

EMP 400 Pulse Generator

Disclaimer

This Product has no interlocks or protective housings to prevent accidental contact with lethal amounts of electricity. Improper use can cause death and serious injury. Any experimentation is done at the risk of the user. The manufacturer assumes no responsibility to proper or improper use of this device. All purchases or rentals must initially include a signed hazardous equipment affidavit with proof of identification.

The results obtained with this device will be dependent on user setup We can only claim what our end results produced. This device is sold for research only.

Product description

The 400 J Pulse Source is a system which is very flexible. You can use it as a Regular Pulse Source, single pulse of 300 to 400 Joules Variable or you can use it as a EMP Generator Pack (that it is presently geared up for). If you Remove the front end Antenna Dish then, it becomes a Strip Line Geometry (Low Inductance) Discharge System. Which can also work as a Kilo Ampere Linear Injector. You can pump 30 to 40 Kv at 25 to 30 Ka in to desired Load. You can also use it as a Bridge Wire Exploder by Connecting a Wire between the two open ends after removing the Antenna.

The Antenna is tuned at 5 GHz and due to its inherent nature, gives a wide beam characteristics, This is partially due because of the Parabolic Reflection. The Antenna is made of Tungsten Steel & should have a Gap of 3 mm between terminals.

Circuit description

The Pulse Source is essentially a single source of stored energy where we charge a Capacitor and discharge it through a Spark Gap into a Bridge Wire. The sudden rush of energy into the Bridge Wire will explode this wire generating a intense magnetic as well as electrical field this field can be channeled using horns or parallel plate geometry etc to direct the energy.

The 230 Volts AC. input is converted to a 24 Volts D.C. This D.C. is fed to two Modules. The main Module uses a power supply with input of 24 Volts and output of 40 Kv D.C. The capacitor is charged through a megohm Resistor taking approximately 2.5 to 3 minutes for the full charge of 40Kv D.C. Once the capacitor is charging you 400 Joules of energy for discharge. The trigger module provides the necessary pulse to fire the spark gap switch. On pressing the manual button of the trigger generator or giving a +5Volts pulse on the remote trigger via a (BNC connector) . Once triggered the system fires with the all the stored energy e exploding the wire with the effect of a pistol shot..

The source contains a DC High Voltage charging supply, a High Voltage Capacitor of 400 Joules @ 40KV D.C., a 24 Volts D.C. supply to drive the High Voltage Power Supply, a Spark Gap and its associated Trigger Transformer.

Unpacking

Verify the crate is in its upright position and proceed to unpack. You will note two bolts on each side of the crate that must be removed. These are to stabilize the unit during transit. Carefully remove the sides of the crate.

Check for the inclusion of the input variable transformer, and accessory bag consisting of the 5 GHz antenna, power cable with bare ends for connecting to a 115 vac plug, power cable for connecting variable transformer to main unit and four round metal handles that replace the plastic stabilizers.

Verify any visible damage and contact the factory. The unit is on castors for mobility.

Setup

DANGER: this device is completely open with exposure to Live High Voltage. Device should be installed in a suitable container with safety interlocks.

1. Locate the unit away from any sensitive electronic equipment.
2. Attach a dedicated secure stranded #12 grounding wire from the frame via the screw on one of the metal handles.
3. Attach a plug to the stripped leads of the line power cable. Observe the indicated polarities and wire for 115 vac single phase.
4. Verify all switches are in the off position including the variac on the box.
5. Tie a tight Bridge wire in the Jig or set up the 5 gHZ antenna.
6. Remove the shorting wire across the main capacitor

Operation

6. Tie a tight Bridge wire in the Jig or set up the 5 gHZ antenna.
7. Plug unit in to a proper 115 vac outlet
8. Turn on the trigger switch and the power switch
9. Slowly rotate the variac knob and note the kilovolt meter indicating charging. Allow to charge to 30 kilovolts (Unit can be charged to 40 kilovolts) The meter is measuring the true High voltage feeding a 100uA meter through a 500 Megohms Resistor. This resistor also serves as a safety bleeder resistor across the capacitors.
10. Once the voltage reaches around 32Kv D.C. you can press the manual green button on the trigger Box to fire the Pulse Source . A large explosion will occur and the bridge wire will detonate.

11. Immediately turn off the trigger and charging switch and then the variac to fullccw to prevent the capacitor from recharging.

12. When the system is triggered the energy in the capacitor is discharged in the Antenna, through the Triggered Spark gap or explodes the bridge wire disrupting the LCR circuit. The energy generated will be propagated in a parallel beam due to the Parabolic Reflector. Once the energy is fired a loud discharge shall be heard. Certain electronic objects in front of the Dish will reset or can be permanently destroyed.

Proximity of less than 1 meter can permanently damage the mother chip (Processor) of most computers.

Using different type of Antennas can be very helpful for better ranging. We have heard reports from some customers that this model has been used with especially proprietary tuned antennas for ranges beyond 30 meters* It has been found that the most suitable disturbances are done in equipments having plastic enclosure and non metallic enclosures. Normal range with a properly tuned antenna can be 2 to 8 meters for generating interfering and damaging electric fields. This influence can reset PCs, lab tops or any other devices using sensitive gate charge devices. Exposure can obviously cause permanent damage.

13. Once the Gun is fired ensure that the capacitor is completely discharged. To ensure no re-charging of the capacitor occurs (unless you want to fire once more) keep the variac knob to off (Anticlockwise) and the H.V ON & TRIGGER ON SWITCHES ARE IN OFF POSITION. To discharge the capacitor completely, use the safety discharge probe by shorting it to the Capacitor Negative (Lower terminal and short the probe across the output terminal (HV) which is connected to the spark Gap. (Joint of Blue spark Gap and white Insulator).

A special strip is attached to a plastic pole for this function. Only contact the metal parts after 100% ensuring that the Capacitor is shorted exactly across its terminals.

DANGER: DO NOT SHORT OUT THE CAPACITOR WITH THE SAFETY PROBE IF THE VOLTAGE IS OVER 5000 VOLTS. EITHER RECYCLE TRIGGERING OR ALLOW CAPACITIO TO DISCHARGE WITH TIME.

It is important to discharge the Pulse Gun and keep a shorted wire across the capacitor terminals when working on any part of the system.

DANGER : Never attempt to dismantle the source as, many parts cannot be repaired. Always return to the factory for repairs.

Don'ts for Pulse Source

- a) Never plug into a higher rated input voltage.
- b) Never fire near explosive materials.
- c) Never touch metal parts when in a charged condition.
- d) Do not fire around personal unless they have hearing protection.
- e) Never attempt to dismantle the device as, many parts cannot be repaired. Always contact the factory for repairs.

Do's for the Pulse Gun.

- a) Always discharge the capacitor at the capacitor end bolts before touching other parts.
- b) Always treat the system as it is on before making any changes.
- c) All components are modular in nature and fault finding is usually easy by referring to the circuit diagram provided.
- d) Maximum effort has been taken to provide minimal high voltage exposed parts. The output circuitry consisting of the return ground and copper antenna bars cannot be enclosed due to large current capacities.

Applications

This source is used for pulsed wire detonics, Bridge wire explosion, EMP generation, Vaporization, Nano particle formation etc.

The EMP generators are sold as tools for the researcher for use in the field of EMP generation and related studies. The units generates a single event high energy pulse that can be used for current charging a LCR circuit and disrupting it with a exploding wire bridge, producing the seed current for a flux compression generator, generating a pulsed electro magnetic wave using a wave guide or other suitable antenna.

We do not offer engineering approaches to developing a radiated pulse as much of this research is proprietary. so can not answer. The only thing we can offer is the pulser being obviously a very valuable tool in this research. Several research facilities have generated some very interesting results but unfortunately all information is classified as "their" proprietary research on this EMP research.

EMP400 block schematic diagram

