



RF Training

-Practical Radio Systems for Telemetry

Systems, Surveying and Installation with practical demonstrations for Engineers, Maintenance Staff, Electricians and Technicians

Course Objectives

To ensure all attendees become familiar with telemetry system radio components, how they are deployed and tested - providing them with a rudimentary understanding of communications design, typical components such as data radios, installation techniques and field test equipment.

Course Benefits

Attendees will gain an initial knowledge of a telemetry Systems most important aspect...RF Communications.

Attendees will be able to make better decisions regarding their own systems in terms of locating issues, understanding implementation practices and appreciation of real world systems;

- Dispelling some common myths about Radio Communications.
- Practical knowledge for testing installations and identifying installation issues.
- Configuration and diagnostic tools - how to use them effectively.
- How to correctly use tools such as GPS and receivers.
- Understanding how antennas work and the correct installation techniques.
- Design & service approach for maintainable communication systems.

Who Should Attend

Control and SCADA Engineers who require exposure to real world communications. Electricians and Technicians who are involved in the maintenance and installation of telemetry systems.

Operational Engineering Staff who wish to gain practical information about the key items in any telemetry system.

Prerequisites & Specific Topics

Prior to the commencement of these courses, students should have computer familiarisation and loading of basic applications. Students should also have a basic understanding of the components in a telemetry system.

Content & Duration

2 day Training Course includes;

Telemetry Systems:

- Base Stations, Repeaters, Store & Forward Repeaters
- Analogue & Digital Modulation
- GSM, Spread spectrum, GPRS, Conventional Mobile Radio
- Radio Modulation and Interfacing (FSK, GMSK, Serial, etc)
- Modems
- System or Block Diagrams

RF Licensing & Surveys:

- Theoretical Plots Vs Practical Surveys
- Radio frequency effects
- Review of license types and license certificates
- Testing during commissioning
- On line RSSI diagnostics
- Fade Margin

Antenna Systems:

- Yagi, Omni Directional, Whips, Folded Dipole
- Coaxial Cable types and attenuation
- Basic patterns and wavelengths
- Lightning Arrestors
- Earthing (kits, towers, poles)
- Characteristic Impedance

Installation Practices:

- Quality components
- Checking RF system against the survey results
- Using Vulcanising Tape
- Correct orientation of antennas
- Earthing
- Using Coaxial Cable Crimpers
- Recording Information
- Photographs
- Theoretical Vs Calculated
- The use of GPS coordinates
- What not to do for installations!

Radio Products:

- Trio Series
- DataRadio ViPR (ROIP) Series Radio

Practical Demonstrations:

- RTU – Radio – Radio – RTU
- Diagnostics
- Adjusting Polarisation
- Loose connectors
- Poor earthing
- RSSI
- Using a GPS to determine distance between sites

Course Inclusions & Requirements

- Please bring a laptop with Windows 2000 or higher. Radio Programming Tools are loaded as part of this course
- Training Documentation is Provided including Content subjects, Radio User Guides, Example Licences, Example Path Plots and Coverage Plots etc
- Lunch and refreshments are provided

Program

DAY 1:

Morning: Components and Systems
Afternoon: Installations

DAY 2:

Morning: Products
Afternoon: Practical

Cost, ONLY – \$1,300⁰⁰ p.p.

Further Information

The following are not provided on this course but can be provided under our comprehensive Service Level Agreement;

- Large scale SCADA integration techniques, approach and methodologies.
- Middleware and their application.
- Licensing, system costs and development.
- System Roll-outs, additions and add-ons.
- Strategic System Development
- Support
- Documentation other than listed for this course

**FOR BOOKINGS AND MORE
COURSE INFORMATION
CALL 07 3396 6388**



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