Recommendation T/TR 02-07 (Nice 1985)
concerning principal mechanical characteristics for telecommunications equipment

Recommendation proposed by Working Group T/TR 12 "Transmission" (TR)

Text of the Recommendation adopted by Commission "Telecommunications"

"The European Conference of Posts and Telecommunications Administrations,

Considering

— that the equipement used for telecommunication purposes is generally located in telecommunication centres and contained in or supported by mechanical structures;

— that in view of the installation of mechanical structures made by different manufacturers, an adequate degree of standardization is necessary;

— that the relevant CCITT and CCIR Recommendations do not provide for the necessary standardization;

— that the CCITT and CCIR do not plan to standardize the principal mechanical characteristics for telecommunications equipment;

— that the Administrations support the harmonization of telecommunications equipment and systems which could lead to a reduction in the development and production costs for the manufacturers supplying equipment to different countries.

Recommends

— that member of the CEPT adhere to the specifications for principal mechanical characteristics contained in the annex to this Recommendation for telecommunications equipment intended for use during the 1990's onwards."

ANNEX

PRINCIPAL MECHANICAL CHARACTERISTICS FOR TELECOMMUNICATIONS EQUIPMENT

Table of content

1. EQUIPMENT CONCERNED

This Recommendation applies to telecommunications equipment installed in telecommunication centres belonging to Administrations.

Recommendation T/TR 02-01 contains additional information for transmission equipment.

Whenever possible, the mechanical structure specified in this Recommendation for equipment installed in Administration's premises will be used for similar equipment installed in subscriber's premises.

2. OBJECTIVES

— to define the principal mechanical characteristics for telecommunications equipment (such as may be used for example in the ISDN) installed in telecommunication centres;

— to choose as far as possible a unified mechanical structure that makes it possible to install the equipment, without any essential modification, in existing telecommunication buildings and in the same room together with those complying with Recommendation T/TR 02-01, so that the costs for development and installation can be kept to a minimum;

— to make more flexible the extension of the installations with the structures containing different functions without disturbing or putting out of service momentarily the equipment which is already in service. The unified systems of cabling should allow economical equipment installation;

— to specify the dimensions of equipment in a way that it could be possible to economically and progressively realize both large and small centres avoiding a long-term under-utilization of the mechanical structures.

3. DEFINITIONS

"rack":

In this Recommendation the term "rack" has the particular meaning of: a mechanical structure resting on the floor which can support or accomodate various forms of equipment.

The term does not imply a particular type of structure but includes different possible types as for instance conventional racks, frames, cabinets, equipment blocks, etc. (see Appendix 1). The dimensions of "racks" include equipment mounted on the structure. Where doors or other forms of external cladding are employed for particular applications the overall dimensions may then exceed the dimensions specified in Section 4.

"width module":

In this Recommendation "width module" represents the incremental change in width.

4. SPECIFICATIONS

4.1. Height

The nominal heights of 2,200 mm and 2,600 mm are recommended for "racks". The value of 2,600 mm is primarily defined for transmission equipment (other equipments are not excluded) installed in appropriate rooms. In the long term it should be possible to retain only the value of 2,200 mm.

Note 1:

A possible way of progressively achieving the solution of one standard height could be that, in new developments, equipment subracks are designed with a modular height so that they can be installed both in 2,200 mm high and in 2,600 mm high "racks".

Note 2:

If "racks" are to be installed in particular locations, where the normal standard heights are not suitable, it is recommended that a nominal height is used selected from the scale indicated by IEC for racks for individual mounting (Publication 297-2).

Note 3:

The "racks" could be equipped with a levelling device which can make up for differences in the level of the floor of up to 10 mm. In this case the height of the levelling device in its minimum position including any base is contained in the nominal value indicated.

Note 4:

The values indicated are overall dimensions to which normal production tolerances apply.

4.2. Width

The nominal width of the "racks" should be based on a 60 mm "width module". The width of the "racks" should be an integer multiple of this "width module".

The following values are preferred: 120, 300, 600, 720, 900, 960 mm.

Only negative production tolerances will be allowed for the width.

Note:

A value of 30 mm for the "width module" could become useful in the future.

4.3. Depth

The total depth of the "rack" will not exceed 650 mm.

Preferred values for depth are: 260, 520, 600 mm.

Note:

Other preferred values for the depth could become useful in the future for particular applications.
A depth of 450 mm has been mentioned.

4.4. Accessibility

Accessibility of "racks" from the front is to be guaranteed for all types of "racks" in all phases of installation, extension and operation.

For "racks" having a depth of 260 mm, accessibility should be provided only from the front.

Where the depth is greater than 260 mm, "racks" requiring back access and "racks" not requiring back access are both acceptable.

4.5. Installation

The "racks" should be capable of being installed to form rows. All or parts of rows may consist of single-sided "racks", or where back access is not essential, "racks" placed back to back.

4.6. Weight

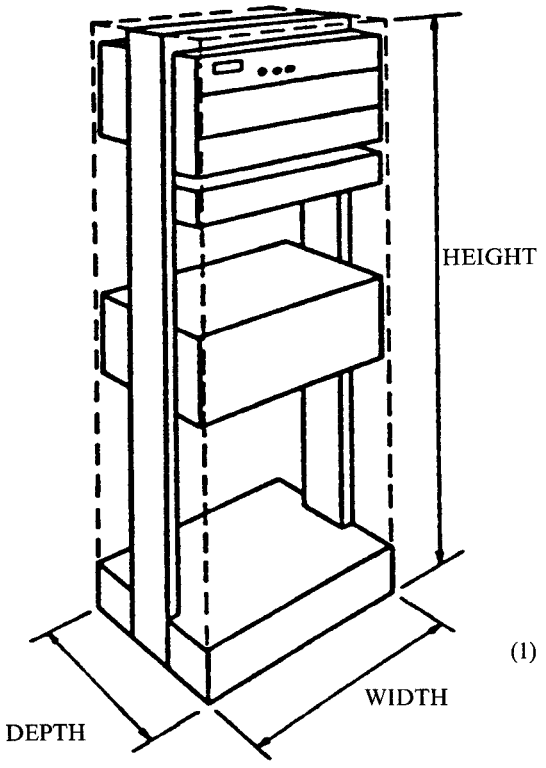
The weight of fully equipped "racks" having a height of 2,200 mm including internal cables, etc., shall not exceed 20,000 N (about 2,000 kg-weight) per square meter equipped floor area (provisional value) (the equipped floor area of a "rack" is the product of depth and width of the "rack").

4.7. Cabling

"Rack" cabling access should be possible from overhead and/or underfloor as required by the Administration.

Appendix 1

PRINCIPAL DIMENSIONS OF "RACKS": SOME EXAMPLES FOR ILLUSTRATING PURPOSES



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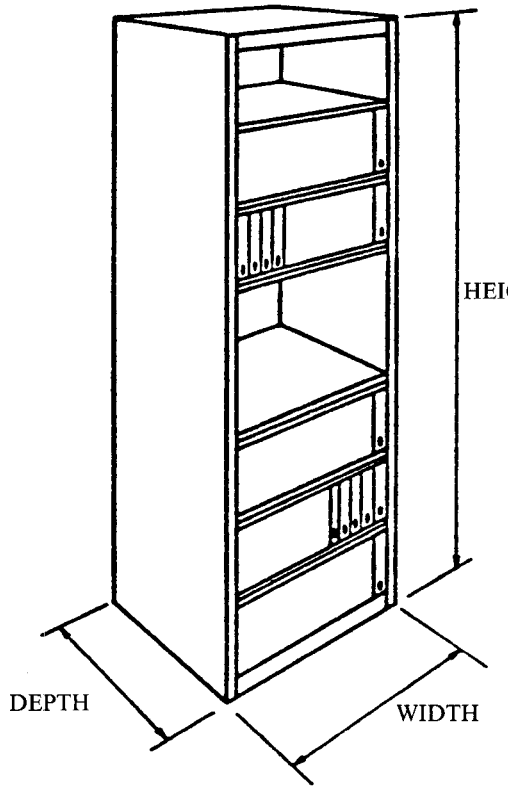

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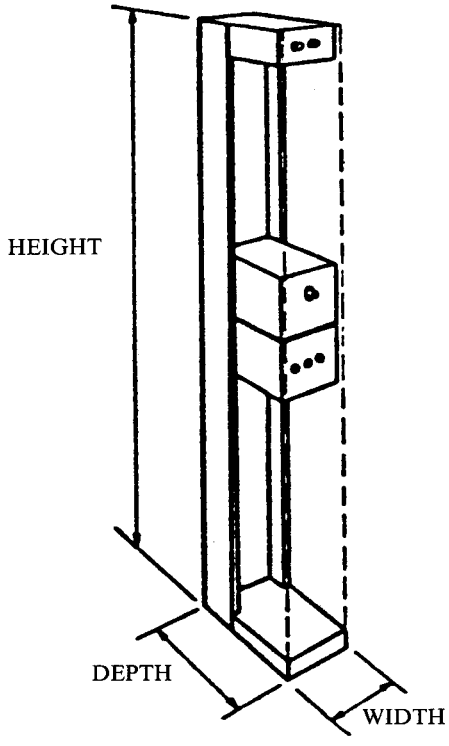

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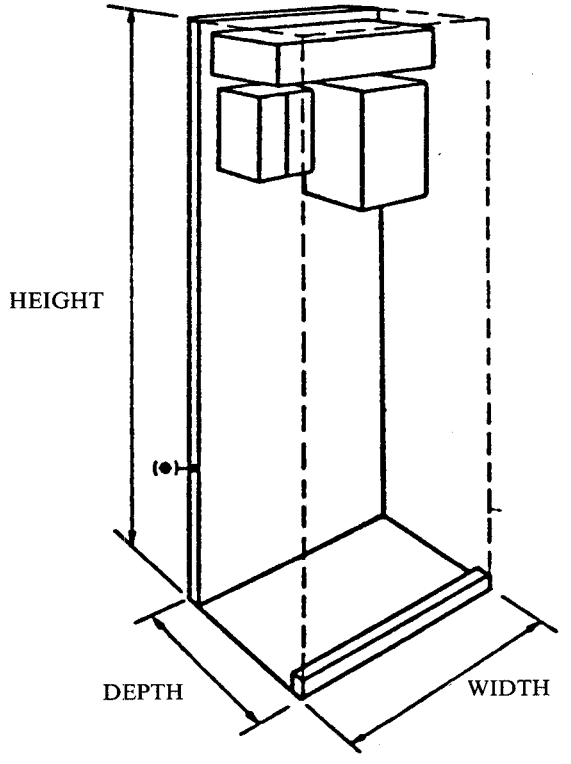

(4)

Note:
The concept of the equipment block (4) allows the rear supporting structure (◆) to be installed in widths which are multiples of preferred nominal width as defined in the Recommendation.