



COMPANY PROFILE.



Repair & Calibration Ltd is now one of the leading companies in the field of instrument calibration and repair within the UK.

As a result of its firm commitment to quality, RCL became the first independent Calibration Company to achieve the British Standards Institution's approval ISO 9002 (now ISO 9001:2008). This was then followed in by the Standards Laboratory's accreditation by the United Kingdom Accreditation Service, UKAS in accordance with ISO/IEC 17025:2005.



RCL offer a complete calibration service.

Using semi and fully automated calibration systems we are able to calibrate a wide range of electronic test equipment.

Where your equipment falls outside our capability we use approved suppliers to manage your complete inventory.

We are also able to calibrate more specialised areas, for example, PXI & VXI cards, field point modules, Teradyne Self Test Boxes, Dynamic Loads and Static Safety Instrumentation. RCL have been chosen by a number of manufacturers as a UK support agency, who have included:

AC DC :Electronic Loads.

Ball Efratom: Rubidium and Quartz oscillators, Time frequency systems.

Bentham: Current Amplifiers.

EIP Microwave: Microwave source locking frequency counters.

Mead Aviation: Aviation Battery Chargers.

Practical Power: Static Safety Instrumentation.

Teradyne: Self Test Boxes.

CALIBRATION SERVICE.

Our calibration service covers a wide range of electronic test equipment from low frequency instruments including Digital Multimeter's, Frequency Counters, and Oscilloscopes through to high frequency Signal Generators, Power Meters, and Spectrum Analysers.

All of the following services are included in our calibration charge:

Certificates of Calibration:

Supplied with the calibrated instrument and in accordance with the manufacturer's published procedures instructions and the provisions of ISO 9001:2008 (formerly BS 5781 Part 1 1992). The certificate includes pre-calibration status upon receipt by RCL. Before and after results are provided when required.

Engineer's Report:

These state deviations from specification or faults found upon receipt, the work carried out and any parts or materials used to complete repairs.

Safety Check:

Each instrument and their accessories are checked to the appropriate sections of the relevant standard for portable appliances.

Turn-around:

For calibration, the standard turn-around is five working days but we offer a 'Premium Service' where turnaround can be reduced to 48 hours if required.

Repairs:

Should they become necessary, a written quotation would be supplied. These detail the faults found and necessary remedial action required for repair, along with the costs that would be incurred. All repairs undertaken have a three-month warranty.

Transportation:

To and from your premises would be on a specified day by specially adapted vehicles that have been designed to ensure the safe carriage of delicate electronic equipment.

Note: All equipment returned after calibration or repair would be cleaned, old labels removed and accessories packed and attached to the instrument.

REPAIR SERVICE.

The Company operates a comprehensive repair facility to complement its calibration services. As we are able to repair the majority of instruments we calibrate, we are often able to offer our clients not only a significant saving but also a much faster turnaround when compared to the manufacturers.

We are able to repair a wide range of equipment from general purpose test equipment to more specialised areas, some of which are listed below:

Microwave Equipment:

Agilent, Hewlett Packard, EIP, Wiltron, Anritsu, Tektronix and Advantest; sweepers, generators and spectrum analysers up to 22.5GHz.



Examples: EIP 300, 500 and 600 series of source locking counters, Agilent E44XX series of Spectrum Analysers.

Oscilloscopes:

Agilent, Tektronix, Hewlett Packard, Philips, Hitachi, Gould, Philips, Kikusui, and Panasonic



Examples: Tektronix TDS & TAS series
Agilent 546xx series

Digital Multimeter's:

Agilent, Datron, Wavetek, Solartron, Hewlett Packard, Racal, Keithley, Fluke, and Philips



Examples: Datron 1061A, Agilent 34401A,
Fluke 170 & 180 series & and Solartron 7150.

Wide ranges of spares are stocked, with facilities to locate distributors of high cost, low-volume components in place, ensuring an efficient turn-around on repairs.

It is our standard procedure to supply a quotation before any repair work is undertaken.

VXI CALIBRATION SERVICE.

At RCL, we have recognized the increasing demand for the calibration of VXI cards and are now able to offer a comprehensive service for VXI test equipment.

VXI stands for VME extensions for Instrumentation. It is the standard bus for high performance instrumentation used for test systems, laboratory automation, and industrial control applications.



VXIplug&play is a term indicating conformance to a new set of system-level standards, produced by the *VXI-plug&play* Systems Alliance. The goal of the Alliance is to achieve interoperability of mainframes, computers, instruments, and software through open, multi-vendor standards and practices.

A key element our clients have outlined is the need for fast turnarounds. Many VXI systems provide constant analysis and testing around the clock. As a result, we are able to offer a turn-around time of 48 hours for calibration, providing the instruments have been pre-booked.

RCL now offers a repair and calibration service on a wide range of VXI equipment.

In early April, 2000 RCL won a contract to calibrate 270 VXI cards from the Ministry of Defence. The contract was made up of Hewlett Packard Power Meters, Wavetek 6½-digit Digital Multimeter's and Waveform Generators, Racal Counter Timers and Boonton Modulation Meters. VXI instrumentation is now part of our regular work load. In 2008 a 5 year contract was won to calibrate all VXI equipment used in Teradyne ATE systems.

ADDITIONAL SERVICES & INFO.

In addition to Collection and Delivery, Fast-Turnaround Times and our Repair Service we also offer a Recall Service and a Calibration Management Contract Facility to our client's which reflects the Company's pro-active drive towards continuously improving service. We aim to offer a 'complete' service and the additional points highlighted below demonstrate that process.

On-Site Calibration Service

RCL offers a wide range of calibration services on customer locations.

This service can be planned around your schedules and benefits customers with reduced downtime, with no risk of damage in transit. With no need to hire equipment while away for calibration, this option is very cost effective.

Recall Service

Many clients operate their own systems but those choosing our option have found that it relieves the burden of developing and maintaining a system, which highlights those instruments due for calibration. Such a system is a requirement of an ISO 9001:2008 Quality Management System. This service provides an accurate assessment of which items are due for calibration and also sends reminders when items have not been received and become overdue. As standard, an itinerary of the client's equipment is developed and a statement will be sent out on a monthly basis highlighting those instruments due for calibration in the forthcoming month and those that are overdue.

Flexibility is important in all aspects of a successful business and the *Recall System* is no exception. We are able to tailor our system to what most benefits our client. If, for example, one month's notice is too much, then this can be adjusted to two weeks etc.

Records are frequently updated through communication with the client. When a piece of equipment either becomes obsolete, lost or uneconomical to repair then this item will be deleted from the itinerary. Should any instrument require rescheduling, for example, a calibration period changing from 6 to 12 months, this is easily implemented. In addition, when new test equipment is bought this would be added to the list.

We have successfully developed and maintained many recall systems with present clients who have all found them to be most beneficial over a period of years. The best systems are those where the client actively communicates information to RCL regarding the present state of the itinerary and its equipment.

- **Calibration Management Contract Facility**

The new quality standard for calibration, ISO/IEC 17025:2005 clearly addresses the electronic age. Certificates of Calibration can now be provided and stored electronically which will almost certainly eradicate storage problems for many clients. It also ensures that RCL can maintain and operate calibration databases on behalf of clients.

At present, we manage some clients' total requirements, for example, storage of certificates and result sheets, sending of recall notices when instruments are due calibration and keeping clients informed with work-in-progress reports. At any time, we are able to send details of instruments if required, for example, if there was an audit.

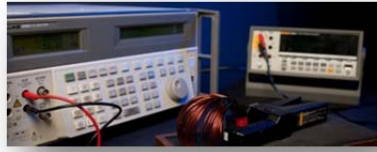
The following details are accessible:

- Certificates of Calibration
- Table listing delivery notes
- Client Inventory Database showing individual instrument details, when they were calibrated and when they are due
- Work-In-Progress Reports

A search facility is available for ease of use when finding certificates, for example, using a Client ID or Serial Number.

We believe that we can dramatically reduce the time spent managing one's instrument inventory and all of the associated paperwork that goes with it. Clients will be able to request all their records at any time they choose without worrying, for example, where certificates have been mislaid.

CAPABILITY.



We are able to calibrate the following types of equipment:

◆ **Amplifiers:**

Agilent, Bruel & Kjaer, Evershed & Vignoles, Hewlett Packard, Philips, Tektronix

◆ **Angle Position Indicators:**

Gerthch, Memory Devices, North Atlantic, Smith Industries

◆ **Analyzers - Data, Distortion, Logic, Network:**

Agilent, Anritsu, Dranetz, Hewlett Packard, Liebert, Marconi, Philips, Semtronics, Tektronix, Voltech

◆ **Attenuators:**

Agilent, Hatfield, Hewlett-Packard, Marconi, RS, Texscan, Tokyo Ko-On

◆ **Audio - Analyzers, Filters, Generators, Oscillators:**

Agilent, Dawe, Electrodata, Hewlett Packard, Kenwood

◆ **Band Pass Filters:**

Birchall, Bruel & Kjaer, Tektronix

◆ **Capacitance Meters:**

Aim, Beckman, BK Precision, Farnell, Iso-Tech, Levell, Lutron, Thurlby Thandar, Wayne Kerr

◆ **Chart Recorders:**

Cambridge, Gould, Graphtec, Kontron, Philips

◆ **Clamp Meters:**

Amprobe, Avo, Chauvin Arnoux, Eurisem, Fluke, HEME, Robin, Sangamo, TMK, Weston

◆ **Current Probes:**

Agilent, Fluke, Hewlett-Packard, Philips, RS, Tektronix

◆ **Current Shunts:**

Cropico, Fluke, Keithley, RS

◆ **Curve Tracers:**

Tektronix

◆ **Data Testers:**

Dynatech, Fireberd

◆ **Decade Capacitors:**

Hatfield, Hewlett Packard, Jay-Jay, Time

◆ **Digital Thermometers:**

AJ Thermosens, Churchill, Comark, Digitron, Extech, Fluke, Kane-May, Keithley, Portec, RS

◆ **Electronic Loads:**

AC/DC Electronics, Electronic Load, Kikusui, Voltech

◆ **Flash Testers:**

Avo, Clare, Gresham Lion, Nashton, Philips, Seaward

◆ **Frequency Counters - Microwave & Low Frequency:**

Agilent, Black Star, Breimi, EIP, Feedback, Fluke, Global, Harwell, Hewlett Packard, Leader, Malden, Marconi, Newport, Philips, Pulsetek, Racal, Sage, Systron Donner, Tektronix, Venner

◆ **Function Generators:**

Agilent, Black Star, Danesbury, Exact, Farnell, Feedback, Gould, Global, Hewlett Packard, Levell, Philips, SRS, Tektronix, Wavetek

◆ **Humidity:**

Testo, Tenma,

◆ **Insulation Testers:**

Avo, Levell, Megger, Robin, TMK

◆ **Multimeters:**

We are able to offer service on all analogue and digital multimeters up to 6½ digits

◆ **Network Analysers:**

Agilent / Hewlett Packard 87XX series

◆ **Oscillators - Low Frequency:**

Advance, Agilent, Farnell, Hewlett Packard, Levell

◆ **Oscilloscopes:**

Agilent, Beckman, Comark, Farnell, Gould, Hameg, Hewlett Packard, Hitachi, Iwatsu, Kenwood, Kikusui, Leader, Lecroy, Panasonic, Philips, Tektronix, Telequipment, Trio

◆ **Power Meters:**

Agilent, Hewlett Packard, Marconi, Rohde & Schwarz

Portable Appliance Testers:

Clare, Megger, Metrohm, Robin, RS, Seaward

◆ **Power Supplies:**

Agilent, Coutant, Farnell, Hewlett Packard, Isotech, Racal, Thorn, Thurlby Thandar, Topward,

◆ **Pulse Generators:**

Agilent, Gould, Farnell, Hewlett Packard, Lyons, Tektronix, Thurlby Thandar

◆ **Resistance Boxes:**

Cropico, JJ Lloyd, Levell, Muirhead, Sullivan, Time

◆ **Signal Generators - High Frequency:**

Adret, Agilent, Fluke, Hewlett Packard, Marconi, Racal, Rohde & Schwarz, Tektronix

◆ **Spectrum Analyzers:**

Advantest, Agilent, Anritsu, Hewlett Packard, Marconi, Tektronix

◆ **VXI Cards:**

Agilent, Aim, Hewlett-Packard, Racal Instruments, Tektronix, Wavetek, Boonton

MECHANICAL / DIMENSIONAL.



◆ **Vernier Calipers & Micrometers:**

Mitutoyo, Starrett, Moore & Wright

◆ **Torque Wrenches:**

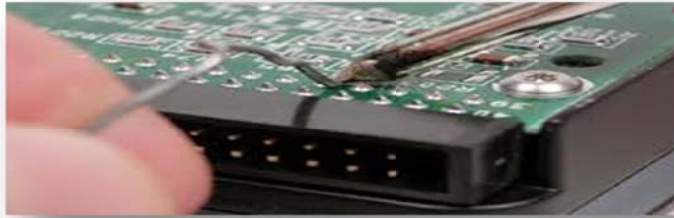
Norbar, Torque Leader, MHH Engineering

◆ **Scales:**

Kern, Dymo, Jadever.

◆ **Height Guages:**

REPAIR CAPABILITY.



General capability:

- 1) Instruments from DC up ~26 GHz
- 2) Component and board level repair
- 3) Custom designed boards (with circuit diagrams)
- 4) In-house ability to repair SMD (Surface Mount Devices)
- 5) Reverse Engineering capability for old instruments

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◆ **Angle Position Indicators:**

Gerthch, Memory Devices, North Atlantic, Smith Industries

◆ **Analyzers - Data, Distortion, Logic, Network:**

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◆ **Function Generators:**

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◆ **Multimeters:**

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◆ **Network Analysers also Vector Network Analysers (VNA):**

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◆ **Oscillators - Low Frequency:**

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◆ **Oscilloscopes:**

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◆ **Pulse Generators:**

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◆ **VXI Cards:**

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If your piece of equipment is not on the above list please contact us as we are continually expanding our capabilities.

All repairs are carried out at our Laboratory at our UK facilities in Reading.