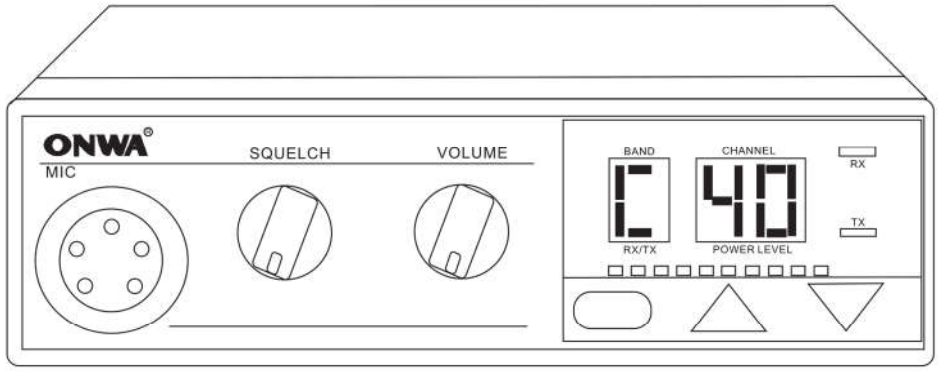
1 BAND 40 CHANNELS

OWNER'S MANUAL

CB MARINE RADIO

MODEL:K-6124L MK2



CONTENTS

CONTROL LOCATION

FRONT PANEL 3
REAL PANEL 4

INSTALLATION INSTRUCTIONS 5

ACCESSORIES INCLUDED 5
POWER WIRING 6
MICROPHONE 7

ANTENNAS ..... 8~ 9

OPERATING INSTRUCTIONS ..... 10~ 11

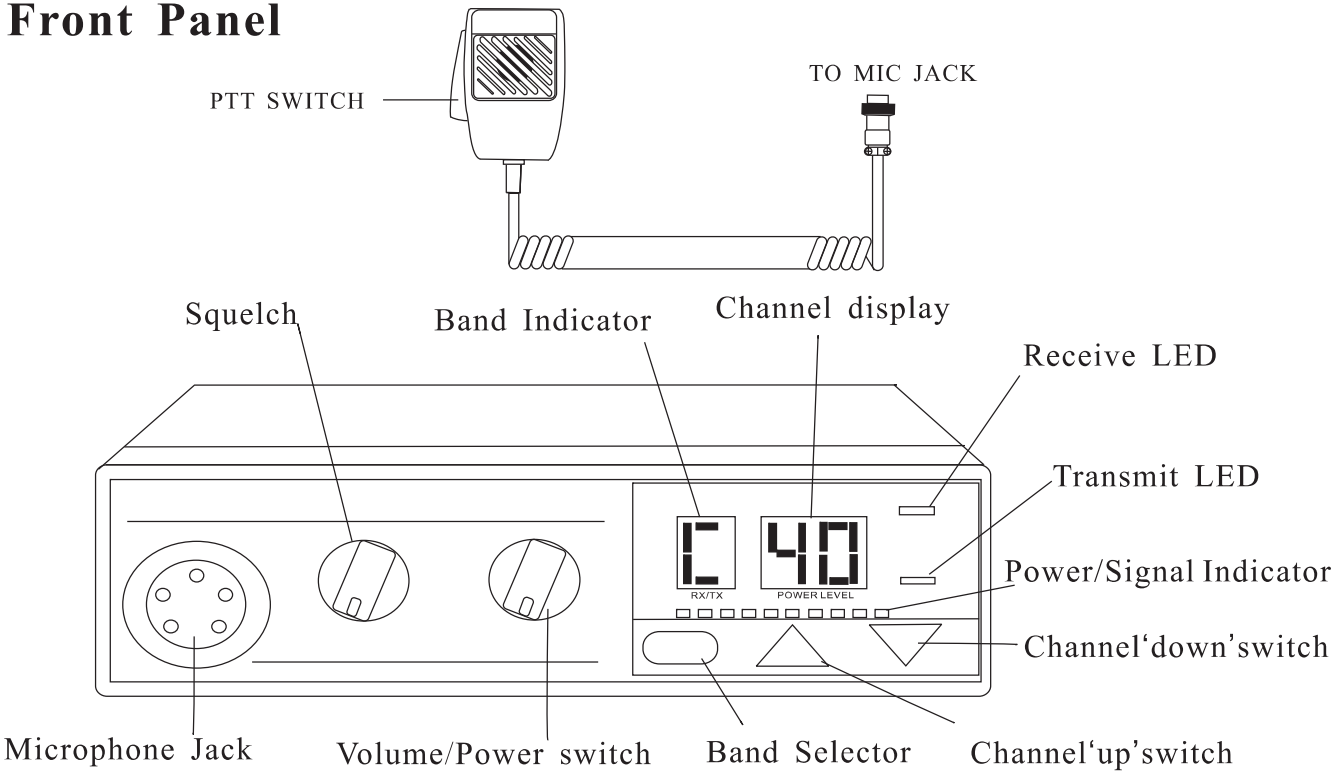
CHANNEL FREQUENCY CHART ..... 12~ 13
NOISE 14

TECHNICAL SPECIFICATIONS 15

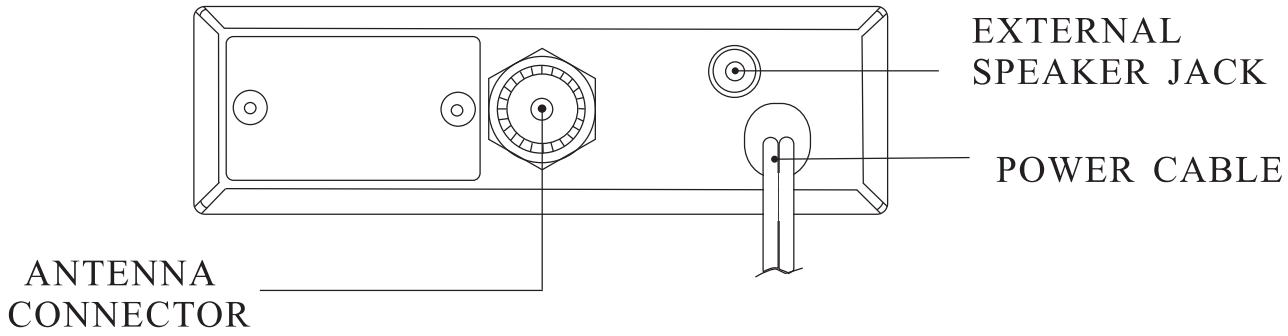
SERVICE AND MAINTENANCE 16

CONTROL LOCATIONS

Front Panel

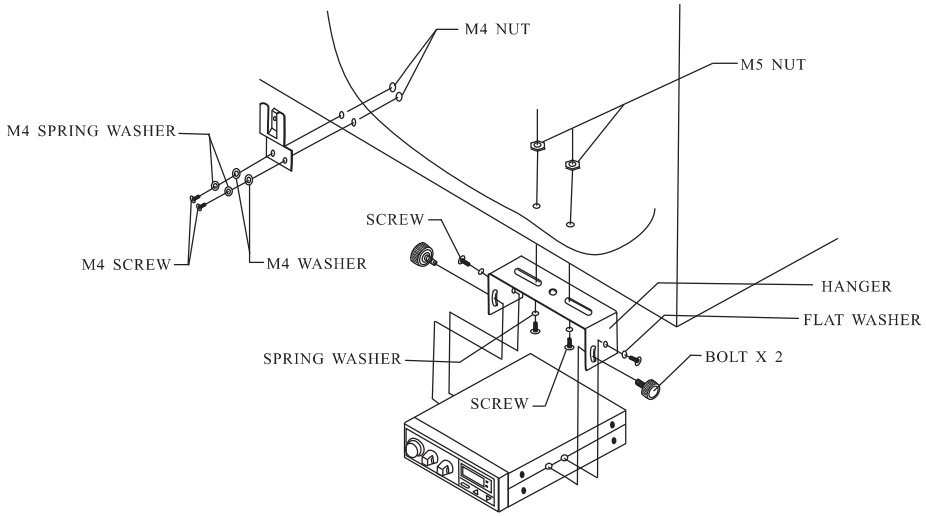


Rear Panel



INSTALLATION

Satety and convenience,are the primary considerations for mounting any piece of mobile equipment. All controls must readily available to the operator without interfering with the movements necessary for safe operation of the boat. Be sure all cables are clear of other equipments.



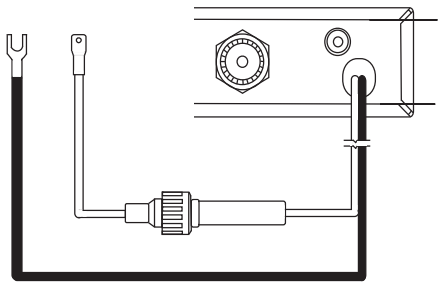
Also,thought must be given to the convenience and comfort of the sailor.Another extremely important requirement is the ease of installation and removal for those occasions when you might want to remove the unit for service and maintenance.Mount the Transceiver so it can be slipped in and out easily.

Do not mount the Transceiver in the path of the heater or air conditioning air stream.

Take your time and plan your installation carefully.When you have determined the best location for mounting, use the mounting bracket as a template to mark mountion holes. Take care when you drill holes that you do not drill into wiring ,trim or other accessories.

Mount in position with bolts, lock washers and nuts or self threading screws.

You can install this transceiver in any location where 12-13.8V DC power is available.It can be connected to negative or positive ground systems.Just be sure you connect the RED wire to the (+) terminal and the BLACK wire the (-) terminal.



With Negative Ground

Connect the RED wire (with in-line fuse holder)to the ACC essory terminal on the ignition switch of your boat. Make a good mechanical and electrical connection to the frame of the boat for the black (negative) wire.

Before operation, you must install and connect your antenna system. The lead from the antenna you've installed should be connected to the ANT enna coaxial connector. If you are using an external speaker connect it to the EXT SPKR jack.

Replacing Fuse

If you replace the fuse for DC Power Cord,use 2 Ampere type (one supplied as spare).Hold the fuse holder and press on the inside, then rotate the holder.

CONNECTING THE LOCKING MICROPHONE PLUG

Your transceiver features a new locking microphone connector. This ensures that you won't accidentally pull out or loosen the plug connection when moving the microphone cable about.

To connect the microphone plug:

1. Insert plug into jack,taking care to align the plug ano jack properly.(See Figure 1A)
2. TURN the ring of plug connector clockwise to lock microphone plug(See Figure 1B)

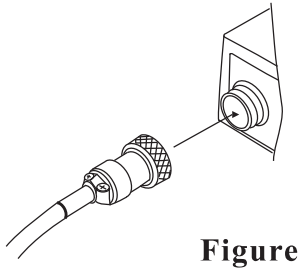


Figure 1A

TO FASTEN

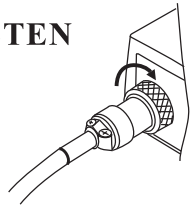


Figure 1B

Note: To receive sound,you must have the microphone connected.

ANTENNA SYSTEM

A mobile antenna system is not limited to just the antenna.The transmission line as well as the boat are important factors in the total antenna system.Therefore, you must use the correct type of transmission line and mount the antenna securely in a position that will give you optimal results.

Use coaxial cable with an impedance of 50 ohms. We suggest type RG-58/U for lengths under 100″ (2.5m),or RG-8/U for longer lengths. Generally speaking, you should keep the length of the transmission line to a minimum.

The above discussion is as important for reception as it is for transmission.If a mismatch exists between the antenna and the receiver,the excellent sensitivity and signal-to-noise ratio of the receiver circuit will be defeated.

Mobile Antennas

A few general rules should help you install any mobile antenna properly.

1.Keep it as far as possible from the main bulk of the vehicle.
2.Keep as much of it as possible above the highest point of the boat.
3.During operation,it must be vertical, and rigid enough to remain vertical when the boat'is in motion.
4.Mount it as far as possible from sources of noise (ignition system, gauges,etc.)and keep the transmission line away from these noise sources.

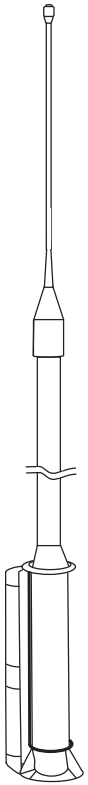
An antenna mounted in a boat requires a good ground connection. This can be either a metal hull or a ground made of tin-foil or copper Sheeting.This ground should cover an area of at least 12 square feet ($1m^2$) or more.Be sure the Transceiver also has an adequate ground.

There are many types of mobile CB antennas:a full quarter-wave length whip,a center-loaded whip,top loaded whip and the base loaded type are typical.

A vertically polarized whip antenna is best suited.It is omni-directional.If it's the loaded type,you will find it a physically shorter antennaBut,for greater efficiency the 102 inch (2.6m) long,full quarter-wave whip is better.
Antenna length is directly related to efficiency.Generally,the longer, the more efficient.
There are many possible antenna locations on a car.For of the most popular are shown and discussed on the following.

Base Station Antenna

While your Transceiver is designed for mobile operation,you might wish to use it as a base station unit, in conjunction with a 12-13.8 volt 2 Amp DC power supply.If you do decide to use your transceiver as a base station,choose an antenna designed to operate most efficiently as a base station antenna.For example the 1/2wave antenna is a high-efficiency radiator with omni-directional characteristics.It performs as well in most applications as does the ground plane.
You can use this type of antenna for medium-long range communications.



WARNING WARNING WARNING

When you install or remove a base station CB antenna,use extreme caution.If the antenna starts to fall,let it go!It could contact overhead power lines.If the antenna touches the power line,contact with the antenna,mast, cable or guy wires can cause electrocution and death!
Call the power company to remove the antenna.Do not attempt to do so by yourself!

USING YOUR TRANSCEIVER

Do not transmit without a suitable antenna or 50 ohm load connected to the ANT enna connector.For installation,refer to that section.

To Receive

1.Check that the unit is properly connected to a source of 12-13.8V through the in-line fuse and red wire.
2.Make sure that an antenna is attached.
3.Connect the mic plug to mic jack.
4.Set the Band switch to 'C' band
5.Set SQUELCH control to maximum counter clockwise position.
6.Turn power on by rotating VOLUME clockwise.
7.Set Channel selector to the desired channel.
8.Adjust VOLUME for a suitable listening level.
9.Adjust SQUELCH to cut out annoying background noise when no signal is being received.To do this set the Channel where no signals are present or wait until signals cease on your channel.Then, rotate the SQUELCH control in a clockwise direction to the point where the background noise just stops.Now, when a signal is present,you will hear it,but will not be disturbed by noise on the channel between signals.

When properly set, the SQUELCH keeps the receiver"dead"until a signal comes in on that channel,However,do not set the SQUELCH too high,or weak signals will not be able to open the squelch circuit.To receive very weak signals,it is best to leave SQUELCH set to the minimum position by rotating the control maximum counter clockwise. The squelch circuit in your Transceiver is an advanced design.It uses an operational amp IC to accomplish a hysteresis action.The result is that when you set the SQUELECH for a precise signal level,if that signal level increases or decreases in strength,the squelch circuit will follow this change. With conventional squelch circuits often a signal which changes strength gets " chopped" by the squelch circuit and you lose portion of the message.With a hysteresis squelch you get it all.

To Transmit

1.Select the channel desired.
2.Press the push-to-talk button on the microphone and hold it at an angle about 2-3" (5-7cm) from your mouth and speak in a normal voice.
3.To receive,release the push-to-talk button.

Be sure the mic plug is firmly connected to the jack,for if the connector becomes loose,you may end with squeal,feedback and many other problems.

Note: Shouting into the mic will not increase you power or signal. An internal circuit automatically sets the mic signal for maximum modulation,so speaking loudly will give no advantage.If fact,shouting may result distorted speech.

Remote Speaker Operation

N 8 ohm speaker,rated at 3-10watts,should be used for this function.Plug the speaker into the EXT SPKR jack at the rear of the transceiver.When the external speaker is plugged in, the internal speaker is disconnected.You can now monitor ll incoming signals through your remote speaker.

NOISE

In mobile operation,your boat can be the cause of much noise interference.Since the receive section of your Transceiver is very sensitive,it will pick up even the smallest signals and amplify them. Any noise that you hear in the Transceiver is for the most part form external sources.The receiver itself is exceptionally quiet.If the noise is continuous and fairy loud,it cannot be totally eliminated by the Automatic Noise Limiter(ANL)circuit.You must correct the problem at its source.

To find out if the noise is from your ignition system,try this simple test.Turn off your ignition switch and set it to ACC (accessories).This turns off the ignition, but supplies power to the Transciver.Most of the noise will probably disappear,indicating that the source of noise is other electrical systems.

Ignition System

Ignition noise can be identified by the fact that it varies with the speed of the engine.It consists of a series of popping sounds.There are a number of things that can be done to reduce this type of noise:

1.Use only the " radio suppression type" high-voltage ignitionin wire.

2.Inspect the high voltage ignition wire and all connections made with this wire.Old ignition wire may develop leakage,resulting in harsh,hissing sounde.

3.If the noise still persists,replace, the spark plugs with ones that have suppressor resistors built-in. Be sure to use the correct type.

Other sources of noise are: generator/alternator,regulator, gauges and static discharge.Most of these noises can be effectively reduced or eliminated by using bypass capacitors at the various output voltage points.We suggest you check your supplier for a wide selection lr noise reduction accessories.

SPECIFICATIONS

Receiver

Frequency Coverage:
All 40 CB(Class D)Channels
26.965to 27.405MHz
(OPTIONAL FOR POLAND:
26.060 to 27.850MHz)

Sensitivity:
1.OuV or better for 10dB S+N/N

Adjacent channel Rejection:
60dB(at 10kHz)greater than 70dB
(for 20kHz)

Intermediate Frequency:
1st IF=10.695MHz
2nd IF =455kHz

Audio Output:
4.5 watts (max)

Frequency Response (-6dB):
450-2500Hz

Cross Modulation:
45dB or better

Squelch:
Adjustable from 1.2μV to 1mV

Transmitter

Frequency Coverage:
All 40 CB(Class D)Channels
26.965to 27.405MHz
(OPTIONAL FOR POLAND:
26.060 to 27.850MHz)

Output Power:
4 watts(max 7w)

Type of Modulation:
A3

Modulation Capability:
80-90%

Spurious Radiation:
62dB or better

Frequency Tolerance:
Better than 0.002%

Antenna Impedance:
50 ohm

Current Drain (13.8 volt supply):
1.3 amps (no modulation)
2.0 amps (full modulation)

Public Address

Power Requirements:
12-16 Volts DC,positive or
negative ground

Dimensions(WHD):
$4^{7}/_{8}$″ × $1^{1}/_{2}$″ × $7^{1}/_{2}$ ″ (124mm× 38mm
× 190mm)

Weight:
1.2Kg

SERVICE AND MAINTENANCE

Your Transceiver has been built in accordance with Factory's exacting quality control standards.However,it should be treated with reasonable care accorded any electronic equipment.Avoid exposing it to severe shock,dirt or mositure.

If you run into problems with the unit,we recommended you check the following:

1.If trouble is experienced with receiving:
- Check the VOLUME On/Off setting.
- Be sure SQUELCH is adjusted properly.Is it oversquelched?
- Check to see if the unit is switched to an active channel.
- Be sure microphone plug is securely in place.
- Check for improper antenna connection.

2.If trouble is experienced with transmitting:
- Check if the transmission line is securely connected to the ANT enna Connector.
- Check if the antenna is correctly installed for proper operation.
- Are all transmission line connections secure and free of corrosion?
- Make sure the push-to-talk button on the microphone is fully depressed.
- Be sure the microphone connector is firmly pressed into its jack.

3.If the Transceiver is completely inoperative:
- Check the power cable and inline fuse.If the fuse is blown replace it only with an identical 2-amp fuse.

If these checks don't solve the trouble, do NOT attempt repairs or adjustment yourself.The unit should be serviced only by a qualified radio technician. Whenever possible,return the unit to the store from which it was purchase.