



MARC DEKENAH MIET MIDIAGE

TECHNICAL, ELECTRICAL/ELECTRONICS DIAGNOSTICS AND FORENSICS SPECIALIST

(Experience – 40+ years)

Memberships

Member of Institute of Engineering and Technology (MIET)

Member of Institute of Diagnostic Engineers (MIDiagE)

Member of United Kingdom Association of Fire Investigators (UK-AFI)

Bio

Marc is an Incident Forensics Investigator and Technical Expert. His specialism is in the relationship between electrical and/or electronic anomalies and their cause of fires and similar catastrophic incidences.

Electrical and electronic engineering encompasses a wide range of technologies meaning Marc is also able to interpret scientific evidence in terms of related disciplines such as (but not limited to) mechanical, hydraulic, chemical, etc., and is, therefore, able to approach an investigation into an incident with a multi-disciplinary mind-set.

Marc's background is 25+ years in Electronics and Systems Design role within an overall 40+ year career in electronics. He has, together with superb interfacing skills, a strong ability to solve clients' crisis-level problems by applying broad and well-founded knowledge, experience, and moral work ethics resulting in continued customer loyalty.

Key Skills

Forensic analysis of a scene with the involvement of electrical/electronic faults in the cause of catastrophic incidences

Broad-picture electrical/electronic fault analysis including undesired product and/or system interaction

Diagnosing, analysing, and troubleshooting hardware and/or software issues on unknown products and systems

Technical support of clients including technical authoring of customer support documentation

Significantly reduce technical support requirements using special techniques and improving products

Freelance lecturing and training in the application of electrical/electronic engineering principles

System Engineering of command & control centres, voice & data on PMR (radio) networks, telemetry, control and instrumentation (PLCs & SCADA), power distribution and signal distribution, and surge protection systems

Contact

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Skill Levels

Fire Investigation

Over 80% success rate in root cause analysis of both small (<£1000) and large (£1bn) scale losses as result of electrical/electronic failures

Power Quality Analysis

Full analysis of 50/60Hz electrical supply and load including harmonics, transients, emissions, and immunity.

Thermal Imagery

Level II (self-assessed) concentrating on electrical/electronic fault analysis

Electronic Repair

DC to 1GHz to component level including power electronics (UPS, inverters, etc.)

Software Analysis

Test and debugging of Assembler / Basic / C / PICK / VBA and others

EMC Compliance Testing

Electromagnetic Compatibility testing and modification of products and systems to meet local and international standards for release to open market

Analytical Software Used

Power Analysis Software (RPM), Scenario (RPM), Flukeview, Eventview, PowerScape (Enetics), Dranview, Qualistar, Telogers for Windows, and others

Circuit Design

Analogue - DC to 30MHz non-RF; Digital - DC to 40MHz (non- microprocessor)

Microprocessor - 8-bit viz. 6805, 8048, 8051, Z80, and Micropchip PIC; RF - small signal to 800MHz, power amplifier to 250MHz/100W, EMC (RF) filter design

Hardware Design Tools

CAD for schematics and PCB layout used during design of whole products (Pcad, Orcad)

Software Design

MPLab, X80, and other microprocessor compilers

Software Written

Complete operating systems, with diagnostics, in Assembler on 8-bit μ Ps

'Truth Logic' language and interpreter for application specific PLCs

Numerous short & long distance hardwire and RF signalling systems protocols

Diagnostic tools in Basic & 'C' on PCs; 'C' based PLC programs

Technical Authoring

Technical support documentation and e-books in HTML/webpage/PDF format

Project Management

To (equivalent) £500k and team of 10

Managerial

Customer service division; Repair center of 10 staff; R&D division of 10 staff

Director of M&AD LTD since May 2015

Experience Summary

FUNCTIONS

- + Fire Investigation (Electrical/Electronic forensics)
- + Fault Investigation and Analysis Specialist
- + Electronic Designer & Systems Engineer operational control centre 'backbones' integrating "third party" products as required; personal & property security products; automated test equipment
- + Manufacturing Manager
- + Customer Services Manager (PMR)
- + Technical Support incl. support website
- + Technical Trainer & Lecturer incl. devising course material
- + Technical Advisor and Liaison
- + Electrical/Electronic/Radio Technician
- + Various admin functions

DISCIPLINES

- + Electrical/Electronic Fault Diagnostics
- + Electrical/Electronic Failure Analysis
- + Thermal Imagery (electrical & mechanical)
- + Power Quality (advanced and in-depth)
- + Power (<1kV) and signal network planning
- + Earthing and lightning & surge protection
- + Process Control incl. PLC & SCADA systems
- + Data telecoms (analogue, digital)
- + LAN/WAN modem-router systems
- + Radio Telemetry
- + RF/audio/video/telephone switching
- + Radio systems planning (HF, VHF, UHF)
- + EMC compliance testing c/w EMC (RF) filter design and implementation
- + Technical Authoring
- + Web-site Design and Maintenance
- + Mast climbing (radio and power)