



MPE
Quality, Reliability, Performance

Company Bulletin

for EMC, EMP & TEMPEST Protection

Issue 12



MPE's custom ceramic capacitors are incorporated into the countermeasure chaff and flare dispense system on the Eurofighter Typhoon



EMI-suppressed 24V alternator shroud for a military vehicle



Novel filter with integral busbar for the USAF Space Fence space radar system

Why compromise when you can customise?

How often are we forced to make compromise decisions, and how much do those compromises complicate our lives? There are occasions when the ideal solution is not available and the only option is to select the "nearest fit" from a catalogue range. All too often this compromise leads to other, more far-reaching changes having to be made to accommodate such a catalogue product. Of course, by only offering catalogue products manufacturers can make efficiencies, but usually at a cost to the client.

Throughout its 92-year history MPE has always taken its lead from client or market requirements. Where many similar manufacturers may have simply offered their "nearest fit", MPE has continually striven to find the right balance between catalogue and custom solutions for its clients. In more recent times, this expertise in customisation has seen MPE develop many deep and longstanding client relationships, some spanning back over 20 years.

Such customisation can take many forms, not only mechanical or electrical but also to fulfil specific test requirements or operating conditions, and often the client requirement is driven more by the need for retrospective upgrades to legacy systems.

At its manufacturing site in Knowsley, Liverpool, MPE carries out all mechanical, electrical, assembly and finishing processes. This provides MPE with the ability to conduct customisations from small modifications – such as the relocation of fixing holes or changes to the electrical rating of existing circuits – right through to fully bespoke, custom designs derived from first principles and unique to the specific client.

MPE routinely meets customer demands for multiple lines, special packaging, mounting or terminations, providing solutions that are both versatile and cost-effective whatever the environment.

Customisation spans the full breadth of MPE's product portfolio. Examples range from custom ceramic filters manufactured for the Eurofighter aircraft, custom feedthroughs produced for SPARK mine clearance rollers, and numerous custom equipment filters supplied to almost every NATO vehicle manufactured over the last 25 years – through to TEMPEST filters manufactured for the new Queen Elizabeth class aircraft carriers and, very recently, specialised filter designs supplied to the US Air Force for their high-profile Space Fence program.

Such examples now see MPE with a portfolio in excess of 20,000 custom designs. This portfolio often also benefits new clients since, rather than starting from a blank sheet to meet a clients' custom requirement, MPE can draw from previous designs or design experience to greatly reduce the time to client acceptance of a new design.



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EMC suppression integrated into high-power connectors for military vehicles

Of course customisation is also often led by MPE itself, where a market trend or demand has been identified. In recent times the expansion of both MPE's high-current HEMP filter range and high-voltage DC feedthrough ranges provides examples of this. In addition, MPE has continued to lead in its markets with the introduction of numerous world-leading, novel and sometimes unique designs.

Recent Issues of the MPE Company Bulletin have featured ground-breaking designs such as MPE's high-power military connectors with integral EMC suppression, along with world-first designs such as MPE's range of commercial HEMP filters and its EMP/EMI Gigabit Ethernet filter.

Accordingly, the next time your supplier responds with "You can have anything you want . . . as long as it's in our catalogue", don't simply compromise, because the ideal custom solution may be waiting for you at MPE!