

Binatone

You can afford tomorrow's world - today.

Route 66 Instruction Manual



MANUFACTURED TO UK HOME OFFICE STANDARD MPT 1320

**40 CHANNEL 4 WATT FM
MOBILE CB TRANSCEIVER
MODEL 01/8538A**

Before operating this set, please read these instructions carefully

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WARNING

THIS UNIT HAS BEEN MANUFACTURED TO THE UNITED KINGDOM HOME OFFICE STANDARD MPT 1320. DO NOT MAKE ANY INTERNAL ADJUSTMENTS AS THIS WOULD INFRINGE THE STANDARD AND WOULD MAKE THE USER LIABLE TO PROSECUTION.

BINATONE INTERNATIONAL

Binatone Route 66 is a precision-built, 40 channel 4 watt FM Mobile Transceiver. Operating in the 27 MHz band designed for use in the United Kingdom.

Congratulations! You've just become yet another proud owner of a Binatone product . . . a product which, we're confident, will give you top performance and continuous satisfaction for years to come.

Binatone's involvement with consumer electronics began way back in 1958. And ever since then we've been in the fore-front of technology.

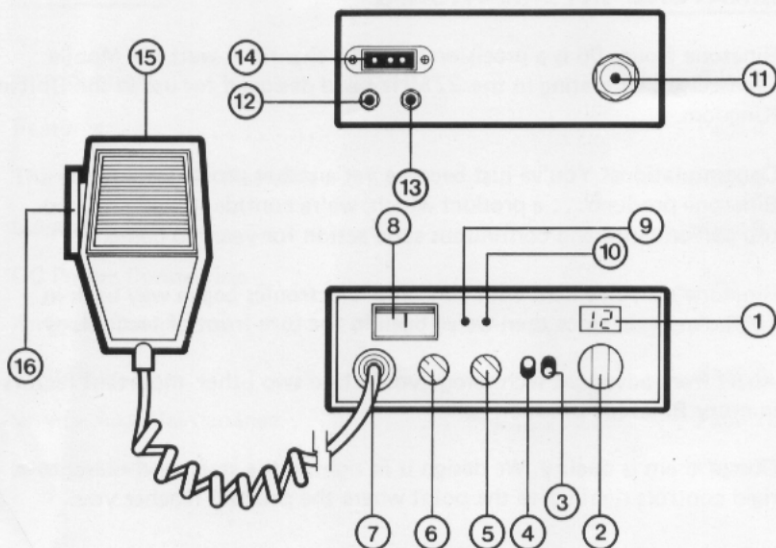
Apart from advanced technology you'll find two other important factors in every Binatone product.

One of them is quality. We design it in right at the start, and exercise rigid controls right up to the point where the product reaches you.

Value-for-money is the other important factor. Our efforts are constantly directed towards bringing you the latest technology, the highest quality, at the most reasonable prices. We are able to do this because Binatone products are sold in 52 countries the world over-and we are able, therefore, to pass on the cost benefits of mass production to you.

You'll find all these benefits throughout our product range. . . portable radios and radio-cassettes, cassette tape recorders, clock radios, hi-fi systems, music centres, calculators, TV games and car radios and stereos.

BINATONE – ALWAYS ONE STEP AHEAD



FEATURES

- (1) CHANNEL INDICATOR
- (2) CHANNEL SELECTOR
- (3) CB/PA SELECTOR
- (4) TX POWER SELECTOR
- (5) SQUELCH CONTROL
- (6) POWER OFF/VOLUME CONTROL
- (7) MIC. INPUT SOCKET
- (8) METER
- (9) TX INDICATOR
- (10) RX INDICATOR
- (11) ANTENNA CONNECTOR
- (12) EXT. CB SPEAKER SOCKET
- (13) EXT. PA SPEAKER SOCKET
- (14) DC SOCKET
- (15) MICROPHONE
- (16) PRESS-TO-TALK BUTTON

THE PROPER USE OF THIS UNIT

In co-operation with the British Equipment Manufacturers Association, these DOs and DON'Ts have been prepared to ensure that this unit is properly used.

This unit has been designed and manufactured to meet the highest international standards, but, like any electrical apparatus, care must be taken if the best results and safety are to be assured.

- DO** read the operating instructions carefully before you attempt to use this unit.
- DO** ensure that all electrical connections are properly made and in accordance with the manufacturer's instructions.
- DO** ensure that this unit is switched off if not in use for an extended period.
- DO** always ask the advice of a qualified engineer if you are ever in any doubt about the operation of this unit. He is the best person to advise you.
- DON'T** continue to operate this unit if you have any doubt about it working normally, or if it is damaged in any way – consult a qualified engineer.
- DON'T** remove any fixed cover unless you are qualified to do so – and even then disconnect the power supply before you start.

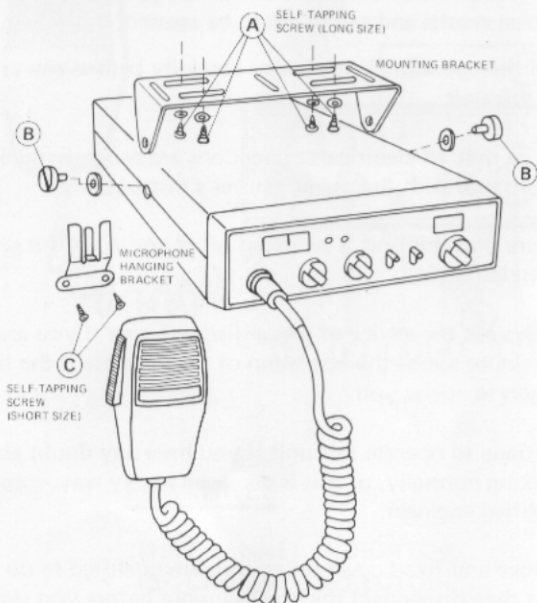
ABOVE ALL:

never let children push anything into holes or slots in the case – this could result in an electric shock !

never guess or take a chance with this unit – it is better to be safe than sorry !

MOUNTING

This unit is designed for use in a vehicle, should be installed by means of the bracket provided in a location suitable for use by the operator ensuring that when installed it does not interfere with or result in the vehicle being driven unsafely. An ideal position would be the underside of the dash board or instrument panel.

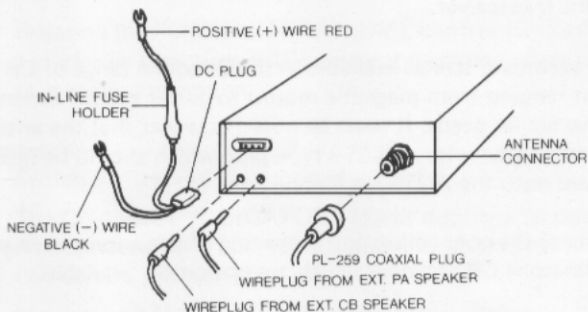


With the aid of the diagram above proceed as follows:

1. Drill four holes to receive self-tapping screws 'A'.
2. Screw the mounting bracket, with the self-tapping screws and washers supplied.
3. Screw the transceiver to the bracket by means of the large screws and washers 'B'.
4. The bracket is designed to carry the microphone should also be screwed in a similar manner by drilling two holes to receive screws 'C'. As with the transceiver the position of the microphone should be selected carefully, allowing the operator to use it safely without interfering with the normal driving of the vehicle.

DC POWER CONNECTION

This unit has been designed to operate from a 12V D.C. car battery on either a Negative or Positive earth vehicle. The following instruction, however, must be adhered to during connection.



- A. Insert the DC power connection plug from the wire harness into the DC socket (14) at the rear of the transceiver. Do not force the plug as it has been designed only to be inserted in one direction.
- B. **Power connection for Negative earthed vehicle**
 1. Connect the black lead from the free end of the wire harness to the chassis or negative (-) battery terminal.
 2. Connect the red lead from the free end of the harness to any convenient positive point of the electrical system or positive (+) battery terminal.
- C. **Power connection for positive earthed vehicle**
 1. Connect the black lead from the free end of the wire harness to any convenient negative point of the electrical system or negative (-) battery terminal.
 2. Connect the red lead from the free end of the harness to the chassis or positive (+) battery terminal.
- D. **DO NOT SWITCH THE UNIT ON UNTIL AN ANTENNA HAS BEEN CONNECTED.**

ANTENNA CONNECTION

This unit must be connected to a proper antenna system before you start operating it. If the transceiver is used without the correct antenna system, damage to the unit will result. It should be noted that only antenna designed specially for use with CB transceivers should be used, as an incorrect installation will reduce the efficiency and communication range of the transceiver.

There are various antennas available in the Binatone range of CB equipment ranging from magnetic mount to gutter mount depending on your particular needs. It must be noted however that the antenna lead must be terminated with a PL259 type plug which should be inserted and screwed onto the ANTENNA connector (11).

Full details of the connection and mounting of the antenna are attached with all Binatone CB antennas which are optionally available.

IMPORTANT

Before operating this unit ensure the antenna has been adjusted using a S.W.R. (Standing Wave Ratio) meter which is optionally available. This is essential to the operating efficiency of your transceiver.

It is recommended that you consult the dealer from whom you purchased the transceiver for advice on choosing the correct antenna and SWR meter.

MICROPHONE CONNECTION

The MICROPHONE (15) supplied with this unit is terminated with a four pin screw-in plug which should be inserted and screwed onto the MIC. INPUT socket (7).

OPERATION

Before switching the unit on read through all the previous sections, referring to the connection of the unit again, and ensure that all connections have been made as described.

A. To switch the transceiver on

1. Rotate the POWER OFF/VOLUME control (6) from a fully anti-clockwise direction, in a clockwise direction until a 'Click' is heard.
2. A random numbers from between 1 and 40 will appear in the CHANNEL INDICATOR (1) depending in which position the CHANNEL selector (2) is set.
3. Rotating the POWER OFF/VOLUME control (6) further, in a clockwise direction, will increase the volume when listening to incoming reception.

B. To transmit

1. Switch the unit on as described earlier.
2. The CHANNEL INDICATOR (1) will display a random number between 1 and 40 depending in which position the CHANNEL selector (2) is set.
3. Place the CB/PA selector (3) in the 'CB' position.
4. Rotate the CHANNEL selector (2) until the number of the channel you wish to transmit on appears in the CHANNEL INDICATOR (1). Rotating the CHANNEL selector (2) clockwise will display channel numbers in an ascending order and anti-clockwise in descending order.
5. Depress and hold the PRESS-TO-TALK button (16) of the MICROPHONE (15).
6. The TX INDICATOR (9) will illuminate.
7. Speak into the MICROPHONE (15), holding it 3 to 6 inches from your mouth announcing yourself and then having delivered your message release the PRESS-TO-TALK button (16).
8. The RX INDICATOR (10) will illuminate.

C. To receive

Releasing the PRESS-TO-TALK button (16) will automatically return you to the receive mode. The RX INDICATOR (10) will illuminate to indicate that you are in the receive mode and should anyone be transmitting on the channel which you have selected, you will hear them.

NOTE: The message you may hear will not necessarily be in response to the one you have just made, so keep alternating between the transmit and receive mode until you develop a dialogue with a fellow CB'er.

You should remember however that in order to receive a message there should be someone transmitting on the channel you have selected at the approved frequency to which your transceiver has been designed.

D. Squelch control

The use of this control silences any undesirable background noise when no signal is being received. The squelch level can be varied by adjusting the SQUELCH control (5) as follows:

Slowly rotate the SQUELCH control (5) clockwise to the point where the background noise just stops. When a signal is received, it will overcome the squelch action and be heard without interference disturbance in between transmission and reception signal.

Do not set the SQUELCH control (5) too far clockwise as weak signal will not be heard. Therefore, when you want to communicate with such a station rotate the SQUELCH control (5) fully anti-clockwise.

E. Transmit power level

Regulations require you to reduce the transmitter power by a minimum of 10 dB if an antenna is mounted at a height exceeding 7 metres. When operating with an antenna higher than 7 metres place the TX POWER selector (4) in the 'LO' position. Under normal operating with an antenna not exceeding 7 metre, place the TX POWER selector (4) in the 'HI' position.

F. Signal strength/RF power meter

During reception this indicates a relative signal strength on the upper scale. The RF power scale indicates the relative RF power in watts being transmitted.

G. Extension speaker

You may wish to connect an extension speaker or earphone to the unit when receiving and transmitting. Ensure that the impedance of the speaker is about 8 ohms and that the connecting lead is terminated with a 3.5 mm jack plug.

Insert the plug into the EXT. CB SPEAKER socket (12). Ensure you do not insert it into the EXT. PA SPEAKER socket (13).

The built-in speaker will be automatically disconnected and all reception will be heard through the extension speaker.

PUBLIC ADDRESS OPERATION

This unit has been designed to be operated either in the CB mode or as a Public Address amplifier. The output power is limited by the design of the built-in amplifier but is however adequate for normal public address applications.

It is advisable however that to benefit fully from this feature an external speaker specifically designed for the purpose is connected and fitted in a suitable location. Ensure that the impedance of the speaker is about 8 ohms and that the connecting lead is terminated with a 3.5 mm jack plug.

Insert the plug into the EXT. PA SPEAKER socket (13). Ensure you do not insert it into the EXT. CB SPEAKER socket (12).

The built-in speaker will be automatically disconnected and all announcements will be heard through the extension speaker.

1. Turn the unit on as described earlier.
2. Place the CB/PA selector (3) in the 'PA' position.
3. Depress and hold the PRESS-TO-TALK button (16) of the microphone.
4. Speak as you would when transmitting.
5. Rotating the POWER OFF/VOLUME control (6) will adjust the output sound level through the internal speaker or extension speaker if connected.

**NOTES: 1. Emergency channel:
Channel 9 is reserved for use in an emergency. DO NOT
operate on channel 9 unless in an emergency.**

2. DC polarity protection:
Should this unit be connected incorrectly to the DC supply of the car as described on page 7 under 'DC Power Connection' paragraph, the inline fuse will blow. Before replacing the fuse ensure that the polarity is corrected.

Do not under any circumstances use any other fuse other than an exact replacement, as overloading and/or fire may result with the consequential damage to the transceiver or vehicle.

3. Channel/frequency allocation:
For your information, all frequencies relating to channel numbers 1 – 40 have been listed below.

NOTE: Channel 9 is reserved for Emergency use only.

Channel	1	27.60125	MHz	Channel	21	27.80125	MHz
"	2	27.61125	"	"	22	27.81125	"
"	3	27.62125	"	"	23	27.82125	"
"	4	27.63125	"	"	24	27.83125	"
"	5	27.64125	"	"	25	27.84125	"
"	6	27.65125	"	"	26	27.85125	"
"	7	27.66125	"	"	27	27.86125	"
"	8	27.67125	"	"	28	27.87125	"
"	9	27.68125	"	"	29	27.88125	"
"	10	27.69125	"	"	30	27.89125	"
"	11	27.70125	"	"	31	27.90125	"
"	12	27.71125	"	"	32	27.91125	"
"	13	27.72125	"	"	33	27.92125	"
"	14	27.73125	"	"	34	27.93125	"
"	15	27.74125	"	"	35	27.94125	"
"	16	27.75125	"	"	36	27.95125	"
"	17	27.76125	"	"	37	27.96125	"
"	18	27.77125	"	"	38	27.97125	"
"	19	27.78125	"	"	39	27.98125	"
"	20	27.79125	"	"	40	27.99125	"

4. Interference noises in reception:
Some noise is to be expected and is normal. There will be a higher level of background noise when used as a mobile CB transceiver in a vehicle especially when it is running.

If this noise becomes objectionable and makes reception from weaker stations worse it may be necessary to have a noise suppression kit installed. In most cases the noise is generated by the ignition system and other electrical circuits of the vehicle and therefore it is recommended that you seek the advice from your local garage.

SERVICE AND MAINTENANCE

This unit has been manufactured in accordance with Binatone International's exacting quality control standards. However, this unit should be treated with reasonable care normally accorded to any electrical equipment.

If you encounter difficulty in operating the transceiver, please check the following:

Symptom	Possible Cause (And Remedy)
Unit dead, no indicator lights	<ol style="list-style-type: none"> 1. Blown fuse (replace) 2. Power wire disconnected (review installation instructions)
Unit will not send or receive, indicator lamps on	<ol style="list-style-type: none"> 1. Unit's CB/PA selector (3) set to PA position (reset) 2. Antenna disconnected or shortened (check)
Unit will not receive, no background noise	Squelch set too high (re-adjust)
Unit will receive, but not transmit	<ol style="list-style-type: none"> 1. Loose microphone connection (check) 2. Antenna problem (check) 3. Microphone defective (substitute another microphone)
Reception garbled with load whining background noise, symptom comes and goes, or persists for days	Atmospheric disturbances, worsens during peak sun spot activity

SPECIFICATIONS

General

Frequency Range:	27.60125 – 27.99125 MHz
Number of Channels:	upto 40 P.L.L. frequency synthesizer
Type of Emmission:	F3
Source:	13.8V
Dimension:	162(W) x 58(H) x 210(D) mm
Weight:	1.5 kgs
Microphone:	Dynamic Microphone (600 ohm)
Speaker:	Built-in speaker (3 inch, 8 ohm)
Antenna Impedance:	50 ohm

Transmitter

RF Output:	4.0W max.
Frequency Deviation:	± 1500 Hz (within)
Spurious Emmission:	over 50nW & 0.25 μ W.
FM Deviation:	max. ± 2.5 KHz (within)
Audio Response:	300 – 3,000 Hz within +0dB -6dB
Current Drain:	0.9A with CHLED, TX-RX indicators at 40 ch.
Output Deviation between Channels:	within 0.2W

Receiver

Circuit System :	Double Super Heterodyne
IF :	1st 10.695 MHz 2nd 455 KHz
Frequency Stability:	within 1.5 KHz
Sensitivity (Q.S. Sensitivity):	less than 0.5 μ V at 20 dB Q.S.
Sensitivity (12 dB SIND):	less than 0.5 μ V (1KHz dev. 1 KHz)
S Meter Indications (S-9):	100 μ V ± 3 dB
Tight SQ:	10 μ V ± 5 dB
Sensitivity Difference between Channels:	within 3 dB at 12dB (SIND)

Frequency Deviation:	within ± 1.5 KHz
Band Width:	4 KHz at -6dB
Selectivity:	-50dB at ± 10 KHz
Audio Response:	300 – 3,000 Hz within +3dB -6dB
Distortion:	Distortion less than 10% at 30% modulation (1 KHz) at 500mW audio output
Max. Audio Output at SSG Input 100uV:	over 3.5W
Current Drain: (no sig.)	within 0.35A
PA Output:	over 3.5W

Continuous improvements are being made to our equipment both in quality and performance, thus we reserve the right to alter specifications without notice.

