

# CONQUEROR 40D

PHASE LOCKED LOOP

40 CHANNEL

CITIZENS BAND TRANSCEIVER



FCC TYPE ACCEPTED



**INSTRUCTION  
MANUAL**

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## SECTION I, INTRODUCTION

### NOTICE

FCC Rules and Regulations, Part 95, requires that only those persons possessing a valid First or Second Class Radio Telephone Operator's license are permitted to make repairs or adjustments in the transmitter section of any Citizens Band Transceiver.

### CERTIFICATION

FANON/COURIER Corporation, Pasadena, California, certifies that this Citizens Band Transceiver meets the applicable requirements of FCC Rules and Regulations, Parts 15 and 95, regarding frequency tolerance, stability, power output, modulation, and spurious suppression

This certification is void if crystals other than those recommended by the manufacturer are installed or if any modification is made to the transmitter circuits, not specified by FANON/COURIER Corporation.

## STATION LICENSE REQUIREMENTS

Before placing the transmitter on the air, a valid permanent Class D Citizens Band Radio Station License or a Temporary Permit must be obtained, as follows:

1. Read and understand the enclosed copy of the FCC Rules and Regulations, Volume VI, Part 95, dealing with permissible communications for Class D Citizens Band Radio Stations.
2. Complete FCC Form 505, Application for Class D Station License and mail to Federal Communications Commission, Gettysburg, PA 17326.
3. Complete FCC Form 555-B, DO NOT MAIL the form to the FCC. The Temporary Permit is valid for 60 days from the date of application for a Permanent Station License.

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

License applications may be obtained from the Federal Communications Commission, Washington, D.C. 20554 or from the nearest FCC Field Office Listed below.

### FCC FIELD OFFICES

Mobile, AL 36602	Boston, MA 02109
Anchorage, AK 99501	Detroit, MI 48226
Los Angeles, CA 90012	St. Paul, MN 55101
San Diego, CA 92101	Kansas City, MO 64106
San Francisco, CA 94111	Buffalo, NY 14203
San Pedro, CA 90731	New York, NY 10014
Denver, CO 80202	Portland, OR 97204
Miami, FL 33130	Philadelphia, PA 19106
Tampa, FL 33602	San Juan, PR 00903
Atlanta, GA 30303	Beaumont, TX 77701
Savannah, GA 31402	Dallas, TX 75202
Honolulu, HI 96808	Houston, TX 77002
Chicago, IL 60604	Norfolk, VA 23510
New Orleans, LA 70130	Seattle, WA 98104
Baltimore, MD 21202	

## PLL FREQUENCY SYNTHESIZER

Most Citizens Band Transceivers in the past used Frequency Synthesizers utilizing 12 or more quartz crystals to generate the various radio signals for receiving and transmitting the assigned CB channels. The frequency stability of each channel, when receiving or transmitting, was dependent largely upon the crystals used to generate the frequencies for that channel. The frequency accuracy and stability of one channel was often better than another.

Citizens Band transceivers of recent design, such as the transceiver you have purchased, utilize the most advanced design of frequency synthesizers called Phase Locked Loop (PLL) Frequency Synthesizers. These synthesizers utilize a minimal number of crystals as reference frequencies from which transmitting and receiving frequencies are developed. The transmitting and receiving frequencies are stabilized by phase comparing to the reference frequency and thus providing a phase-locked loop.

There are several types of PLL circuits in use; the one your transceiver uses incorporates the best features of these designs. Your transceiver uses crystal controlled standards with digital type programmable frequency dividers for selection of the channel frequencies, which are always locked to the reference frequency. If for any reason the PLL is not "locked" the transmitter will not transmit.

## SECTION II, INSTALLATION

READ ALL THE INSTALLATION INSTRUCTIONS IN THIS MANUAL BEFORE ATTEMPTING TO INSTALL OR OPERATE YOUR TRANSCEIVER. SAVE THE SHIPPING CONTAINER AND ALL THE PACKING MATERIALS FOR FUTURE USE.

### A. Location

1. Install the transceiver in an area that is comparatively dry, dust free and near to a 117 VAC, 60 Hz power outlet. Position on a table, desk or shelf, preferably away from heavy traffic.
2. Microphone

Connect microphone plug into transceiver jack. A microphone hanger is provided which may be attached to the desk or table within easy reach from your position when operating your transceiver. The microphone is a fine precision instrument and should be handled with care.

### B. Power Connections

The transceiver is designed to operate from 117 V, 60 Hz or from a DC power source capable of supplying 13.8 VDC and 3 or more Amperes.

#### 1. AC Power Connections

Before inserting the AC power connector into the power outlet, turn the VOLUME ON/OFF switch on the front panel to the OFF position, and the AC/DC MODE switch on the rear panel to the AC position. Be sure voltage is 110 to 120 volts and that the frequency is 60 Hz. Circuit protection is provided by a 125 V, 1 ampere fuse which is located inside the transceiver cabinet. UNDER NO CIRCUMSTANCES SHOULD A FUSE OF GREATER AMPERAGE THAN 1 AMPERE BE USED TO REPLACE A BURNED OUT FUSE AS SEVERE DAMAGE MAY RESULT TO THE TRANSCEIVER AND VOID THE WARRANTY.

## 2. DC Power Connections (Figure 1)

- a) Before you insert the DC power cable plug into the POWER connector on the rear panel, BE SURE THE TRANSCEIVER POWER SWITCH IS OFF AND THAT THE PROPER CONNECTIONS HAVE BEEN MADE TO THE DC POWER SOURCE. Switch the AC/DC Mode Switch to DC.
- b) Connect the RED lead with the fuse holder to the POSITIVE terminal on the power source. Connect the other lead (BLACK) to the NEGATIVE terminal. CHECK CAREFULLY THE POLARITY OF THE POWER SOURCE BEFORE CONNECTING TO THE TRANSCEIVER.
- c) Verify that the fuse holder in the wire contains a fuse not exceeding 3 amperes. UNDER NO CIRCUMSTANCES SHOULD A FUSE OF GREATER THAN 3 AMPERES BE USED TO REPLACE A BURNED OUT FUSE. ALSO, NEVER BYPASS THE FUSE WITH A JUMPER WIRE. IN EITHER CASE SEVERE DAMAGE MAY RESULT TO THE TRANSCEIVER AND VOID THE WARRANTY.

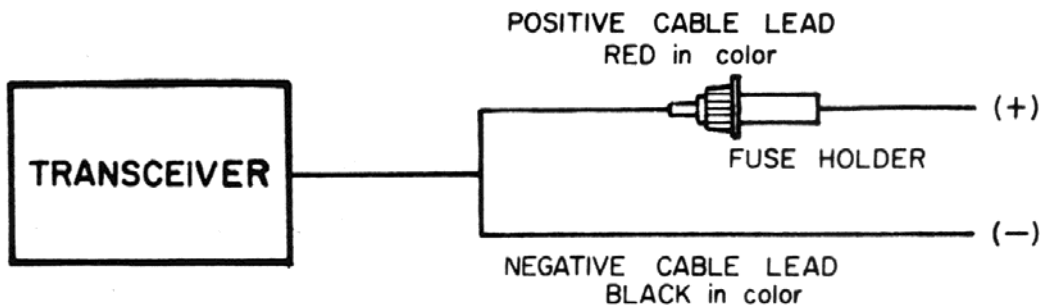


FIGURE 1, D.C. POWER CABLE, LEAD IDENTIFICATION DIAGRAM

### C. Antenna and Cable Information

1. The antenna is a very important part of your radio station, whether it is a mobile or base station. Antenna height is of prime importance. Refer to the FCC Rules and Regulations for the maximum height from the ground or building you are allowed. The higher the terrain or structure on which the antenna is mounted, the greater the range of communication will be.

2. The unit is designed to operate with any good quality Citizens Band mobile or base station antenna. The type of antenna you should use depends in large measure upon WHERE the antenna is to be mounted and the radiation pattern you require. All FANON/COURIER dealers are well qualified to assist you in selecting the proper type.

3. Transmission Cable Requirements

In most cases, the coaxial cable supplied with mobile CB antennas are of the proper length for connecting directly to the antenna connector on the rear panel of the transceiver; however, if it is necessary to change the length, type RG58/U is recommended for lengths up to 50 feet.

4. Length Calculations

The length of the transmission cable is very important, as the length will vary according to the transmission "velocity factor" of the cable. The length of cables with a velocity factor of 0.66 (regular type cable) should be in odd multiples of 6 feet for a frequency of 27 MHz.

Cables with a velocity factor of 0.82 (foam type dielectric) should be in odd multiples of 7.5 feet for 27 MHz installations.

5. The formula for determining the length in feet of the cable you may use, is as follows:

$$\text{Cable length} = \frac{246 V}{f}$$

Where V = Transmission Velocity Factor of the cable

f = Frequency, in Megahertz

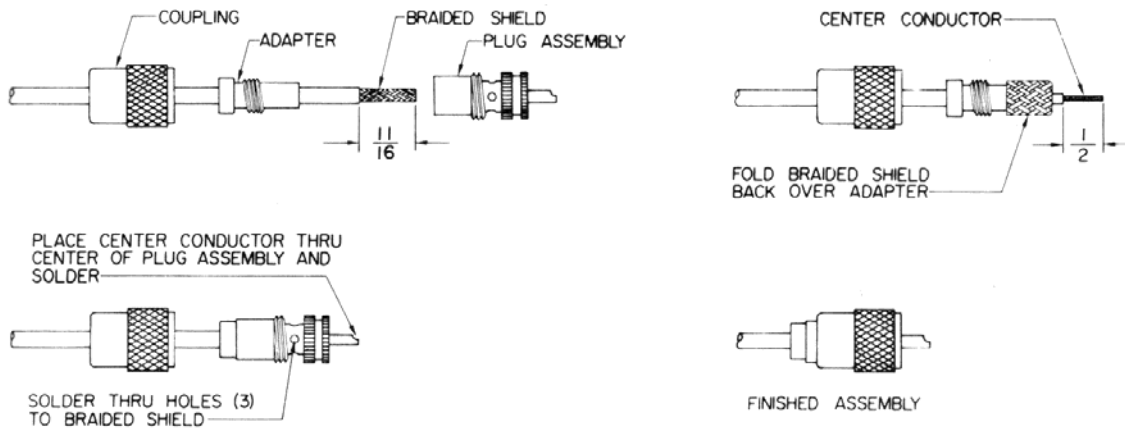


FIGURE 2, CABLE CONNECTOR ASSEMBLY DIAGRAM

D. Voltage Standing Wave Ratio (VSWR) Measurements

The VSWR of the antenna system should not be greater than 1.5 to 1. Use a COURIER Model Port-A-Lab 500 D Voltage Standing Wave Ration Meter, or equivalent instrument; follow the instructions given with the instrument.

E. PA Speaker Connection

Prepare an 8 ohm horn or speaker with an insulated cable and miniature phone plug, and connect to the PA SPEAKER jack. (Refer to figs. 3 and 4). TO AVOID DAMAGE, BE SURE CABLE DOES NOT SHORT TO TRANSCEIVER CASE. Set the PA/CB switch to PA and press the microphone switch. Adjust the volume control for the proper audio level at the PA speaker or horn. When the CB/PA switch is in the PA position, all other functions of the transceiver are turned off.

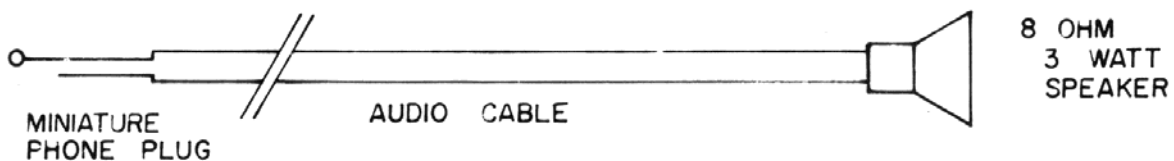


FIGURE 3, P.A. SPEAKER CABLE DIAGRAM

## SECTION III, STATION OPERATION

After completing the installation in accordance with the previous instructions and posting your FCC Station License as required, you are ready to operate your transceiver. Before operating your transceiver, thoroughly familiarize yourself with the front panel layout (fig. 4) and study the following descriptions of the controls and indicators.

### A. Function of Controls and Indicators

#### VOLUME ON/OFF SWITCH

The volume control functions as the Power ON/OFF switch and controls the audio level of the internal or external speaker. Rotate the control fully counterclockwise to turn the transceiver power OFF. A "click" will be heard when the power switch operates.

#### SQUELCH CONTROL

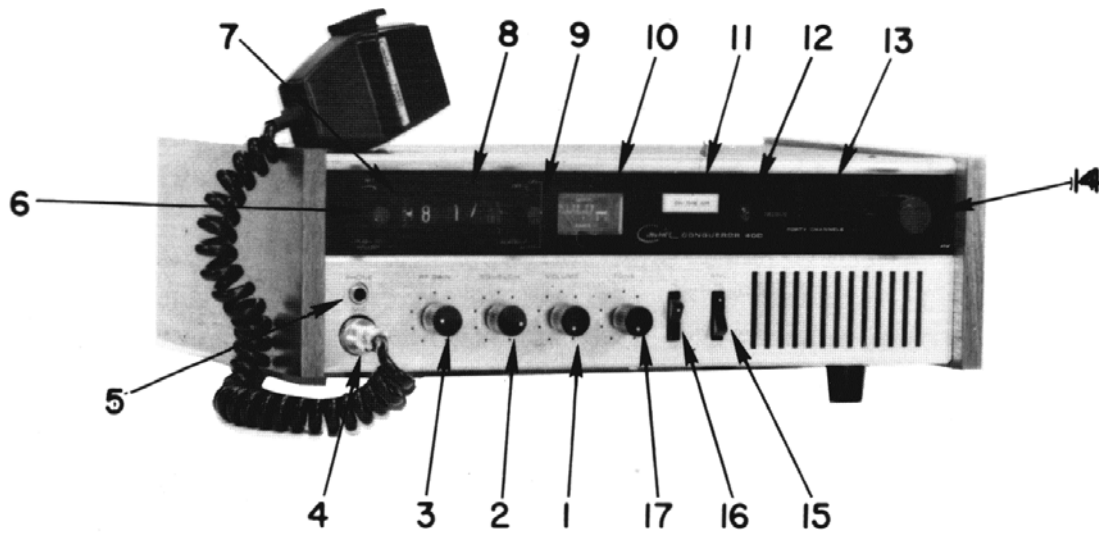
The word "squench" means to silence; therefore, the function of the control is to silence the atmospheric noise (hash) usually present in all high frequency AM radio communication. The maximum squench is obtained when the control is in full CLOCKWISE position, minimum squench when in COUNTERCLOCKWISE position.

#### RF GAIN CONTROL

A change in receiver sensitivity is sometimes necessary when listening to very strong stations, sometimes local stations, and very weak or distant stations. Rotation of the control clockwise increases the sensitivity for distant stations and counterclockwise for less sensitivity, or for local stations.

#### MICROPHONE JACK

This jack accommodates the microphone plug, and is wired to provide transmit when microphone switch is keyed. The microphone should be plugged-in, or removed, from the jack only when the transceiver power is OFF. If a different type of dynamic microphone is to be used in



- |    |                         |    |                          |
|----|-------------------------|----|--------------------------|
| 1  | Volume ON/OFF Switch    | 12 | Receiving Mode Indicator |
| 2  | Squelch Control         | 13 | Channel Indicator        |
| 3  | RF Gain Control         | 14 | Channel Selector         |
| 4  | Microphone Jack         | 15 | Auto Noise Limiter       |
| 5  | Phone Jack              | 16 | PA/CB Switch             |
| 6  | Clock and Timer Control | 17 | Tone Control             |
| 7  | Timer                   | 18 | AC Power Cable           |
| 8  | Clock                   | 19 | DC Power Connector       |
| 9  | Automatic Clock Control | 20 | AC/DC Mode Switch        |
| 10 | S/RF Power Meter        | 21 | PA Speaker Jack          |
| 11 | ON THE AIR Indicator    | 22 | Antenna Connector        |

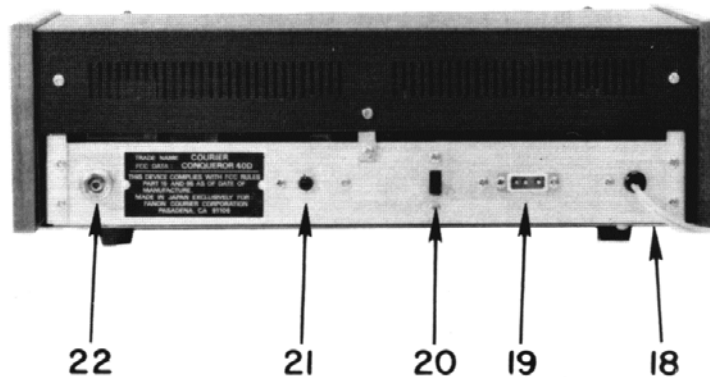


FIGURE 4, CONTROLS, INDICATORS AND CONNECTORS

place of the one supplied, be sure the connector is wired the same as the one provided with your unit.

#### PHONE JACK

This jack accommodates an earphone plug. When earphones are plugged in, the internal speaker is disconnected.

#### ON THE AIR INDICATOR

The ON THE AIR indicator illuminates when the microphone switch is operated to indicate that the transmitter is operating, and you are "on-the-air".

#### RECEIVING MODE INDICATOR

This indicator provides visual indication that the transceiver is in the RECEIVE MODE. Sound entering the microphone will not be transmitted over the air when the indicator is illuminated.

#### S/RF POWER METER

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

#### CHANNEL INDICATOR

The selected transmit/receive channel is displayed digitally by light emitting diodes (LED) when transceiver is switched on.

#### CHANNEL SELECTOR

The Channel Selector sets the channel frequencies simultaneously for the receiving and transmitting modes. Refer to the FCC Rules and Regulations for complete information on the use of the various channels.

## AUTOMATIC NOISE LIMITER

Excessive noise impulses will be reduced when this switch is in the ON position. When in the OFF position, the noise limiter circuit is not in operation.

## PA/CB SWITCH

When set in the CB position, the transceiver will function as a Citizens Band Radio. When set in the PA position, and an EXTERNAL PA SPEAKER is connected to the PA jack on the rear panel, the unit operates as a public address amplifier.

## TONE CONTROL

This control when rotated will change the tone of the incoming signal and should be positioned at the point which provides the clearest reception.

## AC POWER CABLE

This cable may be plugged into a 117 VAC, 60 Hz power supply to provide for AC operation.

## DC POWER CONNECTOR

A cable, plug and fuse holder containing a 3 ampere fuse is provided to connect to a 13.8 VDC power source for DC operation.

## AC/DC MODE SWITCH

This switch must be in the DC position to operate the transceiver from a 13.8 VDC power source, and in the AC position when operating from a 117 VAC, 60 Hz power source.

## PA SPEAKER JACK

A miniature phone plug fits this jack on the rear panel, and provides for connection of an external public address speaker.

## ANTENNA CONNECTOR

A standard PL-259 coaxial connector fits this connector on the rear panel. The output impedance is 50 ohms.

## CLOCK AND TIMER CONTROL

Push this control knob IN and rotate to reset the clock. With the control knob OUT, rotate the knob clockwise to set the desired "TURN-ON" time on the TIMER.

## TIMER

The timer is used in conjunction with the automatic clock control to preset the desired "TURN-ON" time for a period of up to 12 hours.

## CLOCK

The clock is an illuminated digital type registering hours, minutes and seconds. The clock will work when the transceiver is connected to an AC power supply, and is independent of the position of the POWER ON/OFF switch.

## AUTOMATIC CLOCK CONTROL

With the POWER ON/OFF switch in the OFF position, the transceiver may be turned on automatically at a preset time by setting the control to the AUTO position and setting the TIMER to the desired "TURN-ON" time. When the control is set to ALARM, both the alarm and the transceiver will turn on at the preset time. To turn the alarm off, set the control to the AUTO or ON position, or if desired the transceiver may be turned off by moving the control to OFF.

## B. Good CB Practices

In order that all CB operators may obtain maximum benefit from their CB radio station, the FCC strongly urges all CB radio operators to observe the following "Good CB Practices":

### 1. Channel Selection

In selecting a channel for your station, it is very important that the following factors be considered:

- a. There are only a limited number of channels available for use by all CB stations.
- b. Channel 9 may be used for emergency communications only (situations which require immediate assistance to a motorist, etc.).
- c. Any one of the other channels are to be used to conduct personal and business radio communications.
- d. Prevent unintentional "bleed over" interference to channel 9. It is recommended that all transmissions involving highway travelers be conducted on a channel other than channel 8 or 10.

### 2. Channel Usage

Cooperate to the fullest extent possible in sharing the CB channels. Always be courteous and considerate when using a channel. In order to assure that all CB operators will have an equal opportunity to use the frequencies, radio communications between CB stations (interstation) must be limited to no longer than 5 continuous minutes to be followed by a silent period of at least one minute. Operators should restrict their time on the air to a practical minimum.

The importance of all CB users disciplining themselves from needlessly transmitting for long periods of time cannot be stressed enough.

### 3. Identification

Identify your radio transmissions with your own FCC issued call sign before and after each transmission. This call sign is unique in that it is unlike any other CB radio station call sign. Be proud to identify your radio transmissions with it. "Nicknames" or "handles" may also be used to identify your radio transmissions provided they are accompanied by the FCC assigned call sign. It is not necessary to transmit the call sign of the station with whom you are talking.

### 4. Equipment

Have frequency, power and modulation measurements made at regular intervals. Do not tamper with the equipment. A licensed commercial technician is required to perform any adjustments that might affect the proper operation of the transceiver.

### 5. Promote "Good CB Practices"

Encourage other CB users to follow the above suggested practices.

If all CB users make a serious attempt to understand and follow the above recommended practices, we believe efficient utilization of the shared CB channels will be maximized.

## CHANNEL FREQUENCY CHART

Channel	Freq. (MHz)	Channel	Freq. (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

## RECEIVER OPERATION

1. Set the front panel controls as follows:

CHANNEL SELECTOR	to	Desired Channel
VOLUME CONTROL	to	1/2 Rotation CW
SQUELCH CONTROL	to	Full CCW
RF GAIN CONTROL	to	Full CW
AUTO NOISE LIMITER	to	OFF
PA/CB SWITCH	to	CB
TONE CONTROL	to	Center Position

2. Rotate the CHANNEL SELECTOR and locate an incoming signal. Adjust the VOLUME CONTROL as desired.
3. If a very strong signal is being received, adjust the RF GAIN CCW and observe that the audio level is reduced. Readjust the VOLUME as required.

4. The S-Meter will indicate the strength of the station being received. A reading of 1 to 4 indicates a distant or low power signal. A reading of 5 to 9 indicates a higher power or local station.
5. Squelch Adjustment
  - A. Locate a channel where there is no signal and rotate the SQUELCH CONTROL from full CCW to a point where the noise just stops.
  - B. Rotate the CHANNEL SELECTOR to a channel where there is a signal and observe that the audio comes through loud and clear.
  - C. Do not set the SQUELCH CONTROL too far past the quiet point as weak signals may not overcome the squelch and will not be heard.
6. Tone Adjustment

Set the tone control to the point providing the clearest signal.

7. Automatic Noise Limiter

When there is excessive electrical disturbance, set the ANL switch to the ON position, observe that the noise is reduced and the signal is received clearly.

### TRANSMITTER OPERATION

BEFORE TRANSMITTING, IT IS MANDATORY THAT YOUR TEMPORARY OR PERMANENT LICENSE BE POSTED WITH YOUR TRANSMITTER.

1. Set the front panel controls as follows:

CHANNEL SELECTOR	to	Clear Channel
VOLUME CONTROL	to	1/2 Rotation CW
SQUELCH CONTROL	to	Noise Quiet Point
RF GAIN CONTROL	to	CW or as required
AUTO NOISE LIMITER	to	OFF or as required
PA/CB SWITCH	to	CB

2. Select a clear channel or wait for an opportunity to "break-in" on a desired channel.
3. Position the microphone approximately 2 inches from your mouth and hold the Press-to-Talk switch down. Speak in a normal tone and level of voice, do not speak for more than five minutes. Release the Press-to-Talk switch and listen for the reply.

#### PUBLIC ADDRESS SPEAKER OPERATION

1. External Speaker

With the PA/CB switch set at PA, press the transmit switch on the microphone and speak into the microphone. Use the added volume control to set the audio level at the PA speaker. When the PA/CB switch is in the PA position all other functions of the transceiver are turned off.

## SECTION IV, TECHNICAL DATA/SERVICE & MAINTENANCE

### General Description

The CONQUEROR 40 D Citizens Band Transceiver is designed to operate as a base station on 117 VAC, 60 Hz, 13.8 VDC. Separate AC and DC power cables are supplied with the unit.

The transceiver features the most advanced design in Phase Locked Loop Frequency Synthesizer circuitry for the generation and control of the 40 Citizens Band channel frequencies.

### Special Features:

- \* Phase Locked Loop (PLL) Frequency Synthesizer
- \* Illuminated S/RF Power Meter
- \* PA and Phone Jacks
- \* Low Noise RF Stages
- \* Automatic Noise Limiter
- \* Public Address Mode
- \* RF Gain Control
- \* Automatic Transmit Inhibit Circuit
- \* Squelch Control
- \* DC/AC Operation
- \* Tone Control
- \* Automatic Clock Control

### Nominal Specifications

#### General

Operating Temperature Range  $-30^{\circ}\text{C}$  to  $+50^{\circ}\text{C}$

#### Solid State Devices

Transistors - 40  
FETs - 1  
Integrated Circuits - 2  
Varicaps - 1  
Silicon Diodes - 26  
Zener Diodes - 4

## RECEIVER SECTION

* Frequency Range	26.965 to 27.405 MHz
* Sensitivity	0.25uV for 10db S/N at 1 kHz at 30% Modulation
* Selectivity	BW 2.5 kHz min. at 6db dwn.
* Adj. Channel Rejection	Better than 60db
* Audio Distortion at 1 kHz	Less than 10% at 3W
* Squelch Sensitivity	0.2uV
* Squelch Stop Sensitivity	45 to 30,000uV (adjustable)
* Noise Limiter	Series gate

## TRANSMITTER SECTION

* Frequency Range	26.965 to 27.405 MHz
* Power Output at 13.8 V DC	3.5 to 4 watts
* Modulation (4mV at microphone)	100%
* Emission (Class D operation)	6A3
* Hum and Noise	Better than 40db down
* Frequency Tolerance	better than $\pm 0.005\%$
* Antenna Impedance	50 ohms
* Switching	Enclosed Relay
* Modulation Distortion	Less than 10% at 95% modulation at 1 kHz

## SERVICE AND MAINTENANCE

### WARNING

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

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

Should your unit require service for any reason, please refer to the enclosed Authorized Warranty Station List for assistance and location in your area.

Troubleshooting assistance may be obtained by writing to FANON/COURIER Corporation, 990 South Fair Oaks Avenue, Pasadena, California 91105. Address your inquiry to the attention of the Customer Service Department. Always state the Model, Serial Number and Issue of Schematic Diagram to which the unit was built. The schematic issue letter may be found in the lower right hand corner of the schematic or from the legend on the printed circuit board.

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

## SPECIAL REPLACEMENT PARTS LIST

SYMBOL	DESCRIPTION	PART NUMBER
Q2,7,8,107, 201,301,302, 501,502,701, 803,804,602,	Transistor 2SC945	1043-07
Q3,4,5,9,10, 14,15,102, 103,104,105	" 2SC839	1042-04
Q6	" 3SK41	2079-40
Q11,403	" 2SC1906	2079-02
Q16,17,601, 702,802	" 2SD471	2079-01
Q101	" 2SC1394	2079-106
Q106,503,504, 801	" 2SC815	296-77-9
Q401	" 2SC1909	2079-04
Q402	" 2SC1957	2079-03
Q703	" 2SD201	2079-129
Q1	FET, 2SA733	2032-35
D2	Silicon Diode, 1S2689	2079-39
D101	" " 1S1588	2010-01
D102,103,105, 107,110,201, 203,301,402, 403,702	" " 1SS53	2079-05
D104,106	" " 1K60A	2079-107
D401,406,407, 703	" " F14B	2079-06
D9,704	Zener Diode RD5.6EK	2079-41
D10	" " RD8.2EK	2079-42
D202	" " RD9.1EK	2079-93
D701	Diode (Stack) W2VB10	2079-129
D1001	LED, GL-6R201	2079-143
IC1	I.C. SM5104 F	2079-41
IC2	I.C. BA521	2079-92
CRYSTALS		
XL1	HC18/U 36.38 MHz	2061-49
XL2	HC18/U 10.695 MHz	2061-29
XL3	HC18/U 10.24 MHz	2049-05

SPECIAL REPLACEMENT PARTS LIST (Continued)

SYMBOL	DESCRIPTION	PART NUMBER
COILS AND TRANSFORMERS		
L1	Coil L-R380SA	2079-46
L2	" L-R381SA	2079-47
L401	" L-R371SA	2079-137
L402	" L-R372SA	2079-138
L403	" L-R182SD	2079-08
L404	" L-R215SE	2079-09
L407	" L-R370SA	2079-10
L405,406	" CH-H057SB	1016-72
L701	" Power Filter LA009	1016-61
L702	" Low Frequency Choke	2079-130
L3,301	Micro Inductor EL0610-271J	2079-83
T1,2	Transformer T-T052SA	2079-43
T3,4,5,6	" T-T037SA	2079-45
T7	" T-T053SA	2079-44
T101,103,104	" GT1305	1016-67
T102	" GT1304	1016-66
T105,106	" K112	2079-110
T107	" T-M058SA	2079-111
T108,109	" T-M054SA	2079-112
T110	" T-M055SA	2079-113
T401	" T-T038SA	2079-07
CONTROLS		
R141,504,708	Semi Variable EVL-S0A-ACO-B53	2079-114
R164	" " EVN-K4A-AOO-B34	2079-139
R139,404	" "	2079-11
SW201,202	Seesaw Switch N05294	2079-145
SW901	Rotary Switch	2079-144
SW703	Slide Switch SBN-2209	2079-146
FILTERS		
CF101	Ceramic CFU455H2	2079-108
CF102,103	" BFU455L	2079-109

**SPECIAL REPLACEMENT PARTS LIST (Continued)**

SYMBOL	DESCRIPTION	PART NUMBER
<b>CAPACITORS</b>		
C61	Titanium FCC50 1pF	2079-76
C66,68	" FCC50 4pF	2079-71
C38	" FCC50 6pF	2079-72
C115	" FC50 10pF	1016-89
C102,105	" FC70 10pF	1016-94
C62	" FCC50 12pF	2079-74
C18,19	" FCR50 12pF	2079-77
C31,53,85	" FCC60 18pF	2079-75
C39,71,37, 121	" FCC60 22pF	2079-73
C46,47	" FCR60 22pF	2079-78
C16	" FCU50 22pF	2079-86
C25,65,67, 69,92,111, 113	" FCR80 33pF	2079-79
C74,89	" FCR80 47pF	2079-80
C103	" FCR80 50pF	2079-125
C139	" FCC80 51pF	2079-124
C33	" FCR80 68pF	2079-81
C35	" FCR100 91pF	2079-82
C56	" FCP100 100pF	2079-84
C116	" FC80 180pF	1016-71
C211	" FC80 220pF	1016-97
C104	" FC50 1.5pF	2079-123
C1,2,3,4,5, 6,7,9,12, 13,24,26,27, 32,72,75,76, 91,93,73,90	Ceramic MC70 0.01mfd	1016-109
C17,29,34,41, 51,57,54,63, 86,95	" MC75 0.02mfd	1016-110
C21,701,702	" CKD11A 0.01mfd K	2035-08
C58,59,97	" MC100 0.04mfd	1016-113
C106,109,110, 114,119,101	" MC70 0.01mfd	1016-109
C120,129,137	" MC75 0.02mfd	1016-110

## SPECIAL REPLACEMENT PARTS LIST (Continued)

SYMBOL	DESCRIPTION	PART NUMBER
CAPACITORS (Continued)		
C210,505,317, 504	Ceramic MC100 0.04mfd	1016-113
C316	" MC70 0.005mfd	1016-108
C502	" MC70 0.01mfd	1016-109
C705,707	" MC100 0.04mfd	1016-113
C706	" MC60 0.001mfd	1016-100
C23,36,408	Titanium FC50 3pF	2079-23
C417	" FC70 150pF	2079-24
C413,414	" FC80 220pF	1016-97
C405	" FC100 250pF	2079-25
C87,406	" FC100 330pF	2079-26
C407,412	" FC100 390pF	2079-27
C418	" FC100 500pF	1016-200
C431,432,433, 434,435,436, 437	Ceramic MC60 0.001mfd	1016-100
C421	" MC70 0.005mfd	1016-108
C409,422	" MC70 0.01mfd	1016-109
C410,411,415, 416,419,420, 424,425,426, 429,438,428, 108,133,136, 801,803,804	" MC100 0.04mfd	1016-113
C55,314	Mylar MS50WV 0.001mfd	2079-69
C208,123,131	" MS50WV 0.0047mfd	2070-23
C43,44,45,48, 49,64,128, 202,214,303, 305,306,313, 506	" MS50WV 0.01mfd	2079-70
C217,301,310	" MS50WV 0.022mfd	2022-97
C302,304,309, 124,125,126, 127	" MS50WV 0.033mfd	2061-82
C206,220	" MS50WV 0.047mfd	2022-102
C217	" MS50WV 0.22mfd	2079-102

## SPECIAL REPLACEMENT PARTS LIST (Continued)

SYMBOL	DESCRIPTION	PART NUMBER
CAPACITORS (Continued)		
C8,14,140, 312,501,130, 132,201,802	Electro-lytic 50SM1	170-53-9
C15	" 35SM3.3	1000-22
C28,52,96	" 10SM22	1014-108
C98	" 10SM47	170-31-1
C94	" 16SM220	170-62-9
C203,209	" 25SM10	170-79-1
C135,315	" 16SM33	170-48-9
C307	" 10SM33	1017-64
C134,212,308	" 16SM47	1033-25
C215	" 16SM100	1018-39
C205	" 16SM220	170-26-9
C216	" 25SM470	1035-39
C213	" 25SM1000	170-68-9
C311	" 16SM10	1042-129
C107	" 27SM47	170-13
C138	" 50V1MF (Non-Pola)	2079-126
C704	" 35SM47	2079-135
C703	" 35T2200	2079-189
C430	Trimmer ECV-12W 50 x 32	2079-28
C804	" 16SM47	2079-29
C602	" 25SM4.7	2079-30
C22	Tantal CS15E1A330M	2079-87
VC1,2,3	Trimmer 1P x 30	2079-85
MISCELLANEOUS		
J101	Antenna Connector	2079-150
	Channel Knob	2079-167
J701	DC Connector	2079-147
F702	Fuse 1A Glass Tube	1016-148
F701	Fuse 2A Glass Tube	1016-150
F703	Fuse 3A Glass Tube	1016-149
FH702	Fuse Holder PF001	1016-53
	Fuse Holder PF3294	1016-138
	Knob S	1016-07
	Lamp Window	1016-02

## SPECIAL REPLACEMENT PARTS LIST (Continued)

SYMBOL	DESCRIPTION	PART NUMBER
MISCELLANEOUS (Continued)		
M101	Meter	1016-05
PL701	Meter Lamp 150 mA 16V	1016-16
J301	Microphone Jack	2079-149
J201	PA Jack	2079-148
J202	Phone Jack	1016-18
	Power cord w/plug	2079-161
	Rubber Foot K20	1016-154
	Rubber Foot K22	1016-155
SP201	Speaker 8 ohm	1016-14
	Window for ON THE AIR	1016-03
	Main Panel A	2079-176
	Clock Knob	1016-122
PL101	Receive Lamp	2079-179
PL401	Transmit Lamp	2079-180
PL601	Mod. Lamp	1016-15
	Digital Clock	2079-182
	Microphone	2065-72
	Instruction Manual	LI901

## NOTES

## LIMITED WARRANTY

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FANON/COURIER CORPORATION warrants each new electronic product manufactured by it to be free from defective material and workmanship and agrees to remedy any such defect or to furnish a new part (at the Company's option) in exchange for any part of any unit of its manufacture which under normal installation, use and service disclosed such defect; provided the unit is delivered by the owner to us or to our authorized distributor from whom purchased, or authorized service station, intact, for our examination, with all transportation charges prepaid to our factory, within 90 days from the date of sale to original purchaser and provided that such examination discloses, in our judgment, that it is thus defective.

Written authorization must be obtained before any merchandise is returned to the factory.

This warranty does not extend to any of our electronic products which have been subjected to misuse, neglect, accident, incorrect wiring not our own, improper installation, unauthorized modifications, or to use in violation of instructions furnished by us, nor units which have been repaired or altered outside of our factory, nor to cases where the serial number thereof has been removed, defaced or changed.

This warranty is in lieu of all warranties expressed or implied and no representative or person is authorized to assume for us any other liability in connection with the sale of our electronic products.

**FANON/COURIER CORPORATION**



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