

COMPANY PROFILE

The Company was formed by Alan Buckman and William Hardy in 1986, after leaving senior positions at Thorn EMI Instruments. Over the years, our business has grown steadily, as we have moved to larger premises, recruiting additional staff who bring new expertise, enabling us to offer a more comprehensive design and engineering service.

Our clients cover a broad spectrum of industries ranging from multi-national companies to small businesses.

A professional approach is combined with an assurance of personal commitment that comes with commissioning work with a small team of dedicated, and experienced engineers. We would be pleased to discuss your ideas and how we may help, without charge or commitment.



**BUCKMAN
HARDY
ASSOCIATES**

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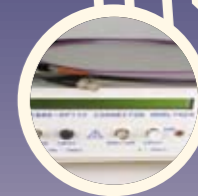
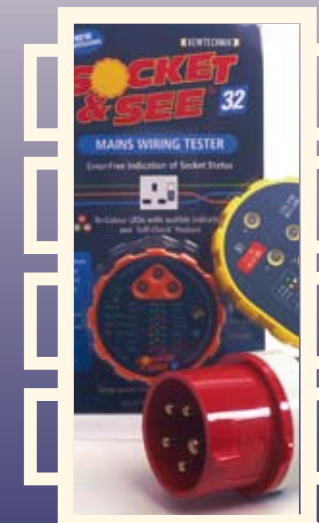
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**BUCKMAN
HARDY
ASSOCIATES**

Electronic Engineering Consultants



BUCKMAN HARDY ASSOCIATES

Buckman Hardy Associates are a team of professionally qualified Electronic Design Engineers. We have 20 years of experience working for some of the biggest names in the electronics industry and offer a range of services that are both comprehensive and flexible.

- **PRODUCT DESIGN**
- **CUSTOM TEST EQUIPMENT**
- **FEASIBILITY STUDIES**
 - Introduce new products quickly to meet competitive pressures.
 - Provide extra effort on current projects to meet tight deadlines.
 - Incorporate latest electronic technology to respond to market needs.
 - An objective view of problems, with solutions tailored to your requirements gives the most cost effective solutions.
 - Free initial meetings, and a fixed price quote for our work.
- **PC AND EMBEDDED SOFTWARE**
- **UPDATING CURRENT DESIGNS**
- **PROTOTYPE DESIGN**

TECHNICAL EXPERTISE

Buckman Hardy Associates have an established reputation for:

- **Instrumentation** – We have designed instruments ranging from hand held and battery powered, to rack mounted, as specials or for volume production. To comply with EN, BS, UL, CSA, VDE, or other specifications.
- **Analogue Circuit Design** – We have experience of a wide range of techniques including:– amplifiers, filters (passive, active and digital), power supplies (linear and switch mode), analogue to digital conversion techniques, low power circuits, non linear circuits and various transducer technologies.
- **Microprocessors** – We have developed embedded applications for a large number of microprocessors including Hitachi H8, Texas MSP430 series and Microchip PIC (12, 14, and 16 bits), for which we have hardware and software development tools. Applications are written in C in a modular fashion for high quality and easy maintenance. .
- **CE Marking** – We design and test instruments to ensure compliance with product specific and generic standards using the self-certification route.
- **Electro Chemistry** – Experience of various electro-chemical measuring instruments.
- **Measurement** – We have knowledge of precision measurement techniques covering many basic parameters, e.g. voltage, current, resistance, capacitance, inductance, frequency, temperature, etc. We are able to implement significant amounts of signal processing in software for cost savings.
- **Process Control** – We have designed process control equipment ranging from specialised measurement systems to mass produced head transmitters with BASEEFA approval.



Examples of Previous Projects

Television Detection Equipment – Buckman Hardy Associates designed and manufactured a range of television detection equipment for the BBC. A hand held two channel detector picks up small signals emitted by the television, and by using a combination of analogue and digital signal processing techniques the detector is able to display distance and direction to the nearest television.

We subsequently developed a miniature TV detector the size of a mobile phone, it is single channel and displays the distance to the nearest television.

Socket and See – A range of electricians test equipment for a successful UK company. As well as designing instruments we provide production support to the factory in China. www.socketandsee.co.uk

Ski Simulator – A microprocessor based system to allow the skier to control motors that drive a moving belt on a ski simulator. We developed the electronic hardware and software including safety features. www.realli-ski.co.uk

Shopping Trolley Lock – An electromagnetic device built in to the wheel of a supermarket shopping trolley. When the trolley is pushed over a buried cable at the perimeter of the premises, a signal is detected that is electronically amplified and filtered. This signal operates a small solenoid which in turn locks the shopping trolley wheel. Buckman Hardy were commissioned by the trolley manufacturer and took their concept to a working prototype.

Production Test Equipment – from simple electrical test boxes to automated test and calibration systems controlled by a PC. One automated system communicates with the instrument under test, this allows test conditions and loads to be set up, automated testing, and data logging of test results for calibration certificates and Q.A.

Magnetic Level Measurement – An instrument to measure the level of molten aluminium in a closed sand mould. This was achieved by sensing the change in magnetic field by a series of coils situated above the mould. This output is linearised and used to achieve PID control with the pumping of the molten aluminium. The design was commissioned by Rover Cars and had been operating on 8 casting stations 24 hours a day for many years.

When Rover licensed the process to a Korean manufacturer we upgraded the instrument to include programmable PID or step control of the pump. The new instrument uses a multi-processor configuration, to provide an ergonomic man machine interface based around a graphics LCD with context sensitive controls.

Astronomical Products – A range of instruments for astronomers that are designed by Buckman Hardy Associates, manufactured and marketed by AWR Technology. The intelligent drive system controls a telescope. It consists of a handset that contains a database of interesting objects, and a drive box that microsteps the motors used to point the telescope. This modular approach allows control of different size telescopes including Victorian monsters 30 foot high. www.awrtech.co.uk

