



Tadiran Telematics proprietary

TX - 5003

RCU - Remote Control Unit

TECHNICAL DESCRIPTION

August 2000



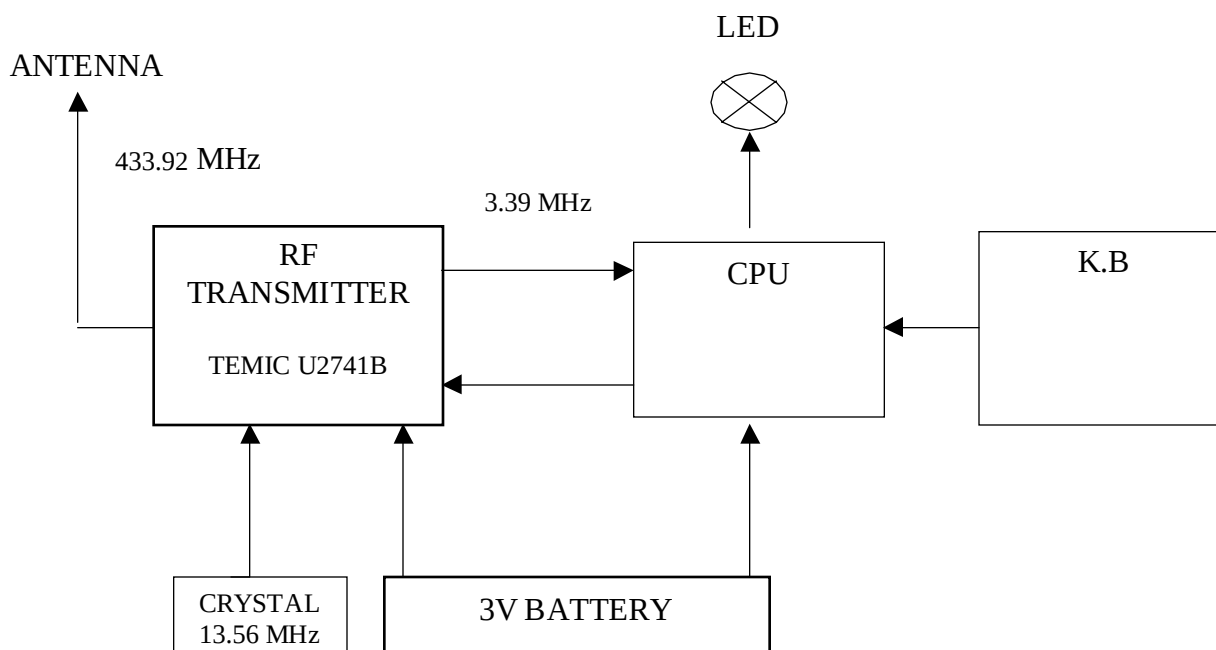
Table of Contents

		<u>Page</u>
1.	Description	3
2.	Unit block diagram	3
3.	Circuits description	4
3.2	3.1 Keyboard	4
	CPU	4
	3.3 Led	4
	3.4 RF Transmitter	4
	3.5 Transmit pattern	4
	3.6 Battery	5

1. Description

TX - 5003 is a transmitter for short - range wireless data application.
It is used to transfer the operator (driver) commands to the alarm unit installed in the car.

2. Unit Block Diagram



TX5003 BLOCK DIAGRAM

3 Circuits description

3.1 Keyboard

Five keys which are used to control the alarm system.

3.2 CPU

The CPU reads the keyboard entries, builds the data message, controls the RF transmitter and the LED.

3.3 Led

RED LED indicates transmission.

3.4 RF Transmitter

Used to create the transmit carrier frequency and to modulate it according to the data coming from the CPU.

The transmitter is based on one chip Temic U 2741B.

An external crystal of 13.56MHz is used to stabilize the internal PLL which generates the RF frequency 433.92MHz.

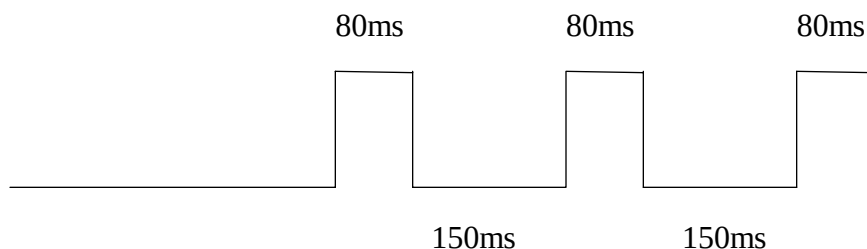
The power amplifier ends with an open collector output that is loaded by a printed loop antenna. Magnetic loop antenna is a printed wire on the PCB which looks like a loop the trace is 40 mil which means 1mm width (1mil=1/1000 ")

The ASK modulation at data rate of 1Kbps is performed by the CPU using the ASK control line.

The CPU clock 3.39MHz is provided by an internal circuit which divides the crystal frequency by four.

3.5 Transmit pattern

It is a manually operated transmitter, pressing each one of the keys will be followed by this transmit pattern



It means that there are 3 transmissions of 80ms each.
 Transmissions will cease automatically after half a second (540 ms).

3.6 Battery

One 3V 190Mah lithium battery is used as the power source (CR-2032).

4. Environmental Characteristics**4.1 Temperature range**

Operating Temperature -10^oC to +60^oC
Storage Temperature -10^oC to +65^oC

4.2 Humidity

The unit shall operate in an environment with up to 95% humidity, non-condensing at 55^oC with testing criteria set forth by the IEC 68-2-30 document.

4.3 Altitude

10,000 Feet operating

5. Electrical Characteristic**5.1 Operating Frequency**

433.92 MHz

5.2 Output Power

Less than 10 mW. Output power is fixed and can not be adjusted by the user

5.3 Modulation Type

Amplitude - shift keyed (ASK).

5.4 Type Of Emission

A1D

5.5 Data Rate

1 Kbps.

5.6 Power Consumption

Standby - Less than 15 μ W
Transmit - Less than 30 mW