

Uniden®

OWNER'S MANUAL



**UNIDEN Model UH-090
Dual Band CB Radio (FM & AM)**

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Introduction

The Uniden UH-090 is designed to provide you with years of trouble free service. Its rugged components and materials are capable of withstanding harsh environments.

We are certain that you will enjoy your UH-090. Please read this Operating Manual carefully to ensure you gain the optimum performance of the unit.

Features

- Transmitt & Receive FM 40CH (UHF-CB, TX Power 5w)
- Transmitt & Receive AM 40CH (AM Band, TX Power 5w)
- LCD Display with Backlight
- Signal Strength Meter
- RF Power Indicator
- Speaker Audio Volume Level Meter
- One touch FM or AM Mode selectable
- Dual Band Watch
- Instant Channel programmable separately FM/AM Modes
- One touch Instant Channel recalling Duplex Capability (from CH01 - CH08 per channel) FM Only
- FM Group Scan and Priority CH Watch
- FM Open Scan
- AM Group Scan with Priority CH Watch
- AM Open Scan
- Scan Channel Memory On/Off separately with FM Open Scan, FM Group Scan, AM Open Scan and AM Group Scan
- Rotary Channel Select
- Busy CH Lock-out Function - (FM Only)
- Roger Beep Function On/Off (FM VOX Mode Only)
- 2 Different Ring Tones (FM Only)
- 38 Built-in CTCSS (Continuous Tone Coded Squelch System) codes that are user selectable (FM Only)
- 2 Levels Preset Squelch (FM Only)
- Variable Squelch Level adjust (AM Only)
- Volume Control with Power On/Off Switch
- VOX (Voice Activated Function) (FM Only)
- 10 Steps VOX Mic sensitivity adjustment (FM Only)
- Memory Backup if power fails

Preventive Maintenance: The following system checks should be made every six to twelve months:

- Check the Standing Wave Ratio (SWR).
- Inspect the tightness of all electrical connections.
- Inspect the antenna coaxial cable for wear or breaks on the shielding.
- Inspect the tightness of all screws and other mounting hardware.

Troubleshooting: Should the unit malfunction or perform poorly, follow these procedures:

If the transceiver is completely inoperative...

- Check the power cord and fuse.

If there is trouble with receiving...

- Check the VOLUME control setting. Be sure the SQUELCH is adjusted properly. Possibly the radio is over-squelched.

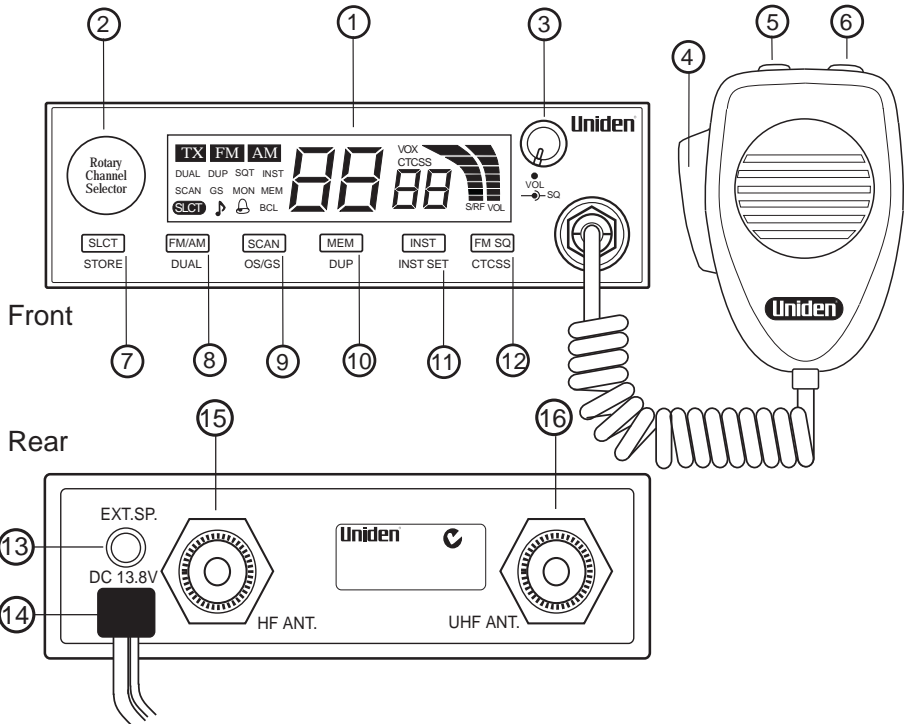
If there is trouble with transmitting...

- Check that the transmission line (coaxial cable) is securely connected to the ANTENNA connector.
- Check that the antenna is fully extended for proper operation.
- Check that all transmission line (coaxial cable) connections are secure and free of corrosion.



Blackening may occur on the Liquid Crystal Display. If the UH-090 has been subjected to extreme high temperature (above 60°C). This is not a fault. Normal LCD operation resumes when the temperature stabilizes back to standard operating conditions (0 to 55°C).

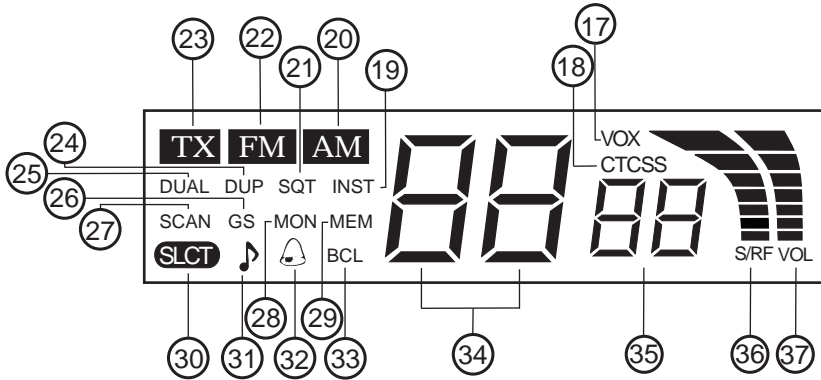
Controls / Connectors / Indicators



Controls and Connections

Ref.	Item	Page	Ref.	Item	Page
①	Liquid Crystal Display (LCD)	4	⑩	Memory Scan Channels and Duplex On/Off	8, 9
②	Rotary Channel Selector	7	⑪	Instant Channel Recall and Instant Channel Programming	11
③	On/Off Volume & AM Squelch	6	⑫	FM Squelch and CTCSS Tone	6, 11
④	Push to Talk (PTT) Switch	7	⑬	Extension Speaker	-
⑤	Call Button	7	⑭	Power Input (13.8V DC)	-
⑥	Monitor Button	7	⑮	HF Antenna Connection (AM)	-
⑦	SLCT - Select Button		⑯	UHF Antenna Connection (FM)	-
⑧	FM/AM and Dual Band Watch	7, 11			
⑨	Scan On/Off and Open or Group	8, 9			

Controls / Connectors / Indicators



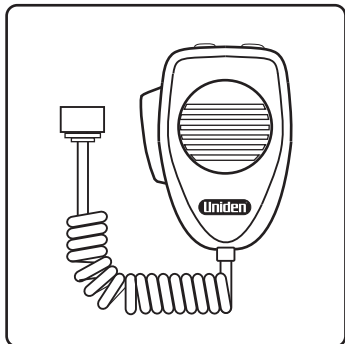
Indicators

Ref.	Item	Page	Ref.	Item	Page
16	VOX - Voice Operated Microphone	10	28	MON - Monitor	7
17	CTCSS - Continuous Tone Coded Squelch System	11	29	MEM - Memory	9
19	INST - Instant Channel	11	30	SLCT - Select	10
20	AM - AM Mode	7	31	♪ - Ring tone	10
21	SQT - Tight FM Squelch	6	32	🔔 - Roger Beep	10
22	FM - FM Mode	7	33	BCL - Busy Channel Lockout	10
23	TX - Transmit	7	34	88 - Channel Number	7
24	DUP - Duplex	8	35	88 - CTCSS Tone	11
25	Dual - Dual Band Watch	11	36	S/R/F - Receive Signal or Transmit RF Power	-
26	GS - Group Scan	9	37	VOL - Receive Audio Volume	-
27	SCAN - Scan mode	8			

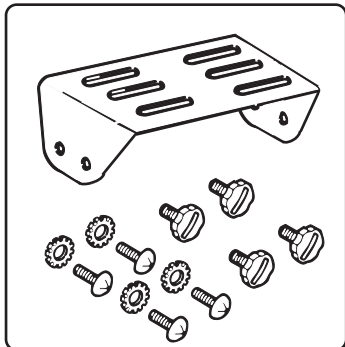
Included with your UH-090



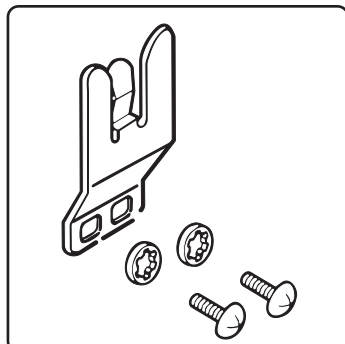
UH-090 Owners Manual



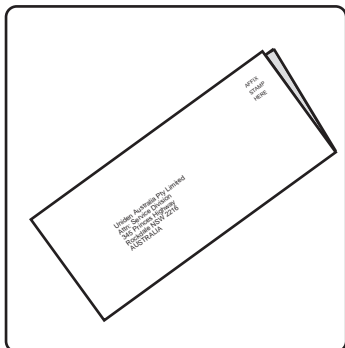
Microphone



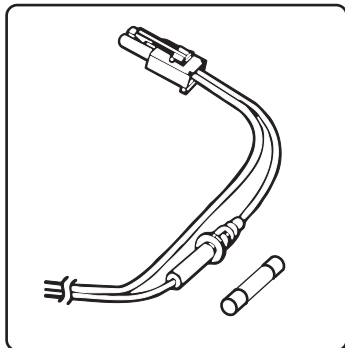
Mounting Bracket, Knobs, Rubber Washer, Washer Stars and Screws



Microphone Hanger, Screws and Washers



Warranty Registration Sheet



DC Power Cord with Fuse

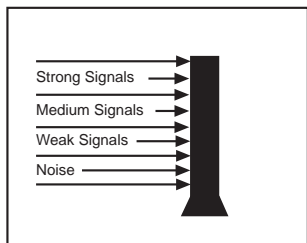
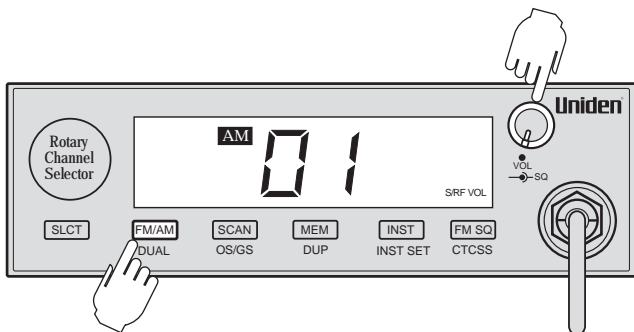
Operation

Setting the AM Squelch

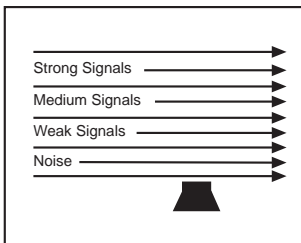
Turn the Unit ON by rotating the volume control clockwise. Select AM by pressing (FM/AM). AM icon appears.



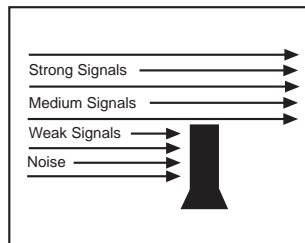
You must select a channel which is not in use before setting the SQUELCH control. (see p. 7)



Think of the squelch control as a gate. If you turn Squelch fully clockwise it raises the 'Squelch Gate' so high that no signals get through.



If you turn Squelch fully counterclockwise it lowers the 'Squelch Gate' to the extent that all signals get through - weak, medium and strong signals and noise.



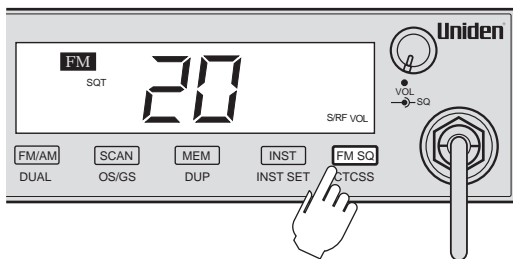
To set the 'Squelch Gate' to the desired level, turn the squelch knob counterclockwise until you hear noise. Then carefully turn the Squelch knob clockwise until the noise fades. Now only strong signals get through.

Setting the FM Squelch

The FM Band has Automatic Squelch Control. It requires no adjustment. However, if you are in a very high noise area it may break through. Press (FMSQ) to select the tight squelch mode. The SQT icon appears.



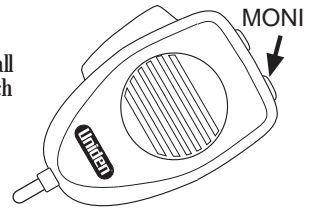
Note: Selecting tight squelch mode may prevent the reception of weak signals.



Operation

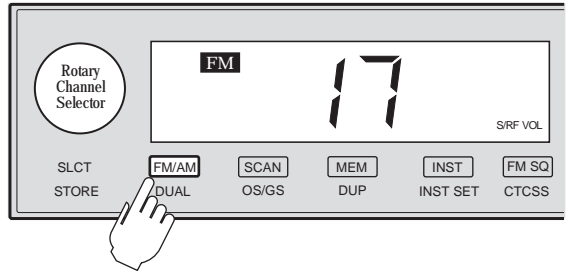
Monitor

Press the MONI button on the microphone to open the squelch and receive all weak signals. Press and hold the MONI button for 2 seconds to hold the squelch open. Press MONI again momentarily to cancel.



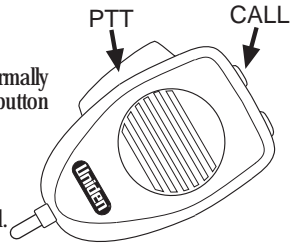
Selecting a Channel

Press **[FM/AM]** to select either FM or AM channels. Turn the Rotary Channel Selector to select the desired channel.



Transmitting

Select the desired channel. Press the Microphone's PTT button and speak normally into the microphone. Hold it approx. 7cm from your mouth. Release the PTT button to end the transmission and listen for a reply.

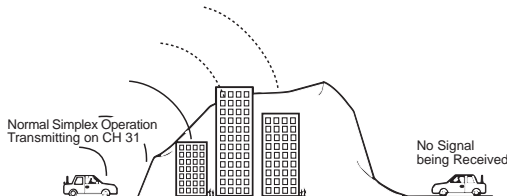


Call Function (FM Only)

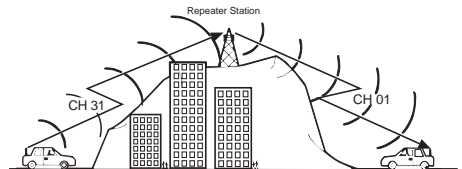
Press the microphone Call Button. A two second ringing tone will be transmitted. You may select 2 types of ring tones (see p.10).

Using Repeater Channels (FM Only)

UHF CB Repeaters are used to retransmit or relay your signal. Repeaters will extend the range of your radio and overcome the shielding effect caused by solid obstructions. In normal Simplex operation, your radio transmits on one particular frequency and receives on that same frequency. If there is a barrier that partially blocks your transmitted signal, the probability of another radio receiving the signal is very slim. Hills, tall buildings, metallic structures, ... etc. tend to act as a screen between radios.



Standard Operation without the aid of a Repeater Station



Operation with the aid of Repeater Station (Duplex)

Operation

Using Repeater Channels (FM Only)

The Signal coming from your radio is received by the Repeater Station and then retransmitted at the same time on another channel. This operation is called "Duplexing".

For example,

CH01 on Duplex Mode will Receive on CH 01 but Transmit on CH31

CH02 on Duplex Mode will Receive on CH 02 but Transmit on CH32 etc

If you transmit on CH01 Duplex mode, you are actually transmitting on CH31, the repeater station down-converts your signal and retransmits on CH01.

Operating the UH-090 in Duplex Mode

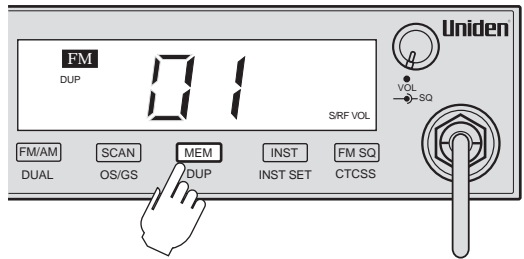
For this example we are adopting CH01 as the channel being used in your area for repeater use.

Press and hold **[MEM]** for 2 seconds to switch Duplex On. The DUP icon appears.

Press and hold **[MEM]** again for 2 seconds to switch Duplex off.

Only channels 01 - 08 are available for Duplex

NOTE Check with your local Retailer for information on available Repeaters

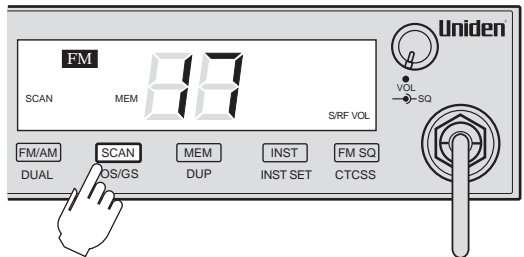


Scanning

The UH-090 has a scanning feature that allows you to search for active channels automatically.

Furthermore, the UH-090 is designed to have two types of scanning: Open Scanning (OS) and Group Scanning (GS), to give you flexibility and allow you to use the radio more effectively.

Press **[SCAN]** and Scanning starts. The SCAN icon appears.



Operation

Open Scan (OS) Mode

Allows continuous scanning of channels stored in the Open Scan memory. If an active channel is found, scanning will stop on that channel.

This example shows CH40 active.

If the received signal ceases, the unit will wait 3 seconds for the signal to return, otherwise scanning resumes.

To skip the active channel, press **[MEM]** momentarily. Scanning resumes. To deactivate SCAN, press **[SCAN]** or the PTT button on the microphone.



NOTE If SCAN is deactivated while on an active channel, the UH-090 will stay on that active channel. If no other channels are active, the UH-090 will reinstate the starting channel.

NOTE OS is indicated by the absence of the GS icon.

Group Scan (GS) Mode

Allows you to monitor a Priority (Instant) Channel while scanning (Instant Priority channel see p. 11)

To use GS Mode Scanning, press and hold **[SCAN]** for 2 seconds. GS icon appears on the display. OS Mode is indicated by the absence of the GS icon.



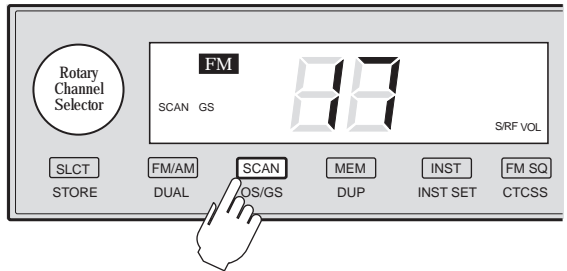
GS Scanning checks the Instant Priority Channel for activity regularly.

If the Priority Channel becomes active the radio will stay on that channel for as long as the signal is present. If the received signal ceases, Priority Scanning continues after 3 seconds.

If scanning stops on a channel which is not a Priority Channel, UH-090 will continue monitoring the Priority Channel for activity while listening to the active one. To deactivate SCAN, press the **[SCAN]** button or the PTT button.

NOTE If SCAN is deactivated while tuned to an active channel, the UH-090 will stay on that active channel. If none of the channels are active, the UH-090 will reinstate the Instant Priority Channel

NOTE If GS Scanning is initiated when there are no channels programmed in GS memory, an error tone will be heard and scanning will not start.



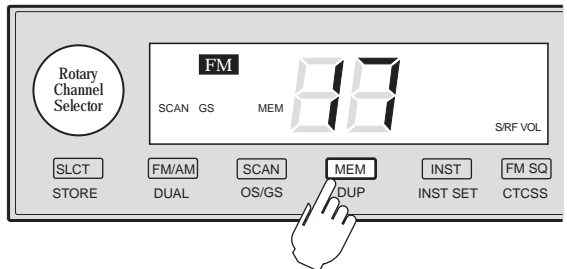
Programming Scan Channels

Select which Scanning Mode you wish to use - OS or GS (see p. 9). Select the channel you want to store.

NOTE OS is indicated by the absence of the GS icon.

Press **[MEM]** to store. MEM icon appears and a short tone beep is heard.

To remove the channel from Memory, press **[MEM]** once more. A short beep is heard and the MEM icon disappears.

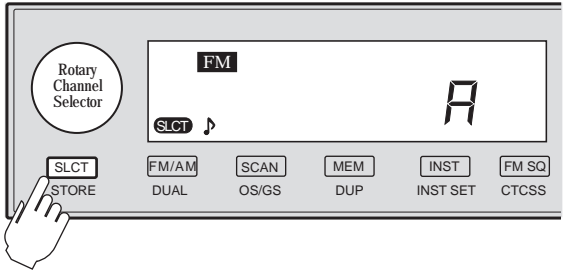


Operation

Selecting the Call Ring tone (FM Only)

Press **[SLCT]** once. Turn the Rotary Channel Selector to either **A** or **B**. Press and hold **[SLCT]** for 2 seconds to store the new setting.

NOTE If a button is not pressed within 10 seconds the UH-090 will automatically exit Select Mode.



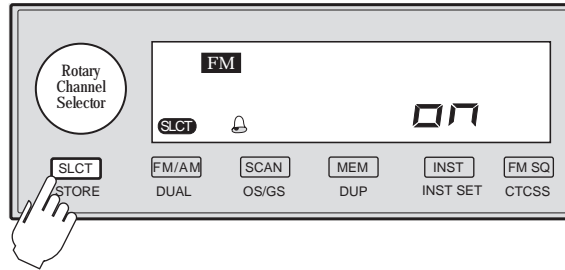
Roger Beep (FM VOX Only)

A Roger Beep may be added to the end of an FM VOX transmission.

Press **[SLCT]** twice.

Turn the Channel Selector to display **ON**. Press and hold **[SLCT]** for 2 seconds to store the new setting.

NOTE If a button is not pressed within 10 seconds the UH-090 will automatically exit Select Mode.

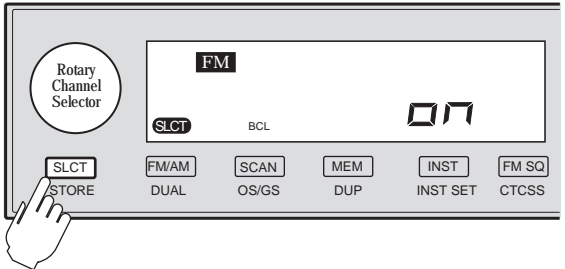


Busy Channel Lockout (FM Only)

If the channel is already in use, you can prevent the UH-090 from transmitting.

Press **[SLCT]** 3 times. Turn the Rotary Channel Selector to display **ON**. Press and hold **[SLCT]** for 2 seconds to store the new setting.

NOTE If a button is not pressed within 10 seconds the UH-090 will automatically exit Select Mode.

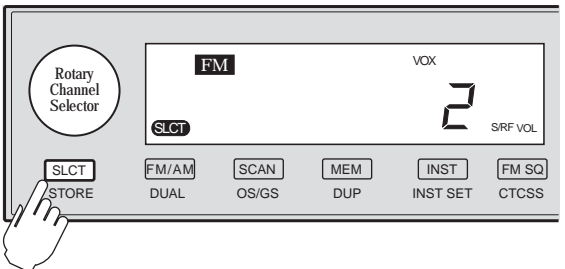


VOX Operation (optional VOX headset required) (FM Only)

Press **[SLCT]** 4 times. Turn the Rotary Channel Selector to select the desired VOX sensitivity (1 - 9).

Press and hold **[SLCT]** for 2 seconds to store the new setting. Connect the VOX headset.

NOTE If a button is not pressed within 10 seconds the UH-090 will automatically exit Select Mode.

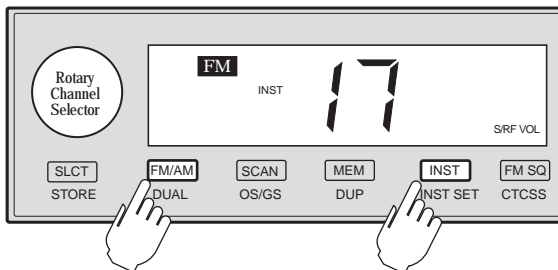


Operation

Programming the Instant Priority Channel

Select FM or AM by pressing **(FM/AM)**. Turn the Rotary Channel Selector to select the channel you prefer.

Press and hold **(INST)** for 2 seconds to store the new setting (you may select one Instant Channel for both FM and AM bands). **INST** icon appears.



Recalling the Instant Channel

Momentarily press the **(INST)** key at any time to return to the Instant Channel.

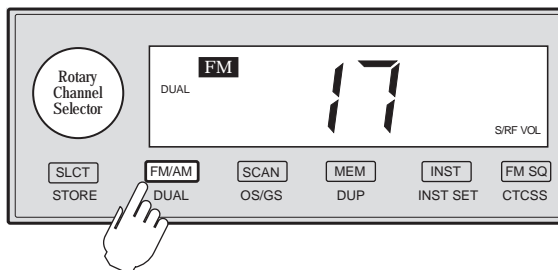
Dual Band Watch

Select the first channel and band you wish to receive.

Press and hold **(FM/AM)** for 2 seconds. **DUAL** icon appears.

The UH-090 will now continuously receive this channel and monitor, every 1.5 seconds, the 'Instant' Channel on the opposite band.

If a signal is received on this Instant Channel, the UH090 will beep once and flash AM or FM continuously until the signal stops.



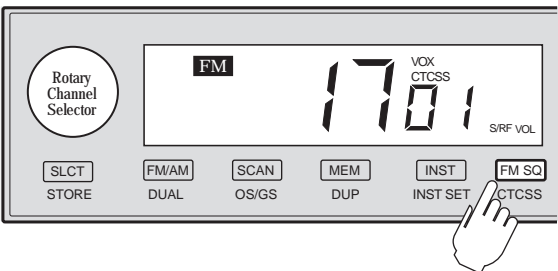
CTCSS (FM Only)

Select the desired channel to use CTCSS.

Press and hold **(FM SQ)** for 2 seconds. **CTCSS** icon appears.

Turn the Rotary Channel Selector to select the desired CTCSS code. Press **(FM SQ)** once to store the new setting.

Channels 05 and 35 are Emergency Channels and channel 11 is a calling channel. CTCSS cannot be selected on these channels.



NOTE

If a button is not pressed within 10 seconds the UH-090 will automatically exit Select Mode.

Frequency Lists

FM UHF - CB Frequency List

AM - CB Frequency List

CH No.	Australia & New Zealand		Australia ONLY	N Z ONLY
	(MHz)	DUP (MHz)	(MHz)	(MHz)
01	476.425	477.175 CH31	26.965	26.330
02	476.450	477.200 CH32	26.975	26.340
03	476.475	477.225 CH33	26.985	26.350
04	476.500	477.250 CH34	27.005	27.370
05	476.525	477.275 CH35	27.015	26.380
06	476.550	477.300 CH36	27.025	26.390
07	476.575	477.325 CH37	27.035	26.400
08	476.600	477.350 CH38	27.055	26.420
09	476.625		27.065	26.430
10	476.650		27.075	26.440
11	476.675		27.085	26.450
12	476.700		27.105	26.470
13	476.725		27.115	26.480
14	476.750		27.125	26.490
15	476.775		27.135	26.500
16	476.800		27.155	26.520
17	476.825		27.165	26.530
18	476.850		27.175	26.540
19	476.875		27.185	26.550
20	476.900		27.205	26.570
21	476.925		27.215	26.580
22	476.950		27.225	26.590
23	476.975		27.255	26.620
24	477.000		27.235	26.600
25	477.025		27.245	26.610
26	477.050		27.265	26.630
27	477.075		27.275	26.640
28	477.100		27.285	26.650
29	477.125		27.295	26.660
30	477.150		27.305	26.670
31	477.175		27.315	26.680
32	477.200		27.325	26.690
33	477.225		27.335	26.700
34	477.250		27.345	26.710
35	477.275		27.355	26.720
36	477.300		27.365	26.730
37	477.325		27.375	26.740
38	477.350		27.385	26.750
39	477.375		27.395	26.760
40	477.400		27.405	26.770

NOTE: FM Channel 05 and 35 are Emergency Channels and FM Channel 11 is a calling channel.

CTCSS Tone List for FM Mode

Tone No.	Tone Frequency (Hz)	Tone No.	Tone Frequency (Hz)	Tone No.	Tone Frequency (Hz)
00 ('oF')	OFF	13	103.5	26	162.2
01	67.0	14	107.2	27	167.9
02	71.9	15	110.9	28	173.8
03	74.4	16	114.8	29	179.9
04	77.0	17	118.8	30	186.2
05	79.7	18	123.0	31	192.8
06	82.5	19	127.3	32	203.5
07	85.4	20	131.8	33	210.7
08	88.5	21	136.5	34	218.1
09	91.5	22	141.3	35	225.7
10	94.8	23	146.2	36	233.6
11	97.4	24	151.4	37	241.8
12	100.0	25	156.7	38	250.3

NOTE: This List is for FM Channels ONLY. FM Channels 05, 11 and 35 are not CTCSS programmable.

Specifications

General

Channels	: 40
Microphone	: 600 ohm, Dynamic Type
Speaker	: 8 ohm, 3w
Antenna Connector	: M-Type
Jacks & Connectors	: EXT SP 3.5mm
Operating Temperature	: 0° to + 55° C
Power Requirements	: 13.8 VDC Nominal
Antenna Impedence	: 50 ohms

Transmitter (FM)

Frequency Tolerance at 25°C (5 minutes after turning on)	: +/- .5 kHz
carrier Power	: 5W (max)
Spurious Emission	: -40 dBm
Current Drain	: 1.5 Amps
Modulation Frequency Response (1 kHz, 0 dB reference at 1 kHz deviation)	
Lower at 500 Hz	: -6dB
Upper at 2.0 kHz	: +5 dB
Microphone Sensitivity for 3 kHz Deviation	: 5mV
Maximum Deviation	
at 1 kHz	: +/- 4.5 kHz
at 6 kHz	: +/-1.5 kHz (max)

Receiver (FM)

Sensitivity at 12dB SINAD	: 0.23 uV or better
Overall Audio Fidelity (1 Khz, 0 dB reference)	
Lower at 500 Hz	: +5 dB
Upper at 2 kHz	: -7 dB

Receiver (FM) - cont'd

Adjacent Ch Selectivity (+/-25 kHz):	64dB
Max. Audio Output Power	: 3W
Audio Output Power at 10% HD	: 3W
Hum and Noise Ratio at Input 1 mV:	45 dB
Squelch Sensitivity at Threshold	: 0.19 uV
Squelch Sensitivity at Tight	: 1 uV
Image Rejection Ratio	: 60 dB
IF Rejection Ratio	: 85 dB
Oscillator Dropout Voltage	: 9V
Current Drain at NO Signal	: 350mA
Current Drain at Max. Output	: 730 mA

Transmitter (AM)

Power Output	: Max. Legal Output Power
Modulation	: Class B (Amplitude Modulation)

Receiver (AM)

Sensitivity	: 0.5 uV for 10dB;(S + N) /N typical
Selectivity	: 6dB @ 7KHz, 55dB @ 10KHz typical
Image Rejection	: 65 dB typical
Automatic Gain Control	: (AGC) - less than 10dB change in audio output for input from 10 to 50,000 microunits
Squelch	: Adjustable; threshold less than 0.5 uV

Warranty

ONE YEAR LIMITED WARRANTY

IMPORTANT: Evidence of the original purchase is required for warranty service.

WARRANTOR: Uniden New Zealand Limited. Uniden Australia Pty Ltd. ACN 001 865 498

ELEMENTS OF WARRANTY: Uniden warrants to the original retail owner for the duration of this warranty its UH-090 hereinafter referred to as the Product), to be free from defects in materials and craftsmanship with only the limitations or exclusions set out below.

WARRANTY DURATION: This warranty to the original retail owner only is only valid in the original country of purchase and shall be of no further effect 12 months after the date of original retail sale. This warranty will be deemed invalid if the Product is: (A) Damaged or not maintained as reasonable and necessary, (B) Modified, altered or used as part of any conversion kits, subassemblies, or any configurations not sold by Uniden, (C) Improperly installed, (D) repaired by someone other than an authorised Uniden Repair Agent for a defect or malfunction covered by this warranty, (E) Used in conjunction with any equipment or parts or as a part of a system not manufactured by Uniden. (F) Where the Serial No. label of the product has been removed or damaged beyond recognition.

PARTS COVERED: This warranty covers for one (1) year, the UH-090 tranceiver only. All accessories (Mounting bracket, Microphone etc.) are covered for 90 days only.

STATEMENT OF REMEDY: In the event that the Product does not conform to this warranty at any time while this warranty is in effect, the warrantor, at its discretion, will repair the defect or replace the Product and return it to you without charge for parts and service. **THIS WARRANTY DOES NOT COVER OR PROVIDE FOR THE REIMBURSEMENT OR PAYMENT OF INCIDENTAL OR CONSEQUENTIAL DAMAGES. THIS GUARANTEE IS IN ADDITION TO AND DOES NOT IN ANY WAY AFFECT YOUR RIGHTS UNDER THE CONSUMER ACT.**

WARRANTY CARD: If a Warranty Card has been included with this Product, please complete and return to us within 14 days of purchase. Your name and the serial number of the Product will then be registered in our database and this will help us process your claim with greater speed and efficiency should you require warranty service.

PROCEDURE FOR OBTAINING PERFORMANCE OF WARRANTY: in the event that the Product does not conform to this warranty, the Product should be shipped or delivered, freight prepaid, with evidence of original purchase (e.g. a copy of the sales docket) to the warrantor at:

Technical Support & Service

Should you find it desirable or necessary to service your UH090, we suggest you contact the Uniden Dealer where your purchase was made. Your dealer will be able to assist you with complete service information.

If you require service that is within the terms of your warranty you should present a copy of your receipt to your dealer to authenticate your claim.

If you find it inconvenient to obtain service assistance from a dealer, please pack your radio in a suitable container that will provide adequate protection. Enclose a note describing the problem and a copy of your receipt, and send the radio transportation prepaid to:

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