

# MIDLAND 248



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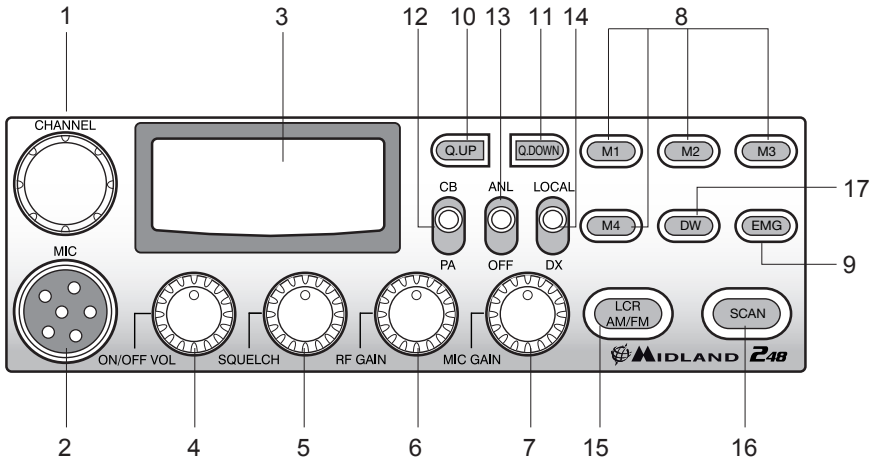
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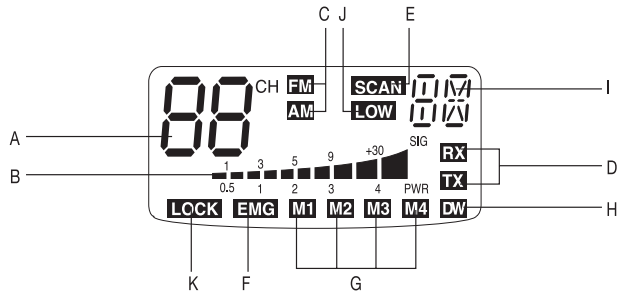
Your **MIDLAND 248** represents the state-of-the art in high-tech engineering. Designed for the Citizen Band Mobile operation, this compact package is big in performance. It is a quality piece of electronic equipment, skillfully constructed with the finest components. The circuitry is all a solid-state, mounted on rugged printed circuit boards. It is designed for many years of reliable, trouble-free performance. The night-light buttons allow the night use. Your **MIDLAND 248** has a built Channel Phase-Locked Loop synthesizer circuit.

The PLL circuit achieves a new technique for generating all the required frequencies with fewer crystals. The result is much tighter frequency control and superior reliability. **MIDLAND 248** is equipped with the “**NOISE BLANKER**” (noise reducer device) that reduces considerably the audio noises up to 95%, allowing a clear communication even when the signal is disturbed.

## FUNCTION AND LOCATION OF THE CONTROLS



1. **Channel selector**
2. **Microphone jack:** Insert the mic connector into this jack.
3. **Multifunction backlit display.**

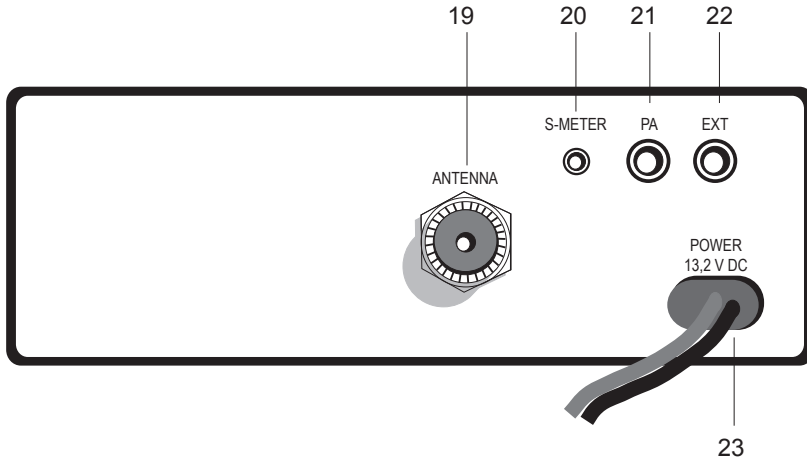


- A. Channel selected number
  - B. The received signal strength and the power of the transmitting signal
  - C. **AM/FM** mode
  - D. **RX/TX:** TX=transmit mode; RX=receive mode
  - E. **SCAN** mode
  - F. **EMG** mode
  - G. **M1-M2-M3-M4:** preset memory channels
  - H. **DW:** Dual Watch activated
  - I. Frequency band selected.
  - J. **LOW:** displayed when the radio transmits in low power (this mode is possible with some frequency bands only – see the frequency band chart).
  - K. **LOCK:** microphone (UP/DOWN buttons) lock enabled.
4. **“ON/OFF Volume” Control:** in “off” position your transceiver is OFF. Turn this con-

trol clockwise to switch on the unit. Turn the knob clockwise a little more to set the audio level, until you get a comfortable reception. With "PA-CB" selector set in "PA" position, the knob controls the audio output level.

5. **"Squelch" Control:** for the maximum receiver sensitivity, the control must be regulated exactly where the receiver background noise disappears.
6. **"RF" (Radio Frequency) Gain Control:** it controls the reception sensitivity. To increase sensitivity, simply turn it clockwise. Sensitivity decreases turning it counter-clockwise. Low sensitivity is useful when very strong signals are present in the band.
7. **"Mic (Microphone) Gain Control":** in TX mode, it controls the microphone amplification. To get the best results, use the microphone and set the optimum position for both the distance from your mouth and for the amplification level, asking your partner when the modulation comes out better.
8. **"M1-M2-M3-M4" buttons:** These buttons allow the storing and recalling of 4 pre-selected channels. How to store: select the desired channel and press M1 for at least 3 sec to store the chosen channel in the M1 memory. Repeat these steps to memorise the other presets.
9. **EMG button:** Emergency channel. By pressing it, the unit will be automatically positioned on CH 9 (emergency channel). The display will show "EMG". It will not be possible to accidentally change the channel.
- 10/11. **"Q. UP-Q. DOWN" buttons:** To skip 10 channels up (Q. UP) or 10 channels down (Q. DOWN).
12. **"CB/PA" Selector.** In the "CB" position, the unit operates as a transceiver. You can use the PA (public address) function only if you connect a speaker to the PA jack. In this case the "Volume" knob controls the amplification level.
13. **"ANL/OFF" Selector.** In the "ANL" position it activates an automatic noise limiter for the impulsive noises (caused by the engine of the car or other sources).
14. **"Local/DX" Selector** "Local" position: to receive strong signal only. "DX" position: to receive weak signals.
15. **"AM/FM"(LCR) button:** To select AM or FM mode. If you push it along with the "SCAN" button at the switching on of the radio, it selects the operating band, which will be displayed. If you select a frequency band operating in FM mode only, this button enables the LCR function (Last Channel Recall).
16. **"SCAN" button:** with this control, you can automatically seek for a busy channel. Turn the Squelch clockwise until the background noise is no longer heard. Press the "SCAN" button: the transceiver will scan automatically all the channels until a carrier is being received. If you push it along with the "AM/FM" button at the switching on of the radio, it selects the operating band, which will be displayed.
17. **DW button:** This feature allows you to scan 2 channels of your choice. When a signal on the second channel is picked up, the conversation on the first is automatically interrupted and the receiver switches on the second channel. The monitoring starts again 4 seconds after the carrier disappears.  
To activate this function, operate as follows:
  - a. Select the desired channel through the channel selector.
  - b. Press the "DW" button (DW blinks on the display).
  - c. Select the second channel.
  - d. Push the "DW" button again: the reading DW will remain fixed.
  - e. To disable this function, press the "DW" control.

## REAR PANEL



**18. Antenna connector** (SO239 connector type).

**19. S. Meter jack:** it allows an external "S. Meter" connection.

**20. "PA" jack:** by connecting with an external loudspeaker, you can use the unit as an audio-amplifier.

**21. "EXT" jack:** external loudspeaker jack (the internal loudspeaker is excluded).

**22. Power 12.6V DC:** power supply cable.

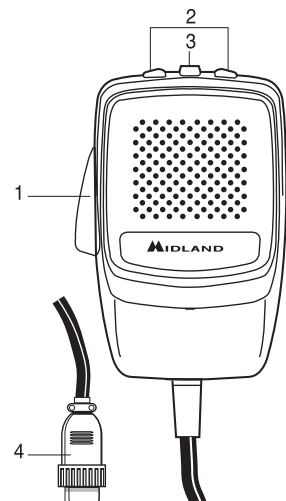
## MICROPHONE

**1. PTT:** transmission button

**2. UP/DOWN buttons:** manual channel selector

**3. LOCK button:** it allows you to lock the UP/DOWN buttons.

**4. 6 pin microphone connector**



## INSTALLATION

Safety and convenience are the primary consideration 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 veicle. Set the proper position in the car to install the transceiver using the supplied supporting bracket or eventually the slide bracket. Tighten the retaining screws. The fixing bracket must be close to metallic parts.

### POWER SUPPLY

Be sure the transceiver is off. In the direct-voltage power supply, is very important to observe the polarity even if the unit is protected against the accidental inversion:

Red = positive pole (+)

Black = negative pole (-)

The same colors are present on the battery and in the fuse box of the car. Correctly connect the cable terminal to the battery.

### ATTENTION

**To obtain best performances we recommend to install the radio in a place with enough air circulation.**

### INSTALLING AN ANTENNA

1. Place the antenna as high as possible.
2. The longer is the antenna, the better will be the performance.
3. If possible, mount the antenna in the center of whatever surface you choose.
4. Keep antenna cable away from noise sources, such as the ignition switch, gauges, etc.
5. Make sure you have a solid metal-to-metal ground connection.
6. Prevent cable damage during antenna installation.

**WARNING:** To avoid damage, never operate your CB radio without connecting a proper antenna. A periodical control of the cable and of the S.W.R. is recommended.

### REPLACING FUSE

If you replace the fuse for DC power Cord, use F 5A 250V type. The parameters and the symbol of the fuse are indicated in the following label.



## HOW TO OPERATE WITH YOUR TRANSCEIVER

1. Screw the microphone plug into the microphone jack.
2. Make sure your antenna is securely connected to the antenna connector.
3. Make sure the SQUELCH control is turned fully counterclockwise.
4. Turn on the unit and adjust the volume control.
5. Select your desired channel.
6. To transmit, press the PTT button and speak in a normal tone of voice.
7. To receive, release the PTT button.

### FREQUENCY BAND SELECTION

The frequency bands must be chosen according to the country where you are going to operate.

#### Procedure:

1. Switch off the unit.
2. Turn it on while pushing the “AM/FM” e “SCAN” buttons at the same time.
3. Rotate the “CHANNEL” knob and select the desired frequency band (see the chart here below).
4. To stop your selection, press the “AM/FM” button.

**NOTE<sup>1</sup>:** In the UK frequency band, you can select directly the EC band by pushing the “AM/FM” button for 2 seconds.

**NOTE<sup>2</sup>:** If you select a frequency band which operates in FM mode only, the “AM/FM” control enables the LCR function (Last Channel Recall).

### FREQUENCY BAND CHART

Digits displayed	Country
I	Italy 40 CH AM/FM 4Watt
I2	Italy 34 CH AM/FM 4Watt
D	Germany 80 CH FM 4Watt / 12 CH AM 1Watt
D2	Germany 40 CH FM 4Watt / 12 CH AM 1Watt
D3	Germany 80 CH FM 4Watt / 40 CH AM 1Watt
EU	Europe 40 CH FM 4Watt / 40 CH AM 1Watt
EC	CEPT 40 CH FM 4Watt
E	Spain 40 CH AM/FM 4Watt
F	France 40 CH FM 4Watt / 40 CH AM 1Watt
PL	Poland 40 CH AM/FM 4Watt
UK	England 40 CH FM 4 Watt English frequencies + EC 40 CH FM 4Watt CEPT frequencies

#### ATTENTION!

The frequency band definitely allowed all over Europe is **40CH FM 4W (EC)**

# TECHNICAL SPECIFICATIONS

## GENERAL

Channels .....	(see the frequency band chart)
Frequency Range .....	26.565 - 27.99125 MHz
Duty cycle (% on 1 hour) .....	TX 5% - RX 5% - Stand-by 90%
Frequency Control .....	PLL
Operating Temperature Range .....	-10°/+55° C
DC input voltage .....	12.6VDC ±10%
Size .....	180 (L)x50 (H)x150 (P) mm
Weight .....	1kg

## RECEIVER

Receiving system .....	dual conversion superheterodyne
Intermediate frequency .....	I° IF: 10.695 MHz • II° IF: 455 KHz
Sensitivity .....	0.5µV for 20 dB SINAD in FM mode
.....	0.5µV for 20 dB SINAD in AM mode
Audio output power @10% THD .....	2.0 W @ 8 Ohm
Audio distortion .....	less than 8% @ 1 KHz
Image rejection .....	65 dB
Adjacent channel rejection .....	65 dB
Signal/Noise ratio .....	45 dB
Current drain at stand/by .....	250mA

## TRANSMITTER

Output power .....	4W max
Modulation .....	AM: from 85% to 95%
.....	FM: 1,8 KHz ± 0,2 KHz
Frequency response .....	300 Hz/3 KHz
Output impedance .....	RF 50 Ohm unbalanced
Signal/Noise Ratio .....	40 dB MIN
Current drain .....	max 2500 mA

Specifications are subject to change without notice.  
 A readily accessible disconnect device shall be incorporated in the installation wiring.  
 The disconnect device shall disconnect both poles simultaneously.