

MPE PEOPLE

ISO9001 & Cyber Essentials certifications

MPE's ISO9001:2015 quality management system and Cyber Essentials online security protection have passed their latest audits with flying colours and full conformity [Read More >](#)



Spotlight on Zak Dixon

Appointed as Sales and Marketing Executive in April 2021, Zak Dixon's duties include sales administration, marketing support and steering MPE's social media initiative [Read More >](#)



MPE ACTIVITY & TECHNOLOGY

World's leading TEMPEST filters just got even better

MPE has further improved on its well established TEMPEST pluggable power line filter designs, introducing new outlet sockets for its UK range with robust integral covers [Read More >](#)



MPE achieves 95% on-time delivery

The practical measures undertaken by MPE to mitigate the effects of world supply chain disruption are maintaining production schedules and enabling 95% on-time delivery [Read More >](#)



MPE DISTRIBUTORS

SACA UK expand their sales engineering team

Driven by their significant increase in sales volume, SACA UK, MPE's Gold level distributors for the UK, have appointed Brett Hopley as a Business Development Engineer [Read More >](#)



MPE co-exhibits with Electrade at EMV 2022

MPE is co-exhibiting at EMV 2022 with its German distributor Electrade on Stand 710. Held on 12-14 July in Cologne, EMV is Europe's no.1 trade show for EMC solutions [Read More >](#)



MPE APPLICATIONS

MPE protects Maverick Tom Cruise

Shown in Top Gun Maverick, chaff and flare dispensers counter threats from infrared and radar guided missiles, and MPE protects their control mechanisms from interference [Read More >](#)



Space Fence – another giant leap for mankind

MPE supplies custom high-current protection filters for the USAF Space Fence program, meeting the exacting performance specifications of prime contractor Lockheed Martin [Read More >](#)



FAST FACTS ON MPE LTD

- Trading for over 97 years, MPE employs more than 60 people.
- MPE has designed and manufactured in excess of 10,000,000 high performance protection filters and feedthrough capacitors across the last 30 years.

- Many products in continuous service for more than 25 years.
- MPE's portfolio spans over 20,000 custom designs.
- MPE is certified to the ISO 9001:2015 quality standard, and its products meet all applicable defence, safety and regulatory standards.



For comprehensive information about MPE's products and services, contact the Sales and Marketing Department, MPE Ltd, Hammond Road, Knowsley Industrial Park, Liverpool, L33 7UL, U.K.

Tel +44 (0)151 632 9100. Email sales@mpe.co.uk. Website www.mpe.co.uk

If you have a friend or colleague who you think might find the MPE Company Bulletin informative, then why not forward it to them?



Company Bulletin

for EMC, EMP, HEMP & TEMPEST Protection

Issue 28



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Certificate of Registration

QUALITY MANAGEMENT SYSTEM - ISO 9001:2015

This is to certify that:

MPE Limited
Filters and Capacitors
Hammond Road
Knowsley Industrial Estate
Liverpool
L33 7JL
United Kingdom

Holds Certificate Number: FH 00699

and operates a Quality Management System which complies with the requirements of ISO 9001:2015 for the following scope:

The design and manufacture of Filters: RF1, powerline, telephone, data line, control line, EMP, EMC, ceramic, EMP modules, PI compensating chokes, pulse forming networks, suppressors. Fixed capacitors: mica, paper, plastic, ceramic, multi layer. Custom surge suppression replacement kits, chokes. The provision of test facilities for conducted interference testing.

For and on behalf of BSI:

Andrew Lauen, CHQA Systems Certification Director

Original Registration Date: 1996-05-02

Latest Revision Date: 2020-06-23

Effective Date: 2020-08-14

Expiry Date: 2023-08-13

Page: 1 of 1



making excellence a habit™

This certificate was issued electronically and remains the property of BSI and is bound by the conditions of contract. An electronic certificate can be authenticating using the BSI logo. Printed copies can be obtained at www.bsigroup.com/bsi-certificates

Information and Contact: BSI, Victoria Court, 110, Brookings, Milton Keynes MK14 6LE, UK. Tel: +44 (0)1235 333900

BSI is a member of the United Kingdom Accreditation Body (UKAS) and is a member of the BSI Group of Companies.



ISO9001 & Cyber Essentials certifications

ISO9001:2015

In June 2022 MPE received its latest ISO9001:2015 audit. Conducted by BSI, the result of this audit found MPE to be 100% compliant with all required processes and practices. Zero non-conformances were found.

Following a number of virtual audits conducted throughout the Covid pandemic, this was an "in-person" audit completed at MPE's facility and, different to previous single-day audits, it was a more intensive two-day audit process.

MPE has now maintained uninterrupted ISO9001 certification for over 30 years, having first attained ISO9001 in June 1986, with its current certification effective through to August 2023.

As part of ISO9001:2015 requirements, MPE receives a six-monthly audit from BSI. Each audit explores and reviews different elements of the company's operations – from manufacturing processes through to staff training plans and management of risks.

Your link to download MPE's ISO9001:2015 certificate is:

www.mpe.co.uk/wp-content/uploads/2020/07/ISO9001-Certificate-14th-August-2020.pdf

Cyber Essentials

Alongside ISO9001 certification, MPE is also committed to maintaining Cyber Essentials certification.

Cyber Essentials is a set of technical controls to help organisations protect themselves against common online security threats. The scheme is backed by industry partners, including the Federation of Small Businesses, the CBI and insurance providers. In fact the UK Government now requires all suppliers bidding for contracts involving the handling of certain types of sensitive information to be certified in accordance with the Cyber Essentials scheme.

MPE is assessed annually with every piece of IT equipment at the company, all IT security, malware and antivirus software it has in use, and the robustness and policing of all of its IT processes included in this assessment.

MPE's most recent assessment was held in December 2021, and MPE was again proud to have achieved 100% compliance across the entire process.

The current Cyber Essentials certification is valid through to December 2022. It provides reassurance to clients that MPE has taken the appropriate steps to secure its IT systems against future cyber attack and proves the commitment of the business to protecting its own and its customers' data.

The link to the Cyber Essentials certificate is:

www.mpe.co.uk/wp-content/uploads/2021/12/Cyber-Essentials-Certificate-2021.pdf



Zak Dixon



Playing up front for Mersey Marauders

Spotlight on Zak Dixon

Zak Dixon was appointed as a Sales and Marketing Executive with MPE Ltd in April 2021, reporting to Director Paul Currie. Zak's duties in sales administration include responding to enquiries, providing first-line assistance, preparing quotations, and loading and acknowledging orders.

Alongside this, Zak's role in marketing communications and support extends over a broad range of key activities. Importantly in terms of communications channels, he reviews and updates MPE's website and has developed and is populating the company's LinkedIn and Twitter accounts and YouTube channel.

The company's social media initiative steered by Zak is proving most valuable for inter-company communications, as well as an avenue for the wider distribution of its latest news and application stories, enhancing awareness of the MPE brand in defence and aerospace markets worldwide.

Day-to-day marketing support includes photography and image processing, liaison with IT service providers, uploads to the company server, and sourcing display materials for exhibitions and presentations. In the context of the latter, Zak is currently preparing exhibition panels for MPE's attendance with German distributor Electrade at the EMV 2022 event dedicated to EMC, to be held in Cologne from 12th to 14th July.

He moved up to MPE from the power electronics equipment distributor Pulse Power & Measurement (PPM) Ltd based at Swindon, a supplier of satcomms systems such as ground receivers, transmitters and RF over fibre links. At PPM for over four years, Zak was initially their Customer Support Executive and then Marketing Assistant.

From April 2015 he was Sales Executive at the SaaS (Software as a Service) business Webexpenses, a provider of remote, cloud-based expenses management, auditing and invoice processing solutions. He was employed initially at their headquarters in Witney, Oxfordshire and subsequently at their new branch office in Sydney, Australia.

Zak's first-class BA Honours degree at Leeds Trinity University was in English Language and Literature. Added to this, he achieved an HNC and HND in Electrical and Electronic Engineering with distinction at Reading College.

Zak Dixon is single and lives at Aigburth, Liverpool. He has travelled widely across Europe and west coast USA. As a dedicated music fan, he has attended every Glastonbury Festival since 2011. That keen involvement has included raising £1000 for Africa SOS, a child sponsorship charity based in Somerset, by abseiling down from Glastonbury's iconic main Pyramid stage.

In fact Zak exercises most days at his local gym in south Liverpool and plays either as a striker or on either wing for Merseyside's LGBT soccer team Mersey Marauders. Established in 2005, his team competes with much success in a national League playing across the UK, from Glasgow and Tyneside to the East Midlands and South Coast of England. In the English Premier League (EPL), he is a lifelong supporter of Leeds United.



World no.1 TEMPEST filters just got even better

MPE has been long established as the world's largest and most trusted manufacturer of pluggable TEMPEST filters. The company's present ranges have been supplied for over ten years, with many thousands of these "plug-and-go" units in service globally.

Filters for TEMPEST are countermeasures aimed at preventing eavesdropping on data radiated as signals via conducting lines such as power, telephone or control line cables. Now, because of the ever increasing demand for both its UK and EU pluggable TEMPEST variants, MPE has further improved on its proven designs with the implementation of new outlet sockets for its UK range.

Having integral covers, these new sockets provide an even more robust solution to the end-user. What is more, they have greater commonality with MPE's European range, and that wider availability minimises manufacturing lead-time for any models not currently in stock.

As previously reported in Company Bulletin Issue 23, all of MPE's TEMPEST filter products are assigned NATO Stock Numbers, unique codes for NATO organisations to reference and use. The assigning of NATO Stock Numbers to the entire range of MPE TEMPEST filters is testament to their world-leading status and their maturity, performance and reliability in a host of army, navy and air force applications.

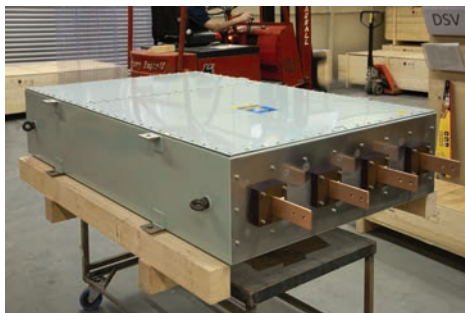
All filter components are manufactured and tested at the MPE factory in Liverpool under a stringent ISO 9001 quality regime, which was last independently audited in June 2022. Reliability over long service has become the hallmark of MPE TEMPEST filter technology in active duty around the world.

MPE offers a comprehensive range of TEMPEST power line filters of alternative performance specifications. These extend from 6A to 16A filters, which might be used to treat individual power inlets, up to 3000A filters for the hardening of a main building power supply.

Over several decades MPE has been supplying TEMPEST products which adhere to the onerous specifications of CESG (the Communications Electronics Security Group at GCHQ) and of the US National Security Agency (NSA) and more recently NATO TEMPEST SDIP-27 and SDIP-29 Standards.

In line with these latest improvements, MPE has taken the opportunity to update its previously published UK TEMPEST pluggable filter data with a more comprehensive range catalogue. This updated catalogue now contains photographic images, 2D and 3D drawings, NATO stock numbers and the relevant technical data for all units within the range.

MPE's new UK TEMPEST pluggable filter catalogue can be downloaded from [here](#)



A large HEMP filter order is loaded for delivery



The shipment is despatched on time from MPE



Fully laden ships in dock at Felixstowe, the UK's largest container port

MPE achieves 95% on-time delivery

Since 2019 significant supply chain pressures, coupled with an unprecedented period of growth, have presented some of the greatest challenges that MPE has ever faced. There are instances where component materials sourced by MPE which had an average 12-week delivery before the Covid pandemic now have a lead-time of double that figure.

MPE's well-established supplier relationships have proved critical, and close contact with suppliers every step of the way has allowed MPE to plan its procurement and stockholding with precision, ensuring that manufacturing schedules have been maintained.

The company has also expanded its supply base and migrated to more local suppliers wherever possible. Such expansion has proved to be a key element in mitigating the risk of stock shortages or manufacturing issues. Furthermore a more local supply base is always helpful in reducing the risks of delay associated with transshipment from long distance.

However, further mitigating supply issues, following the careful analysis of historic usage and forward forecasts, MPE has increased its stockholding of many components – in some cases doubling it – to provide almost a year of component cover for every eventuality.

The conveyance of component materials to MPE and of finished product to clients have presented further issues for MPE. Shipping times have now significantly increased when compared to pre-pandemic times. An accurate picture of prevailing shipping schedules has been vital, and MPE now employs dedicated ship tracking applications to provide up-to-date logistics reports.

The maintenance of regular dialogue with clients has been critical. Whilst any lengthening of delivery times has been minimised by the supply chain measures undertaken by MPE, some lead-times have unavoidably been extended. Under those circumstances, the accurate scheduling of multiple and concurrent projects and the management of client expectations have never been more vital.

Despite MPE having experienced an almost 50% increase in its overall production since 2019 – and in the face of the considerable challenges outlined above – through 2021 MPE achieved a 94% on-time delivery in full to the day and a 96% on-time delivery in full to the week, against the original acknowledgement dates provided to its client base.

Whilst 100% on-time delivery in full is, of course, the ultimate goal, in the real world where unforeseen delays can inevitably arise, this circa 95% on-time delivery rate means that MPE has continued to fulfil almost all orders on schedule and without disruption to the client. This has been made possible only by the recent and ongoing steps undertaken by MPE, which generally run in the background, unnoticed by the company's customer base.



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Receiving their Gold Distribution Partner plaque from John Jephcott of MPE (second left) are, from left to right: Arda Genc, Paula Boyd and Brett Hopley of SACA UK in Liverpool



Brett Hopley

Gold Partner



SACA UK expand their sales engineering team

In line with their forward strategy and driven by a significant increase in sales, SACA UK, MPE's Gold level distribution partners for the UK, further expanded their team in March 2022 with the appointment of Brett Hopley as Business Development Engineer.

In 2020, as a direct result of the rising levels of business MPE experienced in its home market and the growing number of clients with a demand for MPE solutions, for the first time in its trading history MPE had appointed an authorised distributor for the UK marketplace.

Accordingly SACA Group Ltd (SACA UK) were appointed on 1st September 2020 as MPE's authorised distribution partners for the UK. SACA Group Ltd are a UK-registered company and yet share a common ownership and management team with the well-established SACA Europe BV, based at Helmond in The Netherlands.

At the time of their appointment, SACA UK's client interaction was led by their field sales engineer, supported by a team of product specialists. However, with strong sales from day one, the team in Liverpool was quickly expanded with the addition in May 2021 of Paula Boyd as Sales Administrator.

Despite the imposition of Covid restrictions, sales of MPE products via SACA UK continued to grow. In February 2022 this substantial level of sales, along with other targeted activities, saw SACA UK achieve Gold Distribution Partner status with MPE, only sixteen months after their appointment.

Key to this success was the achievement of Cyber Essentials accreditation in March 2021 and ISO 9001:2015 quality management certification in May 2021. These certifications are an increasing requirement for engineering projects. They provide clients with the assurance that the company's data and IT systems are well protected against online security threats and that all manufacturing processes are quality assured, robust and resilient.

Since his appointment, Brett Hopley has undertaken intensive training with MPE and other key suppliers, met with a number of prospective clients new to SACA UK, and undertaken fact-finding tours of Oceanology International 2022 at ExCeL, London Docklands, and Engineering Solutions Live 2022 at the British Motor Museum, Gaydon, Warwickshire.

For further information on SACA UK, check out www.sacauk.com or contact their team either on +44 (0)151 632 9190 or via email info@sacauk.com



On the exhibition floor at EMV



Participating in an EMV workshop



The members of the Electrade team pictured here are, from left to right, Dieter Mühlberger, Erich Thomich, Seb Thomich and Amir Al-Moneyyer

emv

Bronze Partner

ELECTRADE
ELEKTRONIK-VERTRIEB
UND CONSULTING

MPE co-exhibits with Electrade at EMV 2022

MPE is co-exhibiting at the EMV 2022 trade fair with its Bronze distribution partner for Germany, Electrade GmbH, on Stand 710. Taking place from 12th to 14th July at the Kölnmesse, Cologne, Germany, the EMV (Elektromagnetische Verträglichkeit) exhibition and conference is Europe's leading event for electromagnetic compatibility solutions.

Founded in 1988 and organised by the Messe Frankfurt Group, the show has continuously expanded, alternating between Stuttgart and Cologne each year. The event covers all aspects of electromagnetic compatibility (testing, devices, guidelines and certifications), particularly for crowded environments where the latest technologies have ever increasing power requirements. A scientific conference and dedicated workshops in German or English language are co-located with the exhibition.

In fact the 2022 exhibition and conference, rearranged from March, will be the first physical staging of EMV since the 2019 event held in Stuttgart, with a hundred booths to visit. Whilst MPE has previously taken a stand at EMV on several occasions, this will be the first time that Electrade has exhibited there.

Established in 1992, Electrade, based at Gräfelfing, 1km west of Munich, and with offices in Frankfurt-am-Main and Hannover, distributes many high-technology electronics products. Among these are electronics materials, connectors, sensors, transducers and instrumentation from leading OEMs which neatly complement MPE's solutions in many areas.

Appointed by MPE as its distributor for Germany in June 2013 for both standard and customised products, Electrade has a broad customer base extending across aerospace, defence, process control, transport, test and measurement, EMC and shielding, information and communications technology (ICT) and medical equipment. Since the appointment of Electrade, MPE's overall sales to the German marketplace have risen steadily, and the company has been a Bronze level distribution partner since 2017.

Paul Currie and John Jephcott of MPE will be in attendance throughout the EMV 2022 event, and on display will be a broad spectrum of MPE's EMC, EMP, HEMP and TEMPEST filter products, ranging from feedthrough capacitors through to powerline filters.

Together with Dieter Mühlberger of Electrade, they will be available on their joint Stand 710 to answer your questions. But, in advance of EMV 2022, you can get in touch by email with Electrade via dieter.muehlberger@electrade.com and with MPE via sales@mpe.co.uk.

For comprehensive information on Electrade, check out their website www.electrade.com, and to register for the exhibition, conference and workshops at EMV 2022, go to <https://emv.mesago.com/koeln/en.html>



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



A chaff and flare dispenser for fighter aircraft



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

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.

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.

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.

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/>



USAF Space Fence installation at Kwajalein Atoll in the Marshall Islands



MPE protection filter for the USAF Space Fence



USAF Space Fence – another giant leap for mankind

The USAF 20th Space Control Squadron Detachment 4 manages a fence. But not just any fence . . . a Space Fence. So is this really a giant fence in space? Yes and no . . . it's actually a radar on the ground . . . and it's now operational.

The USAF Space Fence is made up of a ground-based sensor that broadcasts constant bands of energy (like fence posts) 24 hours a day, 7 days a week, to some 1,900 miles out. Any object that passes through those "posts"— debris, satellites and even the International Space Station— is automatically tracked. This is an improvement from other radars where an object's location needs to be known in order to track it.

Operated from its home on Kwajalein Atoll in the Marshall Islands near the Equator, the radar operates at a high wave frequency and can aid the detection and tracking of nanosatellites and debris measuring less than 10 centimetres across.

Major Bryan Sanchez commented: "The mission is Space Domain Awareness (SDA). Space Fence provides the Space Surveillance network with enhanced SDA in all orbital altitudes, a better revisit rate of objects in Low Earth Orbit, and an increased capability to create initial orbit determination on new objects. We're expected to field this capability to achieve actionable space domain characterization."

The radar is not just for tracking items. It monitors movement from Low Earth Orbit (LEO, altitude of 400 to 1,200 miles) to a circular Geosynchronous Orbit (GEO, a constant altitude of 22,236 miles that allows satellites to match Earth's orbit) as well as the spacing of objects. Cast-off pieces of satellites or rockets, collisions between objects and general deterioration increase the amount of space debris as well as the risk of future collisions, which then creates even more debris that needs to be tracked. The more pieces in orbit, the more problems!

Ensuring the electromagnetic integrity and protecting this innovative technology against the threat from high power pulses, MPE manufactured and supplied a suite of custom high-current protection filters to the Space Fence program. The custom filters provided by MPE were designed to meet the demanding performance specification laid down by prime contractor Lockheed Martin.

Alongside the demanding performance criteria, of particular importance was the space envelope taken by the filters and the mechanical design to allow ease of integration to the subsystems on site. The custom filter suite delivered by MPE comprised a wide range of units for use within low current through to very high current applications.

With the Kwajalein Atoll system now operational and with an option for a second space scanning radar site to follow in Western Australia, MPE will continue to "boldly go where no filter manufacturer has gone before!"