

## LABELLING AND MARKING RACKS AND EQUIPMENT.

### 2000 TYPE

This E.I. details the methods, types of designation and the codes, etc., for labelling and marking racks and equipment in 2000 Type Automatic Exchanges or on 2000 Type Equipment in other Internal Plant Installations. For signwriting of Main and Intermediate Distribution Frames and equipment see E.I. INTERNAL PLANT INSTALLATION Practice F 7010.

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1. GENERAL.

Typical examples of signwriting on rack designation plates and shelf labels, and engraving on apparatus labels, are shewn in the relative sections of this E.I. If details of the marking of any rack or equipment is not otherwise covered, the principles outlined must be followed.

2. MARKING AND LABELLING BY CONTRACTORS.

Where equipment is supplied completely assembled and wired, all signwriting and labelling and engraving, with the exception of the engraving or writing of labels, must be done by the contractor. Those items described in this E.I. will be designated by the Department.

Engraved labels will not normally be supplied by the contractor for selectors and relay sets manufactured for Store stock.

3. OBJECT OF LABELLING AND MARKING is to:-.

- (i) individualize each item for fault recording purposes;
- (ii) provide sufficient information through the medium of the rack and shelf signwriting, particulars and colour of the apparatus label and engraving, together with the grading charts, to enable connections to be traced either forward or backward expeditiously.
- (iii) discriminate between Local, Outgoing and Incoming circuits.

4. SIGNWRITING (GENERAL).

Unless otherwise directed all signwriting on a black or yellow background must be, white, red or black and on a grey background in black or red.

Size of Letters. Signwriting on rack designation plates to be 1" characters;  $\frac{1}{2}$ " characters must be used for abbreviations such as "st" in 1st, and for designations requiring two rows of characters.

Signwriting on shelf labels to be 1" characters for the shelf designation and  $\frac{1}{2}$ " characters for the circuit designation, when one row of characters is required. In the case of two or three rows of characters the size must be  $\frac{1}{4}$ ".

Letters I and O for rack or shelf designation must not be used. An exception may be made where the omission of the letters I and O would result in inconsistency of marking (i.e. where racks exist on which the letters I and/or O are already used). In these circumstances the existing marking must be followed. As regards shelf designation, Instruction Figs. of racks show that in all cases these letters are not used.

Rack sequence designations and all other signwriting on shelf labels or rack designation plates must always conform to the requirements of the switching equipment included in individual exchange schedules.

Design Aspects. See E.I. INTERNAL PLANT INSTALLATION on Design.

Floor plans depicting the position of all racks to be installed in any internal plant proposal must include references to trunking diagrams or other planning

NL		NM		NN		NO		NP		GS RTR FS RTR FS RTR TR AC TR AC TR AC	
NSR / 4R		3F		3G		3H		3J		3K	
GS RTR TR AC		3A		3B		3C		3D		GS RTR TR AC	
TCF		3A		3B		3C		3D		3E TCF	
FS RTR FS RTR TR AC TR AC		4A		4B		4C		4D		4E	
US 16		US 15		US 14		US 13		FS 10		FS 11	
US 12		US 11		US 10		US 9		FS 7		FS 8	
US 8		US 7		US 6		US 5		FS 4		FS 5	
US 4		US 3		US 2		US 1		FS 1		FS 2	
YDF		DSR		DSR		DSR		DSR		JGRM YDF YDF	
DSR		DSR		DSR		DSR		DSR		DSR	
DSR		AFR		M8		M7		M6		M5	
				M4		M3		M2		M1	

The signwriting details must be in accordance with scheduled lists supplied with instructions to the installing Supervising Technician or Officer-in-Charge.

100	Blue
200	Green
300	Yellow, Cream and Buff
400	Brown and Pink
500	Red, Orange
600	Grey
700	Violet

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Note that the prefix number establishes the colour group and the remaining numerals i.e., the tens and units, establish the shade. For example, 632 describes the shade of Grey used for the painting of racks and ironwork, 104 - Blue used for negative Busbars, 538 - Red used for positive Busbars.

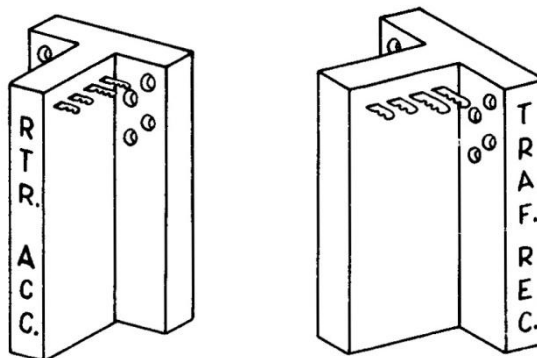
5. ABBREVIATIONS FOR STANDARD TERMS.

In order to secure uniform practice with regard to the use of terms and abbreviations for signwriting, etc., the following table must be used in all cases:

Term	Abbreviations	Remarks
Main ) Branch ) Satellite )	-	To be used with reference to the Main, Branch, or Satellite Exchange in any unit fee network. The term must not be used for signwriting on racks and shelves or equipment.
Local	LOC	To be used to denote switching equipment serving local subscribers' traffic.
Junction Incoming Junction Outgoing Junction Bothway	INC O/G B/W	To be used to denote equipment terminating Junctions incoming, outgoing or bothway to other exchanges in a unit fee area.
Trunk	TK	To be used to denote equipment terminating trunks form exchanges outside the unit fee area. It must be prefixed with INC, O/G or B/W as required, to designate incoming, outgoing or bothway circuits.
Manual Exchange	MAN	
Manual Private Branch Exchange	PBX	
Automatic Private Branch Exchange	PABX	
Monitor	MON	
Rural Automatic Exchange	RAX	
Public Telephone	P.T.	To be used in exchange areas to denote the P.T. groups.
Voice Frequency	V.F.	To denote V.F. equipment.

6. MARKING OF TAG BLOCKS, TERMINAL BLOCKS.

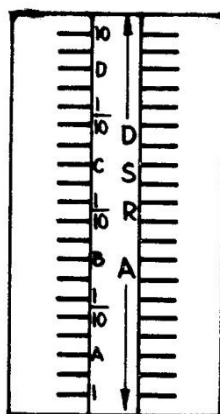
- A. Circuit Designations. This marking such as TR, RTR ACC and MISC must be signwritten on the face of the ebonite retaining strip or on the front face of the wooden fanning strip in 3/16 in. white or black characters respectively unless otherwise directed.



CIRCUIT DESIGNATIONS.

FIG. 2.

- B. Circuit Numbering. This marking must be in t/8 in. characters and in the positions as shown in Fig. 3.



CIRCUIT NUMBERING.

FIG. 3.

- C. Circuit Lead Designations. These designations must be marked in 1/8 in. white characters on the RH side of the ebonite portion of the tag or terminal blocks (viewed from the front) in accordance with the designation shown on the relative circuit diagram.

In the case of tag and terminal blocks terminating one group of circuits requiring the same designation, the characters must be immediately below and above the bottom and top rows of tags respectively (see Fig. 4a).

On tag and terminal blocks terminating more than one group of circuits, or a number of miscellaneous circuits, the associated characters may be signwritten immediately above the top row of tags of (a) each group or (b) each circuit of which there is only one (see Fig. 4b). Each group must be separated by a horizontal white line 1/16 in. thick painted to separate the rows of tags concerned, across the face of the ebonite retaining strip and continuing for 5/16 in. across the face of the tag assembly. Where such signwriting is difficult to insert, block appropriation drawings must be prepared and supplied by contractors, or the installation staff, to the maintenance staff.

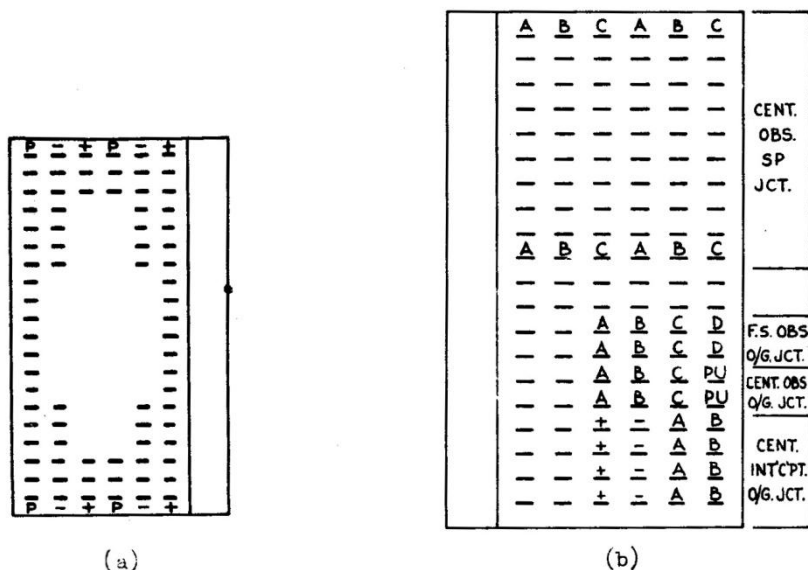


FIG. 4. DESIGNATIONS.

The direction of growth of circuits on a tag or terminal block must be upwards and inwards, i.e., the odd circuits must be terminated on the outer row of tags and must grow upwards, 1, 3, 5, etc., and the even circuits must be terminated on the inner row of tags and grow upwards 2, 4, 6, etc.

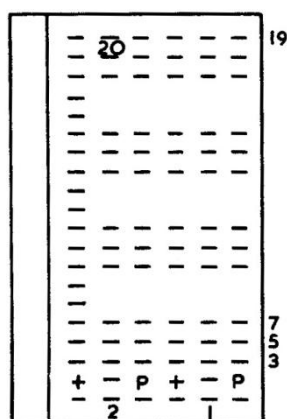


FIG. 5. GROWTH OF CIRCUITS

#### 7. MARKING OF RACK DESIGNATION PLATES.

A. General. These plates to be signwritten in accordance with the schedule shown in Section 8 and in the examples contained in the text. The signwriting in general will indicate -

- (i) The type of apparatus.
- (ii) The rank of switching in case of selectors.
- (iii) The rack sequence letter or number.
- (iv) The source of traffic supplying the rack in certain cases.

The use of the letter "R" terminating a code signifies, for example, repeater. It has no reference to the word rack except in the case of MAR, AER, FPR.

B. Exchanges.

- (i) Uniselect Racks. The designation of succeeding racks numbering from the front racks shall be US1, US2, etc., in seven rack suites the numbering to be commenced from the FS racks and continued to the end of the row.

U S - 1      etc.

The racks must also be numbered in sequential order starting with the rack connected with the 1st local subscriber's vertical on an Intermediate Distribution frame or the first Final Selector Rack, whichever is the case for the exchange concerned.

Discriminating Selector Repeaters. The designation of succeeding racks must be the code letters of the equipment followed by the rack letters.

D S R - A      D S R - B      etc.

Discriminating Relay Set. The designation of succeeding racks must be the code letters of the equipment followed by the rack letter.

D R S - A      D R S - B      etc.

- (ii) 1st Selector Racks. The type of selector rack to be indicated by 1st which will be followed by the rack letter, e.g.

1st-A      1st-B      etc.

For racks carrying selectors serving P.T. subscribers or both P.T. and Local Subscribers, the rack designation to be

1st-A      etc.      Or      PT/LOC 1st-A      etc.

In the case of racks carrying selectors which serve satellite and manual exchanges inside the one exchange area, the designation MAN or SAT to be used, e.g.

MAN-1st-G      SAT-1st-G      etc.      SAT/MAN-1st-G      etc.

For selectors serving trunk exchanges, the designation TK to be used, e.g.

TK-1st-K      etc.

For racks carrying selectors which serve R.A.X. exchanges inside or outside the unit fee exchange area, the designation RAX to be used, e.g.

RAX-1st-H      etc.

- (iii) Group Selectors or Numerical Selectors. The rank of selectors must be indicated by the use of the designation 1st, 2nd, 3rd, 4<sup>th</sup>, etc., All ranks other than 1st Selectors must be followed by the numerals and letters indicating the levels of the preceding ranks which have been dialled and over which a call would be routed to reach the rank or group of selectors concerned, then a hyphen and the letter or letters to specify the sequence of the rack in the group or rank.

Thus -

1st - A	etc.
2nd - M-A	etc.
3rd - MF-A	etc.
4th - MF3-A	etc.

In cases where segregation is provided between Local, Incoming, PT, TK, etc., the racks other than the local group shall indicate the source of traffic, e.g.

LOC XA ) Indicating 2nd Selectors trunked form level 9  
PT/LOC XB ) of 1st Selectors, serving LOC, PT, MAN, TK, etc.  
MAN XC ) Local Subscribers, P.T., Branch Exchange,  
TK XE ) 1st Selectors in segregated groups.

#### C. Exchanges.

- (i) Final Selector Racks. ) The rack designation to include the type of  
Primary Finder Racks ) apparatus fitted on the rack and a rack  
Secondary Finder Racks ) sequence number. In the case of relay set  
Relay Set Racks ) racks equipped with one or two types of  
) relay set, the circuit designation(s) must  
i.e. FS1, FS2, etc. ) be provided on the rack designation plate  
PF1, PF2, etc. ) following the rank designation. (See also  
SF1, SF2, etc. ) Section 8). When more than two types are  
RS1, RS2, etc. ) accommodated on a rack the designation  
) MISC to be used,
- (ii) Composite Racks. Where racks carry selectors of more than one rank or group, e.g., two separate groups of selectors, the rack to be designated to show the two groups separated by an oblique stroke, e.g.

4th-MF4/MF5-1

signifying Rack MP4 as regards the level 4 selectors, and MF5 as regards the level 5 selectors.

The designation of the actual shelves involved with respect to shelf labelling is covered in Section 10.

- (iii) Strapped Levels. Where the selectors on a race are reached via strapped levels, the rack designation should include an oblique stroke between the level numbers. A hyphen should be placed between the rack designation and sequence numbers or letters in the group of racks.

2nd-M/Y-A

#### 8. TYPICAL DESIGNATION OF RACKS.

Rack	Typical Rack Designation
L & K's	L/K 1 L/K 2
Primary Finders	FF-1 FF-2
Secondary Finders	SF-1 SF-2
Uniselectors	US-1 US-2



Rack	Typical Rack Designation
Meters (Subscriber)	M1 M2
1st Group Selectors	1st-A 1st B
2nd " "	2nd M - A 2nd M - B
3rd " "	3rd MU - A 3rd MU - B
4th " "	4th MV5-A 4th MV5-B or 4th-MU5/MUG-A
Final Selectors	FS-1 FS-2
Large Group Final Selectors	LGFS-1 LGFS-2
Discriminating Selector Repeaters	DSR-A DSR-B
Discriminating Relay Sets	DRS-A DRS-B
Relay Set Repeaters	RS (R) -1 RS (R) -2
Relay Set Duplex	RS (DX) -1 RS (DX) -2
Routine Test Relays	MAR/RT-1 MAR/RT-2
Relay Set Miscellaneous	RS (MISC) - 1
Alarm Equipment Rack	AER AER Extn when provided on separate floor
Miscellaneous Apparatus Rack	MAR-1
Miscellaneous Apparatus Rack (Test Desk)	MAR/TD-1
Miscellaneous Apparatus Rack (Guard Relays)	MAR/JG-1
Fuse Panel Rack	FPR-1, FPR-2
Group Selector Routiner Control	GS CONT - 1 <sup>x</sup>
Group Selector Routiner Access	GS ACC - 1 GS ACC - 2
Final Selector Routiner Control	FS CONT - 1 <sup>x</sup>
Final Selector Routiner Access	FS ACC - 1 FS ACC - 2
Discriminating Selector Repeater Routiner Control	DSR CONT
Relay Set Routiner Control	RS (R) CONT
Traffic Recorder Control	TR CONT - 1 <sup>x</sup>
Traffic Recorder Access	TR ACC - 1 TR ACC - 2
TRucnk Connecting Frame	TCF 1
Trunk Distribution Frame	TDF 1A - TDF 1B or TDF 2A - TDF 2B

X = where more than one is required

## 9. OTHER MARKING FOR FINAL SELECTOR RACKS.

The verticals at each end of a bay or suite to be clearly signwritten with the inclusive "thousands" of the selectors in the suite and the rack number on which they are located. The characters must be in 1 in. for the rack number and ¼ in. for the "thousands" number to be located at eye level or as nearly so as possible.

- 9.1 Suite Designation Plates. The equipment racks in any suite may be listed on a (Flag) plate fixed to the rack angle and projecting into the side passageways.

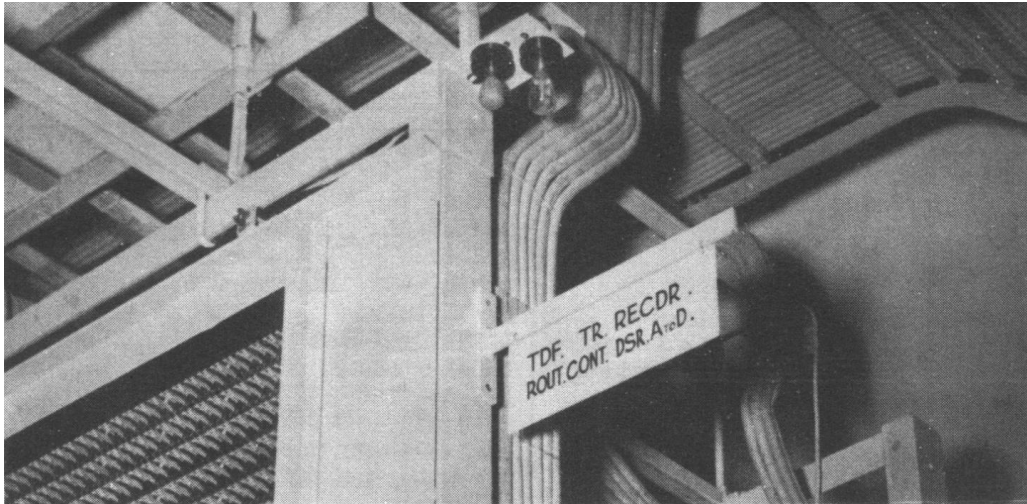


FIG. 6. SUITE DESIGNATION PLATE.

#### 10. MARKING OF SHELF LABELS.

Details of the shelf lettering for the various types of rack are detailed in the following text.

Shelf marking is to be signwritten on the shelf label.

The shelves of each rack are to be lettered from the bottom of the rack upwards A, B, C, etc.

In addition to the shelf letter, the following appropriate designation to be sign-written on the shelf label:-

- (i) Line Finder Equipment  
 L & K Relay Rack ) Group numbers  
 Primary Finder Rack ) GP 1, GP 2, etc.  
 Secondary Finder Rack )

- (ii) Uniselectors. The shelf labels of unselector racks require a shelf letter only.

A B
-----

C D
-----

 etc.

- (iii) Group Selectors (Main, Branch or Satellite). Where the selector shelves on a rack are served from different ranks or exchanges, each shelf to be marked with a suitable designation to indicate the source served by the selectors on the particular shelf, e.g. the shelf labels to be signwritten

A	INC
---	-----

B	LOC
---	-----

C	TK
---	----

 etc.

or, on rack 4A/5A the shelf labels to be signwritten

A	LEV 4
---	-------

B	LEV 4
---	-------

C	LEV 5
---	-------

 etc.

where more than one source of traffic is served by one shelf, the abbreviations of the relative sources to be separated by an oblique stroke, e.g.

LOC/INC
---------

MAN/TK
--------

LOC/TK
--------

 etc.

- (iv) Final Selectors. The shelf label to be marked with the "hundreds" numbers served by the selectors, and in the case of 200 line selectors the top numbers should refer to the group reached from higher multiple. In the case of a shelf on which the multiple is not continuous - that is, where final selectors mounted on the shelf are in two separate final selector groups - the numbers shown on the left of the shelf label to refer to the selectors on the left hand side of the shelf, e.g.,

A 24	A $\frac{25}{24}$	A $\frac{25}{24} \frac{27}{26}$
------	-------------------	---------------------------------

- (v) Relay Sets. On relay set racks the shelf label should be signwritten with the shelf letter and, in certain circumstances, with the designation of the relay sets fitted on the shelf. The relay set designation marking should be signwritten in conjunction with the rack designation plate marking indicated in Section 16.

- (a) On racks accommodating one type of relay set other than those including repeating elements, e.g. Level 0 circuits, the shelf label should be marked with the shelf letter only, e.g.

E
---

The rack designation plate will be marked, e.g.

RS-1 (00)
-----------

Relay Set only

- (b) On racks accommodating one type of relay set including repeating elements, e.g. serving various exchanges on a shelf basis or rack, the shelf label should be marked with a suitable designation to show the source, e.g.

A FB	or	D - MF
------	----	--------

The rack designation plate will be marked, e.g.

RS (R) - 3
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Relay Set Repeater

- (c) On racks accommodating one type of relay set, e.g. serving various exchanges or equipment circuits on one shelf, the shelf label should be marked -

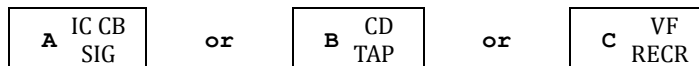
G MISC	G VAR
--------	-------

The rack designation plate will be marked:-

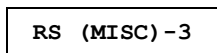
RS - 2	RS (R) - 1
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Relay Set      Relay Set Repeater

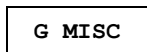
- (d) On racks accommodating various types of relay sets on a shelf basis the shelf labels should be marked to indicate the type of relay set fitted, e.g.



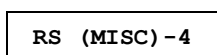
The rack designation plate will be marked, e.g.



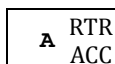
- (e) On racks accommodating various types of relay sets excluding Relay Set repeaters, e.g. 'Auto-Auto.', and where a shelf accommodates more than one type of relay set, the shelf label should be marked with the shelf letter only and the covers of the relay sets marked in accordance with Section 16 e.g.



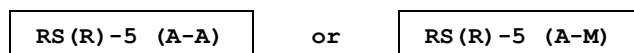
The rack designation plate will be marked:-



- (f) Where a rack used to accommodate Auto-Auto or Auto-Manual relay sets also accommodates the Routiner Access equipment the Routiner Access shelf label should be marked to show the type of equipment accommodated as well as the shelf letter, e.g.



The rack designation plate will be marked, e.g.

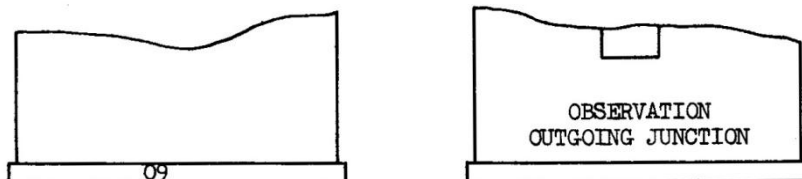


#### 11. MARKING OF RELAY SET COVERS.

When miscellaneous relay sets, or groups of relay sets, are fitted on one shelf of a Relay Set rack, etc., the covers may be signwritten in  $\frac{1}{4}$ " black characters with the abbreviated circuit designation in a central position between the label holder and the strengthening plate holding the cover catch.

If the designation required consists of more than three words, it must be arranged in two lines.

For individual miscellaneous relay sets, each cover may be marked with its respective designation but in the case of groups of similar relay sets only the first cover in each group should be marked.



## 12. MARKING OF L & K RELAY COVERS AND MOUNTINGS.

### (i) Line-finder Systems.

The covers of groups of L & K relays to be signwritten in  $\frac{1}{2}$  in. black characters with the level number in the centre. In addition, the first and last circuit number to be shown in  $\frac{1}{2}$  in. characters at the bottom and top, respectively, of the first two and last two covers on each complete shelf and on the first two covers of incomplete shelves.

19	20							19	20
LEV 1	1	2	2			4	4	5	5
1	2							1	2

On the rear of the rack framework, alternate horizontal members to be signwritten in  $\frac{3}{4}$  in. characters to show the group numbers. The signwriting must appear on the horizontal members which are central to each group and in a convenient position where it is not obscured by the cable form. Where a group is divided between two racks the appropriate upper and lower member on each rack must be signwritten to show the group number.

On the rear of the first two and last two mounting plates, the circuit numbers and the relay code letters of the first and last circuits must be signwritten in  $\frac{3}{16}$  in. characters.

### (ii) Uniselector Schemes.

The covers of the L & K relays must be signwritten with the first and last circuit number on each mounting in  $\frac{1}{2}$  in. characters, e.g.

1	12
---	----

13	25
----	----

The rear of the mountings must be signwritten with the first and last circuit number and relay codes in  $\frac{3}{16}$  in. black characters.

## 13. MARKING OF STRIP MOUNTED APPARATUS COVERS AND MOUNTINGS.

To assist in the location of strip mounted apparatus on Miscellaneous Apparatus racks, Alarm Equipment racks, etc., the mountings to be numbered in sequence, starting at the bottom of the rack. Where mounting space is left for ultimate requirements, the numbering must include such mounting spaces to ensure a continuous numbering scheme when the racks are fully equipped.

When mounting space is occupied by uniselectors, etc., the numbering of this space not to be included in the numbering scheme.

The mounting number to be signwritten in  $\frac{1}{2}$  in. black characters on the mounting plate back and front, adjacent to the fixing bolts on the left-hand side front and right-hand side rear, respectively.

On the front of relay covers, in the bottom left-hand corner, the mounting number to be signwritten in  $\frac{1}{2}$  in. characters.

The circuits of any one type forming a group to be numbered consecutively, e.g., if 20 or 25 circuits are fitted on two mountings, the 1st mounting must be numbered 1 - 10 or 1 - 12 and the 2nd mounting 11 - 20 or 13 - 25. This circuit numbering must be provided on all covers.

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The type of circuit fitted on each mounting to be indicated in the centre of the cover by signwriting the appropriate abbreviations. The first and last circuit number to be signwritten in the position on the cover indicated in the following typical examples:

IN/OUT TK				TEST AND PLUG UP			
18	11	-	20	6	1	-	4

The size of signwriting to be in  $\frac{1}{2}$ " characters when the circuit designation and numbering requires two lines and  $\frac{1}{4}$ " for three or more lines.

When a rack or part of a rack is equipped with the same type of circuit, the circuit designation and mounting space numbers must appear in the positions as set out below:

- (i) Up to 5 mountings equipped - All mountings must be marked with the mounting number on the back end front of the mounting. All covers must be marked with the mounting number. The first end last cover must be marked with the circuit designation.
- (ii) Over 5 mountings and up to capacity of half a rack - The first, fifth, tenth and every subsequent 5th mounting must be marked back and front with the mounting number. The covers must also be marked as for the mountings with the mounting number. The first and last cover must be marked with the circuit designation.
- (iii) Over half a rack equipped - As for (ii) with the exception that the circuit designation must appear three times for rack, viz. on the bottom, middle end top covers.

The circuit numbering required for (i), (ii) and (iii) must appear on all covers as specified above.

When a mounting accommodates a number of dissimilar groups of circuits apply the following principle for signwriting on the cover, e.g.

OG	O/W	O/W	SPARE LEV
1	3	1 - 3	1 - 3
5			

Black lines  $\frac{3}{4}$  in. long and  $\frac{1}{8}$  in. thick to be marked on the front of the mounting plate to divide the different groups of circuits, e.g.

5		

At the rear of the mounting plates, signwriting in  $\frac{3}{16}$  in. characters to be used to indicate the location of the circuits in accordance with the following:-

- (a) Circuits on mountings, all of the same type - The number of the first end last circuits and the code letters of the relays, condensers, rectifiers, resistors, etc., of the first and last circuits on the mounting.

- (b) Circuits on mountings, Dissimilar groups - The circuit number of the first and last circuit of each group, and the code letters of the relays, condensers, resistors, etc., forming the first circuit of each group.

In the case of strip mounted equipment on Routiner and Traffic Recorder racks the mounting plates and covers should not be marked with the mounting space numbers, but the covers should be marked with the relay designations, etc.

#### 14. MARKING OF RELAY ARMATURES, RESISTORS, CONDENSERS AND RECTIFIER ELEMENTS.

##### (i) Relays.

Relays must be plainly marked on the armatures in 3/16 in. black characters in accordance with the relay nomenclature shown on the circuit diagram. Distinctive marking to differentiate between circuits mounted in excess of one per base on jacked-in or strip mounted equipment is necessary where it is not obvious to which circuit similar relays belong. In these cases the relays should be marked as shown below:-

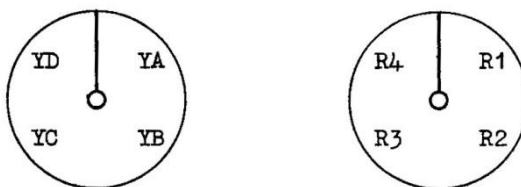
1st Circuit	AC	L
2nd "	$\overline{AC}$	$\overline{L}$
3rd "	$\underline{AC}$	$\underline{L}$
4th "	$\overline{AC}$	$\overline{L}$

Siemens' High Speed Relays to be signwritten with the circuit designation in 1/8 in. white characters on the bakelite margin in front of the right-hand fixing post.

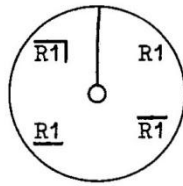
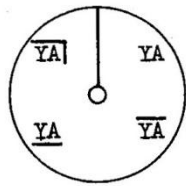
##### (ii) Resistors.

The designations YA, YB or R1, R2, etc., for resistors must be plainly indicated in 3/32 in. white characters on the black fibre washer fitted on the front of the resistor pile. The designation must be evenly distributed over the surface of the washer in a clockwise direction indicating the order of assembly on the spindle outwards from the mounting plate. A white line must be drawn vertically from the edge of the washer to the centre to distinguish between the first and last designation in the series, e.g.

When resistors mounted on the pile are individual to one circuit and are mounted adjacent to the circuit relays they must be marked as shown below:-

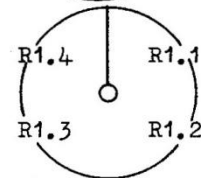
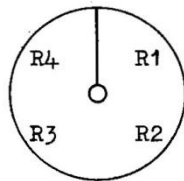
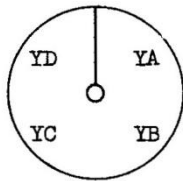


When the resistor pile accommodates more than one circuit and is mounted adjacent to the circuit relays they must be marked to differentiate between the circuits as shown below:-

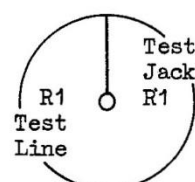
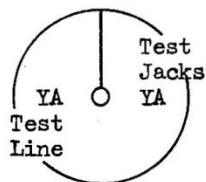


Sequence is determined (i) YA (ii)  $\overline{YA}$  (iii)  $\underline{YA}$  (iv)  $\overline{\underline{YA}}$  etc.

Where the resistor pile is mounted remote from the circuit relays the circuit numbers must be indicated as shown below:-



Where the resistor pile accommodates more than one type of circuit the circuit designation must be indicated as shown' below:-



(iii) Condensors.

The designation QA, QB or C1, C2, etc. must be plainly indicated in 3/16 in. black characters on the end of the condensers or on the clip viewed' from the front of the equipment.

(iv) Rectifier elements.

The designations MRA, MRB, etc. must be plainly indicated in 1/8 in. White characters.

15. MARKING OF EQUIPMENT LABELS.

15.1. General.

The labelling of equipment can be done by

- (i) engraving designations on the labels; or
- (ii) printing in firm characters on cardboard.

Engraving must be arranged where permanent identification over a long period will apply, for example, Control Sets, Delayed Alarm Sets, etc.



Labelling of trunking equipment including selectors, repeaters, etc., must be engraved where individual exchanges in country areas are installed.

In metropolitan areas where constant rearrangements are involved, the practice of printing card labels must generally apply.

Where hand printing is required, the work must be done by the Drafting Section. The characters used must conform closely to the engraving sizes shown in Drawing CE.127.

Neat, tidy and firm characters are essential. Pencil figures or handwriting must not be used.

Cardboard printed labels must be covered with a piece of celluloid or similar material. Where temporary markings are required, hand printed cards or pieces of paper may be covered with a transparent adhesive tape to preserve legibility. The equipment labels must be in accordance with the relative drawings as follows:-

<u>Label No.</u>	<u>Drawing No.</u>
236	CE. 230
237	CE. 224
238	CE. 224
88	-----

- 15.2 All equipment labels to be white in colour with the exception of labels fitted to D.S.R's Selectors, etc. on which terminate junction and/or trunk circuits incoming from other exchanges, when a yellow label with black or red filling must be used.

Blank labels, as required, to be used to fill the label holders. This procedure also applies where spare 1st Selectors, etc. are fitted on the opening of an exchange.

For the engraving of labels a code is used as shown in typical examples in Section 16, e.g. 11A, to denote the size required, reference being made to

Label No. 236	Drawing CE.230
Label No. 237	Drawing CE.224
Label No. 238	Drawing CE.224

and Drafting CE. 127, to obtain the actual size and spacing, etc. of the characters.

Black filling to be used for the engraving which denotes the switch or circuit number and for the engraving, when provided, which gives particulars of the connected apparatus in a forward direction.

Red filling to be used for the engraving denoting the associated apparatus in a backward direction.

For the purpose of determining the colour of the filling to be used when a B/W Junction terminates on a Relay Set or Selector, the junction to be treated as an incoming circuit.

Where Group Selectors, Discriminating Selector Repeaters, Repeaters etc. are located on shelves but the equipment has been removed from service, e.g. where trunking rearrangements have been made and the equipment is taken out of service, a blank label, coloured blue must be inserted. This practice must also be introduced where additional equipment is added to a rack for storage purposes or where such equipment has been installed but will not be brought into service until a later date.

In the latter case the correct identification labels may be inserted, but a blue covering label should be added for the time being.

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16. TYPICAL LABELLING AND ENGRAVING OF EQUIPMENT.

Class of apparatus	No. of Label and Colour	No. of engraving and colour	Associated typical labels	Explanation of Label Engraving
(1) <u>LINE FINDER CALLING EQUIPMENT.</u>				
Primary Finders (PF)	237 WH	11A BK	<div>12</div>	Primary Finder No. 12 in group. (Group number marked on shelf label.) Associated directly connected Selector No. BA3.
	237 WH	11C BK	<div>BA3</div>	
	238 WH		<div></div>	
	236 WH	12B BK	<div>12</div>	Primary Finder No. 12 in group
	237 WH	11A BK	<div>12</div>	Primary Finder No. 12 in group. Secondary Finder Rack No. 1. Group No. 4 Bank Contact No. 18 Division No. 1 (omitted where there is only one division).
	238 WH	11C BK	<div>SF1</div>	
		11C BK	<div>GP4/18</div>	
	237 WH	11C NK	<div>DIV 1</div>	
	236 WH	12B BK	<div>12</div>	Primary Finder No. 12 in group.
Secondary Finders	88 WH	12A BK 12A BK	<div>10 BC2</div>	Secondary Finder No. 12 in group. (Secondary Finder Group number marked on shelf label.)
Primary Allotters	88 WH	12C BK 12C BK	<div>GP1 PRI AL3</div>	Group No. 1. Primary Allotter No. 3.
Secondary Allotters	88 WH	12C BK 12C BK	<div>GP 9 SEC AL2</div>	Group No. 9. Secondary Allotter No. 2.
Control Relay Sets	237 WH	11A BK	<div>2</div>	Relay Set No. 2 on shelf. Group No. 11 Primary Control Relay Set No. 1. (In the case of Secondary Control Relay Sets substitute SEC for PRI.)
	238 WH	11C BK 11C BK	<div>GP 11 PRI CTL1</div>	
	237 WH		<div></div>	
	237 WH	12B BK	<div>2</div>	Relay Set No. 2 on shelf.

Class of apparatus	No. of Label and Colour	No. of engraving and colour	Associated typical labels	Explanation of Label Engraving
Start Relay Sets	237 WH	11A BK	1	Relay Set No. 1 on shelf. Group No. 2. Primary Start Relay Set (in the case of secondary start relay sets substitute SEC for PRI.)
	238 WH	110 BK 110 BK	GP 2 PRI START	
	237 WH			
Selectors associated with Secondary Line Finders	236 WH	12B BK	1	Relay Set No. 1 on shelf.
	237 WH	11A BK	6	Switch No. 6 on shelf. Associated Secondary Finder Rack No. 1. Group No. 1. Finder No. 3. Division No. 2.
	238 WH	11C RD 11C RD	SF1 GP1/3	
	237 WH	11C BK	DIV 2	
Selectors associated with Primary Line Finders	236 WH	12B BK	6	Switch No. 6 on shelf.
	237 WH	11A BK	2	Switch No. 2 on shelf. Associated Primary Finder Rack No. 1  Group No. 1 Finder No. 8.
	238 WH	11C RD 11C RD	PF1 GP1/8	
	237 WH			
	236 WH	12B BK	2	Switch No. 2 on shelf.
(2) <u>UNISELECTOR CALLING EQUIPMENT.</u>				
With the exception of the multiple numbers allocated for 11 and over PBX lines a full multiple of labels for the subscribers' uniselectors shall be supplied engraved with the multiple numbers.				
Subscribers' Uniselectors Ordinary	88 WH	11B BK	2686	Subscribers number 2686.
Subscribers' Uniselectors PBX 2/10 lines	88 WH	11B BK	2686	Subscribers number 2686 (Red diagonal line indicating PBX lines.)

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Class of apparatus	No. of Label and Colour	No. of engraving and colour	Associated typical labels	Explanation of Label Engraving
Subscribers' Uni-selectors P.B.X. over 11 lines	88 WH	12B BK RED LINE 12B BK	<div>2686</div> <div>13</div>	Subscribers' directory No. 2686, lines No. 13 and No. 14 in PBX Group.
	88 WH	12B BK RED LINE 12B BK	<div>2686</div> <div>14</div>	
THE FULL NUMERICAL FIGURES ASSOCIATED WITH EACH SUBSCRIBER'S UNISELECTOR MUST BE INCLUDED				
e.g. 234B				
(3) MISCELLANEOUS SELECTORS.				
First Selectors	237 WH	11A BK	<div>7</div>	Switch No. 7 on shelf serving part of uniselector grading located on US rack 3, shelves A-D.
	238 WH	11A RD	<div>3. A-D</div>	
	237 WH	11A RD	<div>10</div>	
	236 WH	12B BK	<div>7</div>	
First Selectors in-coming from Branch Exchanges using DSR and JH.	237 WH	11A BK	<div>7</div>	Switch No. 7 on shelf serving JH grading located on racks DSR 2 Shelves A - B outlet 4 (distant exchange).
	238 WH	11A RD 11A RD	<div>DSR 2 A - H</div> <div>4</div>	
	237 WH	11A RD	<div>BW 11</div>	
	236 WH	12B BK	<div>7</div>	
Incoming Junction Selectors	237 WH	11A BK	<div>5</div>	Switch No. 5 on shelf.
	238 WH	11C RD	<div>R2 B9</div>	Associated Relay Set Rack No. 2 Relay Set B9
	237 WH	11C RD	<div>BW 11</div>	Exchange call letter Junction No. 11
	236 WH	12B BK	<div>5</div>	Switch No. 5 on shelf,
Selectors and Final Selectors	237 WH	11A BK	<div>9</div>	Switch No. 9 on shelf.
	237 WH		<div></div>	
	237 WH		<div></div>	
	236 BK	12B BK	<div>9</div>	Switch No. 9 on shelf.

REFERENCE SHOULD BE MADE TO FIG. 9 AT THE CONCLUSION OF THIS SECTION FOR ADDITIONAL MARKING WHICH CAN BE INSERTED FOR BACK TRUNKING PURPOSES

Class of apparatus	No. of Label and Colour	No. of engraving and colour	Associated typical labels	Explanation of Label Engraving
Test Final Selectors	237 WH	11A BK	10	Switch No. 10 on shelf
	238 WH	11C BK	FS 28/29 TEST F S 4	100 tested Rack
	237 WH			
	236 WH	12B BK	10	Switch No. 10 on shelf.
Trunk Offering Final Selectors	237 WH	11A BK	9	Switch No. 9 on shelf.
	238 WH	11C BK	TK OFF	
	237 WH			
	236 WH	12B BK	9	Switch No. 9 on shelf.
Test Selectors or Distributor	237 WH	11A BK	1	Switch No. 1 on shelf
	238 WH	11C BK 11C BK	TEST SELR 1	
	237 WH			
	236 WH	12B BK	1	Switch No. 1 on shelf.
	237 WH	11A BK	1	Switch No. 1 on shelf.
	238 WH	11C BK 11C BK	AUX TEST SELR	
	237 WH			
	236 WH	12B BK	1	Switch No. 1 on shelf.

TEST DISTRIBUTORS AND TEST SELECTORS ARE PROVIDED FOR SELECTION  
OF 10,000 AND 100,000 NUMBER GROUPS RESPECTIVELY.

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Class of apparatus	No. of Label and Colour	No. of engraving and colour	Associated typical labels	Explanation of Label Engraving
Trunk Offering Selectors	237 WH	11A BK	<div>4</div>	Switch No. 4 on shelf
	238 WH	11C BK	<div>TK OFF SELR 4</div>	
	237 WH	11C BK	<div></div>	
	236 WH	12B BK	<div>4</div>	Switch No. 4 shelf
(4) MISCELLANEOUS RELAY SETS.				
Incoming Junctions via Relay Set	237 WH	11A BK	<div>5</div>	Relay Set No. 5 on shelf
	238 WH	11C BK	<div>A4 7</div>	Answering Multiple A4 Jack No. 7.
	237 WH	11C RD	<div>BW 8</div>	Exchange call letters Junction No. 8
	236 WH	12B BK	<div>5</div>	Relay Set No. 5 on shelf.
Outgoing Junction Relay Set	237 WH	11A BK	<div>1</div>	Relay Set No. 1 on shelf.
	238 WH	11C RD 11C RD	<div>J2 11</div>	Outgoing Junction Multiple J2 Jack No. 11
	237 WH	11C BK	<div>XY 9 or RS(R) - 1-B</div>	Exchange call letters Junction No. 9, or Rack and Shelf number
	236 WH	12B BK	<div>1</div>	Relay Set No. 1 on Shelf
Bothway Junctions Relay Set	237 WH	11A BK	<div>8</div>	Relay Set No. 8 on shelf.
	238 WH	11C BK	<div>A2 4</div>	Answering Multiple A2 Jack No. 4
		11C RD	<div>JO 9</div>	Outgoing Junction Multiple JO Jack No. 9.
	237 WH	11C RD	<div>BA/BW 5 or RS(R) - 1-B</div>	Exchange call letters Junction No. 5 or Rack and Shelf number.
	236 WH	12B BK	<div>8</div>	Relay Set No. 8 on shelf.
Incoming Trunks to Test Desk	237 WH	11A BK	<div>6</div>	Relay Set No. 6 on shelf.
	238 WH	11C BK	<div>T D 1 &amp; 2</div>	Connected to Test Desk 1 and 2
	237 WH	11C BK	<div></div>	

Class of apparatus	No. of Label and Colour	No. of engraving and colour	Associated typical labels	Explanation of Label Engraving
Spares	236 WH	12B BK	<div>6</div>	Relay Set No. 6 on shelf
	237 WH	11A BK	<div>8</div>	Relay Set No. 8 on shelf
	238 WH		<div></div>	
	237 WH		<div></div>	
	236 WH	12B BK	<div>8</div>	Relay Set No. 8 on shelf.
	237 WH	11A BK	<div>2</div>	Relay Set No. 2 on shelf
	238 WH		<div></div>	
	237 WH		<div></div>	
	236 WH	12B BK	<div>2</div>	Relay Set No. 2 on shelf.
	237 WH	11A BK	<div>7</div>	Relay Set No. 7 on shelf.
Rural Automatic Exchange	238 WH	11C BK	<div>A24 CA3</div>	Incoming to Answering Mult. A 2 Jack No. 4 or selector on Rack C Shelf A posn. 3.
	237 WH	11C RD	<div>BW 9</div>	Exchange call letters Junction No. 9.
	236 WH	12B BK	<div>7</div>	Relay Set No. 7 on shelf.
	237 WH	11A BK	<div>3</div>	Relay Set No. 3 on shelf.
Lines to Service PBX from Final Selectors	238 WH	11B BK 11B BK	<div>FA 041 13</div>	Service PBX No. FA 041. Exchange Line No. 13.
	237 WH		<div></div>	
	236 WH	12B BK	<div>3</div>	Relay Set No. 3 on shelf.

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Class of apparatus	No. of Label and Colour	No. of engraving and colour	Associated typical labels	Explanation of Label Engraving
Manual Trunk Relay Sets, Sleeve Control	236 WH	11A BK	1	Relay Set No. 1 on shelf
	238 WH	11C RD	BA	Manual Exchange Number
		11C RD	3	Trunk No. 3.
	237 WH			
Selector levels to Speaking Clock	236 WH	12B BK	1	Relay Set No. 1 on shelf.
	237 WH	11A BK	4	Relay Set No. 4 on shelf.
	238 WH	11C BK 11C BK	TIME 4	Circuit No. 4 to Speaking Clock.
	237 WH			
Speaking Clock Rack S & Z Pulse Relay Set	236 WH	12B BK	4	Relay Set No. 4 on shelf.
	237 WH	11A BK	9	Relay Set No. 9 on shelf.
	238 WH	11C BK 11C BK	S & Z PULSE	
	237 WH	11C BK	ST/BY	Omit engraving for regular relay set
Ring-Back Circuit for Technicians	236 WH	12B BK	9	Relay Set No. 9 on shelf.
	237 WH	11A BK	6	Relay Set No. 6 on shelf.
	238 WH	11B BK	1 & 2	Ring-back Circuits No. 1 & No. 2.
	237 WH	11C RD	LEVEL 06	Selector level to which Relay Set is connected
	236 WH	12B BK	6	Relay Set No. 6 on shelf.



Class of apparatus	No. of Label and Colour	No. of engraving and colour	Associated typical labels	Explanation of Label Engraving
Graduated Howler	237 WH	11A BK	2	Relay Set No. 2 on shelf
	238 WH	11B BK	1st	Serving 1 <sup>st</sup> Selector racks
	237 WH			
			or	
	237 WH	11B BK	T D	Test Desk
	236 WH	12B BK	2	Relay Set No. 2 on shelf
Machine Impulsing No. 4 & No. 5	237 WH	11A BK	2	Position 2 on shelf.
	238 WH	11C BK 11C BK	M/C IMP ST/BY	For regular machine engrave "M/C IMP REF"
	237 WH			
Delay Sets (AER)	237 WH	11A BK	4	Relay Set No. 4 on shelf.
	238 WH	11C BK 11C BK	DELAY 3 MINS	
	237 WH			
Selector Levels to Trunk or Manual Exchange via Relay Set	237 WH	11A BK 11C BK 11C BK	7 A3 12	Relay Set No. 7 on shelf. Answering Multiple A3 Jack No. 12.
	237 WH	11C BK	ASS 6	Traffic designation of circuit.
	236 WH	12B BK	7	Relay Set No. 7 on shelf.
	237 WH	11A BK	3	Relay Set No. 3 on shelf.
	237 WH	11B BK	BW 9	Exchange call letters Junction No. 9.
	238 WH			
	236 WH	12B BK	3	Relay Set No. 3 on shelf

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Class of apparatus	No. of Label and Colour	No. of engraving and colour	Associated typical labels	Explanation of Label Engraving
Bothway Junction Relay Set Outgoing Manual Incoming Dialing	237 WH	11A BK	6	Relay Set No. 6 on shelf
	238 WH	11C BK	RS(R)2 - A3	Associated Relay Set Rack 2 Relay Set A3
		11C RD	XM4	Exchange call letters junction No. 4.
	237 WH			
	236 WH	12B BK	6	Relay Set No. 6 on shelf
Incoming Junction to Selector via Relay Set	237 WH	11A BK	6	Relay Set No. 6 on shelf
	238 WH	11C BK	AB 9	Associated Selector - AB 9.
		11C RD	BW 11	Exchange call letters. Junction No. 11.
	237 WH			
	236 WH	12B BK	6	Relay Set No. 6 on shelf
(5) <u>CHANGED NUMBER EQUIPMENT.</u>				
Distributors	88 WH	12B BK 12B BK	CN DIST	Changed Number Distributor
Line Finders	88 WH	12B BK 12B BK	GP 2 FDR 2	Group No. 2 Changed Number Finder No. 2
Line Finder Relay Sets	237 WH	11A BK	1	Relay Set No. 1 on shelf
	238 WH	11C RD 11C RD	CN TAP 1 - 25	Associated tapping relay sets Nos. 1 - 25 connected to finder banks
	237 WH	12B BK	GP 2 FDRS 1&2	Group No. 2 Changed Number Finders No. 1 and No. 2
	236 WH	12B BK	1	Relay Set No. 1 on shelf
Manual Relay Sets	237 WH	11A BK	3	Relay Set No. 3 on shelf
	238 WH	11C BK 11C BK	MB3 A07	Manual Board Circuit No. 3 Answering Multiple AO Jack No. 7
	237 WH	12B BK	GP1 MAN 3	Group No. 1 Manual Relay Set No. 3
	236 WH	12B BK	3	Relay Set No. 3 on shelf

Class of apparatus	No. of Label and Colour	No. of engraving and colour	Associated typical labels	Explanation of Label Engraving
<b>(6) CHANGED NUMBER EQUIPMENT.</b>				
Tapping Relay Sets	237 WH	11A BK	1	Relay Set No. 1 on shelf
	237 WH	11B BK	GP 1/3	Group No. 1 Relay Set No. 3
	238 WH			
	236 WH	12B BK	1	Relay Set No. 1 on shelf
Distributors	88 WH	12B BK 12B BK	SER DIST	Service Interception Distributor
Line Finders	88 WH	12B BK 12B BK	GP 1 FDR 3	Group No. 1 Service Interception Finder No. 3
Line Finder Relay Sets	237 WH	11A BK	3	Relay Set No. 3 on shelf
	238 WH	11C RD	SER INT	Associated Tapping Relay Sets Nos. 1 - 20 connected to Finder Banks
		11C RD	TAP 1 - 20	
	237 WH	12B BK	GP1 FDR 3	Group No. 1 Service Interception Finder No. 3
Manual Relay Sets	236 WH	12B BK	3	Relay Set No. 3 on shelf
	237 WH	11A BK	4	Relay Set No. 4 on shelf
	238 WH	11C BK	MB 16	Manual Board Circuit No. 16
		11C BK	AO 8	Answering Multiple AO, Jack No. 8
	237 WH	12B BK	GP1 MAN 4	Gp No. 1 Manual Relay Set No. 4
	236 WH	12B BK	4	Relay Set No. 4 on shelf

Mixed Full Service and Channel Number Interception Equipment

Where mixed Full Service and Channel Number Interception circuits are provided the labelling should follow the above, the Line Finder Relay Set label showing the Finder Bank contacts to which the two services are connected. A typical case is shown.

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Class of apparatus	No. of Label and Colour	No. of engraving and colour	Associated typical labels	Explanation of Label Engraving
Mixed Full Service and Changed Number Interception Equipment	237 WH	11A BK	1	Relay Set No. 1 on shelf
	238 WH	11C RD	SER INT 1-8	Full Service Interception on Finder Bank Contacts 1-8
		11C RD	CN 9 - 25	Changed Number Interception on Finder Bank Contacts 9-25
	236 WH	12B BK	GP1 FDR6	Relay Set No. 1 on shelf
	236 WH	12B BK	1	Relay Set No. 1 on shelf
Where only one group of Interception Circuits is provided, no reference to the group number should be shown on the label.				
(7) <u>SERVICE OBSERVATION EQUIPMENT.</u>				
Tapping and C/G Junction Relay Sets	237 WH	11A BK	1	Relay Set No. 1 on shelf
	237 WH	11C BK	BU 1	Exchange call letters Junction No.1
	238 WH	11C BK	TAP & O/G	Relay Set designation
Incoming Junction Relay Set	236 WH	12B BK	1	Relay Set No. 1 on shelf
	237 WH	11A BK	2	Relay Set No. 2 on shelf
	238 WH	11A RD	BM 1	Exchange call letters Junction No. 1
		11A BK	POS 2	Position No. 2
	237 WH	11A BK	I/C	Relay Set designation
	236 WH	12B BK	2	Relay Set No. 2 on shelf
(8) <u>AUTOMATIC TRAFFIC RECORDER.</u>				
Access Uniselectors	88 WH	12B RD 12B RD	12/2A CN1/12	Access Unselector No. 12 Access Key Pos. No. 2 Access Unselector A or B (omitted from Common apparatus) Associated Control Unselector No. 12 on Control rack No. 1
Control Uniselectors	88 WH	11A BK	CN 12	Control Unselector No. 12

Class of apparatus	No. of Label and Colour	No. of engraving and colour	Associated typical labels	Explanation of Label Engraving
<b>(9) ROUTINERS.</b>				
Access Uniselectors	88 WH	12C RD 12C BK	<div>RTR ACC AB</div>	Routiner access to shelves A & B on rack
	88 WH	12C BK 12C BK	<div>RTR ACC AB/AA</div>	) ) Routiner access to shelves A & B on rack, where more
	88 WH	12C BK 12C BK	<div>RTR ACC AB/AB</div>	) than one unselector is concerned. In example
	88 BK	12C BK 12C BK	<div>RTR ACC AB/AC</div>	) uniselectors AA, AB, and AO are concerned/
Access two-motion Selectors (100 outlet)	237 WH	11A BK	<div>1</div>	Access switch connected to Prim, Dist. outlet 1
	238 WH			
	237 WH			
	236 WH	12B BK	<div>1</div>	Access switch connected to Prim, Dist. Outlet 1
Access two-motion Selectors (200 outlet)	237 WH	11A BK	<div>7/8</div>	Access switch connected to Prim, Dist. Outlets 7 & 8
	238 WH			
	237 WH			
	236 WH	12B BK	<div>7/8</div>	Access switch connected to Prim, Dist. Outlets 7 & 8
Control units	88 WH	12B BK 12B BK	<div>PRI DIST</div>	Primary Distributor
	88 WH	12B BK 12B BK	<div>SEC DIST 2</div>	Secondary Distributor No. 2
	88 WH	12B BK 12B BK	<div>ACC- LAMP</div>	Access Lamp
	88 WH	12B BK	<div>DIST</div>	Distributor

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Class of apparatus	No. of Label and Colour	No. of engraving and colour	Associated typical labels	Explanation of Label Engraving
Auto-Auto Relay Set Routiner-Selector	238 WH	11C BK 11C BK	<div>IMPULSE RECEIVING</div>	Receives repeated impulses from auto-auto set sent from routiner
	238 WH		<div></div>	
	236 WH		<div></div>	
(10) <u>TRUNK LINE OPERATION 2 FREQUENCY V.F. EQUIPMENT.</u>				
1st Selectors	237 WH	11A BK	<div>3</div>	Switch No. 3 on shelf
	238 WH	12A RD 12A RD	<div>2VF B/W</div>	Associated I/C relay set on rack B/W Auto 2 VF
	237 WH	12A RD	<div>BELGRAVE 1</div>	Trunk Line No. and Traffic number
	236 WH	12B BK	<div>3</div>	Switch No. 3 on shelf
Outgoing Relay Sets	237 WH	11A BK	<div>14</div>	Relay Set No. 14 on shelf
	238 WH	12A RD	<div>O/G</div>	
	237 WH	12A RD	<div>BELGRAVE 1</div>	Trunk Line No. and Traffic number
	236 WH	12B BK	<div>14</div>	Relay Set No. 14 on shelf
Uniselector (Sequence Switch)	88 WH	11A BK	<div>14</div>	Associated with O/G relay set No. 14 on rack
Incoming Relay Set  (Omit engraving if directly connected to 2VF Distributor.)	237 WH	11A BK	<div>14</div>	Relay Set No. 14 on shelf
	238 WH	12A BK	<div>AB 3</div>	Associated 1st Selector on Rack A Shelf B Position 3
	237 WH	12A RD	<div>BELGRAVE 1</div>	Trunk line No. and Traffic number
	236 WH	12B BK	<div>14</div>	Relay Set No. 14 on shelf

Class of apparatus	No. of Label and Colour	No. of engraving and colour	Associated typical labels	Explanation of Label Engraving
Incoming Relay Set      2 VF Receiver	237 WH	11A BK	14	Relay Set No. 14 on shelf
	238 WH	12A BK	INC	
	237 WH	12A RD	BELGRAVE 1	Trunk Line No. and Traffic number
	236 WH	12B BK	14	Relay Set No. 14 on shelf
	237 WH	11A BK	14	VF Receiver No. 14 on rack
	237 WH	12A BK	BELGRAVE 2	Trunk Line No. and Traffic number
	238 WH			
	236 WH	12B BK	14	VF receiver No. 14 on rack

#### 17. METER RACKS AND METERS.

Meter racks to be divided into two classes. They are in the main Subscribers' Meter racks and Traffic Meter racks, where the facility cannot be mounted on the TRAFFIC RECORDER RACK, and are to be numbered consecutively in each class. Traffic meter rack numbers to be prefixed by the words "TRAFFIC METER".

The vertical direction of the numbering of all racks in the exchange to start at the bottom of the rack.

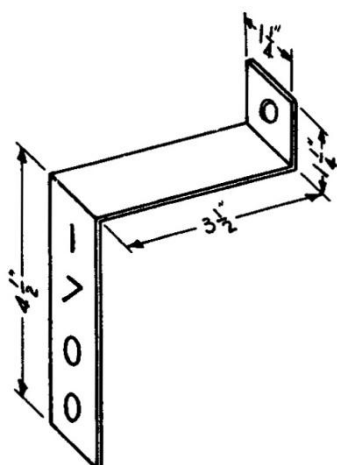


FIG. 7. DESIGNATION PLATE-  
SUBSCRIBERS' METER.

##### (i) Subscribers' Meters.

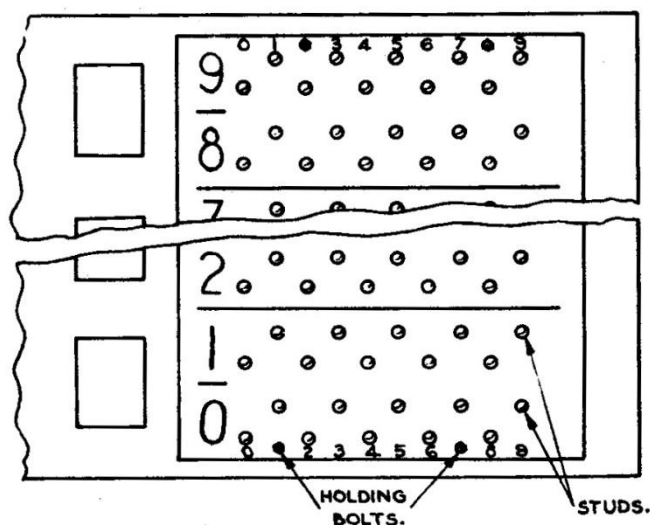
The last two digits of the subscriber's number to be printed on the cardboard meter label in 1/8 in. square, black characters, i.e. 00 to 99.

At the front of the rack the hundreds to be sign-written on number plate (see Fig. 7) which shall be mounted on the L.H. side of meters.

At the rear of the rack the hundreds number to be shown on the rear of the left-hand vertical in 1 in. black characters opposite the third row of meters in the group.

The last two digits of the number of the first and last meter in each row of 20, to be marked in 1/8 in. black characters on the rear of the mounting plate, unless rectifiers are fitted, in which case the marking must be on the end of the rectifier.

Test Jacks associated with subscribers' meters to be signwritten in 1/8 in. white characters with the number of the meter as in Fig. 8.



SIGNWRITING TEST JACK - SUBSCRIBERS' METERS.

FIG. 8.

(ii) Traffic Meters.

When traffic meters are mounted in plates of 100, each hundred must be equipped with a number plate mounted on the left-hand side of the rack in a similar manner to that provided for plates of subscribers' meters. On this plate must be written the word TRAFFIC in one inch black characters.

When traffic meters are mounted in plates of 40 a designation plate must be fitted for each 100 meters, e.g. 2 designation plates for each five mounting plates fitted. These plates must be signwritten as above.

Each row of 20 meters shall be indicated on both the front and rear of the mounting by a letter A, B, C etc., omitting I and O, commencing at the bottom of the rack. An exception may be made where the omission of the letters I and O would result in inconsistency of marking (i.e. where racks exist on which the letters I and/or O have already been employed). In these circumstances, the existing marking will be followed. On the front the letters to be 1/4 in. black characters, and 1/8 in. black characters on the rear. When more than 24 rows of meters are fitted on one rack the 25<sup>th</sup> row of meters to be lettered AZ, 26<sup>th</sup> BZ, etc.



Each row of 20 meters must be divided by a 1/16 in. horizontal line, white on the test jack dummy, and black on the mounting plate or rack member.

The signwriting of each mounting plate of 40 meters to be on the blank portion of the mounting on the Right Hand side.

The class of equipment served by the different meters to be shown in ¼ in. white characters and typical designations, indicating the class of equipment. The grading No. 1, 2, 3, etc., to be placed in brackets following the level number where appropriate.

In cases where more than one line of characters is required on the level, the characters to be as large as possible.

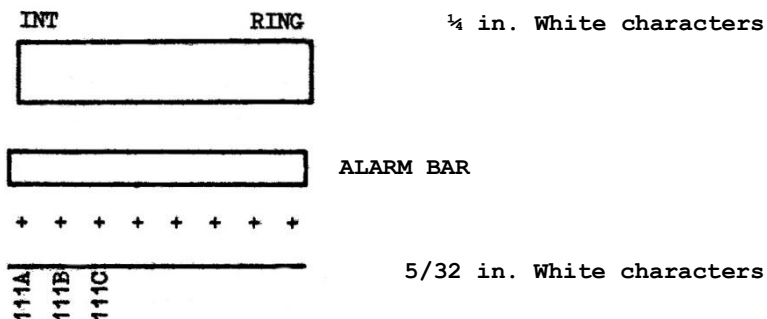
# 18. ALARM EQUIPMENT RACKS.

## (i) Signwriting.

- (a) Rack Designation Plates. The rack designation plates to be signwritten AER.
- (b) Shelf Labels. The shelf label designation to be signwritten in alphabetical order starting from the bottom of the rack.
- (c) Stile Bars for Break Jack Field. The designation on the stile bars to be signwritten in black characters on the paper strip.
- (d) Fuse Panels. For the purpose of designating a particular circuit which serves an alarm division with meter pulse, ringing current, interrupted ringing current, etc., a composite coding is used incorporating the floor number, the section number, the sub-section number and the division letter.

Alarm Division Markings. Referring to a typical case, the circuits serving the division composed of, say, racks RS1, RS2, AER, LK5 and LK6 are coded 111A, denoting that these racks which compose division A are situated on Floor 1, in Section 1, Sub-Section 1.

A cross reference from such a code to the composition of the division to be provided by means of a chart. These markings must be signwritten about 5' from the floor on the rack upright at the end of each suite. The fuse panels to be signwritten on front and rear with ¼ in. white characters for the title of service which is served by the group of fuses and to be located above the common busbar. 5/32 in. white characters to be used for the circuit designations which must be located beneath the individual fuses viz.:



Titles of service would be METER PULSES  
METER PULSE Z  
CONT RING etc.

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Circuit designations would be 111A, 111B, 112A etc.

Services supplied on a rack basis and not on an alarm division basis to be signwritten fully to denote the racks served, and not by the Chart coding. Similarly the M.D.F. verticals served by N.U.T. battery must be denoted in full.

(ii) Labels and Engraving.

The labels used for marking the face equipment of the break jack field to be engraved in accordance with the requirements of each individual exchange.

Similar coding arrangements as applied to the fuse circuits to be used for the circuit designations.

For titles of service, Labels No. 88A with engraving No. 10B for single lines and No. 13B for double lines to be used.

For jack designations, which are provided on the basis of one per alarm division circuit, labels No. 86A with engraving 11C to be used viz.:

DIAL				TONE	
o	SPLY	o	111A	o	111B

Labels 88A engraving 10B

Labels 86A engraving 11C

CONT	
RG	TONE
o	MA1

Labels 88A engraving 13B

Labels 86A engraving 11C

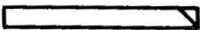
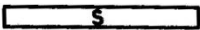
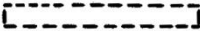

19. T.D.F.'s.

The appropriate signwriting requirements for T.D.F' s serving

- (i) Subscribers' Primary Equipment
- (ii) Selector Racks
- (iii) Discriminating Selector Repeaters (Local Level)
- Discriminating Selector Repeaters (Junction Hunters)
- Discriminating Selector Repeaters (Branch Levels)

are illustrated in Figs. 10 - 14.

The symbols used in Figs. 10 - 14 are:-

	INDICATES TERMINAL STRIP
	INDICATES SPACER
	INDICATES SPARE POSITIONS
	TERMINAL BLOCK UNALLOTTED
	TERMINAL BLOCK ALLOTTED

### D.S.R\$ OR 1ST SELECTORS FROM UNISELECTORS.

B 8	SHELF AND SWITCH NUMBER (RED)	B 8
US.1 A-H	RACK AND SHELF (BLACK)	US.1 J-M
21	OUTLET NUMBER (BLACK)	US.2-4 A-M
		US.5 A-H
		21

### MAIN EXCHANGE 1ST SELECTORS FROM JUNCTION HUNTERS.

B 8	SHELF AND SWITCH NUMBER (RED)	B 8
D.S.A A-B	RACK AND SHELF (BLACK)	D.S.A C-D
10	OUTLET NUMBER (BLACK)	D.S.B-E A-D
FM 37	JUNCTION NUMBER (BLUE)	D.S.F A-B
		10
		FM 37

### REPEATER OR GROUP SEL. FROM PRECEDING GROUP SEL.

B 8	SHELF AND SWITCH NUMBER (RED)	B 8
2A A-H	RACK AND SHELF BLACK	2A E-H
8 L	OUTLET NUMBER BLACK	2B-DA-H
		2E A-D
		8 U

### FINAL SELECTORS FROM PENULTIMATE (SAY 4TH) SELECTORS.

B 8	SHELF AND SWITCH NUMBER (RED)	B 8
4-2A A-H	RACK AND SHELF (BLACK)	4-2A A-H
8 U	OUTLET NUMBER (BLACK)	4-2B A-D
FM 20/21	FINAL SELECTOR GROUP (BLACK)	8 U
		FM 20/21

### INCOMING SELECTORS FROM REPEATERS.

B 8	SHELF AND SWITCH NUMBER (RED)	
R.S(R) 1	RACK AT "FW" EXCHANGE (BLACK)	
A 8	SHELF AND REPEATER NUMBER (BLACK)	
FW 27	JUNCTION NUMBER (BLUE)	

#### RACK TRUNKING TICKETS TYPICAL EXAMPLES.

FIG. 9.

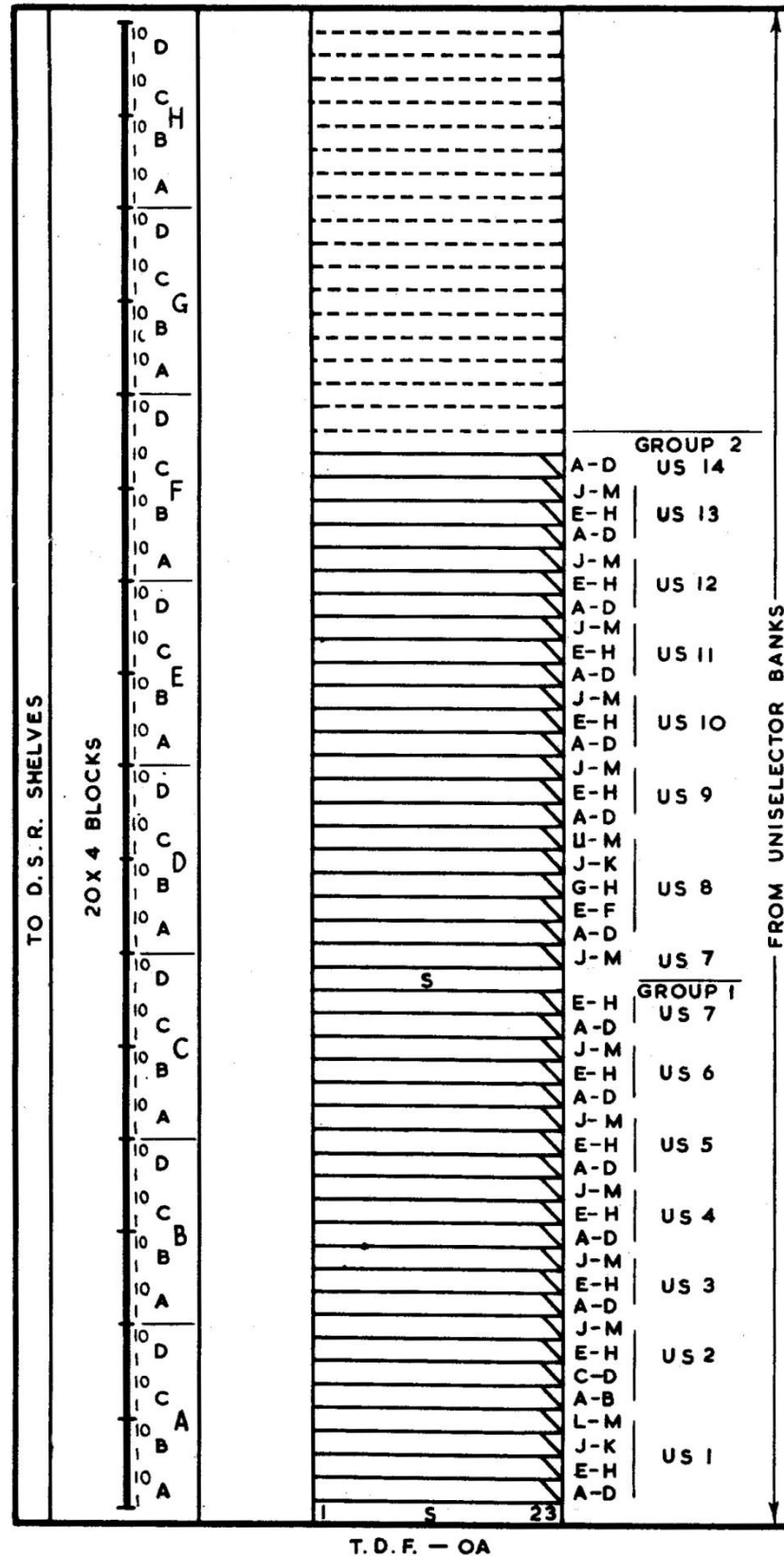


FIG. 10. T.D.F. APPROPRIATION UNISELECTORS.

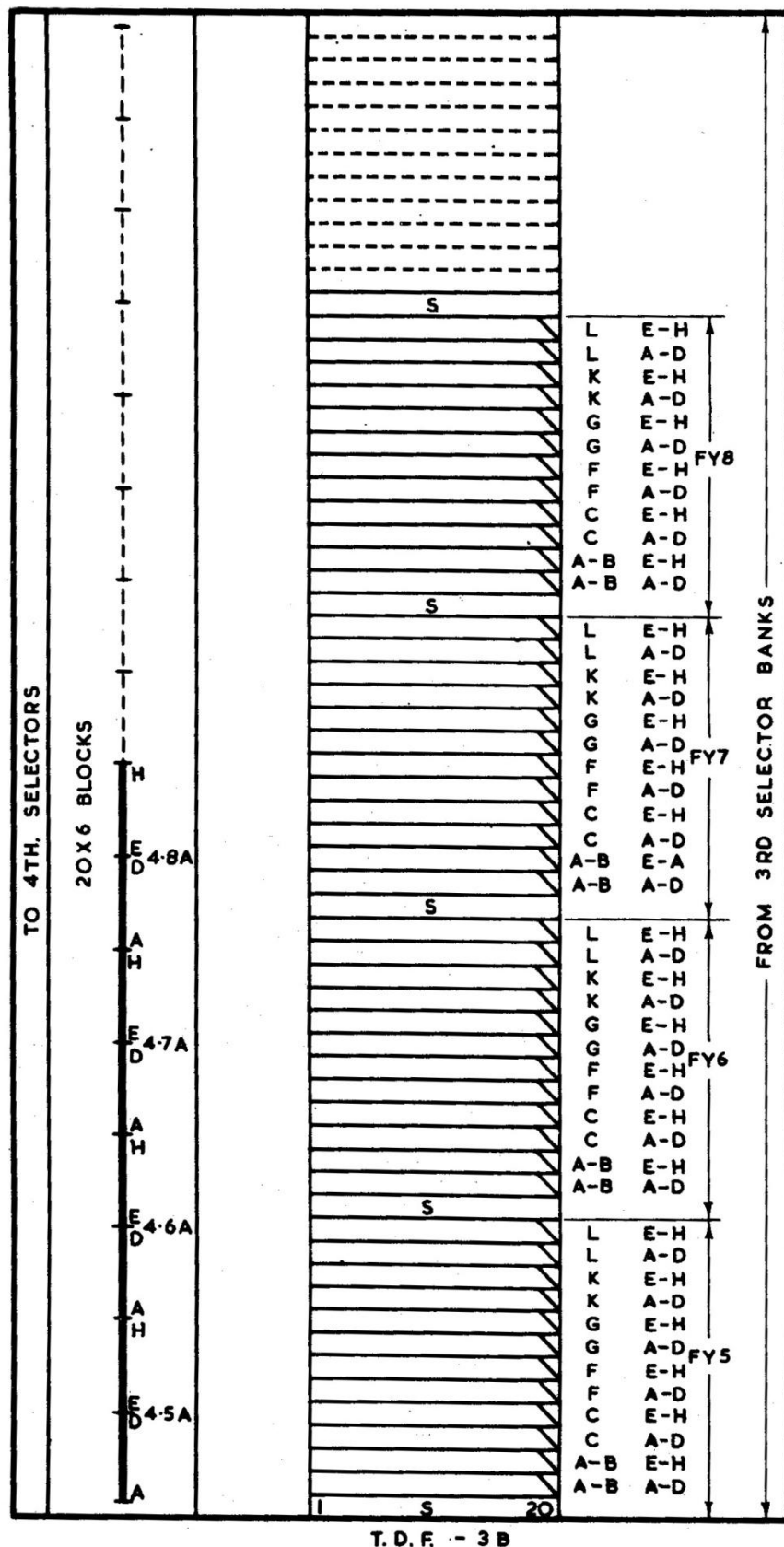


FIG 11. T.D.F. APPROPRIATION 3<sup>RD</sup> SELECTORS.

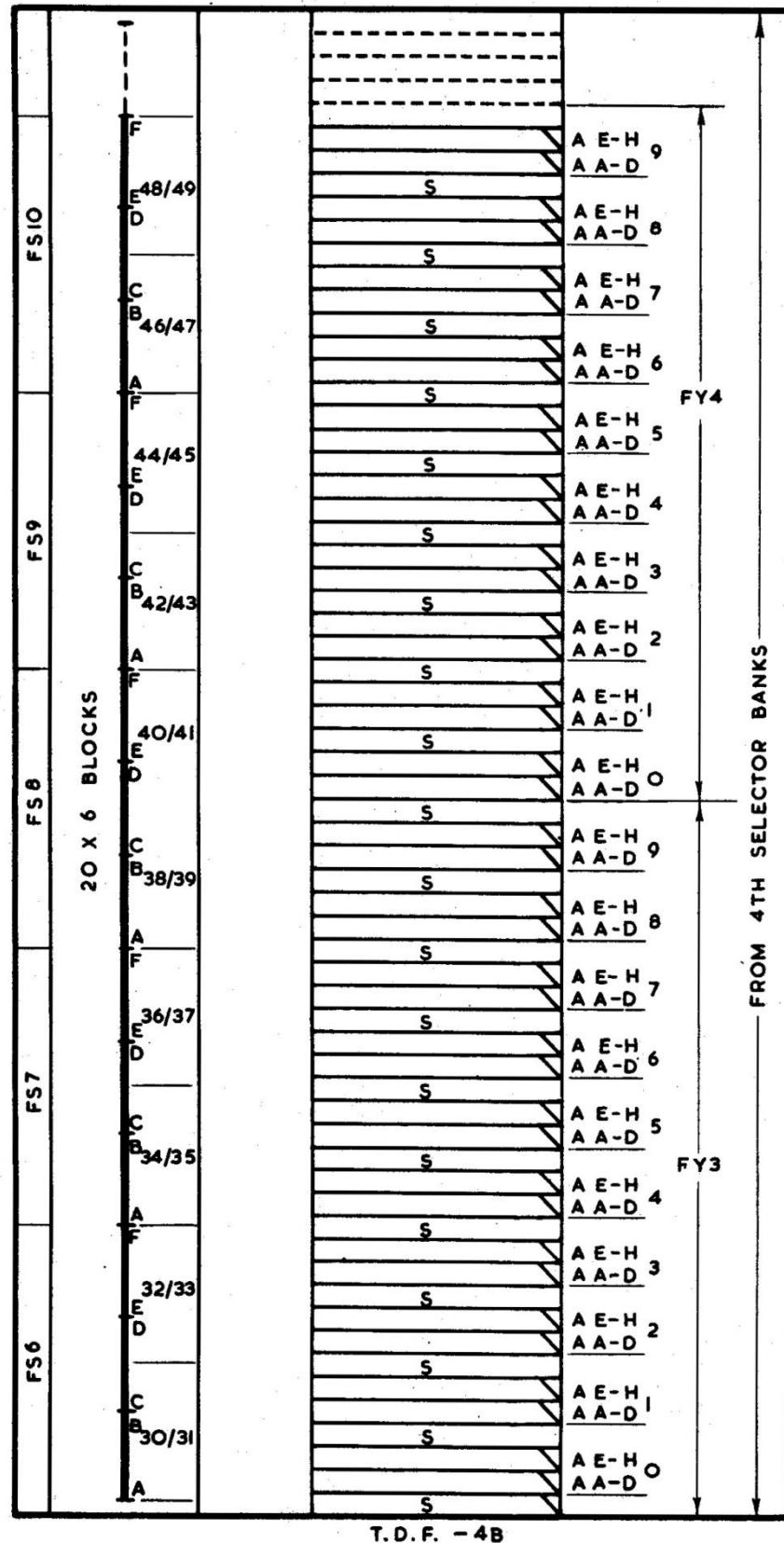


FIG. 12. APPROPRIATION 4TH SELECTORS.

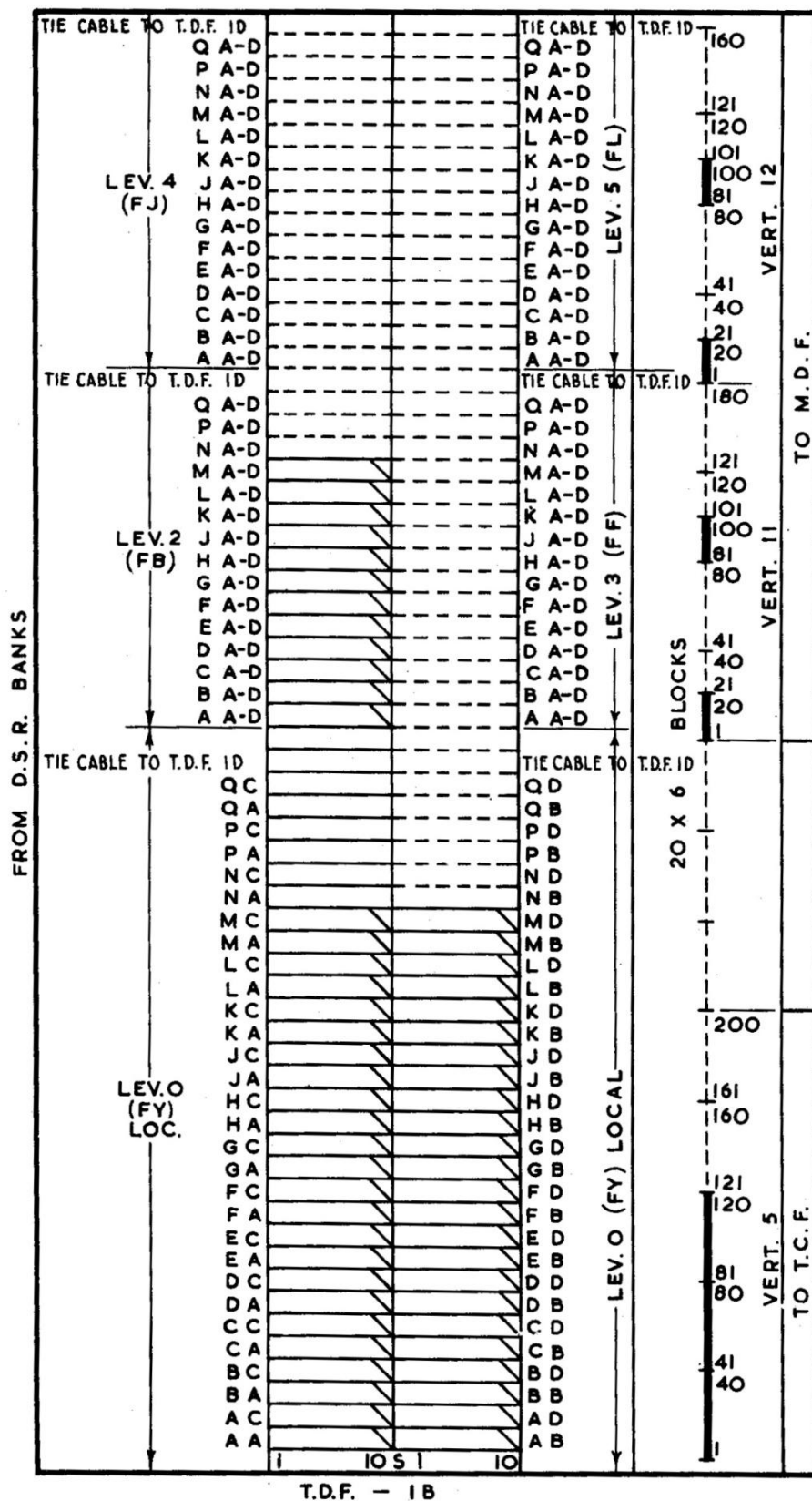


FIG. 13. T.D.F. APPROPRIATION D.S.R. LEVELS LOCAL AND BRANCH.

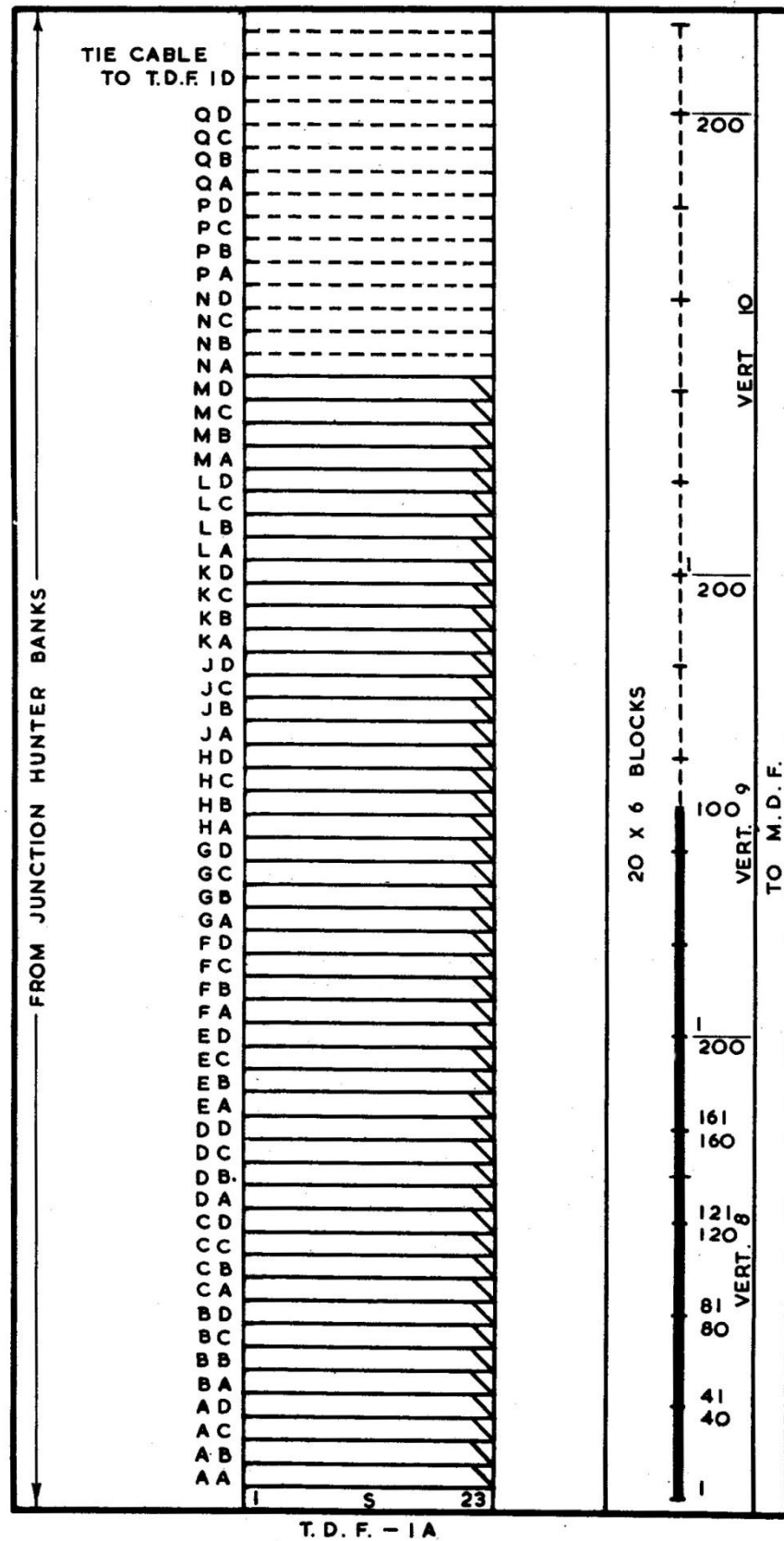


FIG. 14. T.D.F. APPROPRIATION JUNCTION HUNTERS.

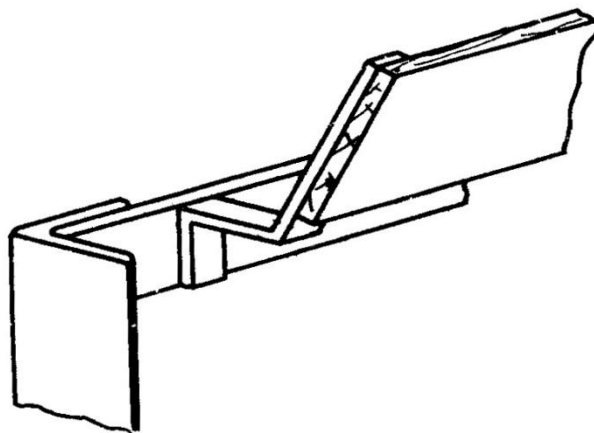


20. T.C.F's.

The rack designation plate must be signwritten with the letters T.C.F.1, T.C.F.2, etc.

The Tag Blocks, Terminal Blocks, and Observation Jack fields must be designated in accordance with the various descriptions given in earlier sections of this E.I.

To permit ready identification of the various circuit groups connected to the verticals on the T.C.F., a wooden identification notice board, painted with a yellow background with the details in black figures or letters, must be installed across the head of the rack. See Fig. 15.



NOTICE BOARD FOR T.C.F.

FIG. 15.

21. POWER DISTRIBUTION MARKING AND COLOUR CODES.

21.1 Fuse Panels. Distribution leads on panels for negative and positive battery and ring and tone supplies require identification to discriminate between Direct Current and Alternating Current. All Direct Current markings must be signwritten, on the Fuse Panels, in the following colours -

White for negative battery

Blue for positive battery

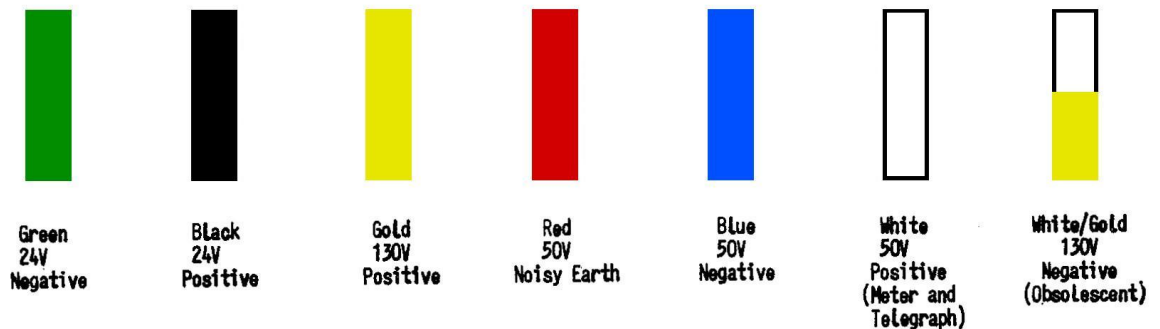
with Red markings for ring and tone supplies.

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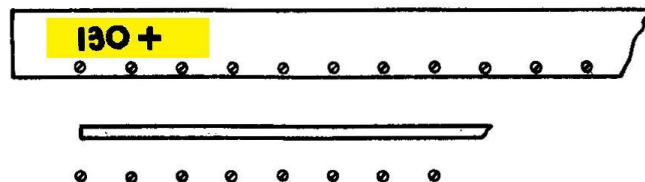
21.2 Busbars. To identify the potential and voltage, busbars are coloured to a code, e.g.

50V Main Exchange Battery      BLUE = negative  
RED = positive.

The complete list of busbar colours in a multi-voltage power installation (such as a long line installation) is illustrated below. This diagram also indicates the position of the busbars when looking in a direction away from the power source.



To indicate the voltage being distributed by the fuse panels the practice of colouring portion of the fuse panel busbar with the appropriate colour must be introduced. Where necessary, the voltage may also be signwritten on the fuse panel.



END.