SECTION 10.

EXCHANGE EQUIPMENT LAYOUTS

1. GENERAL.

1.1 Details which must be considered when preparing layouts of 2000 type, pre-2000 type, and C.B. sleeve control equipment are set out in the following Sections of this series of Instructions -

Section 5 - Safe Floor Loads.

Section 6 - Widths and Lengths of Exchange Buildings.

Section 7 - Ceiling Heights for Internal Plant Buildings.

Section 8 - Locating Columns in New Buildings.

Section 9 - Areas Including Columns.

Section 11 - Aisles.

Section 12 - Passageways - Exchange Equipment other than Manual.

Section 13 - Air Ducts in Exchange Buildings.

Section 14 - Cable Design Methods.

Section 15 - Provision of Cable Holes in Buildings.

Reference should also be made to Sections 1-4 when groupings of various classes of equipment are being arranged in the one building.

1.2 It is realised that in many instances the shape of the floor, space, width of building, type of building and class of exchange will generally decide the layout of the equipment.

Figures have been included in this Instruction together with information on the main points to be considered in arranging satisfactory groupings of equipment racks.

The subject is dealt with under the following headings -

2000 Type Equipment. (See Page 2.)

Layout Procedure. Grouping Practices for Subscribers' Line Equipment. Metropolitan Areas. Present Arrangement of Various Types of Racks. Country Areas. Proposed Layout Practices. Proposed Layout Practices. Proposed Change from 20-year Layout Planning. Effect of Changes in Type of Equipment.

Pre 2000 Type Equipment. (See Page 22.)

Typical Layouts. Grouping of Equipment. Aisle and Passageway Dimensions.

Manual Exchange Equipment. (See Page 55.)

General Provision. Types of Buildings. Location of Manual Positions in Switchrooms. General Methods of Layout and Installation.

Distribution CI.

INTERNAL PLANT Design, Sect 10

2. 2000 TYPE EQUIPMENT.

2.1 Layout Procedure.

Layout of Equipment in Buildings. The details included in Table A provide a ready means for determining the maximum number of rows of 2000 type racks which can be sited in an equipment room of any given length. The number of racks in each row is dependent on the position of the M.D.F., the cable entry arrangements and the position of any columns in the building.

The transparent rack layout shown in Fig. 1 will also provide a ready means of ascertaining the maximum number of racks which can be installed on the floor area. Table A, in conjunction with a transparent drawing which includes a pattern of racks correctly sited with respect to standard aisle spacing, will enable the Engineer planning a layout to arrange the position of the racks even when columns are included in any given floor area.

A 2000 type layout rule, can be used to aid in the preparation of layouts in areas not including columns.

<u>Association of Equipment</u>. The best arrangement of equipment for operating and maintenance reasons, as well as for cabling economies is one in which the switches performing like functions are arranged in one group, that is, the subscribers' line equipment should be placed in one group, the first selectors in another group, the relay set racks in another, etc., and in no circumstances shall racks performing one function be separated by racks performing another function, except when a fold over layout is introduced.

2.2 Grouping practices for Subscribers' Line Equipment.

Where the ultimate capacity exceeds 1200 lines, subscribers' equipment should be arranged in uniform groupings of 1200 lines or 1000 lines. Various combinations of racks serving subscribers' equipment are shown in the Figs. included in the equipment grouping arrangements. (See pages 26-40.)

For Exchanges under 1200 Lines Maximum Capacity, reference to typical layouts included in Section 4 of this Instruction will provide a guide to approved arrangements of equipment for layouts in such buildings as portable exchanges, garage building units, etc.

2.3 Metropolitan Areas.

Branch Exchange Buildings.

Because branch exchange buildings are generally planned for fixed capacities of 4800 and 9600 lines, exchange layouts have developed accordingly on these capacities. The capacities are related to the allotment of a level and/or the sharing of a level.

Depending on the 20-year development figures and the initial building to be provided, the equipment is laid out on either a 9600 line layout, two 4800 line layouts employing a "folded-over" principle, or 4800 lines where the 20-year development figures will not exceed that number of lines.

The 9600 line layout should not be adopted <u>unless</u> the initial installation will exceed 3600 lines at the 5-year period, or where the development will exceed 4800 lines before 10 years.

The "fold over" type of layout should be provided in most instances, particularly where the initial installation is within the range of 1200 or 2400, or where 4800 lines will not be needed under 10 years.

In some instances a 2400 line layout will apply to exchanges in permanent buildings where that figure will not be exceeded in 20 years, although it is not general practice to have layouts of this capacity, other than in country areas.

Main Exchanges.

The planning of main exchanges, shall be related to 20-year and post 20-year periods and should provide -

- (i) A 9600 line layout for subscribers' line equipment where only <u>one level</u> will be allotted to the exchange, and
- (ii) Two or more 9600 line layouts for subscribers' equipment when more than <u>one level will be allotted to the exchange</u>.
- (iii) Sufficient floor space to meet the Junction requirements for the network, in relation to the subscribers' equipment and through calls.

The design of main exchanges situated in large networks generally calls for the provision of considerable building space at the erection stage in order to provide for junction equipment requirements. The development figures, in association with other long term planning aspects, generally dictate the space to be allotted for subscribers' line equipment racks.

<u>City Main and Co-Main exchanges</u>, because the accommodation is generally in multistorey buildings, it is usual to provide for more than one 10,000 line unit or equipment at each building. <u>Each 10,000 line unit should be considered separately</u> for cabling and other engineering aspects, except for common M.D.F., power plant, etc..

2.4 Present Arrangements of Various Types of Racks.

<u>Subscribers' Line Equipment Rack Grouping</u>. When planning layouts of subscribers' equipment racks the aim should be to provide 1200 line groups in branch or main exchanges where the width of the building permits. Where this is not possible uniform grouping, determined by building widths and columns should be selected from the various grouping arrangements detailed in the figures included in the equipment groupings arrangements (see pages 26-40).

The foregoing arrangement of Subscribers' Line Equipment racks applies to the use of standard 2000 type equipment using uniselector racks of 300 capacity and Final Selector racks either of 600 lines or of 400 lines capacity. Consideration is being given to the development of equipment to provide for 1000 line Suites for Subscribers' Line Equipment. A supplementary instruction will be issued when firm details are available.

Other Switching Equipment Racks. The location of other main 2000 type equipment racks including selectors, repeaters, discriminating selector repeaters and large group final selectors, is determined by -

- (i) Operating and maintenance considerations,
- (ii) Cabling economies between each switching rank or the M.D.F.,
- (iii) The need for meeting growth in any rank.

Various diagrams are included with this Instruction to illustrate the grouping arrangements of each stage to meet the condition laid down.

Section 14 "Cabling Design Methods" should be studied before determining the areas selected for each switching rank.

INTERNAL PLANT Design, Sect 10

Where growth in any rank cannot be accurately determined, it may be desirable for two adjacent ranks of equipment to grow towards each other.

The principles to be considered to provide for growth are illustrated in the Figs. attached.

The location of meter, routine control and access racks, when required, T.D.F., T.C.F., I.D.F., A.E.R., M.A.R., F.P.R. and miscellaneous Relay Set Racks, should be arranged to obtain economy in cabling and their close proximity to associated equipment, for example, the F.D.R. should be adjacent to M.D.F.

A Table is included to assist in the selection of the most suitable positions for each minor type rack.

2.5 Typical Layouts.

Typical layouts are included in this Instruction for a -

- (i) Co-Main Exchange.
- (ii) Main Exchange.
- (iii) Branch Exchange.
- (iv) Garage Type Exchange. See Section 4.
- (v) Portable Exchange. See Section 4.
- (vi) Minor Capacity Exchange. See Section 4.

2.6 Country Areas.

Country Automatic exchange capacities vary considerably and the size of building and layout provided are governed by factors stated in Section 4. The same 1200 line or 1000 line groupings of subscribers' equipment as indicated for metropolitan layouts should be used. Typical ultimate capacities are 1200, 2400 and 3600 lines.

Where larger groups of lines are involved, special layouts should be developed. The positions selected for the associated trunk Switching and Long Line equipment should conform to the principles discussed in Section 4.

2.7 Proposed Layout Practices.

<u>New Features</u> in layout have been developed for branch exchanges which employ a 7-rack suite for 1200 subscribers' lines.

It will be seen in the drawings that the previously accepted locations of the D.S.R. and the various selector ranks have been modified and they are -

- (i) Four D.S.R's ranks in rows in appropriate positions match the four U.S. racks in the 1200 line (7 rack) equipment groups to achieve cable economy.
- (ii) Three F.S. racks are included in each line equipment group. They in turn are matched by three 4th selectors in each row with the remaining 4ths included in succeeding rows of three,
- (iii) The 3rd selector racks have also been grouped to ensure cabling follows an economical cyclic course.
- (iv) The miscellaneous equipment racks including meter, routiner control and AER and MAR, etc., are centred into the layout to reduce ineffective maintenance time.

This revised arrangement of racks in a standard branch exchange employing a 1200 line suite has been developed following on a study of cabling practices to obtain economy. The cabling practice which will be introduced to meet this layout is detailed in Section 14 of these Instructions.

The principles which determine this method for laying out equipment are -

- (i) Each succeeding rank of equipment should occupy the same length and have the same number of racks in a row, or part of row.
- (ii) A cyclic cabling arrangement should be used to economise in cable used.
- (iii) Improved cabling methods are obtained.
- (iv) Assist staff operating and maintaining plant by a reduction in necessary movement between succeeding ranks.

2.8 Proposed Change from 20-year Layout Planning.

The foregoing details all relate to the layout of equipment based on the general acceptance of 20-year planning.

A revision in present planning practices, particularly in regard to the use of 20year equipment layouts should be introduced with the issue of this Instruction.

The accepted principles of line equipment grouping and association of other equipment racks still apply but variable factors indicated in the following paragraphs must be taken into account in future.

Effect in Changes in Types of Equipment.

A survey of the dates on which the various types of automatic exchange equipment have been introduced, together with the modifications to individual types of equipment which have occurred during the period in which the equipment has been available for purchase, indicates that changes in type and operating principles have occurred with some degree of regularity. In fact after the passage of very few years a new equipment or a modification in the type has taken place. The effect of this is that comparatively few exchanges have one type of equipment installed in the area provided originally for the original 20-year equipment layout.

When a change in type has been introduced, the dimensions of either the base of the unit or rack, the height of the equipment or the capacity of the rack has varied considerably from the original plant purchased.

Typical examples are -

Keith Plunger Line Units - base dimensions $1'10" \ge 2'10"$ or 3'2" compared with Rotary Line Switch Units $1'10" \ge 4'$.

Pre-2000 Line Units and Trunk Boards, height 9'1-9/16" compared with $10'6\frac{1}{2}"$ for 2000 type racks.

2000 type equipment racks - width 4'6" compared with 4'3" of the Siemens No. 17 rack.

Apart from the changes in the physical dimensions of the racks, their capacity in subscribers' line circuits has also been altered.

2.9 Floor Areas. The difference in the floor area for 1200 lines of subscribers' equipment between pre-2000 type line units and 2000 type racks is 48' x 1'10" compared with 31'6" x 1'3¹/₂" excluding passageways.

INTERNAL PLANT Design, Sect 10

The changes in the physical dimensions of the racks supplied by different contractors, coupled with 20-year layout initially spread over complete floor areas, brings about one or more of the following:-

- (i) Rearrangements in cabling schemes;
- (ii) Revisions of layouts;
- (iii) Alterations to overhead runway and supporting superstructure;
- (iv) Complete replacement of existing plants;
- (v) Extensions in the newer types of plant.

For example the installation of 2000 type racks in areas between racks of pre-2000 type equipment introduces difficulties which result in waste in manhours and material.

- 2.10 <u>New Planning Approach</u>. In order to prevent as much as possible such subsequent rearrangements when new types of plant are introduced, the following approach is to be considered when planning the layout of equipment -
 - (i) A 20-year plan should be developed to determine the floor areas for the equipment.
 - (ii) The plan should take into account the possibilities of a change in plant within the planned period. The planned floor areas must be adequate to meet requirements and shall be determined on the principles detailed previously in this instruction.

As periodical introduction of new types of equipment must be contemplated, the layout prepared should be based on -

- (a) Providing for a 20-year period if the original date of introduction of the type of equipment proposed is reasonably close to the time the layout is prepared.
- (b) When the new plant has been in use for 5 years, all subsequent planning for new installations shall be reduced to a 10-year layout requirement.
- (c) When the new plant has been in use for 10 years, all subsequent planning for new installations shall be reduced to a 5-year space requirement.
- (d) When the plant has been in use for 15-years, layouts should be confined to a small section of the floor area. Temporary installations may be effected in some instances where knowledge of the introduction of new types of equipment is available. The possibility of using material recovered from other exchanges of the same type for re-installation naturally would influence the layout proposed at such a stage in the life of the original plant.

Row	Dimension	Row	Dimension	Row	Dimension	Row	Dimension	Row	Dimension	Row	Dimension	Row	Dimension
1		11	3216"	21	65 ' 0 "	31	9716"	41	130'0"	51	162′6″	61	195'0"
7	2 ' 8 "	12	35'2"	22	67 ' 8 "	32	100'2"	42	132'8"	52	165'2"	62	197'8"
Э	616"	13	3910"	23	71'6"	33	104'0"	43	136'6"	53	169'0"	63	201'6"
4	9 ' 2 "	14	41'8"	24	74,2"	34	106'8"	44	139'2"	54	171'8"	64	20412"
5	13'0"	15	4516"	25	78'0"	35	110'6"	45	143'0"	55	175'6"	65	20810"
9	15'8"	16	48'2"	26	8078 "	36	113'2"	46	145'8"	56	178'2"		
7	19'6"	17	52,0 "	27	84 ′ 6 ″	37	117'0"	47	149'6"	57	182'0"		
8	22 / 2 "	18	54'8"	28	87 / 2 "	38	119'8"	48	152'2"	58	184'8"		
6	2610"	19	5816"	29	91'0"	39	123'6"	49	156'0"	59	188'6"		
10	28'8"	20	61'2"	30	93 ' 8 "	40	126'2"	50	158'8"	60	191'2"		
Ъ Т Т	o determine the number following calculations	the n alcula	To determine the number of rows of following calculations shall be m	ws of be mi	s of equipment which be made:-		can be arranged		in any given	length	ch of switchroom,	лгоот,	the
			1. Set		down width of 1	Front End	End Passage	4 - 7					
			2. Set	et down	width of	One Rack	ck	- 1'3 ¹ ⁄2"					
			3. Set 4. Set	et down et down	width of width of	any Tr Rear P	any Transverse Rear Passage	ຸ ຊັບ ເ	(either 3'10"	ы	2'8" - See S	Section	n 6.)
					Total	l Length	= A + B	+ 0 +	1 ' 3 ¹ 2"				
			Then s	Then subtract	- total	om len	from length of building	ding.					
			The rem above.	maining e.e.g.	g distance 80′-(5′	should + 3'10"	d then be re " + 3' + 1'	be related + 1'3 ¹ %") =	then be related to the Table of Dimensions $+ 3' + 1'3^{4_0}'' = 66'10^{4_0}''$ between.	le of tween	Dimensions	included	ded
))	- 1)					
Ë	his length (of 9 ¹ 2" 22 r	. of swi rows co	This length of switchroom would of 9 ⁴ 2" 22 rows could be insta	uld pro called.	vide 21	WS OL,	rows or, by reducing either A or	g eith		C in full	. or part a	total	
	TABLE A.	ч Ц		ISN	IO SNO	Ĭ	DIMENSIONS OF NUMBER OF ROWS OF EQUIPMENT	ΟF	ROWS	ОF	EQUIPN	NEN	F
			S N	MIT	CHROO	Ĕ	IN SWITCHROOM. (2000 Type Equipment.)	/pe	Equipm	ent.			

INTERNAL PLANT Design, Sect 10

INTERNAL PLANT Design, Sect 10

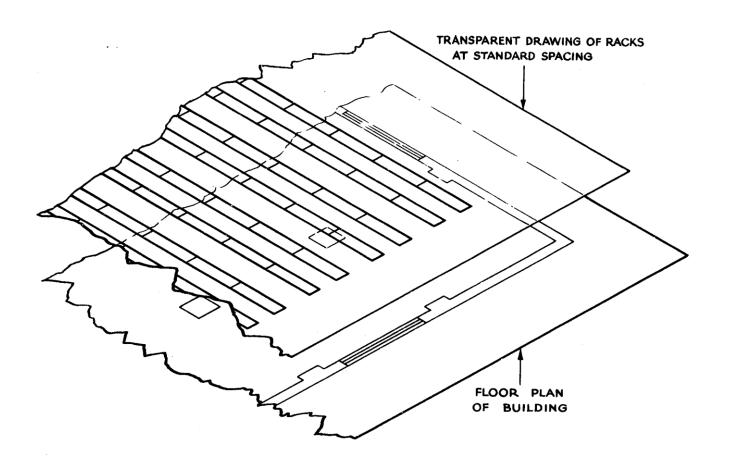


FIG. 1. USING A TRANSPARENT OUTLINE TO LAYOUT

RACKS IN AN AREA WITH COLUMNS.

INTERNAL PLANT Design, Sect 10

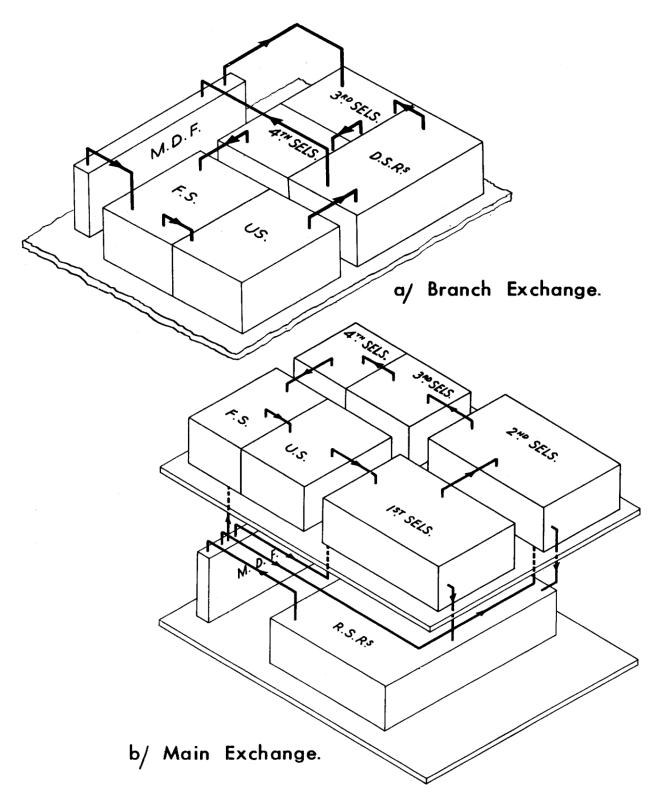


FIG. 2. EQUIPMENT GROUPING FOR CABLE ECONOMY.

Page 9.

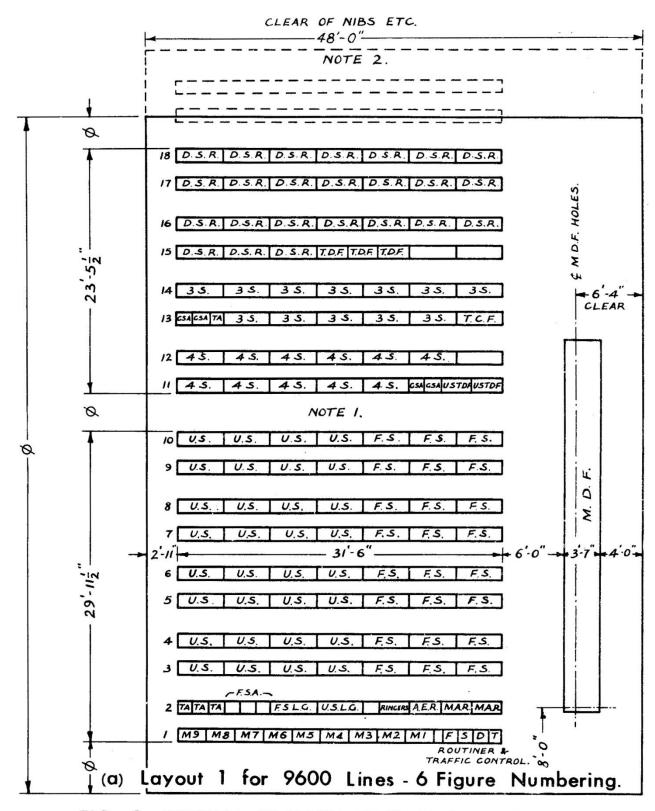
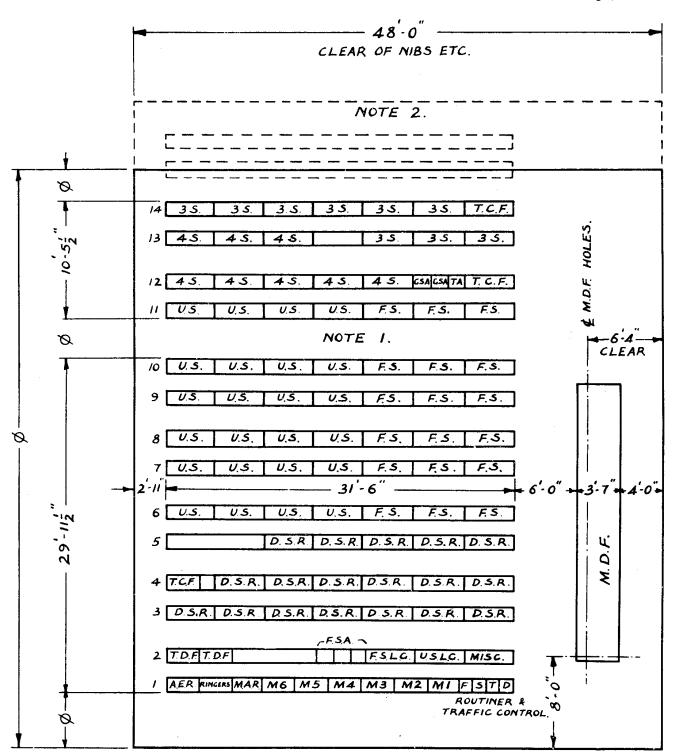


FIG. 3. TYPICAL BRANCH EXCHANGE LAYOUTS.

The layouts on this and pages 11, 12 and 13 can be placed in single storey, mezzanine type or two-story buildings. (See notes on page 13.)

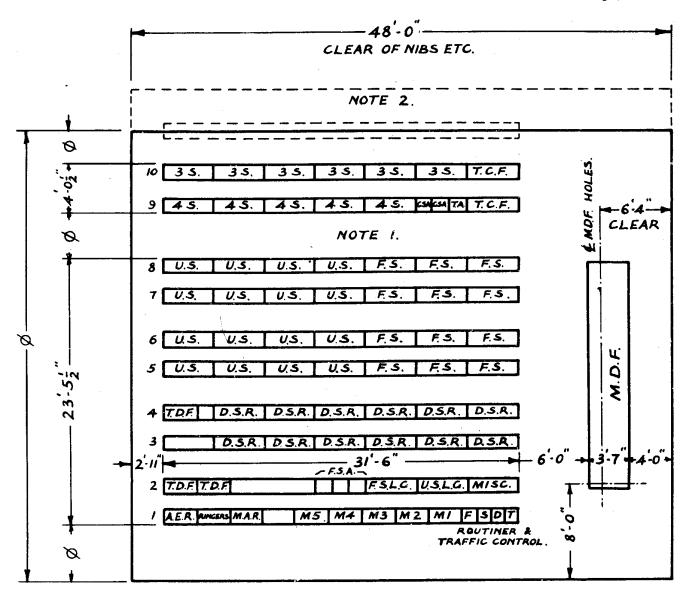
Page 10.



(b) Layout 2 for 7200 Lines - 6 Figure Numbering.

FIG. 3. TYPICAL BRANCH EXCHANGE LAYOUTS.

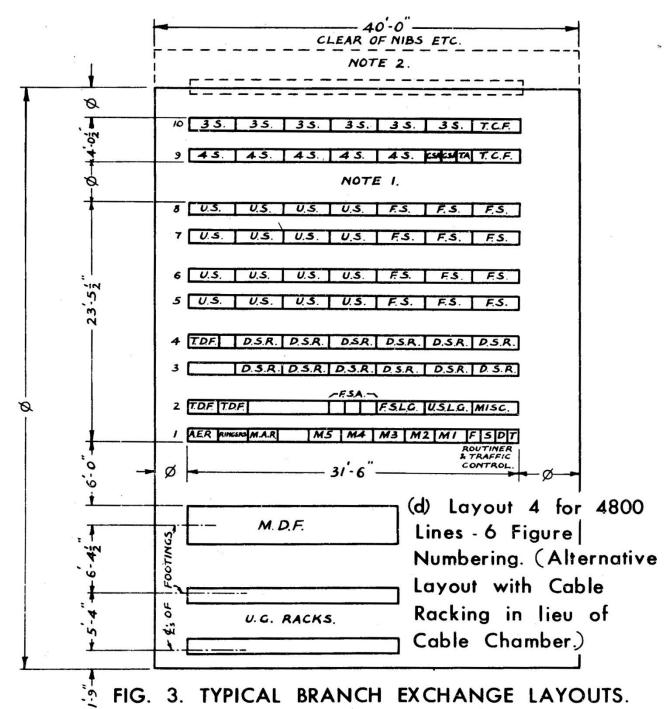
The layouts on this and pages 10, 12 and 13 can be placed in single storey, mezzanine type or two-story buildings. (See notes on page 13.)



(c) Layout 3 for 4800 Lines - 6 Figure Numbering.

FIG. 3. TYPICAL BRANCH EXCHANGE LAYOUTS.

The layouts on this and pages 10, 11 and 13 can be placed in single storey, mezzanine type or two-story buildings. (See notes on page 13.)



The layouts on this and pages 10, 11 and 12 can be placed in single storey, mezzanine type or two-story buildings.

- <u>NOTES</u>: 1. The passageway between rows 10 and 11 in layouts 1 and 2 and 8 and 9 in layouts 3 and 4 is provided for access to power room. So that this passageway can centre on the entrance to the power room rows 1 and 2 in layouts 1 and 2 can be moved to rear group of equipment if desired.
 - Dotted space for 7 figure numbering. This additional space to be determined taking into account the proposed trunking, i.e. possibility of sub-mains, 2 or 3 figure D.S.R's etc.
 - Dimension shown thus Ø to be in accordance with details supplied in

 (a) Section 6 Length and Widths of Buildings.
 (b) Section 12 Passageways.

INTERNAL PLANT Design, Sect 10

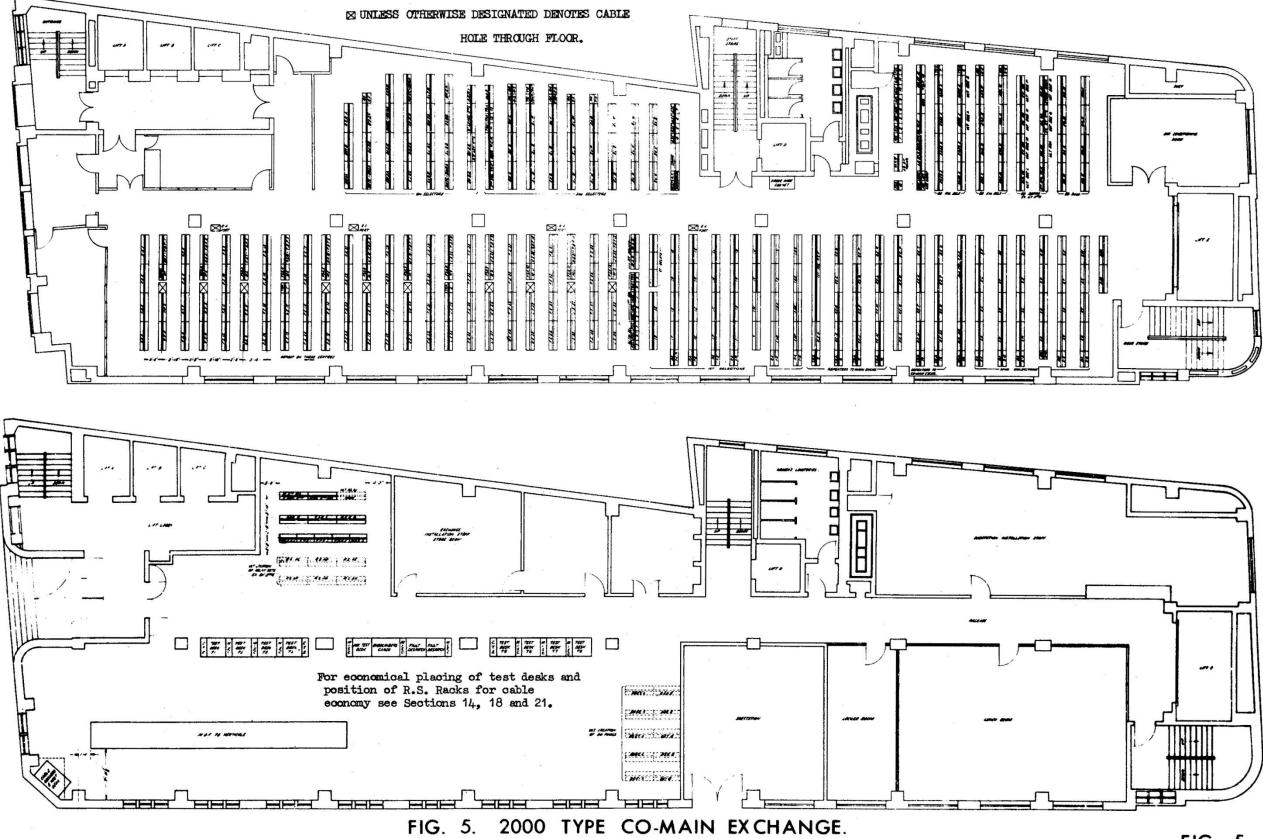
·····								
UNISELECTOR RACKS.				FINAL SELECTOR				
IN SELECTOR RACKS.				2" SELECTOR RA				
31 SELECTOR RACKS.				4T SELECTOR RA				
4TH SELECTOR RACKS.				FINAL SELECTOR				
FINAL SELECTOR RACKS.			N	M.D.F. & UNISELE	The second s	KS.		
METER RACKS.			S	FINAL SELECTOR				
R.S.R.		· · · · · ·	3	T.C.F. 3A & M.D				
A.E.R.			T	EQUIPMENT CENT				
F. P. R.				M.D.F.				
M.A.R. T.D.F. (UNISELECTORS)			Α	TEST DESK. UNISELECTOR RACK	5			
T.C.F. IA (UNISEL'S., INC. JUNCS., IT	SEL'S.)		1	M.D.F., UNISEL.		RACKS.	(α)	Main
T.C.F. 2A (18 SELS. LOC. LEV., INC. JUNC				M.D.F., R.S.R., 1			(u)	Mum
T.C.F. 3A (2" SEL'S. LOC. LEV., R.S.R., T.C.F. 4A (3" SEL. OUTLETS, 4T" SEL		5.)	L	R.S.R., 2" SEL. 8		RACKS.	_	
TRAFFIC REC. CONTROL RACKS.			4	EQUIPMENT CEN			Exc	hange.
TRAFFIC REC. ACC. RACKS. (117 SE	ĽS.)		1	ROUTINER ACC. R	the second s	SEL'S.)		•
TRAFFIC REC. ACC. RACKS. (2" SEUS.) TRAFFIC REC. ACC. RACKS. (3" SEUS.)		N	ROUTINER ACC. P					
TRAFFIC REC. ACC. RACKS. (3" SI TRAFFIC REC. ACC. RACKS. (4" SE			E	ROUTINER ACC. R				
TRAFFIC REC. ACC. RACKS. (FIN. SEL'S.)				ROUTINER ACC. R				
ROUTINER CONTROL RACKS.				ROUTINER ACC. RACKS. (FIN. SEL'S.) EQUIPMENT CENTRE.				
ROUTINER ACC. RACKS. (1" SEL'S.)			R	T.C.F. IA T.C.F. 2A				
ROUTINER ACC. RACKS. (21 SEL'S.) ROUTINER ACC. RACKS. (3" SEL'S.)			R	T.C.F. 3A				
ROUTINER ACC. RACKS. (4" SEL'S.)			1	T.C.F. 4A				
ROUTINER ACC. RACKS. (FIN. SEL'S.)			L	4" SEL. & FINAL	L SEL RA	CKS.		
UNISELECTOR RACKS. FINAL S			ELEC	TOR RACKS.				
D.S.R. RACKS.	1	3 PD SE	LEC	TOR RACKS.				
3RD SELECTOR RACKS.				TOR RACKS				
4TH SELECTOR RACKS.				CTOR RACKS.				
FINAL SELECTOR RACKS	N			CTOR RACKS. NISEL. RACKS.				
METER RACKS	_		IAL SELECTOR RACKS.					
R.S.R. (MISCELLANEOUS)	S	M.D.						
A.E.R.				T CENTRE				
F.P.R.	Å	M, D.						
M.A.R. I.	A	TEST	DES	K.				
M. A. R. 2. (JUNC. GUARD RLYS.)		D.S.R	. R	ACKS.				
T.D.F. (UNISELECTORS)	<u>-</u>	UNISE	LECT	OR RACKS.				
T.D.F. (JUNC. HUNT? & D.S.R. LEVS.)		D.S.P	ι. R	ACKS.				
T.C.F. IA (DS.R.LOC. LEV, INC. JUNCS, 349 SELS.)		M.D.F., [D.S.R. 8	3 3 SEL RACKS.				
T.C.F. ZA (3 P SEL. OUTLETS, 4TH SELS.)		3** & 4	ATH SELECTOR RACKS.					
ROUTINER CONTROL RACKS	N		IPMENT CENTRE					
TRAFFIC REC. CONTROL RACK			IPMENT CENTRE.					
TRAFFIC REC. ACC. RACKS (D.S.R.)	E	U.S.						
TRAFFIC. REC. ACC. RACKS (3RP SEL*)		<u> </u>		RACKS (3RD SEL!)				
TRAFFIC REC. ACC. RACKS (4TH SELS)	_			RACKS (4TH SELS)				
TRAFFIC REC. ACC. RACKS (FIN. SEL*)	R			RACKS (FIN. SEL?)	(b)	Branch	Exc	hange.
ROUTINER ACC. RACKS (3RD SELS)	4	T.C.F.				_ ` `	-	Ŭ
ROUTINER ACC. RACKS (4TH SELS)	-	T.C.F.		· · · · · · · · · · · · · · · · · · ·	ł			
ROUTINER ACC. RACKS (FIN. SEL?)		4™&	FINAL	SELECTOR RACKS.	J			

(a) Main Exchange.

FIG. 4. TABLE B SHOWING ASSOCIATION OF

EQUIPMENT FOR SITING VARIOUS TYPES OF RACKS.

Page 14.



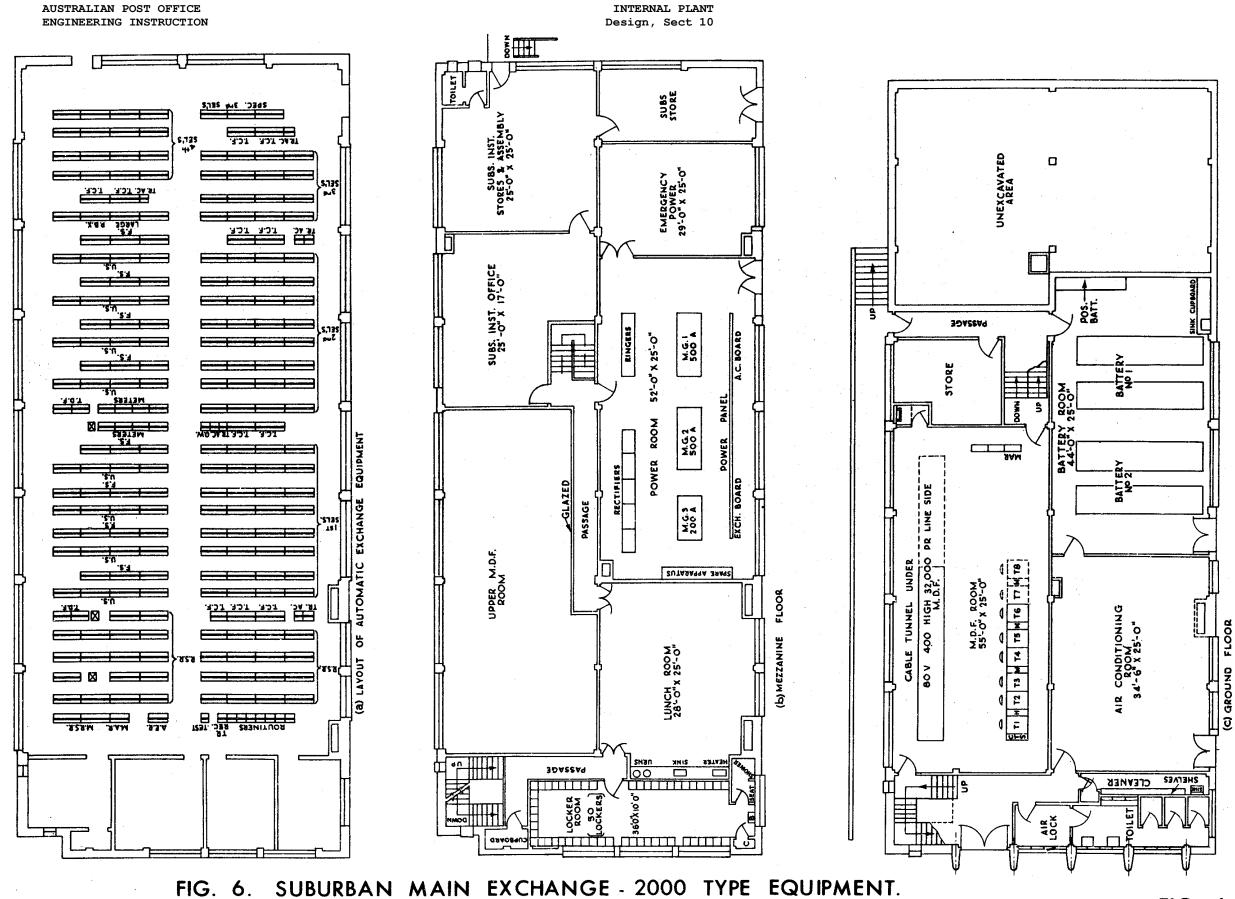
(THIS IS NOT REGARDED AS AN EXAMPLE OF GOOD BUILDING DESIGN BECAUSE OF THE SITE LIMITATIONS.)

Page 15.

INTERNAL PLANT Design, Sect 10

FIG. 5.

Issue 1, November, 1955.



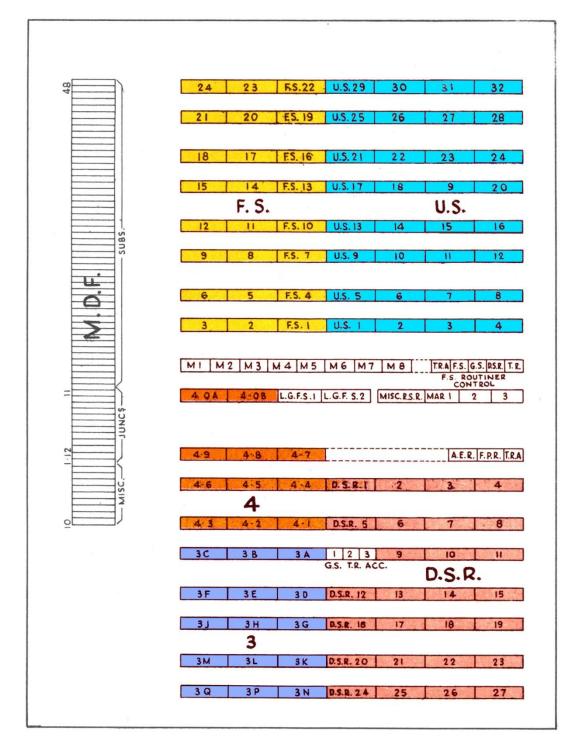
raye io.

ISSUE I, NOVEMBEL, 1955.

FIG. 6.

INTERNAL PLANT Design, Sect 10

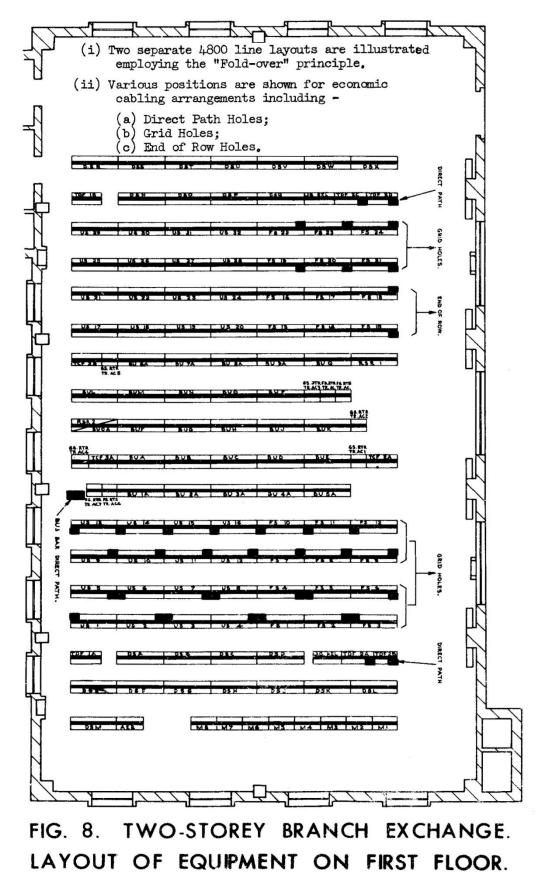
AUSTRALIAN POST OFFICE ENGINEERING INSTRUCTION



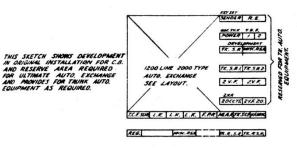
Layout for 9600 Lines. Using Track & Lane Cabling. T.C.F's mounted on D.S.R. racks 1-4 & 3rd selector racks 3A-3C. Routiner access switches mounted on F.S., G.S. & D.S.R. Racks.

FIG. 7. 2000 TYPE BRANCH EXCHANGE LAYOUT.

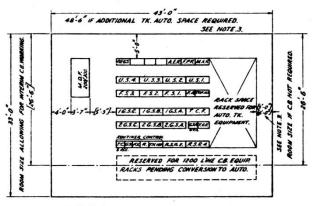
This layout illustrates the "Cyclic" arrangement described in Section 14 for cabling economy. It is suitable for "Lane & Track" cabling methods.



Page 18.



LAYOUT TK. AUTO. AND C.B. RACKS 1200 LINES.



1200 Line Layout.

- (a) Typical layouts showing locations of Exchange and Trunk Switching Equipment.
- (b) Reserved areas (approx 25% above planned requirements.
 - NOTE: Additional area provided is to cater for long term development of automatic trunk equipment. This reserved area may be used for the installation of C.B. rack equipment and if such plant is to be installed before the automatic exchange is established.
- NOTES: 1. Figures shown [3'0"] are variable in small dimensions due to wall irregularities.
 - 2. Layouts are typical. Developed to determine physical dimensions of switch room only.
 - Should trunk automatic require additional space room could be 48'6" wide providing 3 rack suites for this purpose.

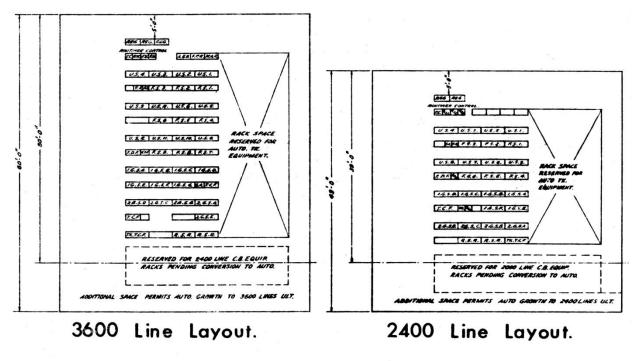


FIG. 9. COUNTRY EXCHANGES.

Page 19.

INTERNAL PLANT Design, Sect 10

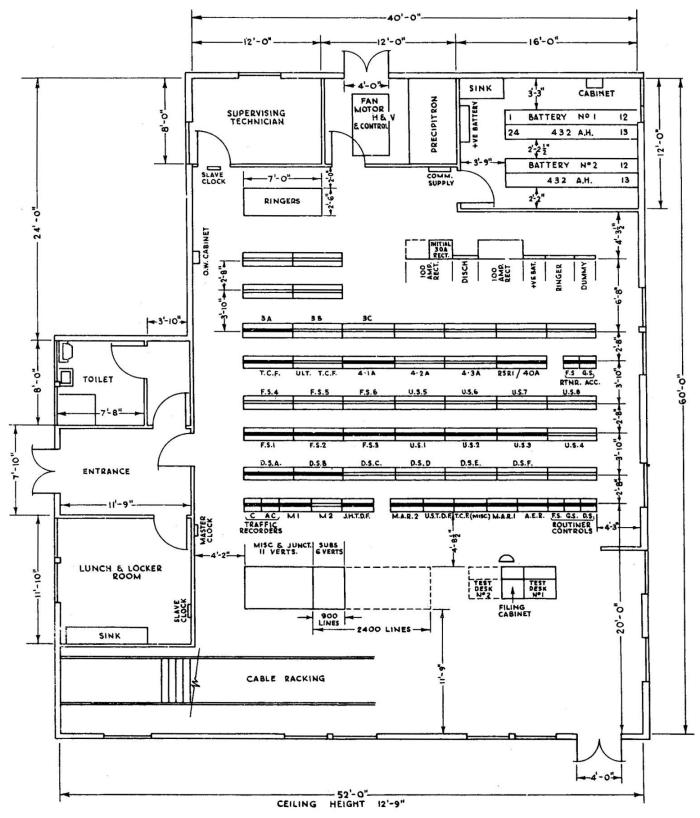
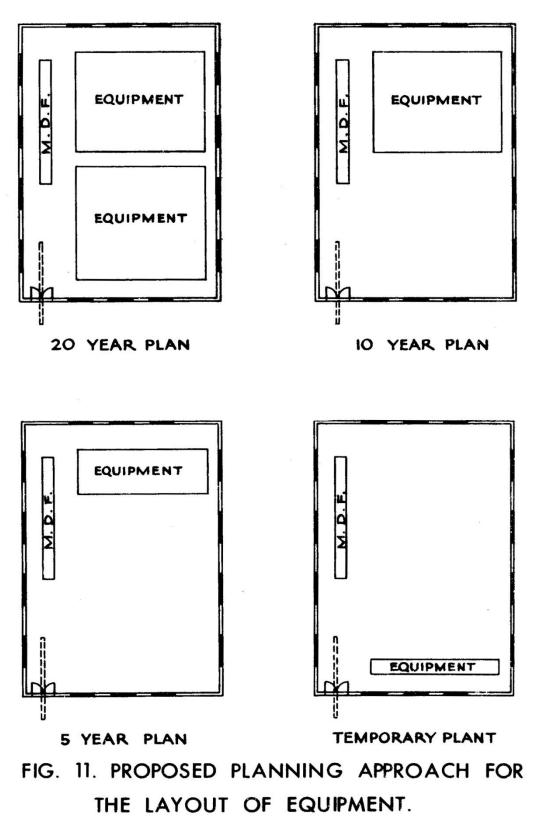


FIG. 10. SINGLE STOREY BRANCH EXCHANGE - 2400 LINE LAYOUT. Suitable for Country Exchanges.

Page 20.



(Based on the ideas discussed in the text regarding thee effects on layouts due to changes in the design of equipment.)

Page 21.

3. PRE-2000 TYPE EQUIPMENT.

3.1 Typical layouts of main and branch pre-2000 type exchanges have been included and these indicate the grouping of the various ranks of equipment to ensure economy in cabling and floor areas.

Figs. have been included to show the allowed aisle and passageway dimensions when preparing layouts for this equipment.

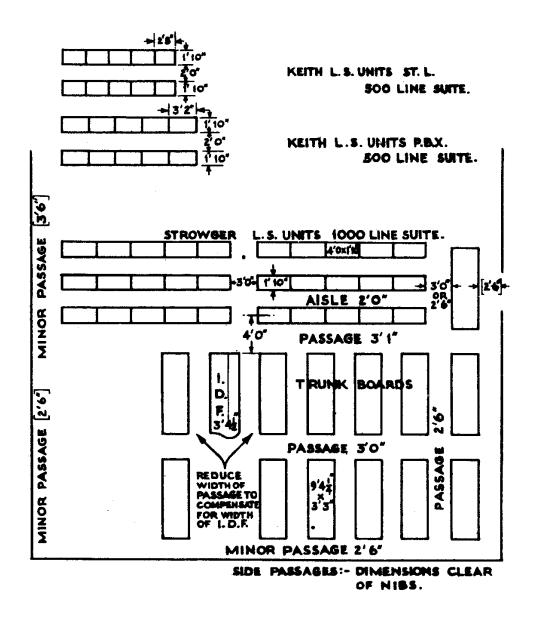
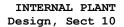
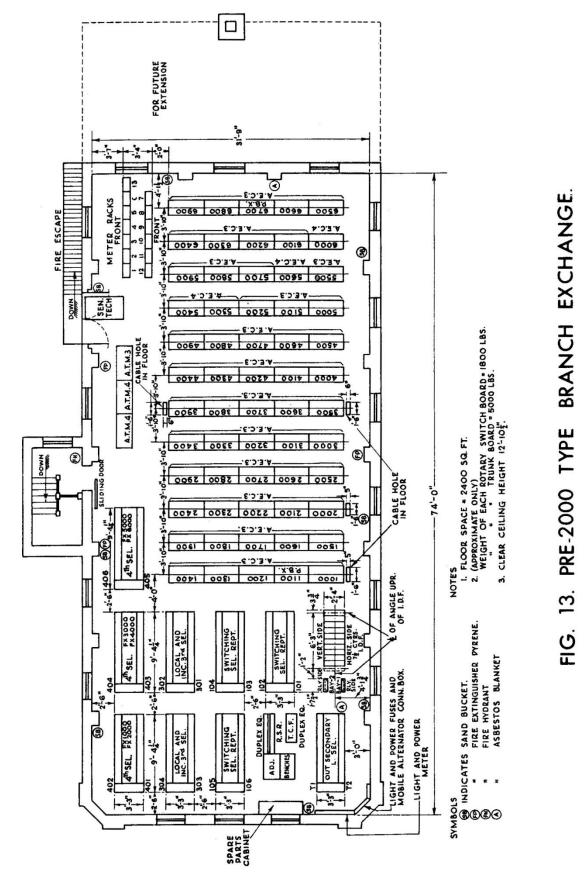


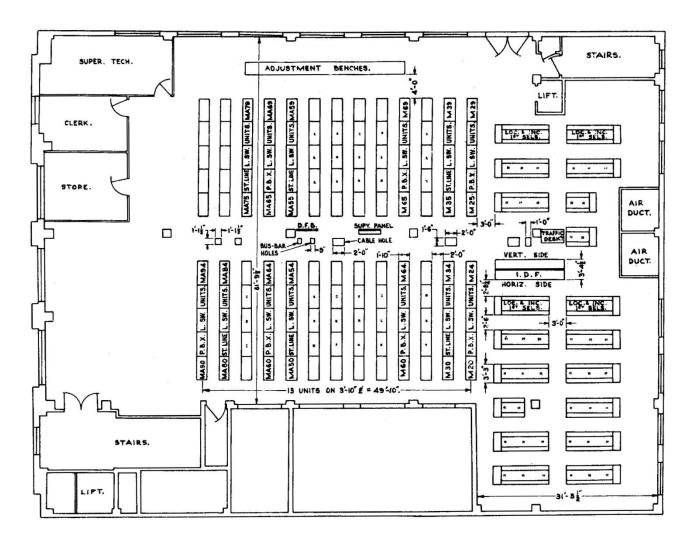
FIG. 12. PRE-2000 TYPE LAYOUTS. DIMENSIONS

OF AISLES AND PASSAGEWAYS.

Page 22.







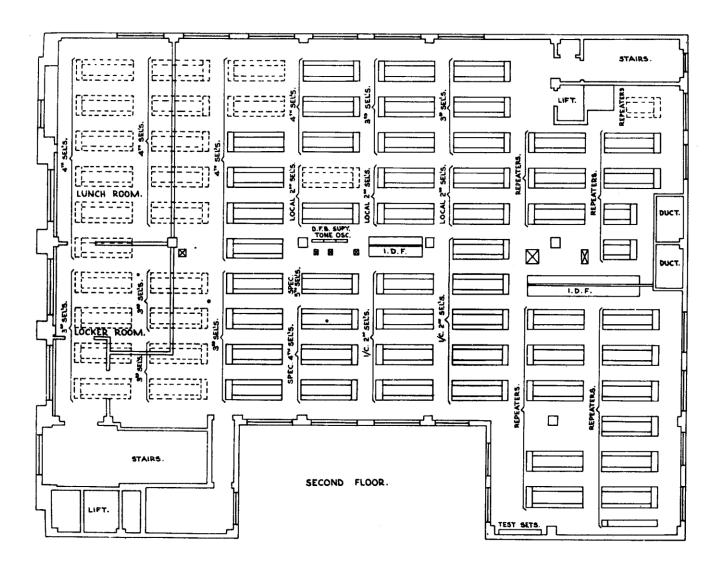
(a) First Floor. (see Fig. 14b for second floor)

Including

- (i) subscribers' equipment, and ,
- (ii) local and incoming first selectors.

FIG. 14. PRE-2000 TYPE MAIN EXCHANGE.

INTERNAL PLANT Design, Sect 10



(b) Second Floor. (see Fig. 14a for first floor)

Including

- (i) second,
- (ii) third,
- (iii) fourth selectors,
 - (iv) junction equipment.

FIG. 14. PRE-2000 TYPE MAIN EXCHANGE.

Page 25.

4. ADDITIONAL INFORMATION.

- 4.1 The following has been included to assist the Design Engineer in the preparation of Exchange Equipment layouts and to determine the floor area requirements for various classes of exchanges.
- 4.2 Equipment Grouping Arrangements. (See below.)

This includes details of various groupings of subscribers equipment, the symbols to be used in the preparation of floor plans and approved methods for grouping various ranks of equipment.

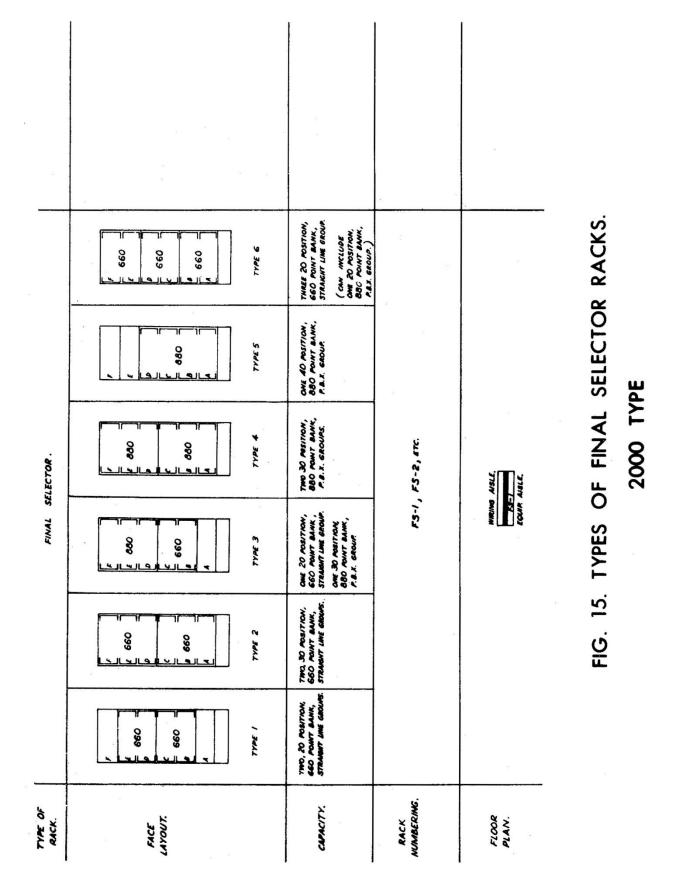
4.3 <u>Assessing Floor Areas for Exchanges</u>. (See page 40.) (2000 Type)

This includes a number of tables which can be utilised to determine the equivalent number of 4'6" racks for Branch, Main and Country exchanges of various capacities related to selected calling rates per line.

The method of application is included.

5. EQUIPMENT GROUPING ARRANGEMENTS.

- 5.1 The information detailed in the following sheets (Figs. 15-27) shown -
 - (i) Various combinations of Subscribers' Equipment Racks employing Final Selector Racks Types 1-6 as shown in Fig. 15.
 - (ii) Provision for Growth of Ranks of Equipment.
 - (iii) Rack accommodation and standard rack numbering.
 - (iv) Method of showing racks on layout of equipment and cable plan drawings.
 - (v) Method of illustration M.D.F. on Floor Plans.
 - (vi) Details of Pre-2000 type equipment.



Issue 1, November, 1955.

Page 27.

BOO LINE UNIT 7 RACK SUITE .	MARE F37 F31 U31 U32 U33 In 800 F34 F33 F32 F31 U31 U32 U33 In 800 F34 F31 F30 F35 U37 U34 U34 U34 2 0 0 F31 F31 F310 F35 U37 U31 U31 U31 0 0 F318 F31 F310 F35 U37 U31 U31 0 0 0	POUR 200 LINE, TYPE 5 RACKS.	TWO 300 LINE AND ONE 200 LINE RACK.	MAIN EXCHANGE WITH HEAVY CALING LATE.	
BOD LINE UNIT 7 RACK SUITE.	WET PET DET FET US FOR	POUR 200 LINE , TYPE 5 RACKS.	TWO 300 LINE, AND ONE 200 LINE RACK.	MANN EKCMANOR WITH MEMY CALING RATE.	
1000 LINE UNIT 5 RACK BUTE.	M. M	TIVE 200 LINE. TYPE 5 RACKS.	THREE 300 LINE AND ONE 100 LINE RACK.	MAIN EKCHANGS WITH HEAVY CALLING RATE.	USED FOR MARROW WIDTH FLOOR AREA. PATTCULARY SUTAME FOR ADDRING COLUMNS. MOTE. I :- ON REDUCED CAPACITY US RACK PAACE LEFT WCANT CAN BE USED TO PROPIDE A GRADMG UNIT OR TO PROVIDE U/S FOR L.G. FLX. OUTLETS VIA T.C.F. JUMPERING.
	PLAN.	CAMCITY	9 2	C SKD	REMARKS

2000 TYPE

FIG. 16. VARIOUS GROUPINGS OF SUBSCRIBERS' EQUIPMENT.

Issue 1, November, 1955.

INTERNAL PLANT Design, Sect 10

Page 28.

GOO LINE UNIT 5 RACK SUITE	M.D.F. 51 F1		THREE 200 LINE, TYPE 5 RACKS.	TWO 300 LINE RACKS.	MAINLY FOR CITY EXCHANGES.	THE ARRANGEMENT SHOWN PERMITS MULTIPLE OROUPHOS OF GOO LINE CAARTITES. THE FIRST 600 GIOUPHUG IS FORMED BY RACK I IN ROWS 1,2,3,4,6 5.
600 LINE UNIT 5 RACK SUITE	M. D.F. USS F53 US2 US3 F54 F55 F53 US2 US3 F57 F36 F53 US4 UST F30 F31 F31 US4 UST F30 F31 F31 US60 US1 F316 F317 F316 U318 US11 F316 F317 F316 U318 U211 F316 F317 F316 U318		THREE 200 LME, TYPE 5 RACKS.	TWO 300 LINE RACKS.	MAINLY FOR CITY EXCHANGES.	
800 LINE UNIT 4 RACK SUITE.	M. D.F. F1 F1 F1 F1 F1 F0 F51 F52 F33 F14 F1 600 F51 F52 F33 F14 F1 600 F13 F14 F15 F14 F17 F3 F2 600 F13 F14 F11 F31 F3 F2 600 F13 F14 F31		FOUR 200 LINE, TYPE 5 RACKS.	TWO 300 LINE AND ONE 200 LINE RACK.	MAINLY FOR CITY EXCHANGES.	FOR MAROW WIDTH FLOOR AREAS AND TO CILRA COLUMNIA. Using REDUCED CAPACITY U/S DACKA.
	FLOOR	CAMCITY	uỳ Lĩ	si D	2	REMARKS

INTERNAL PLANT

Design, Sect 10

FIG. 17. SUBSCRIBERS' EQUIPMENT LAYOUTS.

2000 TYPE

Issue 1, November, 1955.

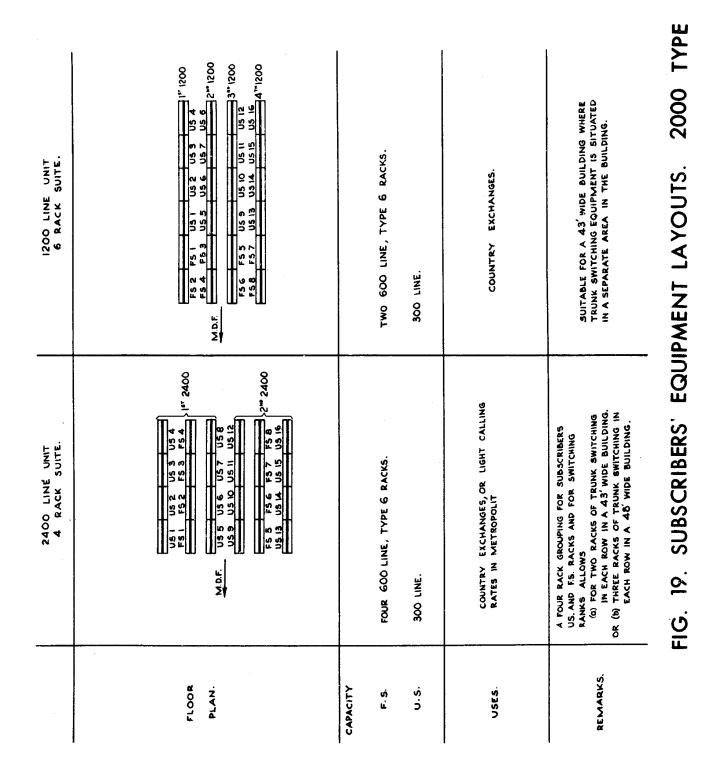
Page 29.

1200 LINE UNIT 4 RACK SUITE.	M.D.F. US US US US US 1. 152 US US US US 0.5 US 05 US 0.5 US 05 US 0.5 US 0 US 0 US 0.5 US 0 US 0	THREE 400 LINE, TYPES 1,2,3,08.4 RACKS. FOUR 300 LINE RACKS.	COUNTRY EXCHANGES AND MAIN Exchanges with Heavy Calling Rates.	SUITABLE FOR NARROW WIDTH BUILDINGS OR WHERE UNIFORM RACK ARRANGEMENTS CAN DE MADE DETWEEN COLUMNS AND SIDE MALLS OF AN EXCHANGE.
BOOD LINE UNIT	M. D. F. FAVUST FAVES FAVUS FAVUS FAVUS FAVUS F FAVUS FAVUS FAVUS FAVUS D FAVUS F FAVUS FAVUS D FAVUS D FAVUS A FAVUS D FAVUS D FAVUS D FAVUS D FAVUS A FAVUS D FAVUS D FAVUS D FAVUS D FAVUS D FAVUS A FAVUS T FAVUS D FAVUS	200 LINE COMBINED FS. AND US. RACK.	SUBURDAN EXCHANGES OR COUNTRY Exchanges with Light Calling Rates.	A 1000 LINE SUITE ARANGIMENT OF FIVE 200 LINE FS/U.S. RACKS.
1200 LINE UNIT 7 RACK SUITE.	M. B. F.	THREE 400 LINE , TYPES 1, 2,0R 3, RACKS. FOUR 300 LINE RACKS.	SUDURBAN EXCHANGES AND COUNTRY Exchanges with heavy calling rates.	STANDARD GROUPING POR BRANCH EXCHANGES WHERE THE TERMINATING REQUIREMENTS CAN BE MET BY ETHER 30 STRANGHT LINE OR 30 P.B.X. BANKS,
	FLOOR	CABACITY F.S. U.S.	C SES	RE MARKS.

Page 30.

2000 TYPE

FIG. 18. SUBSCRIBERS' EQUIPMENT LAYOUTS.



Issue 1, November, 1955.

Page 31.

THE MOST ECONOMICAL CABUNO IS OBTANED WHEN THE UNMAREL OF RACKS M ANY ONE ROW IS MATCHED BY THE SAME HUMBER IN THE MEXT RANK. IF RANK | IS ARRANGED IN ROWS OF ETHER 4.5,5,6,00,7, RANK 2 SHOULD CONTAIN THE RANE SHOULD CONTAIN THE RANE (2, 4, 10) RANNEL IN DY 4, 10 RANK 2) 4 U.S. MATCHED WITH 4 D.S.R. 3 4"SEL - - - - 5 4"SEL, 3 3"SEL - - - 5 4"SEL, RANK 2 622 RANK | WHEN CAPACITY OF EACH RANK IS KNOWN THEY SHOULD GROW AS SHOWN. THE SITING OF TERTS OR T.C.F.S. IN ONDER TO OBTAIN THE GREATEST CARLING ECONOMY IS FULLY DETAILED IN SECTION 14. RAMK 1 RANK 2 WHEN BROWTH IN ANY TWO SUCCEEDING EANING OF TOQUIPMENT CLANKOT DE ALLONED TO GROW TOGETHER. ALTERNATIVELY, WEIN EXCHANGE AND TRUNK SWITCHING EQUIPLENT ARE GITED IN TWO DIFFEREDT AREAS THEY SHOULD GROW TOGETHER TO ALLOW FOR UNFORESEEN AROWTH. CTTTTTTTTTTTTT 11 I NNN RANK 2 REMARKS. FLOOR P.AH. CAMCITY USIS.

2000 TYPE

FIG. 20. PROVISION FOR GROWTH IN SWITCHING RANKS.

		• • • • • • • • • • • • • • • • • • •			•
SELECTOR	200 OUTLET 1 H 10 6 G 7 C 7 C 8 10 4 th -Muia	80 S W	Ist A., Ist B., Ist C., ETC 2º MB, ETC. (WHERE M. IS) 2º MB, ETC. (EXCH. PREFIX.) 3º MUA. (WHERE MU IS) 3º MUA. (EXCH. PREFIX.) 4º MUIA. 4º MUIB. ETC. 4º MUIA. 4º MU2B. ETC.	4m MUIA	9
GROUP SEI	100 OUTLET 1 J IO H H IO 6 G G 1 A IO 1 A IO 1 A IO	NS 06	I ⁵¹ SELECTORS I ⁵⁷ A 1 ⁵¹ 2 ^{md} SELECTORS 2 ^{md} MA. 2 ^{md} SELECTORS 3 ^{md} MUA 3 ^{md} SELECTORS 3 ^{md} MUB 4 ^m SELECTORS 3 ^{md} MU2A. 2 ^{md} THOUSAND 4 ^{md} MU2A.		VTION AN 23 also.)
SECONDARY LINE FINDER	G SF-1 SF-1 SF-1	MAXIMUM IOS SW	5 - 1 5 - 2 5 t C.	AGAINST THE EQUIP	ACCOMMODATION AND Figs. 22 and 23 also.)
COMPOSITE PRIMARY FINDER AND L&K RACK	100 LEK H 100 LEK H 100 LEK H 100 LEK B 11 20 D 11 20 D 11 20 D 11 20 D 11 20 D 11 20 LEK B 11 100 LEK B 11 100 LEK A ALLOTTERS	400 SUBS	L/K - PF - 1 L/K - PF - 2 ETC.	LIK- PF-I	RACK ACCO (See Figs.
L & K A C K		900 PAIRS OF RELAYS	L/K ! L/K 2 ETC.	K DESIGNATION	EQUIPMENT, R. NUMBERING.
PRIMARY LINE FINDER (TYPICAL)	JII 20 HI 10 GI6 25 Fe 15 Fe 15 DI1 20 C1 10 B ALLOTTERS A START CONTROL PF-1	MAXIMUM 70 SW	PF - 1 PF - 2 ETC	PE-1	a X
D.S.R. RACK		40 D.S.R.'S 40 JUNCTION HUNTERS	DSR - A DSR - B ETC.	DSR-A NOTE:- ON FLO	IG. 21. 2000 T STANDARD RA
UNISELECTOR RACK		300 \$W 12 SHELVES 25 PER SHELF	US - I US - 2 ETC.	1- SU	FIG. 2 STAN
TYPE OF RACK	FACE LAYOUT	CAPACITY	NUMBERING	FLOOR PLAN	

Issue 1, November, 1955.

INTERNAL PLANT Design, Sect 10

ALARM EQUIPMENT RACK	AER-1 +2"-9"+		A E R - 1	A 68	
MISC. APPARATUS RACK	MAR-1		MAR-I	MAR-L	AND o.)
DISTRI BUTING FRAMES		64 GRADING STRIPS (20X3) 16 TERM. STRIPS(20X6)	T.D.F. OA(UNISELECTORS) T.D.F. IA (1st SELECTORS) T.D.F. OB T.D.F. A(JUNC HUNTERS) T.D.F. 2A T.D.F. 18 (& D.S.R. BANKS) T.D.F. 2B (2 rd SELECTORS)	THE EQUIPMENT	ACCOMMODATION AND Figs 21 and 23 also.)
TRUNK DIS		64 GRADING 5TRIPS (25X4) 16 TERM. 5TRIPS (20X6)	T.D.F. OA(UNISELECTORS) T.D.F. OB T.D.E. 1A(JUNC HUNTERS) T.D.E. 18 (& D.S.R. BANKS)	TEFIA SHOWN AGAINST	ACCOMM Figs 21 a
METER RACKS	21 22 22 23 20 20 20 20 20 20 20 20 20 20	Σ	ET4-1	RAJ-I	ACK (See
RELAY SET RACK	USED FOR ROUTINER M K K K K K K K K K S (R) i	120 SW. OR	R.S. (R)-I R.S. (R)-2 ETC.	002 PLAN RAC	
SELECTORS	F E D C C C C C F 5-2 + -4'-6"+		12.0	NOTE: ON FL	
FINAL	G C C C C C C C C C C C C C	& LARGE GROUP 70 S W	FS-1 FS-1 FS-2		FIG. 22. 2000 TYP STANDARD RAC
TYPE OF RACK	FACE LAYOUT	CAPACITY	RACK NUMBERING	FLOOR PLAN	

Page 34.

AUSTRALIAN POST OFFICE ENGINEERING INSTRUCTION

INTERNAL PLANT Design, Sect 10

INTERNAL PLANT Design, Sect 10

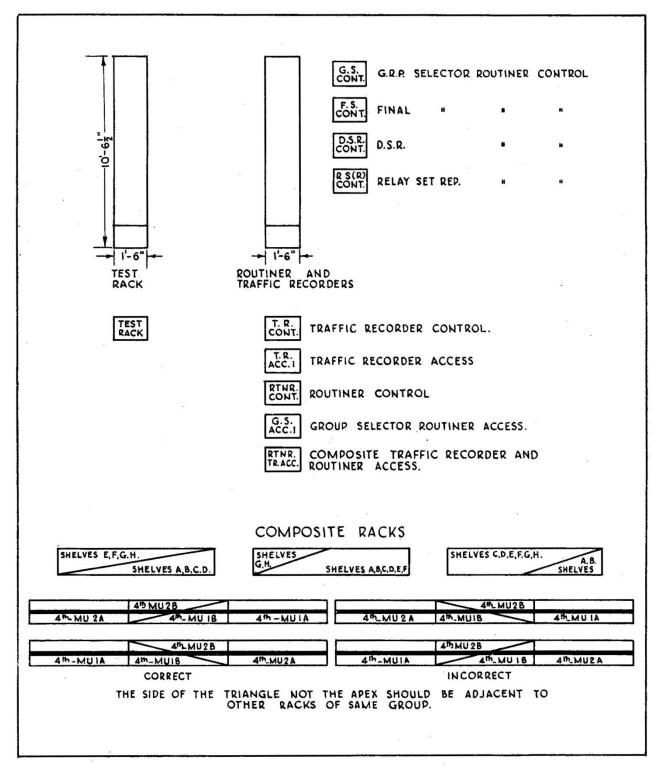


FIG. 23. 2000 TYPE EQUIPMENT RACK ACCOMMODATION AND STANDARD RACK NUMBERING.

(See Figs. 21 and 22 also.)

Page 35.

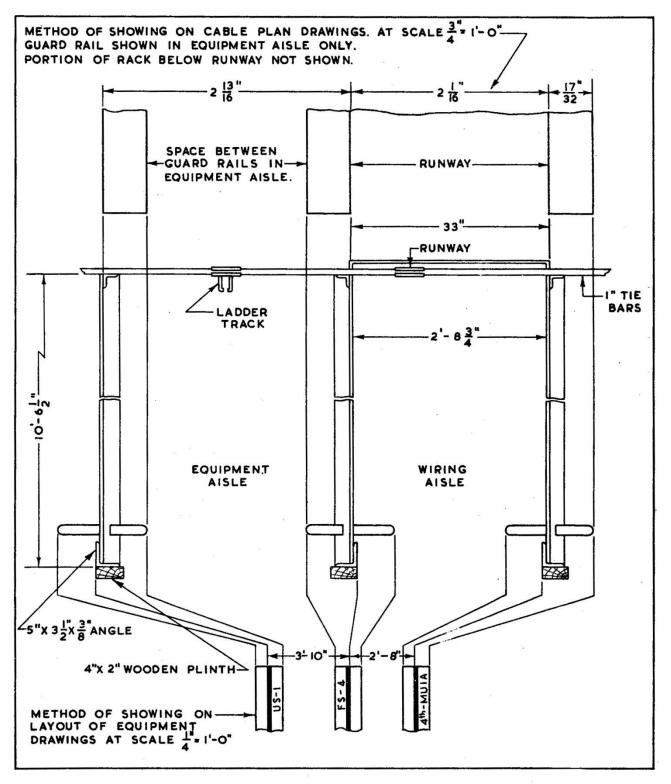


FIG. 24. 2000 TYPE EQUIPMENT, METHOD OF SHOWING RACKS ON LAYOUT OF EQUIPMENT AND CABLE PLAN DRAWINGS.

Page 36.

INTERNAL PLANT Design, Sect 10

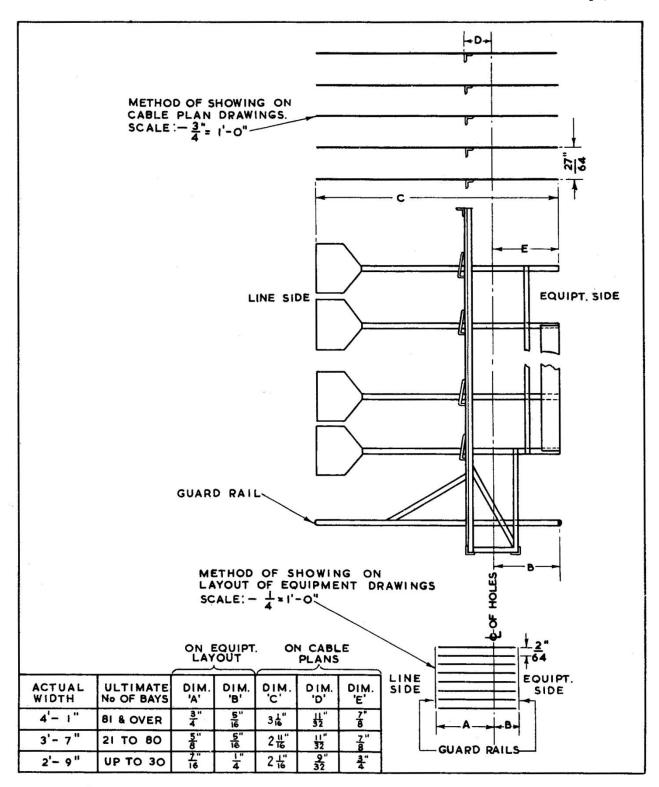


FIG. 25. 2000 TYPE EQUIPMENT, METHOD OF SHOWING

M.D.F. ON LAYOUT OF EQUIPMENT AND CABLE PLAN DRAWINGS.

Page 37.

TYPE OF RACK	GROUP SELECTOR	PRIMARY LINE	SWITCH UNITS	SECONDARY LINE SWITCH UNITS	Y LINE UNITS	REPEATER	COMPOSITE REPEATER & JUNCTION PRESELECTOR
FACE LAYOUT	A - A 10 - 1 B 20 - 21 C 30 31 D 40 - 21 C 30 31 D 40 - 14 - 1 - 10 - 1 - 10 - 1 - 10 	PLUNGER	GER UNISELECTOR A I A (0) B 30 B 21 C 30 31 D 40 B C C 61 C 30 11 H 80 C C D 61 1 50 91 J 100 D C	PLUNGER 25 25 25 25 25 25 25 25 25 25 25 25 25 25 25 25	UNISELECTOR (ROTARY) I AIO II B 20 C D C D BI 19091 J 100 A-4-0"+	I A 20 21 B 40 21 B 40 41 C 60 61 D 80 61 E 100 121 G 140 141 H 150 141 H 160 141 H 150 1<	I A 20 21 B 40 41 C 66 D 80 81 E 100 101 F 120 121 G 140 M1 H1 160 121 G 140 M1 H1 120 121 G 140 H1 140 120 121 G 140 H1 150 120 201 M260 261 N280 281 230 281 M260 261 N280 281 740 281 O 300 301 732 201 281 O 300 301 732 201 201 Add M260 261 M260 4 4 400 D 300 P320 201 201 201
	I SIDE ONLY						REPEATER SIDE AS FOR REPEATER BOARD
CAPACITY	DOUBLE SIDED 240 SW.	PLUNGER (100 SWS F S 2,3,0R 4 SHELVES CONTAINING 6,7 0R 8 F S	UIS 100 SWS FIS 2,3,0R.4 SHELVES CONTAINING 6,7,0RB FIS	POUBLE-SIDED 200 SWS	DOUBLE- SIDED 200 SWS	DOUBLE SIDED 320 SWS	DOUBLE SIDED-IGO REPEATERS 320 JUNCTION PRESELECTORS
RACK NUMBERING	157 SELECTORS 101 103 157 SELECTORS 101 103 2 nd SELECTORS 201 203 3 nd SELECTORS 201 203 3 nd SELECTORS 301 303 302 304 JETC	001	o, 1100 , 1200 , ETC.	IN GROUPS OF 50 ST S3 S4 JETC	51 53 53 54 ETC.	R! } R3 } ETC.	R1 S02 } ETC.
FLOOR	101	0001	100	GROUP 1	52 52	R 1 R 2	REPEATERS R.1 JUNCTION PRESELS SOL
	FIG. 26. PRE	PRE-2000 TYPE STA	EQUIPM NDARD	ENT. RACK ACCOA RACK NUMBERING	ACCO	ACCOMMODATION AND BERING.	AND

Issue 1, November, 1955.

INTERNAL PLANT Design, Sect 10

INTERNAL PLANT Design, Sect 10

TYPE OF	· · · · · · · · · · · · · · · · · · ·	
RACK	S.S.R.	JUNCTION PRESELECTOR
FACE LAYOUT	$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	UNISELECTOR (ROTARY) I A 10 II B 20 C D C D C D C D C D G H BI I 90 9I J 100 I SIDE ONLY
CAPICITY	DOUBLE SIDED 160 S.S.R.'S 160 JUNCTION HUNTERS	DOUBLE SIDED 200 SWITCHES
RACK NUMBERING	101 103 102 104 ETC.	SOI] SO3] SO2 SO4 ETC
FLOOR PLAN	101	501 502

FIG. 27. PRE-2000 TYPE EQUIPMENT RACK

ACCOMMODATION AND STANDARD RACK NUMBERING.

Page 39.

INTERNAL PLANT Design, Sect 10

6. ASSESSING FLOOR AREAS FOR 2000 TYPE EXCHANGES.

6.1 Details based on the use of standard 2000 type equipment are included, in the attached Tables, of the rack requirements to satisfy various calling rates for City Main, Branch and Country Exchanges. They provide a ready means for calculating the total rack requirements for various classes of exchanges particularly when comprehensive planning details and trunking diagrams are not available.

6.2 City.

Typical examples of their use are outlines below to assess the number of racks required:-

- (i) for a branch exchange.
- (ii) for a main exchange with branches.

<u>Case A</u>. To determine the equivalent number of 4'6'' racks for the installation of either:-

- (a) 2,400
- (b) 4,800
- (c) 9,600 line Standard 6 Figure Branch exchanges, the details shown in Table "A" should be employed.
 - e.g. 4,800 Line Branch Exchange with a C.R. of 0.06.

Equipment	No. of Racks
D.S.R's	12
3rd Selectors	6
4th Selectors	5
Final Selectors	8
Uniselectors	16
Meters	4
Miscellaneous	7
(Units of 4'6" spaces to accommodate access, Routiner, M.A.R., A.E.R. racks, etc.)	
Total Equivalent 4'6" racks	58

<u>Case B</u>. To determine the equivalent number of 4'6'' racks for a main exchange with its associated branch exchanges Tables B, C and D should be used.

Assume a new main exchange has to be established with an anticipated calling rate of 0.1. Provision is to be made for:-

(i) 9,600 lines of subs. Equipment in the main exchange

(ii) connection to 4 branch exchanges of

- (a) 2,400 subs. lines of C.R. 0.04(b) 4,800 subs. lines of C.R. 0.05
- (c) 4,800 subs. lines of C.R. 0.07
- (d) 9,600 subs. Lines of C.R. 0.06
- (Iii) connection to other main exchanges assuming that the O/G traffic to these exchanges is equal to I/C traffic and that 20% of the originating traffic is local.

Rack of	Main Exch.		Branch E	xchanges		Total Racks
Equipment	9,600 lines C.R. = 0.1	2,400 lines C.R. = 0.04	4,800 lines C.R. = 0.05	4,800 lines C.R. = 0.07		Required for Each Rank
1 S.R.	20	1 ¹ 2	3 ¹ 2	4 ³ 4	8	38
2 S.R.	17	1 ¹ 2	3 ¹ 2	4 ³ 4	8 ¹ 4	35
3. S.R.	17	1/2	34	1	1 ³ 4	21
4. S.R.	20	1/2	34	1	134	24
∪/s.	32	-	-	-	-	32
F/S.	32	-	-	-	-	32
Meter	8	-	-	-	-	8
Misc. 4′6″ equivalent	11	1/2	1/2	1/2	1	14
R.S.R's from 1.S.R	10	1	2	3	5	21
R.S.R's from 2.S.R	-	1	2	3	5	11
						236

6.3 Country.

Tables E, F, G and H for country areas are based on the standard codes in Table J and the standard trunking in Figs. 28, 29 and 30.

CALL TOTAL ORIGINATING T.U. Nº OF GROUPS OF 1200 LINES T.U. FR GROUP	CALLING RATE	3	ŀ										and the second se								
OTAL ORIGINATING T.U. P. OF GROUPS OF 1200 LINES -U. PER GROUP:		-	8	06	01 08	00	9	\$	8	8	Ş	8	8	Q	8	ې و	-06 07	7 08	Ģ	0	
IF OF GROUPS OF 1200 LINES U. PER GROUP		30	120 1	4	192	210	240	196	240	*	3%	3	455	8	4 100	00	876 G72	250	8	8	3 / 1
U. PER GROUP		~	8		5	~	~	•	4	•	4	4	4	4	•	•	0	•	•	0	
		4	3	72 6	4	ğ	8	40	3	12	5	96	8	120	\$	9	2	8	õ	120	8-1
		10	8	-	191 551	5	8	2	*	-	3	ē	6	8	ę	= %	CI. 911	101 50	8	8	C 23
RACKS PER GROUP		2	24	•	* *	4		2	24	•	*	+	44	\$	2	24 3	9	*	45	•	
RACKS D.S.R.		*	5		7 0	0	2	•	2	12	14	ę	9	20	. 9	20 24	A 28	8 32	8	Ŷ	40 PER
OUTGOING TRAFFIC TO MAIN		77 9	8	11 511	151 151	172	192	No.	261	230	260	306	8	8	307	304 400	460 536	00 615	690	97	BOK ORGINATING TRAFFIC
OUTGOING JUNCTION TO MAIN		100	135	= 9	100 210	242	270	218	270	320	372	\$	5	2	3	200	C40 744	4 072	2 966	9901	b23
INCOMING TRAFFIC FROM MAIN		5	11	92 10	107 124	8	ž	124	154	104	214	91	220	8	93	800	568 428	8 496	552	2 616	BOF OUTGOING TRAFFIC.
INCOMING 3 SELECTORS		10	126	1	16 203	\$ 220	2 200	203	206	\$	352	ğ	8	212	100	512 6	600 70	4 012	0000	054	C20
LOCAL TRAFFIC INTO Same		£	2	8	8	4	4	8	\$	8	3	ų	87	8	F	=	116 134	4 155	41	192	20% ORIGINATING TRAFFIC.
LOCAL SHE SELECTORS	_	\$	5	8	79 00	ō	01	8	2	133	361	2	8	210	175 2	210 24	266 31	310 346	6 396	6 436	C10
TOTAL Se SELECTORS		148 16	100.3	220 21	255 291	1 326	3	291	366	437	607	619	99	130	100	730 0.	014 1014	1100	0 1296.	1460	INCOMING 340
RACKS 3" SELECTOR		2	3	\$	*	+	9	4	•	6	1	8	8	8	•	11 , e	13	5	11	61	GO PER RACK
TOTAL TRAFFIC INTO 4""		1 60	III III	135 1	111 691	200	0 223	E	223	25	312	307	402	446	3957	446 9	036 G24	24 714	100	4 092	ASSUMES T.R. C.R. AT
T.U PER 1000 LINES		30.5	611	03-1-60	62 71	8	8	6-66	44.5	149	3	F	8	8	35-7	14 0 23	53.6 G2.4	411 4-3	1 00	4	INCREMENT FROM ATT TO FINALS
AT SELECTORS PER 1000 LINES		5	76	ž S	110	132	147	ō	76	8	ğ	911	5	L'M	5	0	90 101	119	133	147	C2O
AT SELECTOR RACKS PER 1000 LINES		-	-	-	1 4	8	8	-	-	-	÷	4	~	2	-	-	*	2 12	2	8	BO PER RACK
DACKS ATH SELECTOR		•	0	•	+ +	•	•	9	•	5	0	•	õ	-10	2	10	10 15	9· 15	20	8	
PACKS FINAL SELECTOR		+	+	4	6	9	•	•	0	0	ş	12	õ	٩		-	IG 24	4 24	1 24	32	C.R 06 600 PER RACK
RACKS SUBS UNISELECTOR		•	8	•	•	•	0	2	ÿ	2	2 2	9	٩	2	32	52 3	32 32	2 32	32	32	300 PER RICK
RACKS SUBS METER		2	2	9	2 2	8	~	+	•	*	4	-	4	-	0	0 0	0	0	0	0	1200 PER RACK
RACKS MISCELLANEOUS R.T. M.A.R.	A.R.	-	-	-	-	-	-	-	-	-	-		-	-	-	-	·	-	-	-	BOO CCTS. PER RACK
91		-	_		-	-	-	-	-	-	-	8	~	~	64	N N	~	•	•	0	004
U.S. T.D.F	D.F	-	_	_	-	-	-	-	-	-	-	~	5	~	2	2	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	•	en .	0	
J.H.EDS.R. T.D.F.	L T.D.F.	-	-	_	-	-	-	-	-	-	-	•	1		2	8	2	1	1	1	
J.H. T.D.F.	u,	1	1	i	•	1	•	ı	•	١	,	-	-	-	,		-	2	24	2	
D.5.8. T.D.F.	л. Г.	1		,	<u>.</u>	•	1	۱.	1	'	1	-	-	2		-	-	~	0	n	8
RINGERS A.E.R. M.A.R.	A.R.	ž	8	les.	4	3	8	e.	8	ea.	1	8	les l	8	3	-	lea. le	a le	a	3	
TRAFFIC CONTROL ROUTINER F.S. G.S. D.S.R.		1	lea	in the second	ee.	<u>.</u>	1	8	3		\$	3	8	3	8	-	ca. leo	a lea	a lea	1	
T.C.F. (Same & 4144)		lea.	lea.	-	len len	-	4	8	-	ŝ	lea.	lea l	, ee	lea	ke.	ea. le	lea. le	a le	a leo	L lea	
RACKS MISCELLANGOUS EQUIVALENT 4'-6"		7	7	1	7 7	7	7.	7	1	1	7	9	6	6	0	N N	8	H .	=	=	
			32 5	33	96 96	41	45	52	69	8	8	72		8	00	105 11	111 13	130 137	7 148	3 162	
M.D.F. VERTICALS SUBS			-	12	12 12	2	<u></u>	2	2	\$	54	\$	54	2	-	4	46 46	8 46	44		
JUNCTION	7	-		~ ~	~ ~	~ •	. 4	* 1	+ •	+ •	4 (+ •	+ (+ 4	• •			0	•	•	
TOTAL VEBTICALA	NEOUS	~ 4	~ 4	. 4	2. 9 2. 9	2 2	N 4	~ 8	~ 8	- 9	. 8	~ 8	. 8	. 9	- 3	4 3	4 3 4 3	+ 3 . 0	18	+ 3	
			ť.			į	i		ł		1			1			-		14		

Page 42.

Performance				⊢Ⅰ −	6	\vdash			4				\vdash	\vdash	21.	-14	ģ	ę	ş	-02	8 .	60.	ē	01.	
Total Total <th< th=""><th></th><th></th><th>┢</th><th>┣—</th><th></th><th>t</th><th>t</th><th>r</th><th></th><th></th><th></th><th>Г</th><th>ł</th><th></th><th></th><th></th><th>ł</th><th></th><th></th><th>ł</th><th></th><th></th><th></th><th>-</th><th>4</th></th<>			┢	┣—		t	t	r				Г	ł				ł			ł				-	4
Decomposition Decomposition<	REPEATER (9/6 TO MAIN) RACKS P= SELECTOR RACKS P= SELECTOR RACKS LWISELECTOR RACKS WISELECTOR RACKS WISELECTOR RACKS WAS SELECTOR RACKS WAS VERTICALS MAS VERTICALS MAS VERTICALS PTOTA RACKS WAIN EXCHANCE ADDITIONAL RACKS							-		ى	80		2	2	2	4	ø	ę	12		ğ	8	g	5	28
0008 000	PE SELECTOR RACKS PE SELECTOR RACKS A SELECTOR RACKS UNISELECTOR RACKS INIS SELECTOR RACKS FINAL SELECTOR RACKS MID F. VETTICALS MID F. VETTICALS MI							-		E 3	4	G	5	5 (F	وي	7	4	•	و		60	റ	₽	5	4
0000 0000	DP SELECTOR RACKS 4" SELECTOR RACKS UNISELECTOR RACKS FINAL SELECTOR RACKS FINAL SELECTOR RACKS MISCELLANEOUS RACKS MIS. VERTICALS MID.F. VERTICALS MID.F. VERTICALS MIN. EXCHANGE ADDITIONAL RACKS REQUIRED PER DRANCH EACHANGE 1" SELECTOR RACKS						3		6	5	9)	8	96 (12	- (E	12	1	96	(B) =		Ŧ	15	17	2100	54
construction constructin constructin c	4" SELECTOR RACKS UNISELECTOR RACKS FINAL SELECTOR RACKS MISTELLANEOUS RACKS MISTELLANEOUS RACKS MID.F. VETTICALS MD.F. VETTICALS MAIN EXCHANGE ADDITIONAL RACKS RAIN EXCHANGE ADDITIONAL RACKS REQUIRED PER DRANCH EACHANGE				÷	_		4	$) \mathbb{C}$	5	U		8	96	() () () () () () () () () () () () () (~	6	00		4	2	1	21	24
Close Close <thclose< th=""> <thclose< th=""> <thcl< td=""><td>UNISELECTOR RACKS FINAL SELECTOR RACKS MISCELLANICOR RACKS MISCELLANICOUS RACKS MIDE, VERTICALS MIDE, VERTICALS TOTAL RACKS MAIN EXCHANGE ADDITTONAL RACKS REQUIRED PER BRANCH EACHANGE IT SELECTOR RACKS</td><td></td><td>-</td><td></td><td></td><td></td><td></td><td>-,</td><td>)</td><td>8</td><td>80</td><td>F</td><td>2</td><td>)</td><td>500</td><td>3</td><td></td><td>) 2</td><td><u>ت</u></td><td></td><td><u>م</u></td><td>8</td><td>8</td><td>8</td><td>8</td></thcl<></thclose<></thclose<>	UNISELECTOR RACKS FINAL SELECTOR RACKS MISCELLANICOR RACKS MISCELLANICOUS RACKS MIDE, VERTICALS MIDE, VERTICALS TOTAL RACKS MAIN EXCHANGE ADDITTONAL RACKS REQUIRED PER BRANCH EACHANGE IT SELECTOR RACKS		-					-,)	8	80	F	2)	500	3) 2	<u>ت</u>		<u>م</u>	8	8	8	8
(1000) (1000)<	FINAL SELECTOR RACKS METER RACKS MISCELLANEOUS RACKS M.D.F. VERTICALS M.D.F. VERTICALS M.D.F. VERTICALS PTOTAL RACKS MAIN EXCHANGE ADDITTONAL RACKS REQUIRED PER BRANCH EACHANGE 17 SELECTOR RACKS	-						3		g	ര)	9 9	9	2	0	-	8	80		8	30	8	8	8
Reconstruction Recore Reconstruction Reconstruction	METER RACKS MISCELLANEOUS RACKS M.D.F. VERTICALS M.D.F. VERTICALS PTOTAL RACKS MAIN EXCHANGE ADDITTONAL RACKS REQUIRED PER BRANCH EACHANGE 1" BELECTOR RACKS									a	9		6	<u>d</u>	g	ā	<u></u>	<u>व</u>	ğ		54	10	5	8	8
Notes And a	MISCELLANEOUS RACKS MISCELLANEOUS RACKS M.D.F. VERTICALS PTOTAL RACKS MAIN EXCHANGE ADDITIONAL RACKS REQUIRED PER BRANCH EACHANGE IT SELECTOR RACKS			-	a.					-	4		-	-	4	•	a	đ	đ		4	d			; a
Market	M.D.F. VERTICALS M.D.F. VERTICALS PTOTAL RACKS MAIN EXCHANGE ADDITIONAL RACKS REQUIRED PER BRANCH EACHANGE IT SELECTOR RACKS			_	4					6	9		a	90	D of	G	• •					, =) <u>,</u>	
Warment, Inter- warment, Inter- warment, Inter- trained For the formation of the formation Formation (Figure 2) Formation (Figure 2) </td <td>W.D.F. VERTICALS PTOTAL RACKS MAIN EXCHANGE ADDITTONAL RACKS REQUIRED PER BRANCH EACHANGE I" BELECTOR RACKS</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>• : •</td> <td>)</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>• 8</td> <td></td> <td></td> <td></td> <td>2 1</td> <td>- 1</td> <td>= . {</td> <td>2 1</td> <td></td>	W.D.F. VERTICALS PTOTAL RACKS MAIN EXCHANGE ADDITTONAL RACKS REQUIRED PER BRANCH EACHANGE I" BELECTOR RACKS									• : •)						• 8				2 1	- 1	= . {	2 1	
Turner, hold mercent, hold	TOTAL RACKS MAIN EXCHANGE ADDITIONAL RACKS REQUIRED PER BRANCH EXCHANCE IT BELECTOR RACKS		2				- 8	0		10			8	*	8	8	89	3	8		22	72	2	74	2
Moment, RAS Reference	MAIN EXCHANGE ADDITIONAL RACKS REQUIRED PER BRANCH EXCHANGE I BELECTOR RACKS		ł)	_						6	18	14	ö	88	8	8	8	2		136	4	54	1 21	187	8
untromut, Incta turnout, Incta turnou	MAIN EXCHANGE ADDITIONAL RACKS REQUIRED PER BRANCH EXCHANCE I SELECTOR RACKS								-			_													
Kes 7.0	I SELECTOR RACKS					-			-	\vdash		-	· ·												
To unit) accs To unit) accs To unit accs		2	61	_		3			4	8		0	e B	1	Ø		e E			(He) of	=		14 (3)		
wester 260 <	REPEATER (O/G TO MAIN) RACKS	-	_	2		2			3	36		4	3 4 (F	4	<u></u>		10		ം	6 B	761		60		
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	P SELECTOR RACKS	2(1)	. 01			300	-			4		4. C(-				69	-	-96-	000) =	13 (S)			
west bess mercs 10 10 10 10 10 10 10 10 10 10 10 10 10 1	BEPEATER (O/G TO BRANCH) RACKS)	-		_) ~)		*	4					4) .	69	769	6		2	
Methods $[1, 0]$ $[0]$ $[1, 0]$ $[$		6	-			96	(6		-	0)G	6		0) .)(.0.		
Matrix Image of the second secon	De Beleciok Kacks		- '		_)()()()(• •		56				96	• •					
Buccs 4.6 fequvator $[(\underline{0}) : (\underline{0}) : (\underline{0})$	A" SELECTOR RACKS	- -	-			9				-			2	1 2			-		201	2	3 (E)	3 21	361		
Nich	MISCELLANEOUS RACKS 4'-G" EQUIVALENT	<u> </u>	-		_	0	0			-				-	Ģ		-	⊕ ⊙	-	-	-	2 3	e e		
Met enris	TOTAL RACKS	റ	6			13	-			5		23	g	5	5		23	52	32	31	43	20	55		
Mile			1	1		T	╉	\dagger	+	+	╉	+	+	+	+		4		T		T	I			
theorem 1<	BRANCH EXCHANGE RACK REQUIREMENTS		<u>.</u>							_															
theores 2 3 4 4 5 5 5 5 6 7 8 9 9 1 18 17 tocks 4 4 4 5 5 5 6 8 10	D.S.R. RACKS	+	2	9	7	8	6	₽	8	-	2 14	2	8	8			2	8	24	28	32	ş	\$		
uccs 3 3 4 4 5 5 5 5 5 6 <td>3" SELECTOR RACKS</td> <td>2</td> <td>•</td> <td>- 60</td> <td>+</td> <td>4</td> <td>4</td> <td>s</td> <td>4</td> <td>-</td> <td>0</td> <td>-</td> <td>*</td> <td>, 0</td> <td></td> <td></td> <td>80</td> <td>6</td> <td>=</td> <td>2</td> <td>Ð</td> <td>Ľ</td> <td>6</td> <td></td> <td></td>	3" SELECTOR RACKS	2	•	- 60	+	4	4	s	4	-	0	-	*	, 0			80	6	=	2	Ð	Ľ	6		
Ducks 4 <td>4" SELECTOR RACKS</td> <td>đ</td> <td>•</td> <td>e0</td> <td>4</td> <td>4</td> <td>ŝ</td> <td>ŝ</td> <td>2</td> <td>-</td> <td></td> <td></td> <td></td> <td>2</td> <td></td> <td></td> <td><u>0</u></td> <td>9</td> <td>2</td> <td>Ð</td> <td><u>9</u></td> <td>8</td> <td>8</td> <td></td> <td></td>	4" SELECTOR RACKS	đ	•	e 0	4	4	ŝ	ŝ	2	-				2			<u>0</u>	9	2	Ð	<u>9</u>	8	8		
CKSCKSRBBBIC	FINAL SELECTOR RACKS	4	4	4	v	ى	G							ō			2	ğ	9	54	54	24	32		
RACKS 7 10 100	UNISELECTOR RACKS	60	۵	*	. 00	80	60	_									8	8	32	32	32	92	32		
Acts77148778668	METER RACKS	61	8	8	5	.01	2			-	- 10		-				80	80	80	•0	æ	80	60		
To MNN the field of the field	MISCELLANEOUS RACKS	2	~	2	7	~	7				-			-			<u>0</u>	2	Q	2	=	=	=		
To MAIN TO MAIN The field of the contract of the contract requirements main exchange without branches see Table G. For rack requirements main exchange from the contange of	M.D.F. VERTICALS	ā	ñ	Q	ā	ğ	ğ	-					÷				8	8	8	8	8	8	8		
∞ ω ∞ ω ∞ ω	O/G JUNCTIONS TO MAIN	6 <u>0</u>	-	160	186					-					~		436	540	640	744	872	969	1080		
 For rack requirements main exchange without branches see Table C. For additional racks required per branch exchange see Table D. For branch exchange see Table D. For branch exchange requirements see Table A. Figures in O equal switch capacity 	TOTAL RACKS	8		8	38	39	4	45		-	-				-		8	<u>20</u>	111	130	137	148	162	_	
For additional racks required per branch exchange see Table D. For branch exchange requirements see Table A. Figures in Q equal switch capacity	-	Table (C. Soly	nge				BL	1		RA	ð		S		NEV		115		Ē	>			ŀ	
branch exchange see Table D. EXCHANGES MAIN AND BRANCH For branch exchange requirements see Table A. Figures in O equal switch capacity		require		H																					
For Prench exchange requirements see Table A. Figures in O equal switch capacity		Table D.				Ň	Ĥ	Z	GE		X	Z		Z		BRA	ž	F	ร	M	ž	AR			
Figures in O equal switch capacity	FOF DFanch	marrnba		~																					
L'ISUTES IN C Equat SWI VOIL CAPACITY	BLE TAULE	in dation		+																					
	rigures un	D UDDITA	RTD RT	STC.				5																	

$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	00 00<	LINES	⊦			4800	l b			\mid			IΓ	lo h				Π	REMARKS
78.8 58.4 48.0 57.5 67.4 68.4 66.0 77 84. 660 700 1	$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	0 18.1 4.82 5.84 4.80 5.72 5.84 5.80 103 111 101 1		04 00	8	-02	Ş	· 60·	10 -12	*I+	ò	ŝò	00.	-07	80.	60.	. 01.	-12	14	
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	4 86 103 130 140 103 130 140 103 130 141 103 130 141 113 130	4 86 103 130	8	-							384	400	576	G72	-				\$	
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	$ \begin{array}{cccccccccccccccccccccccccccccccccccc$		46			*	8					8	۴	8			-		68	
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	2 2	78	6		5	191		-		82	8	115	135			-		-	NE
c b c <td>\mathbf{B} \mathbf{D} \mathbf{D}</td> <td>B D D T L B T T E D T D T D T D T D T D T D D T D D T D D D T D</td> <td>-</td> <td>8</td> <td>-1</td> <td></td> <td>•</td> <td>_</td> <td></td> <td></td> <td>-</td> <td>-</td> <td>-</td> <td>2</td> <td></td> <td></td> <td></td> <td>-</td> <td>-</td> <td>H</td>	\mathbf{B} \mathbf{D}	B D D T L B T T E D T D T D T D T D T D T D D T D D T D D D T D	-	8	-1		•	_			-	-	-	2				-	-	H
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	BOT 345 364 450 584 450 584 450 584 450 584 450 584 589 100 12 11 11 12 100 10 <td>8 5/7 3/4 4/41 5/8 5/8 5/8 5/1<td>4</td><td></td><td></td><td></td><td>6</td><td></td><td>20</td><td>4</td><td></td><td>8</td><td></td><td>9</td><td>ġ</td><td>g</td><td></td><td>24</td><td></td><td>RII</td></td>	8 5/7 3/4 4/41 5/8 5/8 5/8 5/1 <td>4</td> <td></td> <td></td> <td></td> <td>6</td> <td></td> <td>20</td> <td>4</td> <td></td> <td>8</td> <td></td> <td>9</td> <td>ġ</td> <td>g</td> <td></td> <td>24</td> <td></td> <td>RII</td>	4				6		20	4		8		9	ġ	g		24		RII
550 570 570 550 570 550 651 764 450 550 651 764 550 651 764 550 5	a 4-b 5-c 7-a 7-a 5-c 7-a	4^{+00} 4^{+00} 5^{+00} <	4	-		8	-	-	t	T	+	t	400 400	590			+-	Г	+-	₩G-
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$	618	_		37					-	12.		752	~					I
Be Gas Te F See HS Te HS Te HS H	7.5 1.5 3.6 1.5 3.6 1.5 3.6 1.5 3.6 1.5 3.6 1.5 3.6 1.5 3.6 1.5 3.6 1.5 3.6 1.5 3.6 1.5 1.7 1.6 1.5 1.7 2.60 1.5 <	7.7 1.7 3.6 1.5 7.7 3.6 1.5 3.6 1.5 3.6 1.5 1.7 1.6 1.7 1.6 1.7 1.6 <t< td=""><td>•</td><td>_</td><td>~</td><td></td><td>4</td><td></td><td></td><td></td><td>-</td><td></td><td>-</td><td>٢</td><td>đ</td><td></td><td></td><td>6</td><td>-</td><td>DED BACK</td></t<>	•	_	~		4				-		-	٢	đ			6	-	DED BACK
220 268 308 448 384 461 394 461 398 400 576 672 768 664 960 1151 1344 400 576 672 768 664 960 1151 1344 400 576 672 384 480 576 672 384 480 576 672 768 664 960 1151 1344 717 860 955 557 661 650 778 664 960 1151 1344 717 860 955 557 661 650 778 664 960 1151 1344 717 860 955 1640 1000 1000 1000 1000 1000 100 100 100	0 306 344 440 354 450 554 450 554 450 554 450 554 450 557 758 644 500 151 1344 2 7 6 9 57 6 954 450 953 104 131 1344 2 7 6 9 9 10 17 2 960 195 104 131 1344 2 364 480 572 6 9 104 131 1344 177 2 9 104 135 124	8 906 140 944 506 544 460 576 672 768 664 960 1151 1344 2 364 420 576 672 768 664 960 151 1344 2 7 670 355 557 660 955 160 160 163 1344 2 7 670 955 677 660 950 160 171 171 171 171 171 171 171 171 171 171 171 171 171 171 171 171	3	17	_	8	Ŗ		×6 115	134	┢	8	116	136	t	74	+	+	1	TUE
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	2 344 420 572 768 864 960 1151 1151 1154 2 7 6(1) 952 157 6(2) 355 557 669 559 1640 150 150 154 2 7 6(1) 952 157 667 763 664 950 154 159 1640 156 154	451	8							-	-	100	-		8	-			O/G TO MAIN EXCHANGES
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	258 660 570 577 660 572 746 560 572 660 150 <td>238 600 5</td> <td>5</td> <td></td> <td>3</td> <td>-</td> <td></td> <td>_</td> <td>C1</td>	238 600 5	5													3	-		_	C1
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	353 366 166 175 366 1166 17 1166 17 1166 <td< td=""><td>7 8 9 9 1 1 7 9 1 1 7 9 1 1 7 9 1 1 7 1</td><td></td><td>ŧ</td><td>007</td><td></td><td>-</td><td></td><td></td><td></td><td></td><td>-</td><td>9/0</td><td>-</td><td></td><td></td><td></td><td></td><td></td><td></td></td<>	7 8 9 9 1 1 7 9 1 1 7 9 1 1 7 9 1 1 7 1		ŧ	007		-					-	9/0	-						
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	2(2		-	6	-	1	-	-	2	7466	-		-	-	-	
240 288 396 384 482 490 576 672 384 480 576 677 768 664 360 131 154 367 367 758 664 360 131 154 367 367 358 669 365 365 367 718 367 367 369 55 55 56 677 758 664 360 131 151 154 72 660 367 71 80 367 367 368 369 103 157 71 72 1660 104 113 151 15 15 20 20 104 113 151 15 21 100 125 56 45 5 54 5 54 5 24 27 17 80 89 107 177 204 123 15 15 15 15 15 15 15 15 15 15 15 15 15	$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	2 584 420 577 758 450 577 758 664 560 111 115	Ş	2	•	9	~				~	100	1.1	_	4	Ð		3	-	
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	252 652 850 855 552 640 850 8	252 682 882 852 552 681 106 1218 1362 640 1964 10 12 24<	199	13	-	390			_			480		G72		3			4	
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	7 80 10 12 7 80 10 12 7 80 10 17 21 20	5 7 80 110 12 7 80 110 12 7 80 100 12 7 80 100 12 80 100 12 80 100 12 80 100 12 80 101 11 11 11 11 12 11 12 11 12 11 12 11 12 11 12 11 12 11 12 11 12 11 12 11 12 11 12 11 12 11 12 11 12 12 12 13 11 11 12 12 13 11 12 12 13 12 12 12 12 12 12 12 13 12	_	345	-	470					-		0			218				02
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	397 400 440 500 446 506 624 71 800 827 177 800 827 177 800 827 177 800 827 177 800 827 177 800 827 177 800 827 177 800 827 177 800 827 177 800 827 177 800 827 177 800 827 177 800 827 177 800 827 127 800 827 127 800 827 127 800 827 127 800 827 127 800 827	397 400 440 500 446 506 624 74 800 820 177 177 177 177 119 119 117 177 120 129 147 177 204 129 147 177 204 129 147 177 204 129 147 177 204 129 147 177 204 129 147 177 204 129 147 177 204 129	0	4			-	6	~	G	1	-	-	-		•		6	_	D DED DACK
868 972 350 462 446 356 446 356 446 356 446 356 446 356 447 17 800 892 1075 125 1	301 402 446 506 446 506 446 506 620 71 800 890 107 17 1 <	301 402 446 506 446 506 446 506 620 71 800 890 1075 72 1 1 1 1 1 1 1 1 1 1 2)			-	f	N	_	P			2		t		+	2	t	
54 ac 71 80 89 108 125 36 45 54 ac 71 80 89 106 125 80 104 119 133 147 177 204 ac 71 135 147 177 204 80 104 119 133 147 177 204 ac 25 29	71 80 89 108 172 56 45 54 55 54 55 54 55 54 17 80 89 106 125 119 130 147 177 204 62 71 80 80 107 177 204 15 15 15 15 15 15 15 15 23<	71 80 89 108 172 56 45 54 55 54 55 54 17 80 89 106 125 119 130 147 177 204 62 71 80 89 105 17 704 116 150 10 15 15 15 15 20 22 21	-	677	8		-			_	.,	446		624		ġ	-		-	ISUMES TR + C.R. AT F/S STAGE WITH 7-5 / INCREMENT FROM 4- TO FINALS
80 104 119 134 147 177 204 62 76 119 133 147 177 204 62 70 119 133 147 177 204 16 16 16 16 16 16 16 16 16 16 16 17 22 2 <th2< th=""> <th2< th=""> <th2< th=""></th2<></th2<></th2<>	I:0 133 147 177 204 62 75 80 104 119 133 147 177 204 I:0 133 147 177 204 62 75 80 104 119 133 147 177 204 I:0 13 13 14 1 1 1 1 1 1 1 1 2 <th2< td=""><td>119 133 147 177 204 62 75 50 104 119 133 147 177 204 11 1 2 2 21 1 1 1 1 2 <</td><td>8</td><td>\$</td><td>24</td><td></td><td>F.</td><td></td><td></td><td></td><td>20</td><td>45</td><td>đ</td><td>5</td><td></td><td>8</td><td>-</td><td></td><td>25</td><td></td></th2<>	119 133 147 177 204 62 75 50 104 119 133 147 177 204 11 1 2 2 21 1 1 1 1 2 <	8	\$	24		F.				20	45	đ	5		8	-		25	
1 1	I I	I I	5	R	8	104	611	11			10	R	8	ğ		133	-	-		8
•••••••••••••••••••••••••••••	(1) 8(1) D D 13(1) 8(1) D D 13(1) 8(1) D D 13(1) 15 D D 13(1) 15 D D 13(1) 15 D D 13(1) 15 D D 15 15 D D 15 15 D D 23 24 24 24 24 23 23 23 24	(1) 8(1) (2) (3)	-	-	-10	-=		8				-	-10	-101	- 12	5	2	21	-	D PER RACK
16 17 1 <td>IC K6 IC K2 32 <td< td=""><td>IC K6 IC K6 <td< td=""><td>•</td><td>n</td><td>_</td><td>B.</td><td></td><td></td><td></td><td></td><td>1</td><td>Q</td><td>õ</td><td>5</td><td>Ð</td><td>8</td><td>-</td><td></td><td>25</td><td>2) (* 1)</td></td<></td></td<></td>	IC K6 IC K2 32 <td< td=""><td>IC K6 IC K6 <td< td=""><td>•</td><td>n</td><td>_</td><td>B.</td><td></td><td></td><td></td><td></td><td>1</td><td>Q</td><td>õ</td><td>5</td><td>Ð</td><td>8</td><td>-</td><td></td><td>25</td><td>2) (* 1)</td></td<></td></td<>	IC K6 IC K6 K6 <td< td=""><td>•</td><td>n</td><td>_</td><td>B.</td><td></td><td></td><td></td><td></td><td>1</td><td>Q</td><td>õ</td><td>5</td><td>Ð</td><td>8</td><td>-</td><td></td><td>25</td><td>2) (* 1)</td></td<>	•	n	_	B.					1	Q	õ	5	Ð	8	-		25	2) (* 1)
8 12	12 12 <td< td=""><td>12 13 14 16 16 16 <td< td=""><td>Q</td><td>12</td><td>+-</td><td>2</td><td></td><td>+</td><td>+-</td><td></td><td>_</td><td>32</td><td>R</td><td>R</td><td>32</td><td>56</td><td>+-</td><td>┢</td><td></td><td>DO PER RACK</td></td<></td></td<>	12 13 14 16 16 16 <td< td=""><td>Q</td><td>12</td><td>+-</td><td>2</td><td></td><td>+</td><td>+-</td><td></td><td>_</td><td>32</td><td>R</td><td>R</td><td>32</td><td>56</td><td>+-</td><td>┢</td><td></td><td>DO PER RACK</td></td<>	Q	12	+-	2		+	+-		_	32	R	R	32	56	+-	┢		DO PER RACK
4 4 4 4 4 4 4 8	4 4 4 4 4 4 6 8	4 4 4 4 4 6 8	•	0	┝	ē	t	┢	⊢	t	⊢	ğ	t	2	ŧ	24	-	┢		0 PEL NACK FOR C.R. <-06; 400 PER NACK FOR C.N. <-0708-4, 500 PER RACK FOR C.R. <-10
1 1 1 1 1 1 1 2 2 840 940 941 1	1 1	1 1 <td>4</td> <td>4</td> <td>+</td> <td>-</td> <td>•</td> <td>+</td> <td>4 4</td> <td>1</td> <td>80</td> <td>•</td> <td></td> <td>•</td> <td>•</td> <td>•</td> <td>•</td> <td></td> <td>1</td> <td>DO PER RACK</td>	4	4	+	-	•	+	4 4	1	80	•		•	•	•	•		1	DO PER RACK
1 1	1 1	1 1	1-	1_	-	-	-	-	Ľ	-	-	-	-	-	1-	-	 _	0	t	40 PER RACK
1 - - - 2	1 1 1 1 2	1 1 1 1 2	_	_	-	_	-	-	-	-		-	-	_	_	_				22
1 1	Image:	Image:	-	-	-	-	-	-	-	-	2	2	8	2	5	2	8	2	64	
Image: Ima: Image: Ima: Image: Ima: Image: Image: Image: Image: Image: Image	Image Image <th< td=""><td>Image Image <th< td=""><td>3</td><td></td><td>1</td><td>16</td><td></td><td></td><td></td><td></td><td>3</td><td>1</td><td>1</td><td>1</td><td>1</td><td>1</td><td>8</td><td>3</td><td>1</td><td></td></th<></td></th<>	Image Image <th< td=""><td>3</td><td></td><td>1</td><td>16</td><td></td><td></td><td></td><td></td><td>3</td><td>1</td><td>1</td><td>1</td><td>1</td><td>1</td><td>8</td><td>3</td><td>1</td><td></td></th<>	3		1	16					3	1	1	1	1	1	8	3	1	
2 3 3 4 4 5 5 4 5 6 7 8 10 560 560 77 8 10 560 560 7 8 10 560 560 7 8 10 560 57 8 10 560 57 8 10 10 11 1 <td< td=""><td>3 3 4 4 5 3 4 1</td><td>3 3 4 4 5 5 4 7 8 10 560 Switches Per Routher is 12 Rucks OF 1<</td><td></td><td>1</td><td></td><td>3</td><td></td><td></td><td></td><td>1</td><td>1</td><td>3</td><td>3</td><td>į</td><td>1</td><td>3</td><td>3</td><td>3</td><td></td><td></td></td<>	3 3 4 4 5 3 4 1	3 3 4 4 5 5 4 7 8 10 560 Switches Per Routher is 12 Rucks OF 1<		1		3				1	1	3	3	į	1	3	3	3		
1 1	1 1	1 1	5	2	6	6)	6)	*	+	•0	en	4	\$	9	ņ	G	~	8	0	GO SWITCHES PER ROUTINER IS 12 RACKS OF GA
$ \begin{bmatrix} 1 & 1 & 1 & 1 & 1 & 1 & 1 & 1 & 1 & 1$		I I	-	-	-	-	-	-	-	-	-	-	-	5	64	3	5	2	2	· · · ie le .
C3 77 74 B1 B6 96 100 100 100 190 141 154 167 24 24 24 24 24 24 24 48 48 48 48 48 48 4 4 4 4 4 8 8 8 12 12 12 16	74 Bi BB BB 105 100 100 100 130 141 154 167 24 24 24 24 24 48 48 48 48 48 48 24 24 24 24 48 48 48 48 48 48 8 8 8 12 12 12 12 16 16 16 16 8 8 8 12 12 12 12 16 16 16 16 8 8 8 8 8 8 8 8 8 8 8 36 36 36 68 72 72 72 72 8 8 8 72 72 72 72 72	74 Bi BB BB 105 100 110 120 136 141 154 167 24 24 24 24 24 45 45 45 45 46 48 8 <		- 6		- 0	- •	- 6		- 6 (#	- 00	_@	- 6	_ 9	- 9	- =	- =	- 8	-	
24 24 24 24 24 48 <	24 24 24 24 48 <	24 24 24 24 48 <	54	8	8			Ē		_	8	ē	120	8	4	154	5	t	t	
6 8 8 8 12 12 12 12 16 16 16 16 16 16 16 16 16 16 16 16 16 16 16 17 17 17 17 17 17 17 17 17 17 17 16 16 16 16 16 16 16 16 16 16 16 16 16 16 16 17 17 17 17 17 17 17 17 17 17 17 17 16 16 16 16 16 16 16 16 16 16 16 16 16 16 16 16 16 16 17 17 17 17 17 17 17 17 17 17 17 17 16 1	8 8 8 8 12 12 12 16 16 16 16 16 16 16 16 16 16 16 16 16 16 16 16 17 72 7	8 8 8 8 12 12 12 16 16 16 16 16 16 16 16 16 16 16 16 16 16 16 16 17 72 7	54	24	24	24	F		t	2	48	4	48	84	8	4			-	00/300
4 4 4 4 4 4 8 <td>4 4 4 4 4 8<td>4 4 4 4 4 8<td>-</td><td>C</td><td>c</td><td>d</td><td>_</td><td></td><td></td><td>•</td><td>2</td><td>5</td><td>5</td><td>9</td><td>9</td><td>9</td><td>5 85</td><td>0 </td><td></td><td>•</td></td></td>	4 4 4 4 4 8 <td>4 4 4 4 4 8<td>-</td><td>C</td><td>c</td><td>d</td><td>_</td><td></td><td></td><td>•</td><td>2</td><td>5</td><td>5</td><td>9</td><td>9</td><td>9</td><td>5 85</td><td>0 </td><td></td><td>•</td></td>	4 4 4 4 4 8 <td>-</td> <td>C</td> <td>c</td> <td>d</td> <td>_</td> <td></td> <td></td> <td>•</td> <td>2</td> <td>5</td> <td>5</td> <td>9</td> <td>9</td> <td>9</td> <td>5 85</td> <td>0 </td> <td></td> <td>•</td>	-	C	c	d	_			•	2	5	5	9	9	9	5 85	0 		•
34 36 36 36 36 36 68 72<	1 36 36 36 36 36 39 C3 C8 66 72 72 72 72 72 78 87 14 14 14 14 14 14 14 14 14 14 14 14 14	1 36 36 36 36 36 39 C3 68 66 72 72 72 72 72 WAXIMUM	• +	• 4	9 4	• •	• •	• •	• •	• 4	2 40	<u>e</u> eo	<u>1</u> 40	<u>s</u> eo		<u>a</u> ao	2 ao			
		INSTEAD MAXIMUM	3	1	18	8	+	t	1	+	80	83	S.R.	2	R	2	R	- 62	2	
											;	l	!				!	,		

Page 44.

TABLE C.

See note 4 on page 43.

RACK REQUIREMENTS, CITY EXCHANGES MAIN

EXCLUDING BRANCHES.

44.

1	•••	2
ç	2	l
F	-	l
۶	3	l
2	ž	l

- ÷
- For rack requirements main exchanges without branch see Table C. For branch exchange requirements see Table A. For summary of main and branch requirements see Table B.
 - N
- ň

or arms and anima trabat					1	1				1									And Annual Value	the second second second		
	LINES			2	2400			-			4800	0				s B		9600				DELLANCE
	C. R.	\$	50.	ş	Lộ	00	1. 60.	01-	-04 -0	0 3 0	·06 ·07	90. 2	80. G	01. 6	ģ	Ş	90.	-07	8 0-	ē,	01.	KEMAKKU
1/C TRAFFIC FROM BRANCH		77	8	611	ž	154	173 1	11 361	11 11 11	192 23	250 260	906 90	0 346	8	1 300	9 364	460	536	ek	269	768	BOL TOTAL BRANCH TRAFFIC
I/C IN SELECTORS		8	135	3		210 2	244 2	270 2	218 2	-	520 572	12 436	6 400	540	436	540	640	14	872	246	000	B 23
RACKS I/C IN SELECTORS		2 (1) 2 (1)	2 (E)	2	3 🕲 :	3	•	4 3 3	5 2 4	4 (H) 4	▲ 0.000	Ð . Đ	9 (7)	79	0 c	070	•	0 E	11	10 CE 14 CE	14 BE	BO PER RACK
ADDITIONAL OG TRAFFIC TO OTHER MAINS	SN	61.5	. 11	36	8	125 1	139 1	154 1	125 1	11 161	184 216	6 246	6 278	308	3 246	200	360	432	492	556	ele	BO 1 1/C FROM BRANCH
· REPENTERS		ō	112	33	00		198	219 1		219 20	56 310	0 352	_	4 98		2 430	538		101	792	876	B20
RACKS O/G REPEATER ADDITIONAL		-	-	2 1 2	•	2 (E)	2	2 2	2 (1)	2 3(3 (k) 3	-	£ + £	+	4	4	5	e E	6 7 G		ß	110 PER RACK
ADDITIONAL I/C TRAFFIC TO 2"" FROM MAINS	M MAINS	61.5	F	36	901	521	1 661	1	125 11	194 10	104 216	6 246	6 278	8	246	200	88	432	492	556	GKG	# 60% I/C FROM BRANCH
" LOCAL TRAFFIC INTO 2"		5-51	ē	23	20			-		-			18. C	_					124	136	152	- 20% 1/5
TOTAL ADDITIONAL TRAFFIC INTO 2"		7	*	611	à	ž	173	192	-	192 23	230 26	266 308	346	100	A 308	8 304	460	236	er.	692	99	# 1/C FROM BRANCH
ADDITIONAL 2" SELECTORS		211	8	3	161	219	250 2	276 2	219 2	276 3	330 362	95 439	8 500	0 552	430	5 592	. 660	32	676	000	10	B20
PACKS 2" SELECTOR ADDITIONAL		2	2	8	3	3	4	4	3 @	*	4 5	5 (C)	€) 7€	- 9	6	- 0	- -	B o	=	(B) 64	4	OO PER RACK
TRAFFIC O/G TO BRANCH	1	512	F	8	8	125	139	1 191	123 1	154 16	104 21	216 246	6 278	909 9	0 246	308	366	432	4 92	556	616	BOT I/C FROM BRANCH
REPEATERS O/G TO BRANCH		5	112	561	551	12	961	1 612	176 3	219 2	266 31	310 352	396	6 438	3.52	450	532	620	704	792	076	b 20
REPEATER RACKS OFG TO BRANCH		-	-	2 (E)	3	2 (B)	6	2 2	2 (B)	2 3(3 (B) 3	4	B 4 B	+	4	4	0	6	76	8 (j.	0	110 PER RACK
ADDITIONAL TRAFFIC INTO 3444		6.61	£	23	56	16	3	8	5	80	46 52	2 62	3	76	3	76	26	ğ	124	136	152	20% I/C FROM BRANCH
. 3ª SELECTORS		20	27	\$	8	ş	84	53	**	53 6	G2 74	4 86	96		90	õ	124	146	ž	361	212	B20 ABOVE 100 T.U.
RACKS 340 SELECTOR ADDITIONAL		Ð	Ð	ē	Đ	Ð	•	Ð	Ð	101	1 T	-	2 (F)	0 20	-	2	20	2	321	3 2 B	32	
ADDITIONAL TRAFFIC INTO AT		6.61	6	52	2	10	8	8	10	4	46 52	2 62	60	92	62	2	65	\$	124	136	152	20% I/C FROM BRANCH
- 4" SELECTORS		20	R	8	8	64	40	53	¢.	53 6	G2 74	8	96	106	8	106	124	148		192	212	B20 ABOVE 50 TU.
RACKS 4" SELECTOR ADDITIONAL		Ē	Ē	Ō	Ð	Ē	Ð	D -	- (Đ	1 (E) 1 (- •	-	2 (F)		-	2	20	5	3 25	3 25	32	BO PER RACK
RACKS G.S. ROUTINER 4'S EQUIVALENT ADDITIONAL	ADDITIONAL	Ē	i 🕀 i (Ð	Ō	Ð	Ð		•	1		Ð	Ð 1	E) i	3 I C		-	-	-	2 (F	2 🔁	
RACKS TOTAL		6	6	11	13	13	14 1	15 1	13 15	5 17	61	23	26	27	29	27	32	37	43	8	25	
							;					·	······									
TAB	TABLE D. RACI	°2∡	AC	×		ğ	JR	EX	E	TS.	REQUIREMENTS. CITY	Ţ	Ê	Ũ	HA	EXCHANGES, MAIN	SES	2	A	Ż		

Page 45.

See note 4 on page 43.

ADDITIONAL RACKS PER BRANCH.

Г	1		2	5 5		T		3.0			
	S		288 336 384 10% OF ORIGINATING TU 40 46 52 F/A 3 465 56 40 PER 3 RACKS	10% OF ORIGINATING T.U. C 20 100% ORIGINATING T.U. 200 PER RACK				ASSUMES EQUAL No. OF 2ND & 3RD SELECTORS			
	REMARKS	RACK	288 336 384 10% OF ORIGINATIN 40 46 52 F/A 3 463 564 40 PER 3 RACKS	NATII LATII	RACK	1200 PER RACK		SEL			
	MA	RA	ORIG 3 J	RIGINA		ER A		\$ 3RI			
	AE	C23 80 PER	PEF	10% OF 01 C 20 100% OR 100% OR 80 PER 80 PER	300 PER	14 OC		SUM			
		C23 80 F	105 107 10		30C SEL	120					
Γ	.08	384 36 151 2 2 9	38.4 52 5 3	24 288 336 384 43 50 58 66 50 50 70 80 50 60 70 80 6 1/ 1/ 1/ 1/ 1/ 1/ 1/ 6 1/ 6 1/ 6 1/ 9 9	/6 /2	4	5 56	96 1 65	24 2 2 2	28	
	·06 ·07 ·08	336	288 336 384 40 46 52 3 4 (£) 5 (4)	33.6 58 33.6 70 70 70 70	16 12 12	4	5 53	8 B 6/	54	28	9
	06	288 72 1/5 1/5	288 40 3	2888 50 50 50 50 14 14	16	*	50 50	7 6	54 24	28	2
4800	.05	240 288 336 60 72 84 96 1/5 /3 /4 /4 /4 6(2)7(2)8(2)	24 34 3	24 288 336 43 50 58 240 288 335 50 60 70 84 100 116 1 14 12 1 14 12 16 13 66 76 96 70	8 8	4	5 *	50	502	28	
4	•0*	192 48 78 5	36 14 4 192 24 15 22 28 34 203323323 3	19.2 35 192 192 54 5 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	6. 10	4	\$ 2 42	47	24	28	Ō
		14 00 mt	96 144 192 15 22 28 2013 323 323	14-4 19-2 27 35 14+ 192 30 40 52 68 40 50	8	4	5 40	E + +	54	28	2
	EO. 20.	36 24 24 24 24	3.5	Sul- 20 20 0	8	4	5 37	36	54 24 24	28	
F	80	288 96 96 24 151 41 2 ž 76332	40 40	28-8 9-6 50 20 80 20 132 36 132 35 132 35 132 35 763323	2/ 6		4 4	76£	10 10 19	22	(
	07	252 2 84 : 133 / 1 ³	25:22 35 - 3	252 288 9.6 144 192 24 288 336 384 45 50 20 27 35 43 50 58 66 252 288 96 144 192 240 288 336 384 70 80 70 80 70 80 716 132 35 68 60 70 80 716 132 35 68 60 70 80 716 132 35 68 69 100 116 132 15 69 69 69 99 $115 15 15 15 15 15 15 15 15 15 15 15 15 $	2/ 5	m	4 4	6 7 6 3 2 4 9 5 6 6 7 8 9 7 9 9	8. V V	22	()
	·06 ·07	$\begin{array}{c c c c c c c c c c c c c c c c c c c $	10	7.2 () 08 (14) (8 2):6 252 288 9.6 (44) (92 24 288 336 384 16 22 27 33 39 45 50 20 27 35 43 50 58 66 72 () 08 (14) (80 2):6 252 288 96 (44) (92 240 288 336 384 20 30 40 50 60 70 80 20 30 40 50 60 70 80 36 52 68 40 00 116 132 35 52 68 40 100 116 132 $\frac{1}{2}$ $\frac{3}{2}$ $\frac{3}{2}$ $\frac{3}{2}$ $\frac{1}{1}$ $\frac{1}{2}$ $\frac{1}{2}$ $\frac{1}{2}$ $\frac{1}{2}$ $\frac{3}{2}$ $\frac{3}{2}$ $\frac{1}{1}$ $\frac{1}{2}$ $\frac{1}{2}$ $\frac{1}{2}$ $\frac{3}{2}$ $\frac{3}{2}$ $\frac{1}{1}$ $\frac{1}{2}$ $\frac{1}{2}$ $\frac{1}{2}$ $\frac{1}{2}$ $\frac{3}{2}$ $\frac{3}{2}$ $\frac{1}{1}$ $\frac{1}{2}$ $\frac{1}{2}$ $\frac{3}{2}$ $\frac{3}{2}$ $\frac{1}{1}$ $\frac{1}{2}$ $\frac{1}{2}$ $\frac{1}{2}$ $\frac{3}{2}$ $\frac{1}{2}$ $\frac{3}{2}$ $\frac{3}{2}$ $\frac{1}{2}$ $\frac{1}{2}$ $\frac{3}{2}$ $\frac{3}{2}$ $\frac{1}{2}$	2 6	1	38 4	43.6	80 CN CN	22	
3600	05 %	180 2 60 7 96 1 4 4 5	14.4 18 216 22 26 31 323323 3	18 21.6 33 39 180 216 50 60 84 100 1 14 4 5	2 9		* 5	37	80 N N	22 2	
2	04 05	144 180 48 60 78 96 / 14 4	1 N 8	141 12 14 1 144 12 144 12 14 14 14 14 14 14 14 14 14 14 14 14 14	12 1		33 9		80 rv rv	22	
		108 144 36 48 60 78 32 42	3.2.2	80 0 0 0 mm	12 1		30 4	32 3 3	80 M M	22 2	
	·02 ·03	72 /08 24 36 4/ 60 23	NN	7:2 108 16 22 72 108 20 30 36 52 36 52 23 36	12 1	1	4 28	30 3	8 2 2	22 2	
\vdash	28	120 144 168 132 72 108 144 1 60 72 84 96 24 36 48 96 115 133 151 41 60 78 14 15 13 251 41 60 78 32 42 43 54 28 36 48	12 144 666 192 72 108 144 18 19 22 25 28 12 17 22 26 2 3 2 3 3 3 2 2 2 2 2 3 3 3	$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	0 9	-	30 2	32 42 42 54 24 32 45	2	4	ĺ
	2. 20	168 192 84 96 133 151 1≩ 2 4€€	3 5 3	19.5 19.5	8 9			400 32 3		4	
	6 .0	144 16 72 8 115 13 1 <u>5</u> 15 1 <u>5</u> 15 1 15 15 15 15 15 15 15 15 15 15 15 15	1 0 CT	144 16.8 27 31 144 168 60 70 16 16 14 15 14 15 14 15 14 15		-	~	4 6	12 12	- ¥	
0070	05 06 07 08	120 144 60 72 96 115 14 1 <u>4</u> 32 43	12 14 19 2. 2 3(12 144 168 192 24 27 31 35 120 144 168 192 50 60 70 80 84 100 116 132 1 14 12 13 32 4 34 4 4 55 4 3	e 9			323 4 G	1 1	1	!
Q	0. +0.	96 /2 48 6 78 9 1 1 1 1	7.2 9.6 12 12 15 19 202202 2		a0 4	-	23 3			4	i
1	03 0		4.8 7.2 9.6 9 12 15 1 2022	7.2 9.6 7.2 9.6 7.2 9.6 7.2 9.6 7.2 9.6 7.2 4 m 8 7.2 9.6 7.2 9.6 7.2 9.6 7.2 9.6	4 0	-	s 13	2 m	2		
		48 72 24 36 41 60 2 4 4 2 4	8	4.8 7.2 13 16 48 72 20 30 26 52 26 24	a0 4	-	3 2/	53	2	*	
┝	8 02		\$ 0 -	9.6 4.8 20 13 96 48 80 20 132 36 132 36	a0 4		3 20	3 2 2 2 2 2 2 3	2	Ă	
	2 .08	1 36 3 151 2 2 2	7-2 8-4 9.6 12 14 15 20220220	9 0 9 0 0 mm	4 m		2 /9	30	0	0	
	9 0	84 84 133 22 24 133 133	5 8.4 12 (1)	1 1 1 2 0 2 1 0 0 1 0 0 0 0 0 0 0 0 0 0	4 0	<u>`</u>	2 5	10	0	80	1
c	2 0	60 72 84 60 72 84 96 1/5 133 1/4 1/5 1/3 2(A) 2(A)		1.1 1.1 1.1 1.1 1.1 1.1 1.1 1.1 1.1 1.1	4 m	~	2 15	2 (J 2 (J 2 (J)	6 0	80	
0001	107		- 90		4 0		2 E	15	0	90	i
	0.	5 48 5 48 78 /	8.6 -	3.6 1.8 11 13 36 48 36 48 30 40 52 68 1 24	4 0		2 2		0	90	2
	02 03 04 05 06 07	₩ 36 50 50 10 10 10 10 10 10 10 10 10 10 10 10 10	2.4 3.6 . 5 7 1(2)(3)	2:4 3.6 4.8 3 1/ 13 224 36 48 220 30 40 36 52 68 36 52 68 1 2 4	4 0	+	~ ~	5 - 2	0	40	l
F	0	5 5 5 4	5		4 1		2 2	જે ડં	0	80	j
S.J.	C. R.	LOCAL ORIGINATING TRAFFIC 24 LOCAL TRAFFIC PER GROUP OF 1200 LINES 24 LOCAL 1ST SELECTORS PER GROUP 41 RACKS 1ST SELECTORS PER GROUP $\frac{1}{2}$ RACKS 1ST SELECTORS PER GROUP $\frac{1}{2}$	INCOMING TRAFFIC FROM TRUNKS (MANUAL) 2-4 3-6 4-8 INCOMING TRUNK SELECTORS (M. U) 5 7 9 RACKS 2VF & M.U. SWITCHES 1(2)(2)	TAAFFIC INTO 2** SELECTORS ON LEVEL O 2** SELECTORS ON LEVEL O TRAFFIC INTO 2*** ON OTHER LEVELS TRAFFIC INTO 2*** ON OTHER LEVELS TRAFFIC INTO 2*** ON OTHER LEVELS TRAFFIC TORS PRE 1000 LINES RACKS 2*** SELECTORS TOTAL			KACKS MISCELLANEOUS 4-6 EQUIVALENS (INCLUDES TCF, METERS, ROUTINER ETC.) DRACKS TOTAL - 4 FIGURE NUMBERING	SNI	S	7074 :	
LINES	U	LOCAL ORIGINATING TRAFFIC LOCAL TRAFFIC PER GROUP OF 1200L LOCAL 1ST SELECTORS PER GROI RACKS 1ST SELECTORS PER GRO RACKS 1ST SELECTOR TOTAL	INCOMING TRAFFIC FROM TRUNKS (MANU INCOMING TRUNK SELECTORS (M. U) RACKS 2VF & M. U. SWITCHES	TRAFFIC INTO 2**0 SELECTORS ON LEVEL O 2**0 SELECTORS ON LEVEL O TRAFFIC INTO 2***0 ON OTHER LEVELS TRAFFIC PER 1000 LINES 2*** SELECTORS FER 1000 LINES RACKS 2*** PER 1000 LINES RACKS 2*** SELECTORS TOTAL			RACKS MISCELLANEOUS 4-6 EQUINALEN (INCLUDES TCF, METERS, ROUTINER ETC DRACKS TOTAL - 4 FIGURE NUMBERING	RACKS 3PD SELECTORS RACKS TOTAL - 5 FIGURE NUMBERING	SUBS. JUNCTIONS MISCELLANEOUS	TOTAL VERTICALS VLT. 600 SUBS/RAC MULT. 400 SUBS/RA	
F	 	PER PER PER TOT	RUNK CORS	S ON S ON HER S LIN NES FOTA	2	-	ROUT	NUM	NON-	VER: SUL	
		VG ROU RS DR	DM TI	CTOR. EVE. 1 071 1NE. 1NE. 0 000 0 LI. RS 1	S CTOI		RS, A	IRE	SS. VCTI	47	
		ATIA ER G CTO CTO	C FRC SEL	100 L 00 L 100 L 100 L 100 C	FLE		FIGU	ECTO	SUBS. JUNC MISCI	1014 1014	
ľ		SELL SELL SELE	AFFR UNK	RS PUS	LEC	8	F, N	SELL SELL	ALS-	S W 25	
		ORIC AFF. ST S ST S ST S ST S	TR.	NTO CTO NTO NTO PEA PEA NDS	IISE.	AET.	SCEI S TC	RD TOTA	RTIC.	5 5	
		41 179	WING UNN	FIC I FIC I FIC I FIC I FIC I FIC I FIC I FIC I	5 3	4 5 4	KS 1	KS 3	VEH	. 9	
		LOCAL ORIGINATING TRAFFI LOCAL TRAFFIC PER GROUP OF 1200 LOCAL IST SELECTORS PER GR RACKS IST SELECTORS PER GR RACKS IST SELECTOR TOTAL	INCOMING TRAFFIC FROM TRUNKS INCOMING TRUNK SELECTORS RACKS 2VF & M.U. SWITCHES	TRAFFIC INTO 2 ^{wo} SELECTORS ON LE 2 ^{wo} SELECTORS ON LEVEL O TRAFFIC INTO 2 ^{wos} ON OTHER LE TRAFFIC PER 1000 LINES 2 ^{wos} SELECTORS FER 1000 LINES RACKS 2 ^{wos} PER 1000 LINES RACKS 2 ^{wos} SELECTORS TOTAL	RACK UNISELECTORS RACKS FINAL SELECTORS	RACKS WETER	RAC	RACKS 3RD SELECTORS RACKS TOTAL - SFIGURE	M.D.F. VERTICALS JUNCTIONS MID.F. VERTICALS JUNCTIONS	NOTE:- 1. C.R. C.R.O	
L		11144	~ ~ ~	- arrade		4.0			W	ž ,	

INTERNAL PLANT Design, Sect 10

EXCLUDING BRANCH EXCHANGE.

Page 46.

43.

See note 4 on page

E DEPENDS ON THE NUMBER NCH EXCHANGES IN THE	2. TOTAL RACKS ADDITIONAL SHOULD BE CALCULATED AFTER DUE ALLOWANCE FOR SPARE SPACE ON TABLE E.	TOTAL RACKS ADDITIONAL SHOULD BE CALCULATED AFTER DUE ALLOWANCE FOR SPARE SPACE ON TABLE E.	3. BRANCH EXCHANGES HAVE NO APPRECIABLE EFFECT ON THE NUMBER OF 240 & 340 SELECTORS AS (a) C.R T.R. (b) TRAFFIC FROM BRANCH TO MAIN EQUALS TRAFFIC FROM MAIN TO BRANCH
TÅBLE F. RACK	REQUIREMENTS, COUNTRY, AUTO, EXCHANGES,	COUNTRY AUTO	EXCHANGES

I. THIS PERCENTAGE DEPENDS ON THE NUMBER AND SIZE OF BRANCH EXCHANGES IN THE

PARTICULAR CASE

ADDITIONAL RACKS IN MAIN FOR EACH BRANCH EXCHANGE.

BEMARKS	.08	108 144 180 216 252 288	14+ 168 19272 108 14+ 18 216 252 288 10% OF BRANCH ORIGINATING T.U. 27 31 35 16 22 27 33 39 45 50 C20 4 2 2 4 4 2 2 2 2 3 39 45 50 C20	72 84 96 48 72 96 12 144 68 192 72 108 144 18 216 252 288 10% 0F BRANCH ORIGINATING T.U. 12 14 15 9 12 15 19 22 28 28 12 17 22 26 31 35 40 F/A 1½ 1½ 1½ 1 1½ 1½ 2 24 2½ 2½ 2½ 1½ 2 24 24 3 3 3 40 PER 3RACKS	$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	4 42 43 5 SEE NOTE 2
	02 03 04 05 06 07	16 21	21-6 25 39 45 2 2	21.6 24 31 3 3 3	4.8 75 08 12 08 12 1	4
3600	- 50-	180 2	33 .33	14-4 18 21.6 22 26 31 24 24 3	54 6 91 1 91 1	*
Ð	*0.	144	27 27	144 22 24	43:2 73 73 4	
	.03	108	10.8 22 4	10.8 17 2	32.4 57 57 2 2	2 24 34
	20.	96 48 72 96 120 144 168 192 72	7:2 16 4	7:2 12 12 12	50-4,576,276 85 97 39 85 97 39 34 4 7 4	
	.08	192	19:2 35 2 2	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	576 97 97 /	4
	-02	/68	16.8 3/ 2/ 2	16.8 25 25 25	50.4 85 85 44	34
0	06 07 08 02 03 04 05 06 07 08	144		14.4 22 24 24	43.2 7.3 7.3 7.3 7.3	24 24 34 34 44
2400	.05	120	7.2 84 9.6 4.8 7.2 9.6 12 16 18 20 13 16 20 24 4 4 4 4 4 4 4 4 4 4 4 4	2/ 6/ 2	252 268 H4 216 288 36 432 45 50 27 39 50 62 73 45 50 27 39 50 62 73 2 2 4 4 5 5 2 3	24
	6	96	9.6 50-14	9.6 15 12	28.8 50 50 2' 2'	24
	:03	72	1, 16 1, 16	7:2 12 12	39 39 39 41	2
	50- 1	48	8. 1 8 /3 /4	5 4.8 9 1	8 H-1	24 12
	·08	36	9.0 00-14	1 9.6 15 12 12	2 28 5 50 50 20 20	24
	5 07	72 84	* 8 10 14	8. 4 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1	13-45	24
0	0. 2					2
1200	10.1	66	41- 5 0	~ 0 / 0	4 /8 33 4/-	13/
	02 03 04 05	24 36 48 60	2:4 3:6 4:8 6 9 11 13 15 4 4 4 4 4 4	6 4 3 9 -	7.2 108 14.4 18 16 22 27 33 16 22 27 33 16 22 27 33	13
	2 0	4 36	4 w 14	4 N ml4	41- 12 12 12	41
		Ś	i 0 -14	2 5-10	1.2.6-14	`
ULT CAPACITY OF BRANCH EXCH. LINES	CALLING RATE OF BRANCH EXCH. C. R.	BRANCH EXCHANGE ORIGINATING T.U.	YC TRAFFIC INTO 2ºººs LEVEL O ADDITIONAL 2ºººs LEVEL O RACKS 2ºº SELECTORS ADDITIONAL	ADDITIONAL TRAFFIC I/C TO TRUNKS 2:4 3:6 49 ADDITIONAL TRUNK SELECTORS (M.U) 5 7 9 RACKS 2 VE+MU SWITCHES ADDITIONAL $\frac{1}{2}$ $\frac{3}{4}$ 1	OUTGOING TRAFFIC TO BRANCHES OUTGOING JUNCTIONS TO BRANCHES REPEATERS RACKS REPEATERS	RACKS TOTAL ADDITIONAL
ULT CAN	CALLING	BRANCI	NC TR. ADDIT. RACKS	ADDIT ADDITI RACKS	OUTGOING TI OUTGOING JU REPEATERS RACKS REPE	RACA

Page 47.

NOTES -

AUSTRALIAN POST OFFICE ENGINEERING INSTRUCTION

			GROUPS											
270770	KEMAKKS	C23 BO PER RACK	70% OF ORIGINATING TRAFFIC IN AT LEAST TWO GROUPS C 20 110 PER RACK	100% OF ORIGINATING TRAFFIC C20 80 PER RACK	300 PER RACK	(SEE NOTE I) 1200 PER RACK		40 PER RACK	70% OF ORIGINATING TRAFFIC C20 80 PER RACK	100% OF ORIGINATING TRAFFIC				
	80	288 96: 151 2 6	176 202 290 332 290 332 32 3	288 80 132 132 132 6	12	0 7 5	4	151 15 15	202 332 4	29	4	51	22 2 2	1
	04 05 06 07		126 152 176 202 210 252 290 332 210 252 290 332 2 32 33 33 3	252 70 116 1 ² 65	12	6 1 1 1	4	133 151 32 4 1100 12	92/ 057	29) Ę	50	18 2 2 2 2 2 2 2 2	1
	90	216 2172 218 218 218 218 218 218 218 218 218 21	126 152 210 252 210 252 2 32		12	6) m y	39) 15 3 3 9	152 252	25 29 29	\$ \$	14	2 2 2 2 2 2 2 2 2 2 2 2 2 2	1
3600	50.	the second se		180 50 84 4	12	6 5 5	33	36 23, 56	126 206			•	18 2 22 22	1
"		144 48 78 78 3	504 75 5 101 90 130 170 90 130 170	108 144 30 40 52 68 32 40 32 33	2	6 m h	ŝ	2 75	101 166 2	25		36	8 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	
	·02 ·03	72 108 24 36 41 60 2(2)32	75.5 130 130 2	32 30 08	12	6 5 5	3/	5 × 60	504755 85 125 1 20	24 25	5	35	22 22	
		たちゃう		20 20 20	12	6 9 59	26	4 - 0			9 8	30	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	
	04 05 06 07 08	192 96 151 2	134 224 224 224	192 80 132 132 44 4	•0	4 IN Q	28	15/ B	15 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	× 20		35	22	:
	ò	100 100 100 100 100 100 100 100 100 100	84 101 118 144 170 138 144 170 138 20132	168 168 168	90	4 17 Q	28	133 133 135	1/8 1/93 3	20		Ť	<u> 1</u> 2	:
0	90	144 72 115 15 15 15 3 3	101 021 23	144 60 100 14 3	80	4 N Q	26	115 3 6	10/ 10/	20		3/	2 4	
2400	3	120 60 32		50 50 84 3	80	A 11 A	24	36 5 25' 5 2	28 53 B4	8/ 3		28	21	
	ģ	96 78 2 - 78	504 672 30 //6 30 //6 90 //6	0 0 0 mit a	•	4 0 4	2	8 1 4	67.2 112 20	5 0		25	<u> </u>	
	2 ·03	2 4 36 2 4 36	200 00 00 00 00 00 00 00 00 00 00 00 00	2 0 2 mm	80	4 0 4	ñ	ы 13- 60 ы 13-	33.650.4 58 85 1 1	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~		23	22	
	8 .02	- 14 - 14 - 14 - 14 - 14 - 14 - 14 - 14	62 33-6 62 62 62	- 12 - 148 - 13- 148 - 13- 148	90	4 0 4	6/	4 - 2	38 8 28 8 28 8	<i>.</i> ,	<u> </u>	21	Q X	
	7 .08	2 12 28 38 4 4 38 4 38 4 38 4 38 4 38 4 38	67.2 4 116 4 116 116	9 9 0 0 mit a	*	n / n	15	5 4 4	672 672	2 9		5	0 0	,
	0	2 3 3 4 5 5 4 5 5 5 5 5 5 5 5 5 5 5 5 5 5	50,00	* 0 10 10 10 10 10 10 10	4	<u>m</u> ~ <u>m</u>	15	5 /2 2 /2 2 /2 2 /2	55 6 (F)	11 2000		হ	0 ~ ~ 0	
0	<u>9</u>	0 72 0 72 6 115 12 2 2	5 8 8 T	0 72 60 1 24	4	m ~ m	15	5 m m	2 504 2 85 /	" "		~	6 -	
120	4	48 60 48 60 78 96 / /‡ / 2€	33.6 42 62 76 62 76 / 3/3	48 60 40 50 68 84 7 24	4	2 ~ 5	4	3 36 323' 6	252 336 42 45 58 72 1(2)(3) 1	01		16	09 ~ ~ 02	
	3 -0		552 33 50 6 6	4 4 0 23 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	4	2 - 5	2 12	60 78 12 2 202 2	252 336 45 58 1(2) (2)	0/ 0/	9 m 6	2	0 00	
	·02 03 04 05 06 07	24 36 24 36 41 60 2 ² 4 2 ⁴ 4 1 2 ¹	16-8 252 336 36 50 62 36 50 62	24 3 36 5 3 3 26 5 3 3 26 5 3 3	4		12 12	41 60 1 1/2 1 2(3)	- (1)	01 01	5 El	1 51	0 0	
			2 3 9 2				1	VE)	9. ye				0 ~ ~ 0	
21NES	C. R.	TOTAL ORIGINATING TRAFFIC TRAFFIC PER GROUP OF 1200 LINES LOCAL IST SELECTORS PER GROUP RACKS IST SELECTORS PER GROUP RACKS IST SELECTORS	OUTGOING TRAFFIC OUTGOING JUNCTIONS REPEATERS RACKS REPEATERS	TRAFFIC INTO 2 ^{NO} SELECTORS TRAFFIC PER 1000 LINES SELECTORS PER 1000 LINES RACKS PER 1000 LINES RACKS 2 ND SELECTORS	RACKS UNISELECTOR	RACKS FINAL SELECTOR RACKS SUBS. METER RACKS MISCELLANEOUS 4'-6'EQUIVALENT	♦ RACKS TOTAL -4 FIGURE NUMBERING & TRUNKED AS BRANCH MAIN	D.S.R'S PER GROUP (SAME AS 1 ^{3T} SEL'S ABOVE) RACKS D.S.R.'S PER GROUP RACKS D.S.R.'S	INCOMING TRAFFIC TO BRANCH INCOMING 240 SELECTORS RACKS 1/C 240 SELECTORS	RACKS, REPEATERS, UNISELECTORS FINAL SELECTORS AND MISC AS ABOVE RACKS ARD SELECTORS	♦ RACKS TOTAL -5 FIGURE NUMBERING & TRUNKED AS BRANCH MAIN	NACKS TOTAL - 5 FIGURE NUMBERING & TRUNKED AS D.S.R. BRANCH	M. D.F. VERTICALS SUBS. M. D.F. VERTICALS UNICTION MISCELLANEOUS	NOTE :- I. C.R OS F/S MULT. 600 SUBS/RACK C.R. 0608 F/S MULT. 400 SUBS/RACK

Issue 1, November, 1955.

INTERNAL PLANT

Design, Sect 10

4800	02 03 04 05 06 07 08	32449549637696796	32 4 0 5 C 0 5 7 C 0 0 2 0 0	16 16 16 16 16 16 16 16	8 8 8 8 /2 /2 /2	5 5 5 5 5 5 5	28 28 28 28 28 28 28 28	37 40 42 44 50 53 56	363)4(3) 2(43) 6(3) 1(63) 6(3) 2(3)	40 44 47 50 57	TADIC L	×		REQUIREMENTS.	COUNTRY	AUTO EXCHANGES	SUMMARY.									
	80.	₹ F	763	2	g	4	22	42	697 763	6		- 14-m	14	S		s es	9 2	6	5 25	¥	12	4	29	9	47	51
	.07	E Son	G	2	6	4	22	40	Ś	40(-101 m	14	4		G.	2 2 2	0	5 25	¥	٢	(F)	29	5E)	14	50
	. 90.	3 3		12	5	*	22	38	5	~		-1.1 m	`	42'		E.	2	6	5 22	39	6	Ð	29	54265	44	4
600	50.	4 6	4	12	Q	4	22	33	4	37		-101 014	4	4		St al	2 C	6	5.22	33	€£)₀	€ 0+€2E	25	1	37	\$
e	•04	4 2 4) (f)	2	ø	۲	22	33	435	37		-14 0		34		3 2 3 3	ε Ω	9	5 2 2	3/	9	2	25	ŝ	34	36
	·03	3	Ş	12	Q	4	22	30	2014 (Z) 2 (Z) 4 (Z)	33 (-14 0	しる	23		(B)2	ی کی کی	9	5 22	31	5 42	₹£	25	3 <i>2</i>	34	35
	20.	2 (F) 2 (F)		2	ø	4	22	28	2	30		-14-10	4	2		R.	E ?	9	5 22	28	£	~	24	2 (F)	30	30
	.08	5£	Ì	80	9	r	14	30	323434 34 433 543	35		-10 214	-	4-14		4 0	4 a	9	* *	28	90	3G 3Q	20	4	32	35
	10.	₹ E E) T	8	9	m	14	28	433	32		22-12-12-	4 IC	₹£		5)7 5(F)7 5(F)7	495 9	9	4 4	28	7	3È	20	405	32	34
0	04 02 00E	3€94G5 £34	Ĵ.	80	9	ŋ	14	28	4 34	32		-14 0	4	34		з 2£	n) e	9	* *	26	9	2	20	£	29	3(
2400	.05	3 3	È	90	4	e	14	23	32	26		-14 01	~I~I	242		E C	\$. }	4	4 4	¥.	S	3	/8	3Ê)	27	28
	•04	2		90	4	უ	14	12	2	23		-14-100	~1~	24		2	~ ~	*	4 4	21	4	23	17	2	23	25
	:03	2(3)		80	*	ŋ	14	21	2	23		-14-10	-14	2		So Sol		4	* *	21	ε	~	17	3	23	23
	.02	- 20	2	80	4	უ	4	20	2	22		-14	-14	12		~ (P)	~ 90	*	¥ 4	6/	N	Ť	17	~	20	12
	.08	2 2(j)	3. B	4	Υ	N	8	16	325	6		-14-101	-101	24		2	N 4	Ś	ŝ	15	4	23	"	2	17	61
	-07	23	N	4	ŝ	2	8	15	2			-14-101	2	54		2 3	X X	ŝ	n o	15	43	2 E	11	2	17	61
	.06	23		4	ŋ	N	8	15	2			-14-10	-14	2		S.	2 (Z)	m	5 50	15	m	-	=	200	17	17
200	.05	2Œ	203	4	2	N	80	13	23			-14 -	-14	21-		(M) (M) (M) (M) (M) (M) (M) (M) (M) (M)	× 4	2	m •0	á	3EF	~	01	2 (E)	16	16
	·04	~ ~	200	4	N	2	8	Ś	2(1)	4		-14	-14	21-		~ E	- 4	2	m) eo	51	N) <u>(</u>	01	~	€/	*
	EO: 20.) T		4	2	2	8	=	<u>\</u>	12		-14-114	-14	1,			A (A	N	സര	12	Ð		01	E/E	51	4
Ц	-02	Đế) O	4	N	N	8	=	Ę	્ય	<u>u:</u>	-14-101	-14	~	5	(n) (n) (n)	(n) 4	N	γø	12	~	Ę	0	(J	£/	6
MAIN EXCHANGE LINES	EXCLUDING BRANCHES C. R.	RACKS IST SELECTORS RACKS 2VF & MU SWITCHES	RACKS 2ND SELECTORS	RACKS UNISELECTORS	RACKS FINAL SELECTORS	RACKS MISCELLANEOUS	M. D. F. VERTICALS	AACKS TOTAL - 4 FIGURE NUMBERING	RACKS 3 RD SELECTORS	ACKS TOTAL - 5 FIGURE NUMBERING	ADDITIONAL RACKS REQ. AT WAIN EXCHANGE BECAUSE OF BRANCH EXCHANGES (PER BRANCH EXCHANGE)	RACKS ADDITIONAL 2ND SELECTORS RACKS ADDITIONAL 2VF & MU SWITCHES	RACKS REPEATER	AACKS TOTAL	BRANCH EXCHANGE RACK REQUIREMENTS		RACKS 2ND SELECTORS RACKS UNISELECTORS	RACKS FINAL SELECTORS	RACKS MISCELLANEOUS 4'-6'EQUIVALENT VERTICALS M.D.F. TOTAL	P RACKS TOTAL - 4-FIGURE NUMBERING & TRUNKED AS BRANCH MAIN	RACKS D.S.R'S	RACKS 1/C 2ND SELECTORS	RACKS, REPEATERS, UNISELECTORS FINAL SELECTORS AND MISC AS ABOVE	RACKS 3RD SELECTORS	& RACKS TOTAL - 5 FIGURE NUMBERING & TRUNKED AS BRANCH MAIN	PRACKS TOTAL - 5FIGURE NUMBERING & TRUNKED AS D.S.R. BRANCH

Page 49.

Issue 1, November, 1955.

INTERNAL PLANT Design, Sect 10

'O' LEVEL - TRUNK SERVICE ETC.

01	TRUNK CALLS
02	TRUNK ENQUIRY
03	INFOMATION
04	TIME
05	PHONOGRAMS
061	MOBILE RADIO TELEPHONE SERVICE
062-069	MULTI-METERING ACCESS TO NEIGHBOURING SECONDARY TRUNK AREAS
060	PARTY LINE MANUALLY SERVED
07	TRUNK CALLS FROM MULTI-COIN PUBLIC TELEPHONE
08	JUNCTION TEST
09	MULTI-METERING ACCESS TO LOCAL NETWORK
00	COMPLAINTS

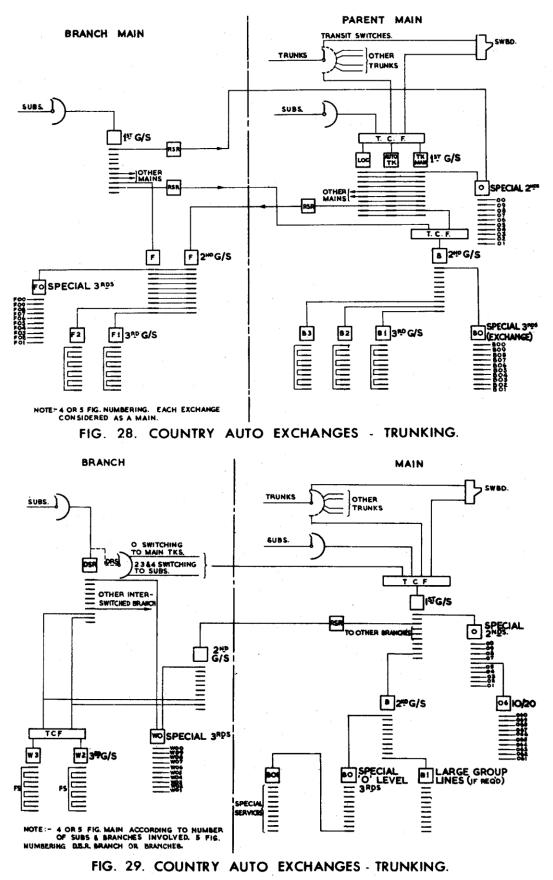
'BO', 'FO' OR SIMILAR LEVELS.

BO2-3 POSSIBLE SUBSCRIBERS LEVELS	
B04 LARGE GROUP P.B.X. SERVICES	
B05-6 POSSIBLE SUBSCRIBERS LEVELS	
B07 RING BACK	
B08 JUNCTION TEST	
B09 TEST DESK	
B00 SPARE	

'BO1' OR SIMILAR LEVELS.

в0111	ALSO 0911	TEST DESK (STRAPPED TO B09)
в0211	ALSO 0921	SUBSCRIBERS' MAINTENANCE
B0131	ALSO 0931	EXCHANGE INSTALLATION
B0141	ALSO 0941	TRUNK TEST BOARD
B0151	ALSO 0951	FAULT DISPATCH
B0161	ALSO 0961	LINE DEPOT
B0171	ALSO 0971	SUBSCRIBERS' INSTALLATION DEPOT
B0181	ALSO 0981	M.D.F.
B0191	ALSO 0991	M.D.F. IN SATELLITE EXCHANGES (IF ANY)
B0101	ALSO 0901	TRAFFIC

TABLE J. RACK REQUIREMENTS COUNTRY AUTO EXCHANGES STANDARD 'O' LEVEL CODES.



Page 51.

Issue 1, November, 1955.

INTERNAL PLANT Design, Sect 10

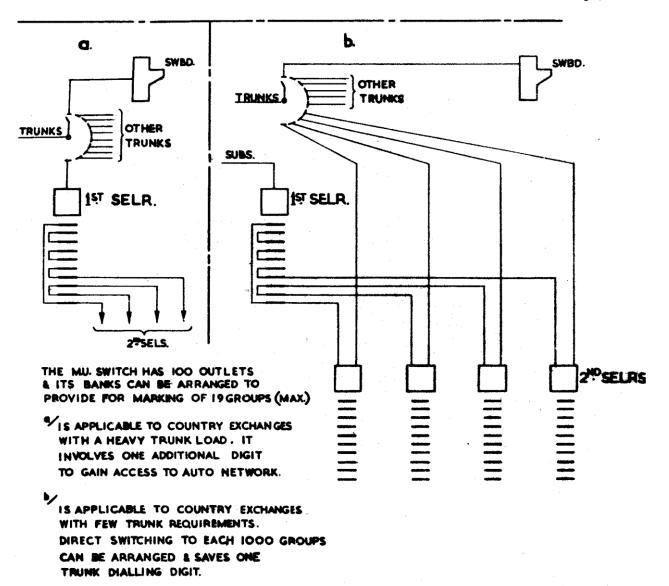


FIG. 30. COUNTRY AUTO EXCHANGES - ALTERNATE TRUNKING OF TRANSIT SWITCHES.