

EUT Description

FCC ID: HVVVB

Radio Frequency, Modulation, and Antenna

433.92 MHz nominal
On/Off Keying Modulation
Internal PCB Trace Loop Antenna in the Transmitter

Transmission Message Signature

A transmission message is composed of:

- 1) Preamble: 16 cycles of square wave, T=0.76ms 50% duty
- 2) Header: off time T = 3.76 ms
- 3) Encrypted portion: 32 bits, T= 1.14 ms each 33% duty for logic '1', 66% duty for logic '0'
- 4) Open portion: 35 bits, T= 1.14 ms each 33% duty for logic '1', 66% duty for logic '0'
- 5) Blank Time after a transmission: T= 142.6 ms

A transmission message is generated at each press of a function button (lamp on/off and motion buttons). When a button is held longer than the Transmission Time plus the Blank Time (235 ms), the transmission is repeated. When the previously pressed function button is released, the transmission will cease not later than after the previously begun transmission completes, which is, in less than 100 ms. A button held constantly will be ignored after approximately 20 seconds to conserve battery power.

RF Power

2 mW pulsed

The "Wireless VisiBeam" is a wireless version of the Federal VisiBeam search light. Model 620200 is a permanent/pipe mount 12Vdc; Model 620201 is a magnet mount 12Vdc; Model 620202 is a permanent/pipe mount 24Vdc. The difference between 12 and 24-volt models is only in the lamp and motor rating, while the electronic assemblies are identical. The light uses the combination of a highly polished parabolic reflector and a halogen bulb, 100 W maximum, to produce a clear, even light beam superior to both "spot" and "flood" sealed beams. It can be rotated horizontally 360 degrees continuously, left or right. It can elevate from 35 degrees down to 105 degrees up. The light assembly uses electric motors and gears driven by an electronic board. The electronic board contains a power transistor serving as the light switch, horizontal and vertical full-bridge motor drives, a receiver, and a decoder of remote control signals.

The remote control, powered by two AA batteries, transmits encoded control signals. Each transmitter has a unique serial number and transmission signature. A given transmitter can be assigned to its unique receiver through a Learn Process. One transmitter can work with more than one receiver if the Learn Process was repeated with the same transmitter on a different receiver. Up to four transmitters can be learned on a given receiver; the fifth one will override one of the former ones at random. An Erase All Transmitters process is also available.

The search light assembly has three connectors: a power connector, a horizontal motor connector and a vertical motor connector. The electronic board is protected against reverse polarity, but the lamp will be on constantly during the reversed power connection. The circuit board also contains circles for connecting brushes that provide power to the halogen lamp. The search light assembly should be externally fused at 10 amperes for 12 volts or 5 amperes for 24 volts. The transmitter has a reverse polarity protection built into the battery connections, which will remain open in case of improper polarity of inserted batteries. The electronic transmitter will be damaged if the power of reverse polarity or improper voltage is connected internally.

The transmitter is a compact unit that ergonomically fits in the palm of a hand. It has five buttons, large enough to be operated while wearing a glove: Red Lamp ON/OFF in the center, and four Yellow buttons for the Up, Down, Left, and Right movement. It also has a red LED that blinks when the buttons are pressed. To conserve

battery power, the LED is operated at lower light intensity. Also, to limit accidental button activation, any button pressed for longer than about twenty seconds will be deactivated, until released and pressed again.