BLAUPUNKT

23 CHANNEL
CITIZEN BAND MOBILE REMOTE
TRANSCEIVER BCB-5232

INSTRUCTION MANUAL

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FCC REGULATIONS AND REQUIREMENTS

Before placing any transmitter on the air, it is necessary that a valid Citizens Band Station license be obtained in accordance with FCC Rules Part 95. The following sections are reprinted solely as a guide and should not be construed as exact reproductions of pertinent sections of FCC Rules Part 95. The user is advised to review the rules and regulations frequently since changes and revisions occur periodically.

1. It is required that the licensee of each transmitting station attach to each mobile transmitter a properly filled out Identification card or FCC Form 452.

2. The licensee must attest to the fact that he has in his possession, and has read, a copy of FCC Rules and Regulations, Part 95, prior to filling out Form 505.

A copy of Part 95 of the FCC Rules and Regulations may be obtained from the Superintendent of Documents, Government Printing Office, Washington, D.C. 20402.

License application, FCC Form 505, may be obtained from the Federal Communications Commission, Washington, D.C. 20554 or from the nearest FCC Field Office listed below.

FCC FIELD OFFICES

Mobile, Ala. 36602
Anchorage, Alaska 99501
Los Angeles, Cal. 90014
San Diego, Cal. 92101
San Francisco, Cal. 94126
San Pedro, Cal. 90731
Denver, Col. 80202
Miami, Fla. 33101
Tampa, Fla. 36606
Atlanta, Ga. 31403
Savannah, Ga. 31502
Honolulu, Hawaii 96808
Chicago, Ill. 60604
New Orleans, La. 70130
Baltimore, Md. 21202
Boston, Mass. 02109
Detroit, Mich. 48226
St. Paul, Minn. 55102
Kansas City, Mo. 64106
Buffalo, N.Y. 10014
Portland, Ore. 97205
Philadelphia, Pa. 19106
San Juan, P.R. 00903
Beaumont, Tex. 77704
Dallas, Tex. 75202
Houston, Tex. 77002
Norfolk, Va. 23510
Seattle, Wash. 98104

NOMINAL SPECIFICATIONS

GENERAL

* Solid State Devices

Transistors	18
FET	1
Diodes	32
Zener Diodes	2

* Electronic Switching
* Self-contained Speaker - 3 1/2" round/16Ω voice coil
* Dynamic Microphone - with Press-to-Talk switch
* Illuminated Channel Indicator and "S"/RF power meter
* Twenty-three Channel Selector
* Transmit Indicator

* Delta Tune Control
* Volume Control - with ON-OFF switch
* Squelch Control
* RF GAIN Control
* EXT CB switch
* Automatic Noise Limiter switch
* External Speaker and P.A. jacks
* Operates from 13.8V DC (positive or negative ground)
* Coaxial Antenna Connector - 50 ohm impedance
* Under dash mounting bracket for mobile installation

RECEIVER SECTION

* Frequency Range	26.965 to 27.255 MHz
* Sensitivity	0.5uV for 10db S/N at 1 KHz at 30% Modulation
* Selectivity	BW ±2.5 KHz min. at 6db dwn.
* Adj. Channel Rejection	60db
* Audio Distortion at 1 KHz	Less than 10% at 3W
* Spurious Response	−50db
* Cross Modulation Rejection	Better than 40db
* Intermodulation Rejection	Better than 50db
* Squelch Sensitivity	0.2uV
* Squelch Stop Sensitivity	50 to 5,000uV (adjustable)
* Noise Limiter	Series gate

TRANSMITTER SECTION

* Frequency Range	26.965 to 27.255 MHz
* Power Input at 13.8V DC	5 watts
* Power Output at 13.8V DC	3.5 to 4 watts
* Modulation(4mV at microphone)	100%
* Emission (Class D operation)	6A3
* Hum and Noise	50db down
* Frequency Tolerance	±.005%
* Antenna Impedance	50 ohms
* Switching	Electronic
* Modulation Distortion	Less than 10% at 95% modulation at 1 KHz

GENERAL DESCRIPTION

The transceiver is a high quality radio skillfully constructed of the finest materials and solid-state components. The unit incorporates many unique features which make it a highly selective, sensitive and quiet receiver as well as a powerful transmitter.
The transceiver is equipped with a full set of synthesis crystals which cover all 23 channels of the Class D Citizens Band.

RECEIVER SECTION

The receiver power is regulated by a Zener diode to insure maximum stability of volume, squelch and frequency over a wide variation of input voltage.

The input RF stage transistor is protected from damage due to transient spikes or electro-static discharges by two silicon diodes.

TRANSMITTER SECTION

The transmitter consists of three crystal controlled oscillators in a crystal synthesis circuit utilizing fourteen crystals to produce the 23 channel frequencies. The output of the final stage is coupled to the antenna system by a PI filter network which reduces spurious radiation well below the required FCC limits. A separate microphone pre-amplifier stage greatly reduces objectionable noise normally encountered in mobile operation.

INSTALLATION

MOBILE STATION INSTALLATION

Use the mounting bracket supplied as a template to locate the mounting holes for mounting the bracket. Secure the bracket under the dash at a position easily reached by the operator. The transceiver may be tilted in the mounting bracket for the best view of the front panel and for operation of the controls.

CAUTION

This unit has a polarity protection diode in the DC power circuit. If the power source polarity is reversed, the fuse will blow. CHECK CAREFULLY THE POLARITY CONNECTIONS BEFORE YOU TURN ON THE POWER SWITCH.

UNDER NO CIRCUMSTANCES SHOULD A LARGER FUSE BE USED THAN THE ONE ORIGINALLY SUPPLIED (2.0 ampere), AND NEVER BYPASS THE FUSE WITH A JUMPER WIRE. IN EITHER OF THESE INSTANCES SEVERE DAMAGE TO YOUR TRANSCEIVER CAN OCCUR AND YOUR WARRANTY IS VOIDED.

NEGATIVE GROUND CONNECTIONS

The unit is supplied ready for connections to a NEGATIVE grounded power source. Connect the RED lead to the POSITIVE terminal of the battery or accessory connection on an ignition switch. Connect the BLACK lead to the frame of the vehicle or at the COMMON ground terminal used by other accessories. Be sure to connect the antenna connector to the rear connector of the transceiver and remember that the unit will not operate until the microphone is connected.

CONNECTIONS FOR POSITIVE GROUNDED VEHICLES

In positive grounded power supplies the POSITIVE terminal of the battery or other power source is connected to the frame of the vehicle and the NEGATIVE terminal is connected to the ignition switch, therefore, connect the RED lead of the transceiver power cable to the FRAME of the vehicle or at a COMMON terminal used by the other accessories. Connect the BLACK lead from the transceiver power cable to the ignition switch accessory connection or directly to the NEGATIVE terminal on the battery or other power source. The other connections are the same as for a negative grounded system.

REMOTE MICROPHONE

Connect the microphone in prior to the switching on of the unit. The microphone contains a channel selector switch, and the channel can be selected by rotating the knob of the microphone, and the channel number is indicated on the microphone by light emitting diode readouts. The set would not operate unless the microphone is connected to the set.

The channel selector has the 23 operating channel and one blank positions, and the transmitter and receiver frequencies are set simulaniously upon selection of the desired channel.

ANTENNA INSTALLATION

Your transceiver is designed to operate with any good quality Citizens Band, Base or Mobile, antenna. The type of antenna you should use depends largely upon how and where the antenna is to be mounted and the radiation pattern desired or required. All BLAUPUNKT C.B. dealers are qualified to assist you in the selection of the proper type to meet your needs.

If it is necessary to change the cable length, type RG58/U is recommended for lengths up to 50 feet. RG8/U should be used for lengths over 50 feet.

To check the "impedance match" between the antenna and the transceiver, use a Standing Wave Ratio Meter. Follow the instructions given with the instrument.

CAUTION: NEVER OPERATE YOUR TRANSCEIVER WITHOUT A PROPERLY MATCHED ANTENNA PLUGGED INTO THE ANTENNA CONNECTOR.

FUNCTION OF CONTROLS AND INDICATORS

VOLUME CONTROL - POWER ON/OFF SWITCH

When this control is turned fully counterclockwise, the power switch is in the OFF position. Turning the control clockwise turns the power ON and controls the volume level.

SQUELCH CONTROL

This control will silence background noise when a signal is not being received. Correct adjustment of the control is as follows:

Adjust the squelch control fully counterclockwise and adjust the volume control approximately 1/2 of its rotation and select a channel on which no signal is being received. Turn the squelch control clockwise just to the point where the background noise stops. Upon receipt of a signal, the squelch will open and the station will be heard. (If adjusted too far past this point, weak signals may not be heard).

RF GAIN CONTROL

In case of communication with a powerful local station located nearby, turn the RF gain control counterclockwise. And for a communication to a distant weak station, turn it fully clockwise.

NOISE LIMITER (ANL) SWITCH

Push this switch "in" to reduce excessive electrical noise, "push again" to turn OFF.

"S"/RF METER

Meter indicates relative signal strength of incoming signals from 1 through 9. A reading of "1" indicates a weak or distant station and a reading of "9" would indicate a local or a higher power station. The RF power scale indicates the relative RF power in watts being transmitted by your transmitter.

DELTA TUNE

This is to fine tune the receiver only. Adjust Delta tune knob to the best reception in case the communicating station has a frequency difference. The center position of the knob corresponds to the center frequency, and it is adjustable for ±1 KHz approximately.

EXT. CB

By connecting an external speaker and depressing EXT CB button, the external speaker may be employed and the internal one will be disconnected.

PUBLIC ADDRESS (PA) SWITCH

When using the transceiver as a public address amplifier, a speaker must be plugged into the EXT SPK jack on the rear of the chassis.

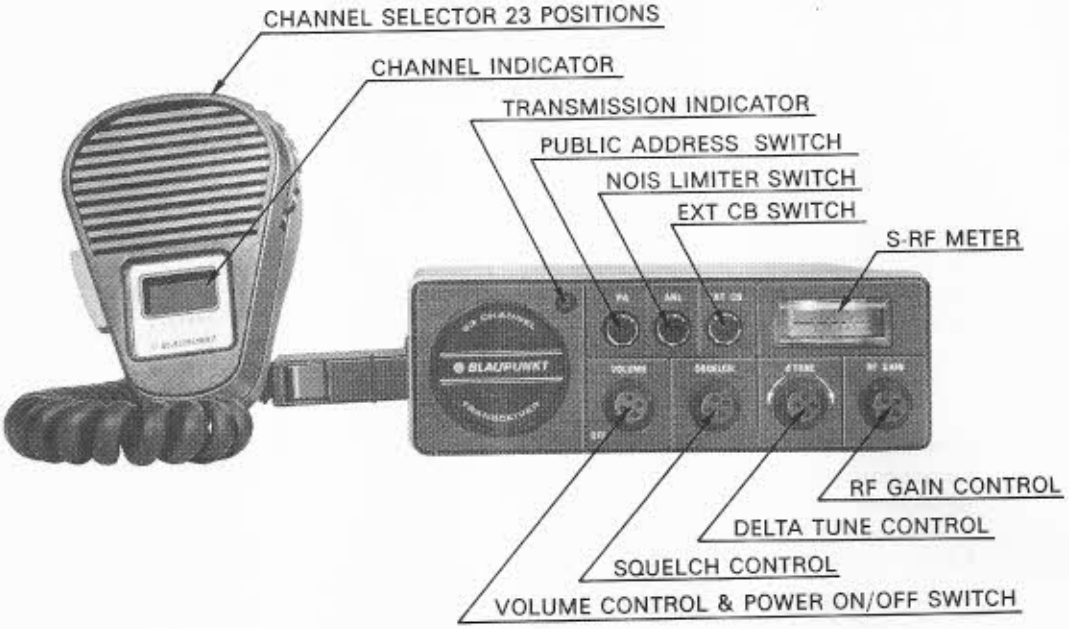
Prepare an 8 ohm horn or speaker with an insulated cable, and a miniature phone plug, (H. H. Smith #480) or equivalent, and plug into the EXT SPK jack.

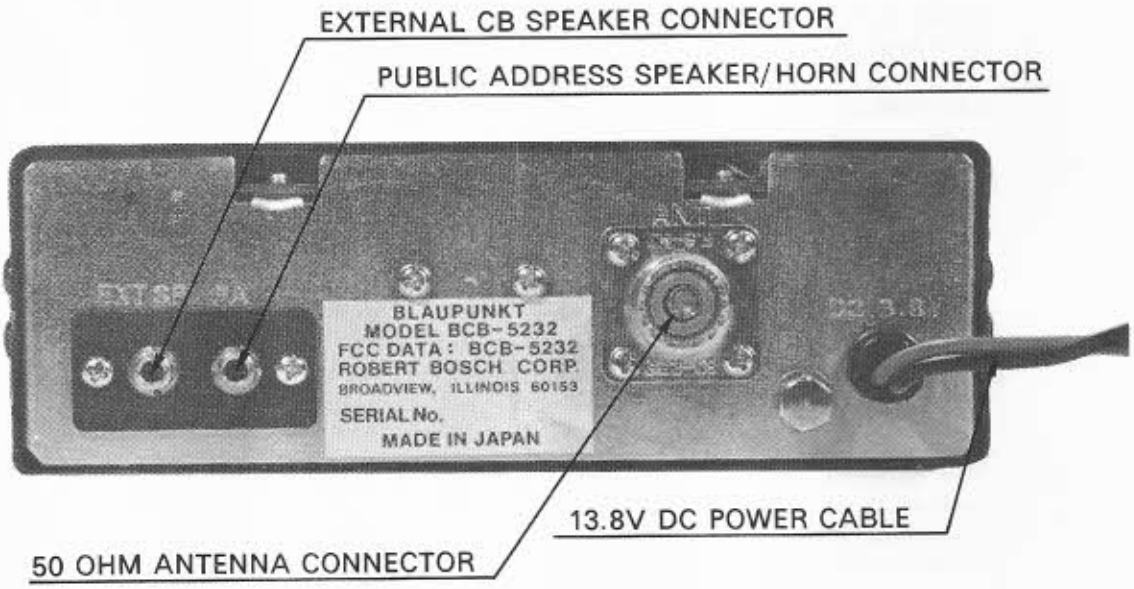
CAUTION: SPEAKER WIRE MUST NOT BE GROUNDED, OR CONNECTED IN ANY WAY TO THE TRANSCEIVER CHASSIS OR POWER SOURCE, SUCH AS THE VEHICLE FRAME.

Push the P.A. switch "in" and press the microphone switch. Adjust the transceiver volume control for the proper audio level at the P.A. speaker or horn. When the P.A. switch is in the ON position, all other functions of the transceiver are turned off. Press the P.A. switch in again to turn OFF.

CRYSTAL SYNTHESIS

Your transceiver is supplied with 14 crystals used in a frequency synthesizer. When combined, they produce the 23 crystal controlled frequencies required for receiving and transmitting. Refer to the schematic diagram and the charts below to determine the crystals used by each channel for receiving and transmitting. The charts can be used to


CHANNEL SELECTOR 23 POSITIONS
CHANNEL INDICATOR
TRANSMISSION INDICATOR
PUBLIC ADDRESS SWITCH
NOIS LIMITER SWITCH
EXT CB SWITCH
S-RF METER
RF GAIN CONTROL
DELTA TUNE CONTROL
SQUELCH CONTROL
VOLUME CONTROL & POWER ON/OFF SWITCH


EXTERNAL CB SPEAKER CONNECTOR
PUBLIC ADDRESS SPEAKER/HORN CONNECTOR
BLAUPUNKT
MODEL BCB-5232
FCC DATA: BCB-5232
ROBERT BOSCH CORP.
BROADVIEW, ILLINOIS 60153
SERIAL No.
MADE IN JAPAN
13.8V DC POWER CABLE
50 OHM ANTENNA CONNECTOR

identify a defective crystal, in case of failure. Observe that each 10 MHz crystal controls six channels and each 37 MHz crystal controls four channels.

RECEIVE MODE

	37.60	37.65	37.70	37.75	37.80	37.85
10.180	1	5	9	13	17	21
10.170	2	6	10	14	18	22
10.160	3	7	11	15	19	–
10.140	4	8	12	16	20	23

TRANSMIT MODE

	37.60	37.65	37.70	37.75	37.80	37.85
10.635	1	5	9	13	17	21
10.625	2	6	10	14	18	22
10.615	3	7	11	15	19	–
10.595	4	8	12	16	20	23

OPERATING INSTRUCTIONS

RULES TO REMEMBER, When operating on the Citizens Band, keep in mind the following important rules:

(1) Station identification must be given by both parties at the beginning of and upon completion of each contact, regardless of whether the call lasts 30 seconds or a full 5 minutes.

(2) Use channels 9, 10, 11, 12, 13, 14 and 23 for INTERSTATION communication. Channel 9 should be used for emergency aid.

(3) Make your transmissions brief and to the point. Long transmissions tend to confuse, making it hard for the other party to remember all that you may have asked. It is to your advantage to ask one question at a time.

(4) Stay within the 5-minute limit set forth in Part 95 of the Rules and Regulations. If you have additional information that must be relayed to your station and have used up your time, clear the channel for 5 minutes to allow others to place their calls, then contact your station again once they have cleared and another 5 minutes have passed.

(5) Make use of the 10-Code for speed, intelligibility, and good communications.

(6) Use the "break-break" procedure ONLY when it is absolutely necessary to use the channel.

(7) Speak clearly and distinctly, with the microphone approximately two inches from your lips. And speak in a normal tone - shouting only creates distortion.

(8) Be prepared to use any CB channel in case of emergency. Part 95.85 of the Rules permits a waiver of all restrictions where immediate safety of life or immediate protection of property can be demonstrated.

GENERAL STATION OPERATION

10-1 Receiving poorly.
10-2 Signals good.
10-3 Stop transmitting.
10-4 Okay-- Affirmative - Acknowledged.
10-5 Relay this message.
10-6 Busy, stand by.
10-7 Leaving the air.
10-8 Back on the air and standing by.
10-9 Repeat message.
10-10 Transmission completed, standing by.
10-11 Speak slower.
10-13 Advise weather and road conditions.
10-19 Return to base.
10-20 What is your location? My location is .....
10-21 Call.....by telephone.
10-22 Report in person to.....
10-23 Stand by.
10-24 Have you finished? I have finished.
10-25 Do you have contact with.....

EMERGENCY or UNUSUAL

10-30 Does not conform to Rules & Regulations.
10-33 Emergency traffic this station.
10-35 Confidential information.
10-36 Correct time.

ACCIDENT and VEHICLE HANDLING

10-54 Accident.
10-55 Wrecker or tow truck needed.
10-56 Ambulance needed.

NET MESSAGE HANDLING

10-60 What is next message number?
10-64 Net is clear.
10-66 Cancellation.
10-68 Repeat dispatch on message.
10-69 Have you dispatched message .....

PERSONAL

10-82 Reserve room for.....
10-88 Advise present phone number of.....

10-89 Repairman needed.
10-90 Repairman will arrive at your station.....
10-92 Poor signal, have transmitter checked.
10-93 Frequency check.
10-94 Give a test without voice for frequency check.
10-95 Test with modulation.
10-99 Unable to receive your signals.

RECEIVER OPERATION

1. Rotate the volume control approximately 1/2 turn clockwise and observe that the channel selector and the "S"/RF meter are illuminated.

2. Adjust the squelch control fully counterclockwise.

3. Set the PA, ANL and EXT. CB switches in the normal "out" positions.

4. Rotate the channel selector and select a desired channel. Observe that the "S"/RF meter indicates a higher reading for some stations. A reading of 9 indicates a strong signal from a local or powerful station; a reading of 2 or 3 indicates a distant or low-power station.

5. If there is a lot of electrical interference, push the ANL "in". The ANL reduces the normal CB hash.

6. When listening for a "call" or a reply to a call, turn the squelch control clockwise until the noise just stops (without a signal). When the call is received, the squelch is overcome and the message may be heard without the annoying CB hash.

TRANSMITTER OPERATION

1. Select the desired channel and be sure it is clear of incoming signals before you press the transmit switch.

2. Press the microphone transmit switch and speak into the microphone (2 or 3 inches away). Release the transmit switch to listen for the reply.

3. Observe that the "X MIT" LAMP is illuminated and the "S"/RF meter indicates the RF power output when transmitting.

SERVICE & MAINTENANCE WARNING

THE FCC RULES AND REGULATIONS, PART 95, REQUIRES THAT ONLY PERSONS POSSESSING A VALID FIRST OR SECOND CLASS RADIOTELEPHONE OPERATOR'S LICENSE ARE ALLOWED TO MAKE ADJUSTMENTS OR REPAIRS TO THE TRANSMITTING SECTION OF THIS TRANSCEIVER.

MODIFICATION TO THE TRANSMITTER SECTION IN ANY WAY NOT RECOMMENDED BY ROBERT BOSCH CORPORATION IS ILLEGAL. MODIFICATIONS INCLUDE, BUT ARE NOT LIMITED TO, SUBSTITUTION OF CRYSTALS, REPLACEMENT OF COMPONENT PARTS NOT OF THE SAME ELECTRICAL RATING, ADDITION OF ANY COMPONENT PART (S), CONNECTIONS, DEVICE OR ACCESSORY INTERNALLY OR EXTERNALLY TO THE TRANSMITTER.

Troubleshooting assistance may be obtained by writing to ROBERT BOSCH Corporation, 2800 S. 25th Avenue, Broadview Ill. 60153. Address your inquiry to the attention of the RADIO Service Department. Always state the Model, Serial Number and Issue of Schematic Diagram to which the unit was built. The schematic issue letter may be found in the lower right hand corner of the schematic or from the legend on the printed circuit board.

When ordering parts, refer to the BLAUPUNKT part number listed in the Replacement Parts List and give a description of the part.

A Service Manual is available for the transceiver. Order from ROBERT BOSCH CORPORATION, BLAUPUNKT CAR RADIO DIVISION, PRICE $3.50 POSTPAID.

SPECIAL REPLACEMENT PARTS LIST

SYMBOL	DESCRIPTION	BLAUPUNKT PART NO.
SOLID STATE DEVICES		
Q21	Transistor, 2SC1306(1)	35942640
Q15, 16	Transistor, 2SC1096,4ZL	35942700
Q7	Transistor, 2SA539L	35002712
Q20	Transistor, 2SC781	35045000
Q14, 19	Transistor, 2SC815L	35045312
Q17, 18, 8	Transistor, 2SC839H	35045808
Q12, 13, 4, 5, 6	Transistor, 2SC945R	35047218
Q11, 2, 3	Transistor, 2SC1675K	35942511
Q1	FET, 3SK39	35995116
D19 , D401 ~ D414	Diode, 1S1555	36001005
D10, 11, 12, 13, 1, 9	Diode, 1S953	36001522
D15,	Diode, 1N60	36002012
D21, 22, 4, 5	Diode, 2-1K60	36002515
D20	Diode, RD9,1EB	36003037
D203	Diode, 1S2209	36050006
D16,17,8	Diode, F14A	36107065
D7	Diode, RD9,1FB	36902003
D14	Diode, 1S1209	38005051
D23	Diode, SR103D	36801007
D18	Diode, SD46(4)	36002009
COIL AND TRANSFORMERS		
T1	Transformer, Input	45218015
T2	Transformer, Modulation	45920003
L13, 14	Coil, RF	60702008
MF-1	Filter, Mechanical MFH-53S	60809005
CF-1	Filter, Ceramic LFB-8	60809006
L10	Coil, RF choke	61001006
L18	Coil, YLC-15430	61902010
L2, 3	Coil, Filter KXN-13638	61904159
L4	Coil Filter KXN-13636	61904160
L5	Coil, RF	61904161
L8	Coil, Filter	61904162
L7	Coil, Filter	61904163
L6, 9	Coil, Filter	61904164
L12	Coil, Antenna	61904165
L1	Coil, Transmit OSC	61904166
L11	Coil, Oscillator TKX-20616BM	61904167
L15, 16	Coil, KAC-6184A	61904168
L19	Coil, YLC-20400N	61902011
L20	Coil, Filter	61052017
L101	TVI Trap Coil	23601912
L102	Transformer, Choke	46911007
L103	Coil, Filter	61904164
L104	Coil, Filter	61006005
L401 ~ L411	Coil, Filter 150uH	61052031

SYMBOL	DESCRIPTION	BLAUPUNKT PART NO.
CAPACITORS		
C10,39,40,59,74,7	0.01uF, +80%, −20% 50V Ceramic	42110925
C11,13,16,18,212,44, 52,86,89,8,90	0.022uF, +80%, −20% 50V Ceramic	42110929
C107,108,109,110, 12,23,25,26,28,29,2. 43,5,61,67,69	0.047uF, +80%, −20% 50V Ceramic	42110933
C32,72,83	0.1uF, +80%, −20% 50V Ceramic	42110937
C117,121,24,55,	470pF, ±10% 50V Ceramic	42130709
C21	0.001uF, ±10% 50V Ceramic	42130713
C81	2pF, ±0.25pF 50V Ceramic	42332002
C64	3pF, ±0.5pF 50V Ceramic	42332008
C122,73	5pF, ±0.5pF 50V Ceramic	42332010
C62	10pF, ±0.5pF 50V Ceramic	42332045
C119,17,9	12pF, ±5% 50V Ceramic	42332043
C1,20,35	22pF, ±5% 50V Ceramic	42332029
C113	33pF, ±5% 50V Ceramic	42332033
C14,201,202,203,204 3,71	47pF, ±5% 50V Ceramic	42332037
C118,46,51,54,6,77	100pF, ±5% 50V Ceramic	42332045
C114	18pF, ±5% 50V Ceramic	42333029
C79	39pF, ±5% 50V Ceramic	42333037
C53	68pF, ±5% 50V Ceramic	42334041
C56	82pF, ±5% 50V Ceramic	42334043
C60,63,68	100pF, ±5% 50V Ceramic	42334045
C65	150pF, ±5% 50V Ceramic	42334049
C57	15pF, ±10% 50V Mica	42407015
C58	27pF, ±10% 50V Mica	42407018
C66,70,78	150pF, ±10% 50V Mica	42407027
C75	220pF, ±10% 50V Mica	42407029
C15	330pF, ±10% 50V Mica	42407031
C45,76	300pF, ±10% 50V Mica	42407149
C33,34	0.01uF, ±20% 50V Milar	42701019
C120,96	0.022uF, ±20% 50V Milar	42701021
C31	0.1uF, ±20% 50V Milar	42701025
C94	0.0047uF, ±10% 50V Milar	42701117
C95	0.033uF, ±10% 50V Milar	42701122
C209	0.047uF, ±10% 50V Milar	42701123
C103,104	0.0082uF, ±10% 50V Milar	42701138
C100,101,30,36,37, 4,93,98,99	1uF, 16V Electrolytic	43011024
C41,85,91	2.2uF, 16V Electrolytic	43011025
C27	4.7uF, 16V Electrolytic	43011027
C102,97	47uF ; 16V Electrolytic	43011031
C42,84	220uF, 16V Electrolytic	43011033
C80	1000uF, 16V Electrolytic	43011036
C87,88	33uF, 25V Electrolytic	43011045
C82	4.7uF, 50V Electrolytic	43011069
C401～C410	0.01uF 50V Ceramic	42930016

SYMBOL	DESCRIPTION	BLAUPUNKT PART NO.
CRYSTALS		
X2	37.850MHz	64920558
X3	37.800MHz	64920559
X4	37.750MHz	64920560
X5	37.700MHz	64920561
X6	37.650MHz	64920562
X1	37.600MHz	64920563
X10	10.635MHz	64920564
X9	10.625MHz	64920565
X8	10.615MHz	64920566
X7	10.595MHz	64920567
X11	10.140MHz	64920568
X12	10.160MHz	64920569
X13	10.170MHz	64920570
X14	10.180MHz	64920571
MISCELLANEOUS		
S101	Switch,channel selector	65901020
S102 (a.b.c)	Switch,PA, ANL, EXT CB(3-gang)	65904023
VR101	ON/OFF/Volume Switch/CONTROL	40139006
VR102	Control, squelch	40139007
VR103	Control, delta tune	40139007
VR104	Control, RF gain	40139008
M101	Meter S/RF	67950147
SP101	Speaker,16ohm 3W	63906020
J101	Connector,antenna	70905060
J102	Connector,microphone (4-P)	63971037
J103,104	Jack,ext. Speaker & PA	70505002
F101	Fuse 2A	66601007
–	Power cord with connector A	79759081
–	Power cord with connector B	79759082
–	Microphone	63971037

BLAUPUNKT LIMITED WARRANTY

Blaupunkt Citizens Band Transceivers, distributed in the United States by the Robert Bosch Corporation, are warranted against original factory defects in materials and/or workmanship for a period of (12) months from the date of sale to the consumer.

Upon presentation of the transceiver, with the warranty tag properly filled in by the dealer, (this tag is affixed to the top of the transceiver unit), or other positive proof of date of purchase, such as a Bill of Sale, receipted invoice, etc., free service in accordance with the provisions of this warranty can be obtained within the warranty period at any authorized Blaupunkt CB Service Station.

This warranty applies only to the transceiver unit itself. The warranty does not apply to the correction of faulty installation or elimination of any externally generated noise, static or interference, such as ignition noise, etc.

Labor costs incurred in the removal or re-installation of the unit are not covered by the warranty.

Such service as may be necessary as the result of physical damage, abuse, improper use, or improper service by unauthorized persons is not covered by the warranty.

NO EXPRESS WARRANTY OTHER THAN THAT SET FORTH ABOVE SHALL APPLY TO THE TRANSCEIVER UNIT.

ANY WARRANTY IMPLIED BY STATE LAW (WHETHER OF MERCHANTIBILITY OR FITNESS FOR PARTICULAR USE OR OTHERWISE), SHALL BE EFFECTIVE ONLY FOR THE DURATION OF THE WARRANTY PERIOD STATED ABOVE.

Robert Bosch Corporation,
2800 S.25th Avenue, Broadview, Ill. 60153

78021481

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