

OPERATING DESCRIPTION

CIRCUIT DESCRIPTION OF TRANSMITTER (SP-1001T)

Transmitter is composed of 2 parts. These are CPU and its peripherals and transmitting parts.

The transmitter is powered from car battery, and the voltage is lowered to 5V by regulator (KIA78S05) and 8V (KIA78S08). 5V is used in the circuit of CPU and 8V is used in the circuit of RF transmitter.

The transmitter uses CPU named PIC16C57A which has EEPROM (24LC02B), 9 sensing inputs and 2 outputs as peripherals. EEPROM is used to memorize the ID and special data, and sensing inputs are used to detect the status of car such as ACC, DOOR_LOCK, DOOR_UNLOCK, START_IN, TRUNK_OPEN, SHOCK_SEN, DOOR_OPEN(+), DOOR_OPEN(-), TRIGGER_IN. And, the outputs are used to control Horn and the engine of car.

The CPU is operated with 4MHz clock. When sensing inputs are sensed, the CPU send data to the RF circuit to inform the user the status of car.

The transmitter has 3 parts such as oscillation circuit, multiplier and amplifier circuit.

The oscillator circuit is composed of crystal (X1), transistor (Q1), several resistors, capacitors and coils. The circuit oscillates at $F_c/3$ and modulates carrier signal with data from CPU, and it is fed to the multiplier. The multiplier is composed with transistor (Q2/BFQ67W), several resistors, capacitors and coils. The multiplier multiplies the oscillating signal to carrier signal and it is fed to the amplifier. The amplifier is composed of transistor (Q3/BFQ67W), several resistors, capacitors and coils. The amplifier amplifies the signal from multiplier and fed to the antenna.