

## REFEREED PUBLICATIONS

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## PATENTS

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## **OTHER PROJECT WORK**

**Methanol/Gasoline Ratio Cell.** On-line fuel management of mixed fuels; development of a cell capable of measuring the ratio of mixed fuels to aid engine control.

**Data Acquisition Interface.** Multipurpose data acquisition microcomputer; a multifunction uP based board to allow a portable PC to be used as a datalogger.

**Programmable fuel injection pump controller and datalogger.** Research test bed unit for fuel injection alternative; a versatile controller/ logger for the development of a novel fuel injection pump.

**DYNOPAK direct connect dynamometer system.** Hydraulic "rolling road" substitute; development of control systems for a novel automotive dynamometer system based on replacing the drive wheels with hydraulic pumps working against a computer controlled load (valve), has also been used with army tanks. Digital oscilloscope to PC interface. Extending the data capture ability and intelligence of digital oscilloscopes to aid research into the operation of diesel engines on methanol.

**Powder technology/measurement.** Using various techniques to measure speed, mass flow, moisture etc. in powders (casein).

**Non Destructive Testing.** Investigating the non destructive testing of fibre reinforced composites (ie fibreglass etc.) using acoustic emission techniques, including the use of polyvinylidene fluoride (PVDF) transducers on plate FRP structures. Also using acoustic emission on CNG cylinder testing and ceramics characterisation. Eddy current testing to detect cracked saw blades.

Development of data acquisition software for diverse applications.

## **SOFTWARE/CD-ROM Publications**

**Quality Induction Module** - Multimedia Intranet application for BECA CARTER HOLLINGS and FERNER, includes audio, video and animation.

**XFILL version1.0** - a program to add ground plane artwork to printed circuit boards. Published in the SIMTEL MSDOS archive/CDROM and also "Made in Holland" produced by the Dutch Info Centre, Postbus 568, 1200 AN, Hilversum. XFILL and other programs are also to be published in an upcoming CD-ROM Brainstormer produced by Pacific HiTech

**INSBASIC** - A Control Oriented BASIC Interpreter based on the Lawrence Livermore Laboratories BASIC Interpreter. This version was debugged and enhanced to allow operation in a multitasking realtime environment, with many mathematical, control and data functions added. This program was used by many of those who built the kitset HAL computer also developed at this time.

**MULTILOG** - A Windows(TM) based multitasking data acquisition program, this program has been on-sold to clients with related hardware. A demo version will be available.