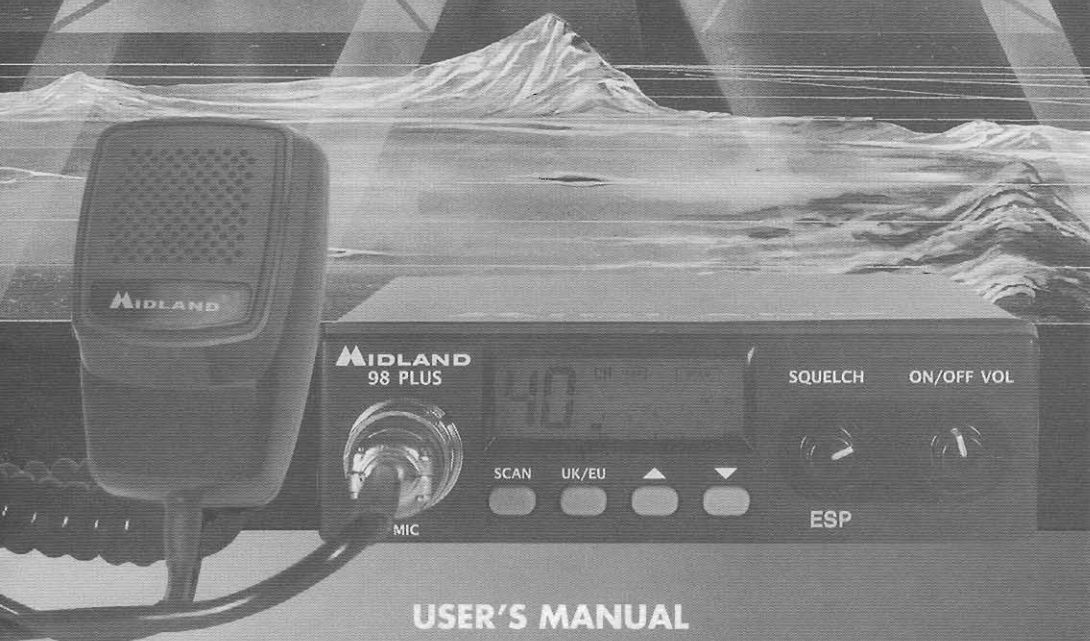


MIDLAND®

noise killer
ESP 2
inside
by Midland



USER'S MANUAL

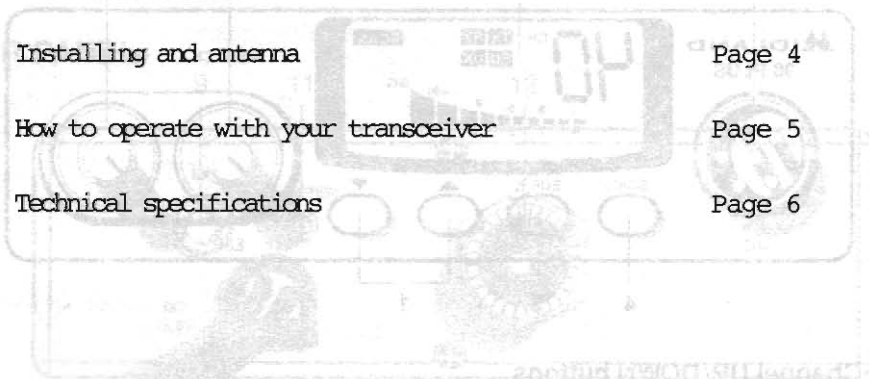
MIDLAND 98 PLUS



80-Channel mobile citizens band transceiver
27MHz F.M. (MPT 1382) United Kingdom System

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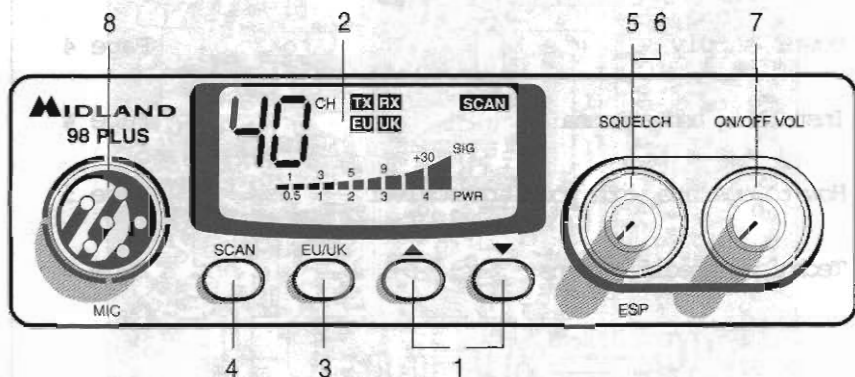


INTRODUCTION

Your 80 channel Mobile CB represents the state-of-the art in high-tech engineering. Designed for 80 channel Citizen Band Mobile operation, this compact package is big in performance. It is a quality piece of electronic equipment, skilfully constructed with the finest components. The circuitry is all 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-in 80 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 a much tighter frequency control and superior reliability. This model incorporates the latest breakthrough in receive quality, the new ESP noise reduction/signal amplification function.

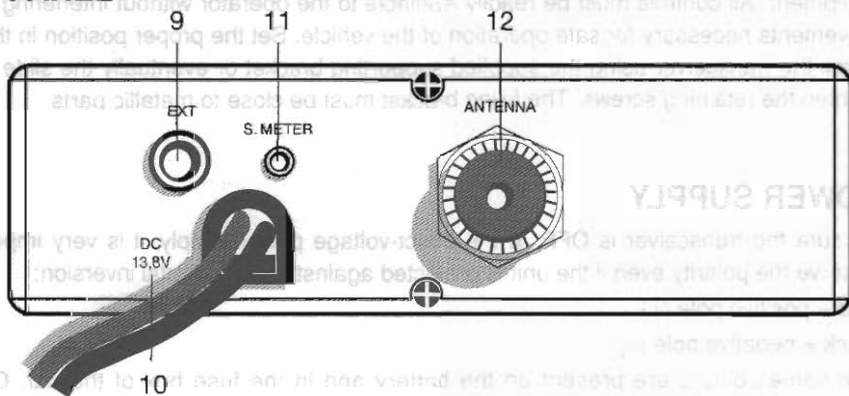
FUNCTION AND LOCATION OF THE CONTROLS



- 1. Channel UP/DOWN buttons**
- 2. Multifunction backlighted display. It shows:**
 - A. Channel number selected (1 to 40)
 - B. The receive signal strength and transmit signal power
 - C. EU mode/UK mode
 - D. RX/TX (RX = receive mode; TX = transmit mode)
 - E. SCAN mode
 - F. ESP on/off
- 3. "EU/UK" push button band switch:** In the EU position the transceiver operates on the 40 European channels (the display will show "EU").
In the UK mode it operates on the 40 UK channels (the display will show "UK").

4. **“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 received.
5. **“SQUELCH” control:** For the maximum receiver sensitivity, the control must be regulated exactly where the receiver background noise disappears.
6. **“ESP on-off” control:** Incorporated on the same control as the squelch, if this control is pushed, the ESP function is turned on (“ESP” displayed on LCD). Push control again and ESP function is turned off (“ESP” is not displayed on LCD).
7. **“ON-OFF/Volume” control:** In “OFF” position your transceiver is OFF. Turn this control clockwise to switch on the radio. Turn the knob clockwise a little more to set the audio level until you get a comfortable reception.
8. **Microphone jack:** Insert the microphone connector into this jack.

REAR PANEL



9. **“EXT” jack:** External loudspeaker jack – (the internal loud-speaker is inoperative when this is used).
10. **Power 13.8V DC:** Power source input cable.
11. **S. Meter jack:** This allows an external “S. Meter” connection.
12. **Antenna connector** (SO239 connector type).

MICROPHONE



INSTALLATION

Safety and convenience are the primary consideration for mounting any piece of mobile equipment. All controls must be 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, it 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 colours are present on the battery and in the fuse box of the car. Correctly connect the cable terminal to the battery.

INSTALLING AN ANTENNA

1. Place the antenna as high as possible.
2. The longer the antenna, the better will be the performance.
3. If possible, mount the antenna in the centre of whatever surface you choose.
4. Keep antenna cable away from noisy 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.

HOW TO OPERATE WITH YOUR TRANSCEIVER

1. Screw the microphone plus 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.



Power 13.8V DC, Power source (right)

5. Motor jack: This allows an external

Antenna connector (ISO239 connector)

TECHNICAL SPECIFICATIONS

GENERAL

Channels	80	
Frequency range	UK: 27.60125 – 27.99125 MHz	
.....	CEPT: 26.965 – 27.405	
M	H	Z
Frequency control	PLL	
DC input	13.8V DC	
Size	120(W) x 190(D) x 40(H) mm	
Weight	0.737 kg	

RECEIVER

Receiving system	dual conversion superheterodyne
Intermediate frequency	1st IF 10.695 MHz / 2nd IF 455 KHz
Sensitivity	without ESP 0.7mV for 20 dB S/N
.....	with ESP 0.3mV for 20 dB S/N
Audio distortion	less than 3% @ 1 KHz
Selectivity	65 dB

TRANSMITTER

Output power	4W @ 13.8V DC
Modulation	FM 1.8 KHz \pm 0.2 KHz
Frequency response	~ 300 Hz to 3.4 KHz
Output impedance	RF 50 Ohm Unbalanced

All specifications are subject to change without notice.

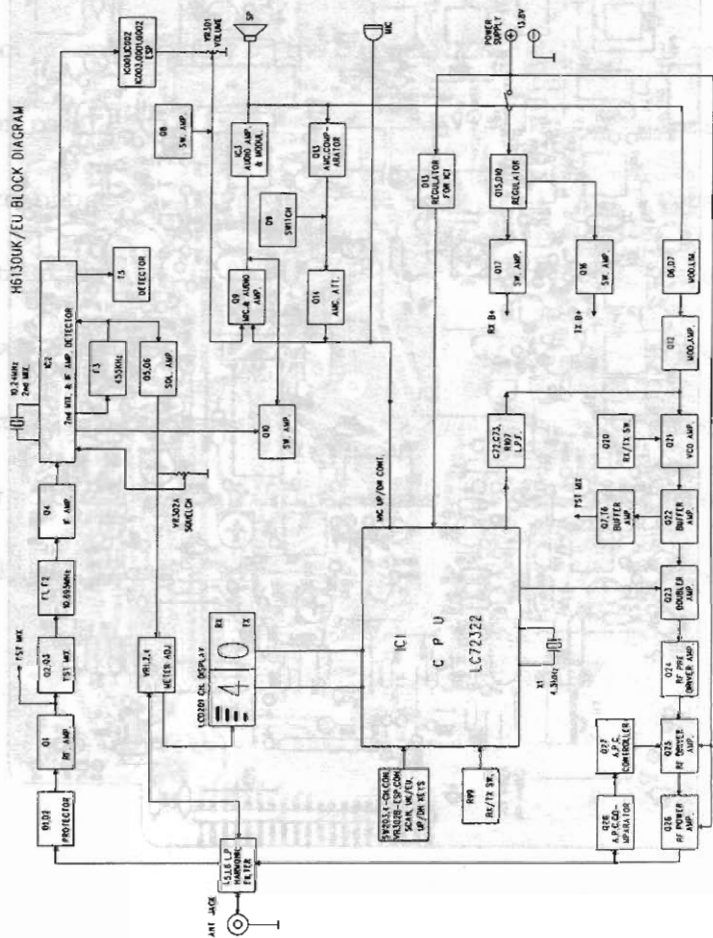
INSTALLING AN ANTENNA

BLOCK DIAGRAM

PCB LAYOUT DIAGRAM - MAIN BOARD

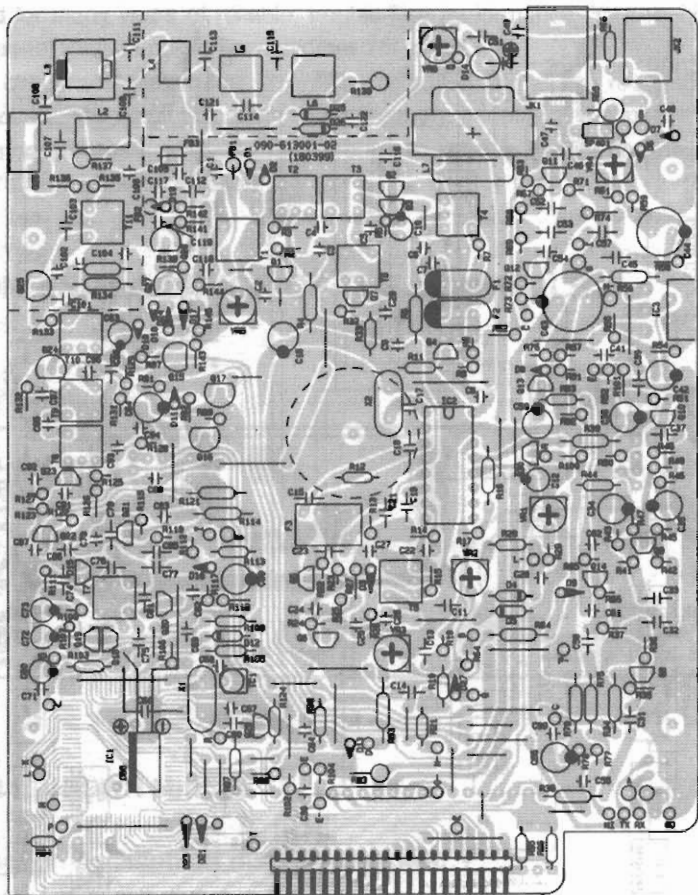
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H6130UK/EU BLOCK DIAGRAM



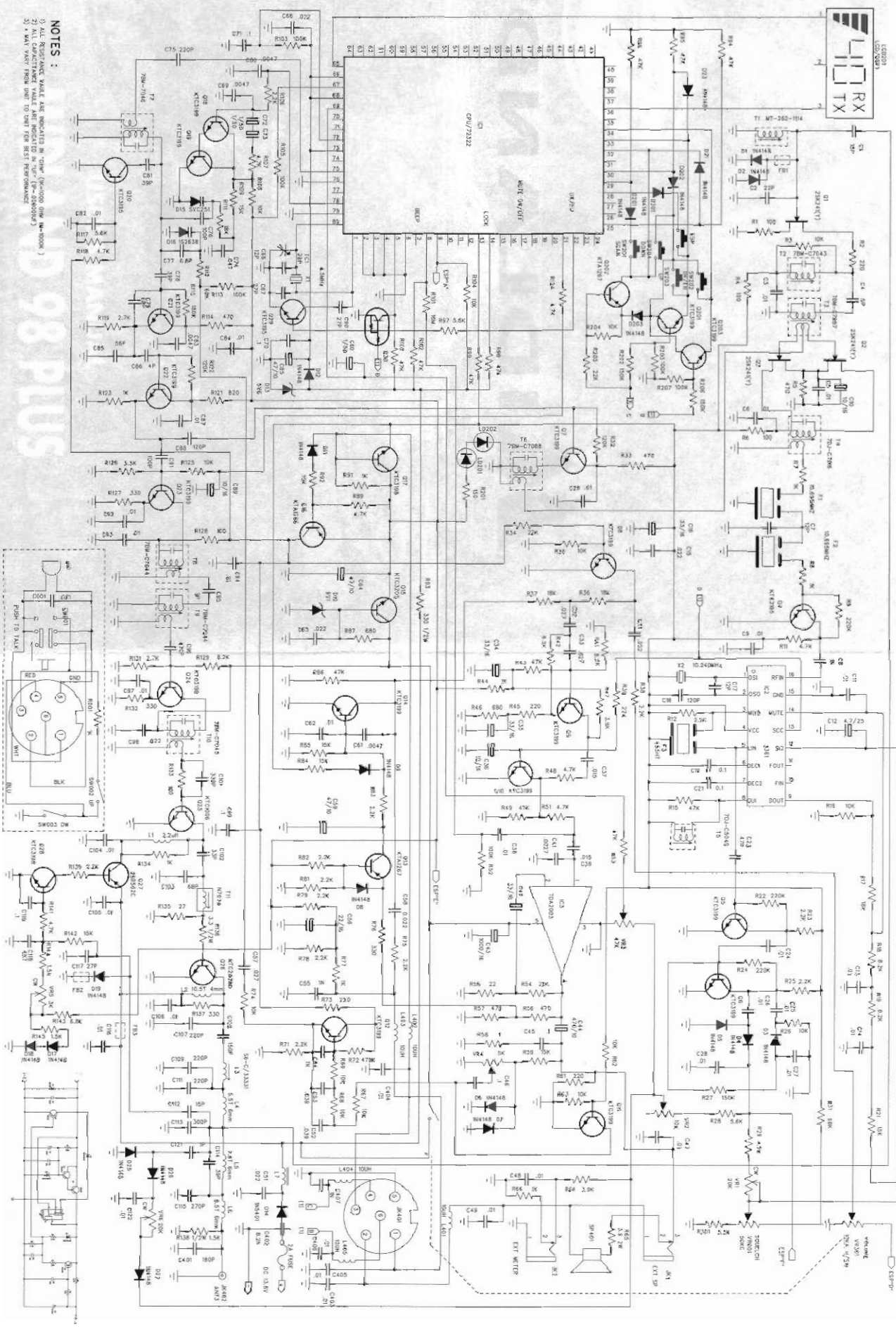
PCB LAYOUT DIAGRAM - MAIN BOARD

BLOCK DIAGRAM



Schematic Diagram

98 PLUS (UK/EU FM CB TRANSCEIVER) SCHEMATIC DIAGRAM



NOTES :

- 1) ALL RESISTANCE VALUE ARE INDICATED IN OHM (K=1000 OHM M=1000K)
- 2) ALL CAPACITANCE VALUE ARE INDICATED IN μF (P=picofarad)
- 3) * MAX POWER FROM UNIT TO GIVE BEST PERFORMANCE

The Midland logo features a stylized black triangle on the left, followed by the word "MIDLAND" in a bold, black, sans-serif font. A registered trademark symbol (®) is located at the end of the word. The background of the entire page is a faded, technical schematic diagram of an electronic circuit, showing various components like resistors, capacitors, and integrated circuits connected by lines.

Imported by Alan UK Ltd

Unit 2, Callenders, Paddington Drive, Swindon SN5 7YW, UK

EC Declaration of Conformity to R&TTE Directive 1999/5/EC

Manufacturer : Midland Consumer International Ltd
705, Houston Center,
63, Moody road,
TST, Kowloon, Hong Kong

Representative : Alan UK Ltd
Unit 2, Callenders,
(residing in the EC holding the TCF) Paddington Drive,
Swindon, SN5 7YW

Product / Apparatus : Citizens Band Transceiver

Type Number : Midland 38

Variants include : Kernow 3100, 4100, 5100 and Midland 98
EMTEK 88-004

Declaration

I declare that above product conforms to all the applicable requirements of EU Directive 1999/5/EC and is CE-marked accordingly:

Article 3.1a: (Standard(s)) used to show compliance with LVD, 73/23/EEC:

..... / Compliant Test Report No:

Article 3.1b: (Standard(s)) used to show compliance with EMC Directive, 89/336/EEC:

..... / Compliant Test Report No: CTMS 2001/1944

Article 3.2: Conformity was assessed via Annex IV, using a Technical Construction File examined by Notified Body 0885, Cambridge Test & Measurement Ltd
Standard(s) used to show compliance:

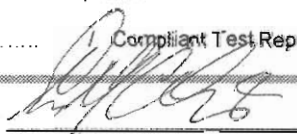
..... Compliant Test Report No:

Signature :

Name :

Title :

Date :



ANTHONY C LEWIS

DIRECTOR

18/07/2001

EC Declaration of Conformity
to R&TTE Directive 1999/5/EC

Manufacturer: Midland Consumer International Ltd
702, Houston Center,
83, Moody Road,
TST, Kowloon, Hong Kong

Representative: Alan UK Ltd
Unit 2, Calenders
Redington Drive,
Swadlow, S16 2YW

Product: Citizens Band Transceiver

Type Number: Midland 38

Models include: Kenwood 3100, 4100, 6100 and Midland 38

**THE UNIT CAN BE USED
IN THE UK ONLY**

This declaration is made by the manufacturer in accordance with the requirements of EU Directive 1999/5/EC and is CE-marked accordingly.

Article 3.1: (Conformity) used to show compliance with LVD, Y203/EC

Compliant Test Report No.

Article 3.2: (Conformity) used to show compliance with EMC Directive, 89/368/EEC

Compliant Test Report No. CTMS 2001/044

Article 3.3: Conformity was assessed via Annex IV, using a Technical Construction File examined by Notified Body 0888. Compliance Test & Measurement Ltd. (Contract) used to show compliance.

Compliant Test Report No.

Signature: [Signature]
Name: Richard Clark
Title: Director
Date: 15/07/2001