

## COUNTERFEIT COMPONENT

### POLICY

and

### PROCEDURES / PREVENTATIVE MEASURES

As an Independent distributor of electronic components, providing quality products has always been at the core of operations in Cyclops Electronics Ltd. Since a significant part of the business it does is worldwide sourcing of hard to obtain, and obsolete parts, it has always had to be on it's guard against counterfeit parts and so, comparatively early, it had designed systems to prevent unwitting trade in these parts.

The greatest defence against counterfeit parts is to know the supplier or to buy from a reputable company. Being so, Cyclops have invested, and continue to invest, resources to develop relationships with suppliers, continually monitoring product supplied, giving them feedback, and strengthening links with manufacturers and authorised distributors. Much of the specialised purchasing is now being done centrally, which allows greater control

The next best line of defence is a skilled and motivated goods-in inspection team and their ownership of responsibility for what is accepted. Visual inspection starts with the outer packaging and labelling and continues down to component level. Unfortunately, with readily available technology, goods received in manufacturer's packaging, even from an authorised distributor, can no longer be taken at face value. Visual inspection is boosted by optical equipment capable of x200 magnification, specialised lighting and high resolution photography. Physical inspection is aided by chemical testing, manufacturer's data sheets and digital micrometer measurement down to 0.001 mm.

Within recent years Cyclops have invested in the Sentry Counterfeit IC Detector from ABI Electronics and have entered into a development agreement with them aimed at producing equipment suitable for the independent distribution market. Cyclops have also indicated their willingness to work with component manufacturers and other distributors to trace counterfeit parts back to source.

In many respects their measures far outweigh what is available to the majority of OEMs and CEMs but even so they cannot become complacent. As counterfeiters become more adept, more technically proficient, new ways of preventing counterfeit, or non-authorised product, from entering the supply chain have to be developed. Despite all that they have done, and all that they seek to do, like NASA and BA, they cannot guarantee that these processes and procedures are not fallible.

Cyclops have found that working with their suppliers and customers, on processes that are complimentary to those used by Cyclops, is highly effective in preventing counterfeit parts reaching the production lines. Cyclops accepts that, in many cases, their suppliers are victims as well, and do not necessarily have the resources available to us to combat this threat.

## POLICY

Where possible all goods shall be bought from known and reputable sources in Europe and North America, preferably manufacturers or their authorised or franchised distributors.

Alternatively, the goods shall be sourced from stock holding, non-franchised distributors, on a list of approved suppliers, who have an acceptable history of fulfilling requirements. Each of these suppliers will be asked to warrant their product for a minimum of thirty days and to provide Certificates of Conformance or Compliance where appropriate.

All suppliers shall be monitored for quality issues. A data base will be maintained indicating the reason for the raising of a quality report. The performance of suppliers will be reflected in the grading given to each one and the results of the grading will be made available to all staff involved in the purchasing of components. Potential new suppliers have a separate procedure to complete before being accepted.

A list of suppliers who have repeatedly failed to show due diligence in their sourcing of goods supplied or who have failed to react responsibly when advised of issues will be published internally with substantiating reasons listed on the database of suppliers. This information may be forwarded to the Electronic Retailers Association International (ERA) of which we are members.

In cases of suspected fraudulent or counterfeit parts found at goods in, the parts shall be deviated immediately and the supplier informed together with our reasons and such evidence as is available. If the issue cannot be resolved in a short space of time, or it may result in a delay in shipping, the customer will be informed. Quality Procedures allow for advising the customer of any concerns and for forwarding the parts, pictures or any other evidence, for their opinion.

The Sentry Counterfeit IC Detector allows for a known good sample to be compared against those received to meet the order. It also allows for readings to be compared with a stored record from a good sample. These records can be emailed between users. So, in effect, component manufacturers whose parts are, or may be, affected by counterfeiting can compile an accessible database of these files for reference by responsible distributors. Without a known good sample the Sentry can be used to look for variances in the components supplied and unconnected pins. Cyclops will make full use of these facilities and promote it's use throughout distribution and manufacturing.

If, after all possible efforts to determine the authenticity of the parts concerned, the results are not conclusive, the parts may be forwarded to a test facility or returned to the manufacturers for examination.

Suppliers are obliged to offer every assistance to the authorities or the component manufacturer's appointed representative in the event of counterfeit product being discovered. They may also be asked to prove due diligence.

## PROCEDURE

When packages are received from couriers the external condition is examined for holes or impact damage. Anything of note is brought to the attention of the courier and a signature required. Damaged boxes may be photographed before and during opening.

Any external paperwork is carefully removed and retained with the order. External packaging is removed with any third party packaging being recycled. Once a package is opened and the packaging of the goods gives cause for concern; insufficient void filler, split, stained or crushed packaging, for example, the unpacking process may be photographed. The goods, normally down to the first visible layer of manufacturers packaging, are then placed in a tray with the accompanying paperwork.

Parts are then taken through to the receiving area where the part number from the Delivery Note or Cyclops reference is used to match the goods with an order on the Stock Control System, which is part of our order processing system, COPS. The Cyclops Order Reference is then typed into the Stock Control System and the supplier selected from any range available based on unfulfilled lines, the quantity ordered and the stated quantity delivered. Once the correct line has been selected the quantity stated on the Delivery Note is entered and the time and date are automatically entered as stock received, 'unchecked' on COPS. This can be viewed on the 'lines' tab of the order on COPS. All this information is then emailed to the purchaser or relevant sales person by the system.

A Goods Received Note is printed from the Stock Control System for the selected line and the printed stores version of the Sales Order Form is retrieved from the Open Order files, which are kept in the stores office. A Goods Received Number (GRN) is allocated manually by recording the sender, the Cyclops Reference, the date, the carrier, and the number of different lines received. If parts are received for multiple orders then the various Cyclops References are listed against the same GRN number.

In an EPA the goods may be removed from their protective packaging. If the goods are moisture sensitive then the time the packaging is opened is recorded and the status of the moisture indicator card noted and the parts processed with no undue delay, following the inspection process as detailed below. Such parts are then resealed with sufficient fresh desiccant and the time noted on the label provided for this.

All other stock is checked for damage to the initial packaging, including interference with manufacturer's packaging, then checked for part number, date code, batch reference, manufacturer, package, quantity and condition, any any other requirement listed on the stores copy of the Sales Order Form. Manufacturer's Data Sheets may be used for reference purposes, if available. Parts may be tested on the Sentry Counterfeit IC Detector to check for an internal die and to visually compare readings obtained under a test voltage. These results are stored on the server also.

Where other indicators arouse suspicion a solvent may be used to check that part markings conform to industry standards. The parts are then photographed in as much detail as possible and the image stored on the server, with an image reference being automatically generated. The store's copy of the Sales Order Form is used to record all relevant information.

All deviations are to be reported to the purchaser for their decision or approval and the goods set aside. The customer may be advised of any concerns that have arisen and sample parts may be forwarded to a certified test house for non-destructive analysis or de-capsulation.