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Midland 278

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MIDLAND | CB TRANSCEIVER

 **MIDLAND**[®]

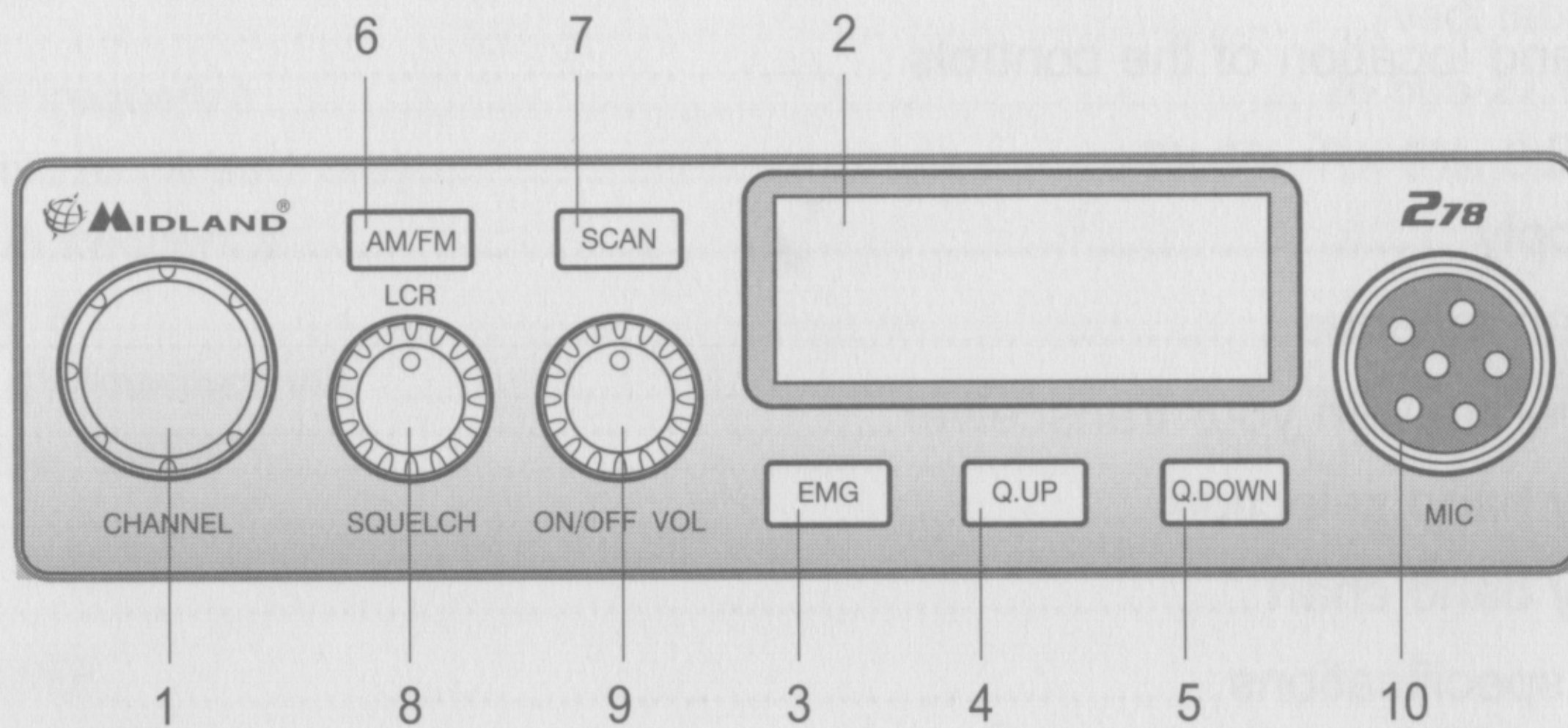
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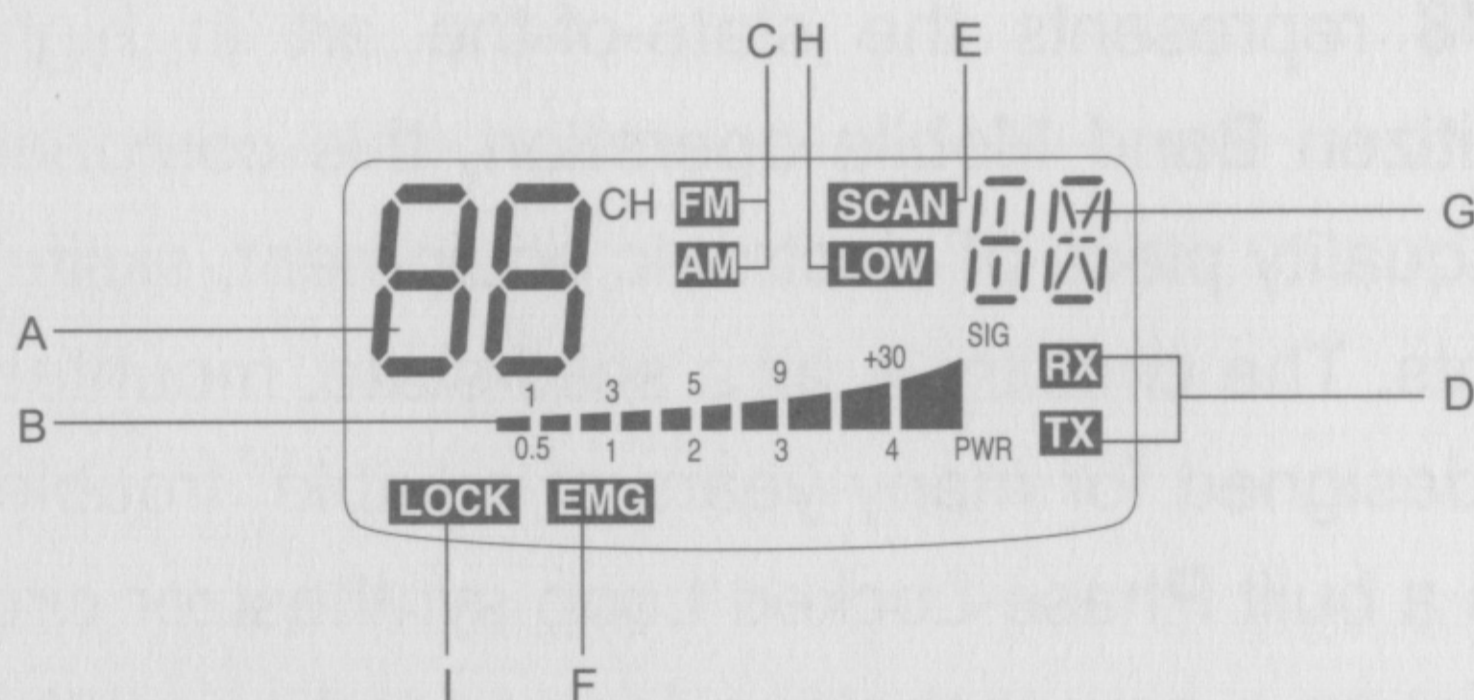
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Your **MIDLAND 278** represents the state-of-the art in high-tech engineering. Designed for the Citizen Band Mobile operation, this compact package is big in performance. It is a quality piece of electronic equipment, skillfully constructed with the 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. Your mobile CB has a built 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.

FUNCTION AND LOCATION OF THE CONTROLS



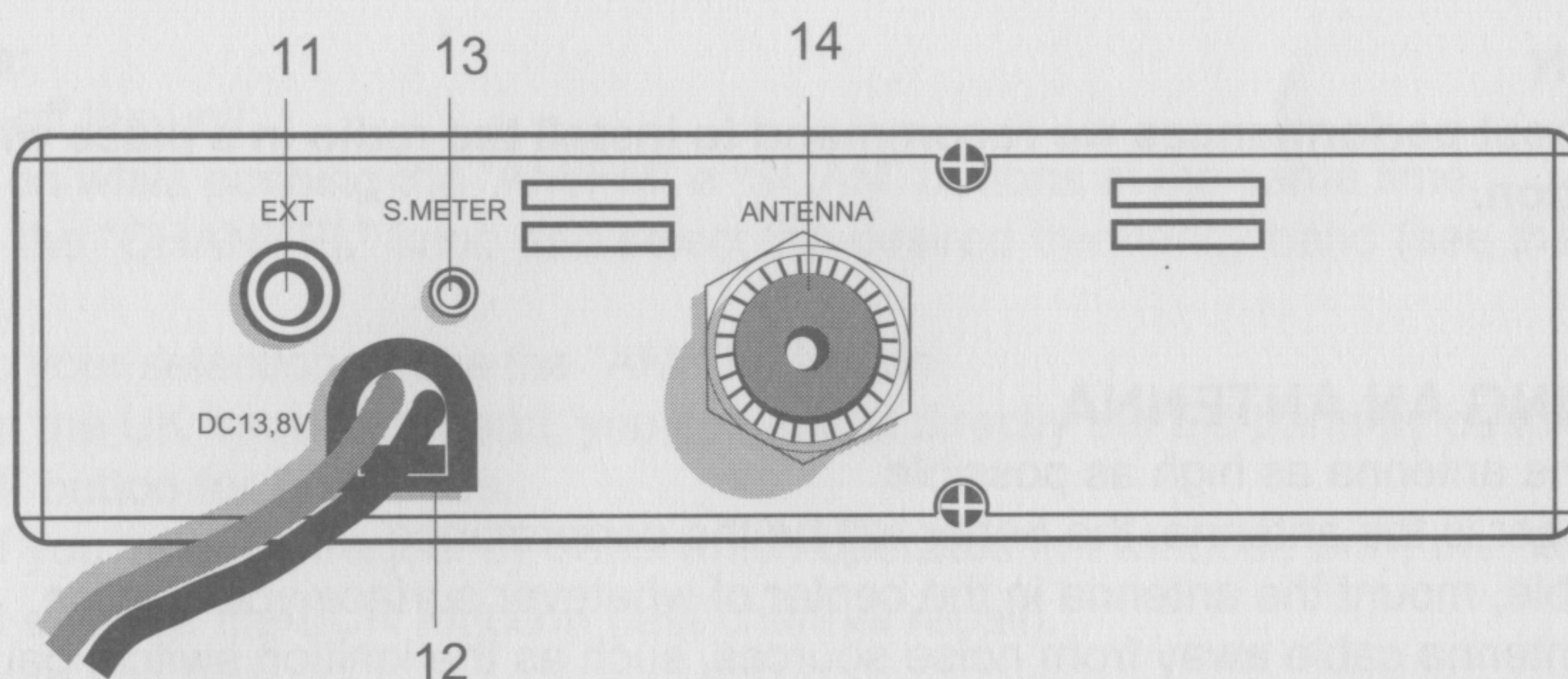
1. Channel selector
2. Multifunction backlit display. It shows:



- 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. Frequency band selected.
 - H. **LOW**: displayed when the radio transmits in low power (this mode is possible with some frequency bands only – see the Frequency band chart).
 - I. **LOCK**: microphone (UP/DOWN buttons) lock enabled.
3. **"EMG" button**: Emergency channel. By pressing it, you will be automatically positioned on CH 9 (emergency channel). The display will show "EMG". It will not be possible to change accidentally the channel.
 4. 5. **"Q.UP/Q.DOWN" buttons**: To skip 10 channels UP (Q. UP) or 10 channels DOWN (Q.DOWN).
 6. **"AM/FM"(LCR) button**: To select AM or FM mode. If you switch on the unit and push "AM/FM"(LCR) and "SCAN" at the same time, you will select the operating band, which will be visualised on the display.
If you select a frequency band operating in FM mode only, this button enables the LCR function (Last Channel Recall).

7. **"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. If you switch on the unit and push "SCAN" and "AM/FM"(LCR) at the same time, you will select the operating band, which will be visualised on the display.
8. **"Squelch" Control:** For the maximum receiver sensitivity, the control must be regulated exactly where the receiver background noise disappears.
9. **"ON/OFF Volume" Control.** In "OFF" position your transceiver is OFF. Turn this control clockwise to switch on the unit. Turn the knob clockwise a little more to set the audio level, until you get a comfortable reception.
10. **Microphone jack:** Insert the mic connector into this jack.

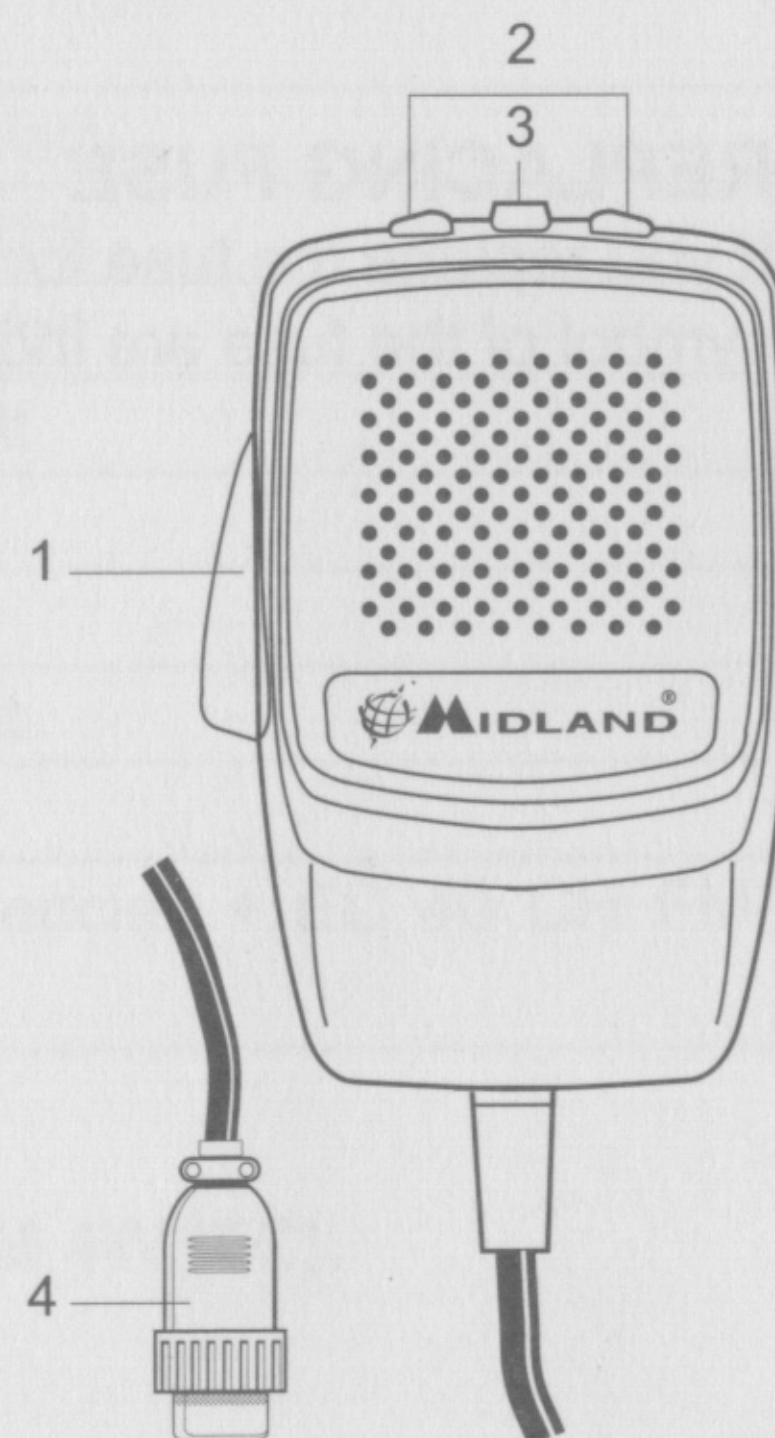
REAR PANEL



11. **"EXT" jack:** external loudspeaker jack.(the internal loudspeaker is excluded)
12. **Power 12.6V DC:** power supply cable
13. **S.Meter jack:** it allows an external "S. Meter" connection
14. **Antenna connector** (SO239 connector type)

MICROPHONE

1. **PTT:** transmission button
2. **UP/DOWN buttons:** manual channels 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 vehicle. 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.

F5A 250V + 

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.

NOTE¹: In the UK frequency band, you can select directly the EC band by pushing the "AM/FM" button for 2 seconds.

NOTE²: 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 **40 CH 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	12.6V DC ±10%
Size.....	180 (L)x35 (H)x140 (P) mm
Weight	0,850 kg

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	duty cycle 10% 4W
Modulation	AM: from 85% to 95% FM: 1,8 KHz ± 0,2 KHz
Frequency response	from 400 Hz to 2.5 KHz
Output impedance	RF 50 Ohm unbalanced
Signal/Noise Ratio	40 dB MIN
Current drain.....	max 2500mA

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.