

# INSTRUCTION MANUAL



Channel	Channel Frequency in MHz	Channel	Channel Frequency in MHz	Channel	Channel Frequency in MHz	Channel	Channel Frequency in MHz
1	26.965	21	27.215	41	27.415	61	27.665
2	26.975	22	27.225	42	27.425	62	27.675
3	26.985	23	27.255	43	27.435	63	27.705
4	27.005	24	27.235	44	27.455	64	27.685
5	27.015	25	27.245	45	27.465	65	27.695
6	27.025	26	27.265	46	27.475	66	27.715
7	27.035	27	27.275	47	27.485	67	27.725
8	27.055	28	27.285	48	27.505	68	27.735
9	27.065	29	27.295	49	27.515	69	27.745
10	27.075	30	27.305	50	27.525	70	27.755
11	27.085	31	27.315	51	27.535	71	27.765
12	27.105	32	27.325	52	27.555	72	27.775
13	27.115	33	27.335	53	27.565	73	27.785
14	27.125	34	27.345	54	27.575	74	27.795
15	27.135	35	27.355	55	27.585	75	27.805
16	27.155	36	27.365	56	27.605	76	27.815
17	27.165	37	27.375	57	27.615	77	27.825
18	27.175	38	27.385	58	27.625	78	27.835
19	27.185	39	27.395	59	27.635	79	27.845
20	27.205	40	27.405	60	27.655	80	27.855

## M-588

AM/FM/SSB

80-CHANNEL  
DIGITAL PLL SYNTHESIZED  
TRANSCEIVER



KTM588AFXX

## Specifications

### Receiver

Sensitivity:		IF response at 6 dB down bandwidth (SSB):	2 kHz
(AM):	1 $\mu$ V at 10 dB S/N	Adjacent Channel Selectivity:	40 dB
(FM):	0.5 $\mu$ V at 20 dB S/N	Frequency Stability:	$\pm$ 0.005%
(SSB):	0.5 $\mu$ V at 10 dB S/N	Audio Output Power at Maximum (8 Ohm):	4 W
Spurious Rejection Ratio:	40 dB	Audio Output Power at 10% distortion (8 Ohm):	3 W
Squelch Sensitivity at Maximum (AM/FM):	300 $\mu$ V	Audio Fidelity at 400 Hz:	-15 dB
Squelch Sensitivity at Maximum (SSB):	300 $\mu$ V	Audio Fidelity at 3,000 Hz:	-15 dB
Squelch Sensitivity at Threshold (AM/FM):	1 $\mu$ V	S-Meter Sensitivity for S-9:	100 $\mu$ V
Squelch Sensitivity at Threshold (SSB):	0.7 $\mu$ V	Current Drain at no signal:	350 mA
A.G.C. (As measured to EIA specs):	70 dB	Current Drain at Maximum Audio Output:	1500 mA
IF response at 6 dB down bandwidth (AM/FM):	6 kHz		

### Transmitter

RF Output Power (SSB) at 13.8V DC:	20W PEP nominal	Unwanted Sideband Suppression:	60 dB down
RF Output Power (AM/FM) at 13.8V DC:	10W nominal	Harmonic Suppression:	60 dB down
Modulation Capability (AM):	100% down	FM Deviation with 20 mV 1250 Hz audio:	1.5 kHz
Frequency Stability:	$\pm$ 0.005%	Current Drain at no Modulation:	1850 mA (AM) 800 mA (SSB)
SSB Generation:	Double Balanced Modulator with crystal lattice filter	Current Drain at Maximum Modulation:	2.4 A (AM) 2.0 A (SSB)
Carrier Suppression (SSB):	40 dB down	Antenna Impedance:	50 ohms

## 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 wheth-

### Vehicle's Electrical System

We suggest that you check with qualified technician and find out if your make and

er your vehicle has a positive or negative ground system. Connecting the radio incorrectly will damage it.

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 center 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 center punch and make a small indentation in each of

the places marked for drilling. Using the center 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 center 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,

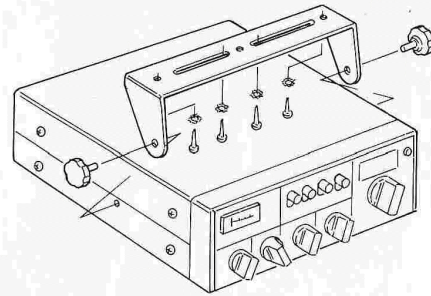
### Connecting to a Negative Ground System

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 DOME 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

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.

### Typical Under-Dash Installation



radio until the antenna is connected. If you attempt to transmit without the antenna connected, you risk burning out the unit's power transistors.

### 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 DOME 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



Install the unit as described in the installation instructions. Make sure the antenna

and power wires are properly connected before you attempt to operate the unit.

### 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 counterclockwise, 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 counterclockwise will allow the receiver to pick-up atmospheric noise and objectionable background hiss.

3. Set the Hi-Lo switch to either position, as required.
4. Turn the channel selector to any of the six channels you choose.
5. Set the Mode switch to **AM**, **FM**, **LSB** or **USB**.

#### Loc-Dx Switch

For normal operation, set the switch to the **DX** (up position). If the signal is too strong, distortion may result, in

#### NB Switch

Set the Noise Blanking switch to the **NB** position to reduce impulse interference such as vehicle ignition noise. When no

#### ANL Switch

Set the Automatic Noise Limiter switch to the **ANL** position to reduce atmospheric and electrical interference. When

#### To Transmit

1. Plug the microphone cord into the MIC jack.
2. Wait until the channel you selected is clear.
3. Set the Mode switch to **AM**, **FM**, **LSB** or **USB**.
4. Hold the microphone directly in front of you at a distance of 2 or 3 inches. Press the microphone's pushbutton

#### TX Indicator

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

#### S-RF Power Meter

This meter shows the relative strength of incoming signals when receiving, and RF

At the **LSB** and **USB** switch positions, 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.

which case set the switch to the **LOC** (down position).

interference is present, set the switch to **Off** for clearest reception.

no interference is present, set the switch to **Off** for clearest reception.

and talk in a normal voice to transmit your message.

**Note:** To avoid garbled transmissions, don't shout into the microphone or hold the mic against your mouth.

Release the microphone's pushbutton to receive.

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

power output when transmitting.

#### Public Address

This unit may be used as a PA amplifier as follows:

1. Connect an 8-ohm PA speaker to the PA jack located on the back of the cabinet.
2. Turn the unit on by rotating the Volume control clockwise.
3. Rotate the Squelch control fully counterclockwise to **PA**. The internal speaker will be automatically disconnected.

#### External Speaker Jack

A remote 8-ohm speaker may be connected to the unit in order to overcome muffled sounds caused by a carpet or other obstruction in the vehicle. With

4. Press the microphone's pushbutton and talk in a normal voice.

**Important:** Always face the PA speaker away from the mic and as far as possible from the unit to prevent feedback (high-pitched howling sounds).

5. Rotate the Squelch control clockwise to other than **PA** to turn PA off and return unit to normal operation.

the remote speaker plugged into the jack, the internal speaker is automatically disconnected.

#### In Case of Difficulty

If you encounter difficulty in operating your unit please check the following:

Symptom	Possible Cause (And Remedy)
Radio dead, no indicator lights	<ol style="list-style-type: none"> <li>1) Blown fuse (Replace fuse)</li> <li>2) Power wire disconnected (Refer to installation instructions)</li> </ol>
Unit will not send on illuminated S-meter	<ol style="list-style-type: none"> <li>1) Unit's PA switch set to PA (Reset)</li> <li>2) Antenna problem (Check)</li> </ol>
Unit will not receive, no background noise	<ol style="list-style-type: none"> <li>1) Squelch control set too high (Readjust)</li> </ol>
Unit will receive but not transmit	<ol style="list-style-type: none"> <li>1) Loose microphone connection</li> <li>2) Antenna Problem (Check)</li> <li>3) Microphone defective (Substitute another microphone)</li> </ol>
Reception garbled with loud whining background noise. Symptom comes and goes, or persists for days	<ol style="list-style-type: none"> <li>1) Atmospheric disturbances. Worsens during peak sunspot activity.</li> </ol>