



## Company Bulletin

for EMC, EMP, HEMP & TEMPEST Protection

### Issue 28



### MPE protects Maverick Tom Cruise

Audiences around the world are currently being thrilled by the action-packed Top Gun Maverick film from Hollywood. Concluding with an exciting and nail-bitingly tense aerial dogfight, the aerial combat scenes feature both the revolutionary new F35C Lightning aircraft and the F14 Tomcat made famous by Tom Cruise in the original Top Gun movie of 1986.

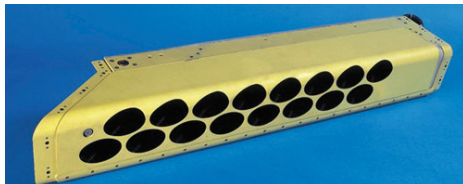


Central to the aerial battles is the use of electronic countermeasures, specifically the dispensing of decoy flares to protect the aircraft and their pilots from incoming missiles.

For more than twenty years ceramic capacitors from MPE have been utilised in such electronic countermeasure suites – on multiple aircraft platforms. More specifically, these MPE solutions are used to protect the vital control mechanisms of chaff and flare dispensers from electromagnetic interference.

Discharge of flares to divert hostile infrared-guided missiles from target

As shown graphically in Top Gun Maverick, chaff and flare countermeasures are designed to neutralise threats from infrared and radar-guided missiles, distracting them from their targets during active missions. With burning temperatures equal to or hotter than engine exhausts, the aim of flares is to make the infrared-guided missile seek out the thermal signature of the flare rather than the aircraft's engines.



Meanwhile the chaff dispense system will spread a cloud of particles of aluminium or metallised glass fibre, which either appear as a cluster of secondary targets on radar screens or swamp the screens with multiple returns.

A chaff and flare dispenser for fighter aircraft

Produced in a dedicated, segregated area within the company's facility, MPE's miniature ceramic feedthrough filters are designed and manufactured to provide countermeasure devices with the optimum level of electromagnetic interference protection. This prevents electrical noise disturbance from the many other high-tech systems operating on the aircraft.



A typical application is on the Eurofighter Typhoon. MPE has supplied to this prestigious multinational European military program since its introduction into service in 2003. The Eurofighter platform is currently operated by the Royal Air Force in the UK as well as the Austrian, German, Italian, Omani, Royal Saudi and Spanish air forces, with further supplies of Eurofighter aircraft expected over the coming five years.

MPE's miniature ceramic feedthrough filters protect the control mechanisms of chaff and flare countermeasures

To date MPE has supplied many thousands of ceramic filters for EMC protection of countermeasure systems. This makes MPE by some way the world's leading provider for these applications and ensures that Tom Cruise's Maverick can evade hostile missiles and meet his "need for speed"!

For details of performance and specifications for MPE's miniature ceramic feedthrough filters go to:

<https://www.mpe.co.uk/products/ceramic-msks/>