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Cellular Interfaced Remote Car Starting System

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ABSTRACT

The following report consists of a detailed method used to produce a product at Indiana Purdue Universities Fort Wayne. Seniors Sri Aluri and Art Gonzalez have produced an interface circuit that permits electronic and cellular communication between three electronic devices. The first is device is the user's everyday cell phone. The second device is a pre-paid unlocked cell phone. The third device is a manufactured remote car starter with a standard remote key fod.

Included in this report are tables, graphs and drawings that help explain the concept behind the design, as well as, plot the overall progress and expense of the project. The interface circuit decodes the dual tone frequency produced when a number is selected on a cell phone. The dual tone frequency is standard for all cell phones for up to 16 possible inputs or number selections. Once the signal is decoded, the signal is conditioned into a digital code that is able to operate the remote control for the manufactured car starter. This feature allows the user to call their car and start it, unlock the doors, turn on the heater/AC fan or even roll up the windows from anywhere in the world that can transmit cellular signals from the user's cell phone to the cell phone incorporated into the design of this project.

KEYWORDS

Alternating Current	Dual Tone Frequency	Surface Mount
Bread board	Electrolytic	Through-hole
Capacitors	Gantt Chart	Top/Bottom Layers
Cascading	Heat Sink	Traces
Cellular Transmission	Inductors	Transistors
Clearances	MultiSim	Troubleshoot
Current	Operational Amplifier	UltiBoard
Current Gain	Proto-type	Via
Diodes	Relays	Voltage
Direct Current	Resistors	Voltage Gain
DTMF Decoder	Schematic	Voltage Regulator

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[3] H. Bengt, <i>Remote car starters are finally reliable, and (mostly) practical.</i> Business week, December 30th, 2005. (Retrieved on March 10th, 2008).....	51

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Prototype – 1: Overall Circuit
Prototype – 2: System user calling
Prototype – 3: Accepting the user call
Prototype – 4: #4 entered into #4 gate
Prototype – 5: #2 entered into #4 gate

Test Results – 1: System user calling & Car cell Phone accepting the call
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