

• Newsletter of the Newbury Electronics group of companies •

Are we the oldest continuously trading PCB company in the UK?

Older may not mean better, but it does say something about a company that has prospered in a trading environment as turbulent as the last 50 years.

Founded in 1956, Newbury Electronics has now traded continuously for 50 years. We believe no other circuit board manufacturing company can match that. Not that it has been easy. Many competitors have gone, and new ones have arisen and gone as well. We survivors have all had to adapt to our competitive environment.

For
50
years



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INSTALLATION OF MULTI-LAYER VACUUM LAMINATION EQUIPMENT

To put it simply, just heating and squashing multi-layer PCBs is no longer good enough. Now you have to suck the air out as well, and have exact control over the heat and cooling cycles.

Modern PCB designs have increasingly tight and fine features. They require multi-layer bonding presses that minimize track movements and eliminate in-built stresses in the bonded pcbs. Our new Burkle computer controlled press has both hot oil heated platens and lamination under full vacuum. Heating and cooling by hot oil fluid gives uniform heat-flow, and eliminates hot spots typical with traditional electrically heated ovens which lock-in stresses and cause warped pcbs. Vacuum lamination eliminates the possibility of air entrapment, a common cause of failure with atmospheric ovens.



Another one in the oven.

PCBTrain Express 1-Day Turnaround Service



See inside for details of our rapid, low-cost service for development engineers...



Philip King takes his position at the helm of the new PCBTrain display system at the Southern Electronics show.

PCB TRAIN AT SOUTHERN ELECTRONICS EXHIBITION

Finding a market place to announce new products and meet clients has been difficult for those of us in the electronics industry.

The traditional shows have been expensive and poorly attended. What was needed was an out of town show over a couple of days, with easy access and parking at a reasonable cost, and this show appears to do just that. We successfully exhibited at the recent Southern Manufacturing and Electronics Exhibition at Thorpe Park, Surrey. There were over 400 stands, it was great fun meeting visitors and attendance was good. The show is well worth a look if you are buying electronic products and services and we will have a stand again next February. Be sure to come and see us if you visit the show next year. 🌐

PCB Train Express 1-Day Turnaround Service

Have you ever needed a development PCB made in a 1-day turnaround at a sensible price? We thought you did, so we have introduced the PCB Train Express 1-day turnaround service, based on the PCB Train concept.

Here are some price examples. 2 pieces of a PTH 160mm x 100mm circuit, no solder resist, no legend, produced on the PCB Train Express 1 day turnaround service would cost only £66.00. 1 piece 100mm x 100mm would cost just £30.00. Prices for other quantities and sizes are on the PCB Train website.

This new service is intended for those engineers who need very rapid progress with their development project at low cost. To achieve fast turnaround together with efficient pcb manufacture, there are some limitations to the engineering specifications of our usual PCB Train service and pcs will have to be designed with these in mind and details are on the PCB Train website. However, for a service of this speed, these prices are unrivalled. For further information, look at www.pcbtrain.com 🌐

Newbury Electronics Ltd – the future...

We continue to develop strong links with the manufacturers in the Far East for whom we are the exclusive UK representatives for medium and large batches of PCBs. Equally, we continue to invest in and expand our prototype and small batch PCB manufacturing capability based in Newbury both for bare and assembled PCBs. Judging by the inventiveness of our clients, Britain is a nation of electronically talented entrepreneurs and this is the constituency that we serve through our PCB Train service. Our customers provide the ideas for new electronic devices and we provide the workshop to bring them to market without delay and at low cost. As demand for a product grows, we recommend the best manufacturing solution whether it is home based or overseas. For those clients who use our portfolio of services, we provide the manufacturing hardware to support their "virtual" companies. 🌐



X-rays are used to ensure accurate inner layer registration by looking through the copper layer stack.

X-Ray multi-layer registration system

This sounds dangerous, but the x-rays are completely shielded and very low power.

The machine allows us to look through the copper layer stack after bonding to ensure that accurate inner layer registration is maintained, even on the largest panels time after time. At the same time, we use the x-ray machine to drill tooling holes so that drilling will be perfectly aligned with inner layer pads. It's just what you have to do to keep up with technology. 🌀



The Black Hole line has replaced the electroless copper process.



New conveyorised process equipment for PCB



New solder resist developer line in action.

Process plant is not sexy. But this conveyorised machinery is the backbone of the factory, working day after day treating pcbs.

Whether it is etching, cleaning, stripping plating masks, developing solder resists and photomech masks, or metallization, all these machines have to function reliably. They are difficult to move, time consuming to install, but we have just completed replacement of all of our process plant giving us better productivity and production yields for the future. 🌀

Another anniversary: Kevin Forder chalks up 30 years

Kevin joined Newbury Electronics in 1976, little knowing how many circuit boards he would be responsible for over the years. As Managing Director, he continues to pilot the company with skill and humour in equal measure and extends his usual warm welcome to suppliers and customers alike who may care to visit us in Newbury. 🌀





Effluent treatment plant meets the toughest regulations

Environment obligations become tougher every year, but we continue to meet the challenge.

Our new plant uses the latest developments in treatment technology giving low running costs and reliable operation. We now discharge cleaner water cleaner to the sewers than we receive through our mains water supply and are equipped to meet all known future effluent discharge requirements.

Left: water fit to drink.



Above: the Microcraft EMMA moving probe tester improves high-layer count yields.

An electrical tester that can test anything we can make

The complexity of many circuits makes electrical test mandatory. We have to have equipment which can test anything that we will be asked to manufacture.

With this in mind, our testing capability has been enhanced with the installation of the latest Microcraft EMMA moving probe tester. This machine can test large format panels up to 600mm x 450mm, as well as all types of rigid PCBs and it can test even the thinnest inner layer prior to lamination. This significantly improves manufacturing yields when constructing high layer count pcbs. It is exceptionally fast, testing at a probe rate of almost 2000 per minute allowing reasonable test times on even the most complex multi-layer pcbs.

LEAD-FREE PCBs ARE HERE

Time is running out for decisions on lead-free products, so we have made our decision. The standard PCB Train finish will change from HASL to Immersion Silver during the second quarter of 2005. This will ensure that PCB Train pcbs satisfactory comply with legislation which restricts the use of lead in electronic assemblies. The new finish will be an improvement on HASL and will also satisfactorily replace Immersion Gold over Electroless Nickel (Au/Ni) for most applications. It is particularly environmentally friendly. The implementation of this change will have no effect on customer's assembly processes or on PCB Train prices. All you will notice is that SMD pads will be flatter than HASL, particularly on small foot-prints, all at no additional cost.

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