PRICE ELECTRONICS Ltd

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# Quality Policy

## Introduction

Price Electronics Ltd (PEL) supplies goods and services to a wide range of business customers including:

- Electronic equipment manufacturers
- Research laboratories
- Wineries and food manufacturers
- Factories, workshops and other commercial premises that require periodic appliance safety testing and tagging.

Price Electronics Ltd will take responsibility for quality of goods and services provided, however its employees and subcontractors, where applicable, need to be aware of their responsibilities and comply with the Quality Policy.

## Position in supply chain

PEL is a small business with electronic repair, procurement, packaging and limited fabrication functions. To be part of a supply chain it is therefore necessary to ensure that all of PEL's suppliers have the relevant quality certifications, and that PEL maintains the quality of the goods (and services) until they have been delivered to the customers. This includes correct ordering, handling, storage and secure packaging of circuit boards prior to dispatch using a shrink wrapper and corrugated cardboard, or well packed cardboard boxes.

In addition, customers are to have their orders acknowledged by email as soon as practicable and advised of any engineering queries from the manufacturer, and any anticipated delays beyond the standard two week lead time.

PEL also supplies fully-built equipment, mostly for research laboratories and wineries. Part of PEL's Quality Policy is to have a good knowledge of the equipment including its application, basic maintenance and cleaning, and where possible, the ability to service and/or calibrate the equipment.

## Physical Containment and Food Safety

As a lot of service work is for equipment used in the food industry and in scientific research, Price Electronics Ltd is committed to maintaining the integrity of its customers' Physical Containment (PC) and /or Food Safety procedures. This includes being aware of the need for organisms and pathogens to be contained within a laboratory (eg: PC2), prevention of contamination outside that laboratory, and preventing contaminants from coming into contact with equipment used to process food or beverages.

For further details, refer to the Health and Safety Policy.

## Electrical Safety

Any employee or subcontractor of Price Electronics Ltd involved in servicing customers' equipment is required to have limited electrical registration with a current practicing license. The only exception to this policy is for equipment powered by an external power supply, plugpack or batteries. As per the Health and Safety Policy, all new and repaired equipment should be tested for electrical safety and tagged.

A report listing all appliances tested, location and any failures and recommendations will be supplied to every customer and kept for seven years.

A public register of licensed electrical workers can be found at www.ewrb.govt.nz.

## Commissioning of Equipment

In addition to electrical safety testing (PAT) prior to delivery of equipment, balances (scales) and pH meters should be calibrated on site where possible, and a calibration label affixed.

## Calibration weights and pH buffer solutions

All weights used for calibration of balances must have a current certification which is usually valid for three years, after which they must be sent to an IANZ-accredited laboratory for

recertification. The exact mass of each test weight used in the calibration of a balance (usually four or five test points) is to be recorded on the service report along with pre and post-service readings, but only to the number of decimal places that the balance displays. Occasional rounding of "actual" weight will be necessary; eg: a 100.0006g weight used to check a 3dp balance is noted as 100.001g.

If it appears that any test weights have been impaired by damage or wear within the three year certification period, they should not be used until recertified.

pH buffer solutions have a shelf life of around two years, and where they are used for pH meter servicing they must be discarded six months before the expiry date noted on the label. They should be stored away from direct sunlight.

## Traceability

To comply with customers' ISO-9001 requirements, a level of traceability is required for all goods and services provided. While it is not practical to note all aspects of traceability on a service report or packing slip, more specific information will be provided on request. Examples include:

- The factory where a batch of circuit boards were made. PEL works with a small number of factories in China, all UL and ISO-9001 accredited.
- Any specific detail on Gerber files for circuit boards, although it is assumed that the customer also has this information which can be checked against the files that PEL and/or the manufacturer has.
- The date of certification of a weight set used to calibrate balances. A brief description of a weight set used implies that its certification is current, although the mass report showing actual weights will travel with the weight sets while the on-site servicing is in progress.

All circuit board manufacturers are instructed to manufacture boards with their UL and date codes for the boards that are large enough to accommodate these.

If any boards are found to have faults or quality issues that were not as a result of design errors the customer should raise it with PEL in order to agree on a solution. An example would be to increase the copper thickness on a power supply PCB to 2oz, if the standard 1oz is found to be inadequate.

Repeat orders for boards are almost always made in the same factory that made the previous batch. If an order can be supplied from stock as is often the case, boards should be less than two years old according to the date stamp (YYWW). If they are more than two years old the customer should be advised of this and asked whether it is acceptable.

## Repeatability

Where possible, goods should be sourced from the same manufacturer that supplied the previous batch, to reduce the possibility of errors.

## Goods fit for purpose

Price Electronics Ltd undertakes to work with the customer to ensure that any parts or finished products are fit for purpose. This includes explaining features and options, relevant compliance considerations, appropriate future proofing and availability of training, documentation and other support.

For supply of circuit boards this often includes handling engineering queries from the supplier and working with the design engineer to make sure instructions are understood, notwithstanding any errors made in the design phase. Where a batch of circuit boards or panels is found to have been manufactured incorrectly due to a misunderstanding, the error will be communicated to the manufacturer and a new batch supplied to the customer at no extra cost.

## Confidentiality

To the extent that it is possible, discussions about third parties involved in a transaction or process, or details of work carried out at similar organisations will be avoided. Mostly this is to prevent one party from gaining a competitive advantage over another through acquiring such knowledge of previous work undertaken by PEL.

This applies in particular to the electronics manufacturing industry where the manufacturing of printed circuit boards is outsourced. Notwithstanding that a customer may choose to supply Gerber files with solder mask or silkscreen layer identifying that customer, and customers are entitled to proof of manufacturer's UL certification on request, PEL will not disclose further details to other customers or manufacturers except on very general terms which may include trade references.

## File storage

It is not the intention of PEL to store its customers' Gerber files. Gerber files are only disseminated for the purpose of getting quotes from manufacturers, then having a batch of boards made from the files. Usually a legacy board's previous date and place of manufacture is known and can be repeated by the same factory without the need to resend the files.

Files (other than Gerber) are stored on USB drives, ringbinders, a backup computer with password protection and Dropbox. This includes electrical safety testing and Certificates of Compliance.

## This Company Quality Policy was updated on 5 June, 2015.

**Tristam Price**

**Director / Technician**