

LF125 Transmitter Detailed Operational Description

The LF125KHz Transmitter Module is a basic demonstration platform for the MC33690 device controlled by a M9S08GT60 controller. Module configuration is set for 125KHz transmit frequency only. Typical application provides for the transmission of address data from the Select Switch (Sw3) to a remote REIMS module set to the same address, and upon reception the REIMS module will report sensor data to a system host receiver. The transmissions are sent at 9600 baud in ASK modulation with Manchester data encoding.

Module power is derived from the on-board 9V battery with ON/OFF switch. When ON/OFF switch is ON, battery voltage is applied to the module on-board voltage regulators to provide 3.3V and 8VDC. Low voltage operation will reduce effective range.

The GT60 controller accepts user input from the module switches and determines operation under application software control. Default application will provide a user push switch to enable a transmission. The GT60 will read the Select Switch data, format the data, send the data to the MC33690 transmitter, and indicate transmission with an indicator.

The MC33690 divides the 8Mhz reference crystal oscillator frequency down to the 125Khz carrier frequency. GT60 controls enable the carrier and provide Manchester encoded modulated data at 9600 baud to the MC33690. MC33690 transmit operation transfers the modulated data as ASK modulated 125Khz carrier to the J6 transponder coil. The carrier amplitude is limited to 8V peak to peak into the J6 transponder coil. No receive operation is provided.