ABI Electronics

Test & Measurement Systems

EXTENDING THE LIFE OF YOUR PCBs SINCE 1983

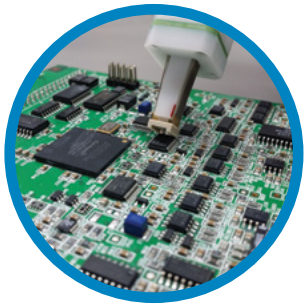
WELCOME TO ABI

ABI Electronics offers unique time-saving and flexible products which are used by companies operating in a wide range of sectors. ABI's fully integrated hardware and software solutions allow our customers to take control over their electronic maintenance requirements, automate quality tests on new products and generate schematics for legacy equipment.

MANUFACTURING

MASS TRANSIT

ARMED FORCES



MAINTENANCE

AEROSPACE

OIL & GAS

AUTOMOTIVE

EDUCATION

ABOUT
US

ABI Electronics has designed and manufactured high quality test, diagnostic and measurement instrumentation in the UK since 1983. ABI's range of products are commonly used in the test and maintenance of highly complex systems across a variety of industries and applications worldwide. Customers choose ABI products for their flexibility, affordability and time-saving features.

The company founders developed the world's first low cost test solution for integrated circuits that turned into a great success amongst engineers in the UK and abroad.

ABI has now over 40 years experience of developing the highest quality testing and fault-finding equipment, backed by a global reputation for quality and service. It is also certified in accordance with ISO 9001-2018.

Over all these years, ABI has remained loyal to its principle of full design and build high quality products in the UK.

CHANGING VALUES & BEHAVIOUR IN THE INDUSTRY

Created in 2015, ABI's initiative '**Repair, don't waste'** has become a global movement aimed at increasing awareness to the benefits of industrial electronics repair over replace across the business spectrum. The "Repair, don't waste" movement has reduced waste, downtime and created quality job opportunities around the world.

REPAIR DON'T WASTE

WHAT CUSTOMERS SAY

"We are proud to join the #RepairDontWaste community." The whole world stands to profit massively from industrial electronics being kept going for longer.

Collins Aerospace

Join the **#RepairDontWaste** community and keep up to date with our latest news.

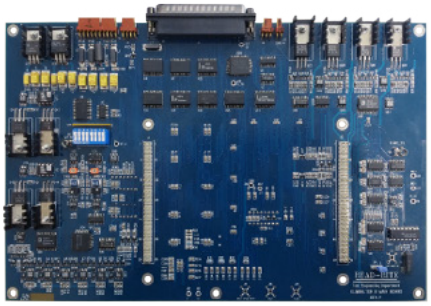
Find out more at **RepairDontWaste.com**

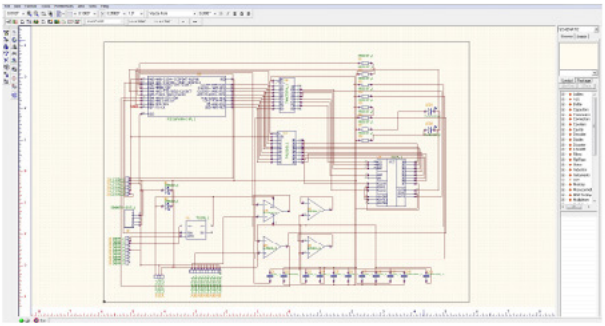
THE
EQUIPMENT | **RevEng Schematic Learning System**

A simple to use system designed for the generation of schematics from a sample board.

FROM YOUR PCB TO SCHEMATICS!

The efficiency in the maintenance and repair of electronic PCBs can be compromised by the lack of circuit diagrams.





MAIN FUNCTIONS

Learns Connectivity

Through clips and connectors linked by the operator to every device on the PCB

Generates a Net List

List of components & interconnections

Creates a Circuit Diagram

By a very easy automated process

KEY BENEFITS

- Reduce fault finding time
- Replace less components
- Reduce PCB scrappage
- Generate professional circuit diagrams
- Stop and resume the process at any time

WATCH VIDEO

CABINET SYSTEMS

- High pin count system for multiple requirements and large circuits.
- Cabinet equipped with control card and 1024 to 2048 measurement channels.
- Systems can be expanded to 2048 channels at any time after installation to meet changes in budget availability or application requirements.

MULTILINK SYSTEMS

- Entry level system for low budget or small to medium circuits.
- MultiLink unit equipped with 256 measurement channels.
- It can be expanded to 768 measurement channels.

RevEng's Glossary

Handy definitions of how RevEng works.

THE PROBLEM	THE SOLUTION
Maintenance and repair operations continue to suffer from a lack of circuit diagrams.	RevEng is an effective method of creating professional quality circuit diagrams from a sample board.

ACCURACY
A verification facility enables users to confirm the learned data is accurate.

CAD
Edwin provides unique features that enable drawings to be generated in a short period of time. Edwin imports the net list and an automated process places components and routes signals. Drawings can include bus structures and multi-page schematics.

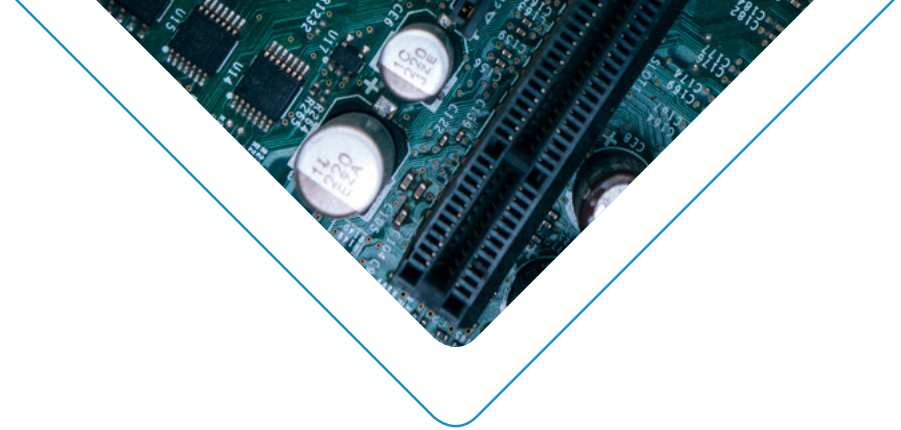
CLIP CHECKS
To minimise operator errors, the system applies an orientation check and pin check to confirm clip contact and position.

COMPONENT ACCESS
A wide range of IC clips and connectors provide contact with the circuit. Handheld probe and buzzer facilities overcome physical access limitations of the board.

CONTENTS
RevEng comprises PC based measurement hardware, RevWin control software and EdWin, an integrated CAD package.

FUNCTIONS
RevEng learns the connectivity of a sample circuit (NetList) that EdWin uses to create a circuit diagram.

INTELLIGENT CONTROL
RevWin generates an efficient sequence of clip combinations and movements that will learn all possible connections.



LEARN CONNECTIVITY

Learning is by clips, connectors and probes that are attached to clusters of components. RevWin guides the operator to place and move the clips around the reference circuit.

LIBRARY

There are over 12,000 components in the library. New and custom devices can be added easily without knowledge of the content or function.

MEASUREMENT TECHNIQUE

RevEng measures the resistance between the component pins. The short circuit threshold is set at 7 ohms. The compliance is 5 volts into an open circuit and 10 mA into a short circuit. Typically, the system delivers 10 uA into a circuit.

NET LISTS

Net list is a list of components and connections. It is a valuable document in test engineering and maintenance support for test engineers to trace signals, as input to CAD packages and as data input for ATE programs.

OPERATOR INTERVENTION

The operator can modify or override the automatic placement of the clips if necessary.

SAFETY

RevEng learns without applying power to the board. It limits the measurement voltage and current. Semiconductor gates are not affected, and it is safe to use even on low power technologies.

UNIQUE

RevEng was designed in the UK to provide an effective solution that overcomes the restrictions imposed by manual methods. It is not limited by the size and complexity of the circuit or by the component technology used.

FAQ

Here are some common questions about RevEng.

Is RevEng a tester?
NO. RevEng is optimised to learn connections between components. It does not use the expensive measurement channels used in ATE. It is a "stand alone" facility that avoids the "bottleneck" suffered by a "multi use" system. RevEng offers a higher performance at a lower cost than the optional facility on an ATE.

Does the board need to be powered up?
NO. RevEng makes all measurements without applying power to the reference circuit.

What skills are needed?
There are two major parts to the process. Data entry and learning followed by schematic drawing. Technicians and draftsmen with a basic knowledge of electronics and circuit diagrams are more appropriate than graduates.

Will RevEng damage my board?
NO. RevEng uses a low compliance measurement. The technique is safe even for low power devices.

What devices are in the library?
Currently the library contains over 30,000 components and connectors. These include discrete components, analogue and digital ICs, microprocessors and memories.

Can RevEng handle custom and unknown devices?
YES. If the component is not in the library, you simply draw the symbol and define the number of pins on the component. There is no need to understand the function of the device or even which pins are inputs or outputs.

Can analogue and complex digital circuits be learned?
YES. RevEng is not limited by the component technology or circuit complexity. It caters for discrete components; analogue ICs, digital ICs, VLSI, processors and mixed technology high pin count ASICs.

What about low value resistors, inductors and transformers?
The measurement threshold is set to 7 ohms. This is the optimum value for most circuits. Low resistance components may appear as short circuits. These should be disconnected during the learning process.

I only have faulty boards. Can I still learn the circuit?
YES. Provided the fault does not cause a short circuit between nodes.

Do I need to understand the function of the circuit?
NO. Knowledge of the circuit function is not needed to use RevEng effectively.

Can I learn part of the circuit?
YES. Simply define those components to be included in the drawing and follow the standard procedure. Part or all of the remainder of the circuit can be included later.

Do poor connections cause errors?
NO. RevEng has a Pin Check that checks contact before every measurement. Operator warnings are given for contact errors and missing or misplaced clips.

How accurate is RevEng?
Very accurate. To ensure complete confidence RevEng offers ReScan and Verification procedures.

What is the benefit of buying more channels?
Reduced learn time. The time to learn is a function of the number of components and the number of clips available. The greater the number of clips the shorter the time to learn. The choice is a balance between capital investment and the time to learn. MultiLink systems are suitable for smaller circuits and Cabinet systems for larger circuits.

How many clips do I need?
The choice is a balance between the cost of the clips and the time to learn. The practical limits are from two for each IC package style to one for every IC.

Can I assemble my own clips?
YES. RevEng uses standard ribbon cable, DIN41642, IDC connectors and commercially available IC clips. These can be assembled to meet user requirements.

What about non-standard package styles and connectors?
These are not a problem. Virtually any style connector or clip can be used to attach to the component.

What happens if there is no clip for a component?
Wandering Probe and Buzzer modes are provided to cater for "unclippable" components.

Can I produce an artwork for the circuit board?
YES. The CAD software can be enhanced to include PCB layout, design verification and simulation. These options are available through your local distributor.

OUR
CLIENTS

ABI products are used all over the world by companies operating from railway, automotive, aerospace and heavy industry to armed forces, industrial maintenance and education.

SUPPORT

We are here to help!

Customer service is part of our commitment to continued quality and product development. We always strive to provide quick and efficient support to our customers worldwide. Service, maintenance and upgrades are available for our range of products as well as customised solutions to suit special requirements.

Tech Support

Direct access available to technical support from ABI's engineering team based in the UK and from our global distributors.

Upgrades

Stay current with free upgrades to software and maintenance releases.

Global reputation for quality and service

ABI Electronics is certified in accordance with ISO 9001-2018. The system is based on an ongoing commitment to quality, professional fulfillment of duties and constant expansion and development.

ISO 9001 CERTIFICATION
UKAS MANAGEMENT SYSTEMS 0060

Certificate nº: 3133

ABI Training and Certification

We are also committed to meeting every customer's training needs. We offer a range of training courses, complete with hands-on opportunities, which can be delivered in house or on-site.

CONTACT US!

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