

1. INTRODUCTION

The MCT-241MD RL is a miniature, microprocessor-controlled personal UHF transmitter. It is designed to transmit coded alert signals manually (when the user presses the button) or automatically (when the user falls down). The transmitter is waterproof and suitable for wearing in a shower. Operating power is obtained from an internal 3V CR-2 Lithium battery.

Transmission is initiated in the following cases:

- Depressing the recessed oval pushbutton (see Fig. 1). A built-in timer determines the transmission time to 3 seconds, even if the user maintains the button pressed shorter or longer than that.
- Tilting the transmitter by more than 60° in any direction. In this case, the 3-second transmission will take place after a 2-second delay.

When triggered, the MCT-241MD RL transmits a unique 24-bit digital ID, randomly selected in the factory. This code is one of 16 million possible code combinations and is therefore virtually impossible to reproduce. The ID code is followed by the appropriate digital marker that indicates an "alarm" or a "fall-detector" event, as the case may be.

A red LED (see Fig. 1) lights steadily during transmission, to reassure the user that a transmission is taking place and to indicate that the battery condition is good. If the LED flashes each time the transmitter is triggered, this indicates that the voltage is low and the battery must be replaced as soon as possible.

If the transmitter is triggered while the battery voltage is low, a 'low battery' digital marker is included in the transmitted message. In addition, the battery is self-tested every 12 hours. A supervisory 'low battery' message is transmitted after detection of 3 consecutive "low battery" states.

The transmitter case is hermetically sealed (no screws) to ensure complete waterproofing of the case. Battery replacement can therefore be carried out in the factory only.

The transmitter is supplied with two wearing accessories, a neck cord (to be worn around the neck - see Fig. 2) and a clip (to be attached to the user belt or shirt pocket - see Fig. 3).

The neck cord includes a built-in safety release mechanism. This neck cord must never be replaced with a cord that does not include a safety release.

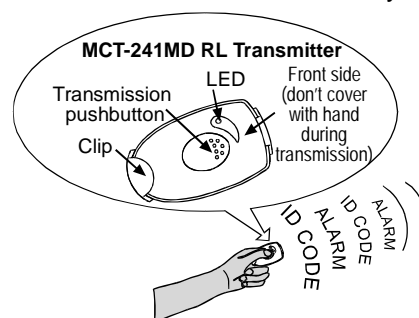


Figure 1 - Using the MCT-241MD RL

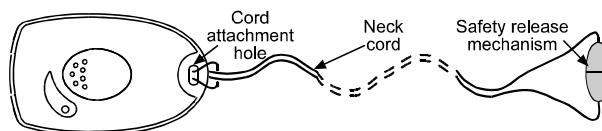


Figure 2 - MCT-241MD RL with Neck Cord

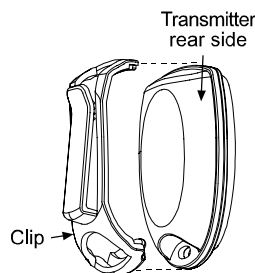


Figure 3 - Clip Attachment

2. OPERATION AND ENROLLMENT

2.1 Transport Mode

New MCT-241MD RL units are shipped with the tilt (fall-detector) function in 'deep sleep', to prevent inadvertent transmissions until the unit is placed into service. To 'awaken' the tilt function, the alarm pushbutton must be pressed at least 5 times in succession.

2.2 Tilt Alarm/Tilt Restore

A built-in tilt sensor is activated once the unit is tilted over by more than 60° in any direction. The Base Unit will notify the user after 30 seconds, and the actual tilt alarm transmission to the central station will take place after an additional 30-second delay, throughout which the unit may be restored to

the upright position. This allows the user to prevent an accidental “tilt alarm” message from being transmitted. If a tilt alarm had been transmitted and the unit was subsequently returned to the upright position, a “tilt restore” message will be transmitted.

Note: Please refer to the POM3000 user manual for further details on this feature.

2.3 Low Battery Voltage Indication

The battery is automatically tested under load once in 12 hours. If a low battery state is registered in 3 consecutive tests, a “low battery” message will be transmitted, and a “low battery” digital marker will be included in every transmission, “alarm” or “tilt”. In addition, when the battery voltage is low, the LED flashes while the pushbutton is pressed.

2.4 Transmitter Stand

When putting the transmitter away, it is recommended to use the special stand included in the package (Fig. 5). The stand will maintain the unit in a vertical (upright) position, thus preventing accidental activation of the tilt sensor. Place the stand on a flat surface, then insert the bottom end of the unit into the stand.

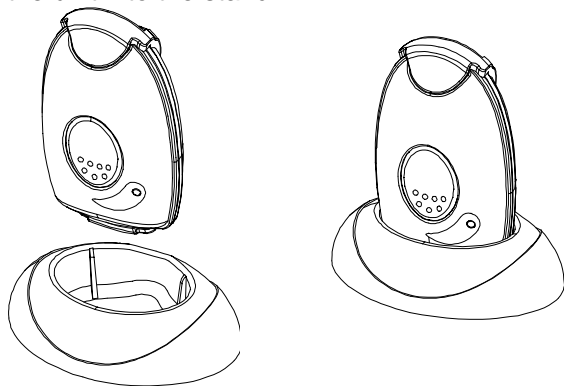


Figure 4. Transmitter Stand

2.5 Initial Test

Upon press of the transmission button, the control panel will sound and display simultaneously CALLING SERVICE BUREAU... until contact is established. **This means that the transmitter is working properly.**

Note: If for any reason the MCT-241 MD RL does not result in the above response from the control panel, please contact the central station at 1-800-894-1428 and verify the PowerCode ID located both on the unit's package and on the reverse side of the transmitter.

2.6 Teaching the Target Receiver

To provide the desired response, the target receiver must “learn” to identify the Transmitter ID code. Advise the Central Station (either by telephone or by fax) of the Transmitter ID located both on the unit's package and on the reverse side of the unit.

3. SPECIFICATIONS

Frequency (MHz): 315, stabilized by SAW resonator

Frequency Tolerance: ± 120 kHz

Modulation: A.S.K (on-off keying)

Encoding: Factory programmed, 24-bit digital word

Transmission Duration: 3 seconds (even if the user keeps the transmission button depressed shorter or longer than that)

Power Supply: 3 V Lithium Battery, 0.7 Ah Panasonic CR-2 only. (Battery replacement is performed at the factory.)

Current Consumption: 7 μ A (during standby), 10 mA (during transmission)

Battery Life Expectancy: 3 years (for typical use)

Battery Condition Indication and Reporting:

- A. **Good battery** - the LED lights steadily upon transmission.
- B. **Low battery** - when transmission button is pressed, “low battery” alarm code is transmitted and the LED flashes.

C. **Battery supervision** - every 12 hours. If 3 consecutive “low battery” states are detected, a “low battery” message is transmitted.

Operating Temperature: -10°C to 40°C (14°F to 104°F)

Dimensions (H x W x D):

With Clip: 73 x 41 x 30 mm (2-7/8 x 1-5/8 x 1-3/16 in.)

Without Clip: 67 x 41 x 21 mm (2-5/8 x 1-5/8 x 13/16 in.)

Weight: 35 g (with clip), 30 g (without clip)

Color: White

Compliance with Standards: Meets FCC Part 15, MPT1349 and Directive 1999/5/EC

This device complies with the essential requirements and provisions of Directive 1999/5/EC of the European Parliament and of the Council of 9 March 1999 on radio and telecommunications terminal equipment.

4. MISCELLANEOUS COMMENTS

4.1 Product Limitations

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

- A. Receivers may be blocked by radio signals on or near their operating frequencies, regardless of the code selected.
- B. A receiver can only respond to one transmitted signal at a time.
- C. Wireless equipment should be tested regularly (at least once a week) to determine if there are sources of interference and to protect against faults.

WARNING: Changes or modifications to this unit not expressly approved by the party responsible for compliance, could void the user's authority to operate the equipment.

4.2 Battery Handling

Since the product has a Lithium battery, please observe the following handling instructions:

- Do not dispose of batteries in fires
- Do not short circuit
- Observe correct polarity of cells
- Do not crush
- Do not puncture
- Do not open
- Do not dismantle
- Do not expose to temperatures in excess of 60°C

ATTENTION! The internal Lithium battery can be replaced in the factory only.

4.3 Compliance with Standards

The 315 MHz version of this device complies with Part 15 of the FCC Rules. 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.

WARNING! Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

The digital circuit of this device has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in residential installations. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio and television reception. However, there is no guarantee that interference will not occur in a particular installation. If this device does cause such interference, which can be verified by turning the device off and on, the user is encouraged to eliminate the interference by one or more of the following measures:

- Re-orient or re-locate the receiving antenna.
- Increase the distance between the device and the receiver.
- Connect the device to an outlet on a circuit different from the one which supplies power to the receiver.
- Consult the dealer or an experienced radio/TV technician.



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