

**WIRELESS MARKETING
CORPORATION**

"CM10 Plus"

FCC ID MGPCM-11

Citizen Band Mobile Transceiver

**OPERATING INSTRUCTION
MANUAL**

Addendum to the Operating Instruction Manual for CM10 Plus Radio:

An audio-processing feature is included in the CM10 Plus radio – The Audio Compander system that will be marketed under the name of “Clear Drive” or “Clear Drive Technology”.

When activated, the radio will compress the audio level picked up by the microphone before it transmit over the air. The audio gain for high level peaks are compressed while the gain for low level signals are boosted..

On the receive side, the radio will boost the gain on the high signals and will suppress the low-level signals according to the same compression characteristics in the transmitter side.

When the compander circuit is used in both transmitter and receiver, it reduces the distortion on high level peaks and enhance the clarity of low level signals by reducing the noise level. The result is a clearer audio signal being reproduced in the receiver end.

When compander is only used in the transmitter end, the user at the receiver will notice that the voice signal received has more “punch” as the voice signal is always maintained at high levels to fight against the background noises on the CB channel.

When compander is only used in the receiver end, the user at the receiver will notice that the background noise on the CB channel is reduced by the expander action. However, the user may also find warbling effects on the received audio as the expander is exaggerating the relationship of different signal levels.

The “Clear Drive” compander will be activated by pressing M7 while holding M1 button down while on standby mode. The compander will be turned off by repeating the same key sequences.

*****Note*****

In this pre-production unit, the LCD display is pre-tooled and there is no indication on the LCD display for the activation of compander. The dimmer switch is therefore utilized temporally to control the compander.

When the lights are bright, the compander is off, and when the light is dim, the compander is on.

The manufacturer will change that and add another icon (CD) on the LCD Display to indicate Compander On/Off for the production units during volume production.

INTRODUCTION

CONGRATULATIONS... You have just purchased the smallest; most sophisticated mobile AM Citizens Radio, the Cherokee CM-10. This technological wonder combines proprietary circuitry, surface mount technology, and advanced user features to make it the premier radio in portable communications!

The CB Story

The Citizens Band lies between the short-wave broadcast and 10-meter Amateur radio bands, and was established by law in 1949. The Class D two-way communications service was opened in 1949. (CB also includes a Class A citizens band and Class A remote control frequencies).

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 that is "broadcasting").

WARNING

Replacement or substitution of transistors, regular diodes or other parts of a unique nature, with parts other than those recommended by Cherokee, may cause violation of the technical regulations of Part 95 of the FCC Rules, or violation of Type Acceptance requirements of Part 2 of the Rules.

LICENSING

Citizens Band (CB) Radio operators are no longer required to obtain an FCC license to operate their CB equipment or provide station identification. Nevertheless, an operator of a CB radio station is still required to comply with the communications act and with the rules of CB Radio Operation.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following conditions:
(1) This device may not cause harmful interference and (2) This device must accept any interference received, including interference that may cause undesired operation.

How To Use Your

CHEROKEE™

Advanced 40 Channel

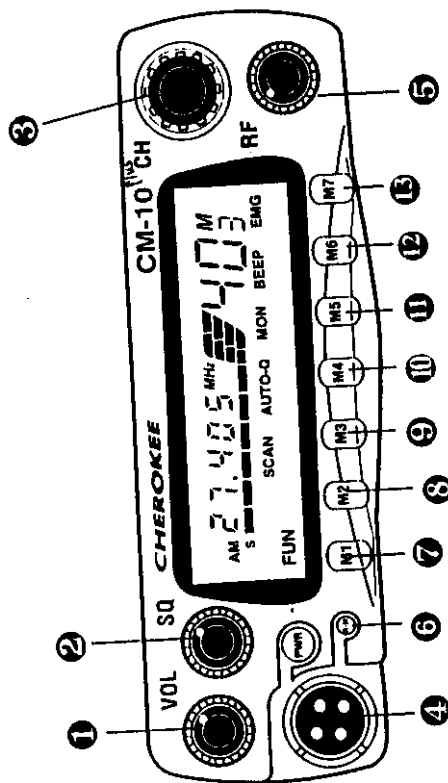
Mobile Citizen's Band Radio

Model CM-10 Plus

CONTENTS	PAGE
Introduction	1
FCC Warning	1
Features	2
Installation	10
Mobile Operation	12
Operating Procedure to Receive	13
Operating Procedure to Transmit	13
A Few Rules That Should Be Obeyed	14
Specifications	15
Limited One Year Warranty	16
If You Need Service	17

DESCRIPTION OF FEATURES

Top Panel Features



1. **Volume:** Turn this button clockwise to set the desired listening volume.
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, the control should be adjusted only to the point where the reception of ambient background noise is eliminated. Any incoming signals that are received will be stronger than the background noise.
3. **Channel Select Knob:** When turned, this knob will select any one of the forty channels desired. Turn the knob to the right to select a higher channel than is currently shown on the display. Turn the knob to the left to select a lower channel than is currently shown on the display.
4. **Push-to-Talk Microphone:** the PTT Microphone controls the receiver and transmitter. Press the switch and the transmitter is activated. You can now send a message. To receive, release the push-to-talk switch. When transmitting, hold the microphone two inches from your mouth and speak clearly in a normal voice. The microphone, with its front mounted screw-on connector, must be connected to the unit at all times when it is use for proper operation.

DESCRIPTION OF FEATURES (Con't.)

Front Panel Features

5. **RF Gain Control:** This switch controls the received signal. Adjust as required to optimize the received signal.
6. **Recall/Memory (R/M):** The R/M button is used to recall stored memory channels and to also store frequently used channels into the seven memory locations.
 - **To Store Frequencies in the Memory locations:**
 - a) Select the frequency you want to store with the **Channel Select** knob.
 - b) Press and hold the **R/M** button for 1.5 seconds. An "M" will appear at the display.
 - c) Then press once and release the corresponding memory location (**M1-M7**).
 - **To Access a Memory location:** Press and release the **R/M** button once, followed immediately by pressing the memory location you want to access. The desired frequency number will appear on the display, with the corresponding memory location indicated next to it.
 - **To Change a Memory location:** If you desire to change the frequency being stored within a memory location, simply repeat the process described in "To Store Frequencies in the Memory locations". The new frequency will be stored over the information that was previously in that memory location.
7. **Function/Memory 1 (M1):** This button controls the function of other pushbuttons on the front panel. When the CM-10 is first turned on, the primary function of each button is shown on the LCD display: SCAN, AUTO-Q, MON, BEEP, EMG.
 - **To Change the Function of the buttons:** Press the **M1** button. The secondary functions will show on the LCD display: BATT, DW, and LOCK.

MEMORY 1: This button is used to store and recall the channel in the first memory location.

DESCRIPTION OF FEATURES (Con't.)

Front Panel Features

8. Last Channel Recall/Battery/ Memory 2 (M2):

LAST CHANNEL RECALL: To activate this feature, press the **M1** button until the LCD display shows a blank above the **M2** button. If **M2** is now pressed, the previous CB channel that was selected will be returned to.

BATTERY: To activate this feature, press the **M1** button until **BATT** shows above the **M2** button. If **M2** is now pressed, the present battery voltage will appear on the display.

MEMORY 2: This button is used to store and recall the channel in the second memory location.

9. Scan/ Dual Channel Watch/ Memory 3 (M3):

SCAN: To activate this feature, press the **M1** button until the LCD display shows **SCAN** above the **M3** button. If **M3** is now pressed, the radio will automatically scan upward through all 40 channels, stopping at any channel that is busy. The radio will remain on that busy channel during the conversation, and will not reactivate scanning until 5 seconds after the conversation has ceased. To stop the scan feature, press the **M3** or depress the PTT switch on the microphone. If you will the radio to scan downward through the channels, rotate the **Channel Selector** knob to the left once **SCAN** has been activated.

DUAL CHANNEL WATCH: The **DUAL WATCH** feature gives the user the ability to monitor and communicate over two channels virtually simultaneously. An application could be communicating but still wanting to monitor emergency channel 9.

To activate this feature, press the **M1** button until the LCD display shows **DW** above the **M3** button. Select the "Watch" or primary channel with the **CHANNEL SELECTOR** knob. Press the **M3** button. **DW** will appear above the **M3** button. Select the secondary channel with the **CHANNEL SELECTOR** knob. The radio will begin the dual watch operation in about three seconds.

NOTE: The radio will stay on the secondary channel for most of the time but will switch to the primary or watch channel every three seconds. If communication on the primary channel is heard, the radio will switch immediately.

DESCRIPTION OF FEATURES (Con't.)

Front Panel Features

To turn off the Dual Watch feature, press the **M3** button. The "DW" on the LCD display will vanish and the radio will return to normal operation on the watch channel. An alternative method to turn off the Dual Watch feature is to press the PTT switch on the microphone while the radio is monitoring the watch channel.

MEMORY 3: This button is used to store and recall the channel in the third memory location.

10. Automatic Quieting/ Memory 4 (M4):

AUTOMATIC QUIETING: This feature helps to eliminate background noise in the absence of an incoming signal. If the incoming signal is lower than the Squelch level, the audio output will be reduced. However, when a proper signal is received the audio output is returned to the normal level.

To activate this feature, press the **M1** button until the LCD display shows **AUTO-Q** above the **M4** button. Press the **M4** button. **AUTO-Q** will appear above the **M4** button.

To stop the Automatic Quieting Feature, press the **M4** button. **AUTO-Q** will vanish from the LCD display.

MEMORY 4: This button is used to store and recall the channel in the fourth memory location.

11. Monitor/ Key Lock/ Memory 5 (M5):

MONITOR: This feature is used to listen to a weak signal without re-adjusting the squelch function.

To activate this feature, press the **M1** button until the LCD display shows **MON** above the **M5** button. Press and hold the **M5** button. The squelch circuit will be overcome and the audio will open and the channel that is selected will be heard. **BUSY** will appear on the LCD display.

KEY LOCK: This feature allows the user to "lock" virtually all of the buttons on the radio so that they can not be operated. This will prevent the radio from having its operation mode changed from that desired by the user.

DESCRIPTION OF FEATURES (Con't.) Front Panel Features

To activate this feature, press the **M1** button until LOCK shows above the **M5** button. Press the **M5** button and "O" appears on the display.

NOTE: POWER, PTT, VOLUME, SQUELCH, MONITOR are not affected by KEY LOCK.

To deactivate KEY LOCK, press the **M5** button and "O" will vanish from the LCD display.

MEMORY 5: This button is used to store and recall the channel in the fifth memory location.

12. Beep/Memory 6 (M6):

BEEP: Gives the user an audible confirmation through a short beep tone that the radio had been turned on. THE CM-10 COMES WITH THIS FEATURE ALREADY TURNED ON.

To deactivate the beep, press the **M1** button until the LCD display shows BEEP above the **M6** button. Press the **M6** button until the "J" vanishes from the LCD display. To re-activate the beep, follow the above procedure until the "J" appears on the LCD display.

MEMORY 6: This button is used to store and recall the channel in the sixth memory location.

13. Emergency Channel 9/19, Memory 7 (M7):

EMERGENCY: Your CM-10 has an Emergency button for instant access to both the National Emergency Channel 9, which is monitored by police and various safety groups, as well as the most frequently used channel by professional drivers, channel 19.

This feature has been designed specifically to give the user fast, simple access to the two channels that will provide the best avenue in calling for help in an emergency situation.

To activate the emergency feature, press the **M1** button until the LCD display shows EMG above the **M7** button. To access channel 9, press the **M7** button. To change to channel 19, rotate the Channel Selector knob to the right.

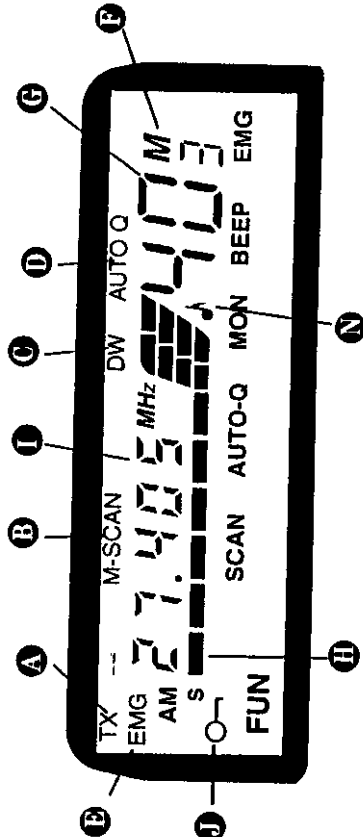
To deactivate the emergency feature, press the **M7** button until the EMG vanishes above the **M7** button.

MEMORY 7: This button is used to store and recall the channel in the seventh memory location.

DESCRIPTION OF FEATURES (Con't.)

14. Display Panel Features

Illustrated below are all the VISUAL INDICATORS that appear on the display, and the corresponding feature function that they associate with:



Liquid Crystal Display Panel: The state-of-the-art liquid crystal panel provides the user with a visual information center on the operation and status of the CM-10.

CAUTION: Due to the components inherent in them, liquid crystal displays should not be subjected to extremes of temperature or humidity. If the unit is exposed to temperatures below -20°C (-30°F) or above +60°C (+140°F), the display may temporarily cease to function properly, and in some cases, could result in permanent damage. Do not subject radio to extreme conditions, such as a closed automobile in direct sunlight or continuous sub-zero temperatures.

All liquid crystal displays have a preferred viewing angle when the display contrast is at a maximum. The best viewing point will vary by user, depending on such variables as temperature, humidity, battery condition, and the actual user's eyesight.

A. TX: Indicates that the radio is in the transmit mode.

B. M-SCAN/SCAN

SCAN: Indicates that the radio is in the scan mode, which works in conjunction with all 40 channels.

M-SCAN: Indicates that the radio is in the memory scan mode, which works in conjunction with only the seven memory channel locations.

DESCRIPTION OF FEATURES (Con't.)

Display Panel Features

- C. **DW:** Indicates that the Dual Watch feature has been activated.
- D. **AUTO-Q:** Indicates that the Automatic Quality noise reduction feature has been selected.
- E. **EMG:** Identifies that the radio is in the Emergency Channel mode, either Channel 9 or Channel 19.
- F. **M:** Indicates that a preset memory location has been selected, and the corresponding channel that is assigned to that memory.
- G. **Channel Indicator:** Displays the channel number on which the radio is operating.
- H. **Signal/RF Meter:** Your Cherokee CM-10 incorporates a ten-segment incoming signal and power output meter in the liquid crystal display (LCD) panel.

When receiving a signal, the meter will indicate how strong the signal is. One or two segments will indicate a weak signal, while a strong signal shows five or more segments.

When transmitting, the letters "TX" will appear on the display. When the PTT switch on the microphone is pushed, all ten segments will appear.
- I. **Frequency Indicator:** Indicates the frequency at which the radio is operating.
- J. "O—" indicates that the radio is in the "Lock" mode.
- K. **SCAN, AUTO-Q, MON, BEEP, EMG:** Indicates that the primary function of M1 through M7 buttons is active.
- L. **BATT, DW, LOCK:** Indicates that the secondary function of M1 through M7 buttons is active.
- M. "A "": Indicates that the beep tone confirmation feature has been activated.

DESCRIPTION OF FEATURES (Con't.)

Display Panel Features

- N. **MHz:** Indicates the frequency measurement unit "MegaHertz".
 - O. **V:** Indicates "Voltage" of the power source; usually a car battery.
 - P. **Frequency Indicator:** Displays the frequency where the radio is operating.
 - Q. **FUN:** Indicates that the M1 button has been selected. Lights steadily for the primary function and blinks for the secondary function.
- ## SPECIALTY FEATURES
1. **RESET:** If the radio does not respond or if you want to reset all stored memory locations, press and hold M1 and then press M5.
- NOTE:** When the radio has been turned off for a long period, it is best to reset the radio.
2. **DIM/BRIGHT:** To adjust the brightness of the LCD backlighting, press and hold M1 and then press M7.
 3. **LOW BATTERY:** An audible and visual indication when the battery voltages drops too low.

INSTALLATION

Power Requirements

The CM-10 is designed for use in vehicles with a 12-volt negative ground system. Only a very small minority of vehicles uses a positive ground system or other than 12 volts for power.

Warning: Before beginning installation, check that your vehicle's Negative (-) battery terminal is connected to the motor block or other metal piece. Contact your vehicle's dealer if you have any doubt.

Location

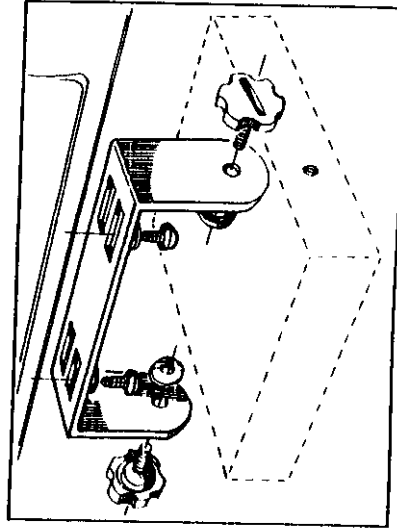
Plan the location of the transceiver and microphone bracket before starting the installation. Select the location that is convenient for operation and does not interfere with the driver or passengers in the vehicle. In automobiles, the transceiver is usually mounted to the underneath of the dash panel, with the microphone bracket beside it.

Mounting Connection

The transceiver is held in the universal mounting bracket by two thumb screws, permitting adjustment at the most convenient angle.

A universal mounting bracket is supplied along with self tapping screws and star washers. The mounting must be mechanically strong and also provide a good electrical connection to the chassis of the vehicle. To mount the transceiver:

1. Determine the most convenient location in your vehicle. Hold the radio 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 screws.
2. Drill necessary holes and secure mounting bracket in location.



INSTALLATION (Con't.)

3. Connect the antenna cable plug to the standard receptacle on the unit. Most CB antennas are terminated with a type PL-259 plug which mates with the receptacle marked "ANT."
4. Connect the red lead of DC power cord to +13.8VDC. In automobile installation, +13.8VDC is usually obtained from the accessory contact in the fuse box. This prevents the set being left on accidentally and also permits operating the unit without the vehicle's engine running.
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).
5. Connect the black lead to the negative side of the automobile. This is usually the chassis of the car. Any convenient location with good electrical contact (remove paint) may be used.
6. Mount the microphone bracket on right side of the transceiver or near it using two screws supplied. When mounting in an automobile, place the bracket under the dash so the microphone is readily accessible.

CB Antenna

Since the maximum allowable power of the transmitter is limited by the FCC, the antenna is 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. 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 application where the maximum possible distance is not required. Also, the loaded whips do not present the problems of height imposed by a full quarter-wave-length 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 nondirectional. 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. For recommendations on the best antenna to use with your Cherokee radio, consult your Cherokee dealer.

INSTALLATION (Con't.)

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.

3-Way Combination Antennas are available which allow operation of all three bands (AM-FM & CB), using a single antenna. However, use of this type of antenna usually results in less than normal transmit and receive range when compared to a standard-type "Standard-Band" antenna designed for CB only.

Ignition Noise Interference

Use of a mobile receiver at low signal levels is normally limited by the presence of electrical noise. The primary source 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 Cherokee radio has an automatic noise limiter, in some installations, ignition interference and other forms of automobile generated noise 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 Cherokee dealer or a 2-way radio technician for help in locating and correcting the source of severe noise.

DO NOT ATTEMPT TO OPERATE THIS TRANSCIVER BY CONNECTING DIRECTLY TO 120 VAC.

Temporary Mobile Operation

To operate your Cherokee transceiver from a car on a temporary basis, you may want to purchase an optional cigar lighter adapter from your Cherokee dealer. This adapter and a magnetic mount antenna allow you to quickly "install" your transceiver for temporary use.

OPERATION

Operating Procedure to Receive

1. Be sure that the power, antenna and microphone are properly connected before proceeding further.
2. Turn the radio ON by pushing PWR button.
3. Turn the CHANNEL SELECTOR KNOB to select the desired operating channel.
4. Rotate SQUELCH CONTROL counterclockwise until incoming background noise is heard.
5. Set the VOLUME CONTROL to a comfortable listening level.

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.

Operating Procedure to Transmit

1. Select the desired channel.
2. 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, (on a clear channel), hold the microphone two inches from the mouth and speak in a clearly normal voice.

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.

A Few Rules That Should Be Obeyed

1. 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.
2. You are not allowed to blast others off the air by overpowering them with illegally amplified transmitter power or illegally high antennas.
3. You can't use CB to promote illegal activities.
4. You are not allowed to use profanity.
5. You may not play music in your CB.
6. You may not use your CB to sell merchandise or professional service.

How Your CB Can Serve You

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

The Highway Patrol has said that drunk drivers, wrong-way drivers and speeders reported by CBers is "amazing." 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 regard to CB radar warnings to other CBers, the Highway patrol has said, "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

The 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	"A tornado sighted six miles of town."
Not Permitted	"This is observation post number 10. No tornado sighted."

Specifications

Channels: 40
 Frequency Range: 26.965 to 27.405 MHz
 Frequency Control: Phase Locked Loop (PLL) synthesizer
 Frequency Tolerance: $\pm 0.001\%$
 Operating Temp: -10°C to $+60^{\circ}\text{C}$
 Microphone: Plug in type; dynamic
 Input Voltage: 13.8V DC
 Size: 5.75"W x 6"D x 1.75"H
 Weight: 2.5 lbs.
 Antenna: UHF, SO-239

TRANSMITTER

Power Output: 4 Watts
 Modulation: Class B amplitude modulation
 Output Impedance: 50 Ohms
 Mic. Sensitivity: 3.5 mv @ 50% Modulation

RECEIVER

Sensitivity: 0.7mv for 10dB S/N
 Image Rejection: Greater than 60 dB
 Audio Output Power: Greater than 3 watts (10% Distortion)
 Freq. Response: 300 - 3000 hz
 Internal Speaker: 8 Ohms

Specifications and features are subject to change without notice.

WARRANTY

Limited One Year Warranty

WIRELESS MARKETING CORPORATION warrants that its Cherokee citizens band (CB) radio, and the component parts thereof, will be free of defects in workmanship and materials for period of one (1) year from the date of first consumer purchase. This warranty may be enforced by the first consumer purchaser, provided that the product is utilized within the U.S.A.

Wireless Marketing will, without charge, repair or replace, at it's option, defective citizens band (CB) products or component parts upon delivery to the Wireless Factory Service Department, accompanied by proof of the date of first consumer purchase, such as a duplicated copy of a sales receipt.

You must pay any initial shipping charges required to ship the product for warranty service, but the return charges will be at Cherokee expense, if the product is repaired or replaced under warranty. For further details concerning procedures for obtaining service, see the "If You Need Service" section of the Owner's Manual.

Exclusions: This limited warranty does not apply; 1) to any product damaged by accident; 2) in the event of misuse or abuse of the product or as a result of unauthorized alterations or repairs; 3) if the serial number has been altered, defaced or removed; 4) if the owner of the product resides outside the U.S.A.

All implied warranties, including warranties of merchantability and fitness for a particular purpose are limited in duration to the length of this warranty.

Cherokee shall not be liable for any incidental, consequential or other damages; including, without limitation, damages resulting from loss of use or cost of installation.

Some states do not allow limitations on how long an implied warranty lasts and/or do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation may not apply to you.

WIRELESS MARKETING CORPORATION

1212 REMINGTON ROAD
SCHAUMBURG, IL 60173

Ph: 1-800-259-0959. Fx: 1-847-839-0016,
E-Mail: wrlmkt-sprynet.com

For additional information about your new CB or the accessories available for it: Call the toll free Cherokee Consumer Information line.

1-800-259-0959

(In the U.S. and Canada ONLY)
Monday - Friday: 8:00am - 5pm, CST.
(Please have the model and serial number ready)

If You Think You Need Service, Call 1-800-259-0959

You may be asked to send your unit to the Cherokee factory. It will be necessary to furnish the following, in order to have the product serviced and returned.

1. For Warranty Repair include some form of proof-of-purchase, such as a mechanical reproduction or carbon or a sales receipt. If you send the original receipt it cannot be returned.
2. Send the entire product. Must include CB unit and antenna.
3. Enclose a description of what is happening with the unit. Include a typed or clearly printed name and address of where the unit is to be returned.
4. Pack unit securely to prevent damage in transit. If possible, use the original packing material.
5. Ship prepaid and insured by way of a traceable carrier (to avoid loss in transit) such as United Parcel Service (UPS), Roadway Parcel Service (RPS), or First Class Mail; to

Cherokee Factory Service
Wireless Marketing Corporation
1212 Remington Road
Schaumburg, IL 60173.

Cherokee is not responsible for units not received if package has not been properly insured.

6. Upon receipt of unit at Cherokee, an "acknowledgment card" will be sent to you. Keep this card and if you need information about your unit refer to the "Receiving Number," model number, your (or other) name exactly as it appears on return address (#3 above) and date unit was shipped.

If you received the Cherokee product as a gift and you do not have the proof-of-purchase information necessary for service, include the following information, with the product:

Clearly printed or typed name and address. Date, month and year you received the gift. Model number. Where purchased (if possible)—store name and location.

APPENDIX 6
ALIGNMENT PROCEDURE

FIVE (5) PAGE ALIGNMENT PROCEDURE FOLLOWS THIS SHEET

ALIGNMENT PROCEDURES
FCC ID: MGPCM-11

APPENDIX 6

ALIGNMENT PROCEDURE

1) PHASE LOOKED LOOP AND CPU SECTION

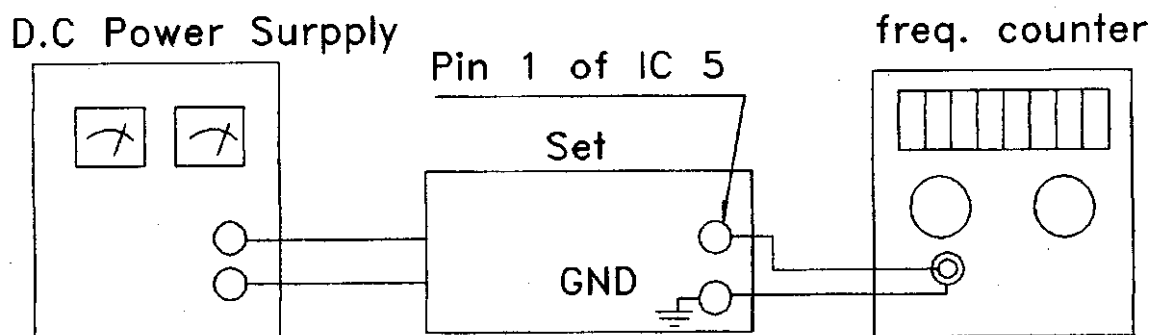
STEP	SETTING	CONNECTION	ADJUST	ADJUST FOR
1	Frequency adjustment ; Mode : Receive Volume : Optional Squelch : Optional CH Selector : 1	Frequency counter to output pin_1 of IC5(LC72338) (Figure-1)	CT901	3.6MHz $\pm$ 100Hz
2	CPU Voltage check ; Mode : Receive Volume : Optional Squelch : Optional CH Selector : Optional	Connect DC volt. meter to PIN 31,73 OF IC 901 (LC72338) (Figure-2)		Indication on DC voltmeter must be 5.0-6volt.

2) TRANSMITTER SECTION

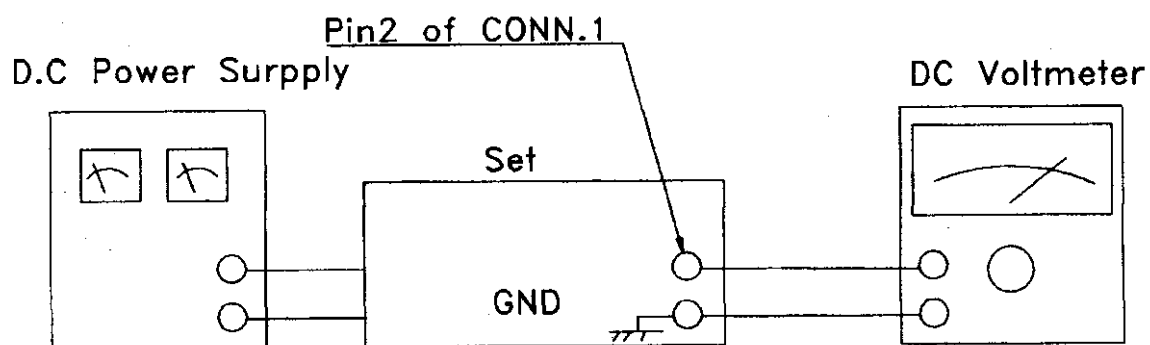
STEP	SETTING	CONNECTION	ADJUST	ADJUST FOR
1	RF Driver stage ; Mode : Transmit Volume : Optional Squelch : Optional CH Selector : 19	Connect oscilloscope probe to base of Q602 (Figure-3)	T601 T602	Adjust for Maximum wave form on the oscilloscope.
2	RF Power stage ; Mode : Transmit Volume : Optional Squelch : Optional CH Selector : 19	Connect dummy load and RF power meter to the external ANT-jack on the set (Figure-4)	T604 VR1	Adjust for T604 for max. Indication on the power meter. Adjust VR1 for 4W output.

3	Second harmonic check ; Mode : Transmit Volume : Optional Squelch : Optional CH Selector : 19	Connect RF power meter with dummy load to spectrum analyzer through coupler/-40dB atten. to EXT-ANT. jack on the set (Figure-5).		At no modulation, Compare the level of fundamental freq-spectrum to the level of harmonic freq-spe-ctrum. Suppression of the 2nd harmonic Freq. level must be lower than -60dB. Check for the other channel's
4	Frequency check ; Mode : Transmit Volume : Optional Squelch : Optional CH Selector : 19	Connect dummy load and frequency counter through coupler to RF power meter. Also connect power meter to EXT-ANT. jack on the set. (Figure-6)	CT901	Make sure that the Indication of the Transmitter freq. is $27.185\text{MHz} \pm 300\text{Hz}$ on the frequency counter.
5	MAX modulation level check ; Mode : Transmit Volume : Optional Squelch : Optional CH Selector : 19 Compannder : ON	Connect dummy load and modulation meter through coupler to RF power meter. Also connect power meter to EXT-ANT. jack on the set. (Figure-7)	VR401	Adjust VR401 so that the indication of the modulation analyzer is 90% with $\pm 5\%$ tolerance.

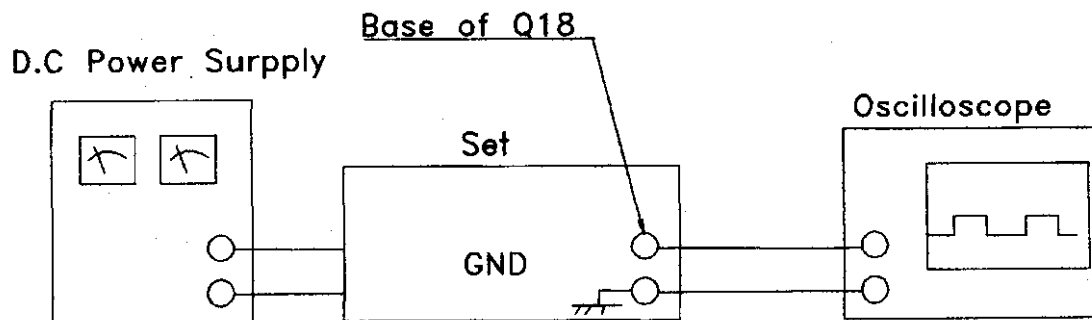
TEST EQUIPMENT SET-UP



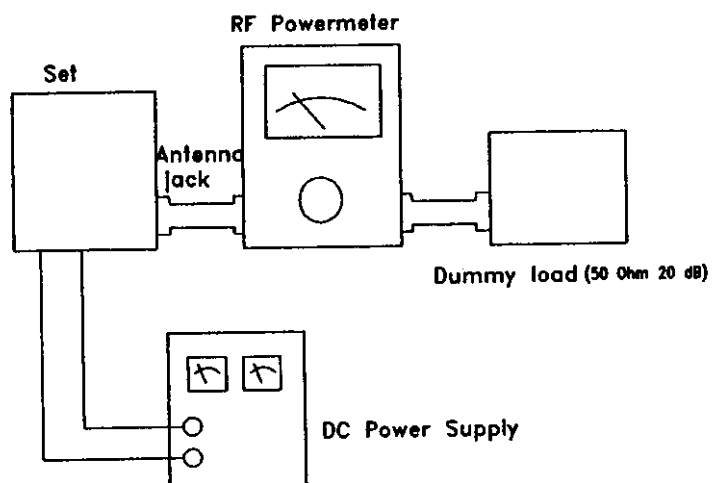
[FIGURE 1]



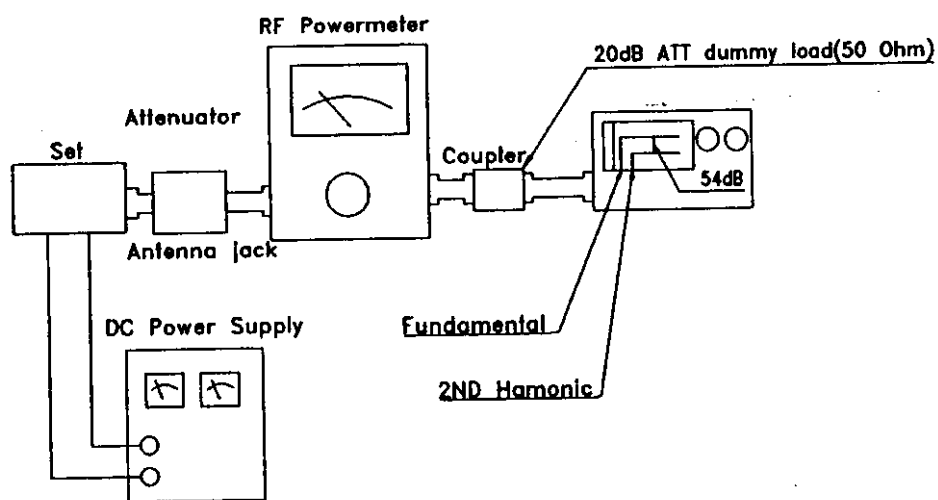
[FIGURE 2]



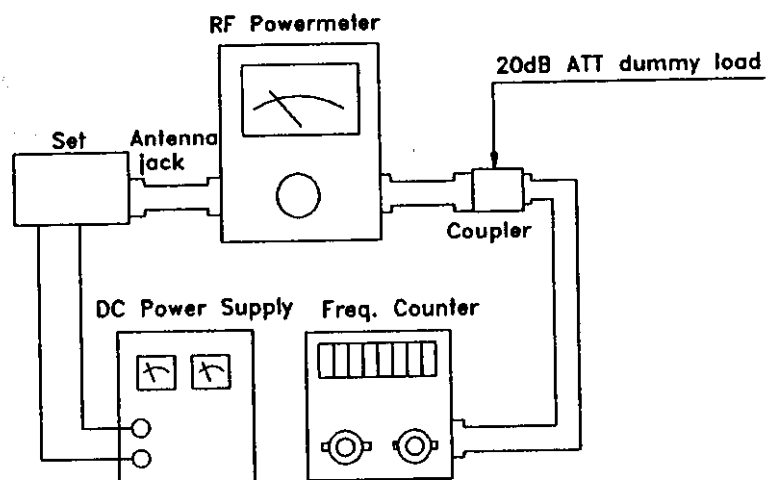
[FIGURE 3]



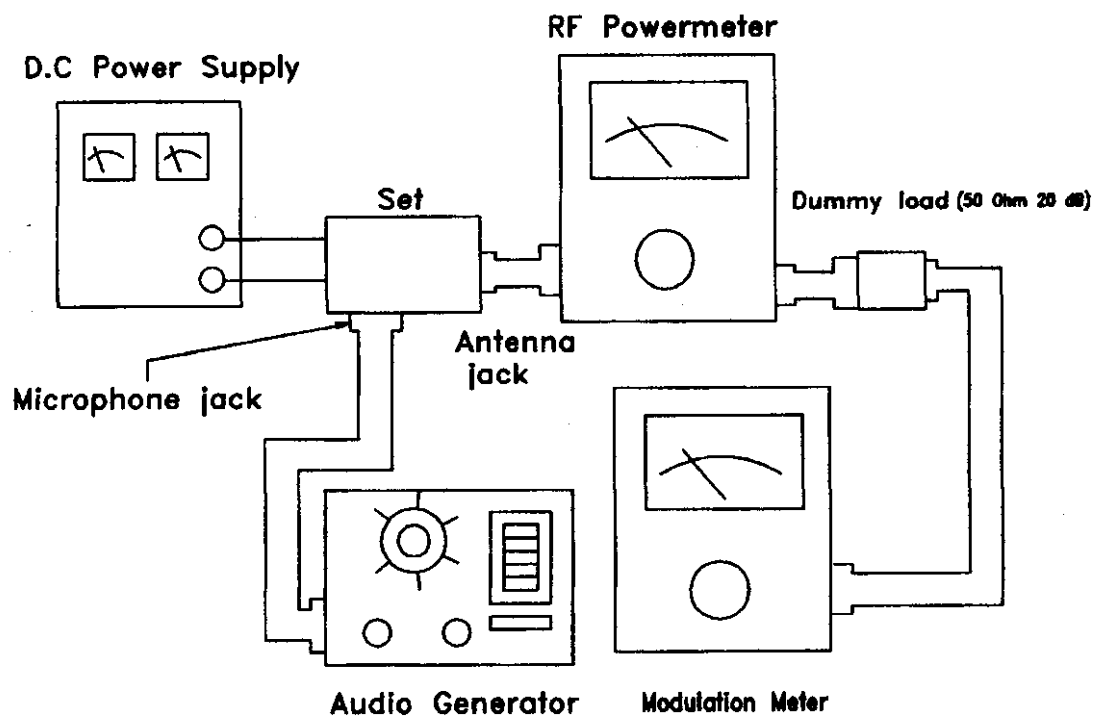
[FIGURE 4]



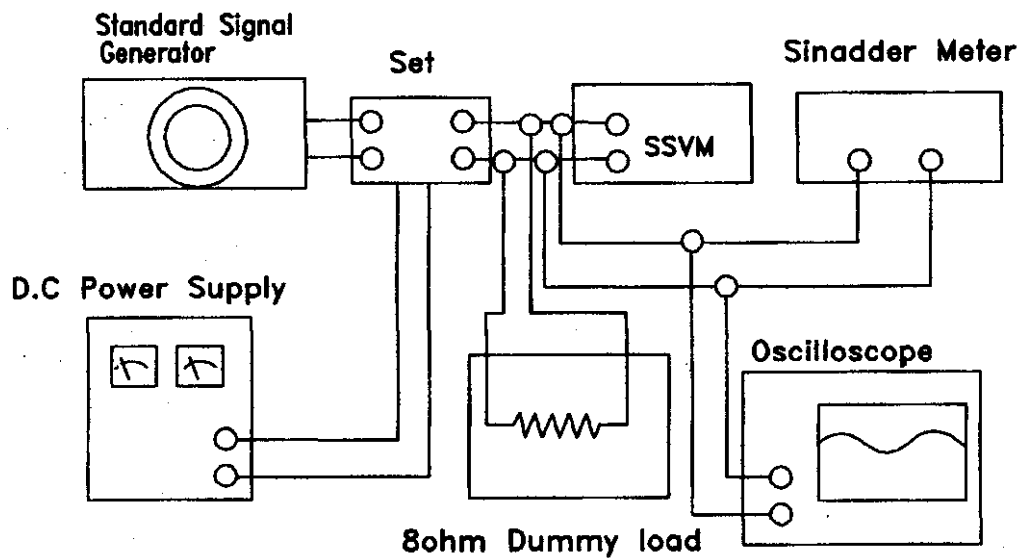
[FIGURE 5]



[FIGURE 6]



[FIGURE 7]



[FIGURE 8]

APPENDIX 7

CIRCUITS AND DEVICES TO STABILIZE FREQUENCY

All 40 channels of transmitting, and receiving, frequencies are provided by PLL (Phase Locked Loop) circuitry.

The purpose of the PLL is to provide a multiple number of frequencies from a VCO (Voltage Controlled Oscillator) with quartz crystal accuracy and stability locked to crystal oscillator reference frequency.

The reference crystal oscillator frequency is 3.6 MHz.

CIRCUITS AND DEVICES TO
STABILIZE FREQUENCY
FCC ID: MGPCM-11

APPENDIX 7

APPENDIX 8

1. Circuits For Suppression Of Spurious Radiation

The tuning circuit between the output of final amp Q603 and antenna, 4-stage "PH1: network T604, C607, C620, L604, C621, L602, C609, C605, C606, L605 serves as a spurious radiation suppressor.

This network also serves to match the impedance between TX power amp and the antenna.

2. AM Modulation

Modulation signal from the mic amplifier (comander circuit is fed to the audio power amplifier IC401 via an RC audio filter network. The output of IC401 is connected to modulation transformer T401 to modulate the RF amplifier transistors in the transmitter section.

Adjust RV401 so that the transmitter modulation output would not exceed 90% while feeding a 1 KHz audio tone 20 dB up from 50% mod level input point.

DEVICES AND CIRCUITS TO SUPPRESS
SPURIOUS RADIATION; LIMIT
MODULATION AND POWER
FCC ID: MGPCM-11

APPENDIX 8

APPENDIX 9
PLL DATA SHEETS

NINETEEN (19) PAGES FOR LC72338 PLL FOLLOW THIS SHEET

PLL DATA SHEETS
FCC ID: MGPCM-11

APPENDIX 9