

MODULATED GUNN OSCILLATOR

A lot of requests for this one, so here it is! The heart of this system is a Microwave Gunn Oscillator on 10.525GHz (X BAND)*. A 100MW used one can be obtained for about \$50.00. A complete unit can be built for under \$75.00.

First we need to build a precision tone oscillator.

PARTS REQUIRED

- 1-HEP 170 diode
- 1-150 Ω $\frac{1}{2}$ W Resistor
- 1-9V / 1W Zener diode
- 2-50K-10 Turn Trim Resistors
- 1-5.6K Resistor $\frac{1}{4}$ W
- 1-10 μ f/16VDC Elect. Capacitor
- 1-.047 disc capacitor
- 1-.047 Mylar capacitor
- 1-555 Timer I.C.
- 1-100 Ω $\frac{1}{4}$ W Resistor
- 1-10K $\frac{1}{4}$ W Resistor
- 1-2N2907A Transistor
- 1-560 Ω $\frac{1}{2}$ W Resistor
- 1-Green L.E.D.
- 1-DPDT Center off Switch
- 1-P C Board or perf board

* This item is currently available from:

Lectronic Research Labs, Inc.

1423 Ferry Ave.

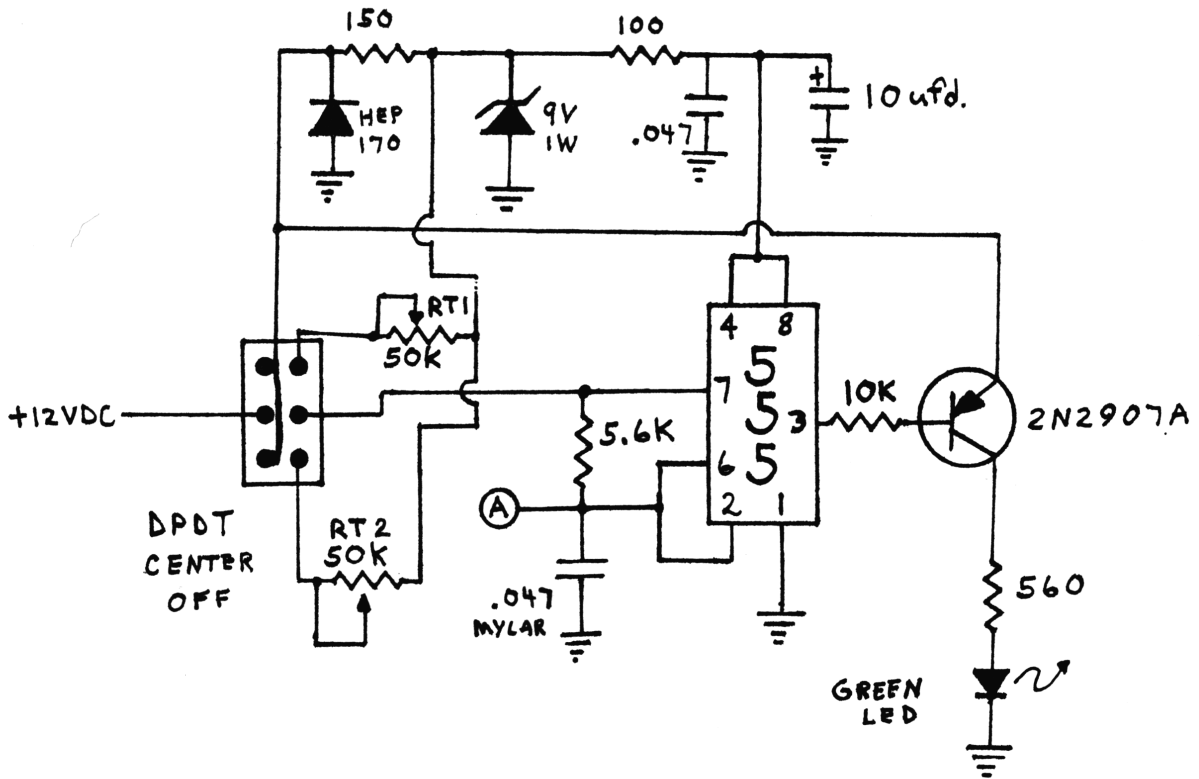
Camden, N.J. 08104

(609)541-4200

The schematic is on the following page. Build it with care.

MODULATED GUNN OSCILLATOR (Cont'd.)

Assemble parts as shown below:



Adjust RT1 so output frequency is 879 hertz (28 MPH).

Adjust RT2 so output frequency is 1696 hertz (54 MPH).

Green LED tells us the tone oscillator is working properly.

Ⓐ connects to Ⓐ in next circuit.

Next we will have to build a voltage amplifier.

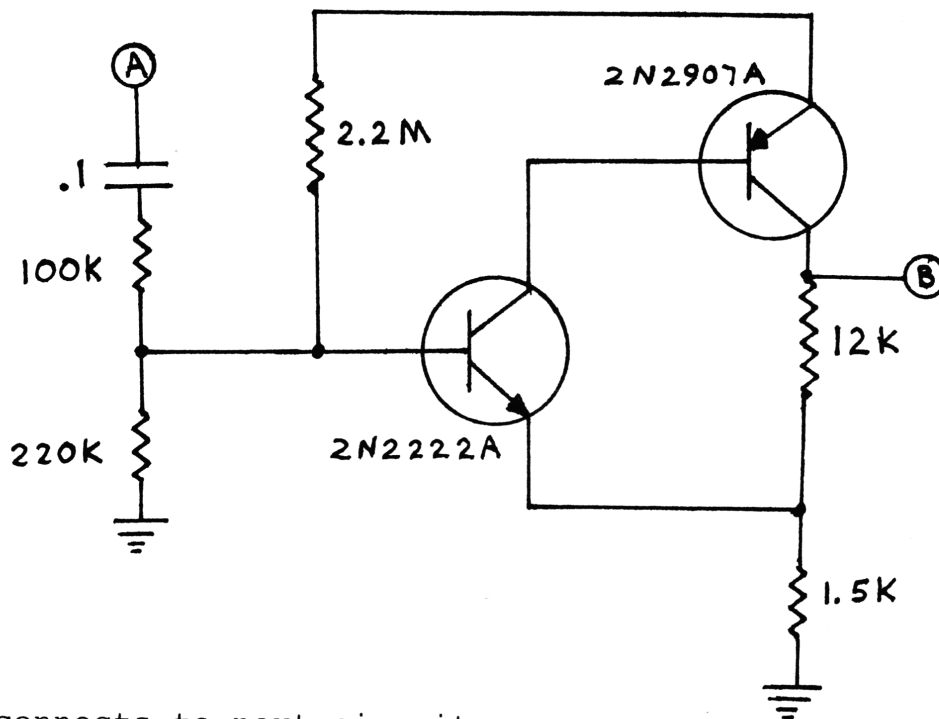
MODULATED GUNN OSCILLATOR (Cont'd.)

Voltage Amplifier Circuit

Parts Required:

- 1-.1 disc capacitor
- 1-100K $\frac{1}{4}$ W Resistor
- 1-220K $\frac{1}{4}$ W Resistor
- 1-2.2 MEG $\frac{1}{4}$ W Resistor
- 1-12K $\frac{1}{4}$ W Resistor
- 1-1.5K $\frac{1}{4}$ W Resistor
- 1-2N2222A Transistor, NPN
- 1-2N2907A Transistor, PNP

Hook up as follows:



ⓑ connects to next circuit.

Next we will build the Gunn oscillator voltage regulator.

MODULATED GUNN OSCILLATOR (Cont'd.)

Gunn Regulator Circuit

Parts Required:

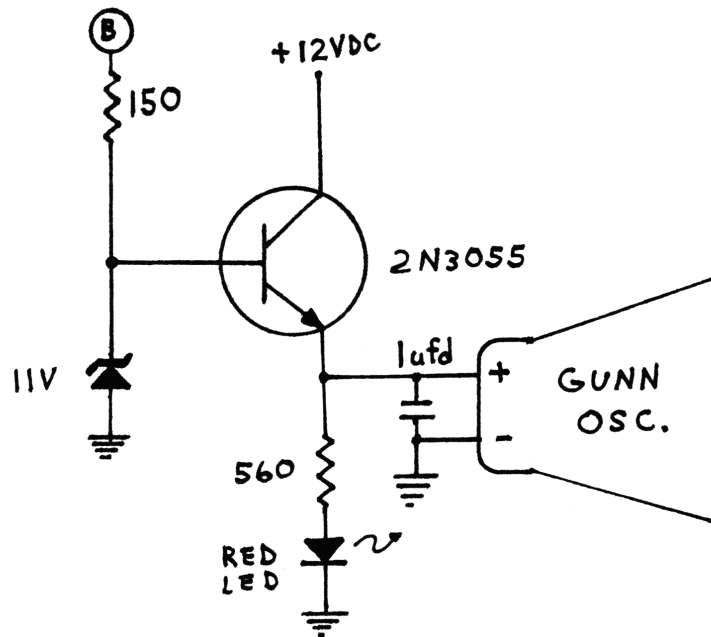
1-2N3055 NPN Transistor + heatsink

1-11V/1W Zener

1-560 Ω $\frac{1}{2}$ W Resistor

1-Red LED

1-150 Ω $\frac{1}{2}$ W Resistor



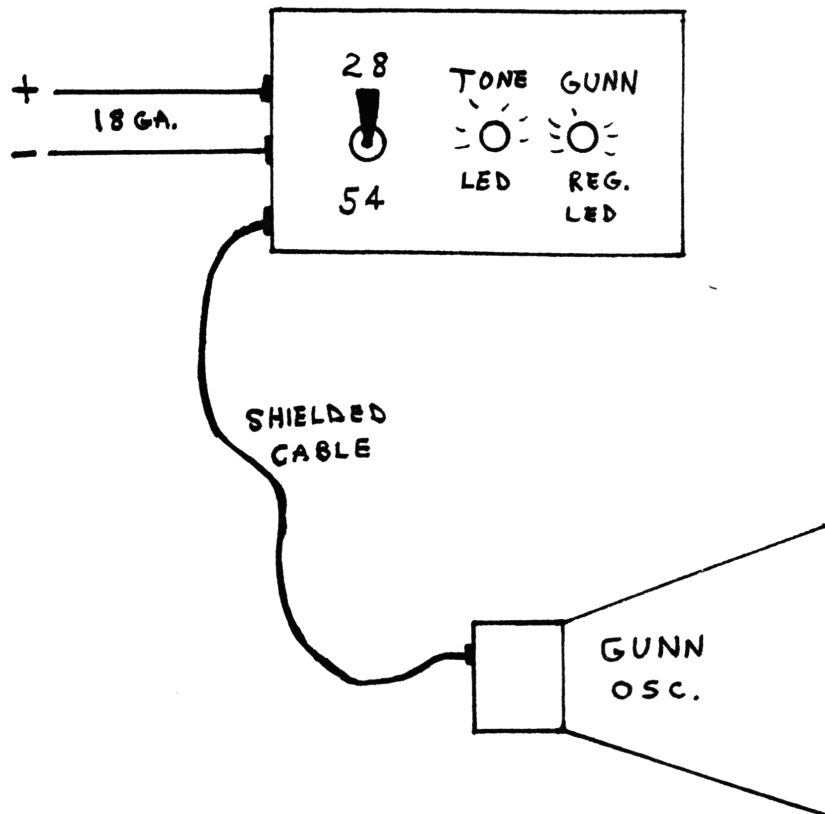
Add a 1ufd/25VDC capacitor on Gunn Oscillator for harmonic suppression.

ⓑ connects to voltage amp in previous circuit. LED 2 indicates the Gunn Regulator is operating O.K.

NEXT ASSEMBLE.

MODULATED GUNN OSCILLATOR (Cont'd.)

ASSEMBLE:



Radio Shack Metal Cabinet #270-251 can be used.

Conclusion: Although alot of truckers are using "Jammers" we do not suggest you actually build the above circuit or you could find yourself in serious trouble with the FCC and Law Enforcement Agencies. We Assume No Responsibility for the use of the material or Consequences thereof.