



Cobra 142GTL
40-Channel
Solid State Citizens Band
SSB/AM Two-Way Radio



Cobra Communications Product Group

DYNASCAN CORPORATION

6460 W. Cortland Street
Chicago, Illinois 60635

INSTRUCTION MANUAL
for
Cobra 142GTL
40-Channel
Citizens Band Solid State
SSB/AM Two-Way Radio



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

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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 142GTL transceiver represent the most advanced SSB/AM two-way radio ever designed for use as Class D stations in the Citizens Radio Service. The unit feature advanced Phase Lock Loop (PLL) circuitry which is used in the AM mode and in the upper and lower single sideband modes, providing complete coverage of all 40 channels shown below.

| 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 |

The COBRA 142GTL has a vastly superior receiver which includes RF gain control, Automatic Noise Limiting, and Noise Blanker circuitry which is effective in both AM and SSB modes. The receiver also feature increased protection against cross modulation and strong adjacent channel signals.

To obtain maximum performance from your transceiver, please read carefully 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 505 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 part 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 | 40AM, 40LSB, 40USB. |
| Frequency Range | 26.965 to 27.405MHz. |
| Frequency Control | Phase Locked Loop (PLL) synthesizer. |
| Frequency Tolerance | 0.005%. |
| Frequency Stability | 0.001%. |
| Operating Temperature Range | -30°C to +50°C. |
| Microphone | Plug-in type; dynamic with push-to-talk switch and coiled cord. |
| Power Consumption (120 VAC) | <i>Transmit:</i> Full mod., 100 watts. <i>Receive:</i> Squelched, 80 watts. |
| Current Drain (13.8 VDC) | <i>Transmit:</i> AM full mod., 3A; SSB, 12 watts PEP output, 3.0A. (MAX) <i>Receive:</i> 1A; full audio output. (MAX) |
| Size | 13"(D) x 13-1/2"(W) x 5"(H) |
| Weight | 10 pounds. |
| Antenna Connector | UHF, S0239. |
| Meters | Shows relative power output, received signal strength, modulation percentage and SWR. |
| Semiconductors | 46 transistors, 1 field effect transistor, 6 integrated circuits, 57 diodes and 3 light emitting diodes. |

TRANSMITTER

| | |
|--------------|-------------------------------------|
| Power Output | AM, 4 watts. SSB, 12 watts, PEP. |
|--------------|-------------------------------------|

| | |
|----------------------------|---|
| Modulation | AM, high- and low-level Class B. |
| Intermodulation Distortion | SSB: 3rd and 5th order, more than -25dB. 7th and 9th order, more than -35dB. |
| SSB Carrier Suppression | -55 dB Nominal. |
| Unwanted Sideband | -50 dB Nominal. |
| Frequency Response | AM and SSB: 300 to 2500 Hz. |
| Output Impedance | 50 ohms, unbalanced. |
| SSB Filter | 7.8 MHz, crystal lattice type: |
| Output Indicators | Meters show relative RF output power, percentage of modulation and SWR. Red LED Transmit Indicator. |

RECEIVER

| | |
|----------------------------|---|
| Sensitivity | SSB: Less than 0.5 μ V for 10 dB (S+N)/N at greater than ½-watt of audio output. AM: Less than 1.0 μ V for 10 dB (S+N)/N at greater than ½-watt of audio output. |
| Selectivity | SSB and AM: 6dB @ 4.2 KHz, 60dB @ 7.0 kHz. |
| Image Rejection | More than 65 dB. |
| IF Frequency | AM and SSB: 7.8 MHz. |
| Adjacent Channel Rejection | AM: -60 dB; SSB: -65 dB. |
| AM and SSB RF Gain Control | Adjustable for optimum signal reception. |
| Automatic Gain Control | (AGC): Less than 10dB change in audio output for inputs from 10 to 100,000 microvolts. |
| Squelch | Adjustable; threshold less than .5 μ V. |
| Noise Blanker | RF type, effective on AM and SSB. |
| Voice Lock Range | \pm 1000 Hz. |

| | |
|---------------------------------|---|
| Audio Output Power | 3 watts into 8 ohm. |
| Frequency Response | 300 to 2000 Hz. |
| Distortion | Less than 10% at 3 watts output. |
| Built-in Speaker | 8 ohms. |
| External Speaker (Not Supplied) | 4 ~ 8 ohms: disables internal speaker when connected. |
| Input Voltage | 120 VAC 60 Hz nominal, 132 VAC maximum and 108 VAC minimum. 13.8 VDC nominal, 15.9 VDC maximum and 11.7 VDC minimum (positive or negative ground). |
| Receive Indicators | Green LED receive indicator. Meter shows receive signal strength. |

PA SYSTEM

| | |
|-------------------------|--------------------------------|
| Power output | 3 watts into external speaker. |
| External Speaker for PA | 4 ~ 8 ohms (not supplied) |

Section III Installation

LOCATION

Prior to beginning operation of the transceiver, a basic installation must be prepared. Installation of the transceiver itself is a rather simple procedure.

In selecting the location for the unit, two basic factors must be considered.

1. Access to a 120V, 60 Hz power source.
2. The location must be convenient for running the antenna lead-in cable if an outside antenna installation is proposed.

BASE STATION ANTENNA

Since the maximum allowable power output of the transmitter is limited by the FCC, the antenna is the most important factor affecting transmission distance. Only a properly matched antenna system will allow maximum power transfer from the 50-ohm transmission line to the radiating element.

The recommended method of antenna tuning is to use an in-line watt-meter or VSWR bridge to adjust the antenna tuning for minimum reflected power on channel 21.

The radio may be used with any type of 50-ohm base station antenna. A ground plane vertical antenna will provide the most uniform horizontal coverage. This type of antenna is best suited for communication with a mobile unit. For point-to-point operation where both stations are fixed, a directional beam will usually increase communicating range since this type of antenna concentrates transmitted energy in one direction. The beam antenna also allows the receiver to "listen" in only one direction thus reducing interfering signals.

Antenna height is an important factor when maximum range is desired. Keep the antenna clear of surrounding structures or foliage. FCC regulations for base station antenna height are:

1. Omni-directional antennas may not be higher than 60 feet above the ground when using a tower, mast or pole, and no higher than 20 feet above an existing structure.

2. Beam antennas may not be higher than 20 feet above the ground when using a tower, mast, pole, or an existing structure.

These are only general regulations applicable to most but not all parts of the nation. Locations near airports and some military installations are subject to different rules; therefore, it is best to contact your nearest Federal Communications Commission office for information regarding your specific area.

MOBILE OPERATION/EMERGENCY POWER OPERATION

It is possible to operate the COBRA 142GTL from an external 13.8 VDC power supply for emergency power conditions or from an automobile battery for mobile operation. The COBRA 142GTL is supplied with a polarized plug for operation on an external DC supply.

The negative lead is black.

The positive lead is red and has an in-line fuse holder as an integral part of the positive lead.

PUBLIC ADDRESS

An external 4 ~ 8 ohm, 4 watt speaker may be connected to the PA speaker jack located on the rear panel when the transceiver is used as a public address system. The speaker should be directed away from the microphone to prevent acoustic feed-back. Physical separation or isolation of the microphone and speaker must be used when operating the PA at high-output levels.

REMOTE SPEAKER

The external speaker jack (EXT. SPKR.) on the rear panel is used for remote receiver monitoring. The external speaker should have 4 ~ 8 ohms impedance and be able to handle at least 4 watts.

When the external speaker is plugged in, the internal speaker is disconnected.

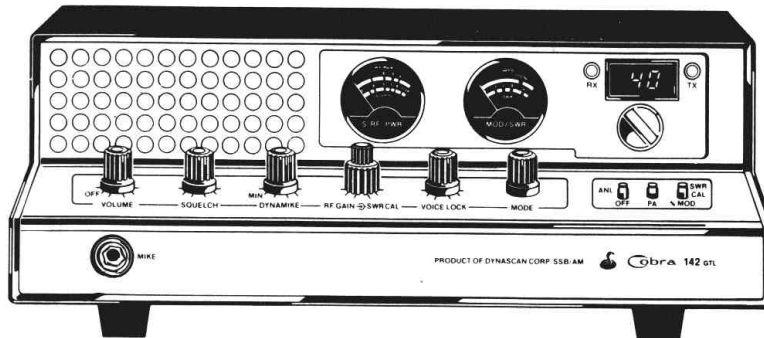
NOTE

THE COBRA 142GTL will operate into an SWR of 2 to 1 indefinitely and sustain open or short-circuit conditions a maximum of 5 seconds at rated operating conditions.

Section IV Operation

CONTROLS AND INDICATORS

There are 11 controls, 2 meters, 3 indicators and microphone connector on the front panel of your COBRA 142GTL.



A. CONTROL FUNCTIONS

1. **OFF/ON VOLUME.** Turn clockwise to apply power to the unit and to set the desired listening level.
2. **SQUELCH.** 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. Turn fully counterclockwise then slowly clockwise until the receiver noise disappears. Any signal to be received must now be slightly stronger than the average received noise. Further clockwise 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 clockwise setting.
3. **DYNAMIKE.** Adjusts the microphone gain in the transmit and PA modes. This controls the gain to the extent that full talk power is available several inches away from the microphone. In the Public Address (PA) mode the control functions as the volume control.
4. **RF GAIN.** Adjust as required to optimize signal. This control is functional in both AM and SSB modes and is used primarily to optimize reception in strong signal areas. Gain is reduced by counterclockwise rotation of the control.

5. **SWR CAL CONTROL.** In order for you to achieve maximum radiated power and the longest range, it is important that your antenna be in good condition, properly adjusted and matched to your transceiver. The built-in SWR (standing wave ratio) meter lets you easily measure your antenna condition. To operate this function, connect your antenna to the transceiver antenna output connector. Select a channel near the middle of the band such as 21 or the channel you plan to use most frequently. Turn the power on and set the meter function switch to the CAL position. Press and hold the microphone push-to-talk button and using the SWR CAL control, adjust the meter to read the CAL position indicated on the meter face. Then, without releasing the microphone button, switch the meter function switch to the SWR position and read the SWR indicated. The lower the figure, the better, with 1 being ideal. Generally speaking, readings up to 3 are acceptable, but over 3 indicates that you are losing radiated power and antenna adjustment may be advisable.

6. **VOICE LOCK.** Allows variation of the receiver operating frequencies above and below the assigned frequency. Although this control is intended primarily to tune in SSB signals it may be used to optimize AM signals.

7. **MODE SWITCH (AM/USB/LSB SWITCH).** This switch selects AM (Amplitude Modulation), USB (Upper Side Band) or LSB (Lower Side Band) mode of operation. The Mode selector switch changes the mode of operation of both the transmitter and receiver simultaneously.

8. **CHANNEL SELECTOR.** This switch selects any one of forty Citizens Band channels desired. The selected channel appears on the LED readout directly above the Channel Selector knob. Channel 9 has been reserved by the FCC for emergency communications involving the immediate safety of life of individuals or immediate protection of property. Channel 9 may also be used to render assistance to a motorist.

9. **OFF/ANL/NB + ANL SWITCH.** In the ANL position only the automatic noise limiter in the audio circuits is activated. When the switch is placed in the NB + ANL position, the RF noise blanker also is activated. The RF noise blanker is very effective for repetitive impulse noise such as ignition interference.

10. **PA/CB SWITCH.** Selects the mode of operation. In the CB position, the PA function is disabled and the unit will transmit and receive on the selected frequency. The PA function should not be used unless a PA speaker is connected.

To use this PA FEATURE, a speaker having a voice coil impedance of 4 ~ 8 ohms and a power handling capability of at least four watts should be used. This speaker must be plugged into the PA SPKR jack at the rear of the transceiver. With the PA speaker connected as outlined previously, be sure that there is physical separation between the microphone and the speaker itself. If the speaker is located close to the microphone, acoustic feedback will result when the public address system is operated at high volume. Some experimentation will determine the minimum amount of isolation required for a given sound level from the public address system.

NOTE

PA volume is controlled by adjusting the DYNAMIKE knob to the desired volume.

11. **SWR/SWR CAL/%-MOD SWITCH.** In the %-MOD position, the S/RF and MOD meters are activated. When in the SWR or SWR CAL positions, the SWR meter is activated. In the later two cases, the operation is described in the above SWR CAL CONTROL description.
12. **PRESS-TO-TALK MICROPHONE.** 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". The radios come complete with a low-impedance 500-ohm dynamic microphone. For installation instructions on other microphones, See, "ALTERNATE MICROPHONES AND INSTALLATION."

B. INDICATOR FUNCTIONS

1. **S-METER.** Swings proportionally to the strength of the incoming signal.
2. **RF METER.** Swings proportionally to the RF output power.
3. **MODULATION METER.** Swings proportionally to the degree of modulation. When transmitting, the switch on the extreme right must be in the % /MOD position for the meter to function.
4. **SWR METER.** Measures the ratio of standing wave voltage of the antenna system. Used to properly adjust the length of the antenna, and to monitor the quality of the coaxial cable and all RF electrical connections. If there is any degradation whatsoever in any of the above, due to humidity, salt spray, vibration or corrosion, the SWR meter reading will rise, thereby indicating that a problem exists.
5. **CHANNEL INDICATOR.** The selected channel appears on the LED readout directly above the channel selector knob.
6. **RECEIVE INDICATOR.** The LED located to the left of the channel display shows green when in the receive mode.
7. **TRANSMIT INDICATOR.** The LED located to the right of the channel display shows red when in the transmit mode.

OPERATING PROCEDURE TO RECEIVE

1. Be sure that power source and antenna are connected to the proper connections before going to the next step.
2. Set PA-CB Switch to the CB position and turn unit on by turning VOLUME control clockwise.
3. Set the VOLUME for a comfortable listening level.
4. Set the MODE switch to the desired mode.
5. Listen to the background noise from the speaker. Turn the SQUELCH control slowly clockwise 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.
6. Set the CHANNEL selector switch to the desired channel.
7. Set the RF gain control fully clockwise for maximum RF gain.
8. Adjust the VOICE LOCK control to clarify the SSB signals or to optimize AM signals.

OPERATING PROCEDURE TO TRANSMIT

1. Select the desired channel.
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 unit before transmitting. Prolonged transmitting without an antenna or with a poorly matched antenna (high SWR; over 3) can cause damage to the transmitter.

RECEIVING SSB SIGNALS

There are three types of signals presently used for communications in the Citizens Band: AM, USB, and LSB. When the MODE switch on your unit is placed in the AM position, only standard double-sideband, full carrier signals will be detected. An SSB signal may be recognized while in the AM mode by its characteristic "Donald Duck" sound and the inability of the AM detector to produce an intelligible output. The USB and LSB modes will detect upper sideband and lower sideband respectively, and standard AM signals.

SSB reception differs from standard AM reception in that the SSB receiver does not require a carrier or opposite sideband to produce an intelligible signal. A single-sideband transmitted signal consists only of the upper or the lower sideband and no carrier is transmitted. The elimination of the carrier from the AM signal helps to eliminate the biggest cause of whistles and tones heard on channels which make even moderately strong AM signals unreadable. Also, SSB takes only half of an AM channel, therefore two SSB conversations will fit into each channel, expanding the 40 AM channels to 80 SSB channels. The reduction in channel space required also helps in the receiver because only *half* of the noise and interference can be received with 100% of the SSB signal.

An SSB signal may be received only when the listening receiver is functioning in the same mode. In other words, an upper sideband signal (USB) may be made intelligible *only* if the receiver is functioning in the USB position.

If a lower sideband (LSB) signal is heard when the receiver is in the USB mode, no amount of tuning will make the signal intelligible. The reason for this may be understood if you consider that when modulation is applied to the transmitter's microphone in the USB mode, the transmitter's output frequency is increased whereas in the LSB mode the transmitter's output frequency is decreased. The result in listening to the receiver is that when the MODE switch is in the proper position (either USB or LSB), a true reproduction of single tone of modulation will result, and if the tone is increased in frequency (such as a low-pitched whistle to a high-pitched whistle) you will hear the increase in the output tone of the receiver. If the incorrect mode is selected, an increase in tone of a whistle applied to the transmitter will cause a decrease in the resultant tone from the receiver.

Thus when a voice is used in place of a whistle or tone, in the proper listening mode the voice will be received correctly whereas in the incorrect mode, the voice will be translated backwards and cannot be made intelligible by

the voice lock control. When listening to an AM transmission, a correct sideband is heard in either mode since both upper and lower sideband are received.

Once the desired SSB mode has been selected, frequency adjustment may be necessary in order to make the incoming signal intelligible. the VOICE LOCK control allows the operator to vary frequency above and below the exact-center frequency of the received signal. If the sound of the incoming signal is high or low pitched, adjust the operation of the VOICE LOCK. Consider it as performing the same function as a phonograph speed control. When the speed is set too high, voices will be high-pitched and if set too low, voices will be low-pitched. Also, there is only *one* correct speed that will make a particular record produce the same sound that was recorded. If the record is played on a turntable that rotates in the wrong direction (opposite sideband) no amount of speed control (VOICE LOCK) will produce an intelligible sound.

An AM signal received while listening in one of the SSB modes will produce a steady tone (carrier) in addition to the intelligence, unless the SSB receiver is tuned to exactly the same frequency by the VOICE LOCK control. For simplicity it is recommended that the AM modes be used to listen to AM signals.

ALTERNATE MICROPHONES AND INSTALLATION

For best results, the user should select a low-impedance dynamic type microphone or a transistorized microphone. Transistorized type microphones have a low output impedance characteristic. The microphones must be provided with a five-lead cable. The audio conductor and its shielded lead comprise two of the leads. The third lead is for receive control, the fourth is for grounding and fifth is for transmit control.

The microphone should provide the functions shown in schematic below.

5 WIRE MIC CABLE

| Pin Number | Mic Cable Lead |
|------------|------------------|
| 1 | Audio Lead |
| 2 | Audio Shield |
| 3 | Receive Control |
| 4 | Grounding |
| 5 | Transmit Control |

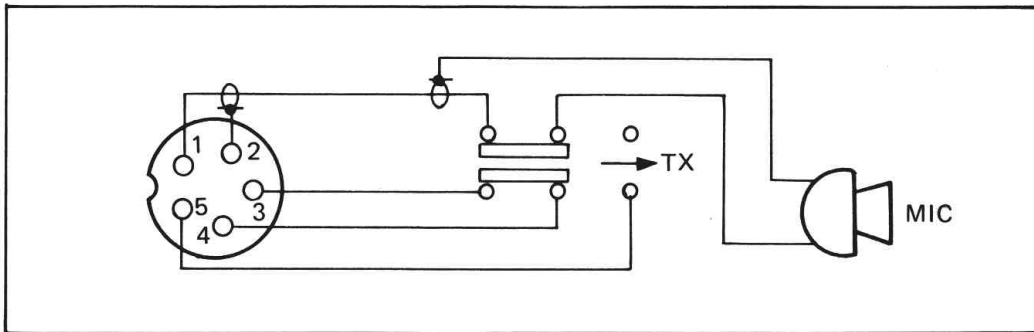


Fig. 1. Cobra 142GTL microphone schematic.

If the microphone to be used is provided with pre-cut leads, they must be revised as follows.

1. Cut leads so that they extend $7/16''$ beyond the plastic insulating jacket of the microphone cable (see Fig. 2.)
2. All leads should be cut to the same length. Strip the ends of each wire $1/8''$ and tin the exposed wire.

Before beginning the actual wiring, read carefully, the circuit and wiring information provided with the microphone you select. Use the minimum heat required in soldering the connections. Keep the exposed wire lengths to a minimum to avoid shorting when the microphone plug is reassembled.

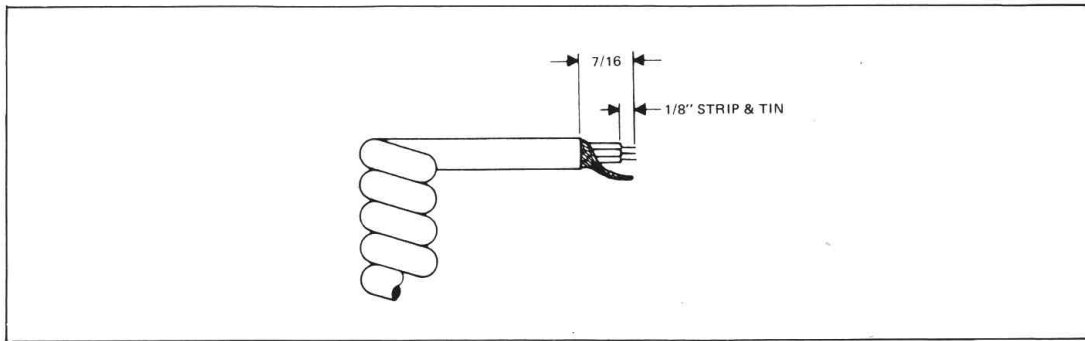


Fig. 2. Microphone Cable Preparation

To wire the microphone cable to the plug provided, proceed as follows.

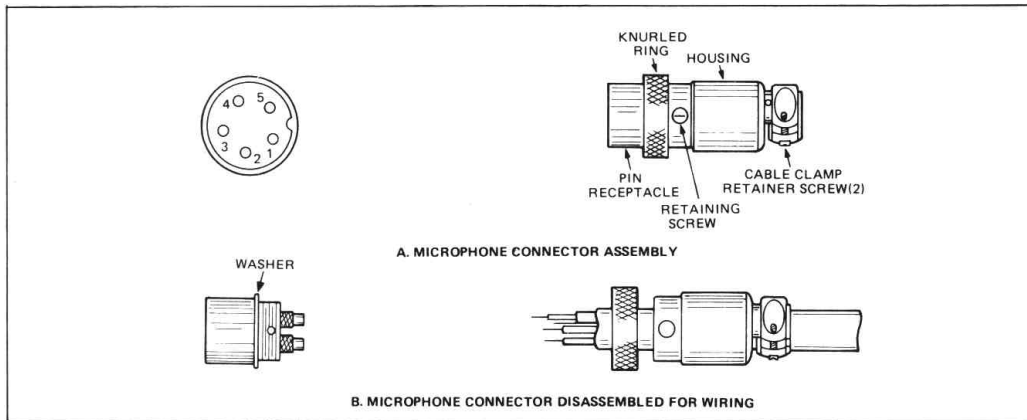


Fig. 3. Microphone plug wiring.

1. Remove the retaining screw.
2. Unscrew the housing from the pin receptacle body.
3. Loosen the two cable clamp retainer screws.
4. Feed the microphone cable through the housing, knurled ring and washer as shown Fig 3B.
5. The wires must now be soldered to the pins as indicated in the above wiring tables. If a vise or clamping tool is available it should be used to hold the pin receptacle body during the soldering operation, so that both hands are free to perform the soldering. If a vise or clamping tool is not available, the pin receptacle body can be held in a stationary position by inserting it into the microphone jack of the front panel. The numbers of the pins of the microphone plug are shown in Fig 4, as viewed from the back of the plug. Before soldering the wire to the pins, pre-tin the wire receptacle of each pin of the plug.

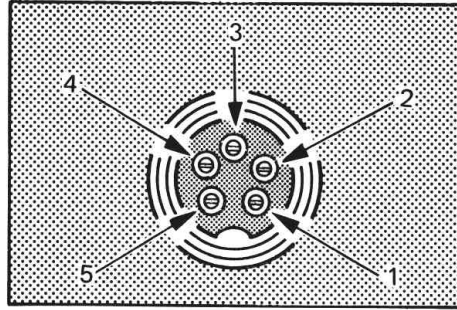


Fig. 4 Microphone plug pin numbers viewed from rear of pin receptacle.

Be sure that the housing and the knurled ring of Fig. 3 are pushed back onto the microphone cable before starting to solder. If the washer is not captive to the pin receptacle body, make sure that it is placed on the threaded portion of the pin receptacle body before soldering.

If the microphone jack is used to hold the pin receptacle during the soldering operation, best results are obtained when the connections to pins 1 and 3 are made first and then the connections to pins 2, 4 and 5. Use a minimum amount of solder and be careful to prevent excessive solder accumulation on pins, which could cause a short between the pin and the microphone plug housing.

6. When all soldering connections to the pins of the microphone plug are complete, push the knurled ring and the housing forward and screw the housing onto the threaded portion of the pin receptacle body. Note the location of the screw clearance hole in the plug housing with respect to the threaded hole in the pin receptacle body. When the housing is completely threaded into the pin receptacle body, a final fraction of a turn either clockwise or counterclockwise may be required to align the screw hole with the threaded hole in the pin receptacle body. When these are aligned, the retaining screw is then screwed into the place to secure the housing to the pin receptacle body.
7. The two cable clamp retainer screws should now be tightened to secure the housing to the microphone cord. If the cutting directions have been carefully followed, the cable clamp should secure to the insulating jacket of the microphone cable.
8. Upon completion of the microphone plug wiring, connect and secure the microphone plug in the transceiver.

Section V

Maintenance and Adjustment

The COBRA 142GTL transceiver is designed specifically for use as a base station and may also be used in mobile installation. The use of all solid state circuitry and 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 elsewhere in this manual.

FCC WARNING

Federal law required that adjustment of the radio frequency section of this transceiver may not be made by a Citizens Band operator. Only a United States licensed First or Second Class commercial license holder may tune the transmitter section of this transceiver, per FCC part 95 section 95.97d.

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 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 142GTL) below:

SERIAL NO. _____



Cobra[®]

Cobra Communications Product Group

DYNASCAN CORPORATION

6460 W. Cortland Street

Chicago, Illinois 60635