

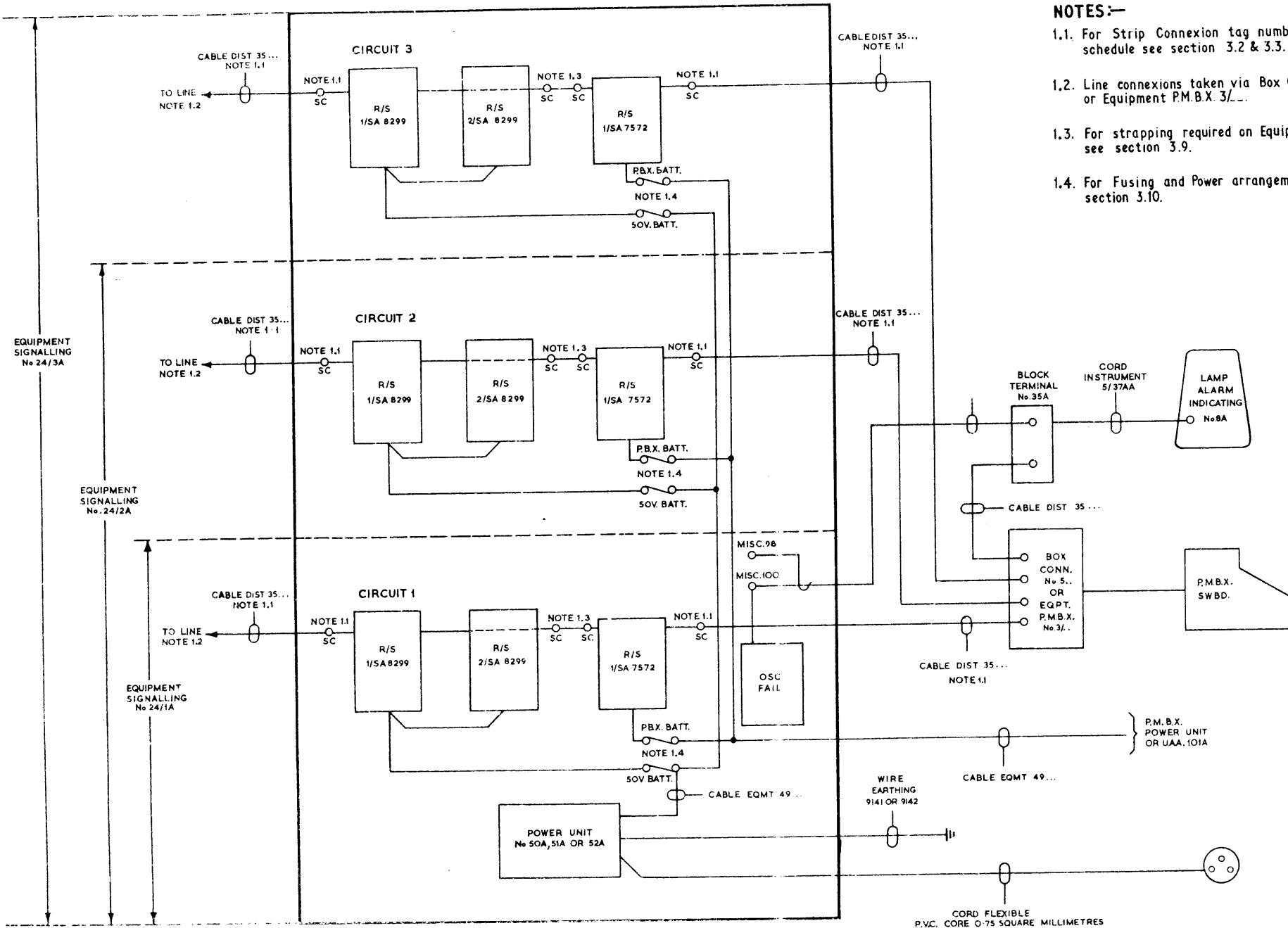
TERMINATION OF INTER-P.B.X. CIRCUIT  
 USING S.S.A.C. 13 EQUIPMENT AT  
 P.M.B.X. Nos. 2/... & 3/... INSTALLATIONS.  
 SIGNALLING GROUP L.

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P.O. TELECOMMS. HRS.			
FADES -	R	LINING UP PROCEDURE CHANGED	13-3-73
	A	RE-DRAWN	19.1.70
		D.L. P.O. FINDER (S3/2) INSTALL. SECTION	9.10.67

1. BLOCK SCHEMATIC AND CABLING ARRANGEMENTS.



NOTES:-

- 1.1. For Strip Connexion tag numbers and cabling schedule see section 3.2 & 3.3.
- 1.2. Line connexions taken via Box Connexion No.5... or Equipment P.M.B.X. 3/...
- 1.3. For strapping required on Equipment Sig.No.24/... see section 3.9.
- 1.4. For Fusing and Power arrangements see section 3.10.

2. STORES LIST

ITEM	PROVISION	REMARKS
Relay-set 1/SA 7572	per Inter-PBX cct.	Terminating R/S. See Note 2.1
Relay-set 1/SA 8299	per cct	} V.F. R/S
" " 2/SA 8299	" "	
Equipment Signalling No. 24/1A	} per installation as required	Rack for 1 cct
" " No. 24/2A		" " 2 ccts
" " No. 24/3A		" " 3 ccts
Cover D 92416	} per Eqpt. Sig. No. 24/... if required.	For Eqpt. Sig. 24/1A
" D 92417		" " " 24/2A
" D 92418		" " " 24/3A
Power Unit No. 50A	} per Eqpt. Sig. No. 24/... as required.	For Eqpt. Sig. 24/1A
" " No. 51A		" " " 24/2A
" " No. 52A		" " " 24/3A
Power Unit No. 51A	} per installation if required	} P.M.B.X. power supply. May be required to replace existing power arrangements. See Note 2.4.
" " No. 52A		
" " No. 52A		
Rectifier No. 140/5	} per installation if required	
" No. 140/1.5		
Lamp Alarm Indicating No. 8A	per installation	For L.A.I. No. 8A Length to suit installation.
Cord Instrument 5/37AA Grey ...	" "	
Block Terminal No. 35A Grey.	" "	" " " 8A
Dial Automatic No. 25FA Clear	per installation if reqd.	See Note 2.7
Cord Instrument No. 2/148E, 8½"	" " " "	For D.A. No. 25FA. at P.M.B.X. 2/... only.
Fuse No. 11A/0.5	per R/S 1/SA 7572 per V.F. cct. per installation	See Note 2.6 To suit local arrangement.
" No. 24A/0.5		
Mains Plug (3 pin)		

NOTES:-

- 2.1 Relay-sets SA 7572 may be supplied in lieu of Relay-set 1/SA 7572. The two Relay-Sets are completely inter-changeable.
- 2.2 Equipment Signalling No. 24/... comprise open type racks catering for one, two or three Inter-P.B.X. circuits and are supplied complete with shelves, shelf wiring and jacks. The initial provision should be made on the basis of the ultimate number of Inter-P.B.X. circuits which will be required.
- 2.3 Covers to encase Equipments Signalling No. 24/... are, available in Elephant Grey colour but should only be provided when it is considered that local circumstances justify the extra cost or at the customers request.
- 2.4 At installations not previously equipped with U.A.A.'s it will be necessary to increase the size of power units or rectifiers in accordance with the details given in the following diagrams:-
  - N1102 - P.M.B.X. 2/2A or B
  - N1103 - P.M.B.X. 2/3A.
  - N1104 - P.M.B.X. 2/4A.
  - N1213 - P.M.B.X. 3/3B.
  - N1226 - P.M.B.X. 3/5B.
- 2.5 Before jacking in Mark 1 version of Relay Sets SA7572 or 1/SA7572 remove and discard the dust cover fitted just below the plug on the rear of the Relay Set. This is important otherwise damage will be caused to the lower shelf jack.
- 2.6 Dgm. SA 8299 indicates that 1.5A fuses are required per cct., but this should be ignored and Fuses 44A/0.5 provided.
- 2.7 Dials Automatic No. 25FA Clear will be required to replace existing operators dials at installations which do not already have Inter-P.B.X. circuits with dialling facilities.

3. INSTALLATION INSTRUCTIONS.

3.1 GENERAL

3.1.1 Equipment shall be provided as indicated in Section 2 - Stores List.

3.1.2 The Equipment Signalling No. 24/... should be sited taking into account the following factors:-

- Maintenance access to the front and rear.
- Floor loading.
- Cabling access.
- Atmospheric conditions.
- Customers convenience.

3.1.3 Dimensions of Equipment Sig. No. 24/...

	Eqpt. Sig. No. 24/1A	Eqpt. Sig. No. 24/2A	Eqpt. Sig. No. 24/3A
Overall Rack Dimensions	3'-9 $\frac{7}{8}$ " x 1'-9" x 10 $\frac{1}{2}$ "	5'-3 $\frac{7}{8}$ " x 1'-9" x 10 $\frac{1}{2}$ "	6'-10 $\frac{7}{8}$ " x 1'-9" x 10 $\frac{1}{2}$ "
Overall Cover Dimensions	3'-10" x 1'-9 $\frac{1}{4}$ " x 1'6 $\frac{3}{8}$ "	5'-4" x 1'-9 $\frac{1}{4}$ " x 1'6 $\frac{3}{8}$ "	6'-11" x 1'-9 $\frac{1}{4}$ " x 1'6 $\frac{3}{8}$ "

3.1.4 The Equipment Signalling No. 24/... shall be secured to the floor by means of suitable screws or bolts and if not provided with covers shall be supported at the top by locally made metal straps to an adjacent wall or rack.

3.1.5 Before connecting the battery supplies to the Equipment Signalling No. 24/... check that all relay armatures on the equipment and in the relay-sets are correctly positioned on their knife edges.

3.1.6 The following documents may be required for installation purposes:-

- Dgm. SAW 75721 - Relay-Set 1/SA 7572.
- SAW 82990 - Relay-Sets 1&2/SA 8299.
- SAJ 82990 - Jack wiring on Eqpt. Sig. No. 24/...
- SAW 82950 - Oscillator No. 119A.
- SAW 82970 - V.F. Receiver.
- SAW 71631 - P.M.B.X. 2/2A&B.
- SAW 71610 - P.M.B.X. 2/3A.
- SAW 71650 - P.M.B.X. 2/4A.
- SAW 7168 - P.M.B.X. 3/3B.
- SAW 7169 - P.M.B.X. 3/5B.
- N 635 - Power Unit No. 50A.
- N 636 - Power Unit No. 51A.
- N 637 - Power Unit No. 52A.
- N 1102 - P.M.B.X. 2/2A&B Installations
- N 1103 - P.M.B.X. 2/3A Installations
- N 1104 - P.M.B.X. 2/4A Installations
- N 1213 - P.M.B.X. 3/3B Installations
- N 1226 - P.M.B.X. 3/5B Installations
- N 1211 - P.M.B.X. 3/3B Strapping alternatives
- N 1224 - P.M.B.X. 3/5B Strapping alternatives
- N 1160 - P.M.B.X. 3/3B Dial Modifications
- N 1161 - P.M.B.X. 3/5B Dial Modifications

3. INSTALLATION INSTRUCTIONS (CONTD.)

3.2 CABLING BETWEEN ECPT. SIG. No. 24/... AND SWBD. P.M.B.X. No. 2/...

LEAD	FROM EQPT. SIG. NO. 24/...	TO BOX CONNEXION TERMINAL NO.																		WIPE COLOUR	REMARKS		
		P.M.B.X. 2/2A or B EXTN. No.			P.M.B.X. 2/3A EXTN No.						P.M.B.X. 2/4 EXTN No.												
		4	5	6	7	8	9	10	11	12	10	11	12	13	14	15	16	17	18				
A	SC6	A16	A21	A26	B1	B6	B11	B16	B21	B26	B16	B21	B26	C1	C6	C11	C16	C21	C26	W } Pr	Leads only required on 1st Cct. Commoned to subsequent Ccts. on Eqpt. Sig. No. 24/...		
B	SC5	A17	A22	A27	B2	B7	B12	B17	B22	B27	B17	B22	B27	C2	C7	C12	C17	C22	C27	B }			
DB } DA }	SC4	A6	A6	A6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		W } Pr	
ON } NS } DB }	SC22	A5	A5	A5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		S }	
L	SC31	A18	A23	A28	B3	B8	B13	B18	B23	B28	B18	B23	B28	C3	C8	C13	C18	C23	C28	W } Pr			
S	SC15	A19	A24	A29	B4	B9	B14	B19	B24	B29	B19	B24	B29	C4	C9	C14	C19	C24	C29	C }			
P P	SC30 SC24	A20 -	A25 -	A30 -	B5 B5	B10 B10	B15 B15	B20 B20	B25 B25	B30 B30	B20 B20	B25 B25	B30 B30	C5 C5	C10 C10	C15 C15	C20 C20	C25 C25	C30 C30	W } Pr		Exchange access prohibited Exchange access authorised	
F	SC14	Spare	Spare	Spare	Spare	Spare	Spare	Spare	Spare	Spare	Spare	Spare	Spare	Spare	Spare	Spare	Spare	Spare	Spare	Spare		G }	See Note 3.2.2.
LINE A	SC85	D1	D3	D5	D1	D3	D5	D16	D18	D20	D1	D3	D5	D7	D9	D16	D18	D20	D22	W } Pr			
LINE B	SC84	D2	D4	D6	D2	D4	D6	D17	D19	D21	D2	D4	D6	D8	D10	D17	D19	D21	D23	BH }			

NOTES:-

3.2.1 For Cabling between Eqpt. Sig. 24/... and Box Connexion use:-

1st Cct. - Cable Distn. 3596  
Subsequent Ccts - Cable Distn. 3535.

3.2.2 The 'F' Leads shall be terminated on Box Connexion terminals which have conductors to the Switchboard not in use, e.g. terminals for spare Extn. Nos.

3. INSTALLATION INSTRUCTIONS (CONTD.)

3.3 CABLING BETWEEN EQPT. SIG. No. 24/... AND EQPT. P.M.B.X. No. 3/...

LEAD	FROM EQPT. SIG. NO. 24/...	TO EQUIPMENT P.M.B.X.				WIRE COLOUR	REMARKS
		P.M.B.X. 3/3B EXTNS. 7-12		P.M.B.X. 3/5B EXTNS. 10-18			
		TS1	TS2	TS2	TS3		
A	SC6	A1	-	A1	-	W } Pr	} Only required on 1st Cct. Commoned to subsequent Ccts. on Eqpt. Sigs No. 24/... See also Note 3.3.2
B	SC5	B1	-	B1	-	B }	
DA	SC4	-	DA	-	DA	W } Pr	
DB	SC22	-	DB	-	DB	S }	
L	SC31	L	-	-	L	W } Pr	
S	SC15	S	-	-	S	O }	
P	SC30	-	P	-	P	} W } Pr	
P	SC24	-	P	-	P		
F	SC14	-	F	-	F	G }	
LINE A	SC85	-	A	-	A	W } Pr	
LINE B	SC84	-	B	-	B	BN }	

NOTES:-

3.3.1 For cabling between Eqpt. Sig. 24/... and Eqpt. P.M.B.X. use:-

1st Cct. - Cable Distn. 3596  
Subsequent Ccts. - Cable Distn. 3535.

3.3.2 On the Equipment P.M.B.X. 3/5B, the DB tag is located on TS2 on the tag between 'MA3' and 'E'.  
On the Equipment P.M.B.X. 3/5B the DB tag is located on TS3 on the tag between 'MA5' and 'MF'.

3. INSTALLATION INSTRUCTIONS (CONTD.)

3.4 MODIFICATIONS REQUIRED ON SWBD. 2/2A OR B TERMINAL BLOCK.

LEAD	ALTERATION	EXTN. 4	EXTN. 5	EXTN. 6	REMARKS
	Disconnect Strap.	36-37	42-43	48-49	
	Disconnect Strap.	37-38	43-44	49-50	
L	Move Cord from	20 to 38	26 to 44	32 to 50	
S	Move Cord from	26 to 36	29 to 42	35 to 48	
P	Move Cord from	41 to 22	47 to 28	53 to 34	Only required if Exch. Prohibition authorised see Note 3.4.1.
F	Move Cord from	'x' to 39	'x' to 45	'x' to 51	
DN	Move Cord from	56 to 41	56 to 41	56 to 41	see Note 3.4.2
	Provide Strap	20-23	26-29	32-35	Earth for S & F
	Provide Strap	23-56	23-56	23-56	Eth. for DA see Note 3.4.2.

NOTES:-

3.4.1 In accordance with Note 3.2.2 any spare conductors may be used for 'F' lead connexions. Swbd. terminal numbers and Box Connexion terminal numbers may be associated by reference to Tables in Dgm. N 1102.

3.4.2 Connexions for the Dial leads are always made via Extn. 4 terminals and the following alterations are always required irrespective of which Extns. the circuits are connected to:- Move Cord from 41 to 22 and 56 to 41. Strap 23-56.

3.4.3 For connexions to the operator's telephone circuit see Dgm. N1102 Issue E or later.

3. INSTALLATION INSTRUCTIONS (CONTD.)

3.5 MODIFICATIONS REQUIRED ON SWBD. P.M.B.X. 2/3A.

3.5.1 Strapping and Cord Changes Required on Swbd. 2/3A Terminal Block.

LEAD	ALTERATION	EXTN. 7	EXTN. 8	EXTN. 9	EXTN. 10	EXTN. 11	EXTN. 12	REMARKS
	Disconnect Strap.	33-35	38-40	43-45	48-50	53-55	58-60	
	Disconnect Strap.	62-63	67-68	72-73	77-78	82-83	87-88	
	Disconnect Strap.	63-64	68-69	73-74	78-79	83-84	88-89	
L	Move Cord from	33 to 64	38 to 69	43 to 74	48 to 79	53 to 84	58 to 89	
S	Move Cord from	5 to 62	7 to 67	9 to 72	21 to 77	23 to 82	25 to 87	
P	Move Cord from	6 to 35	8 to 40	10 to 45	22 to 50	24 to 55	26 to 60	
F	Move Cord from	'x' to 65	'x' to 70	'x' to 75	'x' to 80	'x' to 85	'x' to 90	see Note 3.5.3
	Provide Strap	5 - 33	7 - 38	9 - 43	21 - 48	23 - 53	25 - 58	Earth for S.
	Provide Strap	33 - 34	38 - 39	43 - 44	48 - 49	53 - 54	58 - 59	Earth for F.

3.5.2 Strapping Changes Required on Swbds. 2/3A & 4A.  
Soldered Tag Block to Prohibit Exchange Access. (Per Allocated Extn.)

NOTES:-

3.5.3 In accordance with Note 3.2.2 any spare conductors may be used for F lead connexions. Swbd. terminal numbers may be associated with Box Connexion terminal numbers by reference to the Tables in Dgm. N1103.

3.5.4 For changes and connexions to the operators telephone circuit see Dgm. N1103 Issue C or later.

ALTERATIONS	
Disconnect Straps	MA-NA, KA-LA
"	MB-NB, KB-LB
"	MC-NC, KC-LC
"	MD-ND, KD-LD
"	ME-NE, KE-LE
Provide Straps	MA-PA, KA-NA
"	MB-PB, KB-NB
"	MC-PC, KC-NC
"	MD-PD, KD-ND
"	ME-PE, KE-NE



3. INSTALLATION INSTRUCTIONS (CONTD.)

3.6 MODIFICATIONS REQUIRED ON SWBD. 2/4A TERMINAL BLOCK.

LEAD	ALTERATIONS	EXTN. 10	EXTN. 11	EXTN. 12	EXTN. 13	EXTN. 14	EXTN. 15	EXTN. 16	EXTN. 17	EXTN. 18	REMARKS
	Disconnect Strap	28-30	13-15	93-95	108-110	118-120	133-135	143-145	158-160	168-170	
	Disconnect Strap	31-32	16-17	96-97	111-112	121-122	136-137	146-147	161-162	171-172	
	Disconnect Strap	32-33	17-18	97-98	112-113	122-123	137-138	147-148	162-163	172-173	
L	Move Cord from	28 to 33	13 to 18	93 to 98	108to113	118to123	133to138	143to148	158to163	168to173	
S	Move Cord from	21 to 31	24 to 16	101 to 96	104to111	126to121	129to136	151to146	154to161	176to171	
P	Move Cord from	22 to 30	25 to 15	102 to 95	105to110	127to120	130to135	152to145	155to160	177to170	
F	Move Cord from	'x'to 34	'x'to 19	'x'to 99	'x'to 114	'x'to 124	'x'to 139	'x'to 149	'x'to 164	'x'to 174	see Note 3.6.1
	Provide Strap	23 - 28	23 - 13	103 - 93	103 - 108	128-118	128-133	153-143	153-158	178-168	Earth for S.
	Provide Strap	28 - 29	13 - 14	93 - 94	108 - 109	118-119	133-134	143-144	158-159	168-169	Earth for J.

NOTES:-

3.6.1 In accordance with Note 3.2.2 any spare conductors may be used for F lead connexions.  
Swbd. terminal numbers may be associated with Box Connexion terminal numbers by reference to the Tables in Dgm. N1104.

3.6.2 For changes and connexions to the operators telephone circuit see Dgm. N1104 Issue B or later.

3.6.3 For strapping changes to Prohibit Exchange Access see 3.5.2.

3. INSTALLATION INSTRUCTIONS (CONTD.)

3.7 MODIFICATIONS REQUIRED ON P.M.B.X. 3/3B

3.7.1 Unless previously done, change the dial provided on the Panel P.M.B.X. for a Dial Automatic No. 25 F.A. Clear. Details of this change and the necessary wiring of the DB lead to the Eqpt. P.M.B.X. are given in Dgm. N1160.

3.7.2 On Strip Connexion TS2 of the Panel P.M.B.X. disconnect straps S-D and D-L.

3.7.3 For the strapping arrangements required on the Panel P.M.B.X. to allow or prohibit exchange access see Dgm. N1211.

3.7.4 On the Equipment P.M.B.X. disconnect the permanent wiring between tags A1 & B1 on TS1 and tags A & B on TS2. Cover the bare wire ends with paper sleeves and tie back to the cable form.

3.7.5 On the Equipment P.M.B.X. provide straps E-SH1 on TS1 and E-C & C-J on TS2.

3.8 MODIFICATIONS REQUIRED ON F.M.B.X. 3/5B.

3.8.1 Unless previously done, change the dial provided on the Panel P.M.B.X. for a Dial Automatic No. 25 FA Clear. Details of this change and the necessary wiring of the DB lead to the Equipment P.M.B.X. are given in Dgm. N1161.

3.8.2 On Strip Connexion TS5 of the Panel P.M.B.X. disconnect straps S-D and D-L.

3.8.3 For the strapping arrangements required on the Panel P.M.B.X. to allow or prohibit Exchange access see Dgm. N1224.

3.8.4 On the Equipment P.M.B.X. disconnect the permanent wiring between tags A1 & B1 on TS2 and tags A&B on TS3. Cover the bare wire ends with paper sleeves and tie back to the cable form.

3.8.5 On the Equipment P.M.B.X. provide straps:-

E-SH1 on TS1 and E-C & C-J on TS3.

3.9 STRAPS REQUIRED PER CCT. ON STRIP CONNS. OF EOPT. SIG. NO. 24/...

3.9.1	1-41, 7-47, 13-83, 18-44, 28-38,	2-42, 9-39, 16-86, 19-43, 32-45,	3-35, 12-34, 17-37, 20-50, 21-25.
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Common tags SC21 of each circuit together and cable to the corresponding common tag of any U.A.A.'s with dialling facilities. On one circuit only of this common group a battery connexion is required and whenever possible this connexion should be made on a U.A.A., but if this is not possible Strap SC23 to SC21 on the chosen circuit.

3.10 POWER ARRANGEMENTS

3.10.1 A Power Unit shall be provided as indicated in Section 2 - Stores List and fitted on the shelf at the bottom of the Equipment Signalling No. 24/... . This Unit supplies 50V D.C. for the V.F. Equipment only and cabling is required as follows:-

FROM	TO	COLOUR	TYPE
- ve. Bus-bar	Power unit -ve	BK	Cable Eqmt. 49...
+ ve. " "	" " +ve	R	
P.O. Earth	Power unit		Wire Earthing 9141 or 9142.
Mains Plug	Power unit		Cord Flexible P.V.C., 3 core, 0.75 sq.mm.

A three pin mains plug shall be provided to suit local arrangements. If a fused plug is used it shall be fitted with a 3 Amp fuse.

The P.O. earth must be independent of the mains earth and it is important to follow the earthing instruction given in the N dgm. for the power unit.

0.5A fuses shall be fitted on the fuse mounting for supplies to SA 8299 and the spot fillings on the fuse mounting changed accordingly.

### 3. INSTALLATION INSTRUCTIONS (CONTD.)

#### 3.10 POWER ARRANGEMENTS (CONTD.)

3.10.2 The power supply for the terminating relay-sets is taken from the P.M.B.X. Power Unit or U.A.A. 101A. Using Cable Eqmt. 49... cable directly from the P.M.B.X. Power Unit or U.A.A. 101A terminal 2 to the bus-bars on the Equipment Signalling No. 24/... serving the fuse mounting for the terminating relay-sets.

Provide 0.5A fuses for each circuit.  
On some Equipments Signalling No. 24/... battery and earth wiring has not been provided between the individual fuses and U26 & U11 on the shelf jacks. Where necessary this should be provided using Wire Eqmt. 27....

#### 3.11 ALARM ARRANGEMENTS

3.11.1 The Lamp Alarm Indicating No.8A provides for visual and audible indications of prompt and deferred alarm conditions. The present design of Eqpt. Sig. No. 24/... only gives a prompt alarm signal via tag MISC. 100 under oscillator fail conditions. Changes are pending which will provide a deferred alarm via tag MISC. 98. It is also possible that a fuse alarm signal will be added via tag MISC 99 in which case it will be necessary to strap MISC 99-100.

3.11.2 The L.A.1. No.8A. shall be sited in a position convenient for the operator preferably close to the switchboard. It should be connected to a Block Terminal No. 35A by a Cord Instrument No. 5/37AA. of suitable length.

3.11.3 Tags MISC 100 & 98 should be cabled to the Block Terminal No. 35A using Cable Distn. 35... and connected via the Instrument Cord 5/37AA to terminals 1&2 respectively of the L.A.1. No. 8. Battery, Earth and Audible Alarm leads are connected between the Box Connexion No. 5 or Eqpt. P.M.B.X. 3/... and the Block Terminal No. 35A using Cable Distn. 35... and are connected respectively via the Instrument Cord 5/37AA to terminals 5, 4 and 3. The Audible Alarm lead should be connected as follows:-

P.M.B.X. 2/2..	-	Box, Conn. No. 5.	-	Terminal D28.
P.M.B.X. 2/3..	-	" " " "	-	" D28.
P.M.B.X. 2/4..	-	" " " "	-	" A14.
P.M.B.X. 3/3..	-	Eqpt. P.M.B.X. No. 3/3	-	Tag KA on TS1.
P.M.B.X. 3/5..	-	" " " 3/5	-	" KA " TS1.

#### 4. LINING UP PROCEDURE

See T.I. C3 P 5001.