CARRIER SYSTEM WB 1400

Provision, Installation and Commissioning of Equipment in Telephone Exchanges

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1 INTRODUCTION This instruction details the work necessary to recover existing WB 400 exchange equipment and to provide superceding WB 1400 equipment in telephone exchanges.

2 GENERAL Carrier System WB 1400 is a broadcast warning system in which speech and signalling information originated at a Carrier Control Point (CCP) may be distributed. The exchange immediately adjacent to the CCP is called the Control Point Exchange (CPE) and is equipped with Equipment Carrier WB 1401. Forward transmission of the speech and signalling information is arranged at Intermediate/Distribution Exchanges which house the equipment to distribute the signals. This equipment is designated Equipment Carrier WB 1402.

Where insufficient accommodation exists or in a situation where a WB 400 cabinet does not already exist and cannot be provided, then a self-contained shelf assembly giving similar facilities to the Equipment Carrier WB 1402 has been designed suitable for mounting on a 2ft 9in MAR. This item has been designated Equipment Carrier WB 1403.

Detailed descriptions for planning purposes of the equipment shelves which are supplied pre-wired are contained in J1061 and the System Handbook.

Para 3 follows

3 DOCUMENTS

TITLE AND DESCRIPTION	DGM NO.
Shelf 1 and 2/WB 1400 Block Schematic	WB 29603
" " " " Mechanical Layout	WBM 29603
" " " " Wiring Diagram	WBW 29606
" " " " " "	WBW 29609
Shelf 4/WB 1400 Block Schematic	WB 29604
" " " Mechanical Layout	WBM 29604
" " " Wiring Diagram	WBW 29605
" 5/WB 1400 " "	WBW 29611
Equipment Carrier WB 1403 Assembly	WB 29484
" " " Block Layout	WB 29671
Unit WB 1400/1B Audio Detect Cct	WB 29600
" " " /2B Receive Amplifier	WB 29596
" " " /3A Modulator	WB 29519
" " " /4B Distn Amplifier	WB 29601
" " " /5A Local Line Unit	WB 29462
" " " /6A Demodulator	WB 29518
" " " /7A Changeover Unit	WB 29599
" " " /8B Power and Alarm Cct	WB 29581
" " " /10A Signalling Unit	WB 29692
WB 1400 SYSTEM DESCRIPTION HANDBOOK	TI E9 E3100
WB 1400 Provision and Record of Circuits	TI A8 J2070
WB 1400 Exchange Equipment Planning	TI A8 J1061
WB 1400 Exchange Transfer and Bypass Arrangements	TI A8 J1202

4 SYSTEM SECURITY DURING INSTALLATION WORK It is a requirement of the WB system that a maximum of only 5 days out of service time can be tolerated for a complete Carrier Control Area. Individual sections of the Area may however exceed this time if it is unavoidable for service reasons.

Conversion work should therefore be programmed to restrict out of service time to a minimum.

While work is proceeding on an exchange WB cabinet, an Exchange Bypass Unit to Dgms WB and WBW 29630 should be provided at the exchange MDF to permit incoming and outgoing circuits to bypass the WB 400 equipment thus limiting service interruption to those individual carrier receivers connected to the exchange. The method of connecting the exchange bypass equipment is detailed in J1202.

5 PLANNING REQUIREMENTS The quantities of equipment required in each exchange will depend on the requirements of each Carrier Control Area. Local Line Units No. 5A, Distribution Amplifiers No. 4B and the various prewired Shelf Type requirements can be calculated by the reference to the Exchange Equipment Planning Instruction J1061.

6 CABINET INSTALLATION In situations where a cabinet does not already exist and is to be installed eg a new CPE. Installation details will be found in J2055.

7 EQUIPMENT CHANGES

7.1 Recovery of existing WB 400 equipment.

7.1.1 Connect Bypass Unit into circuit in accordance with J1202.

7.1.2 Remove the 50 volt exchange battery fuse associated with the existing WB 400 cabinet.

Disconnect the 50 volt battery feed.

Disconnect the standby battery lead at the standby batteries.

7.1.3 Disconnect the exchange alarm lead.

7.1.4 Disconnect the outgoing local carrier feeds.

7.1.5 Remove standby batteries from the battery box.

7.1.6 Remove plug-in units from the cabinet.

7.1.7 Unscrew shelves.

7.1.8 Hinge shelves forward and cut earth wire to left hand side of cabinet.

7.1.9 Cut cable to top shelf using cable shears.

7.1.10 Remove top shelf.

7.1.11 Cut cable to the next shelf down.

7.1.12 Remove shelf.

7.1.13 Cut cables to remaining shelves and remove in sequence.

7.1.14 Disconnect battery leads from lower left hand side of cabinet.

7.1.15 Recover top frame equipment and connexion strip mounting pillars and plates. Retain frame and mounting pillars for reuse.

7.1.16 Clean out cabinet prior to the installation of the WB 1400 equipment in 6.2.

7.2 Installation of Equipment Carrier WB 1402 at Distribution Exchanges (Large Cabinet Appx C)

7.2.1 Reinstall the mounting pillars - long pillars to left-hand side of top shelf and short pillars to right hand side.

7.2.2 Refit top shelf framework and screw into place.

7.2.3 To install Shelf 5/WB 1400 at bottom of cabinet:-

(i) Fit lower shelf plate and slide clampling plates into position and tighten locking screws.

(ii) Fit shelf assembly into position ensuring that the terminated cable-form falls over the front of the shelf clear of the sides.

(iii) Feed cable form to top shelf and thread together with strip connexions TBC and TBD through the centre of the top shelf to hang over front bar.

(iv) Tie cable form to rear of shelf bearers all the way up on both sides.

7.2.4 To install Shelf 4/WB 1400 in upper position in cabinet:-

(i) Fit upper shelf plate and slide clamping plates into position and tighten locking screws.

(ii) Fit shelf assembly into position with cables resting over top of shelf.

(iii) Insert hinge screws.

(iv) Feed cable-form through the top shelf.

(v) Fit Strip, Conn TBA on the extreme left of the mounting frame and Strip, Conn TBB on the extreme right.

NOTE: Strips, Conn TBC and TBD should not be fitted until TBA and TBB are terminated.

(vi) Tie Shelf 4 cable forms to shelf runners.

7.3 Installation of Equipment Carrier WB 1402 at Distribution Exchanges (Small Cabinet Appx B)

7.3.1 Proceed as described in par 7.2.1, 7.2.2 and 7.2.4 using Shelf 4/WB 1400 and Strips Connexion TBA and TBB.

7.4 Installation of Equipment Carrier WB 1401 at Control Point Exchange (Large Cabinet Appx A)

7.4.1 Reinstall the mounting pillars - long pillars to the left hand side of the shelf and short pillars to the right hand side.

7.4.2 Re-fit top shelf framework and screw into place.

7.4.3 To install Shelf 2/WB 1400 at bottom of cabinet:-

(i) Fit lower shelf plate and slide clamping plates into position and tighten locking screws.

(ii) Fit shelf assembly into position ensuring that the terminated cable-form falls over the front of the shelf clear of the sides.

(iii) Feed cable-form to top shelf and thread together with the Strip Connexion TBA and TBB through the centre of the top shelf to hang over the front bar.

(iv) Tie cable-form to rear of shelf bearers all the way up on both sides.

7.4.4 To install Shelf 1/WB 1400 at top of cabinet:-

(i) Fit upper shelf plate and slide clamping plates into position, tighten locking screws.

(ii) Fit shelf assembly into position with cable resting over top of shelf.

(iii) Insert hinge screws.

(iv) Feed cable form and Strip Connection TBC through the top shelf.

(v) Fit Strips, Conn TBA on the extreme left of the mounting frame and Strip, Conn TBB on the extreme right.

NOTE: Strip, Conn TBC should not be fitted until TBA and TBB are terminated.

(vi) Tie Shelf 1 cable-forms to shelf runners.

7.5 Installation of Carrier Equipment WB 1403 at Distribution Exchanges (MAR mounted Appx D) This equipment provides identical facilities to Shelf WB 1400 and should only be used when cabinet accommodation is not available. The shelf is supplied complete with mounting brackets suitable for direct mounting on a 2 ft 9 in MAR rack. A vertical mounting height of 261 mm should be allowed.

The assembly is supplied completely wired to two connexion strips TBA and TBB mounted at each end of the 62 type shelf.

7.6 Connexion Strips on the MDF The following connexion strips should be provided on the miscellaneous section of the exchange side of the MDF in accordance with Appendices A to D.

Strip Connexions TBE, TBF, TBG (6 x 20). Strip Connexions No. 170/6A.

8 COMMON SERVICES The following common services should be provided to the WB 1400 equipment.

8.1 12 volt Standby Battery Batteries Dry No. 100 should be provided on a basis of three 20 AH modules per shelf 1/WB 1400 and one 20 AH module per Distribution Amplifier and located in the battery compartment of the WB cabinet.

When no space is available in the WB 400 cabinet the batteries should be accommodated in a Box Battery WB 1400.

The batteries are supplied complete with a terminating plug and should be parallelled together using a Terminating Unit WB 1403 which has capacity for up to 3 battery modules. A separate battery and terminating unit should be provided for each shelf fitted.

Battery feeds should be cabled between the battery terminating unit and the connexion strip located at the top of the cabinet using Cable Internal 9 Cr 1 pr W and B and Cable Internal 9 Cr 1W G (see Appendices A to D).

Cables should be terminated as follows:-

Strip Conn TBA 46 to +ve 12 V Batt (White)

" " TBA 47 to -ve 12 V Batt (Blue)

" " TBA 48 to Lapsed Time Indicator (Green)

" " TBC 46 to +ve 12 V Batt (White)

" " TBC 47 to -ve 12 V Batt (Blue)

" " TBC 48 to Lapsed Time Indicator (Green)

8.2 Exchange Battery and Earth 50 volt -ve battery and earth should be provided to the WB 1400 equipment using Cable Internal 9 Cr 1 pr W and B Terminations should be made as follows:-

Strip Conn TBA 58 to Earth

" " TBA 59 to -50 V Batt (Alarm Fused Supply - Fuse No. 44A/3)

8.3 Exchange Alarms The WB 1400 alarms should be connected to the exchange prompt and deferred alarm system. Care should be taken to ensure that the alarm generated is in the exchange equipment section where the WB 1400 equipment is accommodated. Provision should be made on the overhead iron work etc above the WB equipment for a local alarm lamp display of the 'Prompt", 'Deferred' and 'Receiving Attn' conditions using an Assembly 13/TP 606. The alarms should be wired as indicated in the Exchange Alarm Arrangement diagram. Appendix H refers.

Two alarm relays (PT and DF) Relays No. 13949 should be provided on the AER (or equiv) using existing spare mounting positions, a new Mounting 1 or 2/ TP 1003 should be provided on the rack right hand vertical when spare positions do not exist.

The alarm lamp display should be cabled from the cabinet to the lamp mounting using Cable Internal 9 Cr 3 pr, and terminations made in accordance with Appendix H.

The cabinet alarm contacts should be cabled to the exchange AER or alternative connexion point using Cable Internal 9 Cr 3 Pr.

Termination should be made as follows:-

Strip Conn TBA 52 to Alarm Common Earth

" " TBA 55 to Prompt Alarm Relay

" " TBA 56 to Deferred Alarm Relay

" " TBA 49 to Alarm Contact PT2

" " TBA 50 to Alarm Contact DF2

" " TBA 51 to Alarm Lamp Battery

8.4 Exchange Ringing Supply Exchange ringing shall be provided to Equipment Carrier WB 1401 equipment. The supply should be cabled using Cable Equipment 5962A/2W.

Terminations should be made as follows:-

Strip Conn TBC 40 - Exchange Ringing Eth	AER or Equivalent
" " TBC 41 - Exchange Ringing	

9 CABLING AND WIRING For ease of cabling all connexions to the WB 1400 Exchange Equipment are made via the connexion strips at the top of the cabinet. For security reasons cables entering the cabinet must do so via conduit or metal trunking between the cabinet and the cable runway or ceiling. All cabling except for common services and inter-shelf connexion terminations should be run direct to the MDF and terminated on connexion strips on the exchange side of the frame.

9.1 Control Point Exchanges

9.1.1 Equipment Carrier WB 1401 - Shelves 1/ and 2/WB 1400 Cabling should be provided between the WB cabinet and the MDF as detailed in Appendix A. The cables provided should be terminated in accordance with the following schedule (Fig 1). For tag designations see Appx G.

9.1.2 Equipment Carrier WB 1402 - Shelves 4/ and 5/WB 1400 These shelves may be provided in a CPE to increase the Receiver Point distribution capacity of the exchange. The WB 1402 provision should be treated as for a Distribution Exchange except that strips connexion provided on the MDF should be designated TBH, TBJ and TBK instead of TBE, TBF and TBG (see Appendix C note 2).

Figures follow

FIGURE 1

CABINET		MDF				CABLE
Strip Conn	Tag	Designation		S/Conn	Tag	
TBA	1		A1	TBE	2 Pr	Cable Internal 5Cr
"	2	LOCAL	B1	"	1	10Tr
"	3	LINE 1	P1	"	3	
"	4	UNIT	A2	"	5 Pr	Note 1 All pairs at
"	5		B2	"	4	MDF are reversed
"	6		P2	"	6	
"	7		A1	"	8 Pr	
"	8		B1	"	7	
"	9	LOCAL	P1	"	9	
"	10	LINE 2	A2	"	11 Pr	
"	11	UNIT	B2	"	10	
"	12		P2	"	12	
"	13		A1	"	14 Pr	
"	14	LOCAL	B1	"	13	
"	15	LINE 3	P1	"	15	
"	16	UNIT	A2	"	17 Pr	
"	17		B2	"	16	
"	18		P2	"	18	
"	19		A1	"	20 Pr	
"	20	LOCAL	B1	"	19	
"	21	LINE 4	P1	"	21	
"	22	UNIT	A2	"	23 Pr	
"	23		B2	"	22	
"	24		P2	"	24	
"	25		A1	"	26 Pr	
"	26	LOCAL	B1	"	25	
"	27	LINE 5	P1	"	27	
"	28	UNIT	A2	"	29 Pr	
"	29		B2	"	28	
"	30		P2	"	30	
TBC	1		A	TBE	62 Pr	Cable Eqpt 5557A 2W
"	2	X PATH	B	"	61	
"	3		SCR	"	63	

FIGURE 1 (Cont'd)

CABINET		MDF				CABLE
Strip Conn	Tag	Designation		S/Conn	Tag	
TBC	4	Y PATH	A	TBE	68 Pr	Cable Eqpt 5557A 2W
"	5		B	"	67	
"	6		SCR	"	69	
"	7	X AUDIO IN	A	"	74 Pr	Cable Internal 4Cr
"	8		B	"	73	4pr
"	10	Y AUDIO IN	A	"	80 Pr	
"	11		B	"	79	See Note 1
"	16	GROUP CCT TO CCP	A	"	86 Pr	
"	17		B	"	85	
"	19	GROUP CCT TO GHQ	A	"	92 Pr	
"	20		B	"	91	
TBB	2	DISTN AMP 1	A1	TBF	1	Cable Internal 5Cr
"	3		B1	"	2 Pr	20Pr 20Tr
"	4		C1	"	3	
"	5		D1	"	4 Pr	
"	6		E1	"	5	
"	8		A2	"	7	Note: Every 6th tag is left spare
"	9		B2	"	8 Pr	
"	10		C2	"	9	
"	11		D2	"	10 Pr	
"	12		E2	"	11	
"	14		A3	"	13	
"	15		B3	"	14 Pr	
"	16		C3	"	15	
"	17		D3	"	16 Pr	
"	18		E3	"	17	
"	20		A4	"	19	
"	21		B4	"	20 Pr	
"	22		C4	"	21	
"	23		D4	"	22 Pr	
"	24		E4	"	23	

FIGURE 1 (Cont'd)

CABINET		MDF				CABLE
Strip Conn	Tag	Designation		S/Conn	Tag	
TBB	26	DISTN AMP 1 (CONTINUED)	A5	TBF	25	
"	27		B5	"	26 Pr	
"	28		C5	"	27	
"	29		D5	"	28 Pr	
"	30		E5	"	29	
"	32		A1	"	31	
"	33		B1	"	32 Pr	
"	34		C1	"	33	
"	35		D1	"	34 Pr	
"	36		E1	"	35	
"	38		A2	"	37	
"	39		B2	"	38 Pr	
"	40		C2	"	39	
"	41		D2	"	40 Pr	
"	42		E2	"	41	
"	44		A3	"	43	
"	45	DISTN AMP 2	B3	"	44 Pr	
"	46		C3	"	45	
"	47		D3	"	46 Pr	
"	48		E3	"	47	
"	50		A4	"	49	
"	51		B4	"	50 Pr	
"	52		C4	"	51	
"	53		D4	"	52 Pr	
"	54		E4	"	53	
"	56		A5	"	55	
"	57		B5	"	56 Pr	
"	58		C5	"	57	
"	59		D5	"	58 Pr	
"	60		E5	"	59	

FIGURE 1 (Cont'd)

CABINET		MDF				CABLE
Strip Conn	Tag	Designation		S/Conn	Tag	
TBB	62		A1	TBF	61	
"	63		B1	"	62 } Pr	
"	64		C1	"	63	
"	65		D1	"	64 } Pr	
"	66		E1	"	65	
"	68		A2	"	67	
"	69		B2	"	68 } Pr	
"	70		C2	"	69	
"	71		D2	"	70 } Pr	
"	72		E2	"	71	
"	74	DISTN	A3	"	73	
"	75	AMP	B3	"	74 } Pr	
"	76	3	C3	"	75	
"	77		D3	"	76 } Pr	
"	78		E3	"	77	
"	80		A4	"	79	
"	81		B4	"	80 } Pr	
"	82		C4	"	81	
"	83		D4	"	82 } Pr	
"	84		E4	"	83	
"	86		A5	"	85	
"	87		B5	"	86 } Pr	
"	88		C5	"	87	
"	89		D5	"	88 } Pr	
"	90		E5	"	89	
"	113		ETH	"	111 } Pr	
"	114		Carrier	"	117	
"	1	LOCAL	A1	"	92 } Pr	Cable Internal 4Cr 10Pr See Note 1
"	7	LINE	B1	"	91	
"	13	UNITS	A2	"	95 } Pr	
"	19	1	B2	"	94	

FIGURE 1 (Cont'd)

CABINET		MDF				CABLE
Strip Conn	Tag	Designation		S/Conn	Tag	
TBB	25	LOCAL	A1	TBF	98 } Pr	
"	31	LINE	B1	"	97 }	
"	37	UNITS	A2	"	101 } Pr	
"	43	2	B2	"	100 }	
"	49		A1	"	104 } Pr	
"	55		B1	"	103 }	
"	61	3	A2	"	107 } Pr	
"	67		B2	"	106 }	
"	73		A1	"	110 } Pr	
"	79		B1	"	109 }	
"	85	4	A2	"	113 } Pr	
"	91		B2	"	112 }	
"	97		A1	"	116 } Pr	
"	103		B1	"	115 }	
"	109	5	A2	"	119 } Pr	
"	115		B2	"	118 }	

CABINET INTERSHELF CONNEXIONS						CABLE
Strip Conn	Tag	Designation		S/Conn	Tag	
TBA	34	CARRIER 1/P	Carrier	TBC	34	Cable Eqpt 5508/1W
"	35		SCR	"	35	
"	52		Common	"	52	Cable Internal 9Cr
"	55	ALARMS	Prompt	"	55	3Pr
"	56		DEF	"	56	
"	57		REC ATTN	"	57	
"	58		Eth	"	58	Cable Internal 9Cr
"	59		-ve 50 V Batt	"	59	1Pr W&B

9.2 Distribution Exchange

9.2.1 Equipment Carrier WB 1402 Equipment Shelf 4/WB 1400 (Small cabinet.) Cabling should be provided between the WB cabinet and the MDF as detailed in Appendix B. The cables provided should be terminated in accordance with the following schedule (Figure 2) for tag allocations see Appendix G.

FIGURE 2

CABINET		MDF				CABLE
Strip Conn	Tag	Designation		S/Conn	Tag	
TBA	1	LOCAL LINE UNIT	1 A1	TBE	2 } Pr	Cable Internal 5Cr 10Tr
"	2		1 B1	"	1 }	
"	3		1 P1	"	3	
"	4		1 A2	"	5 } Pr	Note1 All pairs at MDF are reversed
"	5		1 B2	"	4 }	
"	6		1 P2	"	6	
"	7	LOCAL LINE UNIT	2 A1	"	8 } Pr	
"	8		2 B1	"	7 }	
"	9		2 P1	"	9	
"	10		2 A2	"	11 } Pr	
"	11		2 B2	"	10 }	
"	12		2 P2	"	12	
"	13	LOCAL LINE UNIT	3 A1	"	14 } Pr	
"	14		3 B1	"	13 }	
"	15		3 P1	"	15	
"	16		3 A2	"	17 } Pr	
"	17		3 B2	"	16 }	
"	18		3 P2	"	18	
"	19	LOCAL LINE UNIT	4 A1	"	20 } Pr	
"	20		4 B1	"	19 }	
"	21		4 P1	"	21	
"	22		4 A2	"	23 } Pr	
"	23		4 B2	"	22 }	
"	24		4 P2	"	24	
"	25	LOCAL LINE UNIT	5 A1	"	26 } Pr	
"	26		5 B1	"	25 }	
"	27		5 P1	"	27	
"	28		5 A2	"	29 } Pr	
"	29		5 B2	"	28 }	
"	30		5 P2	"	30	

FIGURE 2 (Cont'd)

CABINET		MDF				CABLE
Strip Conn	Tag	Designation		S/Conn	Tag	
TBA	31	JUNC 1 IN	A	TBE	62 } Pr	Cable Eqpt 5557A 2W
"	32		B	"	61 } Pr	
"	33		SCR	"	63	
"	34	JUNC 2 IN	A	"	68 } Pr	Cable Eqpt 5557A 2W
"	35		B	"	67 } Pr	
"	36		SCR	"	69	
"	37	JUNC 1 OUT	A	"	74 } Pr	Cable Internal 5Cr 3Pr
"	38		B	"	73 } Pr	
"	40	JUNC 2 OUT	A	"	80 } Pr	See Note 1
"	41		B	"	79 } Pr	
TBB	2	DISTN AMP 1	A1	TBF	1	Cable Internal 5Cr 20Pr 20Tr Note: Every 6th tag is left spare
"	3		B1	"	2 } Pr	
"	4		C1	"	3 } Pr	
"	5		D1	"	4 } Pr	
"	6		E1	"	5 } Pr	
"	8		A2	"	7	
"	9		B2	"	8 } Pr	
"	10		C2	"	9 } Pr	
"	11		D2	"	10 } Pr	
"	12		E2	"	11 } Pr	
"	14		A3	"	13	
"	15		B3	"	14 } Pr	
"	16		C3	"	15 } Pr	
"	17		D3	"	16 } Pr	
"	18		E3	"	17 } Pr	
"	20		A4	"	19	
"	21		B4	"	20 } Pr	
"	22		C4	"	21 } Pr	
"	23		D4	"	22 } Pr	
"	24		E4	"	23 } Pr	
"	26		A5	"	25	
"	27		B5	"	26 } Pr	
"	28		C5	"	27 } Pr	
"	29		D5	"	28 } Pr	
"	30		E5	"	29 } Pr	

FIGURE 2 (Cont'd)

CABINET		MDF				CABLE
Strip Conn	Tag	Designation		S/Conn	Tag	
TBB	32	DISTN AMP 2	A1	TBF	31	
"	33		B1	"	32 Pr	
"	34		C1	"	32	
"	35		D1	"	34 Pr	
"	36		E1	"	35	
"	38		A2	"	37	
"	39		B2	"	38 Pr	
"	40		C2	"	39	
"	41		D2	"	40 Pr	
"	42		E2	"	41	
"	44		A3	"	43	
"	45		B3	"	44 Pr	
"	46		C3	"	45	
"	47		D3	"	46 Pr	
"	48		E3	"	47	
"	50		A4	"	49	
"	51		B4	"	50 Pr	
"	52		C4	"	51	
"	53		D4	"	52 Pr	
"	54		E4	"	53	
"	56		A5	"	55	
"	57		B5	"	56 Pr	
"	58		C5	"	57	
"	59		D5	"	58 Pr	
"	60		E5	"	59	
"	62	DISTN AMP 3	A1	"	61	
"	63		B1	"	62 Pr	
"	64		C1	"	63	
"	65		D1	"	64 Pr	
"	66		E1	"	65	
"	68		A2	"	67	
"	69		B2	"	68 Pr	
"	70		C2	"	69	

FIGURE 2 (Cont'd)

CABINET		MDF				CABLE
Strip Conn	Tag	Designation		S/Conn	Tag	
TBB	71	DISTN AMP 3 (CONTINUED)	D2	TBF	70 Pr	
"	72		E2	"	71	
"	74		A3	"	73	
"	75		B3	"	74 Pr	
"	76		C3	"	75	
"	77		D3	"	76 Pr	
"	78		E3	"	77	
"	80		A4	"	79	
"	81		B4	"	80 Pr	
"	82		C4	"	81	
"	83		D4	"	82 Pr	
"	84		E4	"	83	
"	86		A5	"	85	
"	87		B5	"	86 Pr	
"	88		C5	"	87	
"	89		D5	"	88 Pr	
"	90		E5	"	89	
"	113	CARRIER	ETH	"	111 Pr	
"	114			"	117	
"	1	LOCAL LINE UNITS 1	A1	"	92 Pr	Cable Internal 4CR 10Pr See Note 1
"	7		B1	"	91	
"	13		A2	"	95 Pr	
"	19		B2	"	94	
"	25	2	A1	"	98 Pr	
"	31		B1	"	97	
"	37		A2	"	101 Pr	
"	43		B2	"	100	
"	49	3	A1	"	104 Pr	
"	55		B1	"	103	
"	61		A2	"	107 Pr	
"	67		B2	"	106	
"	73	4	A1	"	110 Pr	
"	79		B1	"	109	

FIGURE 2 (Cont'd)

CABINET		MDF				CABLE
Strip Conn	Tag	Designation		S/Conn	Tag	
TBB	85	4 (Cont'd)	A2	TBF	113 Pr	
"	91		B2	"	112	
"	97		A1	"	116 Pr	
"	103		B1	"	115	
"	109	5	A2	"	119 Pr	
"	115		B2	"	118	

Figure 3 follows

9.2.2 Equipment Carrier WB 1402 - Equipment Shelf 4/WB 1402 and 5/WB 1400 (Large Cabinet). Cabling should be provided between the WB Cabinet and the MDF as detailed in Appendix C. The cable provided shall be terminated in accordance with the following schedule (Figure 3) for tag allocation see Appendix G.

FIGURE 3

CABINET		MDF				CABLE
Strip Conn	Tag	Designation		S/Conn	Tag	
TBA	1	LOCAL LINE 1 UNIT	A1	TBE	2 (Pr)	Cable Internal 5CR 10Tr
"	2		B1	"	1 (Pr)	
"	3		P1	"	3	
"	4		A2	"	5 (Pr)	Note 1 All pairs at MDF are reversed
"	5		B2	"	4 (Pr)	
"	6		P2	"	6	
"	7	LOCAL LINE 2 UNIT	A1	"	8	
"	8		B1	"	7	
"	9		P1	"	9	
"	10		A2	"	11 (Pr)	
"	11		B2	"	10 (Pr)	
"	12		P2	"	12	
"	13	LOCAL LINE 3 UNIT	A1	"	14 (Pr)	
"	14		B1	"	13 (Pr)	
"	15		P1	"	15	
"	16		A2	"	17 (Pr)	
"	17		B2	"	16 (Pr)	
"	18		P2	"	18	
"	19	LOCAL LINE 4 UNIT	A1	"	20 (Pr)	
"	20		B1	"	19 (Pr)	
"	21		P1	"	21	
"	22		A2	"	23 (Pr)	
"	23		B2	"	22 (Pr)	
"	24		P2	"	24	
"	25	LOCAL LINE 5 UNIT	A1	"	26 (Pr)	
"	26		B1	"	25 (Pr)	
"	27		P1	"	27	
"	28		A2	"	29 (Pr)	
"	29		B2	"	28 (Pr)	
"	30		P2	"	30	

FIGURE 3 (Cont'd)

CABINET		MDF				CABLE
Strip Conn	Tag	Designation		S/Conn	Tag	
TBA	31	JUNC 1 IN	A	TBE	62 Pr	Cable Eqpt 5557A 2W
"	32		B	"	61	
"	33		SCR	"	63	
"	34	JUNC 2 IN	A	"	68 Pr	Cable Eqpt 5557A 2W
"	35		B	"	67	
"	36		SCR	"	69	
"	37	JUNC 1 OUT	A	"	74 Pr	Cable Internal 5CR 3Pr
"	38		B	"	73	
"	40	JUNC 2 OUT	A	"	80 Pr	
"	41		B	"	79	See Note 1
TBB	2	DISTN AMP 1	A1	TBF	1	Cable Internal 5Cr 20Pr 20Tr
"	3		B1	"	2 Pr	
"	4		C1	"	3	
"	5		D1	"	4 Pr	
"	6		E1	"	5	
"	8		A2	"	7	Note: Every 6th tag is left spare
"	9		B2	"	8 Pr	
"	10		C2	"	9	
"	11		D2	"	10 Pr	
"	12		E2	"	11	
"	14		A3	"	13	
"	15		B3	"	14 Pr	
"	16		C3	"	15	
"	17		D3	"	16 Pr	
"	18		E3	"	17	
"	20		A4	"	19	
"	21		B4	"	20 Pr	
"	22		C4	"	21	
"	23		D4	"	22 Pr	
"	24		E4	"	23	
"	26		A5	"	25	
"	27		B5	"	26 Pr	
"	28		C5	"	27	
"	29		D5	"	28 Pr	
"	30		E5	"	29	

FIGURE 3 (Cont'd)

CABINET		MDF				CABLE
Strip Conn	Tag	Designation		S/Conn	Tag	
TBB	32	DISTN AMP 2	A1	TBF	31	
"	33		B1	"	32 Pr	
"	34		C1	"	33	
"	35		D1	"	34 Pr	
"	36		E1	"	35	
"	38		A2	"	37	
"	39		B2	"	38 Pr	
"	40		C2	"	39	
"	41		D2	"	40 Pr	
"	42		E2	"	41	
"	44		A3	"	43	
"	45		B3	"	44 Pr	
"	46		C3	"	45	
"	47		D3	"	46 Pr	
"	48		E3	"	47	
"	50		A4	"	49	
"	51		B4	"	50 Pr	
"	52		C4	"	51	
"	53		D4	"	52 Pr	
"	54		E4	"	53	
"	56		A5	"	55	
"	57		B5	"	56 Pr	
"	58		C5	"	57	
"	59		D5	"	58 Pr	
"	60		E5	"	59	
"	62	DISTN AMP 3	A1	"	61	
"	63		B1	"	62 Pr	
"	64		C1	"	63	
"	65		D1	"	64 Pr	
"	66		E1	"	65	
"	68		A2	"	67	
"	69		B2	"	68 Pr	
"	70		C2	"	69	
"	71		D2	"	70 Pr	
"	72		E2	"	71	

FIGURE 3 (Cont'd)

CABINET		MDF				CABLE
Strip Conn	Tag	Designation		S/Conn	Tag	
TBB	74	DISTN AMP 3	A3	TBF	73	
"	75		B3	"	74 Pr	
"	76		C3	"	75	
"	77		D3	"	76 Pr	
"	78		E3	"	77	
"	80		A4	"	79	
"	81		B4	"	80 Pr	
"	82		C4	"	81	
"	83		D4	"	82 Pr	
"	84		E4	"	83	
"	86		A5	"	85	
"	87		B5	"	86 Pr	
"	88		C5	"	87	
"	89		D5	"	88 Pr	
"	90		E5	"	89	
"	113		ETH	"	111 Pr	
"	114		CARRIER	"	117	
"	1	LOCAL LINE UNITS 1	A1	"	92 Pr	Cable Internal 4CR 10Pr See Note 1
"	7		B1	"	91	
"	13		A2	"	95 Pr	
"	19		B2	"	94	
"	25	2	A1	"	98 Pr	
"	31		B1	"	97	
"	37		A2	"	101 Pr	
"	43		B2	"	100	
"	49	3	A1	"	104 Pr	
"	55		B1	"	103	
"	61		A2	"	107 Pr	
"	67		B2	"	106	
"	73	4	A1	"	110 Pr	
"	79		B1	"	109	
"	85		A2	"	113 Pr	
"	91		B2	"	112	

FIGURE 3 (Cont'd)

CABINET		MDF				CABLE
Strip Conn	Tag	Designation		S/Conn	Tag	
TBB	97		A1	TBF	116 Pr	
"	103	5	B1	"	115 Pr	
"	109		A2	"	119 Pr	
"	115		B2	"	118 Pr	
TBC	1		A1	TBE	32 Pr	Cable Internal 5CR 10Tr
"	2	LOCAL	B1	"	31 Pr	
"	3	LINE	P1	"	33	
"	4	UNITS	A2	"	35 Pr	Note 1 All pairs of MDF are reversed
"	5	1	B2	"	34 Pr	
"	6		P2	"	36	
"	7		A1	"	38 Pr	
"	8		B1	"	37 Pr	
"	9		P1	"	39	
"	10	2	A2	"	41 Pr	
"	11		B2	"	40 Pr	
"	12		P2	"	42	
"	13		A1	"	44 Pr	
"	14		B1	"	43 Pr	
"	15		P1	"	45	
"	16		A2	"	47 Pr	
"	17	3	B2	"	46 Pr	
"	18		P2	"	48	
"	19		A1	"	50 Pr	
"	20		B1	"	49 Pr	
"	21		P1	"	51	
"	22	4	A2	"	53 Pr	
"	23		B2	"	52 Pr	
"	24		P2	"	54	
"	25		A1	"	56 Pr	
"	26		B1	"	55 Pr	
"	27		P1	"	57	
"	28	5	A2	"	59	
"	29		B2	"	58	
"	30		P2	"	60	

FIGURE 3 (Cont'd)

CABINET		MDF			CABLE
Strip Conn	Tag	Designation	S/Conn	Tag	
TBD	2	A1	TBG	1	Cable Internal 5Cr 20p 20Tr
"	3	B1	"	2 } Pr	
"	4	C1	"	3 }	
"	5	D1	"	4 } Pr	
"	6	E1	"	5 }	
"	8	A2	"	7	
"	9	B2	"	8 } Pr	
"	10	C2	"	9 }	
"	11	D2	"	10 } Pr	
"	12	E2	"	11 }	
"	14	A3	"	13	
"	15	B3	"	14 } Pr	
"	16	C3	"	15 }	
"	17	D3	"	16 } Pr	
"	18	E3	"	17 }	
"	20	A4	"	19	
"	21	B4	"	20 } Pr	
"	22	C4	"	21 }	
"	23	D4	"	22 } Pr	
"	24	E4	"	23 }	
"	26	A5	"	25	
"	27	B5	"	26 } Pr	
"	28	C5	"	27 }	
"	29	D5	"	28 } Pr	
"	30	E5	"	29 }	
"	32	A1	"	31	
"	33	B1	"	32 } Pr	
"	34	C1	"	33 }	
"	35	D1	"	34 } Pr	
"	36	E1	"	35 }	
"	38	A2	"	37	
"	39	B2	"	38 } Pr	
"	40	C2	"	39 }	

DISTN AMP 1

DISTN AMP 2

FIGURE 3 (Cont'd)

CABINET		MDF				CABLE
Strip Conn	Tag	Designation		S/Conn	Tag	
TBD	41		D2	TBG	40 Pr	
"	42		E2	"	41 Pr	
"	44		A3	"	43	
"	45		B3	"	44 Pr	
"	46		C3	"	45 Pr	
"	47		D3	"	46 Pr	
"	48		E3	"	47 Pr	
"	50	DISTN	A4	"	49	
"	51	AMP	B4	"	50 Pr	
"	52	2 (CONTINUED)	C4	"	51 Pr	
"	53		D4	"	52 Pr	
"	54		E4	"	53 Pr	
"	56		A5	"	55	
"	57		B5	"	56 Pr	
"	58		C5	"	57 Pr	
"	59		D5	"	58 Pr	
"	60		E5	"	59 Pr	
"	62		A1	"	61	
"	63		B1	"	62 Pr	
"	64		C1	"	63 Pr	
"	65		D1	"	64 Pr	
"	66		E1	"	65 Pr	
"	68		A2	"	67	
"	69		B2	"	68 Pr	
"	70	DISTN	C2	"	69 Pr	
"	71	AMP	D2	"	70 Pr	
"	72	3	E2	"	71 Pr	
"	74		A3	"	73	
"	75		B3	"	74 Pr	
"	76		C3	"	75 Pr	
"	77		D3	"	76 Pr	
"	78		E3	"	77 Pr	
"	80		A4	"	79	

FIGURE 3 (Cont'd)

CABINET		MDF				CABLE
Strip Conn	Tag	Designation		S/Conn	Tag	
TBD	81	DISTN AMP 3 (CONTINUED)	B4	TBG	80 Pr	
"	82		C4	"	81	
"	83		D4	"	82 Pr	
"	84		E4	"	83	
"	86		A5	"	85	
"	87		B5	"	86 Pr	
"	88		C5	"	87	
"	89		D5	"	88 Pr	
"	90		E5	"	89	
"	113		Eth	"	111 Pr	
"	114		Carrier	"	117	
"	1	LOCAL LINE UNITS 1	A1	"	92 Pr	Cable Internal 4Cr 10pr
"	7		B1	"	91	
"	13		A2	"	95 Pr	
"	19		B2	"	94	
"	25	2	A1	"	98 Pr	Note 1 All pairs are reversed on the MDF
"	31		B1	"	97	
"	37		A2	"	101 Pr	
"	43		B2	"	100	
"	49	3	A1	"	104 Pr	
"	55		B1	"	103	
"	61		A2	"	107 Pr	
"	67		B2	"	106	
"	73	4	A1	"	110 Pr	
"	79		B1	"	109	
"	85		A2	"	113 Pr	
"	91		B2	"	112	
"	97	5	A1	"	116 Pr	
"	103		B1	"	115	
"	109		A2	"	119 Pr	
"	115		B2	"	118	

FIGURE 3 (Cont'd)

CABINET		INTERSHELF CONNEXIONS			
Strip Conn	Tag	Designation	S/Conn	Tag	CABLE
TBC	31	JUNC 1 IN A	TBA	31	Cable Equip 5557A/2W
"	32	JUNC 1 IN B	"	32	Pr
"	33	JUNC 1 IN Screen	"	33	
"	34	JUNC 2 IN A	"	34	Cable Equip 5557A/2W
"	35	JUNC 2 IN B	"	35	Pr
"	36	JUNC 2 IN Screen	"	36	
"	52	ALARMS COMMON	"	52	Cable Internal 9Cr 3Pr
"	55	ALARMS PROMPT	"	55	
"	56	ALARMS DEF	"	56	
"	57	ALARMS REC ATTN	"	57	
"	58	Eth	"	58	Cable Internal 9Cr 1pr
"	59	-ve 50 V Batt	"	59	W and B

9.2.3 **Equipment Carrier WB 1403** Cabling should be provided between the MAR (or equiv) as detailed in Appendix D. The cables provided should be terminated in accordance with the schedule in par 9.2.1 (Fig 2) for tag allocations see Appx G.

10 **FITTING OF SLIDE-IN UNITS** When the installation work is complete the slide-in units should be inserted into the equipment shelves in the correct sequence in accordance with the procedures laid down in the System Handbook.

Individual units should be set up to cater for local conditions as detailed in Section 8 of the System Handbook and as follows:-

10.1 **Local Line Units** These units cater for two circuits per unit and Links LK1 and LK2 on the equipment PCB should be set up for the required circuit functions:-

A - Speech path

B - Signalling path

C - No receiver

10.2 **Distribution Amplifier** Each amplifier has five carrier outlets each of which may be used to feed either a local line or a junction circuit.

Output transformer tags A to E are cabled to the MDF and tags are selected as indicated in par 11 dependent on the type of line circuit required.

10.3 **Filters WB 1400** This equipment can be programmed to meet circuit requirements by varying the wire strapping as follows:-

(a) 4 wire Carrier Circuits - Cut links LK3 and LK5

(b) 2 wire Carrier Circuits - Cut links LK1, LK2, LK4 and LK5

(c) 2 wire Audio Circuits - Cut links LK1, LK2 and LK5

11 **CONNEXIONS ON THE MDF** When the WB 1400 equipment has been installed the following jumper wire connexions should be made on the MDF using Wire Jumper 7000 series as required. Line Circuits and junction allocations should be made locally using the appropriate Forms A886B. Information concerning the provision and recording of circuits is detailed in A8 J2070.

11.1 **Control Point Exchange**

11.1.1 X Path and Y Path Circuits to CCP, two 2 wire unloaded PW ccts,

MDF Local cable pairs to Strip Conn TBE 61 and 62 (X Path).

MDF Local cable pairs to Strip Conn TBE 67 and 68 (Y Path).

11.1.2 Royal Observer Corps GHQ, 2 wire PW cct.

MDF local cable pairs to Strip Conn TBE 91 and 92.

11.1.3 Group Circuit to CCP 2 wire PW cct.

MDF Local cable pair to Strip Conn TBE 85 and 86.

11.1.4 Audio Input X and Y Handel Circuits.

Strip Conn TBE 73 and 74 to Exchange Handel distn X.

Strip Conn TBE 79 and 80 to Exchange Handel distn Y.

11.1.5 Outgoing WB 1400 Signal Paths to Distribution Exchanges See 11.2.2.

11.1.6 Local Line Units to Receiver Points See 11.2.3.

11.2 Distribution Exchange Jumper Wire Connexions

11.2.1 Incoming WB 1400 Signal Paths

(a) 2 Wire Carrier using one Junction Circuit

(1) Jumper from Line Side of MDF to Conn Strip TBE 67/68.

(2) Jumper from Conn Strip TBE 79/80 to Exch Side of MDF.

(3) On Filter Unit WB 1400 cut links LK1, LK2, LK4 and LK5.

(b) 4 Wire Carrier using two Junction Circuits (See Appx F)

(1) Jumper from Line Side of MDF to TBE.

1st Junction to Conn Strip TBE 61/62.

2nd Junction to Conn Strip TBE 67/68.

(2) Jumper from Conn Strip TBE to Exch Side of MDF.

1st Junction from Conn Strip TBE 73/74.

2nd Junction from Conn Strip TBE 79/80.

(3) On Filter Unit WB 1400 cut links LK3 and LK5.

(c) 2 Wire Audio using one PW cct

(1) Jumper from Line Side of MDF to Conn Strip TBE 67/68.

(2) On Filter Unit WB 1400 cut links LK1, LK2 and LK5.

11.2.2 Outgoing WB 1400 Signal Paths

(a) 2 Wire Carrier using one Junction Circuit (+7 dB 140Ω)

(1) Host Junction cct jumpered through Inductor Unit 1A.

(2) Jumper A and E tags of allocated Distribution Amplifiers (WB 1400/4B) output to line side of Inductor Unit 1A.

(b) 4 Wire Carrier using two Junction Circuits (+7 dB 30Ω Appx F)

(1) Host Junctions ccts jumpered through Inductor Unit 1A.

(2) Jumper allocated Unit WB 1400/4B output to line side of Inductor Unit 1A.

1st Junction use B and C tags of allocated Distribution Amplifier output.

2nd Junction use D and E tags of allocated Distribution Amplifier output.

(c) 2 Wire Audio using one PW Circuit

(1) Jumper A and B tags (0 dB 140Ω) of allocated Distribution Amplifier output to TBF 111/117.

(2) Add strap between TBB 119 and TBB 120.

(3) Jumper from allocated audio output of Demodulator Unit (WB 1400/6A, TBF 115/116 or TBE 118/119) to line side of MDF.

11.2.3 Local Line Units to Receiver Points (Appx E)

(a) Host Telephone Circuit

(1) Jumper from exch side of MDF to allocated Local Line Unit tags on TBE.

(2) Jumper from allocated Local Line Unit tags on TBF to Line side of MDF.

(3) Jumper from allocated Distribution Amplifier (WB 1400/4B) output tags A and B (0 dB 140Ω) on TBF to allocated Local Line Unit connections on TBF. (Fig 4.)

Fig 4 follows

FIGURE 4

LOCAL LINE UNIT	TBE to MDF Exch Side		TBF to MDF Line Side	
	B	A	B	A
	TBE Tags	TBS Tags	TBF Tags	TBF Tags
1A	1	2	91	92
1B	4	5	94	95
2A	7	8	97	98
2B	10	11	100	101
3A	13	14	103	104
3B	16	17	106	107
4A	19	20	109	110
4B	22	23	112	113
5A	25	26	115	116
5B	28	29	118	119

12 TESTING AND COMMISSIONING All terminated cables should be tested for continuity. When this has been done and the slide in units in the WB cabinet have been re-strapped and jumper wire connection made on the MDF, then the bypass equipment can be recovered as indicated in J1202. The commissioning may now commence in accordance with Section 8 of the System Handbook.

13 MARKING AND LABELLING The existing cabinet marking should be amended to read Equipment Carrier WB 1401 or WB 1402 as appropriate. Where more than one WB 1402 is fitted the equipment should be designated WB 1402A, WB 1402B etc, and marked accordingly. The connexion strips on the MDF should be marked in accordance with Appx G Figs 1, 2 and 3.

Control Pair Exchange, Connexion Strips TBE and TBF, Figs 1 and 3.

Intermediate Exchange, Connexion Strips TBE, TBF and TBG, Figs 2 and 3.

NOTE: All tags on these connexion strips are numbered from front to back and top to bottom.

14 STORES REQUIRED The following items required for the installation should be requisitioned under Materials Department 'E' Control procedure. Requisitions should be forwarded to MTR/SP2.5.

Table follows

ITEM CODE	DESCRIPTION	QUANTITY	REMARKS
373930	Shelf 1/WB 1400	1 per CPE	Handel Eqpt
373931	Shelf 2/WB 1400	1 per CPE	Distn Shelf (CPE)
373932	Shelf 4/WB 1400	As required	Distn Shelf (Short-tails)
373933	Shelf 5/WB 1400	As required	Distn Shelf (Long-tails)
373934	Units WB 1400/1B	2 per CPE	Audio Detect Cct
373935	Units WB 1400/2B	2 per CPE + one per 4/, or 5/Shelf	Rec Amp
373936	Units WB 1400/3A	1 per I/C Audio Cct	Modulator
373937	Units WB 1400/4B	As required	Distn Amp
373938	Units WB 1400/5A	As required	Local line unit
373939	Units WB 1400/6A	1 per O/G Audio Cct	Demodulator
373940	Units WB 1400/7B	1 per CPE	Monitor and C/O
373941	Units WB 1400/8B	1 per shelf	Power and Alarm
373942	Units WB 1400/10A	1 per CPE	ROC Tele
373943	Terminating Unit WB 1403	1 per shelf	Standby Battery Connector (Includes Indicator WB 1400)
374047	Eqpt Carrier WB 1403	As required	Distn Shelf (MAR type)
171408	Battery Dry No. 100 (12 V)	1 per Unit WB 1400/4B 3 per Shelf 1/WB 1400	Exch S/B Batt Note 2
397157	Relay No. 13949	2 per Cabinet or Shelf WB 1403	
035085	Cable Internal 4Cr 10pr	As required	
035097	Cable Internal 5Cr 3pr	As required	
035106	Cable Internal 5Cr 10Tr	As required	
035115	Cable Internal 5Cr 20pr 20Tr	As required	See Note 1
035098	Cable Internal 5Cr 4pr	As required	
035129	Cable Internal 9Cr 1WG	As required	
035131	Cable Internal 9Cr 1pr W&B	As required	

ITEM CODE	DESCRIPTION	QUANTITY	REMARKS
035132	Cable Internal 9Cr 3pr	As required	See Note 1
033836	Cable Eqpt 5508A/1W	As required	
033838	Cable Eqpt 5557A/2W	As required	
033850	Cable Eqpt 5962A/2W	As required	
440028	Rack 2000 Type Parts 13/TP 606	1 per Cabinet or Shelf WB 1403	
431883	Lamp No. 8, 50 V RED	1 per Cabinet or Shelf WB 1403	
431884	Lamp No. 8, 50 V YELLOW	1 per Cabinet or Shelf WB 1403	
431881	Lamps No. 8, 50 V CLEAR	1 per Cabinet or Shelf WB 1403	
311895	Strips Connexion No. 170/6A	As required	

NOTE 1 Items should be requisitioned direct from Materials Department in the normal way quoting Provisional Liability No. 550.

NOTE 2 Batteries should be ordered on a separate requisition.

15 **MAINTENANCE SPARES** At the commencement of the project maintenance spares items should be requisitioned by the planner in accordance with E9 E3001.

16 **ESTIMATES AND ALLOCATIONS** All work in connection with Equipment Carrier WB 1400 provision should be allocated to the following sub-heads.

Exchange/Transmission - CR (HQ) 10595/1

CP/Installation - CSI 10596/1

All estimates should be submitted to MTR/SP2.5 for approval.

17 **ENQUIRIES AND CORRESPONDENCE** Enquiries relating to local liaison should be referred to the Area Warning System Liaison Officer for the WB 1400 Project.

Enquiries relating to overall National WB 1400 organisation should be referred to MTR/SP2.5 telephone 021-262 4195.

Enquiries relating to the information in this TI should be referred to BTHQ/ES7.4.3 telephone 01-357 4663.

Para 18 follows

18 HISTORY

DATE	ISSUE	REMARKS
	1	

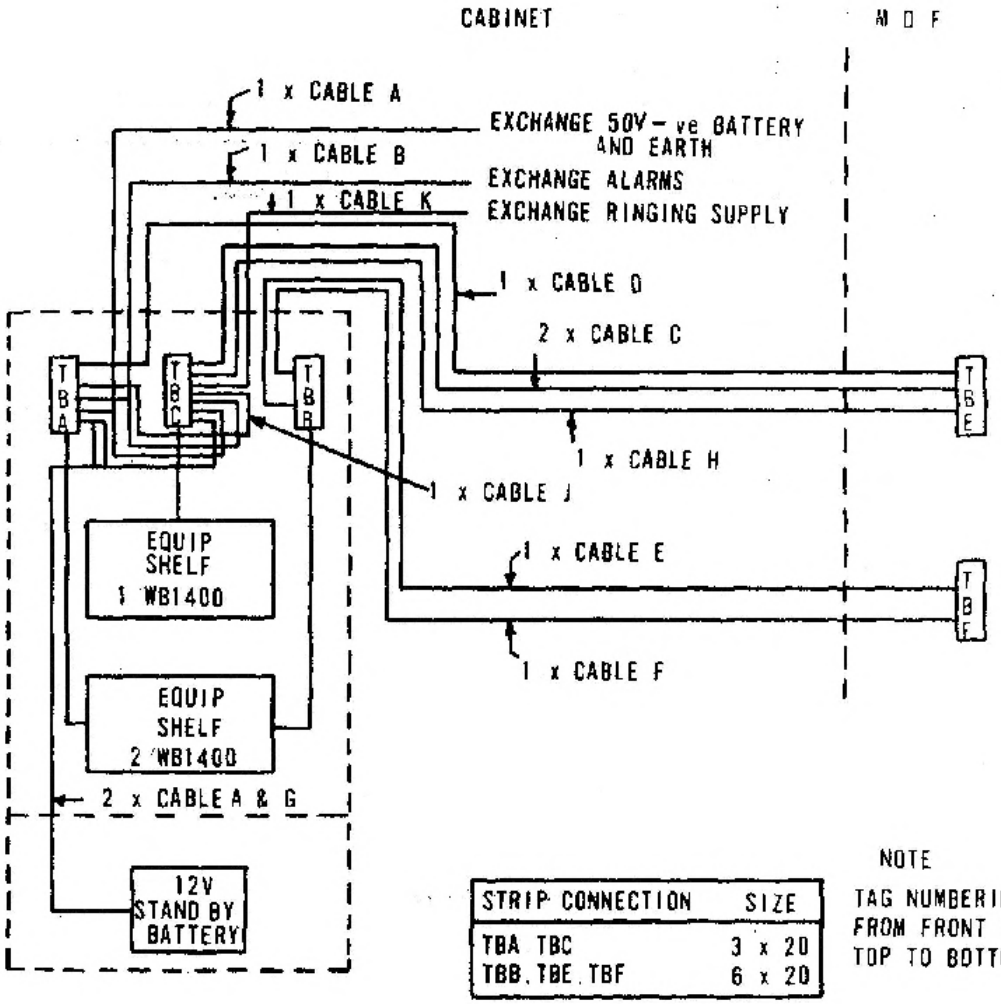
TI References A8 J1061, 1202, 2055, 2070, E9 E3001, E9 E3100.

Appendices follow

APPENDIX A

EQUIPMENT CARRIER WB1401

SHELF 1 WB1400 AND SHELF 2 WB1400 TO M D F
CABLING SCHEDULE



STRIP CONNECTION	SIZE
TBA TBC	3 x 20
TBB, TBE, TBF	6 x 20

NOTE

TAG NUMBERING SEQUENCES FROM FRONT TO BACK AND TOP TO BOTTOM

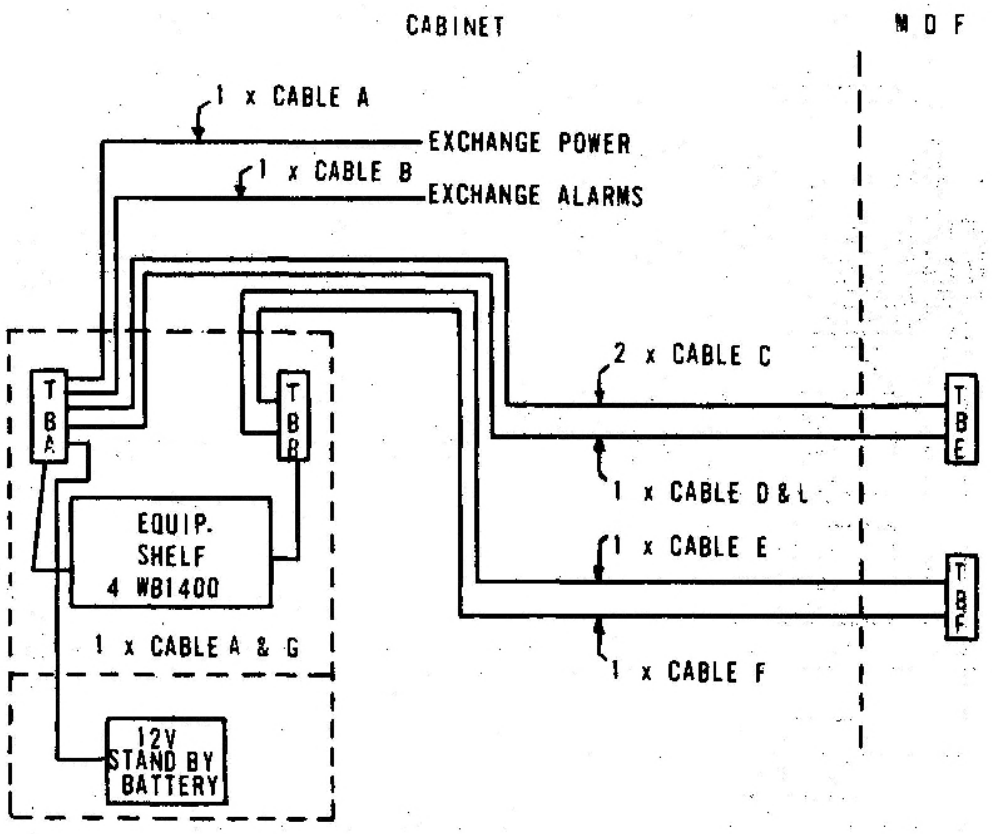
CABLE TYPE	VOCABULARY DESCRIPTION
A	CABLE INTERNAL 9Cr 1pr W & B
B	CABLE INTERNAL 9Cr 3pr
C	CABLE EQMT 5557A 2W
D	CABLE INTERNAL 5Cr 10Tr
E	CABLE INTERNAL 5Cr 20pr 20Tr
F	CABLE INTERNAL 4Cr 10pr
G	CABLE INTERNAL 9Cr 1W G
H	CABLE INTERNAL 5Cr 4pr
J	CABLE EQMT 5508 1W
K	CABLE EQMT 5962 2W

RJ8413

APPENDIX B

EQUIPMENT CARRIER WB1402

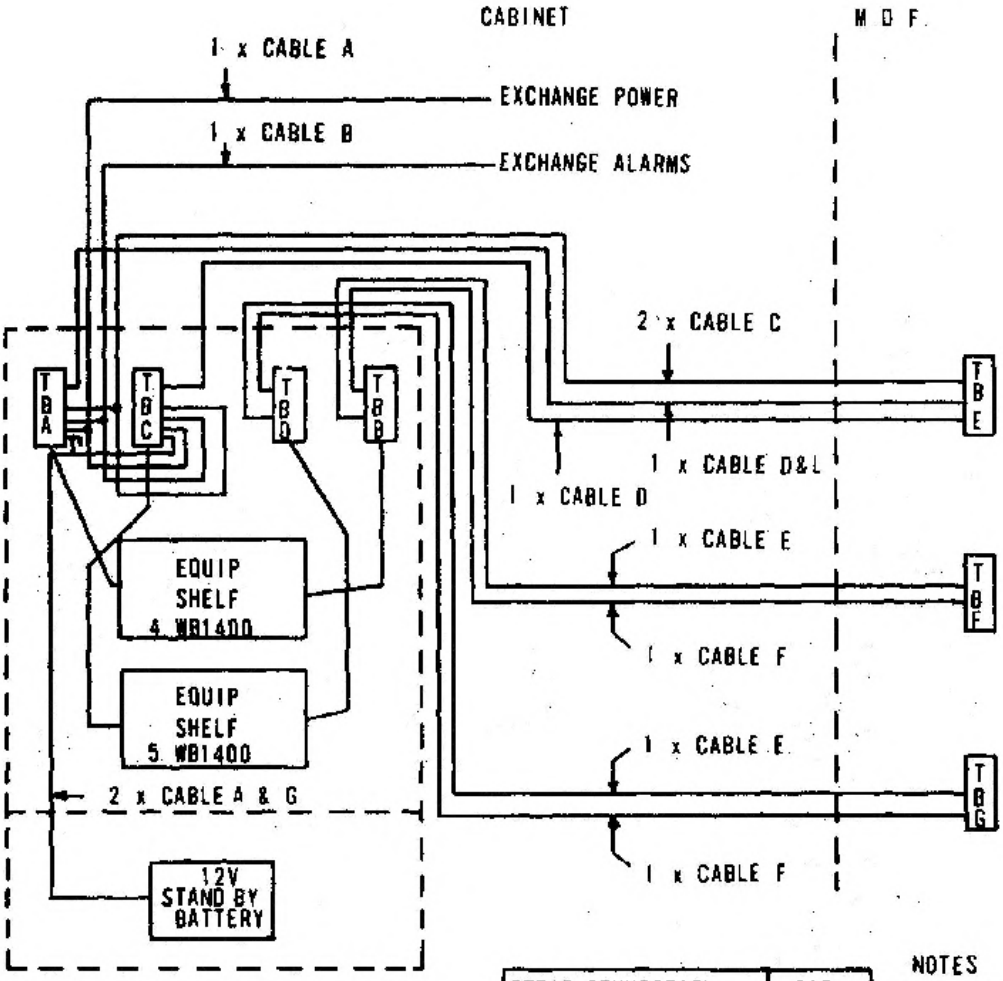
SHELF 4 WB1400 TO M D F
CABLING SCHEDULE



CABLE TYPE	VOCABULARY DESCRIPTION
A	CABLE INTERNAL 9Cr 1pr W & B
B	CABLE INTERNAL 9Cr 3pr
C	CABLE EQMT 5557A 2W
D	CABLE INTERNAL 5Cr 10Tr
E	CABLE INTERNAL 5Cr 20pr 20Tr
F	CABLE INTERNAL 4Cr 10pr
G	CABLE INTERNAL 9Cr 1W G
L	CABLE INTERNAL 5Cr 3pr

APPENDIX C

EQUIPMENT CARRIER WB1402
SHELF 4 WB1400 AND SHELF 5 WB1400 TO M D F
CABLING SCHEDULE



STRIP CONNECTION	SIZE
TBA TBC	3 x 20
TBB TBD TBE TBF TBG TBH TBJ and TBK	6 x 20

NOTES

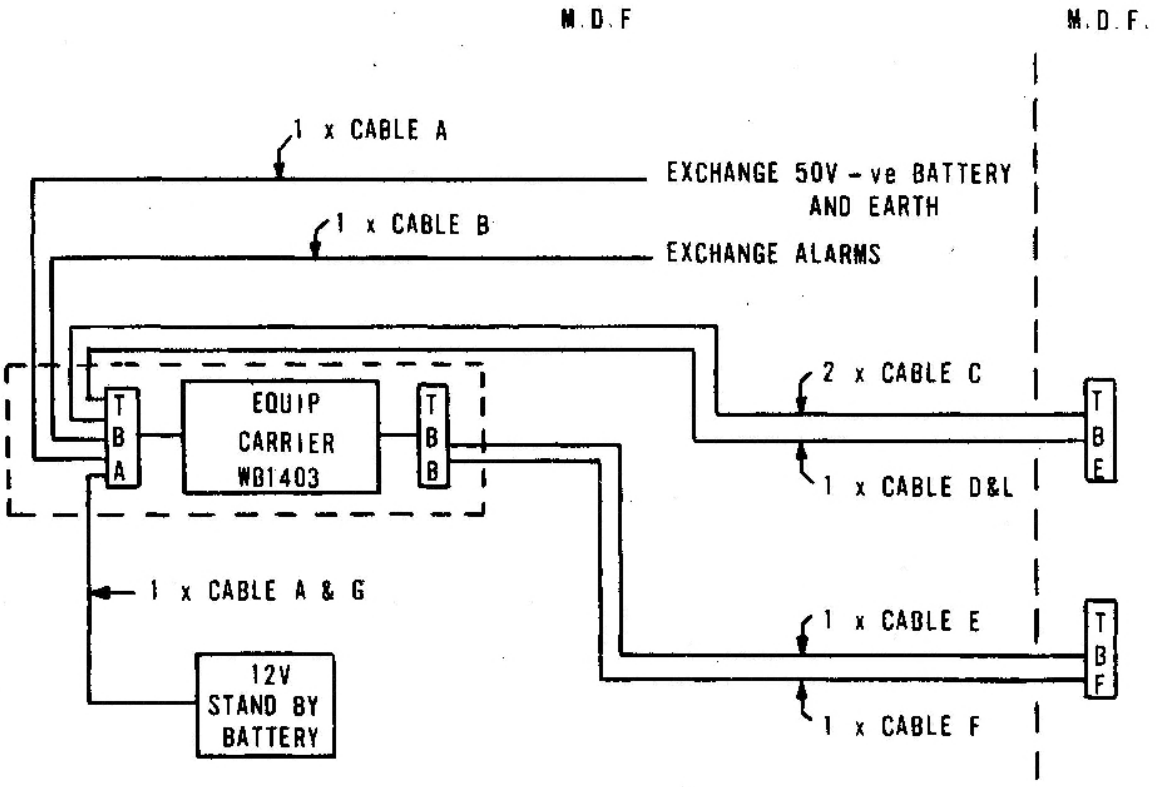
1. TAGS NUMBERING SEQUENCE FROM FRONT TO BACK AND TOP TO BOTTOM.
2. WHEN PROVIDED AS A SECOND UNIT OR AT A CPE IN ADDITION TO EQPT CARR WB 1401 M.D.F. STRIPS CONN SHOULD BE DESIGNATED TBH TBJ AND TBK

CABLE TYPE	VOCABULARY DESCRIPTION
A	CABLE INTERNAL 9Cr 1pr
B	CABLE INTERNAL 9Cr 3pr
C	CABLE EQMT 5557A 2W
D	CABLE INTERNAL 5Cr 10Tr
E	CABLE INTERNAL 5Cr 20pr 20Tr
F	CABLE INTERNAL 4Cr 10pr
G	CABLE INTERNAL 9Cr 1W G
L	CABLE INTERNAL 5Cr 3pr

RJ5414

APPENDIX D

EQUIPMENT CARRIER WB1403
SHELF (MAR) TO M.D.F. CABLING SCHEDULE

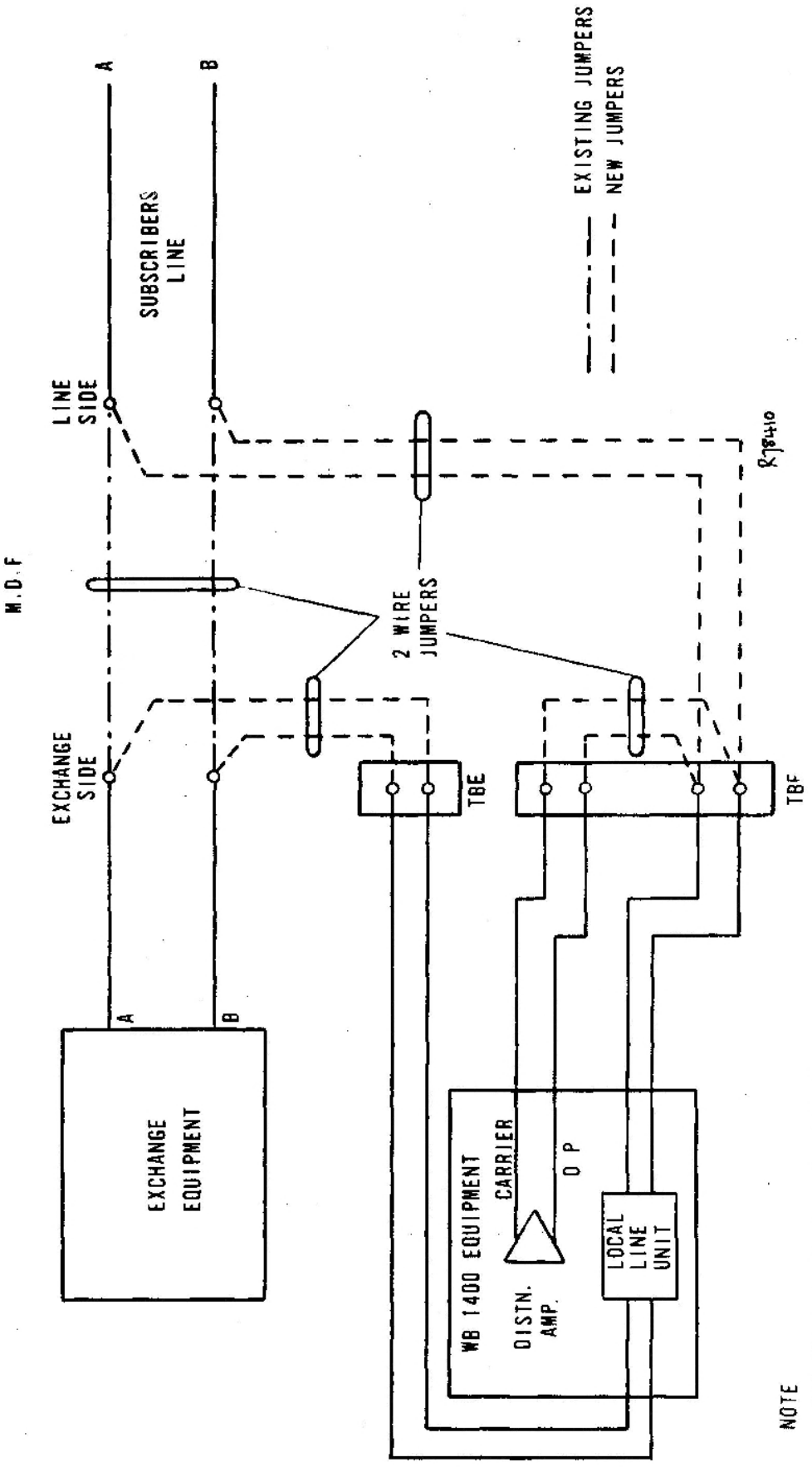


STRIP CONNECTION	SIZE
TBA	3 x 20
TBB.TBE.TBF	6 x 20

CABLE TYPE	VOCABULARY DESCRIPTION
A	CABLE INTERNAL 9Cr 1pr W & B
B	CABLE INTERNAL 9Cr 3pr
C	CABLE EQMT 5557A 2W
D	CABLE INTERNAL 5Cr 10Tr
E	CABLE INTERNAL 5Cr 20pr 20Tr
F	CABLE INTERNAL 4Cr 10pr
G	CABLE INTERNAL 9Cr 1W G
L	CABLE INTERNAL 5Cr 3pr

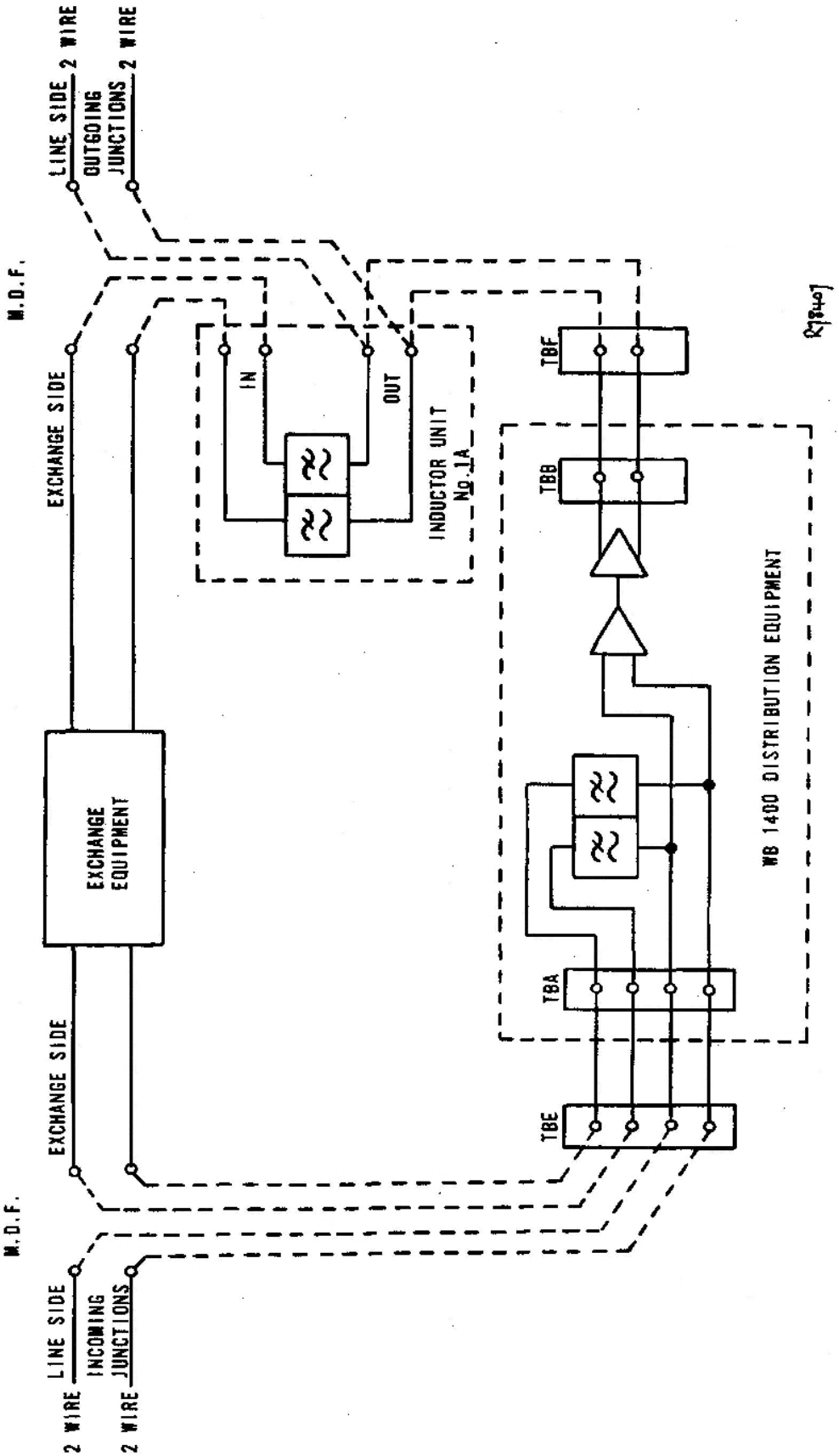
RJ8409

APPENDIX E



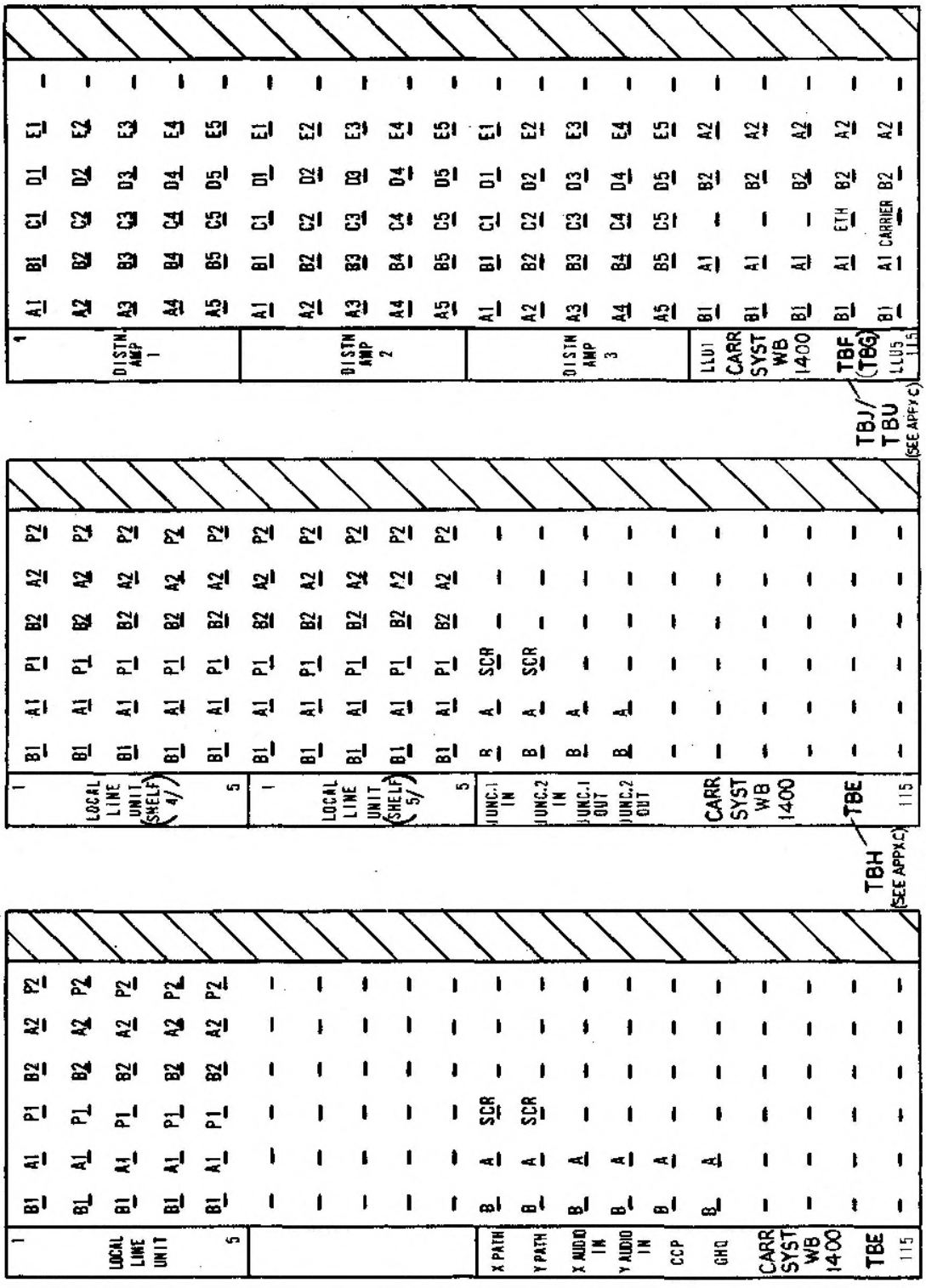
JUMPERING DIAGRAM FOR LOCAL LINES ON WB1400 EQUIPMENT

APPENDIX F

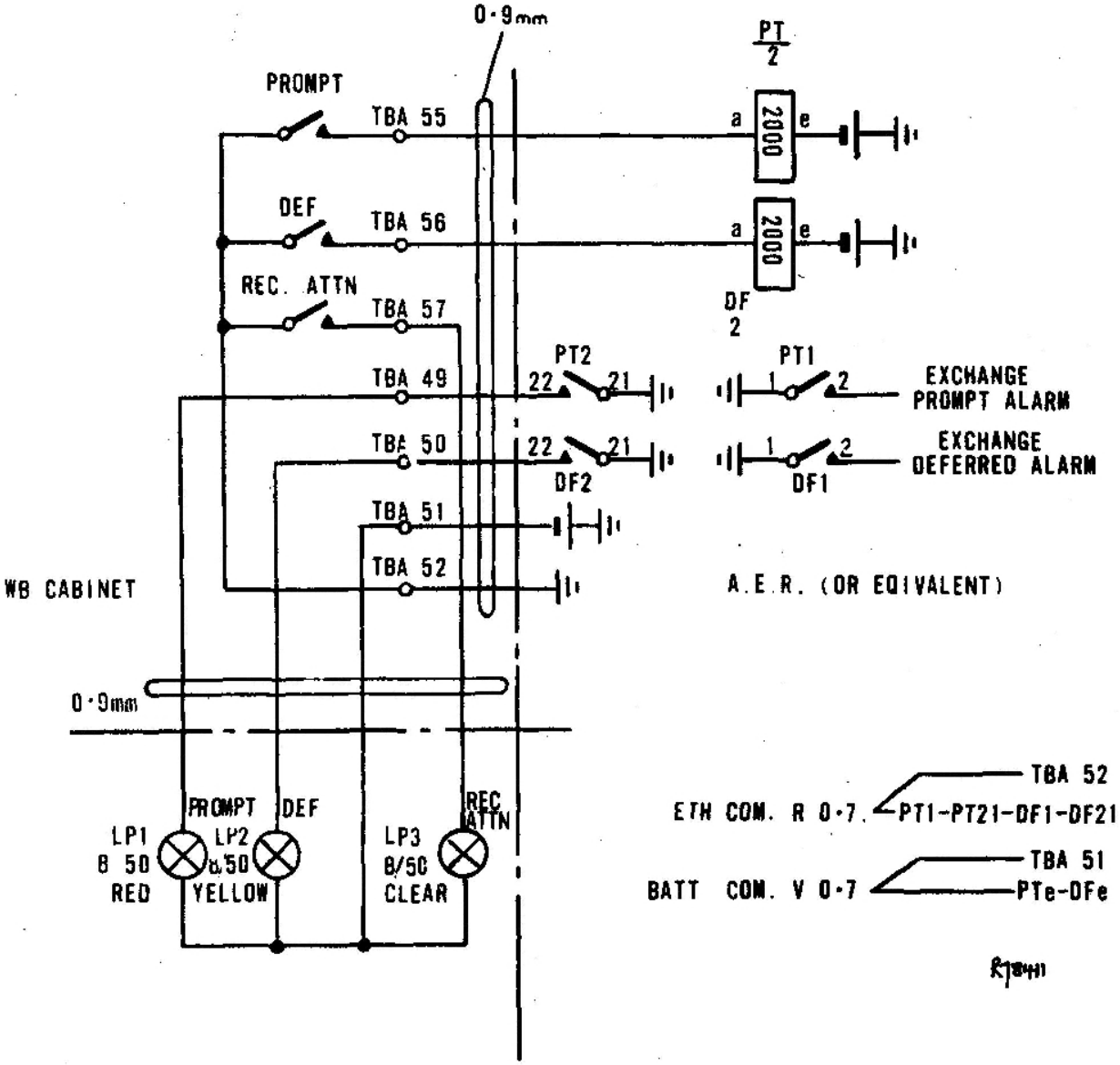


SCHEMATIC JUMPERING DIAGRAM FOR WB 1400 DISTRIBUTION EXCHANGE
(USING 4-WIRE PHANTOM JUNCTIONS)

APPENDIX G


LOCAL LINE UNIT
X PATH
Y PATH
X AUDIO IN
Y AUDIO IN
CCP
GHQ
CARR SYST WB 1400
TBE
115
SCR
TBH
(SEE APPX C)
NOTE: ALL TAGS NUMBER FRONT TO BACK TOP TO BOTTOM
FIG.1
CONTROL POINT
EXCHANGE (CPE)
LOCAL LINE UNIT (SHELF 4/)
LOCAL LINE UNIT (SHELF 5/)
JUNC.1 IN
JUNC.2 IN
JUNC.1 OUT
JUNC.2 OUT
FIG.2
DISTRIBUTION
EXCHANGE (DE)
TBJ/ TBU
(SEE APPX C)
DISTN AMP 1
DISTN AMP 2
DISTN AMP 3
LLU1
LLU5
TBF (TBG)
ETH
A1 CARRIER
FIG 3
CPE DE
IF DEMOD USED INSTEAD OF LLU5, PINS 111 & 117 ARE ALLOCATED FOR CARRIER I P

APPENDIX H



ASSY 13 TP 606
(MOUNTED ABOVE CABINET)

EXCHANGE ALARM ARRANGEMENTS