

EXHIBIT 5

Installation and Operating Instructions

Para. 2.1033(b)(3)



**Retlif Testing Laboratories**

Test Report No. R-7579-1  
FCC ID: GSAMCT101MDS

# MCT-101 MD S

Man-down Transmitter

# SpiderAlert®

User Guide

## 1. INTRODUCTION

MCT-101 MD S is an emergency transmitter, incorporating an automatic man down signaling device, and is intended for use by security personnel. The MCT-101 MDS is designed to be used with the SpiderAlert signaling system.

The unit is powered by an internal 3.6 V lithium battery, which has a life expectancy of up to 5 years with normal use.

**CAUTION:** Before operating the MCT 101 MDS for the first time, the battery must be enabled by moving DIP switch No. 2 to ON

A built-in tilt switch activates the "man-down" transmission if the user is knocked down, or the MCT 101 MDS tilts by more than 60°. To prevent false alarms, a rapid 10 second beep-tone is emitted prior to the signal being sent. This allows the user enough time to prevent the transmission of unintentional alarm signals.

Transmission can also be initiated by pressing the yellow emergency button which is active at all times, irrespective of switch position

The central station receives both "activation" and "cancellation" signals, and is continually updated, each time the status of the MCT-101 MDS transmitter changes. These changes include position, (transition from vertical to horizontal or vice versa) and switch status (on or off). These status changes are verified by the LED, which illuminates each time a signal is transmitted.

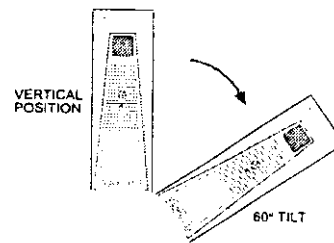


Figure 1. Activating the tilt switch

Once triggered, the transmitter sends out an alarm signal as well as a 24-bit ID code which identifies the MCT-101MDS to the target receiver, and automatically displays the holders name on the central computer screen. To prevent transmitted messages from colliding with those from other MegaCode transmitters, a "smart" anti-collision transmission sequence is used.

A "supervision" message is automatically initiated every 60 minutes. The receiver is thus informed, at regular intervals, of the MCT-101 MD S active participation in the system. A weak battery will cause a "LOW-BATTERY" message to be added to all supervision and alarm signals.

A lightweight carry-pouch (Holster-1) is available, and is specially designed to accommodate the MCT-101 MD S.

## 2. SPECIFICATIONS

**Frequency (MHz):** 315, 404, 418, 433.92 or other frequencies according to local requirements.

**Transmitter's ID Code:** 24-bit digital word, over 16 million combinations, pulse width modulation.

**Overall Message Length:** 36 bits

**Alarm Signals:** 6, each with a separate 24-bit transmitter ID

**Message Repetition:** Once every 30 seconds, but stops after 5 min. (applies only to man down and emergency signaling)

**Supervision Method:** Automatic reporting at 1-hour intervals

**Power Source:** 3.6 V Lithium Thionyl Chloride (LiSOCl<sub>2</sub>) battery, size 1/2 AA, Tadiran TL-5902.

**Nominal Battery Capacity:** 1.2 Ah

**Current Consumption:** 8 uA standby, 15 mA in operation.

**Battery Life:** Up to 5 years

**Battery Supervision:** Battery condition data is transmitted as part of every status report.

**Operating Temperature:** 0° to 49°C (32° to 120°F)

**Dimensions:** 110 x 34 x 25 mm ( 4.3 x 1.3 x 1 in)

## 3. MEGACODE MESSAGE FORMAT

The MegaCode message transmitted by the MCT-101 MD S includes the 24-bit ID code (used to identify the transmitter), and a supervision and status report.

Each message is made up of the following data:

**A. Transmitter ID:** The 24-bit ID of the transmitter sending the message. The central computer converts this code and displays the holders name on the screen.

**B. Alarm Codes:** Attached to the unit ID code are a choice of 6 consecutively numbered alarm or condition codes, designed to update the central station each time the status of the MCT-101 MD S changes.

Transmitter ID + 0 reports manual emergency button activation.

Transmitter ID + 1 sends a MAN-DOWN message each time the transmitter is moved to the horizontal position.

Transmitter ID + 2 sends a MAN-UP message each time the transmitter is moved to the vertical position.

Transmitter ID + 3 reports SWITCH-ON when the man-down feature is enabled.

Transmitter ID + 4 reports SWITCH-OFF when the man-down feature is disabled.

Transmitter ID + 5 reports a TEST procedure.

**C. Low Battery:** Before each supervision report, the battery voltage is tested. If a low battery condition is detected, a "low battery" alert signal will be included in the supervision message. A reminder will be attached to all messages that follow, until the battery is replaced.

**D. Supervision Report:** If enabled, a "supervision" message is automatically generated every hour, and identifies the transmitter (Transmitter ID+ 0) and the switch status - ID+3) SWITCH-ON, or ID+4 SWITCH-OFF. A "low battery" message is attached if applicable.

## 4. OPERATION

### 4.1 The Slide Switch

A slide switch on the side of the MCT-101 MD S is used to enable or disable the tilt switch (MAN-DOWN) function. When not in use, the MCT-101 MD S should be switched off, and stored in a horizontal position. After 60 seconds the unit goes into rest mode, and when picked up, 2 rapid beeps remind the user to arm the unit.

### 4.2 The Holster

The optional carry-pouch (Holster-1) provides an ideal solution to the problem of securing the MCT-101 MD S. Made from black lightweight rip-resistant nylon, the holster is designed to blend with security guard uniforms. It is padded to ensure a snug fit, and provide extra protection against damage to the MCT-101 MD S. A leather securing strap ensures that the unit is held securely in place, while the emergency button remains accessible to the user.

### 4.3 Switch Enabled - ON

If the unit is moved into the tilt position (more than 60°), the buzzer sounds rapidly as a pre-alarm warning. After the buzzer beeps for ten seconds, a Transmitter ID + 1 signal is sent, and the LED blinks 3 times to confirm transmission. The signal is repeated at 30 second intervals while the tilt switch remains activated, but automatically terminates after 5 minutes. This transmission sequence can be stopped at any time by moving the switch to the off position.

If the transmitter is disabled before the timer has terminated, the central station will be informed that the tilt switch has been disabled.

### 4.4 Switch Disabled - OFF

In this state all tilt switch transmissions are inhibited, and if the MCT-101 MDS is left horizontal for more than 60 seconds, the unit will go into "rest mode". As soon as the unit is returned to the vertical position, two rapid beep signals sound to remind the user to enable the unit by moving the switch to the on position.

### 4.5 Supervision Message

A "supervision" message is automatically initiated every 60 minutes. This message keeps the central station computer informed of the man-down transmitter's active participation in the system. A weak battery will cause a "LOW-BATTERY" message to be added to all supervision and alarm signals. To disable the supervision message, move DIP switch No.1 to the off position.

### 4.6 Test Signal

To generate a test signal, move the switch to the on position and rotate the transmitter from horizontal to vertical position, and as soon as the unit starts

to beep, return the unit to the horizontal position and repeat the operation. *Note: This sequence must be completed within 10 seconds.*

### 4.7 Message Anti-Collision

To prevent message collision, and increase the probability of the message getting through, even if other transmitters in the system are triggered into action at the same time, the MCT-101 MD S transmits 3 data bursts at random intervals, with 6 repetitions of the same message in each burst. This redundancy increases the probability of reception.

*Note: Supervision reports are an exception to this rule - they consist of a single 6-message burst*

### 4.8 Power Output Reduction

In situations where there are many receivers, it may be necessary to reduce the transmitter output power, so that only the receiver nearest the man-down transmitter receives the signal. Signal power reduction is achieved by removing the jumper bar from J-1.

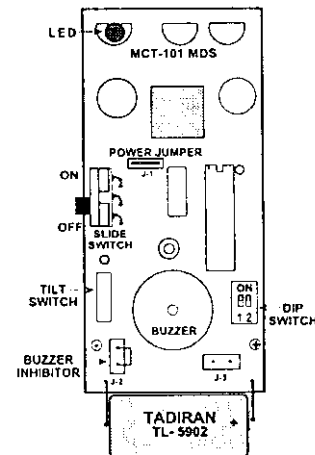


Figure-2 Circuit Board

### 4.9 Inhibiting the Buzzer

Cutting the copper track on J-2 inhibits the buzzer.

### 4.10 Battery Maintenance

The battery is supervised and a "low battery" warning message is automatically sent to the control center when the battery needs replacement. When DIP switch No.2 is moved to the OFF position the battery is disconnected.

To replace the 3.6 V Lithium battery, remove the front cover screw, and open the transmitter and solder the battery in place, making sure that the polarity is correct.

## 5. WARNINGS

### 5.1 Product Limitations

Visonetix Ltd. wireless systems are very reliable and are tested to high standards. However, due to low transmitting power and limited range (required by FCC and other regulating authorities), there are some limitations to be considered:

- Receivers may be blocked by radio signals occurring on or near their operating frequencies, regardless of the digital code used.
- Wireless equipment should be tested regularly to determine whether there are sources of interference and to protect against faults.

### 5.2 Standard Compliance

- The user is cautioned that changes or modifications to the unit, not expressly approved by Visonetix Ltd., could void the user's FCC or other authority to operate the equipment.
- This device complies with Part 15 of the FCC Rules and RSS-210 of Industry and Science Canada. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.