

# KEY-301, KEY -302, KEY -304

Keyring 27MHz Remote Control Transmitter

## Features

- Small keyring transmitters to replace the FMT-301, FMT-302 and FMT-304
- Flashing LED indicates flat battery
- Crystal based architecture, providing faster frequency settling, greater modulation depth and reduced temperature dependence
- Available with customised front label, brand it with your own company logo
- Easy to program and install with code switch technology.
- Durable plastic case
- Available with 1, 2, and 4 channels



## Application

- A remote control switching device for various uses eg. Garage doors, lights, gates, or automatic telephone dialers.
- A personal security alarm activator for home safety or cash carrying businesses eg. Banks, shops, service stations, etc.
- A calling device for the elderly or handicapped.

## Description

Operates in the 27MHz band, the KEY series achieves the highest possible standard of performance by using a crystal-controlled, frequency modulated (FM) radio signal. The onboard microcontroller uses the latest technology allowing for easy setup and installation while providing maximum security and reliability.

The KEY ring transmitter uses a LED light to indicate a flat battery status. The 1Hz flashing of the LED indicates a flat battery. The blue LED light will be “on” when the transmitter is activated by simply pressing the button on the front.

The KEY ring transmitter uses a high capacity (150mAh) 6 volt battery instead of the usual low capacity (30mAh) 12 volt remote control battery. This allows the user to use longer lasting batteries for more reliable operation.

## Operating Distance

<b>Range (metres)</b>	<b>Receiver Antenna</b>	<b>Receiver Type</b>
Up to 50	300 mm wire	FMR-... series
Up to 100	Elsema’s ANT27M	FMR-... series

(Range tests were done in an open area test site with line-of-sight operation and no interference. The receiver antenna wire was fixed vertically, away from any metal objects.)

## Compatibility

All Elsema type FMR-... series Receivers

**Products in the Range**

		
KEY-301 1-channel	KEY-302 2-channel	KEY-304 4-channel
		
KEY-301NL * 1-channel	KEY-302NL * 2-channel	KEY-304NL * 4-channel

\* NL is No Label, allowing you to brand it with your own company logo on the front label. For customised labels see page with detailed dimensions and contact details of Elsema's label manufacturer

**Accessories** (Also available separately)

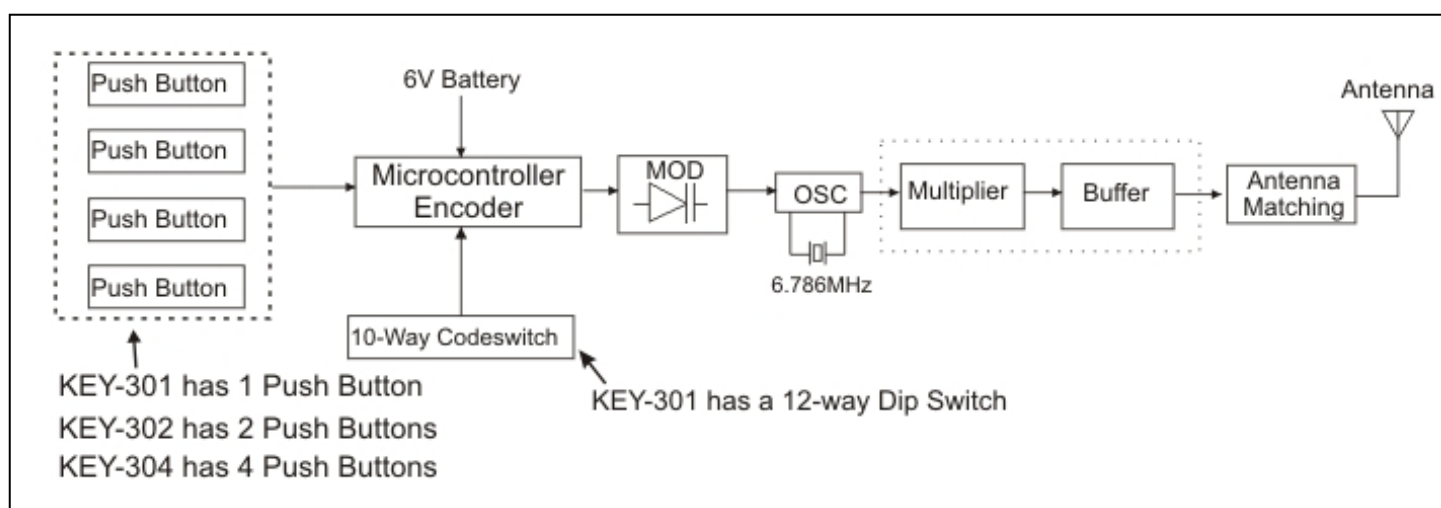
	
<b>Key ring</b>	<b>4LR44 6V Battery 150mAh</b>

Other compatible batteries are Duracell 28L (170mAh), Kodak K28L (160mAh), Energizer A544 (150mAh) or Sanyo 2CR-1/3N (160mAh).

**Technical Data**

<b>Power Source</b>	6V Alkaline Battery (4LR44) Also Known as 4SR44, A544, PX28L, K28L, 28L or 2CR-1/3N
<b>Current Consumption</b>	40mA (typical) at 6VDC supply during transmission.
<b>Standby Current</b>	Less than 6uA.
<b>Operating Frequency</b>	27.145MHz (Other frequency available: 27.045, 27.195 & 27.455MHz. NB. 27.455 frequency is not available for Australia, Export Only)
<b>Carrier Freq. Tolerance</b>	Crystal controlled 30 parts per million (0-50°C)
<b>Radiated Field Strength</b>	70 dBuV/m at 3 metres (±3dB) or 3uWatts
<b>Spurious Emissions</b>	≥ 15dB Below carrier at 3 metres
<b>Antenna</b>	Built-in 30mm proprietary DILEC rod
<b>Type of Emission</b>	Narrow-bandwidth Frequency Modulation (5K00F1D)
<b>Bits per second</b>	926 bps
<b>Necessary Bandwidth</b>	± 2.5 KHz
<b>Digital Coding System</b>	Onboard 12-way coding switch (4096 codes) (KEY-304 & KEY-302: 10-way)
<b>Dimension</b>	65 x 40 x 15 mm
<b>Weight</b>	30g (excluding battery)
<b>Useable Operating Range</b>	Up to 100 metres depending on building structure and receiver antenna
<b>Compatible Receivers</b>	All Elsema type FMR series

**Block Diagram**



**Using KEY-302 and KEY-304**

To use KEY-302 with a 2 channel receiver, and KEY-304 with a 4 channel receiver, just match the 10-way DIP switch on the transmitter to the receiver.

**Using 2 Different Receivers with KEY-302**

KEY-302 can also be used with 2 different single channel receivers e.g. FMR-212.

Make sure the 10 way dip switch on the transmitter board matches the first 10 dip switches on the receiver. Set the receivers dip switch 11 and 12 as described below.

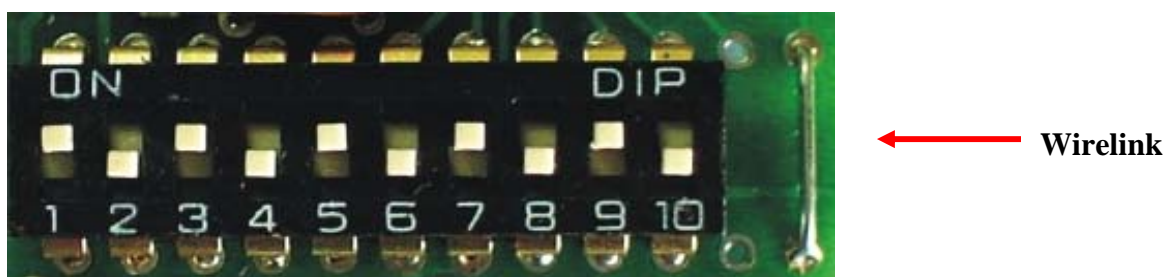
When **Button A** is pressed, Switch 11 is transmitted as **“ON”** (Dip switch 11 on the Receiver is up)

When **Button B** is pressed, Switch 11 is transmitted as **“OFF”** (Dip switch 11 on the Receiver is down)

When **wire link** is connected (Factory default), switch 12 is **“ON”** (Dip switch 12 on the Receiver is up)

When **wire link** is disconnected (cut), switch 12 is **“OFF”** (Dip switch 12 on the Receiver is down).

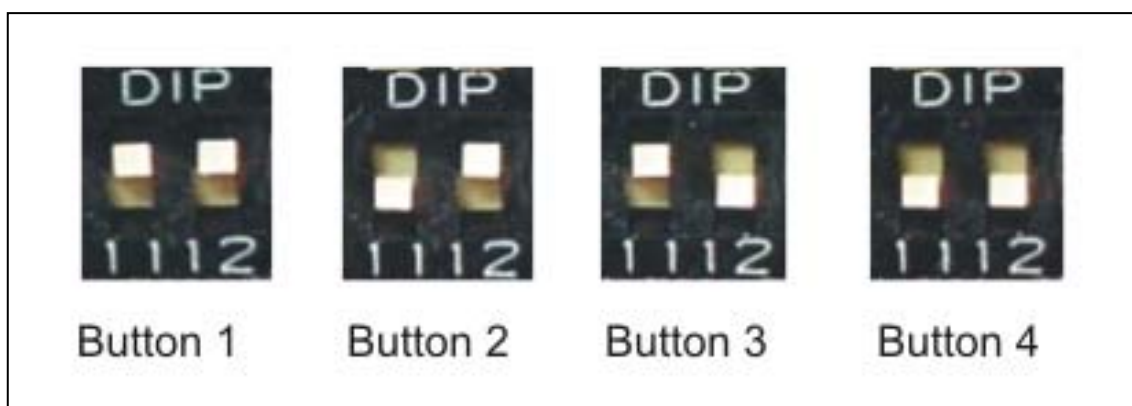
*(see picture below for the location of the wire link)*



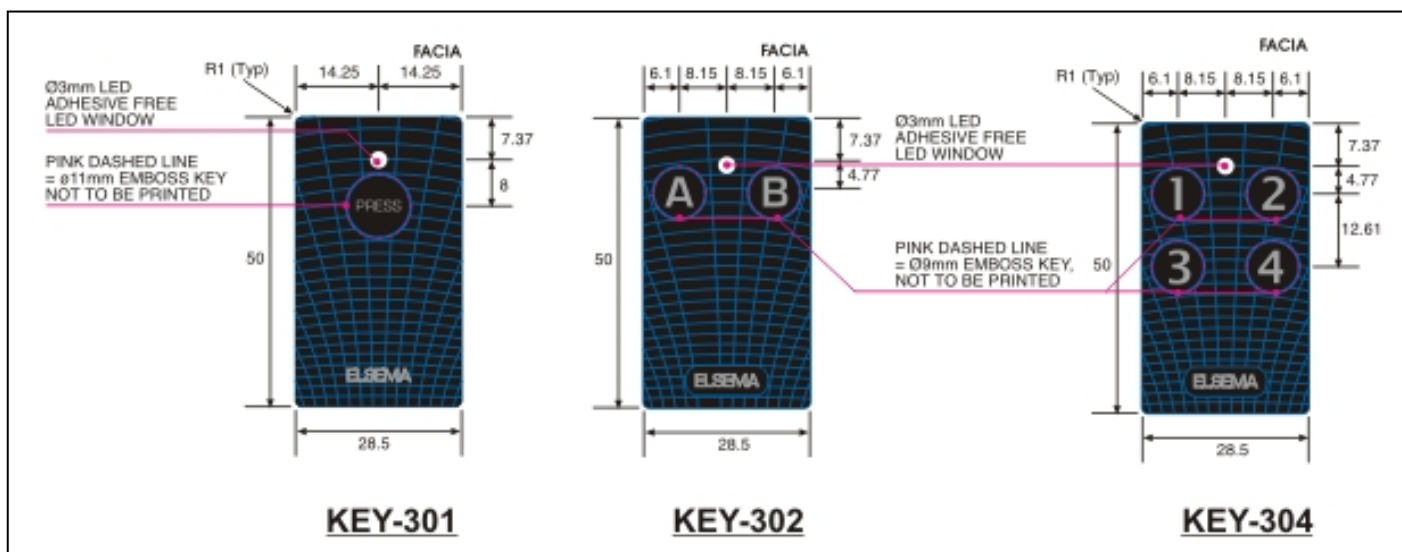
**Using 4 Different Receivers with KEY-304**

KEY-304 can also be used with 4 different single channel receivers e.g. FMR-212. This can be setup as follows:

1. Make sure the 10 way dip switch on the transmitter board matches the first 10 dip switches of the receiver.
2. The receivers dip switch 11 and 12 configuration is illustrated below.



**Labels**



**Customised front labels can be made by:**

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 South Australia 5008, Australia

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 Email: [sales@ecg.entechgroup.net](mailto:sales@ecg.entechgroup.net)

**Manufactured by**

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