

FCC ID: NKPRC40-02

Technical description of the RC 40-2/05 receiver module

The RC 40-2/05 receiver is used for operating garage doors by remote-control.

The receiver RC 40-2/05 for processing the RF signal (see schematic) comprise the RF preselector stage, T1, the integrated circuit, IC 2 TEA 5551-T, and the required selective circuits. IC 2 incorporates an AM receiving circuit with IF part and demodulator. All RF conductors have been kept short and are surrounded by ground surfaces on the pcb, in order to minimise undesired coupling and radiation. The external oscillator, T2, is crystal-stabilised and operates in conjunction with the crystal, Q1, and circuits L3 and C15.

The RF signal (40.685 MHz) is transmitted from a wire antenna (1.75 m long) via input circuit L1/C1/C2 to the preselector stage, T1. The filter F1 is the working circuit of the preselector stage and is also employed to effect symmetric coupling with the input of the RF preselector stage of IC2. The intermediate frequency of 455 kHz which results from the mixing process is transmitted to the IF amplifier via filters L2, C11/C13, which enhance faroff selectivity, and ceramic filter F2.

The demodulated AF signal is available at pin 13 of IC2. Via the combination R14/C19, the arithmetic mean of the demodulated signal is determined and subsequently compared with this signal itself in the operational amplifier, IC3, which functions as a comparator, always samples the demodulated signal at half its total amplitude.

The operating voltage for the receiver is 5V at a current input of approx. 10mA.

The receiver p.c. board is designed as a RF module, and is connected with the unit control board via 3-pole wire in the unit control housing.

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receiver module RC 40-02/05

specifications

receive frequency	40.685 MHz, crystal stabilised
bandwidth	± 7 KHz
Intermediate frequency	455 KHz
antenna	wire antenna, 1.75 m long
sensitivity	$< 1.2 \mu\text{V}$
output	data item (TTL level)
supply voltage	5 V DC
current consumption	ca. 8.5 mA
size	35 X 25 X 8 mm