

SECTION 11.

AISLES

1. INTRODUCTION.

1.1 An aisle is the term used to describe the pathway between rows of rack mounted equipment to distinguish it from passageways as described in Section 12.

1.2 Two aisle arrangements are used in the installation of rack mounted equipment -

(i) Where rows are erected "back to back" and equipment and wiring aisles are thereby established.

(ii) Where the rows of equipment are faced in the one direction and a composite equipment and wiring aisle is established.

Layout arrangements should be such that the aisles between the various groups of equipment will extend in the direction to obtain the greatest diffusion of natural light.

The siting of racks in rows across the narrow width of a building in most cases will comply with the conditions outlined above. In some instances, racks may be erected in rows parallel with the length of the building if the greatest natural light is obtained.

2. RACK ARRANGEMENTS.

2.1 Two principal types of racks are used for internal plant equipment, namely -

(a) 2000 Type Racks. A single-sided 8'6 $\frac{1}{2}$ " of 10'6 $\frac{1}{2}$ " high equipment rack is the present A.P.O. standard rack unit for -

(i) 2000 type exchange equipment.

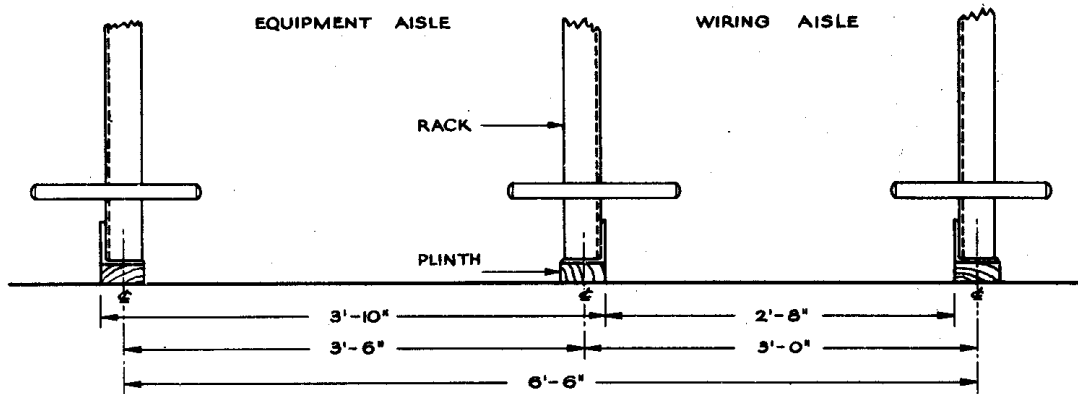
(ii) Automatic trunk switching equipment.

(iii) C.B. sleeve control equipment.

Standard 2000 type rack frames will also be used to mount various classes of telegraph equipment.

Racks of this type are single-sided and are arranged back to back to provide an equipment and a wiring aisle. The aisle dimensions have been selected to provide a suitable working space for graded type selector racks and racks with decentralised I.D.F. facilities.

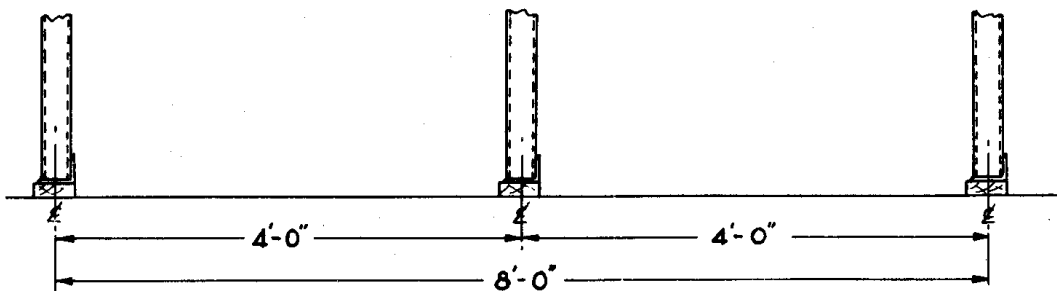
The standard dimensions of the aisles used in the layout of this class of equipment are shown in Fig. 1.



STANDARD AISLE DIMENSIONS 2000 TYPE EQUIPMENT.

FIG. 1.

(b) Standard Carrier Racks 1'8½" Wide by 10'6" High. A double-sided 10'6" high equipment rack is the basic Commonwealth standard rack unit for various classes of long line equipment. This class of rack is arranged facing in the one direction and providing composite equipment and wiring aisles. The standard dimensions of the aisles used in the layout of equipment of this type are shown in Fig. 2.



STANDARD AISLE DIMENSIONS LONG LINE EQUIPMENT.

FIG. 2.

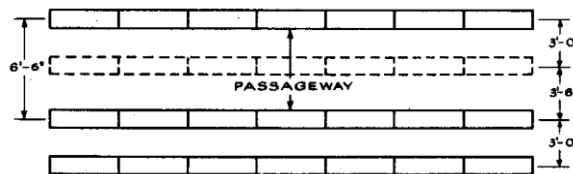
2.2 Other types of Equipment. In all future layouts of exchange equipment or when introducing other types of rack equipment, the aisle dimension as shown in Fig. 1 must not be departed from. This is due to the considerations given to building design, particularly where columns are encountered to obtain the greatest number of racks in any given area. The adaption of this standard spacing will also aid in standardisation of all overhead fittings and permit intermixing of newer types of equipment should such be introduced before the areas originally planned are fully occupied.

3. LAYING OUT 2000 TYPE EQUIPMENT AISLES.

3.1 The aisle dimensions shown in Fig. 1 shall apply to -

- (i) all new exchanges.
- (ii) extensions to exchanges, where the equipment is being installed in a new floor area, except for the reasons stated hereunder.
 - (a) Exchange Areas Clear of Columns. The standard aisle spacing shown in Fig. 1 shall not be departed from in any circumstance other than to provide for mid-passageways which may be sited between groups of equipment for -
 - (i) access to staff entrances; or
 - (ii) access to auxiliary rooms such as power, battery and air-conditioning rooms.

Should it be necessary at any time to provide a wider passageway (Fig. 3) than was originally planned to cater for bulky items of power plant, a wider passageway should always be provided on the basis of standard aisle spacing, that is, multiples of 3 ft. Or 3 ft 6 in. Centre line of plinth.



PROVIDING MID PASSAGEWAY.

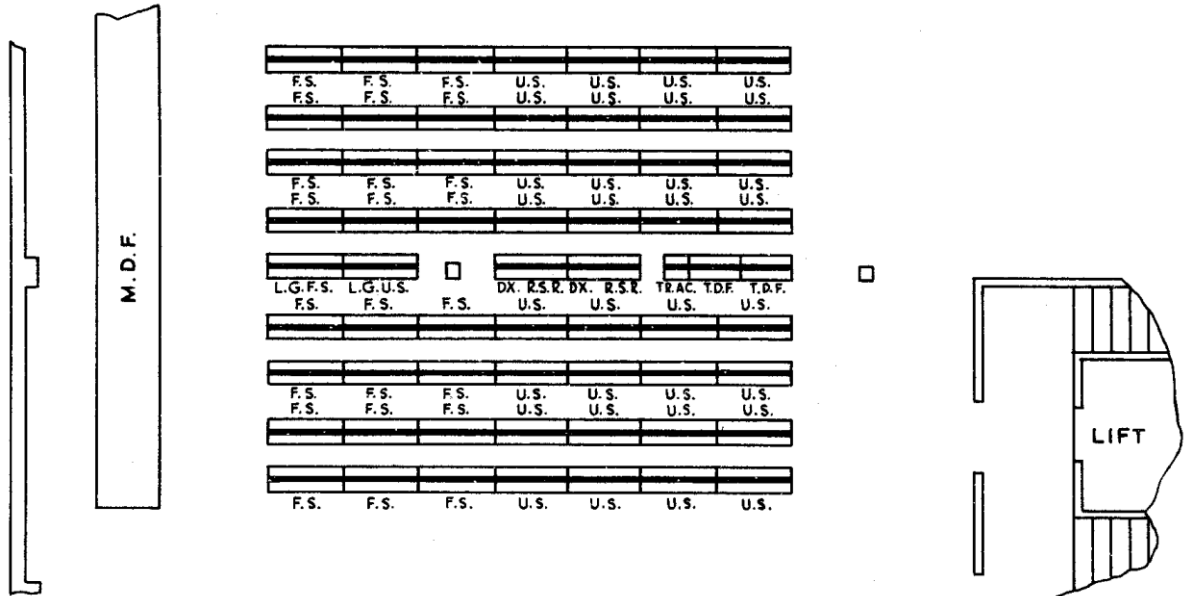
FIG. 3.

(b) Areas Including Columns. The greatest number of racks possible should be installed in any given floor area and this number will be obtained by adopting the standard aisle spacing throughout the area. Standard aisle spacings must be provided in all cases except where a disturbance of the uniform groupings of line equipment racks is introduced.

- (i) Subscribers' Line Equipment Racks. It is most desirable for maintenance and operating conditions in laying out an exchange to retain uniform groupings of subscribers' equipment throughout the exchange. Columns in exchange areas may tend to interfere with such grouping, but a uniform grouping should be retained between column centres to obtain a major number of groups.

Where a column prevents the locating of a uniform grouping of line equipment racks a variation in the column spacing may be permitted, and the conditions which will permit such an arrangement are shown in Fig. 4.

- (ii) Other Types of Racks, including selectors, repeaters, discriminating selector repeater racks, etc., do not require a uniform pattern similar to the grouping arrangements of line equipment rack groups and, where columns prevent the location of a rack in any rows, that rack may be omitted.



TWO UNIFORM 4,800 SUBS. LINE GROUPINGS.

FIG. 4.

Miscellaneous racks are sited in the row which includes a column to avoid disturbing the uniform arrangements of 1,200 line subscribers' groups.

