Spicy Konzen

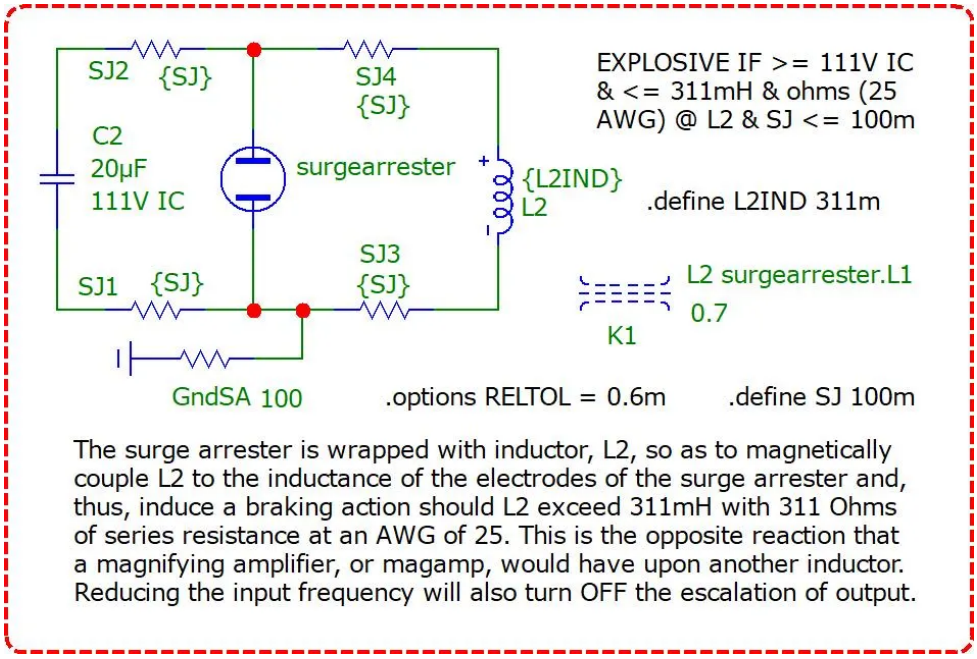


VINYASI
OCT 19, 2026

If you're having trouble getting amplification of amplitude out of any attempt at building these Konzen simulations, for instance:

Simplest Konzen

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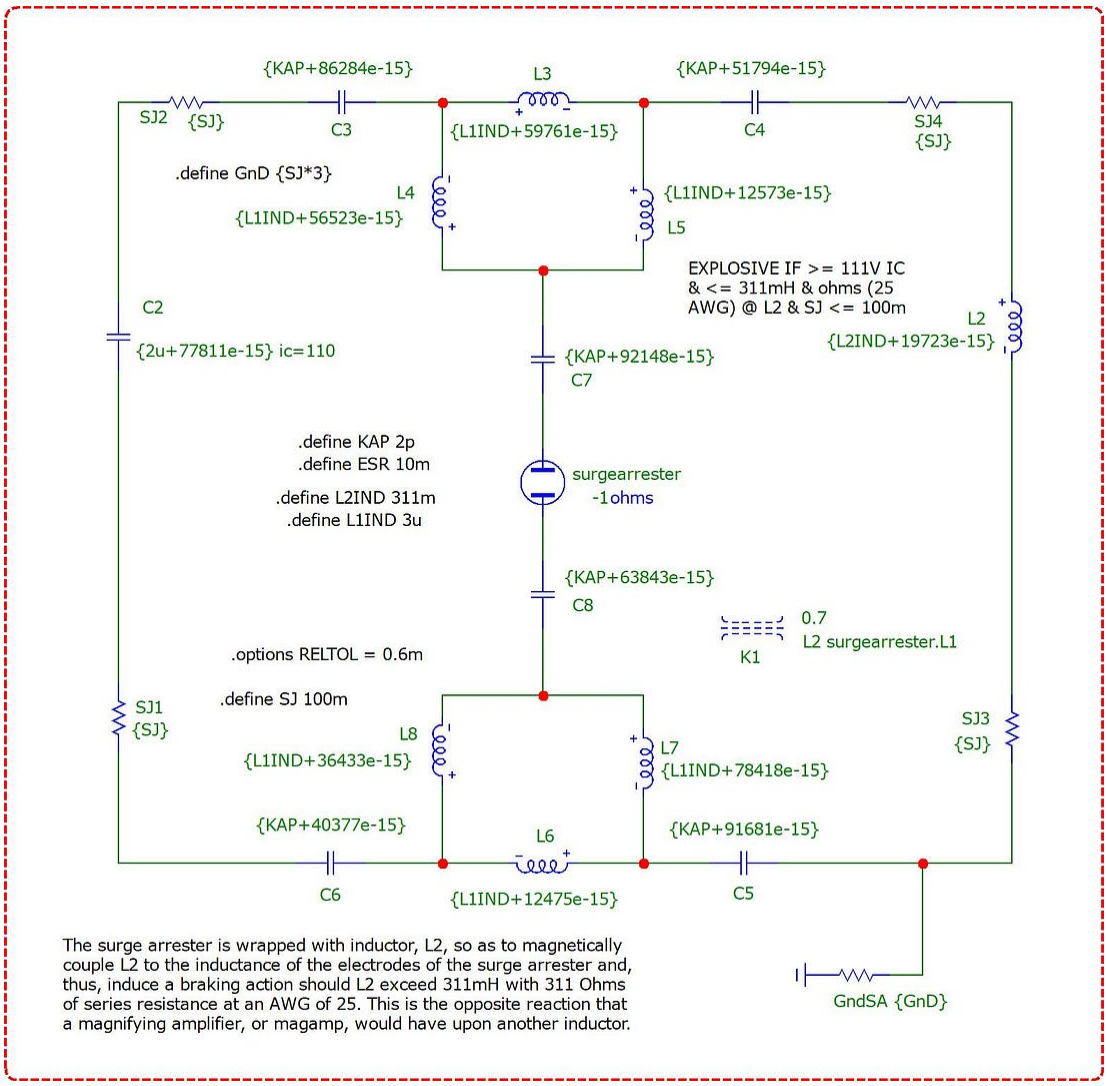


Scaled down to bare essentials for escalating into an explosion:

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... then it may be best to alter these escalations into a circuit which explodes, once, and then veers its amplitude towards zero.

If you don’t get any results using these suggested defaults for L1IND of 3 microhenrys and 2 picofarads for KAP, then increase either or both of these two parameters to increase the likelihood of an electrical explosion.



There are two air-core toroidal coils here composed of three windings on each toroid.

Coils L3, L4, and L5 comprise one toroid while coils L6, L7, and L8 are the second air-core toroid.

Each of these two toroids are center-tapped in three places on each toroid with a capacitive junction leading to the other three segments of this circuit: the Seimens surge arrester:

Siemens A81-C90X Gas-Filled Surge Arrester Overview

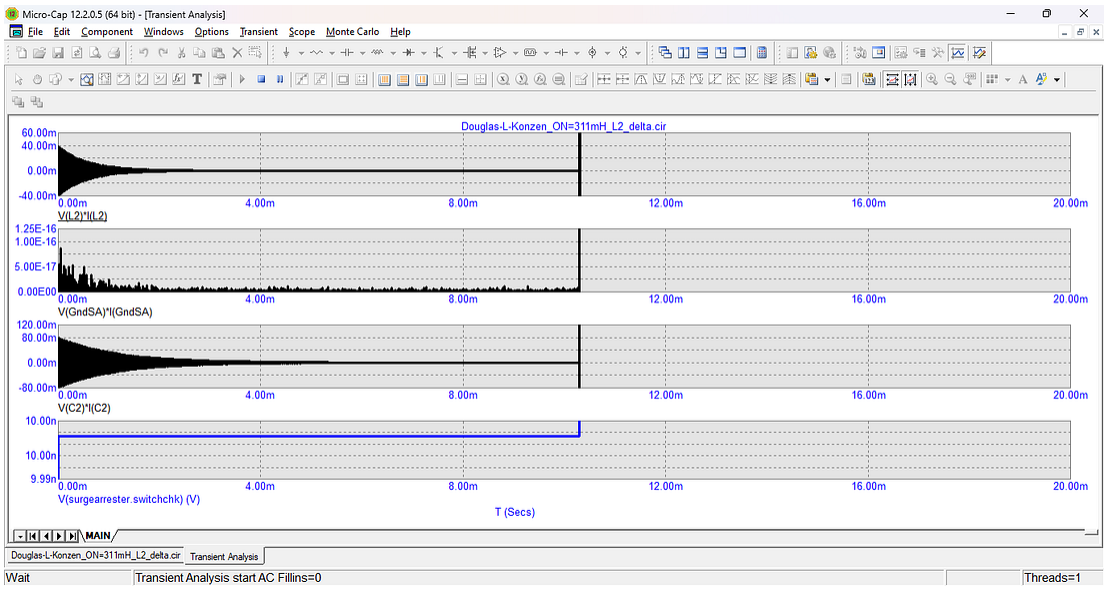
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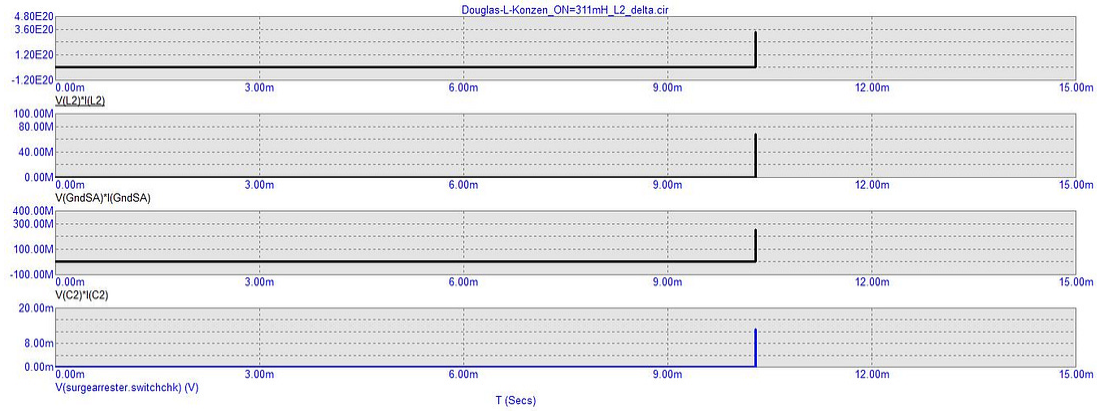
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... in the center of the image, above, and the L2 coil on the right-hand side (which is wound around the surge arrester to magnetically couple with its electrodes) and capacitor C2 on the left which has a precharged condition of 111 volts to initiate the explosive tendency of this circuit.



Screenshot of the output as it explodes off-screen.



Output is prematurely terminated so as to witness the scope of this explosion.

Random digits were added to the capacitances and inductances in an attempt to reduce the likelihood of “matrix is singular” errors. »

https://www.calculator.net/random-number-generator.html

Download this experiment from Google Docs.

Konzen Posts: a List of Links serving as a Reference for Similar Topics.

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DIY Earth Battery

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how much capacitance at a coax cable junction?

A properly made coax cable junction (using standard RF connectors like BNC, N-type, or SMA) adds **very low parasitic capacitance**—typically on the order of **0.5 pF to 3 pF**, depending on the connector type, physical geometry, and how well the shield and center pin are kept aligned. [1]

Key Factors That Influence Junction Capacitance:

- **Connector Type:** Precision RF connectors (like SMA or N-type) maintain a controlled 50-ohm or 75-ohm impedance structure right through the mating point, keeping stray capacitance minimal (often < 1–2 pF). Lower-grade or poorly matched adapters can introduce slightly more.
- **Physical Gap / Unshielded Center Conductor:** Any exposed center conductor length (where the shield is pulled back too far or a splice lacks proper shielding) acts like a tiny parallel-plate or stray capacitor relative to nearby ground planes.
- **Dielectric Material:** Air and PTFE (Teflon) inside quality connectors have very low dielectric constants, keeping localized capacitive loading negligible at standard RF and audio frequencies. [1, 2]

When Does It Matter?

- **Low/Medium RF & Audio:** A 1–2 pF bump at a junction has zero practical effect on standard HF, VHF, UHF, or digital/audio signals.
- **Very High Frequencies (Microwaves / > 3–10 GHz):** Even small parasitic capacitances or discontinuities at a joint can cause a localized impedance bump, leading to a small voltage standing wave ratio (VSWR) spike or return loss degradation. [1]

If you'd like to narrow this down, let me know:

- What **type of connectors or cable** are you joining (e.g., RG-58, RG-213, LMR-400)?
- What **frequency** or application are you working with?

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how much esr at the capacitive junction? (equivalent series resistance for capacitors)

At a well-made coaxial cable connector junction, the Equivalent Series Resistance (ESR) associated with that localized parasitic capacitance is **extremely small, typically measuring in the low milliohms (\(\mathbf{1}\text{\ m}\mathbf{\Omega }\) to \(\mathbf{50}\text{\ m}\mathbf{\Omega }\))**.

Because this junction functions as an inline transmission line connection rather than a traditional discrete lump capacitor, its dissipative losses are governed by distinct structural properties:

1. What Conduits Drive this ESR?

In a traditional component, ESR is dominated by dielectric losses and lead resistance. At a coax junction, the effective series losses are split

into two primary mechanisms: [1]

- **Metallic Contact Resistance (The Ohmic Term):** This is the physical resistance of the mated center pin and the outer shield ground mating surfaces. In quality gold, silver, or nickel-plated connectors (like SMA, BNC, or N-type), a clean mechanically tight connection keeps this contact resistance between **1 mΩ and 10 mΩ**.
- **Dielectric Dissipation (Shunt/Conductance Term):** The parasitic capacitance uses the connector's internal insulation (usually high-grade PTFE/Teflon or air) as its dielectric. Because PTFE has an exceptionally low loss tangent ($\tan\delta \approx 0.0002$), the energy dissipated through the dielectric itself is practically negligible. [1]

2. The Influence of Frequency (Skin Effect)

As the operating frequency increases into the megahertz and gigahertz ranges, **skin effect** forces AC current to travel only on the very outer "skin" of the center pin and the inner surface of the shield. This restricts the cross-sectional area of the conductor, causing the effective series resistance of the junction to rise proportionally to the square root of the frequency ($\sqrt{f}$). [1]

Even with skin effect active at a few gigahertz, a high-quality RF junction preserves an ultra-low effective resistance, preventing major localized I^2R heating or signal attenuation. [1, 2]

3. Signs of Elevated Junction ESR

If a coaxial junction exhibits an abnormally high ESR (e.g., several ohms), it is almost always a mechanical or environmental failure rather than an inherent property of the capacitive junction: [1]

- **Oxidation or Corrosion:** Tarnish or moisture inside the connector degrades the metal-to-metal boundary, spiking contact resistance.
- **Loose Mechanical Fit:** Poorly crimped center pins, worn-out outer shield finger baskets, or loose threading prevent adequate contact pressure.

Are you seeing **unexpected signal attenuation, localized heating**, or high return loss in a specific simulation or physical setup? If you can share the **frequency range** or the **power level** you are running, I can provide more specific calculations.
