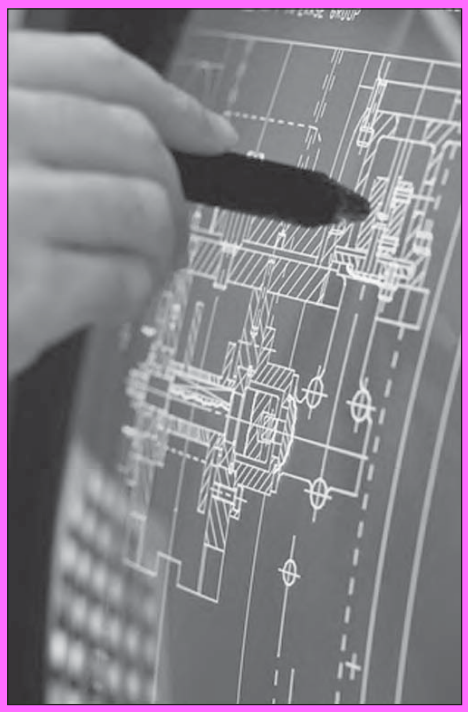
PRACTICAL
EMC AND EMI CONTROL
FOR ENGINEERS AND TECHNICIANS



YOU WILL LEARN HOW TO:

- Apply the relevant IEC Standards and relate to the European Directive which is now widely applicable worldwide
- Understand the issues surrounding EMC and the CE mark
- Determine the testing procedures and equipment used for measuring conformance to the standards
- Design for minimum emission and susceptibility
- Configure systems made up of a number of component sub-assemblies, for conformance
- Render older equipment conformant to new standards
- Maintain equipment in a compliant state after repair or servicing

WHO SHOULD ATTEND:

- Engineers and technicians involved in the design and manufacture of electrical and electronic equipment that produce electromagnetic disturbances and may be susceptible to electromagnetic interference
- Engineers and technicians involved with the maintenance and service of electrical and electronic equipment
- Those that need to ensure that goods conform to the required standards
- Those involved with the marketing and sale of goods that need to comply with the required standards

The Workshop

This Practical EMC/EMI Control (Electromagnetic Compatibility/ Electromagnetic Interference) two-day workshop is a 'hands-on', 'how-to' course. It will show you in a practical and straight forward way how to understand and implement the relevant standards required to reduce and control electromagnetic disturbances and interference.

This workshop will enable you to measure equipment for conformity to standards and equip you to design and configure goods and systems for minimum emission and susceptibility. It will also equip you to render older equipment standard compliant and allow you to maintain compliancy levels when repairing and servicing equipment.

Save on down-time and manufacturing delays with this practical EMC/EMI Control workshop.

Pre-requisites

Fundamental knowledge of basic mechanical plant and operation thereof.

Workshop Objectives

This practical workshop will offer you the most up-to-date knowledge to:

- understand the importance of EMC/EMI control
- know the routes to compliance
- relate to the relevant compliancy standards
- determine testing procedures and equipment for measuring conformance
- design equipment and goods for minimum emission and susceptibility
- configure systems for conformity
- render older equipment compliant
- maintain compliancy in equipment after repair and service

Practical Sessions

To ensure practical knowledge and experience, this workshop offers 5 practical sessions:

- RF emission measurement
- Harmonic emission measurement
- Susceptibility testing
- Designing for compliance
- Demonstration of effects of design practices

The Program

INTRODUCTION TO EMC

- Electromagnetic disturbances and their sources
- Electromagnetic susceptibility/immunity
- Coupling between source and victim
- Electromagnetic compatibility
- The need for harmonisation
- The European Directive
- Current standards
- Routes to compliance

EMISSION TYPES

- RF Emissions
- Harmonic injection into the mains
- Transients
- Standards
- Testing procedures
- Test equipment

Practical RF Emission measurement

Practical Harmonic emission measurement

INTERFERENCE COUPLING MECHANISMS

ELECTROMAGNETIC SUSCEPTIBILITY/IMMUNITY

- Relevant standards
- Testing procedures

Practical Susceptibility testing

DAY ONE REVIEW & QUESTIONS

- Introduction of day two material

DESIGNING FOR COMPLIANCE

- RF radiation principles
- PCB design for reduced radiation
- Digital circuits
- Analog circuits

Practical Demonstration

POWER SUPPLIES

- Harmonic minimisation
- Preventing transient interference/damage

Practical Demonstration of effects of design practices

SYSTEM CONSIDERATIONS: INTERFACING TO OTHER EQUIPMENT

- Filtering
- Shielding
- Interconnecting

MANAGING THE EMC PROCESS

- Interfacing with management
- Interfacing with management and Quality Assurance