

# Multitone TLA 853 - Features & Specification

## INTRODUCTION

The Multitone TLA 853 Radio Paging Receiver is a UHF receiver which receives alphanumeric messages sent in CCIR Radiopaging Code No.1 (RPC1).

The front panel of the unit has a Liquid Crystal Display (LCD) to display messages and other information. The three buttons on the front panel are used to control the functions of the unit.

The LCD can show a maximum of two lines of 20 alphanumeric characters. If a message is longer than 40 characters, the excess is stored. The front panel buttons are used to transfer the stored part of the message to the screen as required.

Message alert is provided by an audible beep tone or by the unit vibrating. The buttons are used to select the preferred alert.

Power for the unit is supplied by a single AAA battery. A door on the rear of the unit gives access to the battery.

A back-up supply for the unit is available when the battery is changed. The back-up supply is provided by a large-value capacitor mounted on the decoder board in the unit. The capacitor, when fully charged, can maintain data in the unit for 60 minutes.

The unit case is a two-piece plastic moulding secured by two cross-head screws. A lanyard is supplied with the unit which can be fastened to the case and the attached clip used to secure the unit to a suitable object.

## FEATURES

The unit has these features:

- Displays two lines of 20 characters
- Message Store
- Information Service Messages (Optional)
- Display Backlight
- Date/Time Display
- Selectable Alert - Audible Beep or Vibration
- Alarm
- Out of Range Indication (Optional)
- Timed-off Mode
- Low Battery Warning
- Battery Economy

## SPECIFICATIONS

### Receiver Performance

Frequency Range: 412MHz through 470MHz

Frequency Bands:

Band 0:	412.000MHz - 416.000MHz
Band 1:	430.000MHz - 434.999MHz
Band 2:	435.000MHz - 439.999MHz
Band 3:	440.000MHz - 443.999MHz
Band 5:	447.000MHz - 450.999MHz
Band 6:	451.000MHz - 456.999MHz
Band 7:	457.000MHz - 462.999MHz
Band 8:	463.000MHz - 469.999MHz

Channel Spacing: 20kHz/25kHz

Intermediate Frequencies: 45MHz and 455kHz

Crystal Frequencies:

Local Oscillator: Carrier Frequency - 45MHz  
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2nd Oscillator: 44.545MHz

Sensitivity:

The sensitivity figures quoted in Table 1 assume an ambient temperature in the range 18 EC through 25 EC. The battery voltage should be above the low battery trigger point of approximately 1.15 volts. At temperatures between the ambient and maximum / minimum, performance is at an intermediate value. At temperature extremes degradation of sensitivity shall not exceed 6dB.

**Table 1.1: Sensitivity Figures**

MEASUREMENT MODE	BEST POSITION, GUARANTEED MINIMUM	BEST POSITION, TYPICAL	TEM CELL (dBm), TYPICAL	BAUD RATE
On Pole	27dB $\mu$ Vm <sup>-1</sup>	20dB $\mu$ Vm <sup>-1</sup>	-105dBm	1200

**NOTES:** The following performance figures are typical for an ambient temperature range of 15EC through 35EC.

The battery voltage must be above the low battery trigger point of approximately 1.15 volts.

Adjacent Channel Selectivity: >60dB

Image Response: >50dB

Spurious Response: >50dB

Intermodulation Response: >55dB

Co-channel Rejection: > -6dB

### **Power Supply**

Battery Type: Alkaline AAA (1.5Volts Nominal)

Typical Battery Life: 800hrs

### **Code Format**

The Code Type is CCIR Radio Paging Code No.1 POCSAG

### **Memory**

Capacity: The unit can accept messages to a maximum of 1024 alphanumeric characters. The pager can store a maximum of 32 read or unread messages and six archive messages.

Recall: Stored messages can be retrieved in any order.

## Displays, Controls and Alerts

Liquid Crystal Display:	The display shows two lines of characters with a maximum of 20 alphanumeric characters in each line. The top line can also show a maximum of seven symbols.
Display Illumination:	The lamp is selected ON or OFF by using the front panel controls.
Control Buttons:	Three push-buttons on the front panel of the unit control all the functions of the pager.
Audible Alert:	Various tones which can be selected or muted by using the front panel controls.
Vibration:	The vibration alert can be selected instead of an audible alert.

## Operational Environment

The unit will operate to specification in these limits:

Operating Temperature: -10EC through +55EC

Storage Temperature: -20EC through +60EC

**NOTE:** *There may be some degradation of display performance below 0EC.*

## Dimensions

Width:	75mm
Height	48mm
Depth	17mm

## Weight

With battery: 65g