

FMT-301, FMT-302

27MHz REMOTE CONTROL DIGITAL TRANSMITTER

Features

- Works in the 27MHz band
- Maximum reliability provided by Surface-Mount technology
- High security by 12-way code switch enabling 4096 codes
- Durable plastic case



Application

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

Description

Buzzer indicates the status of the transmitter. To activate the transmitter, simply press the button at the front. Buzzer will be on when the transmitter is activated.

Working in the **27MHz band**, the FMT-301 achieves the highest possible standard of performance by employing a crystal-controlled, frequency modulated radio signal. The microcontroller with the latest **surface-mount technology** provides maximum reliability.

High security against false operation is achieved by a 12-way code switch (part of the digital encoding system) which is used in place of the usual 8 or 10 way systems from other manufactures. This enables the user to select any one of the 4096 codes available. The code can be easily changed at any time.

Operating Distance

An operating distance (in conjunction with our FMR series receivers) of 200 metres is possible. The operating distance depends upon the receiver antenna and location. An independent test revealed the following ranges:

Range (m)	Receiver Antenna	Receiver Type
40	250mm wire	FMR-... series
Up to 200	ANT27M	FMR-... series

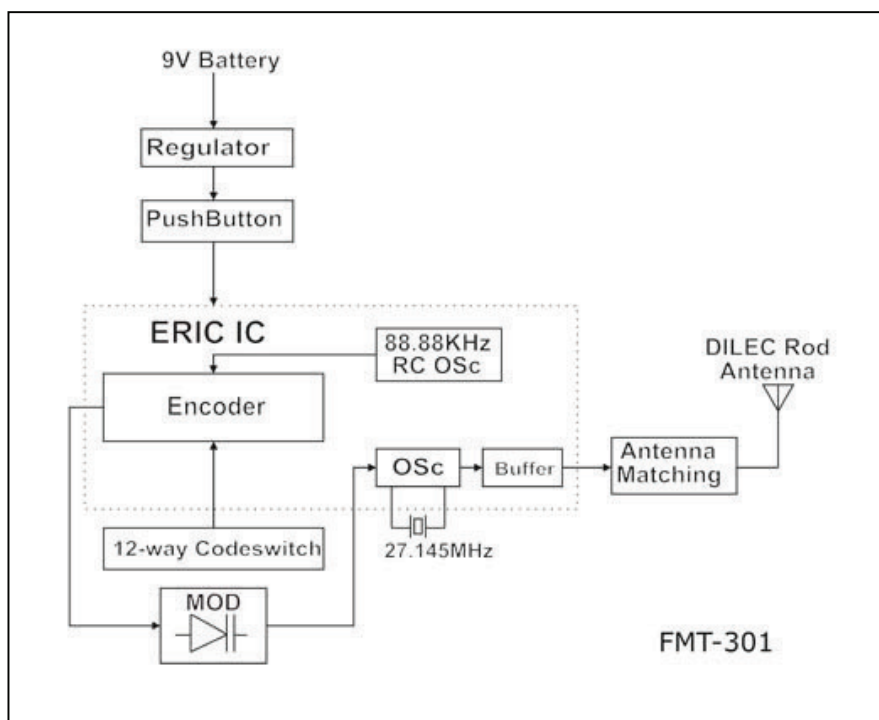
Range tests were done in an open area test site with line-of-sight operation and the receiver antenna wire was fixed vertically, away from any metal objects.

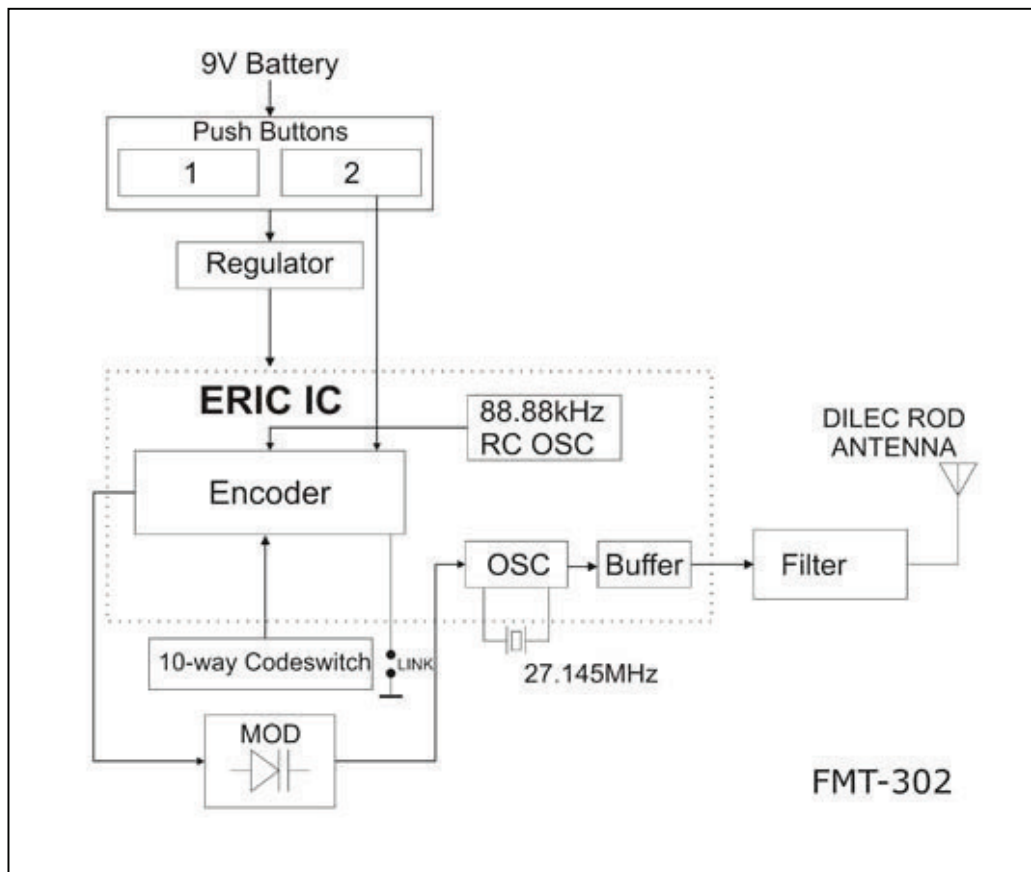
When operating near its range limit, some improvements may be obtained by pointing the transmitter towards the receiver. This is due to its slightly directional properties.

Technical Data

Power Source	9Volt Alkaline Battery
Battery Life	Carbon: 1 year shelf life; Alkaline: 2 years shelf life
Supply Voltage	6-16 VDC (for constant RF-output)
Current Consumption	40mA (typical) at 8Volts DC supply during transmission
Operating Frequency	27.145MHz (Other frequencies available: 27.045, 27.195 & 27.455MHz. NB. 27.455MHz is available for Europe Only)
Carrier Freq. Tolerance	Crystal controlled 30 parts per million (0-50°C)
Radiated Field Strength	70dB uV/m at 3m (±3dB) or 3uW
Antenna	Built-in 50mm proprietary DILEC rod
Type of Emission	Narrow-bandwidth Frequency Modulation (5K00F1D)
Bits per second	926bps
Spurious Transmission	Complies with FCC 15.227 (USA), MPT 1346 pt 4.5 (UK) and ETS 300220 (Europe)
Necessary Bandwidth	±5.0kHz
Digital Coding System	Onboard 12-way coding switch (4096 codes) (FMT-404: 10-way)
Dimension	96 x 55 x 20 mm
Weight	70g (excluding battery)
Useable Operating Range	200m (varies upon receiver antenna & location)
Compatible Receivers	All Elsema type FMR series

Block Diagram





Using FMT-302 and FMT-304

To Use FMT-302 with a 2 channel receiver, and FMT-304 with a 4 channel receiver, just match the 10 way dip switch on the transmitter to the receiver.

Using 2 Different Receivers with FMT-302

FMT-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, dip Switch 11 is transmitted as **“ON”** (Dip switch 11 on the Receiver is up)
 - When **Button B** is pressed, dip Switch 11 is transmitted as **“OFF”** (Dip switch 11 on the Receiver is down)
 - When **wire link** is connected (Factory default), dip switch 12 is **“ON”** (Dip switch 12 on the Receiver is up)
 - When **wire link** is disconnected (cut), dip switch 12 is **“OFF”** (Dip switch 12 on the Receiver is down).
- (see picture below for the location of the wire link)*

