EXHIBIT B

[FCC Ref. 2.1033(b)(4)]

"Description of Circuit Functions"

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TECHNOLOGIES

WCSD Circuit Description

Operation Statement:

The WCSD system is an RF "Wireless Controlled Sequential Device" which is designed to sequencially flash the LED headlamps of up to 16 units in a synchronized manner. Operating at 916.5MHz and employing integrated separate OOK modulated SAW transmitter and AM superheterodyne PLL receiver sections with integral 1/4 wavelength antenna and PCB ground planes. Each unit is identical in design and operation is under embedded microprocesser control. Data transmission is Manchester encoded for 50% duty cycle operation of the transmitter.

The WCSD circuit consists of the following main functional blocks:

- Power supply
- Supply regulation
- 8 BIT Microcontroller with EEPROM
- Address (Timeslot) configuration
- SAW stabilized OOK Transmitter
- SuperHeterodyne Receiver
- 12 x LED array Head

Operation of each block is described as follows:

Power Supply

The power supply source consists of four 6V parallel connected batteries which supplies the drive circuit for the LED head directly as well as the 5V low dropout regulator and associated regulated supply filter capacitors.

Power Supply Regulation

The output of the regulated supply supplies power to the WCSD microcontroller and the superheterodyne receiver. With power applied to the WCSD, in standby, the microcontroller will be running and the receiver will be on and ready to receive signals.

The Microcontroller

The 8 bit microcontroller running at 4MHz is the heart of the design and performs encoding of the data to be transmitted and decoding of the data to be received. It reads the configuration of the hexadecimal switch and outputs a control signal to the LED head drive circuit if the decoded data matches the hexadecimal switch configuration.

The Hexadecimal (Timeslot) Encoder Switch

The setting of the encoder configures the WCSD as a master or slave unit and is read by the microcontroller. In the master configuration, position "0" the microcontroller will send encoded serial data to the transmitter every 1100ms. The slave units (configured as 1 through F) will transmit their signal in their respective time slots, after having received a valid signal from the master.

The Transmitter Section

The SAW stabilized OOK modulated transmitter is controlled directly by the microcontroller and will only transmit it's 916.5MHz carrier when the data stream from the microcontroller to the transmitter is at a logic high level.

The serial data stream from the microcontroller is encoded to produce a 50% duty cycle which results in the transmitter being on for 50% of the duration of the serial data stream.

The transmitter has a 1/4 wavelength wire or whip antenna permanently fixed (soldered) to the transmitter output. The one side of the double sided PCB serves as the ground plane for the RF section

The Receiver Section

The AM 916.5 MHz superheterodyne receiver, as with the transmitter, has a 1/4 wavelength wire antenna permanently fixed (soldered) to the input. The one side of the double sided PCB serves as the ground plane for the RF section The encoded data received from the air by the receiver is fed into the microcontroller where it is decoded and analyzed. If the data received is valid, the microcontroller will output a control signal to the LED head drive circuit.

The LED Head

The LED head circuit will cause the 12 x LED array to trigger (flash) when it receives the control pulse from the microcontroller. This occurs when the slave unit has determined from the radio transmission it has just received from either the master or previous slave, that it is its time slot to be the next WCSD to flash.

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