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Trouble Shooting Noise in radio or intercom

Some of this relates to strobes, but it is good advice for all wiring.

This information is available with the Kuntzleman Smart Strobe but may be applicable to other brands of strobe lightening

- The Kuntzleman strobe driver units are designed with filtering and internal shielding to keep radio interference to a minimum, however occasionally noise will be heard over the radio or intercom. The noise is almost always caused by the way the systems have been installed.
- One must remember that noise does not always come from the power that is being supplied to your equipment. Especially if the radio has its own power source (battery) and the strobe is powered by the aircraft battery. Installations vary greatly from aircraft to aircraft.
 - Do both systems share the same power source?
 - Is there an external antenna?
 - How close if the antenna, radio, wires etc to the strobe driver box and wiring?
 - If both systems are not sharing the same power, then where is the common thread?
- In most, if not all cases, the problem is GROUNDING. The ground path is very, very important. The strobe circuit draws high current through the ground circuit. The radio, intercom, headset and mic circuits use the same ground so it is important that there is NO voltage drop between where all these grounds are connected. In other words, lets say the strobe driver is getting negative battery or ground from a bus near the battery that is also grounded to the metal frame of the aircraft. The ground plane for the radio antenna is connected to the aircraft frame further back near the tail and the radios are grounded near the cockpit to a screw in the frame. This array of connections can be a source of noise. The following list is intended to help in eliminating noise:-
 1. Power for the strobe system should be on the first fuse of the power bus. In other words the closets fuse to the battery. It is also helpful to run BOTH the POWER and GROUND in a twisted pair all the way from the source to the strobe driver. In other words don't pick up ground for the strobe near the driver and the not hot a single wire from another location.
 2. The strobe driver's metal case should be solidly connected with a ground strap or 16 ga. Wire to the aircraft ground system.
 3. The audio ground and aircraft ground should be commonly connected only at ONE SINGLE POINT. Ground all the audio equipment – radio, mic, antenna, headphones, intercom etc to an “audio bus” (16ga. Or larger wire). Then connect that bus at one end only to the aircraft central grounding point, preferably near the point the battery is grounded.
 4. Do not run audio related wires next to power supply wires.
 5. Shielded wire is not normally necessary, however, if it is being used ground that shield only ONE end. Usually the end closest to the source.

This list has been derived from the “fixes” that have worked for others. If you find something new please let us know and we can add it to this list.

- **A strobe suppression capacitor is a great additional option**
Available at Dick Smith P/No: R2400 approx AU\$2.00
 - **If tail strobe, the other alternative is to place ferrite clamps in the tail end of the wiring and also at the strobe power box**