

# uniden®



**MC 724 - 90 CHANNEL  
MARINE RADIOTELEPHONE  
OWNER'S MANUAL**

## UNIDEN MC 724

The UNIDEN MC 724 VHF marine radio transceiver has been designed to give you a rugged reliable instrument that will provide you with years of trouble-free service. You are encouraged to thoroughly read this manual to acquaint yourself with the characteristics and operation of your transceiver so that you can contribute to the longevity of your investment.

With proper care and maintenance, your UNIDEN MC 724 will outlast your present vessel and serve you well on board several more. The full features and flexibility designed into this quality transceiver will prevent it from becoming obsolete regardless of changes in craft or geographic locations. The unit may be mounted in any number of convenient locations by utilizing the universal mounting bracket. All legally available Australia, and international channels are provided. The technical excellence of the UNIDEN MC 724 is demonstrated by the multiplicity of uses for which it has been found acceptable by the Department of Communications.

The UNIDEN MC 724 is of all solid state design with conservatively rated rugged components and materials compatible with the marine environment. The transceiver utilizes gaskets, sealing rings, waterproof membranes and other sealants to effect a splashproof housing for protection of the electronics.

## INSTALLATION

**CAUTION:** The MC 724 will operate only with a nominal 12 volt negative ground battery system.

### CHOOSING A LOCATION

1. Select a location that is free from spray and splash.
2. Select a location that minimizes exposure to direct sunlight (including that coming through windows).
3. Select a location that allows free air flow around the heat sink on the rear of the radio.
4. Select a location well away from the ship's compass. Auxiliary speakers also should be located away from the compass.
5. Select a location as close to the battery as possible (in order to keep battery leads as short as possible). Direct connection to the battery is most desirable. If direct connection cannot be made with the supplied power lead, any extension should be made with at least #10 AWG wire.

### ENGINE NOISE SUPPRESSION

Interference from the impulse noise generated by the electrical systems of engines is sometimes a problem with radios. The MC 724 has been designed to be immune to ignition impulse noise and alternator noise. However, in some installations it may be necessary to take measures to further reduce the effect of noise interference. All DC battery wires, antenna leads and accessory cables should be routed away from the engine and engine compartments and from power cabling carrying particularly high currents.

In severe cases of impulse noise interference, it may be necessary to install a noise suppression kit that is available from your UNIDEN Dealer.

### ANTENNA CONSIDERATIONS

1. Keep the antenna lead as short as possible. Long antenna leads can cause substantial loss of performance for both receiving and transmitting.
2. Locate your antenna as high as possible and clear from metal objects. The reliable range of coverage is a direct function of antenna height. The general rules for antennas are: The more gain the greater the range and, the higher above the water line the greater the range.

### MOUNTING CONSIDERATIONS

Keep in mind the flexibility designed into the MC 724 so that you can most conveniently use your radio. The points which should be considered are:

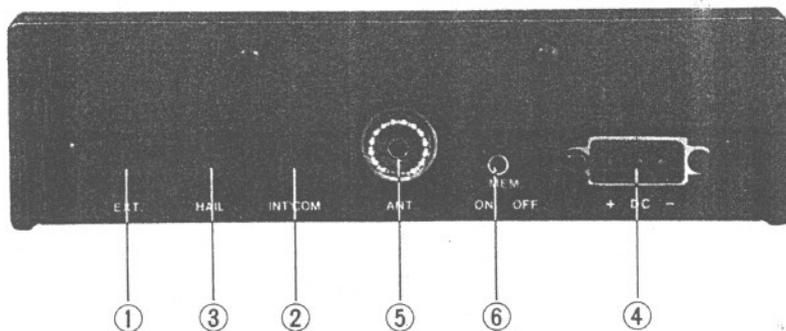
1. Universal mounting bracket may be installed on either top or bottom for shelf bulkhead, or overhead mounting.
2. The microphone connector faces forward allowing convenient in-dash or "built-in" installations.

3. The front panel can be fully reversed to provide for optimum viewing area, operating for any mounting position. (See page 7 ).
4. The EXTERNAL speaker jack may be used with an auxiliary speaker in lieu of the built-in speaker.
5. All connections are "plug-in" type for easy removal of the radio.

### ACTUAL INSTALLATION

After carefully considering the various factors affecting choice of location, position the radio (with bracket, microphone, power plug, antenna plug and any auxiliary plugs installed) into the selected location to assure there is no interference with surrounding items. Mark the location of the mounting bracket. Remove the bracket from the radio and use it as a template to mark the holes to be drilled for the mounting hardware. Drill the holes and mount the bracket with hardware compatible with the material of the mounting surface. Install the power cable (red is +, black is -), antenna and all other auxiliary cables and accessories. Install the radio into the mounting bracket and connect all cables and accessories to the appropriate jacks and connectors.

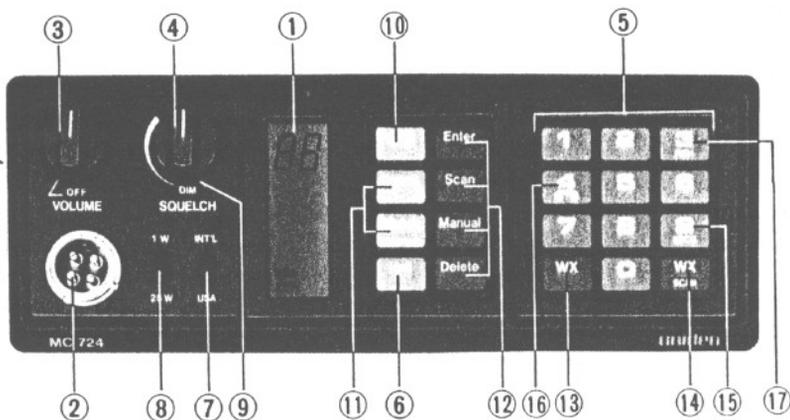
### REAR PANEL CONNECTORS



1. **EXTERNAL SPEAKER CONNECTOR**--If it is desired to use a speaker other than the one in the radio, a four or eight ohm speaker equipped with a miniature phone plug may be connected to this jack. The internal speaker is disabled when an external speaker is used.
2. **INTERCOM CONNECTOR**--When using the intercom feature, a four or eight ohm speaker with a miniature phone plug should be connected to this jack. Refer to the section for intercom operation.

3. **HAIL CONNECTOR**--The speaker used for the hail function is plugged into this jack. The speaker may be be either four or eight ohms impedance and should be suitable for the environment in which it is located. The plug must be a miniature phone plug.
4. **DC POWER CONNECTOR**--Battery connections are to be made with the cable supplied to mate with this connector. Remember, red is +, black is -! The power cord is equipped with a fuse to protect the radio. Use only a six (6) AMPERE fast blow fuse for replacement. Wire directly to battery for best result.
5. **ANTENNA CONNECTOR**--This connector is for connection of the antenna. A type PL259 connector is required to make proper connection.
6. **MEMORY SWITCH**--When this switch is "ON", the microprocessor is continuously energized. This retains the scan memory and programmed priority channel. The small amount of battery drain (3mA) caused by the continuous "ON" state of the switch is insignificant and will not cause a battery drain problem. CAUTION! If power is supplied through the ignition switch, the memory can be lost regardless of the position of the switch.

## FRONT PANEL CONTROLS AND LCD DISPLAY



1. **LIQUID CRYSTAL DISPLAY (LCD)**--Provides indication of channel and functions even in brightest sunlight.
2. **MICROPHONE CONNECTOR**--Receptacle for microphone connection. When microphone is keyed, LCD displays "TX."
3. **ON/OFF-VOLUME**--Turns power on to radio and allows adjustment to the desired listening level with clockwise rotation.
4. **SQUELCH**--Used to quiet background noise when no signal is being received. Proper adjustment is such that the control is advanced only slightly beyond the point where the background noise is quieted.

5. **KEYBOARD CHANNEL SELECTOR**--Selects the desired channel. LCD display shows CH-1 through CH-88. For channels 1 through 9, first you must depress "0" then the desired channel number. If you attempt to enter channels 29, 75, 76 or 89, the letter "E" will flash in the LCD display. To continue normal use of the radio, make a proper channel selection.
6. **HAILER/INTERCOM PUSHBUTTON**--Disables the transmitter and allows use of an optional hailer speaker or intercom speaker (both sold separately). Jacks clearly labeled "HAIL" and "INTERCOM" are provided on the unit's rear panel for easy connection. To operate the hail function, first push the "HAIL" pushbutton, ("HAIL" will appear on the LCD display). Next speak into the microphone while adjusting the VOLUME control. To operate the intercom function, first push the "HAIL" pushbutton. ("HAIL" will appear on the LCD display.) Next speak into the microphone and you will be heard through the intercom speaker. Also persons talking into the intercom speaker will be heard through the radio speaker. To return to transceiver operation from either the Hail or Intercom mode, simply depress the "HAIL" pushbutton a second time.
7. **INTL/USA SELECTOR**--Provides for USA frequency/channel system or for International channels. LCD displays "USA" or "INTL."
8. **1W/25W SELECTOR**--Controls transmitter output power. The 1W (Watt) position should always be used for in-port or short range communications. LCD displays either "1W" or "25W."
9. **DIM CONTROL**--This control is used to adjust the brightness of the LCD and the keyboard backlighting for night operation.
10. **CHANNEL 16 PUSHBUTTON** --Provides instant Channel 16 selection, overriding the CHANNEL SELECTOR.
11. **WATCH PUSHBUTTON (DUAL WATCH FEATURE)**--Provides for automatic monitoring of Channel 16. Push "WATCH" and LCD displays "WATCH" and Channel 16 to show that the priority channel is Channel 16 and that the watch is set. Now select any other legal channel and every 2 seconds the receiver will leave the main channel and sample activity on Channel 16. If activity is found, receiver will remain on Channel 16 until message is complete. Channel 16 thus has priority over the main channel. To disable the watch function, push "WATCH" again.

An important feature of the MC 724 is the operator's ability to change the watch channel to any legal channel. To do this, first go to the channel desired using the channel selector switch. Now push "WATCH PROGRAM" key. Channel number in display will blink. Now push "WATCH". Watch is now set and LCD display shows new priority (watch) channel.
12. **SCAN FEATURE**--Any number of Marine channels can be scanned by the MC 724. First they must be entered into the memory using the "ENTER" key. To do this, first select a channel using the channel selector and then push "ENTER." A small horizontal bar will appear above the LCD channel display indicating that channel is now in memory. Repeat this until all desired channels have been entered. Now push "SCAN." The LCD display will show the scanning action by successively lighting segments of the unit's digit. The channels selected

will be scanned for activity at the rate of about 9 channels per second. When conversation is found, the scanner stops and the message is received — then scanning is resumed. Note that if "SCAN" is pushed and no channels are in memory, "o" is shown in the LCD display to indicate that condition. The "DELETE" key is used to reverse the process. Channels in the memory can be removed by pushing "DELETE." When a channel is deleted, the next numerical channel that is in the memory is displayed. If this is a channel that is also to be deleted, then push "DELETE" again. This action can be repeated until the memory is empty once more and "o" appears in the LCD display to indicate there are no channels to scan.

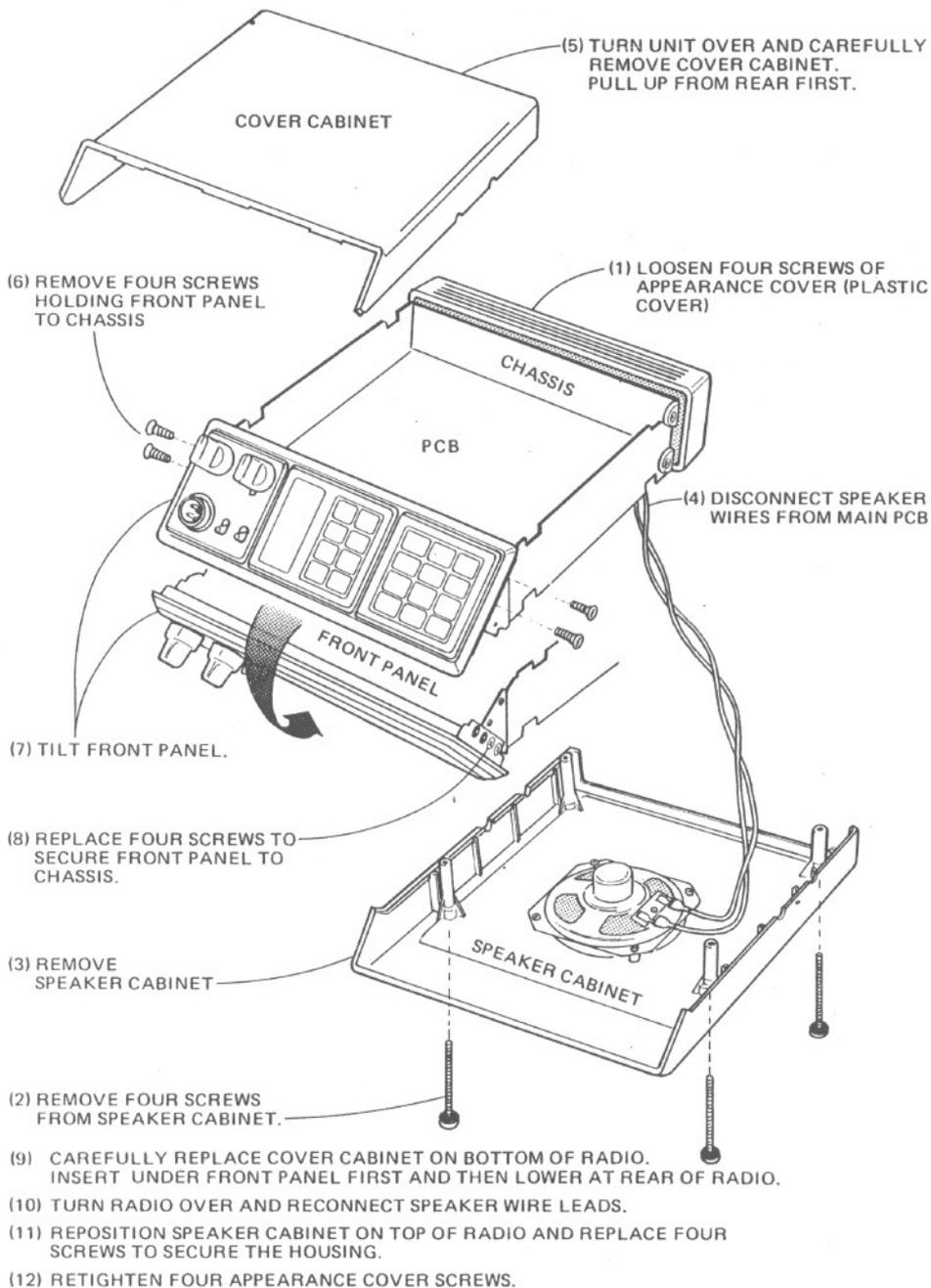
The "MANUAL" key is used to stop the scanning action. It also has two other important functions: to return to a prior channel, and to review those channels in the memory. When "MANUAL" is pushed, the receiver first returns to whatever channel was being monitored prior to "SCAN." Subsequent pushes on "MANUAL" key advance the receiver through the memory channels.

If the receiver is scanning the memory channels and a message is received, the receiver will stop and monitor this channel. If the operator would like to remain on this channel, then either the microphone push-to-talk or the "MANUAL" button should be depressed. The radio will immediately go to manual on that channel.

During scan, the transmitter is disabled when the receiver is not stopped on a channel.

13. **WEATHER PUSHBUTTON**--Allows for direct access to any 1 of the 9 weather channels. Depress this button, then depress any of the keyboard pushbuttons 1 through 9 to receive desired weather channel. The small "WX" indicator will appear in the LCD Display just under the channel number (indicating weather channel).
14. **WEATHER SCAN PUSHBUTTON**--Allows for automatic continuous scanning of all 9 weather channels. Depress this button and the LCD display will show the scanning action by successively lighting segments of the unit's digit. The rate of scanning is about 9 channels per second. Small "WX" indicator will appear in LCD display (indicating weather scan). Radio will automatically lock in on the first weather transmission available. Push WEATHER SCAN PUSHBUTTON again and radio will scan to the next active weather channel.
15. **COAST GUARD SCAN PUSHBUTTON**--Allows for automatic continuous scanning of all Coast Guard (USCG) channels. Works in same way as weather scan. Small "USCG" indicator will appear in LCD display indicating Coast Guard scan. After transmission is terminated, scanning continues.
16. **TELEPHONE SCAN PUSHBUTTON**--Allows for automatic continuous scanning of all telephone channels. Works in same way as weather scan. Small telephone handset symbol will appear in LCD display indicating telephone scan. After transmission is terminated, scanning continues.
17. **FISH SCAN PUSHBUTTON**--Allows for automatic continuous scanning of some channels commonly used for fishing. Works in same way as weather scan. Small "Fish" indicator will appear in LCD display indicating fish scan. After transmission is terminated, scanning continues.

## REVERSING THE FRONT PANEL



## SPECIFICATIONS

### GENERAL

Channels	: Transmit-55, Receive-90
Frequency Control Method	: PLL synehtsizer and microprocessor
Antenna Impedance	: 50 ohms, nominal
Speaker (Internal)	: 2.85 inch, 8 ohms
Microphone	: Rugged 600 ohm dynamic element with coiled cord and plug-in connector
Channel Display	: LCD alpha numeric readout.
DOC Approvals	: Type approval under Australia Department of Communications
Frequency Stability	: $\pm 0.0005\%$
Operating Temperature Range	: $-20^{\circ}\text{C}$ to $+50^{\circ}\text{C}$
Shock and Vibration	: Meets or exceeds EIA standards
Dimensions	: 7-1/4"W(185mm) x 9-7/8"L(250mm) x 2-1/4"H(58mm)
Weight	: 4.5 pounds
Controls	: On-off/volume, squelch and dimmer controls
Selector Switches	: 1W/25W, intl/USA, instant ch 16, watch, hail, scan, manual channel selector and memory backup
Program Switches	: Watch program, enter and delete
Connectors	: Antenna, microphone, external speaker, DC power, hail, intercom.
Frequency Range	: 156 to 158 MHz transmit, 156 to 163 MHz receive
Lights and Indicators	: Channel number and scan list status, TX, WX, WATCH, scan, hail, USA, international, 25W, 1W and back lighted key board.
Standard Accessories	: Plug-in microphone, mounting bracket and hardware. DC power cord, mike hanger, spare fuse, owner's manual, warranty card
Supply Voltage	: 13.8V DC negative ground
Standby Drain	: 1.2A at rated audio output – 0.6A squelched
Transmit Drain	: 4.5A at 25W output – 1A at 1W output

### TRANSMITTER

Power Output	: 25 or 1 watt (switch selectable)
Modulation	: FM, $\pm 5$ kHz deviation (FCC designator 16F3)
Hum and Noise Attenuation	: 45 dB
Audio Distortion	: Less than 5%
Spurious Emissions	: $-70$ dB
Output Transistor Protection	: Built-in
Output Power Stabilization	: Built-in automatic level control (ALC)

### RECEIVER

Sensitivity	
20 dB quieting	: $-117$ dBm
12 dB sinad	: $-114$ dBm
Squelch Sensitivity (EIA)	: $0.20$ $\mu\text{V}$
Spurious and Image Rejection	: 75 dB
International Rejection	: 70 dB @ $0.3$ $\mu\text{V}$
	: 50 dB @ $30$ $\mu\text{V}$
	: 35 dB @ $300$ $\mu\text{V}$
Selectivity (EIA)	: 70 dB
Audio Output Power @ 10%	
Dist with 4 ohm speaker	: 3.5 watts minimum
IF Frequencies	: 1st---21.4MHz, 2nd---455kHz
Hum and Noise Level (EIA)	: 50 dB

**VHF FM MARINE RADIOTELEPHONE  
CHANNELS AND FUNCTIONS  
(INTERNATIONAL CHANNEL)**

CHANNEL DESIG	FREQUENCY(MHz)		TYPE TRAFFIC	SHIP TO SHIP	SHIP TO SHORE	PERMANENT SCAN LIST
	SHIP	SHORE				
WX1	—	162.550	NOAA Weather	RX Only	RX Only	Weather
WX2	—	162.400	NOAA Weather	RX Only	RX Only	Weather
WX3	—	162.475	NOAA Weather	RX Only	RX Only	Weather
WX4	—	162.425	NOAA Weather	RX Only	RX Only	Weather
WX5	—	162.450	NOAA Weather	RX Only	RX Only	Weather
WX6	—	162.500	NOAA Weather	RX Only	RX Only	Weather
WX7	—	162.525	NOAA Weather	RX Only	RX Only	Weather
WX8	—	161.650	Can. Weather	RX Only	RX Only	Weather
WX9	—	161.775	Can. Weather	RX Only	RX Only	Weather
01	156.050	160.650	VTS	Yes	Yes	
02	156.100	160.700	Port Ops	Yes	Yes	
03	156.150	160.750	Port Ops	Yes	Yes	
04	156.200	160.800	Port Ops	Yes	Yes	
05	156.250	160.850	VTS	Yes	Yes	
06	156.300	156.300	Safety	Yes	No	
07	156.350	160.950	Com'l	Yes	Yes	
08	156.400	156.400	Com'l	Yes	No	
09	156.450	156.450	Com'l & Non Com'l	Yes	Yes	Fish
10	156.500	156.500	Com'l	Yes	Yes	
11	156.550	156.550	Com'l	Yes	Yes	
12	156.600	156.600	Port Ops	Yes	Yes	
13	156.650	156.650	Navigational	Yes	Yes	
14	156.700	156.700	Port Ops	Yes	Yes	
15	156.750	156.750	Environmental	Yes	Yes	Environmental
16	156.800	156.800	Safety Calling	Yes	Yes	
17	156.850	156.850	State Control	Yes	Yes	
18	156.900	161.500	Com'l	Yes	Yes	
19	156.950	161.550	Com'l	Yes	Yes	
20	157.000	161.600	Port Ops	Yes	Yes	
21	157.050	161.650	Coast Guard	Yes	Yes	
22	157.100	161.700	Coast Guard	Yes	Yes	
23	157.150	161.750	Coast Guard	Yes	Yes	
24	157.200	161.800	Public Corresp.	No.	Yes	Busy Tel.
25	157.250	161.850	Public Corresp.	No	Yes	Busy Tel.
26	157.300	161.900	Public Corresp.	No	Yes	Busy Tel.
27	157.350	161.950	Public Corresp.	No	Yes	Busy Tel.
28	157.400	162.000	Public Corresp.	No	Yes	Busy Tel.
60	156.025	160.625				
61	156.075	160.675				
62	156.125	160.725				
63	156.175	160.775				
64	156.225	160.825				
65	156.275	160.875	Port Ops	Yes	Yes	
66	156.325	160.925	Port Ops	Yes	Yes	
67	156.375	156.375	Com'l	Yes	No	
68	156.425	156.425	Non Com'l	Yes	Yes	Fish
69	156.475	156.475	Non Com'l	Yes	Yes	Fish
70	156.525	156.525	Non Com'l	Yes	No	Fish
71	156.575	156.575	Non Com'l	Yes	Yes	Fish
72	156.625	156.625	Non Com'l	Yes	No	Fish
73	156.675	156.675	Port Ops	Yes	Yes	
74	156.725	156.725	Port Ops	Yes	Yes	
77	156.875	156.875	Port Ops	Yes	No	
78	156.925	161.525	Non Com'l	Yes	Yes	
79	156.975	161.575	Com'l	Yes	Yes	
80	157.025	161.625	Com'l	Yes	Yes	
81	157.075	161.675	Coast Guard	Yes	Yes	
82	157.125	161.725	US Gov Only	Yes	Yes	Coast Guard
83	157.175	161.775	Coast Guard	Yes	Yes	Coast Guard
84	157.225	161.825	Public Corresp.	No	Yes	Busy Tel.
85	157.275	161.875	Public Corresp.	No	Yes	Busy Tel.
86	157.325	161.925	Public Corresp.	No	Yes	Busy Tel.
87	157.375	161.975	Public Corresp.	No	Yes	Busy Tel.
88	157.425	162.025	Com'l	Yes	No	Busy Tel.

## CARE AND MAINTENANCE

Your MC 724 is a precision piece of electronic equipment and you should treat it accordingly. Due to the rugged design, very little maintenance is required, however, a few precautions should be observed.

If your radio has been accidentally subjected to spray or splash, you should immediately wipe it down with a soft cloth dampened with fresh water.

If the antenna has been damaged, you should not transmit except in the case of emergency. A defective antenna may cause damage to your radio.

You are responsible for the continued FCC technical compliance of your radio.

You are urged to arrange for periodic performance checks with your UNIDEN Marine Dealer.

## SERVICE

Should you find it desirable or necessary to have service performed on your MC 724, you are urged to contact the UNIDEN Dealer from whom you made your purchase. He, or any other UNIDEN dealer is able to provide you with complete service performed by well qualified personnel.

If you require service that is within the terms of your warranty, you should present the validated WARRANTY CARD to your dealer to authenticate your claim. Your WARRANTY CARD is your passport to easy service. This card is to be completed by your dealer at the time of purchase. Other suitable documents which clearly establish ownership and date of purchase may be used in lieu of the WARRANTY CARD.

If you find it inconvenient to have service performed by your local UNIDEN Marine Dealer, you may also obtain service from the Factory Service Station. If you require factory service, please pack your radio in a suitable container which will provide adequate protection, enclose a note describing the problem, and a copy of your validated WARRANTY CARD, or other proof-of-purchase documents and return (transportation prepaid) to:

Santronic Agencies Pty. Ltd.  
13 Garema Circuit, Kingsgrove  
Phone 758 1522

P.O. Box 12, Kingsgrove, NSW 2208

If the service you require is not within the terms of the warranty, you should specifically include written authorization to proceed with service and to agree to appropriate charges.

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## 12 MONTHS FULL WARRANTY

**WARRANTOR.** SANTRONIC AGENCIES PTY. LTD. 13 Garema Circuit, Kingsgrove NSW 2208 ("SANTRONIC").

**ELEMENTS OF WARRANTY.** SANTRONIC warrants, for the duration of this warranty, its UNIDEN Marine Product to be free from defects in materials and craftsmanship with only the limitation or exclusions set out below.

**WARRANTY DURATION.** This Warranty shall terminate and be of no further effect One (1) year after the date of original purchase of the Product or at the time the Product is (a) damaged or not maintained as reasonable and necessary, (b) modified, (c) improperly installed, (d) is repaired by someone other than Warrantor for a defect or malfunction covered by this Warranty, or (e) used in a manner or purpose for which the Product was not intended.

**PARTS COVERED.** This Warranty covers all components of the Products.

**STATEMENT OF REMEDY.** In the event that the Product does not conform to this Warranty at any time while this Warranty is effective, Warrantor will repair the defect and return it to you prepaid, without charge for parts, service, or any other costs incurred by Warrantor or its representatives in connection with the performance of this Warranty. In addition, if the Product contains a defect or malfunction which is not repaired after a reasonable number of attempts by Warrantor to repair the Product, the Product or defective component will at our discretion, will be replaced without charge, when the defective product is delivered to the warrantor at 13 Garema Circuit Kingsgrove NSW 2208 free and clear of all liens and encumbrances. Please note that while the Product will be remedied under this Warranty without charge. **THIS WARRANTY DOES NOT COVER OR PROVIDE FOR THE REIMBURSEMENT OR PAYMENT OF INCIDENTAL OR CONSEQUENTIAL DAMAGES.**

Some states do not allow this exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you.

**PROCEDURE FOR OBTAINING PERFORMANCE OF WARRANTY.** In the event that the Product does not conform to this Warranty, the Product should be shipped prepaid to Warrantor at 13 Garema Circuit Kingsgrove NSW 2208. **THE ORIGINAL OR COPY OF THE SALES RECEIPT OR OTHER VALID EVIDENCE OF THE DATE OF THE ORIGINAL PURCHASE MUST ACCOMPANY THIS PRODUCT.**

**LEGAL REMEDIES.** This Warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

# Santronic

AGENCIES PTY. LTD.

13 GAREMA CIRCUIT, KINGSGROVE  
PHONE 758 1522, TELEX AA73170  
P.O. Box 12, Kingsgrove, NSW 2208

BRISBANE: 3/12 RANDALL ST  
SLACKS CREEK, QLD 4127  
PHONE 07 290 1188