

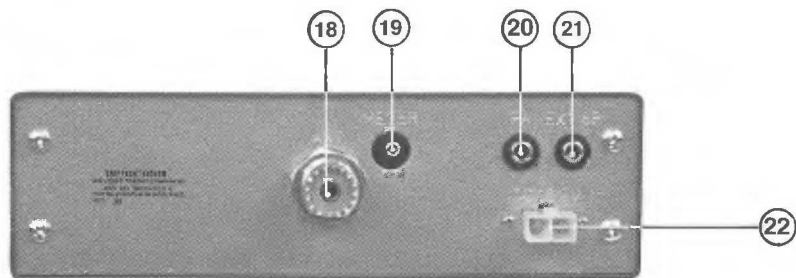
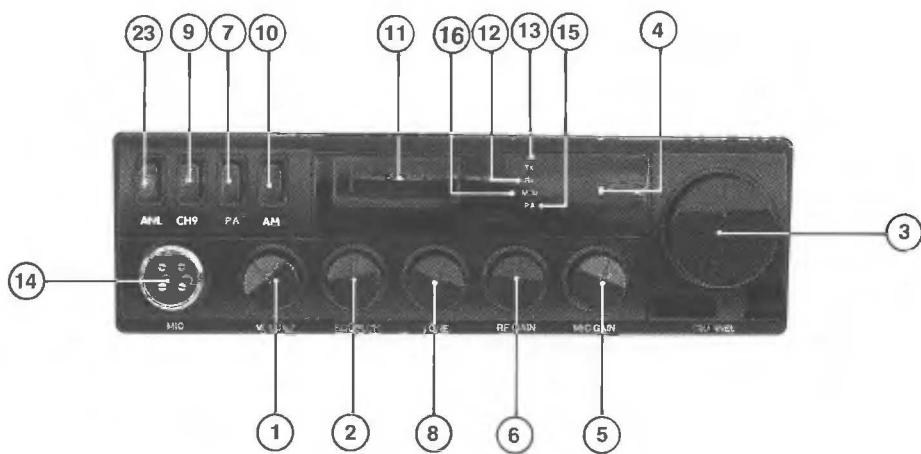
40
Channel

**MODEL: CB MASTER 4040
AM/FM CB TRANSCEIVER**

- 40CH CB TRANSCEIVER
- RX/TX/PA/AM INDICATOR
- CHANNEL 9 SWITCH, ANL SWITCH
- EXT METER JACK
- VOLUME/SQUELCH/TONE/RF GAIN/MIC GAIN CONTROL
- PA/EXT SPEAKER JACK



CB MASTER 4040



SPECIFICATIONS

40 CH FM CB TRANSCEIVER

General

- a) Channel : 40 Channel
- b) Frequency Control : Digital Phase Locked Loop (PLL)
Synthesized Circuit
- c) Modulation Mode : FM
- d) Frequency Range : Band 26.965-27.405 MHz
- e) Channel Spacing : 10 KHz
- f) Antenna Impedance : 50 Ohm
- g) Operating Voltage : 13.2V DC Nominal
(10.8V-15.6V DC)
- h) Microphone : Plug in Dynamic Type, 600 Ohm
- i) Special Function : Rx/Tx/P A/MOD INDICATORS,
CHANNEL 9 or 19 Switch, MIC
GAIN |RF GAIN, Sele, Call, Ext
Meter.
- j) Internal Speaker Impedance : 8 Ohm (0.5W)
- k) External Speaker Impedance : 8 Ohm
- l) Size : 170mm x 50mm x 215mm
(WxHxD)

Receiver

- a) Receiver System : Dual Conversion Superheterodyne
- b) Intermediate Frequency : 1st 1F 10/.695 KHz, 2nd 1F
455 KHz
- c) Sensitivity : 0.5 μ V (20 dB SN)
- d) Adjacent Channel Selectivity : 60 dB at 10 KHz
- e) Squelch Threshold Sensitivity : Threshold: 0.2 μ V. Tight: 500 μ V
- f) Spurious Response Rejection : 60 dB Nominal
- g) Intermodulation Response: not less than 60 dB

- h) Receiver Spurious Emissions : Less than 20 nW (above 1000 MHz)
Less than 2 nW (below 1000 MHz)
- i) Audio Output Power (10 % THD at 1 KHz) : 1.5 watts at 8 Ohm
- j) Current Drain : Stand-by 0.25 A Nominal
Receiving Max. 0.8 A Nominal

Transmitter

- a) RF Output Power : 4 Watts
- b) Frequency Deviation : +/- 2.5 KHz
- c) Current Drain : 1.5 (A)
- d) Frequency Error : +/- 600 Hz Maximum
- e) Spurious Emissions : ACCORDING FCC or FTZ
Standard
- f) Adjacent Channel Power : Less than 20 μ W

40 CH AM CB TRANSCEIVER

General

- a) Channel : 40 Channel
- b) Frequency Control : Digital Phase Locked Loop (PLL)
Synthesized Circuit
- c) Modulation Mode : AM
- d) Frequency Range : Band 26.965-27.405 MHz
- e) Channel Spacing : 10 KHz
- f) Antenna Impedance : 50 Ohm
- g) Operating Voltage : 13.2V DC Nominal (10.8V-15.6 DC)
- h) Microphone : Plug in Dynamic Type, 600 Ohm
- i) Special Function : Rx/Tx/P A/MOD INDICATORS,
CHANNEL 9 or 19 Switch, MIC
GAIN RF GAIN, Sele, Call, Ext
Meter.

- j) Internal Speaker Impedance : 8 Ohm (0.5W)
- k) External Speaker Impedance : 8 Ohm
- l) Size : 170mm x 50mm x 215mm (WxHxD)

Receiver

- a) Receiver System : Dual Conversion Superheterodyne
- b) Intermediate Frequency : 1st 1F 10/695 KHz, 2nd 1F 455 KHz
- c) Sensitivity : $1 \mu\text{V}$ (10 dB SN)
- d) Adjacent Channel Selectivity : 60 dB at 10 KHz
- e) Squelch Threshold Sensitivity : Threshold: $0.5 \mu\text{V}$. Tight: $500 \mu\text{V}$
- f) Spurious Response Rejection : 60 dB Nominal
- g) Intermodulation Response: not less than 60 dB
- h) Receiver Spurious Emissions : Less than 20 nW (above 1000 MHz)
Less than 2 nW (below 1000 MHz)
- i) Audio Output Power (10 % THD at 1 KHz) : 1.5 watts at 8 Ohm
- j) Current Drain : Stand-by 0.25 A Nominal
Receiving Max. 0.8 A Nominal

Transmitter

- a) RF Output Power : 4 Watts
- b) Current Drain : 1.5 (A)
- c) Frequency Error : ± 600 Hz Maximum
- d) Spurious Emissions : ACCORDING FCC
- e) Adjacent Channel Power : Less than $20 \mu\text{W}$

OPERATING INSTRUCTIONS:

- (1) On/Off switch and Volume control:
Clockwise rotation of the control knob will produce an audible "Click" which will switch on the unit. Further clockwise rotation will increase the output from the speaker.
- (2) Squelch Control:
Used to quiet the receiver during the absence of signals. The squelch control should be slowly rotated in a clockwise direction to the point where noise in the loud speaker disappears.
- (3) Channel Selector:
This rotary switch selects one of the 40 channels for transmit and receive operation.
- (4) Channel Indicator:
L.E.D. Display indicates the channel selected by the 40 position rotary switch (3).
- (5) Mic Gain:
This control is used to adjust, as required, the microphone input sensitivity for optimum amount for modulation during transmission.
- (6) R.F. Gain:
This control is used to adjust the sensitivity of the receiver section. Clockwise rotation will increase the receiver sensitivity.
- (7) P.A./C.B. Switch:
Connect an 8 ohm loudspeaker to the P.A. jack (17). The public address, amplifier operates when the switch (7) is in the P.A. position (pushed in): speech in the microphone is amplified and heard in the P.A. loudspeaker. For radio communication the switch should be set to its C.B. position (out).
- (8) Hi-Low Tone
- (9) CH9 SWITCH:
This switch is used to CH9 for ANL Function
- (10) S/RF-MOD Switch:
(or AM/FM Select Switch at AM/FM Model)
This switch is used to select the mode of the meter. The function of this switch in the S/RF position, the meter shows

relative transmitter R.F. output Power, and input signal strength when receiving. In the MOD position, the meter shows level of modulation when transmitting, also shows input level of P.A. amplifier when P.A./C.B. switch (7) is in the P.A. position.

- (11) LEVEL Meter
The meter is a multi-function meter. As explained in the foregoing paragraphs, the meter indicates the relative R.F. output, the strength of RX signal and the modulation level or P.A. level.
- (12) R.X. Indicator:
Light Emitting Diode (L.E.D.) which indicates the mode of operation. It indicates green for receiving.
- (13) T.X. Indicator:
Light Emitting Diode (L.E.D.) which indicates the mode of operating. It indicates red while transmitting.
- (14) Microphone Socket:
Connection of the microphone is via the socket at the side of the transceiver. On the microphone there is a pushbutton for switching between transmit and receive, a so called Push-To-Talk switch. NOTE! The switch must not be operated if there is no suitable antenna connected to the socket (16). Otherwise the transmitter can be damaged. To transmit: push in the PTT switch and speak in a normal voice into the microphone, 5-10cm (2-4") in front of your lips. When the PTT button is released the transceiver goes back into receiving. In the transmit position the T.X. L.E.D. (13) lights up.
- (15) PA indicator
- (16) Modulation indicator, (AM indicator at AM/FM Model)
- (17) Push-To-Talk Switch of Microphone
- (18) ANT Socket
Connect a suitable aerial especially designed for the C.B. band to connector (). The aerial and its feeder cable should be of 50 ohms impedance.
DO NOT OPERATE THE TRANSCEIVER IN THE TRANSMIT MODE WITHOUT A SUITABLE AERIAL CONNECTED. FAILURE TO COMPLY WITH THIS WILL

RESULT IN DAMAGE OCCURING TO THE TRANSISTOR CIRCUITRY WITHIN THE TRANSCEIVER.

- (19) S-Meter Socket (Ext. Level Meter)
- (20) PA Socket
- (21) EXT. Speaker Socket
- (22) DC 13.2V Power Socket
- (23) C 9 Switch:

Licencing Conditions:

This model is designed to operate under PTT rules and regulations. Operation of this unit is not permitted until you have obtained the necessary licence to allow use on the permitted 27 MH C.B. frequencies.

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

Description:

This model is an all transistor 2-way radio transceiver suitable for mobile operation. A frequency synthesizer circuit provides 40 crystal controlled PLL transmit and receive channels in the 27 MHz band, engineered for trouble free performance.

Current drain on 12 volts D.C. is exceptionally low and operation over long periods is feasible even with your engine turned off.

Receiver:

The receiver is a sensitive and highly selective dual-conversion superheterodyne type, providing crystal controlled PLL operation on all 40 C.B. channels. The circuit incorporates a number of features designed to provide optimum reception. A ceramic filter provides sharp selectivity and high adjacent channel rejection. As a result, transmissions on adjacent channels cause minimum interference.

A variable squelch control is incorporated to silence the receiver when no signals are received.

Transmitter:

The transmitter offers crystal-controlled operation on all 40 C.B. channels, watt of R.F. power is the legal limit for the Citizens Band Service.

INSTALLATION INSTRUCTIONS:**Mounting:**

The transceiver may be mounted to the underside of the dash board of a car, truck etc., using the special bracket provided.

Always mount the unit to enable the controls to be readily accessible, but in a suitable position that is least likely to cause injury in case of collision.

Attach the bracket to the underside of the dashboard using the self tapping screws supplied. Attach the transceiver to the bracket using the two knurled securing screws provided and tilt the unit to the most convenient angle before tightening.

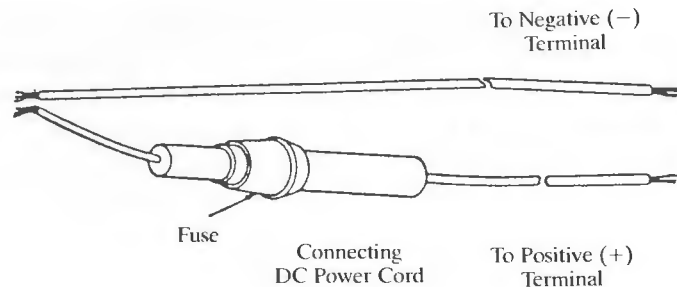


Power Connection:

The transceiver is designed to operate from a battery source of 12 volts D.C. It may be installed on a vehicle employing a positive or negative earth system. The fused D.C. power cable supplied is used to make the necessary power connection to the transceiver.

The lead (with inline fuse holder) is connected to the positive (+) side of the electrical system. The lead is connected to the negative (-) side of the system. In a negative earth vehicle connect the Red lead to a suitable terminal on the fuse box or the accessory wire on the ignition switch. Connect the Black lead to a suitable metal section of the car body. In a positive earth vehicle connect the Black lead to a suitable terminal on the fuse box or the accessory wire on the ignition switch. Connect the Red lead to a suitable metal section of the car body.

The transceiver draws a maximum current of 2 amps thus connection is satisfactory to the accessory or radio terminal on the ignition switch. Connection at this point will ensure the power is automatically cut off to the transceiver when the ignition key is removed.



Microphone Bracket:

Attach the microphone bracket provided in any convenient location.

Microphone Connection:

Insert the 4 pin plug at the end of the coiled lead into the microphone socket of the transceiver.

ANTENNA INSTALLATION AND CONNECTION

To enable the transceiver to be used it will be necessary to install a suitable antenna on the vehicle.

Due to the many types of antenna there are available for 27 MHz C.B. operation specific details of installation are impracticable. There are a wide variation in the type of antenna available also many different attachments to enable temporary or permanent mounting of the antenna to the vehicle.

When selecting an antenna please remember the following points:-

- (1) It must be so designed for use in the 27 MHz C.B. frequencies.
- (2) The antenna and its feeder cable must be of 50 ohms impedance.

After a suitable antenna has been installed on the vehicle and has been connected to the antenna socket (15) it is essential that it is correctly adjusted to ensure optimum performance is obtained.

For adjustment an S.W.R. (standing wave ratio) meter is required to be connected in line with the antenna lead. With the transceiver switched on select a suitably clear channel preferably between 18-22 and push the PTT button on the microphone.

Following the manufacturers instructions for the S.W.R. meter a reading for the S.W.R. will be obtained. Slight adjustment to the length of the antenna may be required to achieve the lowest reading possible on the S.W.R. meter. (Any adjustments made to the antenna should be made with the transmitter switched off).

After the length of the antenna has been altered to achieve the lowest reading on the S.W.R. meter (any figure lower than 1.4 is satisfactory; repeat the S.W.R. measurement on channels 1 and 40 to ensure they also give a satisfactory reading.

If at any time during the S.W.R. measurement a result of 3:1 is achieved immediately release the transmit button otherwise damage may occur to transistor circuitry within the transceiver.

If a satisfactory S.W.R. measurement cannot be obtained, points to check are: Ensure the antenna being used is designed for 27 MHz operation. Any surplus cable to the antenna should not be coiled in a neat coil but left unevenly distributed e.g. under the rear seat.