New rules for electronics in vehicles from 1 Nov. 2014

The design of today's vehicles is significantly different from the vehicles that were around in 1970 when the automotive EU Directive 70/156/EC saw the light of day.

Since the majority of Danish automotive manufacturers produce systems, components or separate technical units for vehicles, this article will focus on the new rules and what they call 'Electrical/Electronic Sub-Assemblies' (ESA).

70/156/EC designated the directive in regards to radio interference (electromagnetic compatibility) of vehicles, 72/245/EC. Since 1972, more and more electronics have been incorporated into cars, buses and lorries and they are now essential parts of vehicles' active and passive safety systems, protecting the driver and passengers, and other road users.

Kristian Baasch Thomsen
Senior Consultant, DELTA

+45 40 34 09 04
kbt@delta.dk

2007/46/EC focuses on road safety

Directive 2007/46/EC lays down a 'framework for the approval of motor vehicles' and trailers and systems, components and separate technical units for such vehicles as stated in article 1. Motor vehicles refer to any self-propelled motor driven vehicle with at least four wheels and designed to have a specific speed of over 25 km/h, which is defined in article 3. So far, the following vehicles are not covered by the automotive directive, because they are regulated by other legislation: Agricultural or forestry tractors (2003/37/EC), quad bikes (two or three-wheeled motor-driven vehicles - 2002/24/EC), tracked vehicles. This is stated in article 2 of the
The manufacturer must follow either the type approval procedure, or the DoC procedure.

**New guide to EMC Directive 2004/108/EC**


- The manufacturer must follow either the type approval procedure in the automotive directive 72/245/EC (e-mark - until 1 November 2014) or the UNECE regulation no. 10 Revision 3 incl. erratum and amendments (Emark - now and after 1 November 2014).

- If the equipment is 'aftermarket equipment', which does not ensure 'the immunity of the driver' (point 2.12), and the manufacturer does not voluntarily choose to follow the type approval procedure, it must follow the CE mark procedure incl. the DoC procedure in the EU EMC Directive 2004/108/EC as amended. This is despite that the UNECE regulation no. 10 Revision 3 states another DoC procedure. The manufacturer may thus continue to choose to use the relevant standards harmonised under the EMC Directive 2004/108/EC, e.g. EN 50498 for establishing the presumption of conformity to the directive's requirements. The EN 50498 normative references are expected to be updated by CENELEC TC210, since the directive 2004/104/EC and amendments is being withdrawn.

Electronic equipment for cars meets the requirements for 'aftermarket equipment' and does not ensure 'the immunity of the driver' (in accordance with point 2.12), must either be type approved on a voluntary basis in accordance with the UNECE regulation no. 10 Revision 3 (E marked) or alternatively, follow the DoC-procedure:

- For use, marketing or sale outside the EU: The DoC procedure that is specified in the UNECE regulation no. 10, Revision 3.

- For use, marketing or sale within the EU: The DoC procedure which is specified in the EU EMC Directive 2004/108/EC (CE mark).

**Summary**

Electronic equipment for cars must meet the technical requirements in the UNECE regulation no. 10 Revision 3 incl. erratum and amendments, before it can be used or marketed in the EU.

Electronic equipment for cars, that are not 'aftermarket equipment', or which ensure 'the immunity of the driver', must follow the type approval procedure specified in the UNECE regulation no. 10 Revision 3 and must be (large) Emarked. If the product is also covered by other relevant EU directives, these must also be followed and should these specify it, the product must also be CE marked. An example of this is the EU radio equipment and telecommunications terminal equipment directive, 1999/5.