



THE NEWS

CIRCUIT

Newsletter of the Newbury Electronics group of companies

Terry Kempster (almost) retires

Terry recently celebrated 50 years service with Newbury Electronics, and continues to work part-time.

The local newspapers and TV visited us to record the event. Terry said "I am not used to this attention. What will happen when I really retire?"

Terry, aged 65, joined the company straight from school in 1961 - just 15 years old. He has risen through the ranks to become the firm's line manager and says he has never really wanted to leave or seek employment anywhere else. "I've always enjoyed coming into work. We are like one big family of brothers, sisters, husbands and wives, working together". In fact Terry met his wife at Newbury Electronics 43 years ago and his daughter, Tanya, has now joined, too.

"They haven't seen the back of me yet," added Terry, who will cut down his hours significantly but is filled with as much enthusiasm as ever about his work. The firm is rewarding his loyalty and long service by treating Terry and his wife to an all-expenses paid two-week holiday in Cyprus. 



TERRY KEMPSTER
BBC SOUTH TODAY

50 YEARS SERVICE

Upcoming Competition!

Like the PCB Train Facebook page and follow us on Twitter to be the first to know about our exciting upcoming competition. Our last competition winner won a brand new iPad!



facebook.com/PCBTrain



twitter.com/pcbtrain

Thanks for support

We thank all our clients for their continued support.

Finer copper tracks, faster turnarounds, growing numbers of small batch orders, higher yields and better delivery performance are some of the factors which drive our capital investment. Please read on for details of just some of the capital projects we have recently completed. 

AT A GLANCE

Welcome to Issue 5 of News Circuit, the first 'new look' edition.

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Two new automatic conveyorised SMD placement lines installed

To achieve on-time deliveries we must have adequate machine production capacity and a technical capability in advance of our customers' needs.

In addition to our existing five SMD placement machines, we have recently fitted out a new assembly hall with two new conveyorised SMD placement lines.

Our Yamaha I-pulse high performance M20 SMD placement machines are of a new generation and have the latest specification, capable of placing parts from as small as 01005 up to 120mm x 90mm including micro BGA, CSP & connectors. They are fast and flexible with 19,000 placements per hour, and a capacity of 144 feeders mounted on rapid interchangeable trolleys.

High quality solder paste printing is essential. The DEK Horizon 03ix solder paste printing machines have auto-load and unload, automatic stencil cleaning between prints, automatic camera registration for high accuracy printing and in-built AOI for inspection of solder paste prints. Automatic pneumatic supports stabilise PCBs to eliminate "sag" whilst printing.

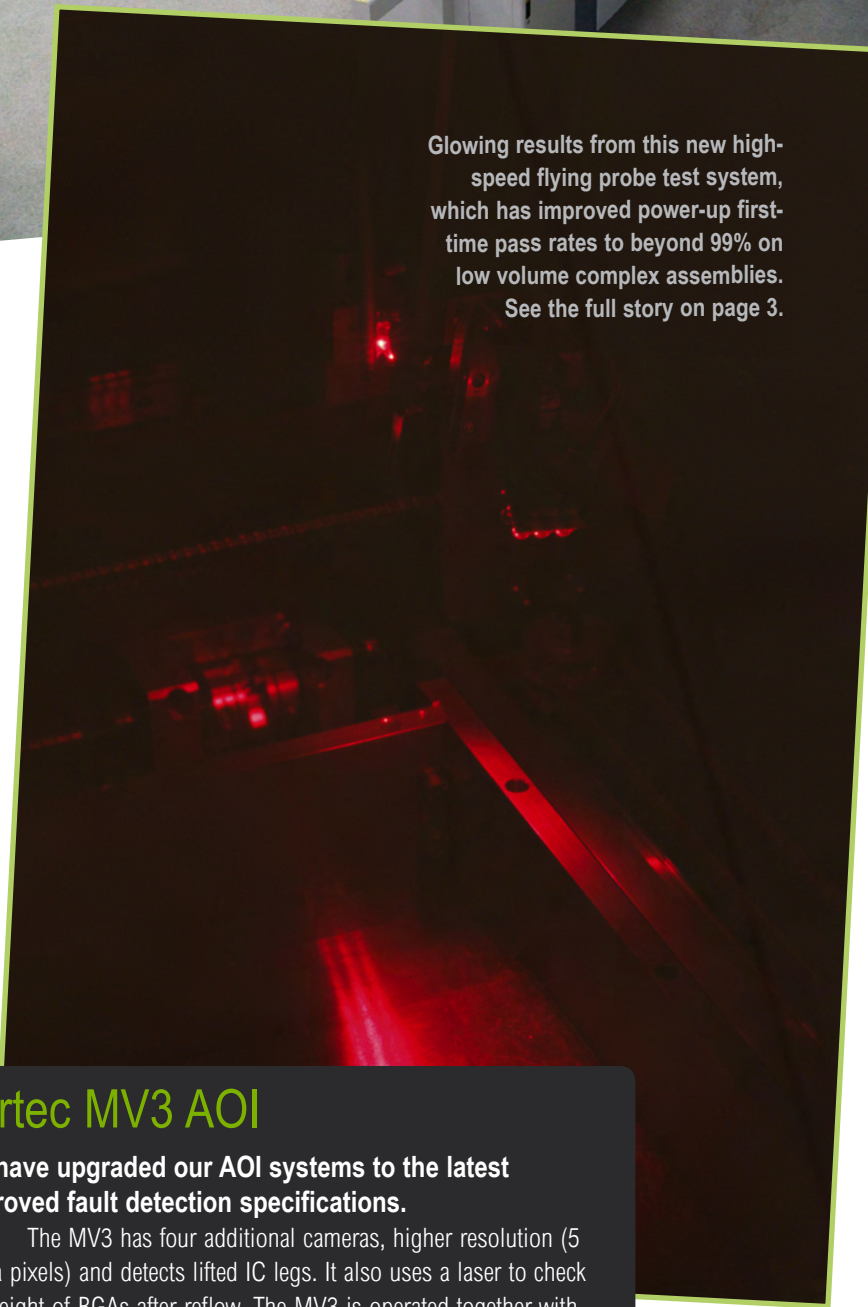
Transport is provided by Nutek automatic PCB loaders and unloaders which eliminate handling errors and allow fast production efficiency.

The lines are completed by Heller 1707 MK3 reflow machines, with seven top, and seven bottom, computer-controlled forced convection heating zones to ensure perfect reflow soldering with very low energy consumption. 

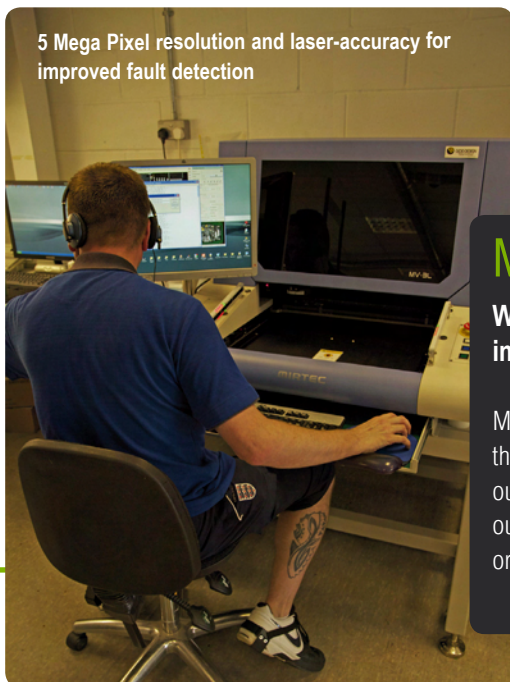


The new generation - two Yamaha M20s

Glowing results from this new high-speed flying probe test system, which has improved power-up first-time pass rates to beyond 99% on low volume complex assemblies. See the full story on page 3.



5 Mega Pixel resolution and laser-accuracy for improved fault detection



Mirtec MV3 AOI

We have upgraded our AOI systems to the latest improved fault detection specifications.

The MV3 has four additional cameras, higher resolution (5 Mega pixels) and detects lifted IC legs. It also uses a laser to check the height of BGAs after reflow. The MV3 is operated together with our earlier Mirtec MV2 to provide comprehensive verification of our SMD and leaded component placement, both for positioning & orientation, component value and solder quality. 

Laser stencil cutting LPKF Stencil laser G6060-1500 system

To achieve reliable deliveries in our high mix environment, we need all crucial PCB assembly processes under our control.

Of these processes, the design and supply of solder paste stencils is the most influential of all on quality. Optimised solder paste design is essential for good first pass yields. We are

the only UK assembly house to cut all its solder paste stencils in-house and to have this in direct control.

Our machine

has a high power fibre laser cutting head with a 600mm x 600mm cutting area, giving sharply defined edges and smooth sidewalls, with perfect surfaces. We make no additional separate tooling charges to clients and we also provide a popular bureau service supplying stencils to third parties at low cost and rapid turnaround. Ask us to quote. 

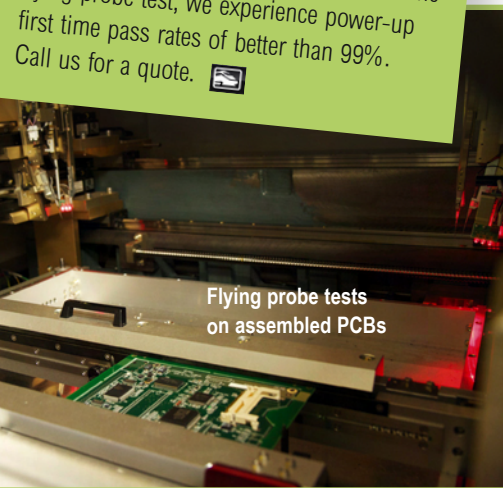


Cutting-edge technology takes solder paste stencil cuts to the next level.

Itochu Takaya APT 9411CE flying probe test capability

This in-house test technology is particularly suited to low volume complex assemblies where final power-up fault finding costs need to be minimised.

The 9411CE is a high-speed flying probe test system using four independently controlled probes for detecting faults on assembled PCBs without the need to build expensive fixtures. At 10 to 15 tests per second, components such as resistors, capacitors and inductors, diodes, transistors, zeners and IC lead connections, are tested as are opens and shorts. After the flying probe test, we experience power-up first time pass rates of better than 99%. Call us for a quote. 



Flying probe tests on assembled PCBs



A close-up on solder joints using the new Ersascope 2

Ersascope 2 inspection

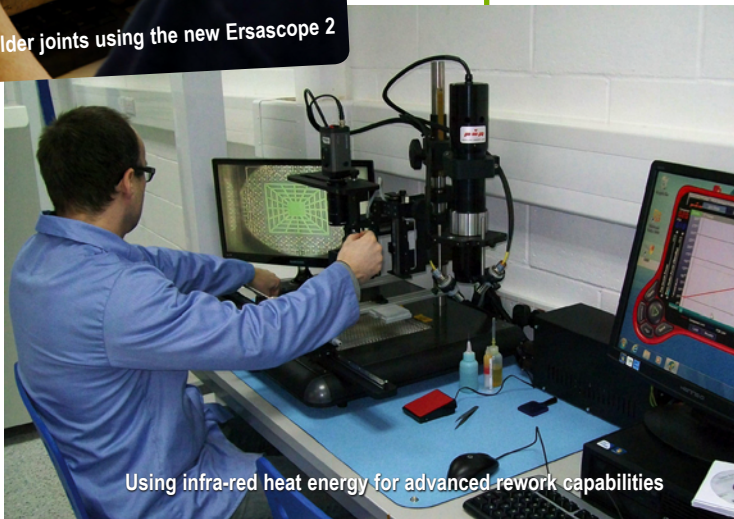
We aim for zero defects and need appropriate inspection equipment.

The ERSASCOPE 2 is an endoscope inspection system second to none, for under body inspection of Flip Chips, CSPs and micro-BGAs. It allows effective optical inspection of solder joints under finer pitched components than was ever previously possible. 

PDR focused IR D35Vi Discovery Pro BGA/SMT rework system

Advanced placement capability must be matched by a similar specified rework facility.

Our new PDR system focuses IR heat energy into a beam whose size is adjustable to match the size of the component under rework. Unlike all other systems, this unit can rework almost any type and size of component without the need for hard tooling. It is capable of rework on SMDs, BGAs, QFN, and uBGAs in lead-free applications without complication. 



Using infra-red heat energy for advanced rework capabilities



The third EMMA tester now operational

Third EMMA bare board flying probe tester installed

Our target for delivery-on-time is better than 99%.

To ensure we maintain that delivery target, we need more than adequate electrical test capacity, and three testers are better than two. We welcome our third EMMA Microcraft tester to our team. 

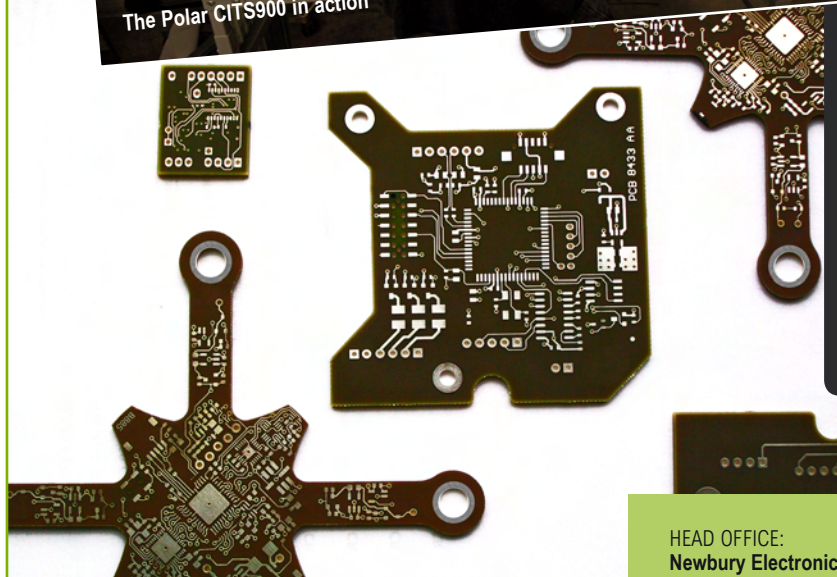


The Polar CITS900 in action

Polar controlled impedance capability

Many PCBs incorporate high speed transmission lines.

The Polar CITS900's controlled impedance test system predicts and measures the finished impedance of multiple dielectric PCB builds and also takes into account the local variations in dielectric constant on close-spaced differential structures. Together with a Starlite 200 Digital Microscope, we are able to monitor controlled impedance performance of our PCBs through design and measurement of appropriate production test coupons. 



PCB Train Express 4-layer service

We are always looking for new services that will benefit our customers.

The PCB Train Express service is designed to provide a low cost bench top proving PCB prototyping service. We have extended this economical fast turnaround service to include not just 2-layer PCBs but 4-layers as well. One piece of a 4-layer PCB dimensioned 100mm x 100mm in two w/days will cost from around £86.00 plus VAT and carriage (order and data to be with us by 12.00am on the previous day). Quote and order online at www.pcbtrain.co.uk. Technical capability is restricted, so take a look at our website terms. 

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