

Re: Function of component in flash tube trigger circuit?

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- *From:* "N_Cook" <diverse@xxxxxxxx>
 - *Date:* Wed, 30 Apr 2008 11:25:40 +0100
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Sam Goldwasser <sam@xxxxxxxxxxxxxxxxxxxxxxxx> wrote in message
news:6wfxt4cktx.fsf@xxxxxxxxxxxxxxxxxxxxxxxx

"N_Cook" <diverse@xxxxxxxx> writes:

I've now tried 2 xenon beacon tubes in series and it works every time on full or reduced settings. Also works every time with the piezo

gaslighter

when iys ground plate is connected to the flash unit ground

I was always told that the clap of thunder was due to air refilling the

gap

after being punched through by the lightening plasma arc.
That cannot be the reason for the pop when such xenon tubes fire as

there is

no air inside them , why the pop?

There's rather dramatic shock wave inside when the lamp fires. This is transmitted via the walls of the tube to the air outside. Keep in mind that the pressure in these is a significant fraction of 1 atm, not like a neon sign or HeNe laser!

What sort of power coming out as light in both cases.
Unknown original tube of 10mm diameter , 200 mm long
2 beacon tubes 6mm diameter, 140mm combined length

Supply is from 2 seriesed 1000uF capacitors with 300V on each
The beacon tubes are rated for 250V min , 500V maximum, nominal 400V
maximum energy input per flash: 45W /second, maximum flash rate at

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maximum

input power: 100/min

There is strike defeat, while recovering, sub-circuit and recovery time is

about 1/3 sec, don't know what it is with the original tube.

Is there a question buried here somewhere? :)

--- sam | Sci.Electronics.Repair FAQ: <http://www.repairfaq.org/Repair> | Main Table of Contents: <http://www.repairfaq.org/REPAIR/> +Lasers | Sam's Laser FAQ: <http://www.repairfaq.org/sam/lasersam.htm> | Mirror Sites: http://www.repairfaq.org/REPAIR/F_mirror.html

Important: Anything sent to the email address in the message header above is

ignored unless my full name AND either lasers or electronics is included in the

subject line. Or, you can contact me via the Feedback Form in the FAQs.

Now I've separated the tube from the reflector enough to clean the tube in the area where it descends through the reflector

http://home.graffiti.net/diverse:graffiti.net/xenon_tube.jpg

I can now see all is not well.

The cloudiness in the cathode end of the tube (only) is on the inside and there is a patch of distinct blackening marked with a yellow line.

General black background is conductive foam for picture contrast, the yellow wire is the trigger wire connected to the loops around the tube, no silvering. The gaps 2 turns up of the spiral wrap at both anode and cathode, would they be breaks or like that at manufacture?

It is after all 25 years of commercial photo studio use.

The slave action via LDR also checks out

Powering up, switching off, and triggering with piezo and measuring before and after V then 42 joules per discharge per beacon tube. It may be advantageous to wire in a pair more of these beacon tubes to make 4, to spread the load, at 2.50 GBP each compared to 70GBP for a not exact size and fit single tube replacement.

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Diverse Devices, Southampton, England

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electronic hints and repair briefs , schematics/manuals list on
<http://home.graffiti.net/diverse:graffiti.net/>