

ECMA/TR 26, Local Area Networks – CSMA/CD 10 MBit/s Baseband Planning and Installation Guide

SCOPE

This Technical Report is intended to assist in the planning, design, installation and system testing of the Standard for CSMA/CD Baseband Local Area Networks (LAN), ECMA-80, ECMA-81 and ECMA-82.

The main component of the transmission medium, a trunk cable of unique design and specification, requires no special installation techniques. In addition to the passive Trunk Cable the Network System comprises terminators, drop cables, transceivers, and repeaters. These items, once installed and connected together constitute the transmission medium that supports the LAN.

Simplicity of installation and flexibility of layout are important characteristics of the approach in providing a high performance, high-integrity Local Area Network. Equally important is the ease with which a system may be enlarged to cope with expanding needs. A small Network System concentrated on one floor, supporting a small number of DTEs may be progressively enlarged to a final system servicing an entire multistory building as well as multiple buildings with up to 1024 units of Data Terminal Equipments (DTE).

Such a system may also be connected to remote DTEs of systems via a communications gateway and external transmission lines.

Clearly, the planning and installation activity will vary greatly depending on the size and complexity of the system.

Successful network operation is the end product of good and thorough planning. The planner will evaluate the restrictions imposed by the building lease, type of structure, facilities requirements, health and safety regulations, equipment location and quantity, cable performance specifications, floor plan and budget.

The key activities consistent with the above are:

- To plan and design the cable route according to the distribution of the DTEs.

- To install the network hardware.

- To test the network hardware.

As it is anticipated that most networks will grow and evolve over a period of time, this must be taken into consideration at the initial design stage.