



ENGINEERED POWER TRANSMISSION
SYSTEMS & COMPONENTS

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HoodXpress – engine compartment hood opener

Application – Kenmore, Peterbilt and National trucks

Aftermarket automotive product, using RF link to control its operation. This product is designed to comply to FCC Part 15.231.

The system consists of a handheld keyfob device with 3 switches, and central unit installed on a truck. Pressing a switch on the keyfob causes transmission to occur. Transmission ceases 2s after all switches are released. Total transmission time is limited to 10s, in case of stuck switch. Transmitter is designed using Microchip PIC12F675F, tuned to 433.92MHz. Data is sent in 50ms packets, repeated every 100ms (35% worst case utilization) as long as any switch is pressed. ASK modulation and PWM coding is used to send 4 bytes of data - Serial Number High, Serial Number Low, Switch Status, CRC.

Receiver module controls 12V DC electric motor, which via system of gears and rod causes engine hood to open and close as requested. Speed control, current limit, over/under voltage, obstacle detection are implemented. Receiver unit uses Microchip rRX0420 device. Received data is intercepted by microcontroller, and operation of the system is initiated based on momentary action of switches.