



Cobra 63GTL
40-Channel, Remote Hideaway
CB 2-Way Mobile Radio



Cobra Communications Product Group
DYNASCAN CORPORATION
6460 W. Cortland Street
Chicago, Illinois 60635

Instruction Manual
for
Cobra 63GTL
40-Channel, Remote Hideaway
CB 2-Way Mobile Radio



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THE CB STORY

The Citizens Band lies between the shortwave broadcast and 10-meter amateur radio bands, and was established by law in 1949. The Class D two-way communications service was opened in 1959. (CB also includes a Class A business band and Class C remote control frequencies.) Acquiring the Class D license requires no detailed technical or Morse-code knowledge that is required for a "Ham" license.

Although the FCC has eliminated the requirement for the \$4.00 CB license fee, a license is still required. Filing procedure remains unchanged. One license can be good for any number of sets used by a given family or business. Once you receive your Class D license for your equipment, anyone may use it.

For example, though the equipment must be licensed to someone over 18 years of age, a child can use the equipment to talk to another child, or an employee can use the equipment as part of his or her routine services. However, final responsibility of legal operation rests with the CB licensee.

NOTE

FCC regulations permit only "transmissions" (one party to another) rather than "broadcasts" (to a wide audience). Thus, advertising is not allowed on CB channels because it is *broadcasting*.

**HAVE
A GOOD DAY
TODAY
AND
A BETTER DAY
TOMORROW!**

Section I

Introduction

The COBRA 63GTL is a professional-quality 40-channel, two-piece “remote” transceiver. Features include a combination microphone/speaker control head that can easily be disconnected and taken with you or placed in the glove compartment (out of sight) and a remotely controlled transceiver that can be located out of sight in a variety of locations: firewall, under front seat, under rear seat, or in the trunk.

FREQUENCY RANGE

The COBRA 63GTL provides high-level, trouble-free performance over the following frequency assignments:

Channel	Channel Frequency in MHz	Channel	Channel Frequency in MHz
1	26.965	21	27.215
2	26.975	22	27.225
3	26.985	23	27.255
4	27.005	24	27.235
5	27.015	25	27.245
6	27.025	26	27.265
7	27.035	27	27.275
8	27.055	28	27.285
9	27.065	29	27.295
10	27.075	30	27.305
11	27.085	31	27.315
12	27.105	32	27.325
13	27.115	33	27.335
14	27.125	34	27.345
15	27.135	35	27.355
16	27.155	36	27.365
17	27.165	37	27.375
18	27.175	38	27.385
19	27.185	39	27.395
20	27.205	40	27.405

These frequencies are generated and accurately controlled by a phase lock

loop (PLL) circuit, comprised of the latest state-of-the-art integrated circuit technology, thereby ensuring high reliability and excellent frequency stability on the above channels.

To obtain maximum performance from the COBRA 63GTL, carefully read the following descriptions and operating instructions.

WARNING

1. Operation of this equipment requires a valid Station License issued by the Federal Communications Commission. Do not transmit with your equipment until you have received your License or complied with procedures explained on FCC Temporary License Form 555-B. A copy of FCC Application Form 505, FCC Temporary License Form 555-B, and Part 95 of the Commission Rules, are packed with this combination transceiver for your convenience.
2. You are required to complete FCC License Application Form 555 and submit it to the FCC, Gettysburg, Pa. 17362, in order to receive your license.
3. You are required to read and understand Part 95 of the FCC Rules and Regulations, before operating your station. FCC Rules require you to always have on hand a current copy of Part 95 of the FCC Rules, as part of your Station Records.
4. All transmitter adjustments other than those supplied by the manufacturer as front panel operating controls, must be made by or under the supervision of, the holder of an FCC-issued 1st or 2nd Class Radio Operator License.
5. Replacement or substitution of crystals, transistors, regular diodes or other parts of a unique nature, with parts other than those recommended by Dynascan, may cause violation of the technical regulations of Part 95 of the FCC Rules, or violation of the Type Acceptance requirements of Part 2 of the Rules.

Section II

Specifications

GENERAL

Channels	40.
Frequency Range	26.965 to 27.405 MHz.
Frequency Control	Phase locked loop (PLL).
Frequency Tolerance	0.005%.
Operating Temperature Range	-30°C to +50°C.
Speaker/Microphone	Plug-in type; dynamic. 8 ohm: round.
Input Voltage	13.8 VDC nom. (reversible ground).
Current Drain	<i>Transmit:</i> AM full mod. 1.5A (maximum) <i>Receive:</i> Squelched, 0.5A full audio output 1.5A (nominal).
Size	7-13/16"D x 5-1/2"W x 1-5/8"H
Weight	3.5 pounds.
Antenna Connector	UHF, SO239.
Semiconductors	19 transistors, 2 FET, 20 diodes, 6 integrated circuits.
Accessory Output	(See optional accessories)

TRANSMITTER

Power Output	4 watts.
Modulation	High- and low-level Class B.
Frequency Response	300 to 3000 Hz.
Output Impedance	50 ohms, unbalanced.

RECEIVER

Sensitivity	0.5 μ V (nominal) for 10 dB(S+N)/N.
Selectivity	6 dB @ 7 kHz, 60 dB @ 10 kHz.
Image Rejection	70 dB. typical.
Adjacent-Channel Rejection	60 dB. typical.
IF Frequencies	Double conversion, 1st: 10.695 MHz. 2nd: 455 kHz.
Automatic Gain Control (AGC)	Less than 10 dB change in audio output for inputs from 10 to 50,000 microvolts.
Squelch	Adjustable; threshold less than 1 μ V.
Audio Output Power	4 watts.
Frequency Response	300 to 3000 Hz.
Distortion	Less than 10% @ 4 watts @ 1000 Hz.
External Speaker (Not Supplied)	8 ohms; disables internal speaker when connected.

PA SYSTEM

Power Output	4 watts into external speaker.
External Speaker for PA (Not Supplied)	8 ohms; when PA-CB switch in in PA, the PA speaker also monitors the receiver.

OPTIONAL ACCESSORIES

Model CA-63 available which enables the 63GTL to be operated through the automobile's speaker system. This squelch operated accessory allows you to monitor CB transmissions while listening to your entertainment radio.

Optional 6 and 18 foot microphone extension cables are available as required by your choice of installation.

Section III

Installation

LOCATION

Select a convenient location that is protected from moisture and direct sunlight, and be sure that the unit will not interfere with your driving in any way. The COBRA 63GTL is supplied with 10 ft. power cord.

If you install your COBRA 63GTL on the car's fire wall, make certain it is in the passenger compartment (not under the hood), and out of the way of heat ducts and the direct line of air flow from the car's heater.

The radio may be installed under the front seat as well as on the fire wall. It also may be mounted in the trunk; if you choose to mount it in the trunk, an optional 18 ft. extension cable is available from your COBRA dealer. An optional 6 ft. extension cable is also available for use with the under front seat location if you choose to have the microphone connector under the dash.

MOUNTING AND CONNECTION

The transceiver is held in the universal mounting bracket by two bolts, permitting mounting in the manner most convenient for your installation.

Mounting hardware is supplied for the universal mounting bracket. The mounting must be mechanically strong and also provide a good electrical connection to the chassis of the vehicle. Proceed as follows to mount the transceiver:

1. After you have determined the most convenient location in your vehicle, hold the COBRA 63GTL with mounting bracket in the exact location desired. If nothing will interfere with mounting it in the desired position, remove the mounting bracket and use it as a template to mark the location for the mounting bolts. Before drilling the holes, make sure nothing will interfere with the installation of the mounting bolts.

2. Connect the antenna cable plug to the standard receptacle on the rear panel. Most CB antennas are terminated with a type PL-259 plug and mate with the receptacle.
3. Connect the DC power input wire with the fuse to +13.8 VDC. This wire connects to the rear panel. In automobile installations, 13.8 VDC is usually obtained from the accessory contact in the fuse box. This prevents the set being left on accidentally when the driver leaves the car and also permits operating the unit without the vehicle's engine running.

CAUTION

Before installing the CB radio, visually check the vehicle battery connections to determine which battery terminal, positive or negative (positive is the larger of the two) is grounded to the engine block (or chassis).

4. Connect the black lead to the negative side of the supply. This is usually the chassis of the car. Any convenient location with good electrical contact (remove paint) may be used.

CB ANTENNA

Since the maximum allowable power output to the transmitter is limited by the FCC, the antenna is one important factor affecting transmission distance. Only a properly matched antenna system will allow maximum power transfer from a 50-ohm transmission line to the radiating element. In mobile installations (cars, trucks, boats, etc.), an antenna system that is non-directional should be used.

A vertically polarized quarter-wavelength whip antenna provides the most reliable operation and greatest range. The shorter loaded-type whip antennas are more attractive, compact and adequate for applications where the maximum possible distance is not required. Also the loaded whips do not present the problems of height imposed by the full quarter-wavelength whip.

Mobile whip antennas utilize the metal body of the vehicle as a ground plane. When mounted at a corner of the vehicle they are slightly directional, in the direction of the body of the vehicle. For all practical purposes, however, the radiation pattern is non-directional. The slight directional characteristic will be

observed only at extreme distances. A standard antenna connector (Type SO-239) is provided on the transceiver for easy connection to a standard PL-259 cable termination.

If the transceiver is not mounted on a metal surface, it is necessary to run a separate ground wire from the unit to a good metal electrical ground in the vehicle. When installed in a boat, the transceiver will not operate at maximum efficiency without a ground plate, unless the vessel has a steel hull.

Before installing the transceiver in a boat, consult your dealer for information regarding an adequate grounding system and prevention of electrolysis between fittings in the hull and water.

NOTE

3-Way Combination Antennas are available which allow operation of all three bands (AM-FM & CB), using a single antenna.

IGNITION NOISE INTERFERENCE

Use of a mobile receiver at low signal levels is normally limited by the presence of electrical noise. The primary source of noise in automobile installations is from the alternator and ignition system in the vehicle. Under most operating conditions, when signal level is adequate, the background noise does not present a serious problem. Also, when extremely low level signals are being received, the transceiver may be operated with vehicle engine turned off. The unit requires very little current and therefore will not significantly discharge the vehicle battery.

Even though the COBRA 63GTL has a selective automatic noise limiter, in some installations ignition interference may be high enough to make good communications impossible. The electrical noise may come from several sources. Many possibilities exist and variations between vehicles require different solutions to reduce the noise. Consult your COBRA dealer or a 2-way radio technician for help in locating and correcting the source of severe noise.

BASE STATION OPERATION

(Operation from 120 VAC, house current)

To operate your transceiver in your home or office, using the regular house

current as the power source, you will require the DYNASCAN Model CA-20 Power Pak which has been specially designed for the purpose. It is available as optional equipment from your dealer. It consists of a precision-built AC-DC power converter that delivers the required 13.8 VDC power for operation of the transceiver. The CA-20 operates from any 120-volt, 60 Hz power source. Simply connect the red (+) and black (-) leads of the transceiver to the corresponding terminals of the CA-20.

NOTE

Do not attempt to operate this transceiver by connecting directly to 120 volts AC.

When the CA-20 Power Pak is used with the transceiver for base station operation, any Citizens Band beam, dipole, ground plane or vertical antenna may be used. A ground plane vertical antenna will provide the most uniform horizontal coverage.

EXTERNAL SPEAKER

The external speaker jack (EXT. SPK.) on the rear panel is used for remote receiver monitoring. The external speaker should have 8 ohms impedance and be able to handle at least 4 watts. When the external speaker is plugged in, the internal microphone speaker is disconnected.

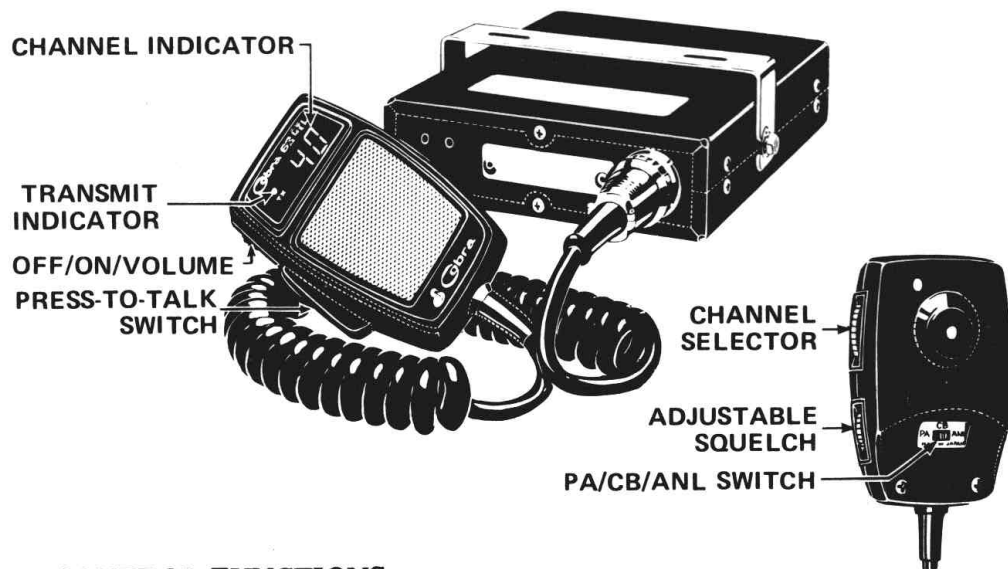
PUBLIC ADDRESS

To use the transceiver as a public address system connect an external 8 ohm speaker (4 watts minimum) to the PA SPK jack located on the rear panel. Direct away from the microphone to prevent acoustic feedback. Physical separation or isolation of the microphone and speaker is important when operating the PA at high output levels.

Section IV Operation

CONTROLS AND INDICATORS

All the controls and indicators for the COBRA 63GTL are in the remote microphone.



A. CONTROL FUNCTIONS

1. **OFF/ON/VOLUME (on Microphone).** Turn clockwise to apply power to the unit and to set the desired listening level.
2. **SQUELCH (on Microphone).** This control is used to cut off or eliminate receiver background noise in the absence of an incoming signal. For maximum receiver sensitivity, it is desired that the control be adjusted only to the point where the receiver background noise or ambient background noise is eliminated. Adjust until the receiver noise disappears. Any signal to be received must now be slightly stronger than the average received noise. Further counterclockwise rotation will increase the threshold level which a signal must overcome in order to be heard. Only strong signals will be heard at a maximum counterclockwise setting.

3. **CHANNEL SELECTOR (on Microphone).** This switch selects any of the forty Citizens Band channels desired. The channel selected appears as an LED readout in window at top of remote microphone.
4. **PRESS-TO-TALK SWITCH.** The receiver and transmitter are controlled by the press-to-talk switch on the microphone. Press the switch and the transmitter is activated; release switch to receive. When transmitting, hold the microphone two inches from the mouth and speak clearly in a normal voice.
5. **PA/CB/ANL SWITCH (located on rear of microphone).** Selects the mode of operation. The PA function should not be used unless a PA speaker is connected as described in the INSTALLATION section of this manual. In the ANL position the noise limiter in the audio circuits is activated. In the CB position, the PA function is disabled and the unit will transmit and receive on the selected frequency. In the PA mode, incoming CB transmission will be heard through the PA speaker. This allows you to monitor message while outside of your vehicle. PA volume is controlled by adjusting the volume knob to the desired level.

B. INDICATOR FUNCTIONS

1. **TRANSMIT INDICATOR.** An LED indicator appears in the window of the microphone when you are transmitting.
2. **CHANNEL INDICATOR.** The channel selected appears in the window at top of the remote microphone.

OPERATING PROCEDURE TO RECEIVE

1. Place PA-CB-ANL switch in CB position.
2. Turn the set ON by rotating the VOLUME control upward, until a click is heard.
3. Set the VOLUME for a comfortable listening level.
4. Set the CHANNEL selector switch to the desired channel.
5. Listen to the background noise from the speaker. Adjust the SQUELCH control slowly upward, until the noise just disappears. (No signal should be present.) Leave the control at this setting. The SQUELCH is now properly adjusted. The receiver will remain quiet until a signal is actually received. Do not advance the control too far, or some of the weaker signals will not be heard.

OPERATING PROCEDURE TO TRANSMIT

1. Select the desired channel of transmission.
2. If the channel is clear, depress the push-to-talk switch on the microphone and speak in a normal voice.

CAUTION

Be sure the antenna is properly connected to the radio before transmitting. Prolonged transmitting without an antenna, or a poorly matched antenna, could cause damage to the transmitter.

ACCESSORY OUTPUT

The accessory output jack located on the main unit is used with the optional accessory model CA-63. This speaker switch accessory enables the 63GTL to be operated through the automobile's stereo speaker system.

This squelch operated accessory allows you to monitor CB transmissions while listening to your entertainment radio.

Section V

Maintenance and Adjustment

The COBRA 63GTL transceiver is specifically designed for the environment encountered in mobile installations. The use of all solid state circuitry and its light weight result in high reliability. Should a failure occur, however, replace parts only with identical parts. Do not substitute. Refer to the schematic diagram and parts list.

NOTE

If the performance described in the OPERATION and MAINTENANCE AND ADJUSTMENT sections is not obtained, review the operating instructions to insure that proper procedures were followed. If a problem still exists, refer to WARRANTY SERVICE INSTRUCTIONS on the last page of this manual.

Section VI

Appendix

Citizens Band radio operators have largely adopted the “10-code” for standard questions and answers. Its use permits faster communications and better understanding in noisy areas. The following table lists some of the more common codes and their meanings.

10 CODE

Code	Meaning	Code	Meaning
10-1	Receiving poorly	10-29	Time is up for contact
10-2	Receiving well	10-30	Does not conform to FCC rules
10-3	Stop transmitting	10-32	I will give you a radio check
10-4	OK, message received	10-33	EMERGENCY TRAFFIC
10-5	Relay message	10-34	Trouble at this station
10-6	Busy, stand by	10-35	Confidential information
10-7	Out of service, leaving air	10-36	Correct time is
10-8	In service, subject to call	10-37	Wrecker needed at
10-9	Repeat message	10-38	Ambulance needed at
10-10	Transmission completed, standing by	10-39	Your message delivered
10-11	Talking too rapidly	10-41	Please turn to channel
10-12	Visitors present	10-42	Traffic accident at
10-13	Advise Weather/Road conditions	10-43	Traffic Tie up at
10-16	Make pick up at	10-44	I have a message for you
10-17	Urgent business	10-45	All units within range please report
10-18	Anything for us?	10-50	Break channel
10-19	Nothing for you, return to base	10-60	What is next message number?
10-20	My location is	10-62	Unable to copy, use phone
10-21	Call by telephone	10-63	Net directed to
10-22	Report in person to	10-64	Net clear
10-23	Stand by	10-65	Awaiting your next message/assignment
10-24	Completed last assignment	10-67	All units comply
10-25	Can you contact	10-70	Fire at
10-26	Disregard last information		
10-27	I am moving to channel		
10-28	Identify your station		

10 CODE (Continued)

Code	Meaning	Code	Meaning
10-71	Proceed with transmission in sequence	10-91	Talk closer to mike
10-77	Negative contact	10-93	Check my frequency on this channel
10-81	Reserve hotel room for	10-94	Please give me a long count
10-82	Reserve room for	10-99	Mission completed, all units secure
10-84	My telephone number is		
10-85	My address is	10-200	Police needed at

A FEW RULES THAT SHOULD BE OBEYED

1. You must identify your official licensed call sign at the beginning and end of every conversation.
2. You are not allowed to carry on a conversation with another station for more than five minutes at a time without taking a one-minute break, to give others a chance to use the channel.
3. You are not allowed to blast others off the air by over-powering them with illegally amplified transmitter power, or illegally high antennas.
4. You can't use CB to promote illegal activities.
5. You are not allowed to use profanity.
6. You may not play music in your CB.
7. You may not use your CB to sell merchandise or professional services.

HOW YOUR CB CAN SERVE YOU

- Warn of traffic tie ups ahead.
- Provide weather and road information.
- Provide help fast in event of emergency or breakdown.
- Suggest good spots to eat and sleep.
- Make long trips more interesting, and help keep you awake.
- Provide direct contact with your office or home.
- Make friends for you as you travel.
- Provide “local information” to find your destination.
- Help law enforcement officers by reporting drunk and reckless drivers.

Colonel Samuel S. Smith of the Missouri Highway Patrol called the number of drunken drivers, wrong-way drivers and speeders reported by CBers as “amazing.” He said, that even the “Smokey Bear” warnings don’t shake their beliefs that “the potential benefits of CB radio to law enforcement are so great that they far outweigh the disadvantages.” In regards to CB radar warnings to other CBers, Colonel Smith said cheerfully that “We’ve overheard warnings being relayed to truckers long after our operations have been discontinued . . . so we actually receive a residual benefit from these warnings.”

USE CHANNEL 9 FOR EMERGENCY MESSAGES ONLY

FCC gives the following examples of permitted and prohibited types of communications for use on Channel 9. These are guidelines and are not intended to be all-inclusive.

Permitted	Example Message
Yes	“A tornado sighted six miles north of town.”
No	“This is observation post number 10. No tornado sighted.”
Yes	“I am out of gas on Interstate 95.”
No	“I am out of gas in my driveway.”
Yes	“There is a four-car collision at Exit 10 on the Beltway, send police and ambulance.”
No	“Traffic is moving smoothly on the Beltway.”
Yes	“Base to Unit 1, the Weather Bureau has just issued a thunderstorm warning. Bring the sailboat into port.”
No	“Attention all motorists. The Weather Bureau advises that the snow tomorrow will accumulate 4 to 6 inches.”
Yes	“There is a fire in the building on the corner of 6th and Main Streets.”
No	“This is Halloween patrol unit number 3. Everything is quiet here.”

WARRANTY SERVICE INSTRUCTIONS

1. Refer to the **MAINTENANCE** section of your Cobra instruction manual for adjustments that may be applicable.
2. If the above-mentioned procedures do not correct the problem you are experiencing with your unit, pack it securely (preferably in the original carton or double-packed). Enclose a letter describing the problem and include your name and address. Deliver to, or ship **PREPAID** (UPS preferred) to the nearest Cobra authorized service agency (see list enclosed with unit).

If your list of authorized Cobra service agencies has been misplaced, contact your local dealer for the name of your nearest service agency, or write to:

Service Department

Cobra Communications Product Group
DYNASCAN CORPORATION
2815 West Irving Park Road
Chicago, Illinois 60618

LIMITED 90-DAY WARRANTY

DYNASCAN CORPORATION warrants to the original purchaser that its COBRA Citizens Band Radios, and the component parts thereof, will be free from defects in workmanship and materials for a period of ninety (90) days from the date of purchase.

DYNASCAN will, without charge, repair or replace, at its option, defective radios or component parts upon delivery to an authorized COBRA service contractor or the factory service department, accompanied by proof of the date of purchase in the form of a sales receipt.

To obtain warranty coverage, this CB radio must be registered by completing and mailing the enclosed warranty registration card to DYNASCAN Cobra Communications, P.O. Box 35148, Chicago, Illinois 60635 within five (5) days from the date of purchase.

Exclusions: This warranty does not apply in the event of misuse or abuse of the product or as a result of unauthorized alterations or repairs. It is void if the serial number is altered, defaced or removed.

As indicated in your product instruction booklet, certain COBRA models are suitable for dash board installation without modification of the dash. In other cases professional installation is recommended. In either event, DYNASCAN is not responsible for damages to the product or the automobile resulting from improper installation.

DYNASCAN shall not be liable for any consequential damages, including without limitation damages resulting from loss of use or cost of installation. Some states do not allow limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you.

This warranty gives you specific rights and you may also have other rights which vary from state to state.

For your convenience we suggest you contact your dealer, who may be authorized to make repairs or can refer you to the nearest service contractor. If warranty service cannot be obtained locally, please send the unit to Cobra Communications Service, 2815 West Irving Park Road, Chicago, Illinois 60618, properly packaged to avoid damage in shipment.

NOTE

For future reference, jot down the serial number (shown on the FCC identification plate of your COBRA 63GTL) below:

SERIAL NO. _____



Cobra[®]

Cobra Communications Product Group

DYNASCAN CORPORATION

6460 W. Cortland Street

Chicago, Illinois 60635