

Engineering Description.

The MGI remote control 3 or 7 button versions have the same features.

Power Supply
Microprocessor
Modulation Level Shifter
LED drivers
RF Module

The battery power is supplied to the PCB and is turned on or off to the circuit by presses of the remote control push buttons. Any button pressed will turn ON the power supply and when ALL buttons are released the power is disconnected from the circuit.

When the power supply is turned on the microprocessor is active and :

- Reads which switch is pressed.
- Turns on one of two indicator leds via led driver transistors.
- Sends a serial coded pulse train to the modulation level shifter.

The microprocessor clock is crystal locked to 4MHz. The header HD1 is only used during programming of the microprocessor.

The Modulation level shifter converts the serial pulse train to approx 9v to modulate the RF module. The Modulation levels to the RF module are :

Low level	0 volt
High Level	8-9 volt

MGI Remote RF Section

The RF module is supplied to MGI as a proprietary part and its design is not available to MGI. By visual inspection it can be determined that the module has the following features :

- A single transistor RF oscillator
- SAW filter frequency locked to 433.92MHz.
- When powered ON but with a Low modulation level (0V) the RF oscillator is OFF therefore no RF output.
- When powered ON and a 'High' modulation level, the RF oscillator is active and RF output is active.
- The nominal RF output from the module is 2mW when active.