
As an added refinement, National Weather Service forecasters can turn on specially designed radio receivers by means of a tone signal. This signal is transmitted at 1050Hz for three to five seconds before announcements of hazardous weather conditions. The tone signal alerts schools, hospitals, churches, and other places of assembly, public utilities units, emergency forces, and news media to be ready for critically important weather messages.

For listeners in a tornado belt, a hurricane-prone costal area, river flood plain, a city in the path of continental winter storms, this continuous weather information is making life-and-death differences.

(Reprint from Department of Commerce Publication)

Bearcat ALERT™ Coast to Coast

Weather anytime, all the time



GENERAL DESCRIPTION

The Bearcat Alert receiver is a three channel, single crystal controlled monitor capable of receiving the three weather frequencies (162.55, 162.475, and 162.40MHz) offered by the National Oceanic and Atmospheric Administration (NOAA). It's features include: 1050 Hertz bandpass filter, flashing Alert lights, light emitting diode (L.E.D.) Alert indicator, A.C. or D.C. operation, 3 position – Test/Off/Alert Switch, 2 position Push Bar Switch, front mounted speaker, high impact styrene molded cabinet, and operation from a single telescoping or outside antenna.

The most advanced developments in solid state circuitry are incorporated in this receiver. Low noise bipolar RF and mixer transistors provide RF gain into a high gain – low noise dual conversion IF system. Linear integrated circuits provide IF gain, detection, audio amplification and output. A high gain quad amplifier provides for a 1050 Hertz bandpass filter – amplifier, a one shot multivibrator to operate the squelch system and a free running multivibrator to pulse the alert lights.

The outstanding feature of this radio is the flashing alerts that are triggered by the 1050Hz tone transmitted by the NOAA weather station at the beginning of an emergency broadcast. Unlike most weather monitors, your Bearcat Alert features a visual indication that an alert has been sounded. This can be very beneficial, especially if you stepped out of the room and had missed the original broadcast. By seeing the flashing alert lights, you will immediately know that an alert has been sounded and this could mean a life or death difference.

Another extremely significant feature is the automatic switching to battery operation in the event of a power failure. You can take the radio with you to a place of safety and never miss the continuing broadcasts.

SPECIFICATIONS

Size: Approximately 6 5/8x3 7/8x6
Weight: 1¾ lbs
Cabinet: High Impact Styrene
Power Requirements: 117V, AC, 6W; 4 "C" cells
Antenna: Telescoping antenna (supplied) Connector provided for outside antenna
Input Impedance: 50-70 ohms
Sensitivity: .6 microvolt for 20 db signal-to-noise ratio
Frequency Range: 162.55MHz, 162.475MHz, or 162.40MHz determined by frequency probe
Crystal: One A-101 non-user type – Operates at 16.1945MHz for 162.40 MHz reception, @ 16.2020MHz for 162.475MHz reception, or @ 16.2095MHz for 162.55MHz reception.
Front Panel Features: Push bar radio On-Off-Reset Control / Flashing ALERT Lights / Light Emitting Diode Alert Indicator / 3 position – Test-Off-Alert Switch / Modern Slide Volume Control / 2½" forward facing speaker.

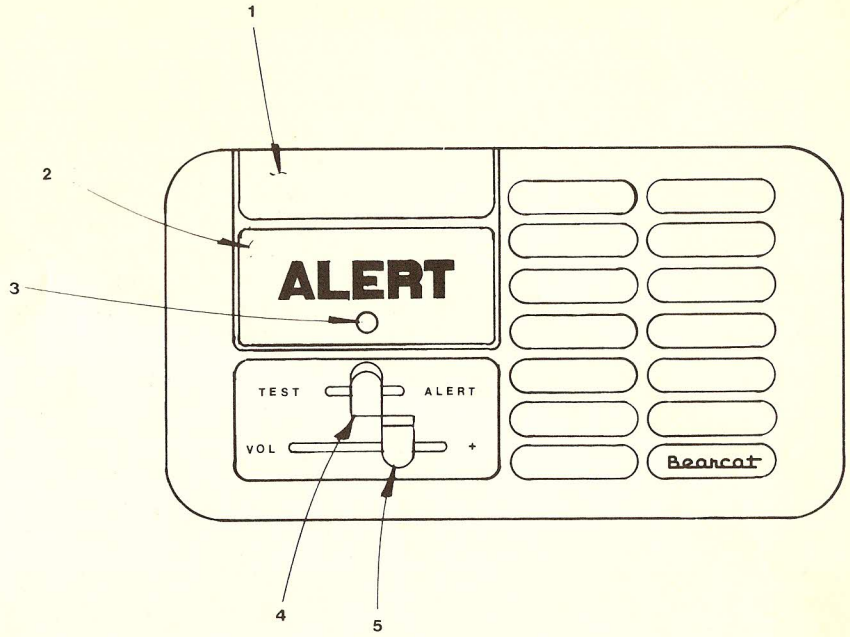


Figure 1

OPERATING CONTROLS

Figure 1

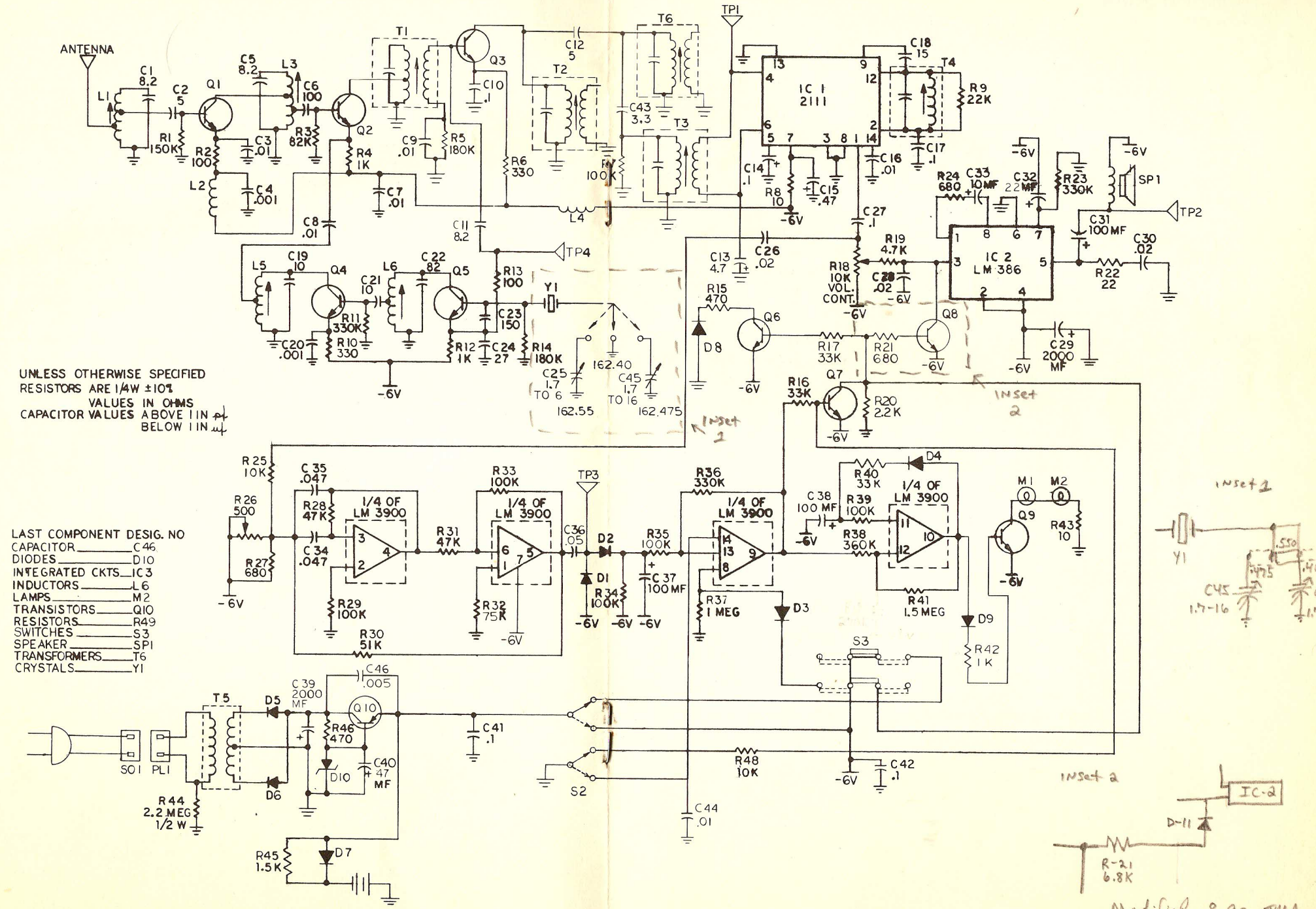
1. **Push Bar Switch:** A two position switch which turns power on and off or resets the tone alert system.
2. **Alert Lights:** Flashing lights that are triggered by the NOAA Weather Station at the beginning of an emergency broadcast.
3. **Ready Light Alert Indicator:** Indicates monitor is in Alert condition.
4. **3 Position Switch:** Places monitor into Test, Off, or Alert.
5. **Volume Control:** Varies audio output level.

OPERATING INSTRUCTIONS

The purpose of this section is to allow you to start receiving with your new weather monitor as soon as possible. Read and carefully follow these instructions.

1. Unpack the unit from the carton. Check your Bearcat Alert for shipping damage. If damage has occurred, contact your dealer immediately.
2. Locate telescoping antenna at rear of cabinet and rotate to the upright position and extend.
3. Plug radio into power line (105 to 135 VAC, 50 to 60 Hz only).

SCHEMATIC


ANTENNA
L1
C1 8.2
C2 5
Q1
C5 8.2
L3
C6 100
Q2
R1 150K
R2 100
C3 .01
R3 82K
R4 1K
L2
C4 .001
C7 .01
C8 .01
T1
Q3
C10 .1
C9 .01
R5 180K
C12 5
T2
R6 330
C11 8.2
TP4
T6
C43 3.3
T3
R7 100K
TP1
IC 1 2111
C18 15
T4
R9 22K
C17 .1
C16 .01
C14 .1
R8 10
C15 .47
C27 .1
C13 4.7
C26 .02
-6V
R24 680
C33 10MF
C32 22MF
R23 330K
SP1
TP2
C31 100MF
C30 .02
R22 22
IC 2 LM 386
L5
C19 10
Q4
C21 10
L6
C22 82
Q5
R13 100
Y1
C23 150
R11 330K
R10 330
C20 .001
R12 1K
C24 27
R14 180K
C25 1.7 TO 6
C45 1.7 TO 16
162.40
162.55
162.475
R15 470
D8
Q6
R18 10K VOL. CONT.
R19 4.7K
C28 .02
R17 33K
R21 680
Q8
C29 2000 MF
INSet 1
INSet 2
R16 33K
Q7
R20 2.2K
R25 10K
R26 500
R27 680
C35 .047
C34 .047
R28 47K
R29 100K
R30 51K
1/4 OF LM 3900
R31 47K
R33 100K
R32 75K
TP3
C36 .05
D2
D1
R34 100K
R35 100K
C37 100MF
R36 330K
R37 1 MEG
D3
D4
R40 33K
C38 100 MF
R39 100K
R38 360K
R41 1.5 MEG
M1
M2
Q9
R43 10
D9
R42 1K
S3
S2
R48 10K
C42 .1
C44 .01
C41 .1
C46 .005
C39 2000 MF
Q10
R46 470
C40 47 MF
D10
D5
D6
T5
S01
PL1
R44 2.2 MEG 1/2 W
R45 1.5K
D7
UNLESS OTHERWISE SPECIFIED
RESISTORS ARE 1/4W ±10%
VALUES IN OHMS
CAPACITOR VALUES ABOVE 1 IN pf
BELOW 1 IN µf
LAST COMPONENT DESIG. NO
CAPACITOR C46
DIODES D10
INTEGRATED CKTS IC3
INDUCTORS L6
LAMPS M2
TRANSISTORS Q10
RESISTORS R49
SWITCHES S3
SPEAKER SP1
TRANSFORMERS T6
CRYSTALS Y1
INset 1
Y1
.550
.475
.400
C45 1.7-16
C45 1.7-6
INset 2
IC-2
D-11
R-21 6.8K
Modified 8-90 TMA

4. Move the 3 position switch 4 (Fig. 1) to the middle position (Off).
5. Move Volume Slide Control 5 (Fig. 1) to the right 1/3 of its range for normal listening level.
6. Turn the unit on by depressing the Push Bar 1 (Fig. 1) once. The unit should now be receiving. (If it does not see "NOTE" below or Service.)
7. Check radio's flashing Alert lights by moving the 3 position switch 4 (Fig. 1) to the Test position. The Alert panel 2 (Fig. 1) should light and begin flashing.
   NOTE: After the flashing alert lights have been triggered, they must be reset. To do this, move the 3 position switch to the Off position. Now depress the Push Bar once. This removes power from the radio and resets the Alert lights control circuitry.
8. The weather station can be monitored when the 3 position switch is in the Test, Off, or Alert position by depressing the Push Bar.
9. If an outside antenna is necessary for fringe operation, you may use a 155 MHz antenna. External antennas should be coupled to the receiver by 50 ohm coaxial cable, such as RG-58 A/U, using the supplied automotive type connector. Suitable antennas are available at most radio dealers.

NOTE: This radio has been shipped ready to receive the local weather station in your immediate area. If it does not receive, please refer to the Channel Programming section on the following page.

ALERT MODE

To place radio into the Alert Mode:

1. Move the 3 position switch to the Off position and depress the Push Bar once to turn radio on.
2. Move the 3 position switch all the way to the right. The red signal light 3 (Fig. 1) should be on and the audio should be squelched (no audio).
3. An Alert signal, broadcast by the weather station, will trigger the Alert system. The ready light will immediately go out and the Alert light will begin flashing.
   NOTE: Be sure volume control is at desired level when monitor is in Alert position to avoid missing important weather information.
4. To reset the Alert lights, depress the Push Bar once. After five seconds, depress Push Bar again to place radio into Alert mode.
5. The radio can be turned completely Off only when the 3 position switch is in the Test or Off position by depressing the Push Bar.

FOR BATTERY OPERATION

Your Bearcat Alert receiver is designed to operate on AC power or from 4 "C" cell batteries.

To install batteries:

1. Place antenna in the upright (Operating) position to free door for removal.
2. Twist a small coin in the two slots under antenna at top of door (Fig. 2) and remove battery compartment door.
3. Insert the batteries as indicated into the compartment observing proper polarity.
4. Snap the compartment door back into place.

Should you lose AC power, the radio will automatically receive power from the batteries and continue to operate.

NOTE: PROLONGED OPERATION FROM BATTERIES IS NOT RECOMMENDED AS THIS WILL SHORTEN THE LIFE OF THE BATTERIES.

CHANNEL PROGRAMMING

Your Bearcat Alert has been designed to operate on 162.55, 162.475 or 162.40 MHz set aside by the FCC for NOAA weather stations. Your Bearcat Alert has been shipped to your dealer pre-set to receive the local weather station. Should you experience difficulty receiving the station or should you move to another locality using another frequency, you will need to disassemble the radio and move the channel probe to the desired frequency.

1. Disconnect power cord from wall outlet. Keep set disconnected while disassembling cabinet.
2. If batteries are installed, remove batteries.
3. At the top rear of unit under tab on battery door insert a #2 phillips screw driver with 5" shaft and remove the screw A (Fig. 2).
4. Now turn radio over and remove the two screws B (Fig. 2) that hold the bumper feet in place at the front of the cabinet. Then return radio to upright position. Remove from cabinet by sliding the cabinet away from the front panel.
5. Locate the three posts mounted on the circuit board (just left of bottom center of board Fig. 2). Move the probe to the desired frequency as indicated by the frequency label.

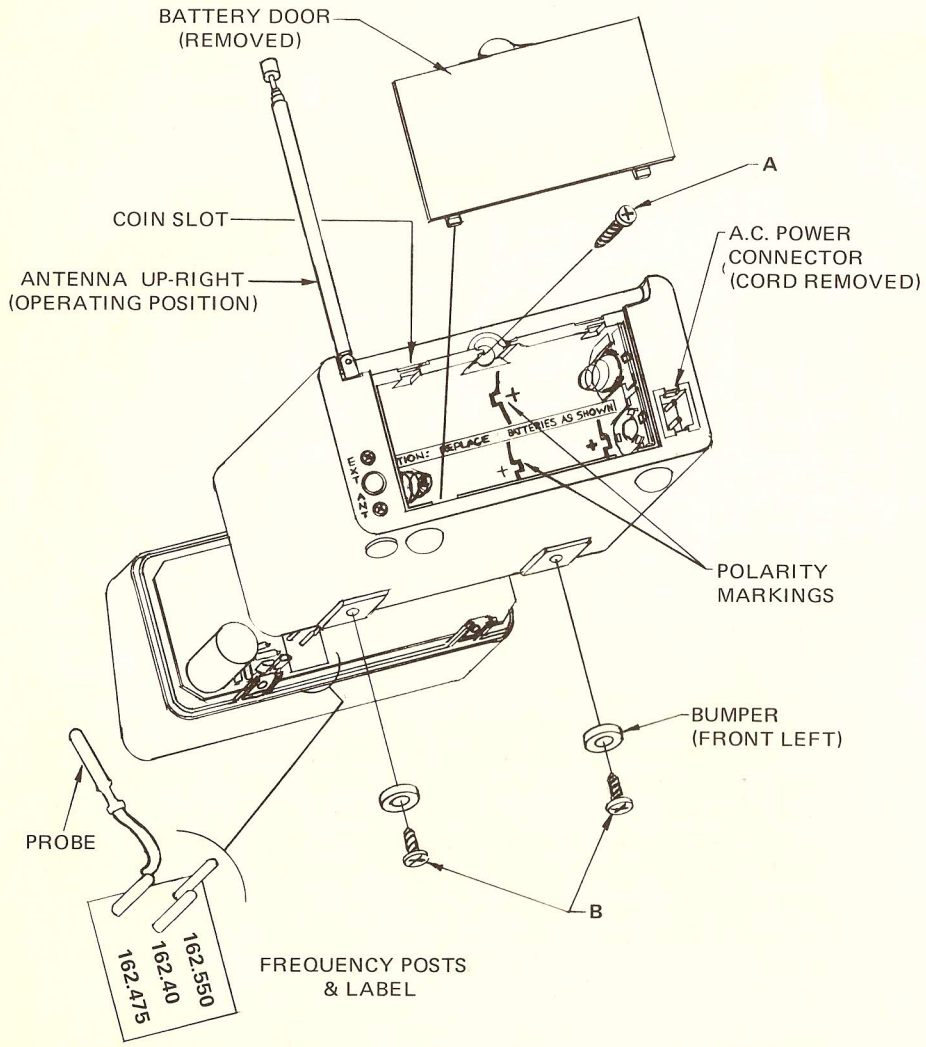


Figure 2

USER HINTS

Radio equipment usually operates in an environment of man-made electromagnetic noise which radiates from power lines, fluorescent lights, motors, appliances, ignition systems, etc. Modern radios are designed to minimize interference from such sources, but operation may be affected under conditions of unusually strong noise.

Distant, weak, "skip," or noise signals may be received by this receiver because of its high sensitivity. In cases of these or other strong interfering signals, it may be desirable to reduce the length of the antenna to reduce noise pickup below a critical level. This may be very effective in medium and strong signal areas.

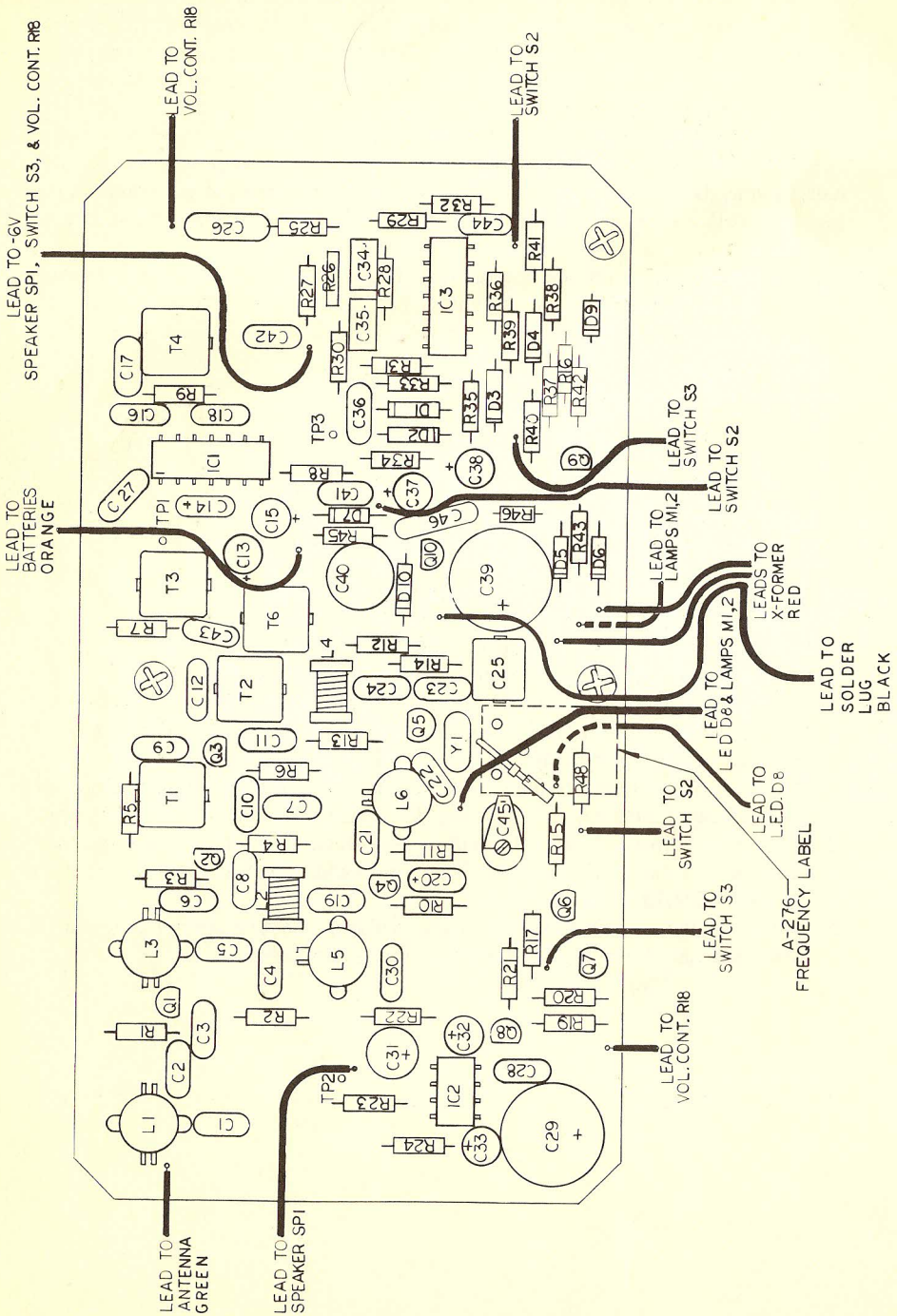
When moving or shipping the radio, collapse the antenna to avoid damage to it or to the internal circuit assemblies.

SERVICE

Determining Need for Service:
If your radio doesn't seem to be functioning properly:

1. Be sure the radio is plugged into a working AC outlet.
2. Is volume control at least 1/3 of its range?
3. Can radio be turned on by Depressing the Push Bar?
4. Check that the telescoping antenna is vertical and fully extended.
5. Place the radio near a window (usually signals are stronger near windows).
6. Is radio frequency switch in proper position to receive local weather station? (See Channel Programming)
7. If a loud hiss is heard, either the frequency switch is in wrong position or the weather station is off the air. Be certain the signal is in your area.
8. Leave the radio on 10 to 30 minutes. If nothing is heard by that time, then something is probably wrong with the radio and you should contact Electra Customer Service.
9. When moving or shipping the radio, collapse the telescoping antenna to avoid damage to it or to the internal circuit assemblies.

PARTS PLACEMENT DIAGRAM



BC-W REPLACEMENT PARTS LIST

Ref No.	Resistors	List Price
All	¼W 10%	$ .25
R-18	10K ohm 30% Slide Variable Vol. Cont., B-299-1	1.50
R-26	500 ohm Variable, A-230-1.	.50
R-44	2.2 Meg ohm ½W 10%	.25
	Capacitors	
All	Disc. Ceramic.	.50
C-13	4.7 uf 10V electrolytic	1.00
C-15	.47 uf 10V electrolytic	1.00
C-25	1.7-6 pf Variable.	1.00
C-29, 39	2000 uf 10V electrolytic	1.50
C-31, 37, 38	100 uf 6.3V electrolytic.	1.00
C-32	22 uf 10V electrolytic.	1.00
C-33	10 uf 10V electrolytic	1.00
C-34, 35	.047 uf 10% 100V Mylar	1.00
C-40	47 uf 10V electrolytic	1.00
C-45	1.7-16 pf Plastic Variable	1.00
	Semi-Conductors	
Q-1	2N5179, PROCESS42 or MPSH17	.75
Q-2, 3	2N3563	.75
Q-4, 5	2SC684	.75
Q-6, 7, 8, 9	MPS3393	.75
Q-10	MPSU51	1.50
D-1, 2, 4, 7, 9.	IN4148 or IN914	.50
D-3	IN34A.	.50
D-5, 6	IN4002, A-288	.50
D-10	IN755A or HZ5236	.50
D-11	IN4742	.50
IC-1	LM2111 or MC1357P	3.50
IC-2	LM386, B-668-1	3.50
IC-3	LM3900, B-667-1	3.50

Ref No.	Inductors	List Price
L-1	Antenna Coil B-453-2	.50
L-2, 4	Choke A-218-1	.50
L-3	RF Coil B-453-1	.50
L-5	Coil (Tripler) B-314-5	.50
L-6	Coil (Tripler) B-314-4	.50
T-1	IF Transformer B-284	1.50
T-2, 3, 6	IF Transformer B-311-2.	1.50
T-4	Quadruture Transformer B-311-1 or B-311-2	1.50
T-5	Power Transformer B-341	4.50
	Misc. Electrical	
A-202	Crystal Y1	5.00
A-558	Speaker 8 ohm 2½ dia.	2.00
A-287	L.E.D. D-8	1.00
A-576	Lamp M1.2	1.00
B-299	Push-Push Switch STDP-S2.	2.50
B-529	Slide Switch TTDP-S3	2.50
A-465	Terminal Board	.50
A-127	Antenna Plug.	.75
C-482	Telescoping Antenna	2.00
A-134	Solder lug. locking.	.25
A-130	Antenna Connector	.75
A-152	AC Power Cord	2.00
A-151	AC Interlock Receptical.	1.00
	Misc. Mechanical	
D-122, B-585 & B-456.	Front Panel with Inlays	5.00
D-123	Cabinet	3.00
D-105 & A-125	Battery Door	1.50
C-472-1	Battery Contact – Double	.50
C-472-2	Battery Contact – Single	.25
A-140	Battery Contact Spring	.25
C-471-1	Touch Bar.	.50
A-124	Touch Bar Return Spring	.25
A-106	Touch Bar Retaining Pin	.25
C-480 & A-569	Alert Crystal with Inlay	1.50
B-527	Knob - Mode Selection	.25
B-528	Knob - Volume	.25
A-131	Front Feet	.25
A-575	PC Board Spacers	.25
A-156	Rear Feet	.25

Replacement parts may be ordered directly from:

Electra Co., - P.O. Box 29243 - 300 S. on E. County Line Rd. - Cumberland, Ind. 46229

Cash order for parts will be shipped prepaid.

Modified to Replace Q-8 with D-11 and change R-21 from 680Ω to 6.8KΩ.