MANUAL

RPR 750 SERIES RECEIVER
Intrinsically safe versions

Part No. 9261 - 8260 Issue 1

Compliance

This product complies with the requirements of EU Directive 99/5/EC, relating to radio equipment and telecommunications terminal equipment. Please see our website www.multitone.com where the Declaration of Conformity for these and other Multitone products can be found.

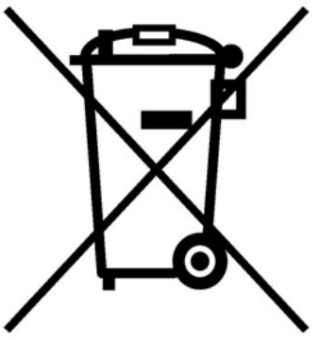
FCC and Industry Canada Compliance Statement

This device complies with Part 15 of the FCC Rules and RSS 210 Industry Canada.

Operation is subject to the following two conditions: 1) The device may not cause harmful interference, and 2) The device must accept any interference received, including interference that may cause undesired operation.

Any unauthorized modification to this device voids the user's authority to claim that the device meets the standards of Industry Canada and FCC Part 15.

Your Multitone representative can provide you with the complete technical characteristics of this device.



WEEE Directive - Material Recycling and Disposal Instruction:-

At the end of its life, the product must not be treated as ordinary waste. It must be returned either to an approved recycling center for electronic and electrical products, or directly to Multitone or its nearest representative for destruction.

CONTENT

1. **GENERAL USAGE INFORMATION**

Radio reception

The design of your receiver allows optimum operation within the coverage limits of the transmitter system.
Like any radio system, there may be areas of poor coverage, where reception may be intermittent or absent. If necessary, consult the system administrator to find out where these areas are located.

Hazardous areas

Your RPR 750IS Series receiver is suitable for use in hazardous areas "0", "1" and "2 (gas) and "20", "21" and "22" (non-conductive dust), as defined in technical standard EN 60079-10 of IEC/CENELEC.
Approval has been granted under Directive 94/9/EC EU ATEX, in accordance with standards EN50014 and EN50020.

Features of Homologation Classification:-

Disposable battery for RPR750IS version:-

II 1GD T135EC: EEx ia IIC T4
Baseefa 05ATEX0185X

Rechargeable battery for the RPR750ISR version:-

II 1GD T200EC: EEx ia IIC T3
Baseefa 05ATEX0185X

DO NOT USE RECHARGEABLE BATTERIES IN A RECEIVER INTENDED FOR DISPOSABLE BATTERIES, THIS WILL VOID THE INTRINSICALLY SAFE APPROVAL!

SPECIAL CONDITIONS FOR USE IN ALL SECURITY

1. The recharging of the rechargeable device must only be carried out by a charger having output characteristics of Um=10V and a source resistance of at least 247S.

2. The programming of the device must only be carried out by a programmer having the output characteristics of Um=10V and a source resistance of 1.84kS minimum.

3. The use of this device in atmospheres containing conductive dust is PROHIBITED.

4. The operating ambient temperature range of the device is -10E#Ta$+55EC.

The changing/charging of the battery as well as the programming of RPR 750IS equipment must only be carried out in a secure area. The concept of hazardous areas is defined by European Standard EN 60079-10. Refer to Sections 14 and 15 for specific battery details.

The RPR 750ISR series should only be connected to Multitone's specific programming/data retrieval facilities to ensure protection of intrinsically safe properties.
The equipment designed for this purpose are the Multitone P648IS compact pocket charger/ programmer and the A3RO (Master) and A3RP (Slave) Absence/ Charging racks.

Do not attempt to open or repair the product; the components are fragile and require specialized testing equipment. Any programming or repair should only be carried out by an authorized service center or personnel.

Caring for your Receiver

Protect the receiver from liquids, extreme temperatures and strong magnetic fields. Do not expose the receiver to direct sunlight – for example, on a car dashboard or window sill.

Interview

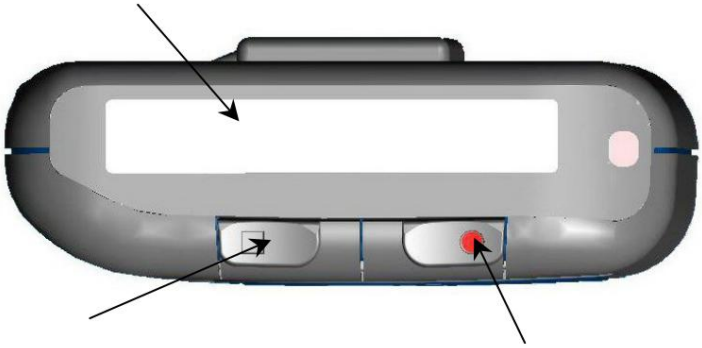
If your receiver requires repair, take it to the Authorized Service Agent or Multitone Electronics. Do not try to open or repair it, because it contains delicate parts, which require the use of specialized test equipment. Only authorized persons should carry out repairs, in an authorized workshop.

How to wear your Receiver Your receiver comes with a detachable “Griptite” clip, which fits well in your pocket or on your belt. Below the clamp is a sliding mechanism to adjust the clamp pressure.

A detachable elastic cord with a metal clip is also provided. To be used either with the "Griptite" pliers, or independently.

2. FUNCTIONS AND DISPLAY

DISPLAYING ALPHANUMERIC MESSAGES



BUTTON ON/ACKNOWLEDGE/REMINDER (MAR)

SILENT MODE BUTTON

3. TURN ON THE RECEIVER

To turn on your receiver, press the MAR button once. The receiver emits a short beep and begins a self-test, which activates the LED, message display and buzzer.
Then the receiver displays its address and other optional pre-programmed messages. Following this sequence, the display goes blank and the receiver is now ready to receive calls, displaying either

-- : --

-- : -- be the time

12:05

If your receiver is equipped with the PERMANENT IGNITION option, as soon as the battery is installed, the initialization sequence begins automatically.

4. TURN THE RECEIVER OFF

To turn off your receiver, first press and hold the Mute Mode button, then press the ON button for a few seconds. The receiver displays "OFF" and then turns off after approximately 2 seconds.

If your receiver has the “Permanent On” option, only removing the battery can turn it off.

5. DISPLAY OPTIONS

The Liquid Crystal Display (LCD) is a 14-character alphanumeric module, which is always active and displays the most important device status information (without backlight).
If the *time* option has been activated, the time is displayed.

Inversion of the display: - The displayed text can be switched , according to the way in which one carries the receiver on oneself.
To activate this option, when the receiver is inactive, press the MAR button to display *status guidance,* then press the Silent Mode button to invert the display.
The new display direction is memorized, even while the receiver remains off, until it is reset.

6. RECEIVING A CALL

Your receiver is capable of receiving the following calls: beeps, alphanumeric messages and voice calls. When a call is received, first the red alert LED flashes and then an “alert tone” sounds. If you have chosen the "vibrate" option, the receiver vibrates. To cancel this alert sequence at any time, press the "Acknowledge" button.

Each time a call is received, a message is displayed, the end of which is indicated by the ** symbol. Initially, the message is displayed without backlighting, until any button is pressed. All messages retrieved from memory are prefixed with the time or a message number, depending on the system programming.
(See also Section 7).

Beep calls

Multitone MK6/7 coding allows reception of up to 8 different beep calls, each of which has a distinct beep sequence. When it receives a call, the receiver displays a beep call number, for the duration of the alert. If the alert is acknowledged by pressing the MAR button, the call data remains displayed for another 2.5 seconds.

Example of a beep call, time display; beep code 3, received at 12:00: -

12:00 beep	+	call 3**

Example of a beep call with message number (M):-

M1 call beep	+	3**

Alphanumeric Message Calls

Your receiver is capable of receiving alphanumeric messages of up to 120 characters. When you receive a call including an alphanumeric message whose total length (message + time or message number) is less than 14 characters, the entire message is displayed during the alert period, unless the alert is acknowledged by pressing the “acknowledge” button. If the alert is acknowledged, the message remains displayed for another 2.5 seconds and the backlighting is activated.

Example of a message with length less than or equal to 14 characters:-

M2 call 38**

If the message is longer than 14 characters, it is split into multiple segments of 14 characters each. These segments scroll automatically during the alert period; each segment is displayed for 1.25 seconds, except the last which is displayed for 2.5 seconds.

This sequence repeats until the end of the alert period.
But if the call is acknowledged before the end of the scrolling of the message, the latter repeats its display cycle by segment and maintains the last segment displayed.

Example of a message longer than 14 characters:

13:27 Your	+	visit is
	+	
arrival at the	+	reception**

If a call is acknowledged during the alert period, the Silent Mode button is used to review the message and speed up or slow down the scrolling. If the Mute Mode button is pressed and held, the message stops at the current segment; releasing the Mute Mode button will move the message to the next segment. If the Mute Mode button is pressed and then released, when the last segment is displayed, the display will start over from the beginning.

Voice Calls

When your receiver receives a voice call, it activates the alert sequence. This sequence includes the flashing LED, plus the alert tone at normal volume, for 4 seconds, plus the display of an alphanumeric message and/or time/call number. After 4 seconds the voice channel opens automatically and the voice message is transmitted. The voice channel closes automatically after a predetermined period or when the receiver receives the signal that closes the voice channel; this depends on the system programming.

If, during the alert period of 4 seconds, the MAR button is pressed, the alert is acknowledged. If you press MAR again, voice listening is cut off.

By pressing the MAR button again before voice monitoring automatically closes, voice monitoring is activated again.

All voice calls are automatically stored and can be retrieved later (see section 8).

When the alert period is over, if you press the MAR button, you acknowledge the call (and remove its *new state)* but to reopen the voice channel, press it a second time.
If the extended alert option is configured in the beep: The alert is extended to all the unacknowledged messages received.

7. RECOVERING MESSAGES FROM MEMORY

If they are not acknowledged, the messages are automatically saved in the receiver's memory. It can store up to 5 free format messages 120 characters long and up to 4 pre-programmed messages 14 characters long. When the memory is full, each new message deletes the oldest.

When the receiver is inactive, the MAR button is pressed twice to retrieve the messages. If the receiver is in *extended alert* mode , pressing the MAR button once retrieves the messages. The receiver displays *the time* or *message number* of the first message. If there are no messages, the phrase *no messages* is displayed and the receiver returns to the idle state.

To retrieve other messages, each time the MAR button is pressed, the receiver displays the message number.
The most recent is prefixed M 1 or the time of its reception.
If you want to read a message, release the MAR button and the message scrolls automatically.

The Silence Mode button is used to stop the sequence, to read the message and to speed up or slow down the process. If the Silent Mode button is pressed and held, the message segment remains displayed; by releasing the button, the message goes to the next segment.

8. RECOVERY OF VOICE CALLS

Your receiver stores up to 120 seconds of voice messages in 5 equal memory segments, each 24 seconds long. It is only possible to retrieve a voice message from memory after the original call has ended, but it is possible to close the voice channel during the original call. If a voice message exceeds 24 seconds, the stored message is shortened. When the memory is full, each new message deletes the oldest.

The voice message is emitted automatically when the associated message is retrieved from memory, see section 7. If the MAR button is pressed at any time, the voice message ends and you go to the next message. If the Silent Mode button is pressed and then released, the message will start its cycle over from the beginning.

9. VOLUME ADJUSTMENT

To adjust the volume of voice messages and alert, the receiver must be in idle state. First, press the Silent Mode button, then the ON button. The display shows the current volume. To adjust it, press the ON button again to increase the volume or the Mute Mode button to decrease it. As soon as the desired level is reached, release all buttons and the receiver will return to an inactive state.

10. ALERT OPTIONS

Your receiver has several options for alerting you when a call is received, depending on system programming as well as individual needs.

Acoustic Alerts

Escalert – programmable option, beep alert volume increases gradually. Sequence begins with LED flashing for 4 seconds, followed by LED + low alert tone for another 4 seconds, and ends with LED + high alert tone for adjustable final alert duration (8, 16, 32 seconds or continuous) You can stop the sequence at any time by pressing the MAR button once.

Extended Alert – programmable option, which reminds you that the original alert has not been acknowledged. The sequence starts with the LED flashing every 2 seconds, followed by 2 beeps every 120 seconds, until it is acknowledged by pressing the MAR button. The most recent message is displayed.

Silent Alerts

Silent Mode – programmable option, which suppresses acoustic alerts and voice calls. Calls are signaled by the flashing LED and the vibrator, if this option is activated. Messages are displayed and stored in the normal way, and can be retrieved later.

Vibrate option – programmable option, which allows a discreet alert and which can operate at the same time as the acoustic alert or separately. Once programmed, this option can be enabled or disabled by pressing the Silent Mode button and following the *silent/ vibrate option sequence.*

The *silent alert* configuration can be changed by pressing the Silence button for approximately 1.5 seconds, when the receiver is in an idle state. Each time the button is pressed and held, the receiver presents the different options, until the desired option is reached. Each change is signaled by an audible beep or a short vibration. By pressing the MAR button in inactive state, you can check the status of the selected options.

The different options are:

On – normal acoustic alert, no vibration;

On + *Vibrate* – Same as On, but vibrate option enabled;

Silent + *vibrate mode* – alert tones and voice calls suppressed, vibrate option activated.

11. RECEIVER STATUS

Your receiver provides status information on demand. To activate this option, while the receiver is in idle state, press the MAR button once.

The *status* message is displayed, followed automatically by each programmable message about its status, such as:-

Message	**Condition**
1 New post 2 New messages	New Message(s)
*Out of reach	Your receiver has not received a valid signal from the system for at least 3.5 minutes
*Low battery	The battery level is low

*Time	This depends on the options of the receiver. See section 12
*Silence	Silent mode selected
*Vibrator	Vibrate option selected
Walk	No more messages to display

***NB:** This message only appears if this option has been activated

12. THE HOUR

The programming of your receiver can allow the display of the hour, in inactive state. This signal is generated either by the internal clock of the receiver, or the receiver receives it from the management system, which transmits it, if available. This data is used to indicate the time of receipt of the messages received.

Signal – Time, emitted by the radio system – if this option has been activated, your receiver displays the symbol --:-- in inactive state, until the reception of the first time signal emitted by the system (emits all minutes). If the receiver is out of range of the system and does not receive a time signal for 2 minutes, this symbol is displayed, until a new valid signal is received.

Internal Clock – in case the signal emitted by the radio system is not activated, it is possible to activate and set the internal clock of the receiver. To set the time, press the MAR button during the initialization sequence; the screen begins by displaying the flashing hours. To change the hours, press several times or hold down until the desired time is displayed.

Then press the Silence button to make the minutes flash. Press the MAR button until the desired minutes are displayed.

To complete the initialization, press the Silence button and the receiver continues the initialization sequence.

To correct the time of a receiver that is already working, or if the time has been programmed incorrectly, simply stop the receiver and start the initialization sequence again.

13. OTHER OPTIONS

Programming the receiver allows the following additional options:

Group Alert – Receiver programming may allow participation in a “team”. A group call, intended for your team, activates your acoustic alert sequence, even if your receiver is in Silent Mode.

Out of Range – This option warns you if you move out of coverage of your radio system.
The alert is activated if the receiver does not receive a valid signal for a predetermined period, normally 3 minutes 30 seconds.

Several alert options are available, including visual, acoustic + visual, or either option + vibrate.
The acoustic/visual option activates the display of the message *out of range* for 4 seconds, accompanied by a 2-second audible signal. Receivers with the acoustic option activated also emit an audible signal when the MAR button is pressed, if the receiver is out of range (unless the Silence option is activated). If the visual alert only option is activated, the receiver only displays the message. In all cases, if the *vibrator* option is activated, the vibrator emits several pulses of vibration of short duration during the alert period.

Following the 4 second alert period, the receiver continues to display the message *out of range,* or if the memory stores a message, it is signaled until acknowledged.

Low Battery Warning – *not recommended if receiver uses rechargeable batteries.*

The charge status of your receiver's battery is constantly monitored. As soon as the receiver notices that the battery is low, it will continue to operate at maximum for 24 hours. Failure to change the battery during this time may compromise the proper functioning of the receiver.

When enabled, the programming of this option allows visual, acoustic and vibrator alerts. An alert can be triggered under the following conditions:-

(i) When switching on, the initial tone is accompanied by an additional sound signal (buzzing) and the *low battery* message is displayed; *(ii)* all alerts are modulated by an audible signal (buzz); *(iii)* the battery condition can be checked at any time using the *receiver status mode* - see Section 11. The *low battery* message is displayed and the receiver returns to an idle state, the *battery* message still visible on the edge of the display.

Call Comparator – With this option enabled, the receiver recognizes if a call has been repeated, in case the system sends it again during a predetermined period, from the time the original call was sent. The receiver does not display or memorize such calls, identified by the comparator. The programmable delay can be 30s, 120s or 300s from the time the original call was made.
An exception concerns voice messages, when the receiver is not sure of having correctly decoded the original message.

In this case, the receiver accepts the subsequent message, which replaces the original message in memory. In both cases, a normal alert sequence is generated.

14. BATTERIES – Maintenance and replacement

This product has been approved for use with the following batteries only. Use of any other battery type will invalidate the intrinsically safe status of the equipment.

Disposable Alkaline :-
Energizer E92 & Energizer Industrial EN92 (AAA)
Varta 4003 Alkaline; Varta Maxi Tech 4703 (AAA)
Power One 4103 (AAA)

Rechargeable NiCad:-
UniRoss AAB00568 (AAA - RB101576/100879)

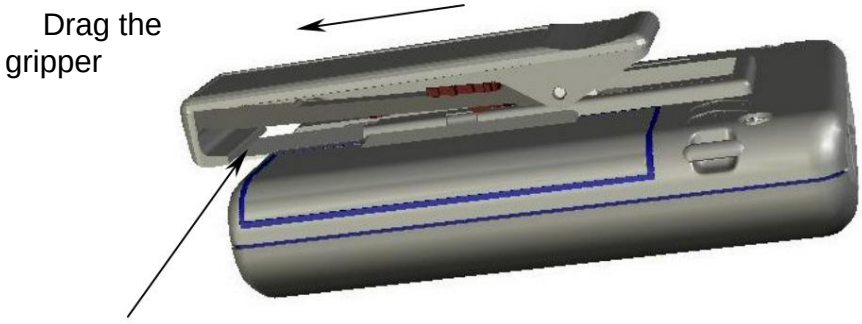
Rechargeable NiMH :-
Varta Energy Battery (AAA)
UniRoss AAB02747 (AAA - RB102267)

Note that battery life expectancy may vary with battery type (especially rechargeable options) and volume of system traffic. To maximize battery life, cancel alerts as soon as possible and turn off your receiver when not in use. If your receiver is not going to be used for a long time, it is recommended to remove the battery.

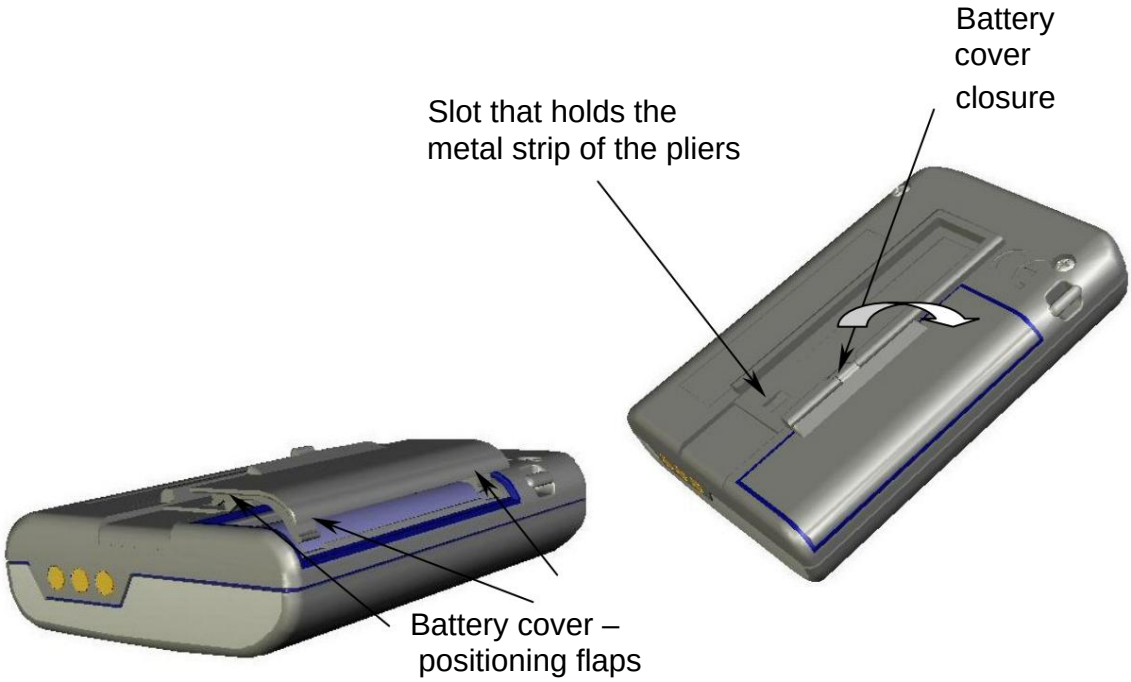
NB: *If the battery has been removed or if the receiver remains switched off, the receiver retains all the memorized messages for approximately 12 hours.*

To change the battery, make sure the receiver is switched off and follow these instructions:-

Hold the receiver face down. Insert the blade of the Battery Door Tool under the metal strip of the pliers and gently lift it to remove it from the slot that holds it. At the same time, slide the clamp down the receiver and remove it.



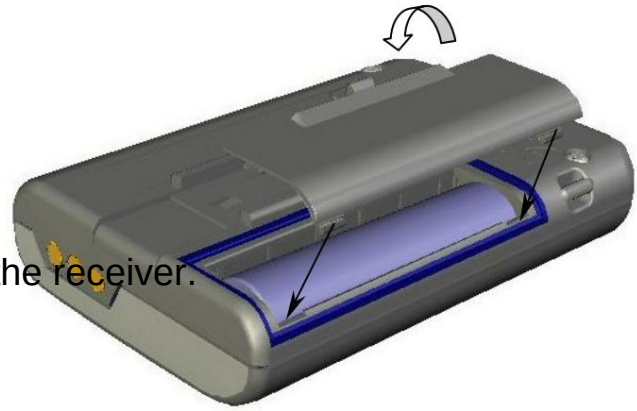
Then lift and open the battery compartment cover and with your index finger, slide the cover in the direction shown.



Check that the positioning flaps are released and remove the cover.

To remove the battery, grasp it by the positive end and lift it up, while pushing lightly against the negative contact.

Battery replacement follows a reverse sequence. Paying attention to the correct polarity, place the battery against the negative contact, lightly press and push the battery into the compartment, engaging the positive end against the positive contact in the receiver.



To replace the battery compartment cover, insert the flaps into the slots indicated, and then partially close the cover. Simultaneously press the cover at both ends, to close the cover completely, compressing the stack and the rim.

Slide the metal strip of the clip until it engages the slot on the back of the receiver.

Ensure that the battery door is securely attached before placing the receiver in a hazardous area. Do not use the equipment without it.
clip or if the battery cover stop plate is incorrectly positioned

15. REGISTRATION OF ABSENCE AND LOADING

When you place your receiver in an Away Rack, *Away mode* is automatically enabled. A receiver that is already on registers absent and a receiver that is off, turns on and registers absent. **While in the rack, the receiver does not accept calls and all stored messages are erased.**

When in a rack your receiver can display a programmable message of up to 9 characters. Unless programmed otherwise, the standard message is the Receiver Identity Number (NIR). This message can be programmed before registering the receiver on the system, or it can receive new alphanumeric messages, which are sent to it by the data system of the rack.

The receiver's display direction automatically adapts when it is in the rack, making it easier to read the NIR, but as soon as it is taken out of the rack, it returns to its normal orientation.
The alert LED glows at half speed during the charging cycle.

When you remove a receiver from the rack, it automatically begins its initialization sequence.

When using an individual charger or a rack that only charges, the receiver is capable of receiving calls, but it may be less sensitive and the vibrate option is disabled.

16. SPARE PARTS

For spare parts, please note the following references: -

Battery Cover - 0801-0429

Battery door tool - 0861-7941

IS Battery Adapter Sleeve - 0861-7851
Sleeve contact - 7361-7832

“Griptite” pliers - 0301-1382
Cord - 7961-5055

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NOTES: