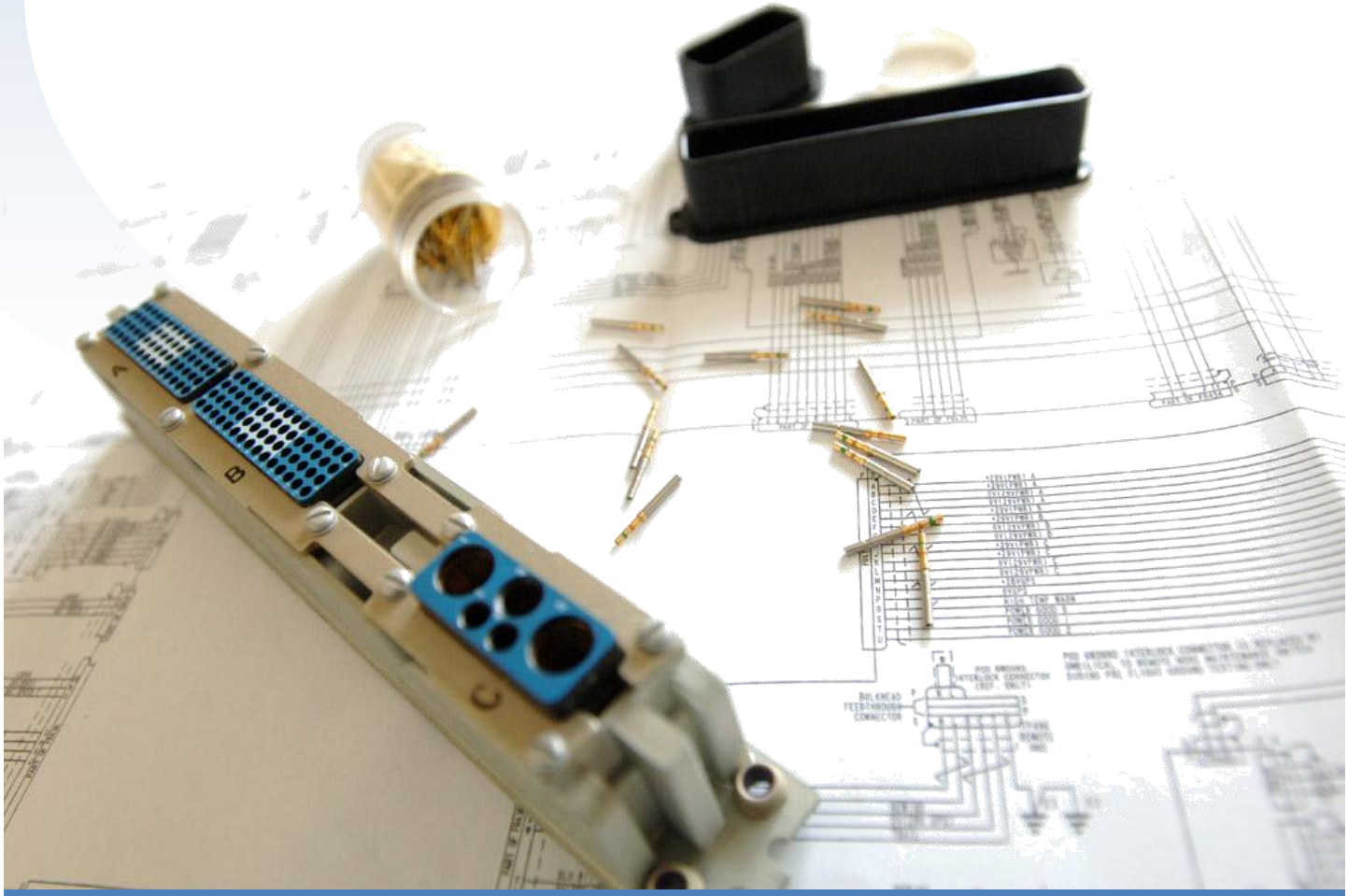
Call us on
0800 048 8812

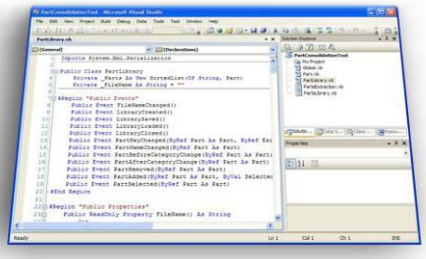
airflair-ltd
www.airflair.co.uk

Technical Services

Supporting Your Development Projects in Aerospace, Defence and Electronics



Systems Engineering • Electronics Design • Enclosure/Mechanism Design



Manufacturing • Embedded Firmware • Software • Consultancy

Airflair Ltd. Suite 7, Building 1, Lopen Business Park, Mill Lane,
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Airflair is committed to quality management.
ISO 9000:2001 approved.
Software TickIT.

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Who We Are

Airflair is a privately owned company, specialising in the development and build of test and development support systems for the Aerospace and Defence industries.

Based near Yeovil in the West Country of England, Airflair can support your development project in many different ways (including the supply of COTS databus testers; the subject of a separate brochure, available upon request).

Combining hands on hardware and software design and development expertise with industry experience which really does go back to the start of the digital age, Airflair is ready to help with just about any aspect of your development project. In addition, we are equipped to put the theory into practice - by building anything from a simple test fixture or cable to a full-blown ATE system.

With an impressive breadth of capability we can help with everything from the early work devising the tests which are required through to hands on help with the actual testing, results analysis and reporting. So whether it's a skill shortage, manpower requirement or a subproject in its own right to create some necessary hardware and software, we probably have what's needed to help.

We're keen to show you what we can do. Why not give us a call on:

+44 (0)1460 77225 or toll free on **0800 048 8812**

Or e-mail us at

info@airflair.co.uk

Alternatively visit our website for more information at

www.airflair.co.uk

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What We Do

Skills

- System Design
- Data Analysis
- Electronics
- Firmware
- CAD
- Software
- PCB Design

Facilities

- NC Routing
- CAD\CAM
- Soldering
- Cable Making
- Light Assembly

Systems Engineering

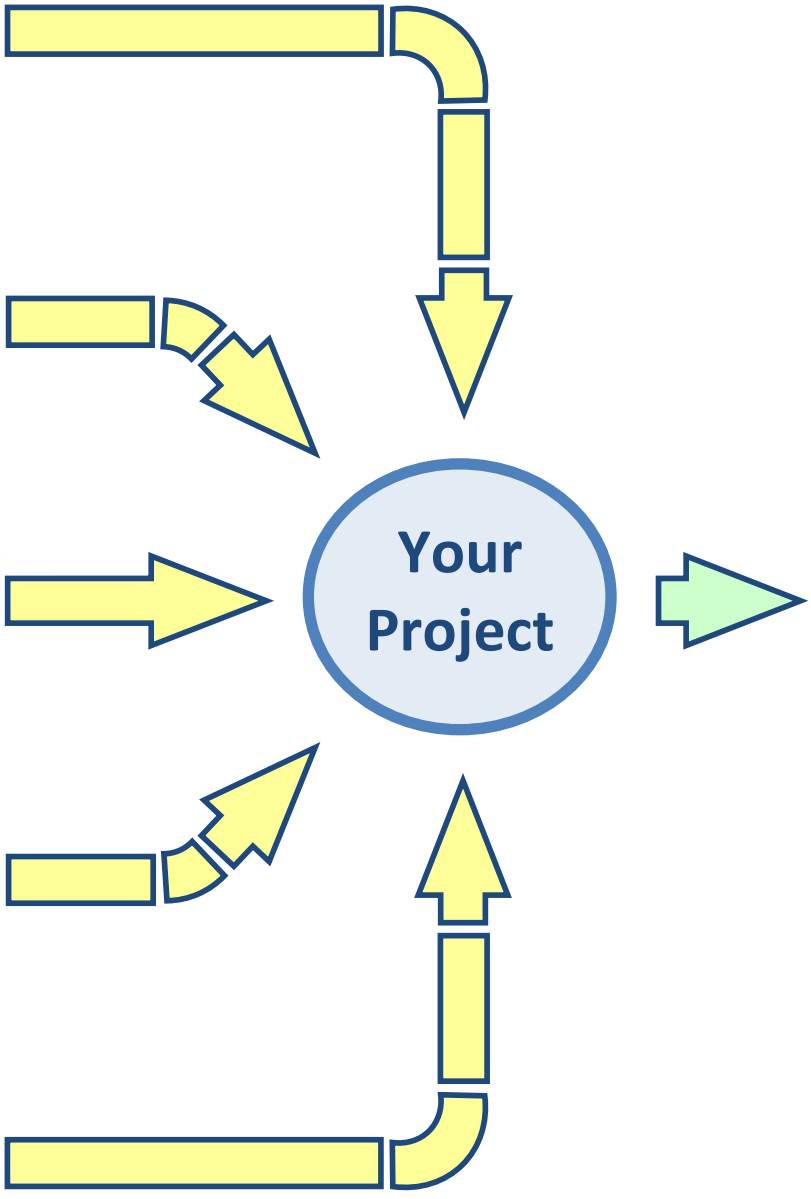
- Avionics Domain Knowledge
- Requirement Capture
- Design Support
- In-house Hot-body
- Offload Package

Test Rigs

- Specification
- Design
- Manufacture
- Wiring
- Metalwork

Test Equipment

- Turnkey
- Custom
- Integrated
- Hardware
- Software
- Test Plans
- Test Engineer(s)



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How We Do It – The People

Our people are by far the most important part of the service we deliver, and they have the experience, skills and determination to deliver.

Extensive Domain Knowledge

It's no accident that Airflair's team have such an extensive background in Aviation and Defence. We know full well that without this our chances of fully understanding what you are trying to achieve (and therefore what we need to offer to provide real value) are poor indeed. Our team offers you:

- Experience accumulated over four decades in aerospace and defence.
- Knowledge based on hands on experience of a wide range of projects and applications – Land, Sea and (especially) Air.
- The maturity to operate with confidence and conviction at all levels.

Breath & Depth

An understanding of what's required is of limited use if it can't be offered up against potential solutions, in a way which allows viability and cost-effectiveness to be quickly and reliably assessed. For this it is necessary to have the technical knowledge to work on all aspects of proposed solutions, going down into the fine detail where the devils lurk. Our team offers you:

- Up to date technical skills for a wide range of tasks and activities.
- The ability to determine what needs to be developed – and then to develop it. (We don't take you down the `V' and leave you to find someone to help you to get up the other side).
- The versatility to turn the solution into working, proven, hardware and software.
- The combination of skill and experience to create truly innovative solutions.

Commercial Awareness

Our team experience takes in senior positions (up to board level) in companies of all sizes, with the associated responsibilities for commercial success as well as technical excellence. We know that our mission is to make a success of our business by helping you make a success of yours.

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How We Do It – The Skills

Within the Airflair team we have a very wide range of skills, in designing and making; hardware and software. In summary:

Systems Engineering

- Requirements Capture
- System Architecture/Design
- Databus Applications

Electronics Design

- Analogue electronics (e.g. signal conditioning)
- Digital Electronics, general
- Microprocessor Application
- CPLD and FPGA design/development (principally Altera and Actel)
- Data Acquisition circuits
- Databus Interfacing
- Printed Circuit Board Layout (Protel, Ultiboard and other tools)

Enclosure/Mechanism Design

- Customisation of standard enclosures to project needs
- Custom enclosure design
- Control panel and 19” rack design and customisation
- Test fixtures and jigs

Embedded Software/Firmware

- For a variety of processors
- Assembler, PL/M, C, Pascal and Java
- Strong skills in hard real time tasks, programmed mainly in assembler

Software (Mainly PC Based)

- In C/C++, VB, Pascal and Java
- Mainly for control over embedded processors and display of their outputs
- Attractive GUI's and emulation of flight displays a speciality
- Extensive skills with data analysis, conversion and formatting

Manufacturing

- Circuit Boards, conventional and SMD, including high density/double sided
- Cabinet wiring
- Cable manufacture
- Machining, including routing, milling and engraving
- Light assembly

All available individually or (for best value) in combinations to suit your requirements.

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How We Do It – The Facilities

Airflair utilises some of today's most advanced hardware and software tools to get the job done quickly and efficiently. In summary:

'Bricks and Mortar'

- Efficient facility combines office, laboratory and workshop in a single tightly integrated unit
- Attractive location approximately 9 miles west of Yeovil, England

Information Technology

- Windows/PC based for optimum compatibility
- Heavy investment in task specific computing (average of 2.4 PCs/Person!)
- Extensive use of virtual (PC based) instruments

Software Development Tools

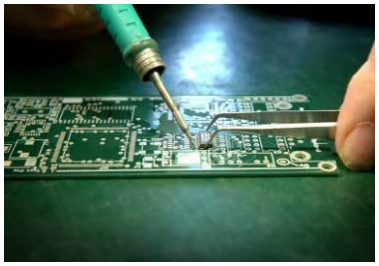
- PC software tools from Sun, Microsoft and Borland inc. C/C++, VB, Pascal and Delphi
- PC Cross Assemblers/Compilers for Intel, Silicon Labs, Hitachi and Pic Processors
- Object oriented, extreme programming and UML based software development approach
- Extensive suite of proprietary IP, ready for re-use

Electronics Design and Development

- Multisim and DesignWorks schematic capture
- Quartus and Libero CPLD and FPGA development tools
- Protel, Ultiboard PCB layout, plus various viewers
- Significant investment in in-house software tools to speed workflow
- Well equipped development laboratory

Production

- High performance soldering station for high density work
- Advanced binocular vision system for fine production and inspection work
- In house software tools facilitate rapid prototype/small batch builds
- NC Routers/Engravers (Hi Z 720 and SEZ 400) complemented by Emco vertical mill
- Closely integrated CAD/CAM keeps manufacturing interface quick and error free



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How We Do It – The Process

Airflair operate to a streamlined yet highly effective set of processes which maximise responsiveness and minimise lead-times, while at the same time providing robust control and secure record keeping. The intent throughout is to avoid unproductive documentation products and process steps – without adverse effect on design integrity or product quality.

Key characteristics of the process are:

- Requirements captured in a form which maximises traceability and minimises documentation requirements
- Concurrent engineering, facilitated by tight teamwork and minimum outsourcing
- In-house software tools provide efficient management of technical data, issues and progress

Naturally, the overall process, and its constituent parts, fit into our Quality Management System – fully approved (including Software TickIT) to ISO 9000:2001.

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Project Examples

Below are some recent examples of the types of work we have undertaken:

1553 Bus Controller & Data Concentrator

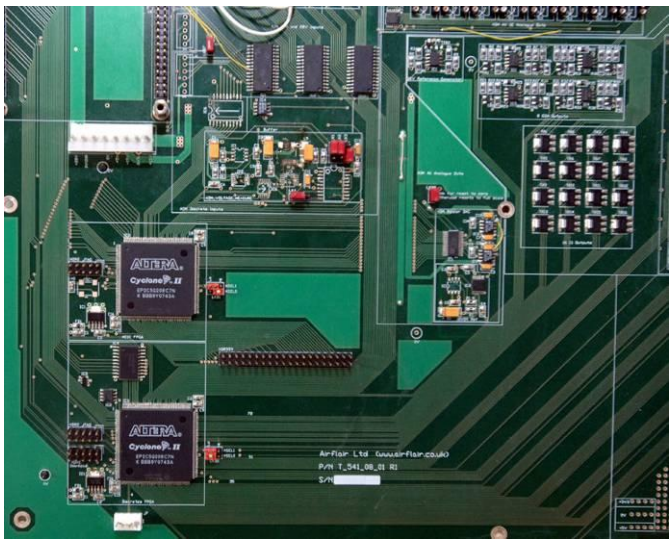
A combined 1553 Bus Controller and Data Concentrator created to support proof of concept flight trials. This equipment, which makes extensive use of our existing data bus and data acquisition IP, combines in a single compact airborne unit:

- MIL-STD-1553 Bus Control, with bus cycle definitions loaded from a Notebook PC.
- Data transfer, with reformatting, from one 1553 message to another.
- Minimum latency acquisition of serial, analogue and discrete data – and its output to the 1553 bus in an `Emulated RT' message.
- Real time monitoring and full bandwidth recording to the PC whenever connected – autonomous operation at all other times.

Avionics ATE

This substantial item of Avionics ATE makes extensive use of our Baseline Architecture to provide a full pre-delivery test solution for a flight computer. Interfaces provided to the UUT include:

- Over 40 ARINC 429 channels.
- Similar numbers of analogue and discrete I/O signals.
- Motor drive loads and monitoring.
- Position feedback generation, including servo models.
- 400Hz and 28V dc supplies, switchable, variable and interruptible.
- Built in touch screen PC and Software.



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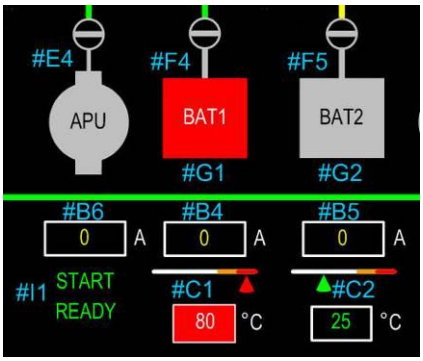
Project Examples

Here are a few more examples of our achievements to date:

Avionics Simulator



Based on the combination of two COTS test products, repackaged in a standard enclosure, this system simulates the flight deck displays associated with an electrical power control system. Airflair's standard databus tester software, ZEUS, is enhanced using a custom software plug-in, to provide a high fidelity representation of the cockpit presentation while at the same time allowing access to low level detail to aid development and proving activities.

Airborne Computer

Airflair designed and manufactured the complete Electronics Module (based on largely third party COTS components) for this equipment and provided final assembly, test and repair facilities for it. In conjunction with the customer and the manufacturer of the enclosure, this work was completed, and first units delivered, in approximately three and a half weeks for an urgent UK MoD project.

Comms Control Panel

This equipment was designed, developed and manufactured entirely by Airflair and is now in service with the RAF. Again, a major feature of the work was that the entire project, from initial go-ahead to first delivery, was completed in just four weeks.

Databus Tester Products

Airflair have developed, and supply as off-the-shelf items, a range of USB connected Avionics Databus Testers. All are USB bus powered (to make them equally suitably for both rig and portable use) and all come as standard with our feature-packed ZEUS PC software.

Call us now and ask for our product range datasheets.

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Supporting Your Development Projects in Aerospace, Defence and Electronics