ABI Electronics

Test & Measurement Systems

EXTENDING THE LIFE OF YOUR PCBs SINCE 1983

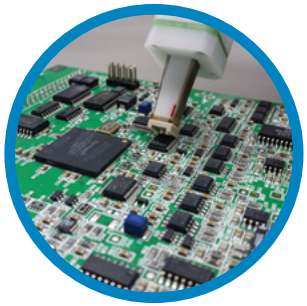
WELCOME TO ABI

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.

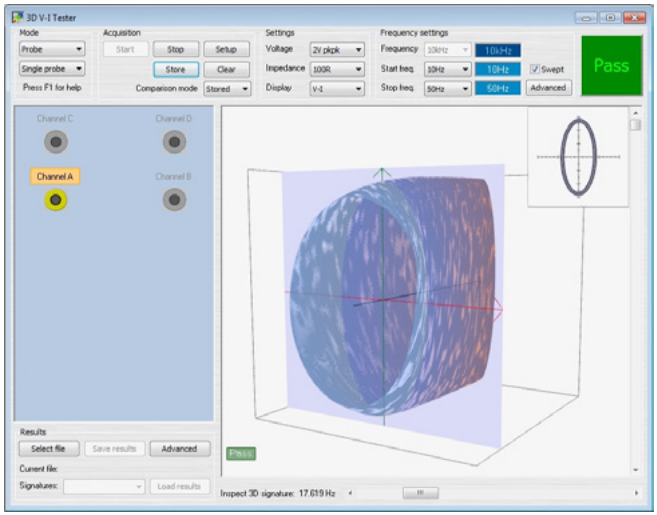
Collins Aerospace

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

Find out more at **RepairDontWaste.com**

SYSTEM 8 | **ADVANCED MATRIX SCANNER (AMS)**

V-I SIGNATURE TESTER WITH FREQUENCY SWEEP



The SYSTEM 8 AMS is an innovative solution for the analysis of components and complete PCB assemblies under power off conditions. Using a unique test technique, the AMS offers access to electrical signatures for the detection of faults including internal damage and inconsistencies. The AMS simply increases fault coverage and, at the same time, reduces fault-finding time.

Detect more faults on PCBs by increasing test coverage:

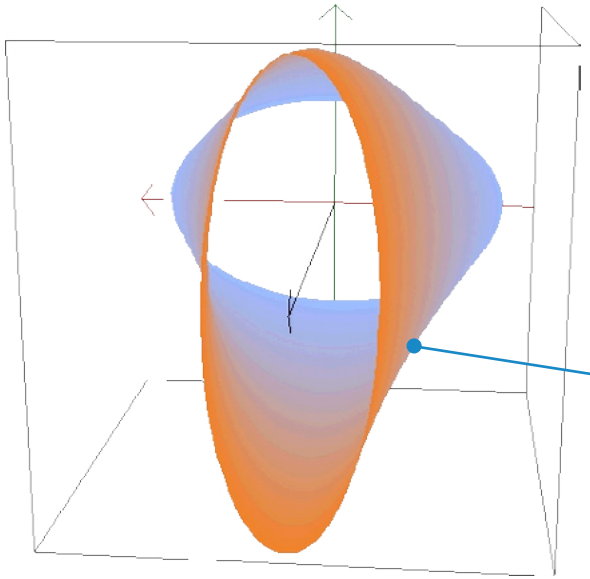
- Diagnose PCBs without applying power
- Detect internally damaged components
- Identify leaky and incorrect components
- Find inconsistent devices
- Minimise risk of damage
- Reduce testing time

What is V-I signature testing?

V-I signature testing is an established and reliable technique for component fault finding on both analogue and digital boards. An AC voltage is applied to a test point (via a current limiting resistor) and the resulting current is measured. The results are plotted on a voltage/current graph which displays the signature of the test point.

Analysis of a V-I signature, usually by comparison with a reference, can lead to finding faults such as:

- Leaky components
- Internally damaged components
- Incorrect value components
- Inconsistent components
- Short and open circuits



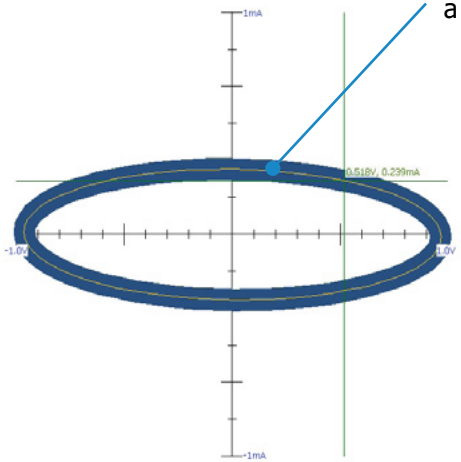
3D signature for a capacitor

Power off = safe test Signatures are acquired when no power is applied to the board under test. This is beneficial as it reduces the risk of damage to components during test and allows semi-skilled operators to run tests safely. More importantly, it is a major advantage as it allows even completely "dead" boards to be diagnosed.

Increased fault coverage with frequency sweep

The Advanced Matrix Scanner (AMS) module increases the fault coverage by varying the frequency of the AC voltage at which the V-I signature is acquired. The resulting curve is plotted in three dimensions which allows the variations of the V-I signatures to be observed over a frequency range. This can lead to finding faults that are not visible with a standard V-I analysis.

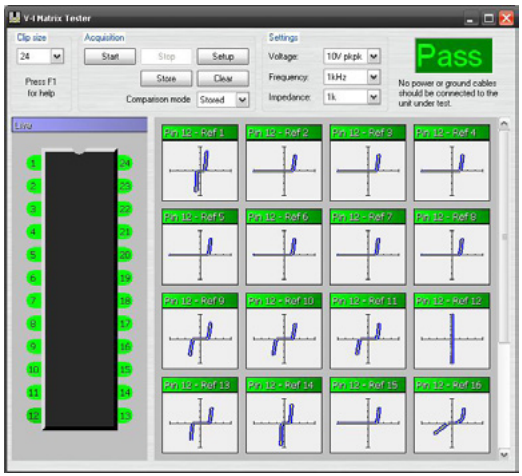
V-I signature for a capacitor



Multiple channels = faster test The AMS module is equipped with 64 test channels (expandable) to allow acquisition of signatures on high pin count components and even complete board assemblies (via a connector for instance). This drastically reduces the time needed to acquire data and enables PCBs to be diagnosed quickly without manually checking each pin.

Increased fault coverage with matrix V/I

The AMS module also increases fault coverage by acquiring V-I signatures in Matrix mode. In this configuration, the module acquires the V-I signatures of each pin of a component or board with reference to all the other pins available (as opposed to a single reference pin in standard V-I testing). This generates an unprecedented set of data (400 signatures for a 20 pin device) that allows the most elusive faults to be detected.



Test capabilities

The Advanced Matrix Scanner (AMS) offers various forms of the V-I signature test with configurable parameters to extend its range of applications and increase test coverage:

- V-I signature tests with sweeping frequency
- V-I signature tests (static frequency)
- Dynamic tests with pulse outputs
- Multi-reference V-I signature tests (Matrix V-I)

TECHNICAL DATASHEET

Technical specifications

Number of test channels	64 channels + 4 probes per module (expandable to 2,048 channels)
Test voltage	2 V to 50 V peak to peak
Voltage resolution	12 bits output waveform, 10 bits acquisition waveform
Test frequency (static)	1 Hz to 10 kHz
Test frequency (swept)	100 Hz to 10 kHz
Test current	1 µA to 250 mA
Source impedance	100 Ohm to 1 MOhms
Waveform modes	V-I, V-T
Waveform display	Multi-plot with single waveform zoom
Waveform display 3D	3D projection with frequency plane
Waveform comparison	Automatic comparison mask
Comparison tolerance (mask)	User adjustable, 2% to 25% of scale
Comparison tolerance (overall)	User adjustable, 40% to 95% of scale
Waveform comparison mode	Live, stored
Data storage	To file with multiple sets per file
Package support	Probes, DIL, SOIC
Number of pulse outputs	4
Pulse cycles per channel	Up to 4, user definable
Pulse amplitude	Adjustable to +/-10 V
Channel compensation	At user's request

Accessories

Variable Power Supply cable set consisting of

Standard	2x 32 way test cables 1 x 64 way test cable 4 x Ground leads 4 x Pulse leads 2 x single V-I probes 2 x hook clips with cable
Optional	EZ Prober Multiprobes Penprobes

*The ABI development team strive continually to improve their products for the benefit of the customer.
The specification of current products may therefore vary from that described in this flyer.

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.

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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