Uniden MR 8100

A Professional Scanner Developed Exclusively For Public Safety

Owner's Manual

WELCOME

to the exciting world of radio scanners. State-of-the-art engineering and advanced electronics provide programmable operation and dependability. The keyboard of your MR8100 has been divided into two parts: PROGRAM, which allows you to control VHF, UHF, or 800 MHz frequency on all 100 channels, and OPERATION, which controls Scan, Lockout, Priority, Direct Channel Access, and Hold.

Volume and Squelch levels are controlled by precision knob adjustments. A Dim control is used to adjust the level of backlighting of the Liquid Crystal Display and the Keyboard. The Contrast control will adjust the viewing angle in the display. The memory device used to store the channel identification needs no backup batteries. Please read this guide thoroughly before attempting to operate the unit.

WARNING!

Uniden does NOT warrant this unit to be WATERPROOFED. To reduce the risk of fire or electrical shock, do not expose this unit to rain or moisture.

UNPACKING

Carefully remove all items from the shipping carton. If there is any visible damage or any item appears missing, DO NOT RETURN THE UNIT TO THE PLACE OF PURCHASE. Please call the UNIDEN CUSTOMER SERVICE CENTER for information or instructions on any problem that you may have:

Uniden America Corporation
Customer Service Center
9900 West Point Dr.
Indianapolis, IN 46250.
PH: 317/842-2483

The following items are included with your MR8100.

* UNIDEN Scanning Mobile Receiver 8100
* Mobile Mounting Bracket
* Bracket Attachment Knobs
* Mobile Power cord
* External Speaker SP 1
* Operating Instructions
  (Read carefully and save)

Please keep the shipping carton and packing materials. This carton serves as an excellent method to transport this scanner.

MOBILE INSTALLATION

NOTE

The use of this scanner in a motor vehicle may be regulated or require a permit in certain localities. Check with your local authorities before operating this scanner in mobile applications.

MOBILE INSTALLATION

Plan the location of the radio bracket before starting the installation. Select a location that is convenient for operation and does not interfere with the driver or passenger in the vehicle. The bracket should be securely fastened to a solid surface using the self-tapping screws provided. Mount the scanner to the bracket with the thumb screws and adjust the angle of the radio for easy viewing.

MOBILE ANTENNA

In mobile applications the MR8100 will require an external vehicle antenna. Use a mobile antenna designed for multi-band coverage. For maximum effectiveness, the external antenna should be fed with low-loss,50-ohm coaxial cable such as RG58 foam. Remember, you have purchased the finest mobile scanner available; do not reduce its quality performance with an inferior antenna. We recommend using the (optional) UNIDEN BC-AT1 Mobile antenna for best results.

Ideally, the antenna should be mounted directly onto the center of the vehicle's roof. The reception pattern of a vehicular antenna always conforms to the ground plane (metal shape) located below the antenna. A roof-mounted antenna provides virtually an omnidirectional pattern. If the antenna was mounted on the left rear fender, then best reception would occur from the right front fender of the vehicle, with greatly reduced reception from the left rear. Avoid mounting the antenna on a front fender, as ignition noise can limit reception.

CONNECTING THE POWER

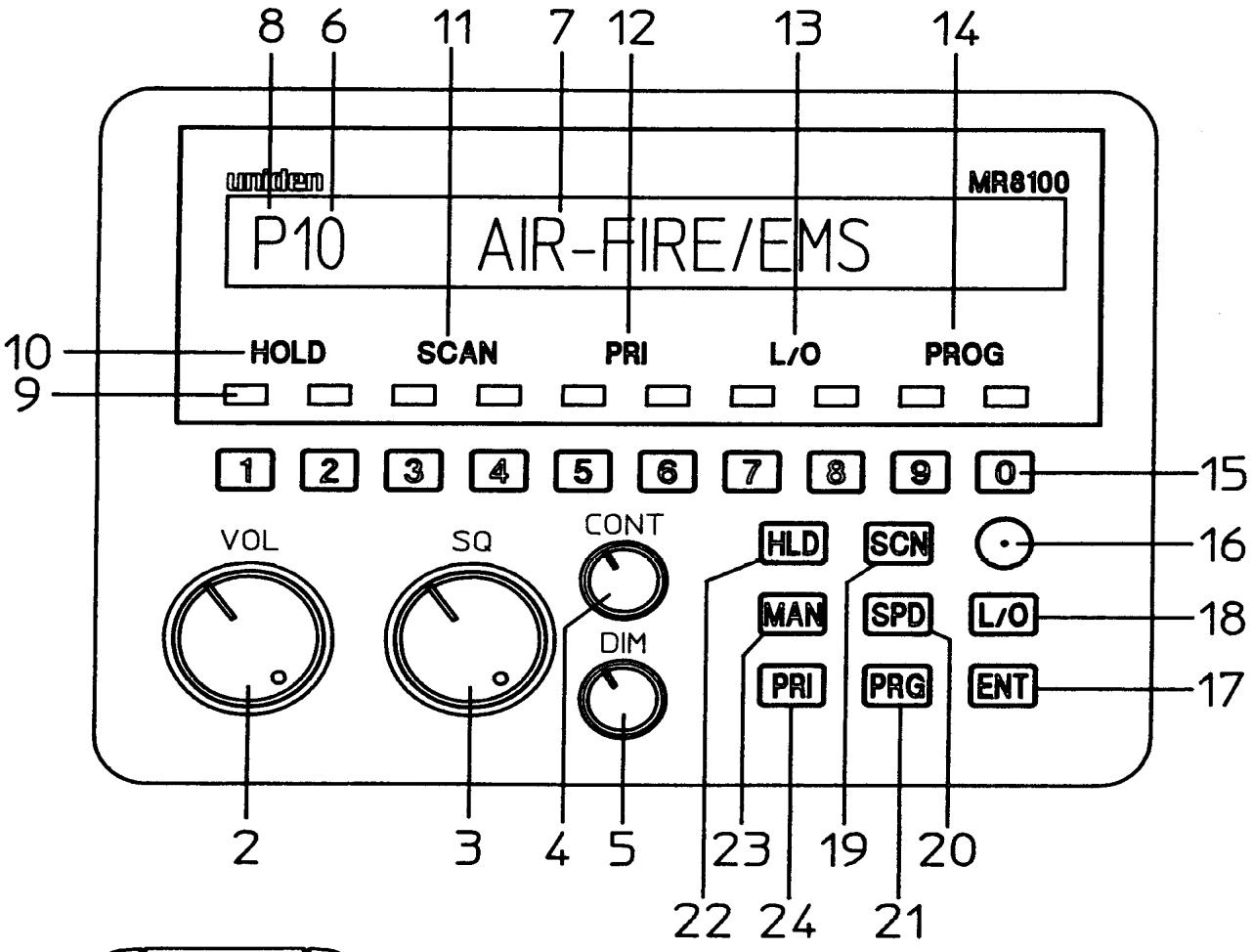
NOTE: The MR8100 is designed to be used in any vehicle which has a 12V DC, negative ground electrical system. If you cannot determine the polarity of your vehicle, consult your vehicle dealer for information.

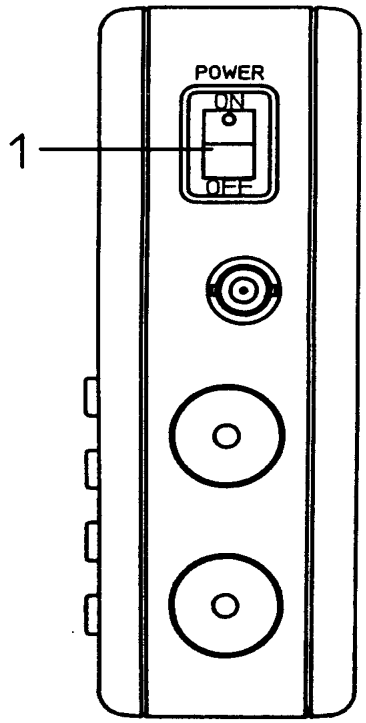
The MR8100 should be connected directly to the fuse block or battery of your car. Connect the power cord to the pigtail connector of the scanner. Grounding the GREEN wire disables the Receiver.

NOTE: The power cord provided with your MR8100 contains a 1 AMP fuse. Should replacement ever be necessary, replace it only with a like fuse.

CONTROLS AND FUNCTIONS

1.	OFF/ON SWITCH	Turns the scanner OFF or ON.
2.	VOLUME CONTROL	Adjust to the desired level.
3.	SQUELCH CONTROL	Adjust to quiet SCANNER and keep it scanning until a Signal is received.
4.	CONTRAST CONTROL	Adjust the Viewing Angle of the LCD.
5.	DIM CONTROL	Adjust the Backlighting of the Display and Keyboard.
6.	CHANNEL NUMBER	Displays current CHANNEL NUMBER
7.	DISPLAY	Displays CHANNEL IDENTITY. Displays PROMPT MESSAGES in PROGRAM Mode.
8.	P	Indicates the PRIORITY Channel when LIT.
9.	BANK INDICATORS	Displays Active BANK(S) when LIT.
10.	HOLD INDICATOR	HOLD Mode when LIT (not Scanning).
11.	SCAN INDICATOR	SCAN Mode when LIT.
12.	PRI INDICATOR	PRIORITY Sampling selected when LIT.
13.	L/O INDICATOR	LIT when selected Channel is not in SCAN Sequence.
14.	PROG INDICATOR	PROGRAM Mode when LIT.
15.	NUMBER KEYS	Used to program frequencies into Memory, Selecting/Deselecting BANKS in SCAN Mode, and for DIRECT CHANNEL ACCESS in MANUAL Mode.
16.	DECIMAL KEY	Used to place the DECIMAL POINT into the Display when in PROGRAM Mode.
17.	ENTER KEY	Used to enter Frequencies into SCAN Memory.
18.	L/O KEY	Used to Add/Delete a Channel from the SCAN Sequence.
19.	SCN KEY	Used to override Signals, to SCAN through selected CH.
20.	SPD KEY	Used to change between 33 Channels Per Second and up to 100 Channels Per Second.
21.	PRG KEY	Used to enter or leave PROGRAM Mode.
22.	HLD KEY	Used to stop SCAN or advance through Active BANKS.
23.	MAN KEY	Used to stop SCAN and enter into DIRECT CHANNEL ACCESS Mode.
24.	PRI KEY	Used to Select/Deselect PRIORITY Sample. Used to reassign PRIORITY to a different Channel.





Discriminator Output =
NJM-3359D-A (IC-3) pin 10

OPERATION

OPERATION - GENERAL

The MR8100 has 100 memory channels arranged in 10 banks of 10 channels each. These memory channels may be programmed from the keyboard to contain one frequency each. When "SCN" is pressed, each of the selected channels will be sampled for a transmission at a rate selected by the "SPD" key; either 30 or 100 Channels Per Second. Locked (not selected) channels will be skipped. If an active frequency is found, the unit will stop and monitor that frequency until there is no longer any activity. An automatic, 2-second delay will allow the unit to monitor the frequency for a return or continued transmission. If, after 2 seconds, the frequency remains inactive, the scanning cycle will resume.

When the unit is first turned on, each channel may contain a test frequency. When new frequencies are programmed, the test frequency will be erased. If an invalid frequency is entered, "ERROR" will be displayed, then the old frequency. The old frequency will *not* be erased.

To operate the scanner, first make sure that the power is supplied to the unit. Press the "OFF/ON" SWITCH to the ON position, and adjust the VOLUME CONTROL to the desired level. Adjust the SQUELCH CONTROL by turning the knob clockwise until a "rushing" sound is heard. Turn the knob back just a little way past the point where the receiver becomes quiet. This sets the squelch to maximum sensitivity. After the channels have been programmed, operation is simple. Press the "SCN" key to scan the selected channels. Press the "SPD" key to change the scan rate (speed). When a "NUMBER" key is pressed while scanning, the status of that bank is changed (bank LED lit means active). To add additional channels to the scan sequence, press "NUMBER" keys of the bank LEDS not lit. To remove channels from the scan sequence, press "NUMBER" keys of the bank LEDS lit. Press the "HLD" key to stop the unit on a channel of interest, or remain on the channel. Repeated "HLD" key presses will advance the unit one channel at a time thru the selected banks. This feature is useful in finding locked channels. Pressing the "MAN" key will stop the scan and allow you to go to any channel within the memory. By pressing the "PRI" key, the channel assigned to priority will be sampled once every two seconds. Pressing the "PRI" key again will deselect the sampling.

DISPLAY - LEDS AND LIQUID CRYSTAL DISPLAY

The liquid crystal display is a 20-digit, dot-matrix display with adjustable backlighting and adjustable viewing angle. This display is used to show the two-digit channel number, the "P" for the priority channel active, and a 16-digit field for channel and bank information. This display is also used in "PROGRAMMING" and "DIRECT CHANNEL ACCESS" Modes to prompt the user with timely MESSAGES to help with the programming and accessing of the memory.

LED Indicators are used for Banks (active when lit), and for the following Modes: SCAN, HOLD, L/O (LOCKOUT), PRI (PRIORITY), AND PROG (PROGRAM).

MEMORY

The memory device used in the receiver needs no external power source to maintain the channel memory, but care should be used in avoiding unnecessary risks.

PROGRAMMING FREQUENCIES

The MR8100 has a programming mode which is entered into by pressing the "PRG" key. Once in "PROGRAM" Mode, by following the prompts (messages) which will appear in the display, you should be able to change the frequencies in the channel memory. Press the "PRG" key once again to exit "PROGRAM" Mode.

PROGRAMMING EXAMPLE

To Program 823.9875 MHz into BANK 3, CHANNEL 7:

Press	PRG	DISPLAY	9 SELECT BANK	
You are now in PROGRAM MODE (PROG lit).				
Press	3	DISPLAY	9 SELECT CHANNEL	
Press	7	DISPLAY	7 ENTER FREQUENCY	(2 seconds)
Then automatic change to		DISPLAY	7 123.4550 MHz	
Press	8 2 3 . 9 8 7 5 ENT	DISPLAY	7 823.9875 MHz	blinks twice
Press	PRG	DISPLAY	7 823.9875 MHz	
You are now in HOLD Mode (HOLD lit)				

The MR8100 also will allow you to assign PRIORITY to any of the 100 channels.
EXAMPLE

Assign PRIORITY to BANK 7, CHANNEL 6

Press	PRG	DISPLAY	7 SELECT BANK	
You are now in PROGRAM Mode (PROG lit).				
Press	7	DISPLAY	7 SELECT CHANNEL	
Press	PRI	DISPLAY	P 7 SELECT CHANNEL	
Press	6	DISPLAY	P 6 ENTER FREQUENCY	(2 seconds)
Then automatic change to		DISPLAY	P 6 456.4500 MHz	
Press	4 5 7 . 4 7 5 0 ENT	DISPLAY	P 6 457.4750 MHz	blinks twice
Press	PRG	DISPLAY	P 6 457.4750 MHz	
You are now in HOLD Mode (HOLD lit)				

To lockout (or unlock) Bank 10, Channel 2:

Press	MAN		DISPLAY	3 SELECT BANK
YOU ARE NOW IN DIRECT CHANNEL ACCESS MODE.				
Press	0		DISPLAY	3 SELECT CHANNEL
Press	2		DISPLAY	2 895. 0125 MHz
Press	L/O	L/O lit	DISPLAY	2 895. 0125 MHz
Press	L/O	L/O not lit	DISPLAY	2 895. 0125 MHz

If the L/O is lit, the channel is no longer in the scan sequence.

HELPFUL HINTS

The MR8100 is a high-quality electronic radio receiver. The following hints should help you understand and enjoy the unit.

1. Make sure the unit is turned off before disconnecting the power. You may want to record the programmed frequencies before power is interrupted in case memory is lost.

2. If memory is lost, simply reprogram each channel. Memory loss will be indicated by unfamiliar frequencies in each channel. You may also reprogram the channel memory from an IBM PC-compatible computer through the use of the RS232 TO SCANNER CABLE (OPTIONAL) and the DISKETTE sold with the unit.

3. If strong interference or electrical noise is received, you may need to relocate the scanner or its antenna away from the source of the noise.

4. Whenever the keypad is used, it is important to press firmly on the center of each key.

5. Do not use the scanner in high moisture environments such as the bathroom or kitchen. Avoid placing the unit in direct sunlight or near heating elements or heating vents.

6. Clean the outside of the cabinet with a mild detergent. Do not use abrasive cleaners or solvents. Be careful not to scratch the LCD window area. DO NOT use excessive amounts of water.

   CAUTION: DISCONNECT THE POWER TO THE UNIT BEFORE CLEANING.

7. There are no user-serviceable parts inside. Do not attempt any repairs. If a problem is suspected, call the UNIDEN CUSTOMER SERVICE CENTER or refer to a qualified repair technician.

BIRDIES

All radios are subject to receiving undesired signals. If your scanner stops during scan mode and no sound is heard, it may be receiving a "BIRDIE." Birdies are internally generated signals inherent in the electronics of the receiver. Press the scan key to continue scanning.

SPECIFICATIONS

Size	5 1/2" x 6 7/8" x 1 3/4"		
Weight	2 LB		
Power	13.8V DC (from auto battery)		
Antenna	External		
RF Sensitivity (nominal) 12 dB SINAD	.4 uV.	29-54 MHz	FM
	.4 uV.	136-174 MHz	FM
	.5 uV.	406-512 MHz	FM
	.7 uV.	806-956 MHz	FM
	±3 KHz Deviation		
	.6 uV	118-136 MHz	AM
	60% Modulation		
Frequency Coverage	29 - 54 MHz	5 KHz Channel Spacing	
	118 - 136 MHz	5 KHz Channel Spacing	
	136 - 174 MHz	5 KHz Channel Spacing	
	406 - 512 MHz	12.5 KHz Channel Spacing	
	806 - 956 MHz	12.5 KHz Channel Spacing	
Channels	100		
Banks	10		
Scan Rate	Two Speed	30 Channels Per Second	
		Up to 100 Channels Per Second	
Audio Output	More than 3 Watts at 10% Distortion into 4 OHMs.		

Certified in accordance with FCC RULES AND REGULATIONS PART 15 as of date manufacture.

Specifications are typical and are subject to change without notice.

OPTIONAL ACCESSORIES

The following optional accessories are available for your MR8100 at your local dealer or from the UNIDEN CUSTOMER SERVICE CENTER:

Uniden America Coporation
Attn: Parts Department
9900 West Point Drive
Indianapolis, IN 46250
PH: 317/842-1036

BC-AT1 MOBILE ANTENNA - Do not reduce the performance of your MR8100 with an inferior antenna. The BC-AT1 mobile antenna has been designed specifically for use with UNIDEN Scanners for maximum performance.

TROUBLESHOOTING

If your MR8100 is not performing up to your expectations, try the steps listed below. If you cannot get satisfactory results, please call the UNIDEN CUSTOMER SERVICE CENTER for assistance:

Uniden America Coporation
Customer Service Center
9900 West Point Dr.
Indianapolis, IN 46250
PH: 317/842-2483

1. Scanner is not working properly.

   A. Check power cord and in-line fuse.
   B. Check OFF/ON switch.
   C. Check VOLUME and SQUELCH controls.
   D. Make sure programmed frequencies are correct.

2. Signal is weak or distorted.

   A. Check antenna connection.
   B. Check for proper frequencies.
   C. Make sure frequency is active.

3. Improper reception.

   A. Check for correct frequencies.
   B. Reposition scanner.
   C. Check antenna connection.

4. Scan won't stop.

   A. Check SQUELCH adjustment.
   B. Check for proper frequencies.
   C. Check antenna connection.
   D. Check LOCKOUT.

5. Incomplete reception.

   A. Fringe area of signal.
   B. Check SQUELCH.

6. Priority won't work.

   A. Check SQUELCH adjustment.
   B. Check if priority is on.
   C. Improper frequency in priority channel.
   D. Make sure frequency is active.

WARRANTY

ONE YEAR LIMITED WARRANTY

WARRANTOR: UNIDEN AMERICA CORPORATION ("UNIDEN"),

ELEMENTS OF THE WARRANTY: UNIDEN warrants, for the duration of the warranty, UNIDEN Scanners (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 shall terminate and be of no further effect one (1) year after the date of the original purchase of the Product or at the time the Product is (A) damaged or maintained as reasonable or necessary (B) modified, (C) improperly installed, (D) repaired by someone other than the warrantor for a defect or malfunction covered by this warranty, (E) used in a manner or purpose for which the Product was not intended, or (F) sold by the original purchaser.

STATEMENT OF REMEDY: In the event that the Product does not conform to this warranty at any time while this warranty is in effect, warrantor will repair the defect and return it to you without charge for parts, service, or any other cost incurred by warrantor or its representatives in connection with the performance of this warranty. 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 that 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 or delivered, freight prepaid, to warrantor at UNIDEN CUSTOMER SERVICE CENTER, with evidence of original purchase.

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

This warranty is void outside of the United States of America.

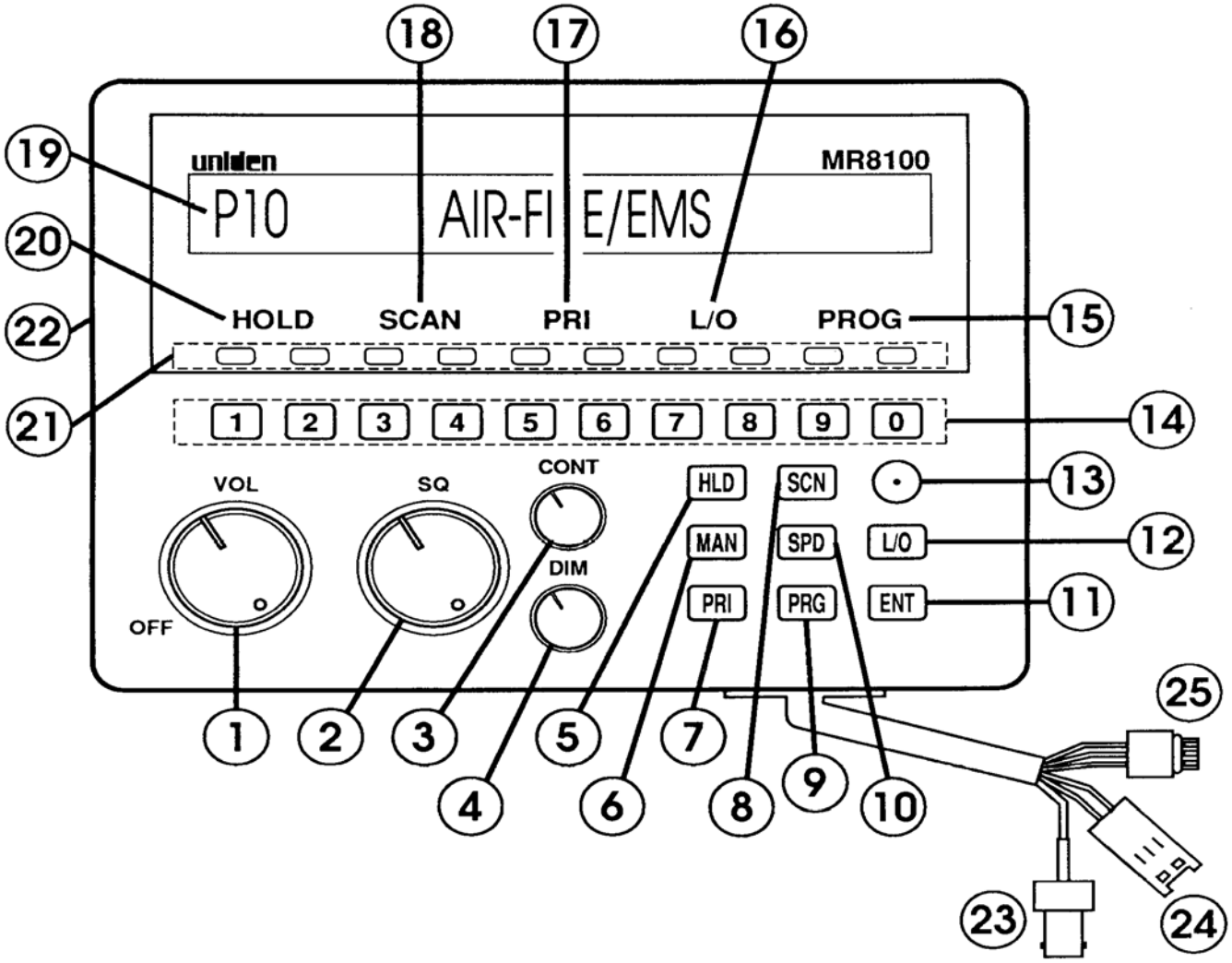
PAT. UNDER ONE OR MORE OF THE FOLLOWING U.S. PATENT NUMBERS:

3.873.924	3.883.808	3.961.261	3.962.644	3.974.452
3.987.400	3.996.521	3.996.522	4.000.468	4.027.251
4.057.760	4.092.594	4.100.497	4.114.103	4.123.715
4.157.505	4.179.662	4.219.821	4.270.217	4.398.304
4.409.688	4.455.679	4.461.036	4.521.915	4.627.100
RE 31.523				

OTHER U.S. AND FOREIGN PATENTS PENDING

Controls, Indicators, and Connectors for MR8100A version

1	**OFF/VOL**	Turns the MR8100A on or off. Also increases or decreases the volume level.
2	**SQ**	Adjusts the opening sensitivity of the MR8100A receiver. Adjust the squelch control so that the MR8100A is quiet until it receives a signal.
3	**CONT**	Adjusts the viewing angle of the LCD display.l
4	**DIM**	Adjusts the backlighting of the LCD display and the keyboard.
5	**[HLD]**	Stops scanning or advances through the active Banks.
6	**[MAN]**	Stops scanning and starts direct Channel access mode.
7	**[PRI]**	Starts or stops priority function. Also, used to assign priority to a different Channel.
8	**[SCN]**	Resumes scan after the scanner locks in on a Channel or after a hold.
9	**[PRG]**	Starts or stops the Program mode.
10	**[SPD]**	Toggles the scan speed between 33 channels per second and to 100 channels per second.
11	**[ENT]**	Enters frequencies into scan memory.
12	**[L/O]**	Locks a Channel out of the scan sequence or adds a Channel back to the scan sequence.
13	**[•]**	Use this key to enter the decimal point in Program mode.
14	**[1] - [9], [0]**	Use these keys in Program mode to enter frequencies. In Scan mode, use these keys to select or deselect Banks. In Manual mode, use these keys for direct Channel access.
15	**PROG** Indicator	When this indicator lights, the MR8100A is in Program mode.
16	**L/O** Indicator	When this indicator lights, the selected Channel is locked out (not in the scan sequence).
17	**PRI** Indicator	When this indicator lights, the priority function is active.
18	**SCAN** Indicator	When this indicator lights, the MR8100A is in Scan mode (scanning).
19	**LCD** Display	Displays the current Channel number and channel identity. A "P" appears in front of the Channel number when the priority Channel displays. The LCD display also shows prompt messages in Program mode.
20	**HOLD** Indicator	When this indicator lights, the MR8100A is in Hold mode (not scanning).
21	**BANK** Indicators	Indicates that a Bank is active when lit.
22	**External Speaker** Connector	
23	**Antenna** Connector	
24	**Speaker** Connector	
25	**Power** Connector	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UBUD01209ZZ

uniden®
Quality Goes the Distance

Printed in the Philippines

uniden

Field Operation Guide

MR8100A

uniden®

Quality Goes the Distance

handy guide provides a quick reference for using MR8100A in the field. For more detailed informa- see the Owner's Manual.

ower On - Volume/Squelch Set:
Turn **VOL** [1] until you hear a click. Set **VOL** at one-half turn clockwise.
Turn **SQ** [2] fully clockwise.
Adjust **VOL**.
Turn **SQ** counterclockwise until noise stops.
The MR8100A will begin scanning Channels.
Adjust **CONT** [3] and **DIM** [4] for clearest view of display.

lanual Step and Hold:
Press **HLD** [5] to stop on any Channel.
To step through Channels, press **HLD**.
To resume scanning, press **SCN** [8].

irect Channel Access:
Press **MAN** [6]. Display shows "SELECT BANK."
Press a number key (1-9, 0) [14] to select desired Bank.
Display changes to "SELECT CHANNEL."
Press number key to select desired Channel.
To resume scanning, press **SCN** [8].

hange Scanning Banks:
To scan a Bank, press its number key (1-9, 0) [14].
Light above number key indicates Bank is active.
To deactivate a Bank, press its number key.

E. Locking Out Unwanted Channels:
- To lock out an active Channel, press **L/O** [12].
- To lock out other Channels use Manual (step B).
- **L/O** indicator lights when Channel is locked out.
- To return Channel to scan sequence, press **L/O**.

F. Change Channel Frequency:
- Press **PRG** [9]. Display shows "SELECT BANK."
- Press a number key (1-9, 0) [14] to select desired Bank. Display changes to "SELECT CHANNEL."
- Press a number key to select desired Channel. Display changes to "ENTER FREQUENCY."
- Use number keys and decimal (•) key [13] to type in new frequency.
- Press **ENT** [11] to store new frequency.
- Press **PRG** to exit Programming mode.
- To resume scanning, press **SCN** [8].

G. Change Priority Channel:
- Press **PRG** [9]. Display shows "SELECT BANK."
- Press a number key (1-9, 0) [14] to select desired Bank. Display changes to "SELECT CHANNEL."
- Press **PRI** [7].
- Press a number key to select desired Channel.
- Press **ENT** [11]. "P" indicator appears in front of Channel number.

  NOTE: *It is normal for "ERROR" to flash 2-3 times.*
- When scanning press **PRI** to turn Priority on/off
- **PRI** indicator lights when Priority is activated.