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**Application of computers and microprocessors to  
the construction, installation and protection of  
telecommunication cables  
1999 Edition**



via ITU Website

The outside plant occupies a wide area which requires a large amount of investments and a huge amount of work for design, construction, installation and protection especially considering the new telecommunication services available and the future role of the access networks.

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# **Application of computers and microprocessors to the construction, installation and protection of telecommunication cables**

## **1999 Edition**

The 1st edition of this Handbook was published in 1994. Due to the rapid development of the technologies a 2nd edition was considered useful to include the new applications for computers and microprocessors taking into account that many countries are adopting such devices and equipments.

Application of computers and sensors depends on the plant situation, local environmental conditions, functions to be implemented, features restricting their possible use and effectiveness of their use in terms of better performance for installation, operation, protection, surveillance, preventative and repair maintenance of the outside plants.

All these factors are inter-leaved and suitable procedures from the administration to the design and from the installation to the operation have to be established. In this handbook various flow charts and figures simplify the understanding of the factors affecting the plants and the possible solutions to be implemented.

After the Basic concepts described in Chapter 1 various situations are described:

- Application areas of various types of sensors and microprocessors to protection inside and outside the buildings, fault location, etc.
- Application to construction of aerial and underground plants.
- Application to installation techniques, splicing of metallic and optical fibre cables.
- Application to design and administration as planned desk work data gathering and analysis.
- Development of an integrated computer system for the management of the plants and subscriber information.

The last chapter of the Handbook presents tables to show how the data, available from various data bases, can be used:

- Customer information.
- Plant data information.
- Projection of customers.
- Estimation of cable length, and number of connectors necessary for construction.
- Estimation of construction cost.
- Construction figure drawing.
- Figure drawing after construction.
- Revision of figure drawing after construction.
- Construction progress management.

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