

ECMA-97, 2nd edition, Local Area Networks – Safety Requirements

SCOPE

This ECMA Standard applies to networks equipment which consist of, access units, interface connectors and the design of interface circuits between data terminal equipment and network components.

Additionally, installation and maintenance instructions for cabling between units is covered in this Standard.

This Standard applies only to networks that normally operate at ELV or TNV.

Specifically excluded from the scope of this Standard are public switched telephone networks (STNs), private branch telephone exchanges (PBXs), cable television (CATV), fire protective signaling systems, dedicated or industrial control systems, environmental control systems, audio, radio and television signal or antenna systems, and similar systems, although the principles described herein may sometimes be useful to such application.

Other methods of construction or design which provide the same level of safety would also be acceptable.

For information systems designed to have interconnect cabling up to a few hundred meters in length and hence installed in a relatively small area, Standard ECMA-129 or IEC Publication 950 fully covers the safety requirements.

With the introduction of networks which can extend to kilometres and hence enter unspecified and uncontrolled environments, other parameters not covered by Standard ECMA-129 or IEC Publication 950 have to be considered.

These parameters, which also relate to experience from telecommunications installations, include:

- different network systems;
- different mains power system grounding schemes;
- power distribution in high rise or very long buildings;
- networks between buildings;
- single vs. multiple earth connections;
- equipotential bonding;
- design of DTE interface circuits;
- environmental restrictions, e.g. flame spread, flammability, smoke and fumes, etc.
- protective measures against lightning and other transient effects;
- installation and maintenance requirements.