

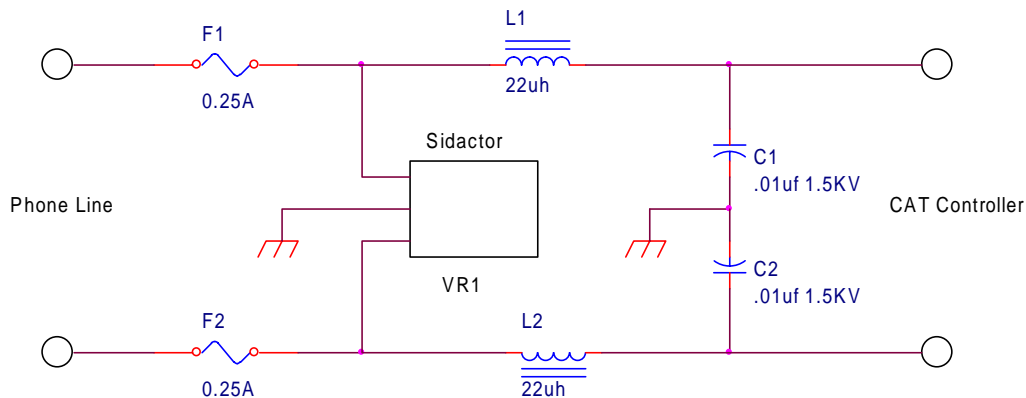
# CAT PAPER

## CAT Paper: P-1 Lightning Protection

Most lightning damage that occurs, enters the controller through the telephone line. A lightning strike in the general area of the repeater site is capable of inducing a destructive high voltage spike on the telephone line. The controller's telephone input is protected by a Sidactor and two 10 ohm resistors. This circuit provides secondary lightning protection.

To truly protect the controller, some form of primary lightning protection is required. Primary protection blocks the high voltage spike from reaching the printed circuit board. The high voltage surge must be shunted to ground as it enters the building or as a last resort, as it enters the repeater's cabinet. This is known as primary lightning protection.

The circuit below if constructed on a metal bracket and securely grounded will provide primary lightning protection for the controller.



F1, F2 0.25 Fast Blow Fuse  
L1, L2 22uh Iron Core Choke  
C1, C2 .01uf 1.5KV Ceramic Disk  
VR1 Sidactor P2353

Construct the circuit on a metal bracket using insulated stand-offs. Securely connect the center lead of the Sidactor and the capacitors to the bracket. Provide a good ground for the bracket on the outside of the repeater's cabinet.

Computer Automation Technology, Inc.  
Fort Lauderdale, Florida  
(954) 978-6171