

FISHER-PRICE 71924 RC DASH TRANSMITTER DESCRIPTION OF OPERATION

Transmitter Operation:

The transmitter is a parent operated intermittent duty transmission designed to accompany the associated receiver.

Principally the product is designed as an infant car seat soothing toy, allowing the parent's transmitter to remotely activate and change modes on the child's receiver unit.

The RF portion of the Transmitter consists of a simple transistor LC transmit oscillator defined by components: Q1, C5, C6, L1, C3, C4, C10, R7, C9, R4, R6. A trace leading from the resonant inductor (L1) forms the PCB antenna. The transmit frequency is trimmed by a variable capacitor (C4) and is set to 345MHz. To activate the transmitter the user depresses SW1 (Transmit) Switch. This biases Q2 turning on power to both the micro-controller (U1) and the LC transmit oscillator. The controller then turns on Q3, which in turns enables Q2 supplying system power independent of the SW1 state for the entire data transmission period of 120mS. This guarantees that a single complete data stream is transmitted regardless of the length of time SW1 is depressed. The controller outputs the data stream to the transmit oscillator and upon completion turns off Q3 thereby turning off power to the system. Should SW1 continue to remain closed (transmit state) the data stream will terminate after one complete transmission period, thereby automatically disabling the RF transmission. The transmit oscillator is ON/OFF modulated by the micro-controller data stream which gates the RF carrier by turning on the base bias to the transistor (Q1). System power is supplied by a replaceable 9.0V battery. U1 is voltage regulated by R2, D1. Resistors R1, R8 reduce the Q of the battery leads thus minimizing the unintentional radiation from these leads.

JPM, SE