

# NEG30 Negative Ion Machine with Reaction Emitting Rotor



A new concept in negative ion generation. Copious amounts of beneficial ions are generated by a spinning rotor powered by the ions emitted ions themselves. Large volumes of ions can now be produced as the area circumscribed by the rotor greatly reduces the local charge flux. This feature allows many times more ions without ozone producing voltages.

Negative ions are highly beneficial and cause a sense of well being, and rid the air of pollen and other breathable irritants. This is an excellent device for people suffering from asthma and other bronchial problems. Also is a neat desk and conversation piece with the spinning rotor silently reaching a relatively high rotational velocity. Unit operates from a 115 vac/12 vdc or battery. Project shows using a 25kV negative output power module requiring 12 volts DC at 500 milliamps along with our proprietary rotating emitter.

This is an intermediate level project requiring basic electronic skills. Expect to spend \$25 to \$50. All parts are readily available with specialized parts through Information Unlimited ([www.amazing1.com](http://www.amazing1.com)) and are listed in Table 8-1.

## Precautions

1. Do not use this device in explosive or flammable atmospheres, as spark discharges may cause dangerous ignitions.
2. **Green wire must be connected to Earth ground before use.**

## Benefits of Negative Ions

In the last several decades a medical controversy has evolved pertaining to the beneficial effects of these minute electrical particles. As with any device that appears to affect people in a beneficial sense there are those who sensationalize and exaggerate these claims as a cure for all ailments and ills. Such people manufacture and market these devices under these false pretenses, and consequently give the products an adverse name. The Food and Drug Administration now steps in on these claims and the product along with its beneficial facets goes down the tubes.

People are affected by negative ions by the property of these particles to increase the rate of activity of cilia, whose property is to keep the trachea clean from foreign objects, thus enhancing oxygen intake and increasing the flow of mucus. This property neutralizes the effects of cigarette smoking that slows down this activity of the cilia. Hay fever and bronchial asthma victims are greatly relieved by these particles. Burn and surgery patients are relieved of pain and heal faster.

Tiredness, lethargy and the general dragged out feeling are replaced by a sense of well being and renewed energy. Negative ions destroy bacteria and purify the air with a country air freshness. They cheer people up by decreasing the serotonin content of the blood. As can be seen in countless articles and technical writings, negative ions are a benefit to man and his environment.

Negative ions occur naturally from static electricity, certain winds, waterfalls, crashing surf, cosmic radiation, radioactivity and ultraviolet radiation. Positive ions are also produced from some of the above phenomenon and usually neutralize each other out as a natural statistical occurrence. However, many man-made objects and devices have a tendency to neutralize the negative ions, thus leaving an abundance of positive ions which create sluggishness and most of the opposite physiological effect of its negative counterpart.

One method of producing negative ions is obtaining a radioactive source rich in beta radiations (electrons negative). Alpha and Gamma emission from this source produces positive ions that are neutralized electrically. The resulting negative ions are directed by electrostatic forces to the output exit of the device and further dispersed by the action of a fan (this method has recently come under attack by the BUREAU OF RADIOLOGICAL HEALTH AND WELFARE for the use of tritium or other radioactive salts). This approach appears to be the more hazardous of the two according to the Product Consumer Safety People.

Your negative ion generator produces ions via a high potential, low current source of DC power. The high potential causes negative charges to be produced at the sharp emission points of the rotor blade. The reactionary force of the emitted particles now causes the rotor to spin allowing these negative ions to escape into the air stream due to the high charge density at the sharp pointed rotor tips. (The point of a pin will have a much higher charge density than a larger diameter spheroid for the same potential). Ozone is kept at a minimum by keeping the voltage relatively low while allowing sufficient charge density to allow the negative particles to escape into the air.

## **Circuit Description** (Reference Figure 8-1)

The circuit consists (MOD25KV) high a frequency, high voltage oscillator being fed into a multistage Cockcroft Walton multiplier. This energy is converted to a potential of up to a negative 25 thousand volts. The high frequency stage consists of transistor connected as a simple oscillator where its collector drives the primary winding of resonant transformer (T1)

The high frequency output of T1 is fed into a voltage multiplier stage consisting of diode string (D1 to D5) and capacitor string (C1 to C5). The unit is powered by a 12 volt Dc wall adapter (T2). A separate ground is required for optimum performance and involves connecting the negative 12 volt to earth ground. This is done by connection to the ac receptacle plate or ground pin. This ground provides a virtual ground for the ions.

Ions are now produced by charge concentration occurring at the end of the points of the rotor blade. Reactionary forces now move the rotor at a high speed. Ions are now produced at a high rate as the effective emitter area is equal to that of the rotating rotor. Charge neutralization is minimal using this method and high ion current is generated.

The output of the unit can be approximated by the fact that Coulomb Charge = Current x Sec. There are  $6.25 \times 10^{18}$  Negative chargers per Coulomb. Maximum current to emitters is 400 micro amps. Therefore the unit can produce  $6.25 \times 10^{18} \times 200 \times 10^{-6} = 2.5 \times 10^{15}$  negative charges/second. This is usually sufficient for a large room.

## **Assembly steps**

1. Layout and identify all parts and pieces. Verify with parts list.
2. Carefully fabricate the rotor blade as shown on figure 8-3 and note it must be balanced for optimum rotational velocity and ion emission.
3. Position a common plastic push pin (PIN1) and hot glue or epoxy to module as shown. Glue is more forgiving should you ever wish to replace the pin.
4. Carefully strip about  $\frac{3}{4}$ " of insulation from the output lead. Tin and solder to the bottom of the actual pin. This connection point must allow entire bearing section of the rotor assembly when in place.
5. Wire up wall adapter (T2) and ground lead using (WN1) wire nuts as shown on figure 8-4.

6. Glue on the (CS1) charge shield plate for preventing premature sparking to the metal heat sink of the module. Stick on the rubber feet.
7. The unit as shown is perfectly usable. However you may want to enclose it in some sort of plastic box. Always use with good ventilation and make sure box is large enough or about 1 ½ times the diameter of the rotor.
8. Find a suitable location such as a nonmetallic table to place the unit on. Place the rotor blade on the pin and verify it is unobstructed. Connect the grounding lead to the receptacle mounting screw and plug in T2 adapter. Rotor should begin rotating and quickly reaching a high speed.

## Notes

Ions are now being emitted into the air and can easily be detected by holding a fluorescent tube or a small neon indicating lamp (LA1) near the unit noting a flashing. This must be done in the dark.

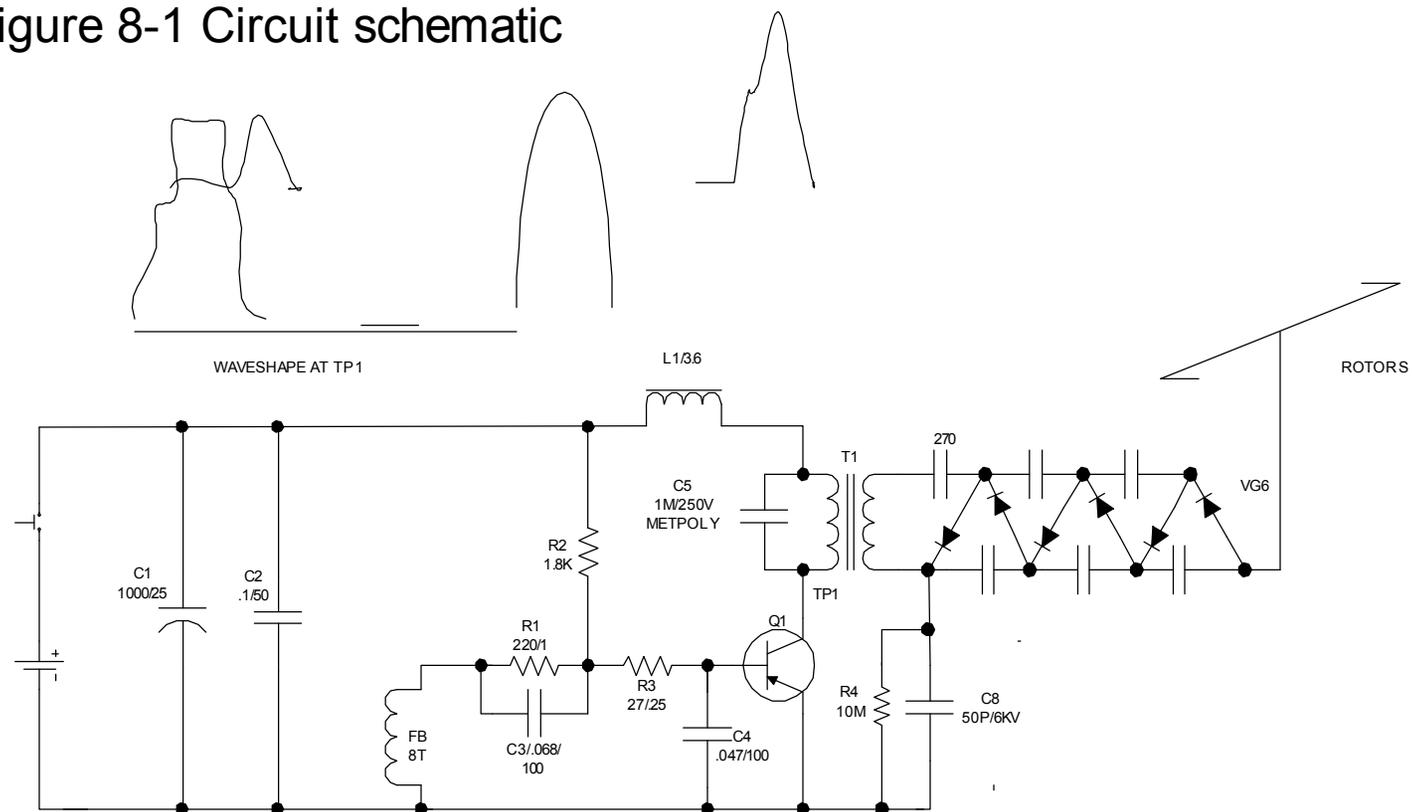
Place a piece of paper near the base of the unit and note the force field generated by trying to pull the paper!

**Table 8-1 Parts List**

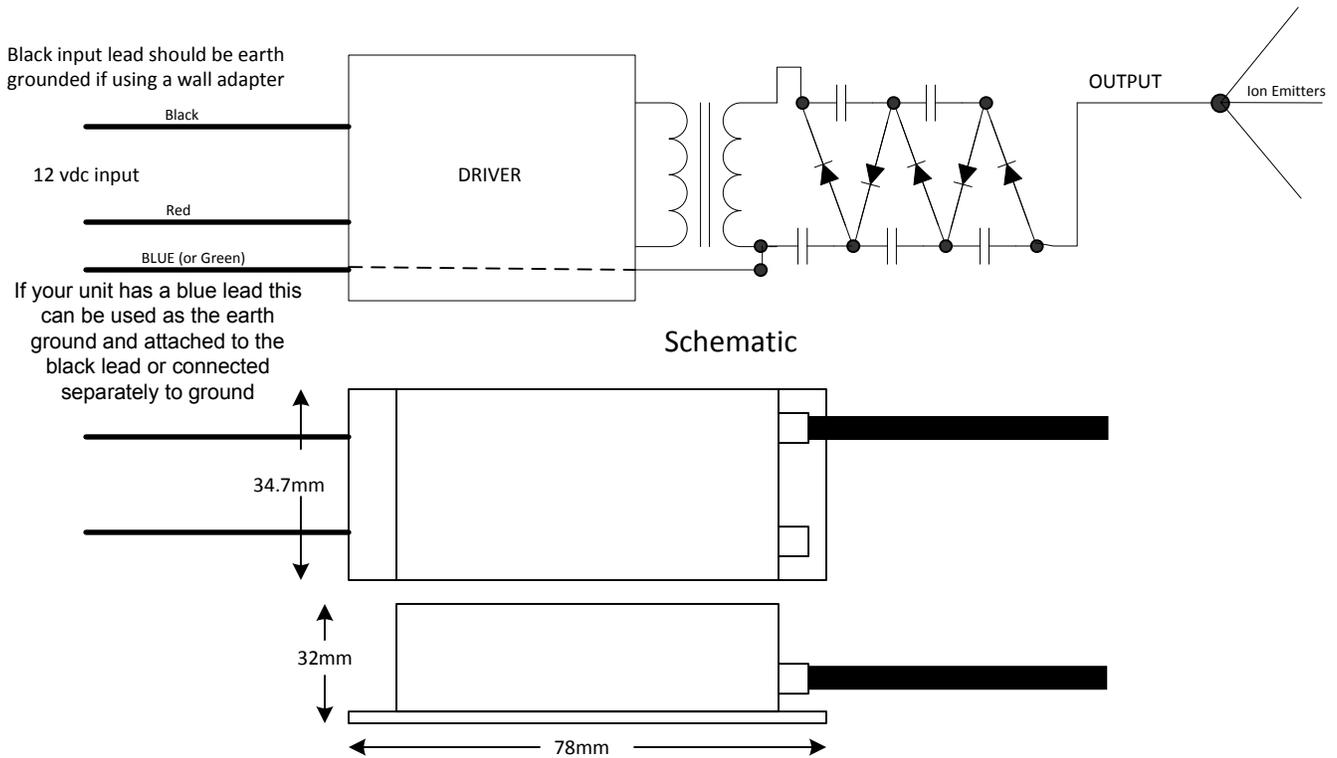
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<b>Ref #</b>	<b>Qty</b>	<b>Description</b>	<b>Part #</b>
MODULE		Negative 20Kv module reworked	MOD20KV
T2		12 volt Dc 500 milliamp wall adapter	12DC/.5
ROTOR		Metal fabricated rotor	ROTOR
PIN		Common plastic push pin	
BEARING		#6-32 threaded standoff	
NUT6		6-32 hex nut	
CS1		2 ¼ x 1 ½" thin plastic 1/16 to 1/8" thick	
WN1		Small wire nuts	
FEET	4	Stick on rubber feet	
12DC/3		115 Vac to 12Vdc/3amp converter	12DC/3
BAT12		12 volt 4 amp hour rechargeable battery	BAT12
BC12K		Battery charger kit for above BAT12	BC12K

Figure 8-1 Circuit schematic



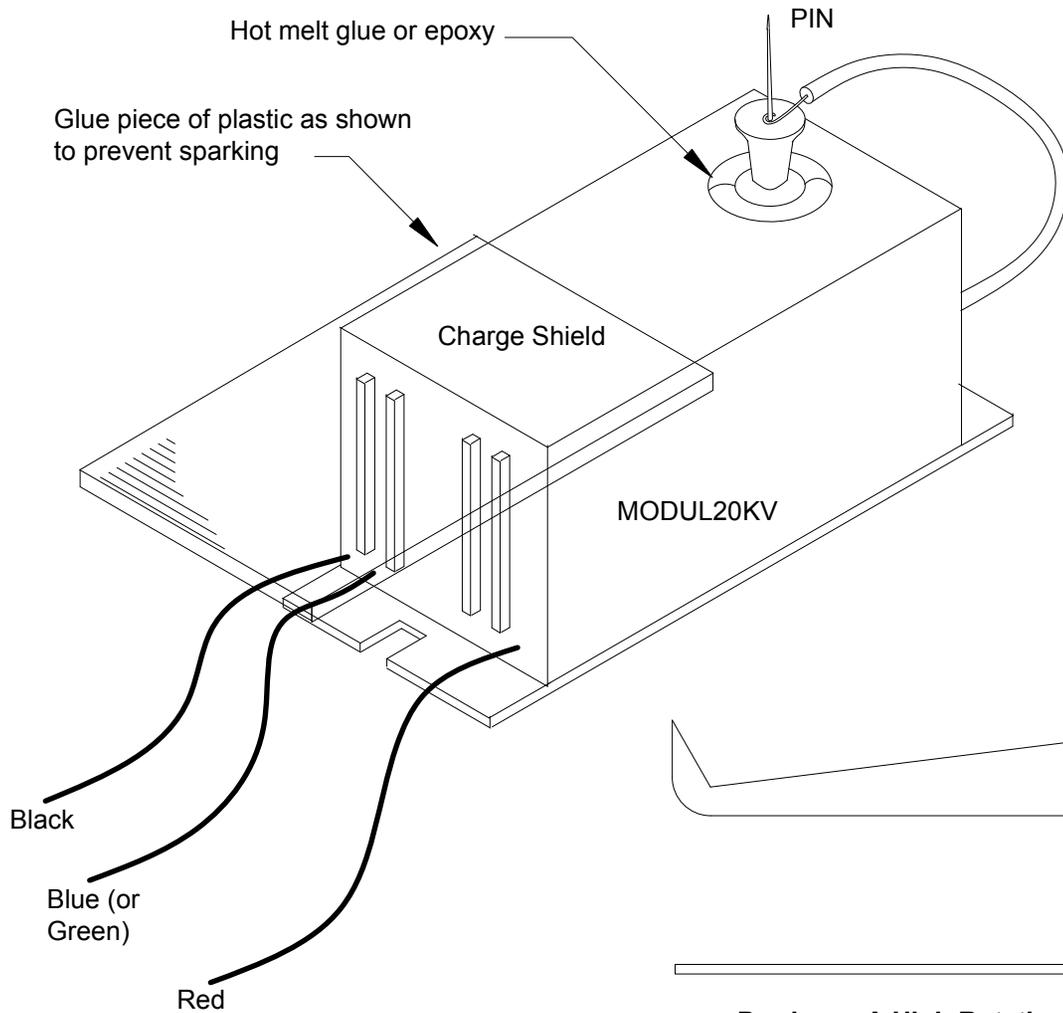
# Figure 8-2 Negative Ion Driver Module



Function	Value	Notes	Other
Input Voltage	12 vdc		
Input Current (No load)			
Input Current (load)	400 ma		
Input Watt (No load)			
Input Watt (load)			
Output Volts	-20 kvdc		
Output Configuration	Single Output		
Internal Operating Frequency	35 khz		

Use a 12 vdc/.5 amp dc wall adapter or other suitable power supply.  
 Always check entire system for any excessive heating

# Figure 8-3 Isometric view of overall unit

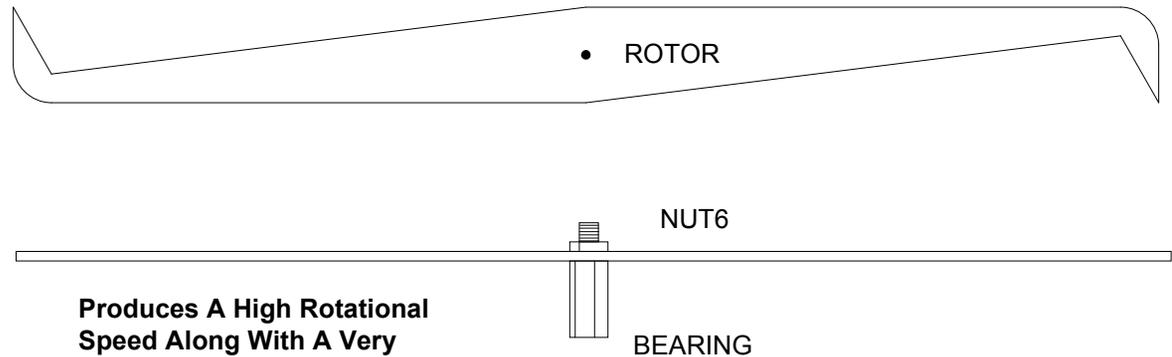


### How it works:

Ions emit from the pointed ends of rotor due to a high potential voltage gradient causing charge repulsion. These ions moving at a moderate velocity and produce a reactionary force causing the rotor to spin at high speed.

**Fabricate the ROTOR** as shown in actual size and can be used as a template. Fab from thin sheet metal. Pin prick exact center for needle bearing stud and nut. Rotor must be perfectly balanced to reach high rotational speed.

Note discharge lead may be used to "freeze" rotor motion by allowing a spark discharge to moving piece. Do in low light for maximum effect.



**Produces A High Rotational Speed Along With A Very Noticable Force Field Easily Felt at Several Feet!!**

**Figure 8-4 Side view showing power connection**

