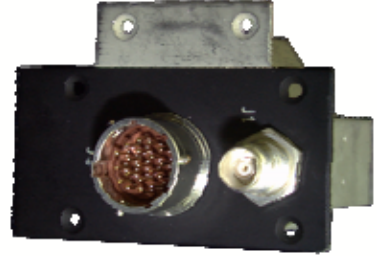


CUSTOM FILTER ASSEMBLIES



PA&E Special Filter Assemblies are custom designed to customer requirements to fulfill a wide variety of high reliability, high density packaging applications. All phases of electrical and mechanical design, fabrication and testing are performed in-house by PA&E. The following paragraphs describe three of the more common types of special assemblies.

For further details or a discussion of your specific requirements please contact PA&E's applications engineering group.

Ground plane assemblies consist of arrays of feed thru capacitors or filters installed in a metal plate. These assemblies can range in complexity from a simple array of feed thru discoidal capacitors thru complex, multi-line assemblies of any filter(s) described in this catalog. EMP and lightning protective devices have also been integrated into these assemblies. In application, the user installs the plate into his system by bolting or soldering the ground plane into place and then making contact to the individual filter terminals by soldering, wire wrap, wire bond, molded connector contact or flex circuit soldering. The possibilities are limited only by the variety of interconnect technologies available to the user.

Custom filter networks represent an increase in complexity over the ground plane assemblies described above. They consist of a housing enclosure containing any of a wide variety of filter types with input/output connections made through solder lugs, flex circuitry or any type of bulkhead connector.

These networks are frequently designed and built to be retrofitted to an existing system. Consequently, they come in an infinite variety of sizes and shapes. A wide range of current, voltage and insertion loss performance is available.

With the advent of composite structure aircraft, two areas of increasing concern to the airborne electronic equipment manufacturer are EMP and lightning protection.

Custom filter assemblies are very adaptable to the incorporation of EMP and lightning protection devices. PA&E provides engineering, manufacturing, and testing of such devices to several major aircraft programs.

3) PA&E's filter connectors are unique in the industry in that they utilize a ruggedizing, high reliability filter pin based on discoidal capacitor technology rather than tubular ceramic capacitor technology.

Our approach to filter connector problems is to utilize commercial or military qualified connector shells fabricated by military approved connector manufacturers and add the necessary modifications (usually consisting of a ground plane and backshell extension) to convert it to a filter connector.

This approach allows maximum flexibility in designing to custom requirements. For example, a wide variety of different filters can be incorporated in the same connector to accommodate different signal levels and filtering requirements on the various connector contacts.

Services provided by PA&E include: initial electrical design of customized filter elements, in-house manufacturing of filter pins and incorporation of these into the final connector assembly.

All filter elements are rigorously screened and tested prior to installation in the connector. PA&E provides in-house testing and screening of the finished product to all appropriate military specifications.