

INSTRUCTION MANUAL

M-360

AM / FM / SSB

**120 CHANNEL
DIGITAL PLL SYNTHESIZED
TRANSCIEVER**



Specifications

Receiver

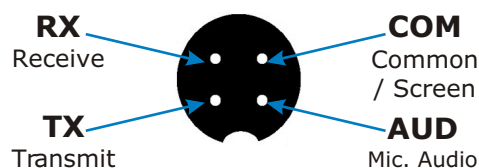
Sensitivity [AM] 1 μ V at 10dB S/N [FM] 0.5 μ V at 20 dB S/N [SSB] 0.5 μ V at 10 dB S/N	IF response at 6 dB down bandwidth [SSB]: 2 kHz
Spurious rejection ratio: 40dB	Adjacent Channel Selectivity: 40 dB
Squelch Sensitivity at Maximum [AM/FM]: 300 μ V	Adjacent Channel Selectivity: 40 dB
Squelch Sensitivity at Maximum [SSB] 300 μ V	Frequency Stability: \pm 0.005%
Squelch Sensitivity at Threshold [AM/FM]: 1 μ V	Audio Output Power at Maximum [8 Ohm]: 4W
Squelch Sensitivity at Threshold [SSB]: 0.7 μ V	Audio Output Power at 10% distortion [8 Ohm]: 3W
A.G.C. (As measured to EIA specs): 70 dB	Audio Fidelity at 3,000 Hz: -15 dB
IF response at 6 dB down bandwidth [AM/FM]: 6 kHz	S-Meter Sensitivity for S-9: 100 μ V
	Current Drain at no signal: 350 mA
	Current Drain at Maximum Audio Output: 1500mA

Transmitter

RF Output Power at 13.8V DC [SSB] 20W PEP nominal [AM/FM] 10W nominal	Unwanted Sideband Suppression [SSB]: 60dB down
Modulation Capability [AM]: 100% Down	Harmonic Suppression: 60dB down
Frequency Stability: \pm 0.005%	FM Deviation with 20 mV 1260 Hz audio: 1.5 kHz
SSB Generation: Double balanced Modulator with Crystal lattice filter	Current Drain at no Modulation: 1850 mA [AM] 800 mA [SSB]
Carrier Suppression [SSB]: 40dB down	Current Drain at Maximum Modulation: 2.4 A [AM]

Microphone wiring

Microphone connection for Major M360 (Viewed from Solder Side of the plug)



Installation Instructions

This transceiver is designed for 12 volt DC operation with either a negative or positive ground system. In order to install the radio, it is important to know whether your vehicle has a positive or negative ground system. Connecting the radio incorrectly will damage it.

Vehicle's Electrical System

We suggest that you check with qualified technician and find out if your make and model vehicle uses a positive ground or negative ground system.

Location

Mount the radio so that all controls are within easy reach of the operator. Avoid mounting it directly in front of air conditioning or heater ducts. Be sure it does not interfere with the operation of the vehicle, or any equipment in the vehicle. Your CB Radio could be installed inside your glove compartment if desired. Most often, CB equipment is mounted under the dash within easy reach of the driver. If under-the-dash mounting is impractical, consider mounting the unit on the transmission hump in the centre of the floorboard. Disconnecting the battery will prevent short-circuits, blown fuses, and other potential hazards and inconveniences. Reconnect the battery only after the radio and antenna have been installed and all electrical connections completed.

Mounting The Radio

Locate the mounting bracket and hardware furnished with the radio. Remove the bracket from the unit, and hold the bracket up to the mounting location you have selected. Take a soft lead pencil and draw an outline of the entire bracket, including the holes for drilling, on the place it is to be mounted. Do not drill any holes yet. Before you drill, look behind the place that you have chosen to mount your unit to make sure that there are no wires or other items that can be damaged by the drill bit. Drilling without a thorough check can result in damage to the electrical system or other parts of your car or truck.

If the area is clear, take a centre punch and make a small indentation in each of the places marked for drilling. Using the centre punch first will keep the drill from sliding and damaging the upholstery or surface of the dash.

Use a #30 (1/8 inch) drill bit for the self threading screws. Wrap tape around the bit about one inch from the point. The tape will prevent the bit from entering too far into the hole and damaging objects behind the hole. Place the drill bit in the indentations made by the centre punch and drill slowly, being careful not to damage the surface or make the hole larger than necessary. Protect your eyes with goggles. If you are drilling through heavy upholstery or carpeting, mark an 'X' exactly at the spot for the hole. Cut the upholstery or carpeting material along the lines of the X with a sharp knife. Peel the corner back so that while you are drilling, the drill does not catch on the material and unravel it. Once you have drilled the necessary holes, use the hardware to mount the bracket firmly to the mounting location, then install the radio in the bracket. Mount the microphone holder to the radio's mounting bracket or to the dash. Before drilling a mounting hole, be certain that the area behind the mounting position is free of wires and equipment.

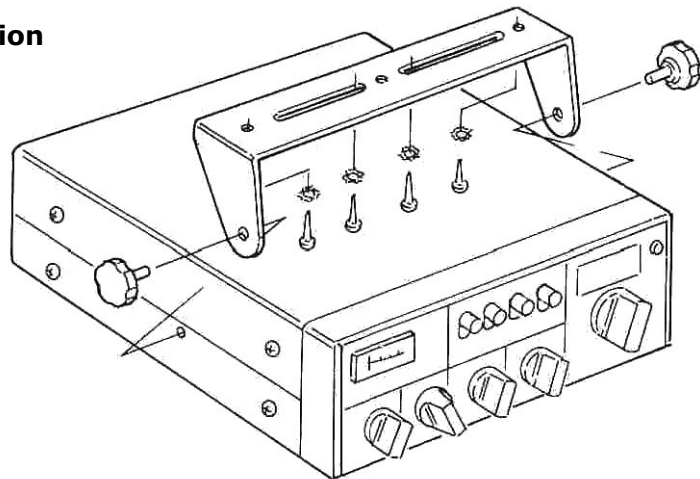
Connecting to a Negative Ground System

Follow these instructions if you are certain that your vehicle has a negative ground system. Connect the negative (black or green) wire to a screw or bolt on the metal frame supporting the instrument panel, or to any metal point that is part of the vehicle's metal structure. Remove any paint or coating from under the screw or bolt to ensure good electrical contact.

If you want your radio to operate at all times without having the ignition switch turned on, connect the positive (red) wire to the INTERIOR LAMP terminal on the vehicle's fuse panel. If you want your radio to operate only when the ignition switch is turned on, connect the positive (red) wire to the RADIO terminal on the vehicle's fuse panel.

Do not turn on the CB radio until the antenna is connected. If you attempt to transmit without the antenna connected, you risk burning out the unit's power transistors.

Typical Under-dash installation



Connecting to a Positive Ground System

Follow the instructions in this section only if you are certain that your vehicle has a positive ground system. Connect the positive (red) wire to a screw or bolt on the metal frame supporting the instrument panel, or to any metal point that is part of the Vehicle's metal structure. Remove any paint or coating from under the screw or bolt to ensure good electrical contact.

If you want your radio to operate at all time without having the ignition switch turned on, connect the negative (black or green) wire to the INTERIOR LAMP terminal on the vehicle's fuse panel. If you want your radio to operate only when the ignition switch is turned on, connect the negative (black) wire to the RADIO terminal on the vehicle's fuse panel.

Do not turn on the CB radio until the antenna is connected. If you attempt to transmit without the antenna connected, you risk burning out the unit's power transistors.

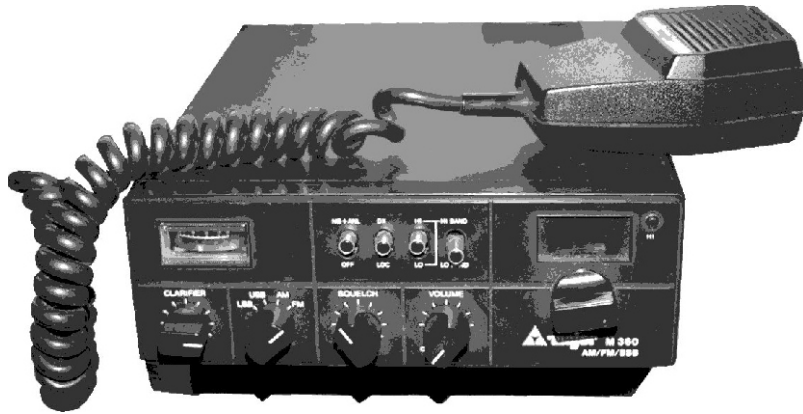
Antennas

The antenna's mounted location on the vehicle affects the operation of the CB radio. Transmission and reception characteristics vary for different antenna locations.

Ideally, the transmitted power and receiving sensitivity should be uniform in all directions, regardless of which direction the vehicle faces.

In a typical installation however, the vehicle's irregular shape produces some cancellation effects which prevent ideal performance. However, an antenna located near the center of the vehicle's roof will provide performance closest to ideal. A compromise between such factors as the cost of the antenna, the ease and personal preference of installation, and uniformity of the desired transmission/reception characteristics will determine the best mounting location.

Operating Instructions



To Receive

- 1 Turn the unit on by rotating the Volume control clockwise. Continue to rotate the knob in the same direction to increase the loudness.
- 2 Turn the Squelch control anti-clockwise, then slowly clockwise until the hissing sounds just stop. It is important to set this control carefully. When properly set, annoying static noise (hiss) will be eliminated while allowing reception of weak signals. Turning the Squelch control too far clockwise increases the signal required to actuate the receiver and may prevent reception of weaker signals. Turning the control too far anti-clockwise will allow the receiver to pick-up atmospheric noise and objectionable background hiss.
- 3 Select the required frequency band using the Hi-Lo Switches (See "Controls and Functions" for details).:
- 4 Turn the channel selector to any the forty channels.
- 5 Set the Mode switch to "AM", "FM", "LSB" or "USB".

NOTE: When using the UK FM (CB 27/81) Band, the Mode must be set to "FM".

When using LSB and USB, adjust the Clarifier to obtain the most pleasing (normal) range of voice tones. Varying this control to either extreme varies the tone of the voice from a high pitch to a barely intelligible low tone.

To Transmit

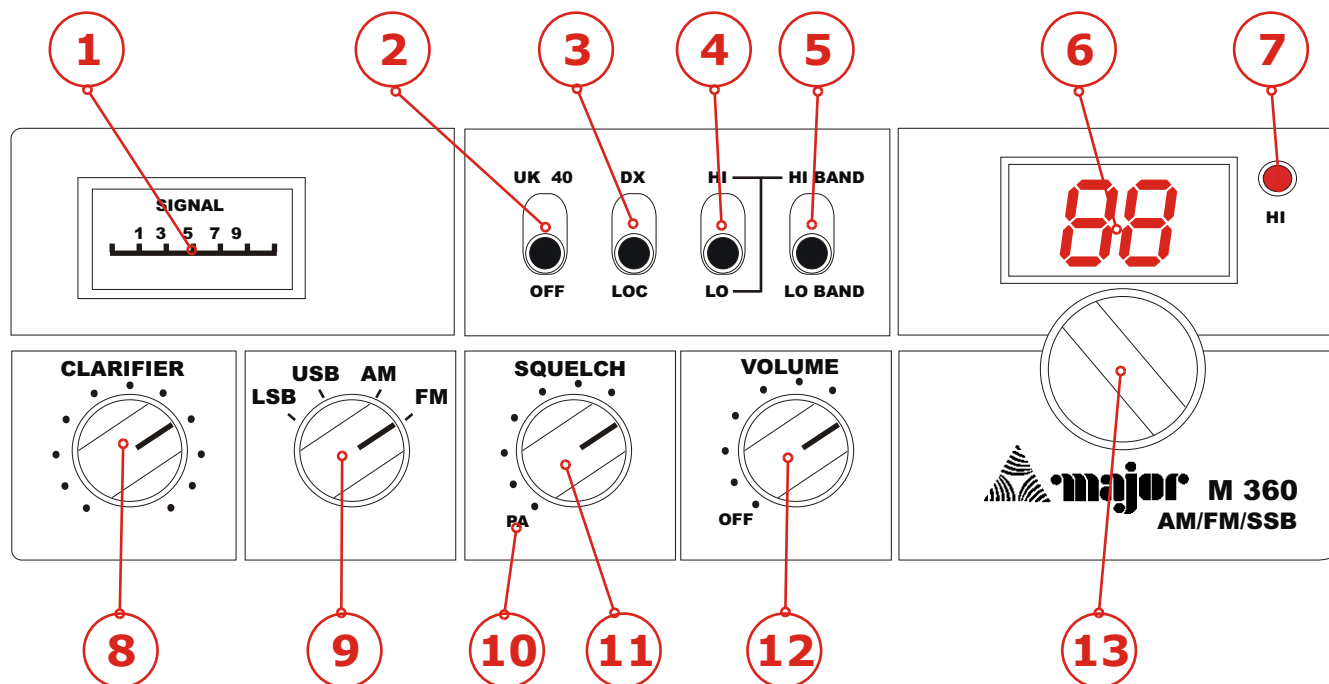
1. Plug the microphone cord into the MIC jack.
2. Wait until the channel you selected is clear.
3. Hold the microphone directly in front of you at a distance, of 2 or 3 inches. Press the microphone's pushbutton and talk in a normal voice to transmit your message.

Note: To avoid garbled transmissions, do not shout into the microphone or hold the mic too close to your mouth.

Release the microphone's pushbutton to receive.



Controls and Functions



1 S-RF Power Meter

This meter shows the relative strength of incoming signals when receiving, and RF power output when transmitting.

3 Loc-Dx Switch

The Loc-Dx switch operates an RF Gain function to reduce reception of weaker signals. For normal operation, set the switch to the DX (up position). If the signal is too strong, distortion may result, in which case set the switch to the LOC (down position).

4 5 2 Frequency Selection Switches

For all normal Channels ensure the "Uk40" (2) switch is set to "Off"

- For MID Band (26.965 27.405)
 - "Hi Band - Lo Band" switch (5) to "Lo Band"
- For HIGH Band (27.415 27.855)
 - Set "Hi Band - Lo Band" (5) to "Hi Band" AND set the "Hi - Lo" switch (4) to "Lo"
- For HIGH-HIGH Band (27.865 28.305)
 - Set "Hi Band - Lo Band" (5) to "Hi Band" AND set the "Hi - Lo" switch (4) to "Hi"
- For UK FM (CB 27/81) Band (27.60125 27.99125)
 - Set "Hi Band - Lo Band" (5) to "Hi Band" AND set the "Hi - Lo" switch (4) to "Lo"
 - AND - Ensure the "UK40-Off" (2) switch is set to "UK 40"

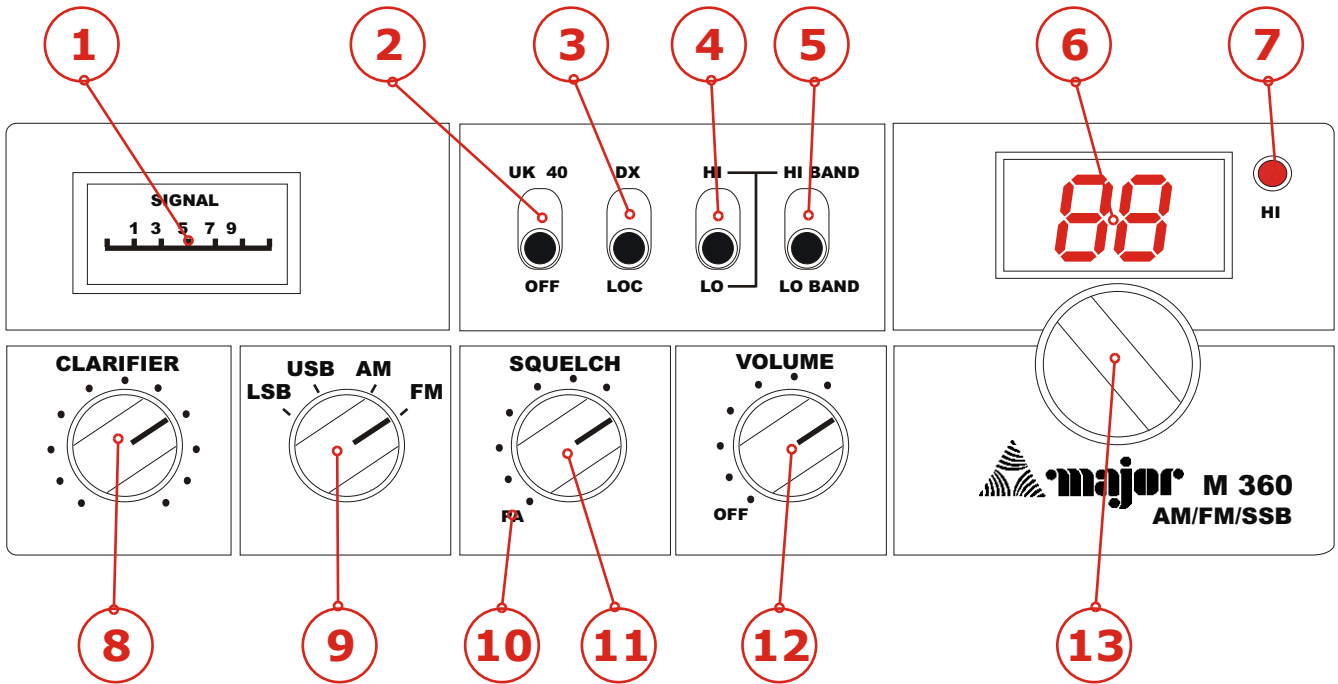
6 Channel Display

Shows current selected Channel

7 TX Indicator

Illumination of the TX indicator shows that your CB unit is transmitting.

Controls and Functions (Cont'd)



8 Clarifier

The Clarifier adjusts the frequencies of the Transmitter and receiver very slightly in order to ensure that Sideband [USB or LSB] signals are heard correctly. When using LSB and USB, adjust the Clarifier to obtain the most pleasing (normal) range of voice tones. Varying this control to either extreme varies the tone of the voice from a high pitch to a barely intelligible low tone.

9 Mode switch

Rotate to select to "AM", "FM", "LSB" or "USB".

NOTE: When using the UK FM (CB 27/81) Band, the Mode must be set to "FM".

11 Squelch

The squelch function cuts-off all signals to the receiver at a variable level and is used to silence background noise, static or distant stations. Rotate the Squelch control Clockwise until the desired level is reached.

10 PA

Rotating the squelch control fully anti-clockwise engages the PA Function. To use the PA press the PTT button on the microphone. Adjust the output volume using the Volume knob.

NOTE: Always ensure a PA Horn or suitable speaker is connected to the CB before using this function.

12 Volume

The Volume control determines the volume that the received signal is heard (or, if PA is in use, the output volume). Rotate the control Clockwise to increase Volume. Rotate Anti-clockwise to decrease, and fully anti-clockwise to switch the CB Off.

13 Channel selection Rotary Switch.

Rotate to select any of the forty channels within each Band.

Note: The Volume, Squelch, Clarifier, and Loc-Dx, controls are inoperative when transmitting.

Operating Frequencies

*“Mids”
CEPT Std.*

*“Highs”
‘Freeband’ 27.555*

“LO BAND”				“HI BAND”				“HI BAND”			
“LO” or “HI”				“LO”				“HI”			
1	26.965	21	27.215	1	27.415	21	27.665	1	27.865	21	28.115
2	26.975	22	27.225	2	27.425	22	27.675	2	27.875	22	28.125
3	26.985	23	27.255	3	27.435	23	27.705	3	27.885	23	28.155
4	27.005	24	27.235	4	27.455	24	27.685	4	27.905	24	28.135
5	27.015	25	27.245	5	27.465	25	27.695	5	27.915	25	28.145
6	27.025	26	27.265	6	27.475	26	27.715	6	27.925	26	28.165
7	27.035	27	27.275	7	27.485	27	27.725	7	27.935	27	28.175
8	27.055	28	27.285	8	27.505	28	27.735	8	27.955	28	28.185
9	27.065	29	27.295	9	27.515	29	27.745	9	27.965	29	28.195
0	27.075	30	27.305	0	27.525	30	27.755	0	27.975	30	28.205
11	27.085	31	27.315	11	27.535	31	27.765	11	27.985	31	28.215
12	27.105	32	27.325	12	27.555	32	27.775	12	28.005	32	28.225
13	27.115	33	27.335	13	27.565	33	27.785	13	28.015	33	28.235
14	27.125	34	27.345	14	27.575	34	27.795	14	28.025	34	28.245
15	27.135	35	27.355	15	27.585	35	27.805	15	28.035	35	28.255
16	27.155	36	27.365	16	27.605	36	27.815	16	28.055	36	28.265
17	27.165	37	27.375	17	27.615	37	27.825	17	28.065	37	28.275
18	27.175	38	27.385	18	27.625	38	27.835	18	28.075	38	28.285
19	27.185	39	27.395	19	27.635	39	27.845	19	28.085	39	28.295
20	27.205	40	27.405	20	27.655	40	27.855	20	28.105	40	28.305

*“UK CB FM”
‘Muppet’ Band.*

“UK 40”			
“HI BAND” + “LO”			
1	27.60125	21	27.80125
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
0	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