

The Date Coding Minefield

A Guide to Component Traceability through the Date Code

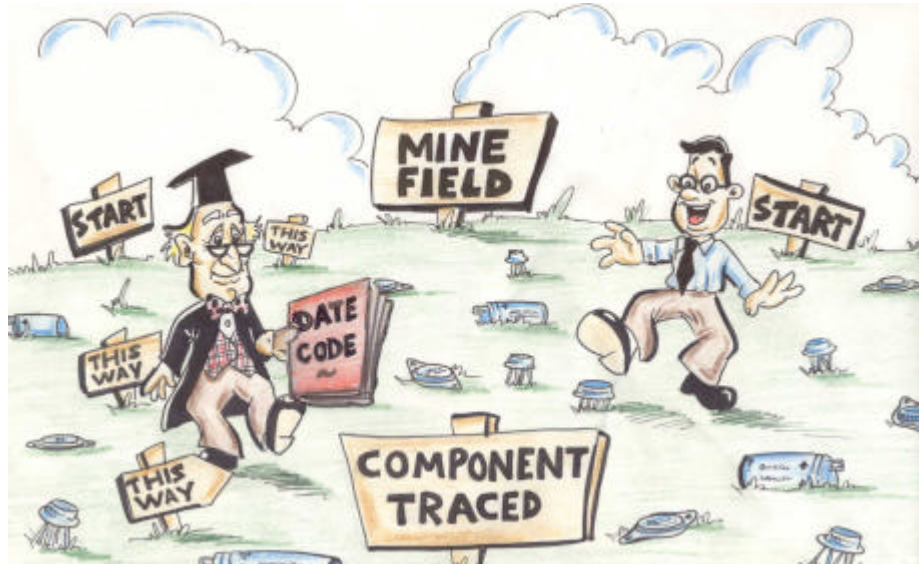
Do your customers require full traceability of components?

Do your production schedules suffer from component quality problems?

Are you plagued by counterfeit components?

Do you need to know how close your components are to their end of life?

If you can answer 'yes' to any of the above questions, then you need to read this booklet



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This publication is one of a series of booklets published by the Component Obsolescence Group, all of which are recommended as essential reading for organisations or individuals tasked with obsolescence management. These include:

The Obsolescence Minefield - A Guide to Tackling Disappearing Products

The Supply Chain Minefield – The Role of the Distributor in Managing Obsolescence Problems

Contact the Component Obsolescence Group for details of the latest available titles.

In addition to the definitions used in this booklet, a section also provides meanings of acronyms and other terms associated with the field of obsolescence

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*This booklet was written by **Charles Battersby, SEMELAB** in co-operation with members of the External Liaison Group of the Component Obsolescence Group (COG)*

Original Cartoons by Steve Padgham

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Introduction – Why date code?

Those who comes up against component obsolescence problems may find codes that are printed on components, their packaging, or in paperwork and they treat them as a signpost to indicate their vintage and build standard. In the following pages, it will be seen that the reality is rather more complex.

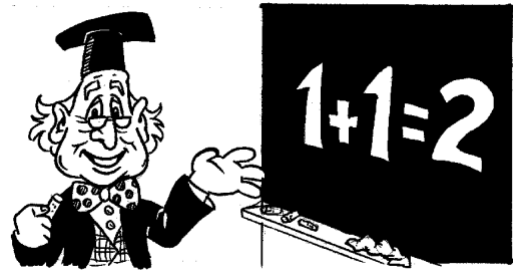
All electronic systems, be they commercial, military or professional, have reliability requirements - perhaps for the lifetime of the equipment or, in rather too many cases, just to cover a guarantee period. The reliability of any system depends upon the “quality” of the design itself and also the suitability of every one of the components used within that system. Should any system exhibit faults or failures then some mechanism has to be found to trace and eliminate such failings. Initially, the system designer and constructor usually suspect the components used (even though the design itself maybe wanting.) In practice, it has been shown that no more than 15% of all system failures are due to component failure - the rest are down to design errors, misapplication or other causes.

As a first level of defence, there has to be a mechanism that allows the tracing of all the components back to the original manufacturer (manufacturer’s trade mark), the specification of the part (part number), and the specific batch or period of time in which the component was made (date code.)

Given such information, it should be possible to trace back the manufacturing history of such components through to the records of incoming

materials used to make the component, the assembly records, test records and, where appropriate, environmental test and life test records.

If only it was a simple as this!



Date code systems used by the various manufacturers vary, as does the point in the manufacturing cycle to which the date code refers.

On quite a number of occasions, the size and physical configuration of the component imposes limits on marking that can be printed on the component itself. Despite the general use of *International Date Coding*, the general principle of date coding to verify the pedigree of all components is well established although still in various forms.

Effective date coding is essential in order to aid the diagnostic process in the event of equipment failure or unexpected short life. Date codes are also useful in establishing the age of a component before use and/or the approximate date when it was mounted in equipment – although this knowledge is often misused. Any component maker owns the date code that is applied to his/her product, and is able to design and code-in any information that is deemed to be applicable - usually applying this at a time corresponding to the final encapsulation process.

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