

ScR. TRAIN DESCRIBER

FIRST LINE MANUAL

VOLUME 2

Revision 1

This Document is protected by Copyright and the information contained therein is confidential. The Document may not be copied and the information therein may not be used or disclosed except with the written permission of and in the manner permitted by Signalling Control U.K. Ltd.

OFFICE COPY

VOLUME 2

- SECTION 1 - DRAWINGS**
- SECTION 2 - BERTH ALLOCATION**
- SECTION 3 - STEPPING TABLES**
- SECTION 4 - BERTH STEPPING CARD ALLOCATION**
- SECTION 5 - CARD FRAME ALLOCATION**
- SECTION 6 - KLIPPON ALLOCATION**
- SECTION 7 - MODULE ALLOCATION**
- SECTION 8 - FRINGE BOX UNIT "D" ALLOCATION**
- SECTION 9 - SPARES**
- SECTION 10 - RECORD OF MODIFICATION**
- SECTION 11 - FAULT LOG**

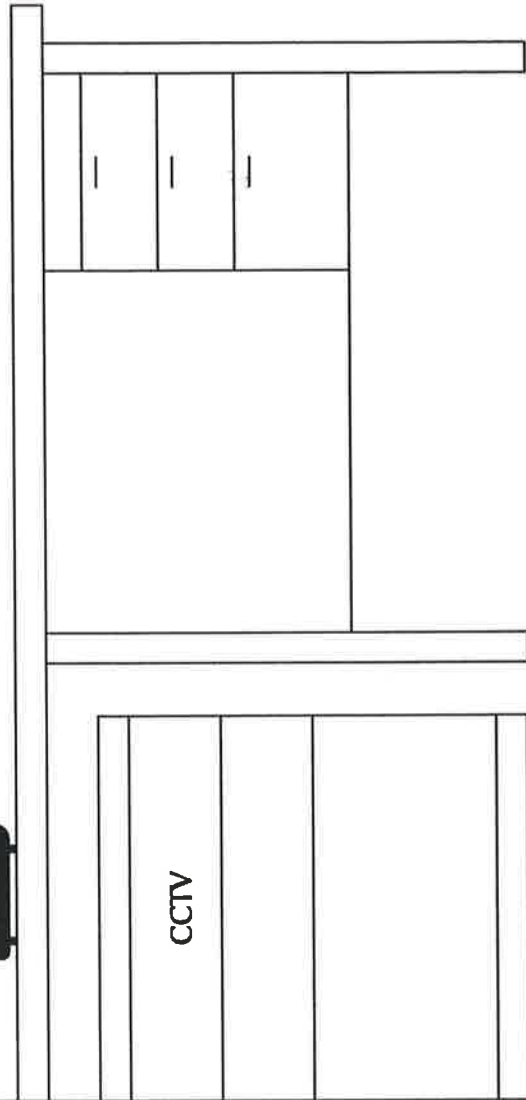
VOLUME 2**SECTION 1 - DRAWINGS**

- 1-1 Cabinet Layout
- 1-2 System Architecture
- 1-3 Distribution Box `A` Layout
- 1-4 Distribution Box `B` Layout
- 1-5 Distribution Architecture (A)
- 1-6 Distribution Architecture (B)
- 1-7 Fringe Box Unit Layout
- 1-8 Fringe Box Architecture
- 1-9 Muldem Architecture
- 1-10 ATR Architecture

ATR

TD

POWER		POWER		MODEMS	
ATR COMPUTER		TD COMPUTER			
MR x2	CONTROL CARDS	BSDD x4	MR x3	CONTROL CARDS	MUL-DEM
MODEMS		BERTH STEPPING CARDS			



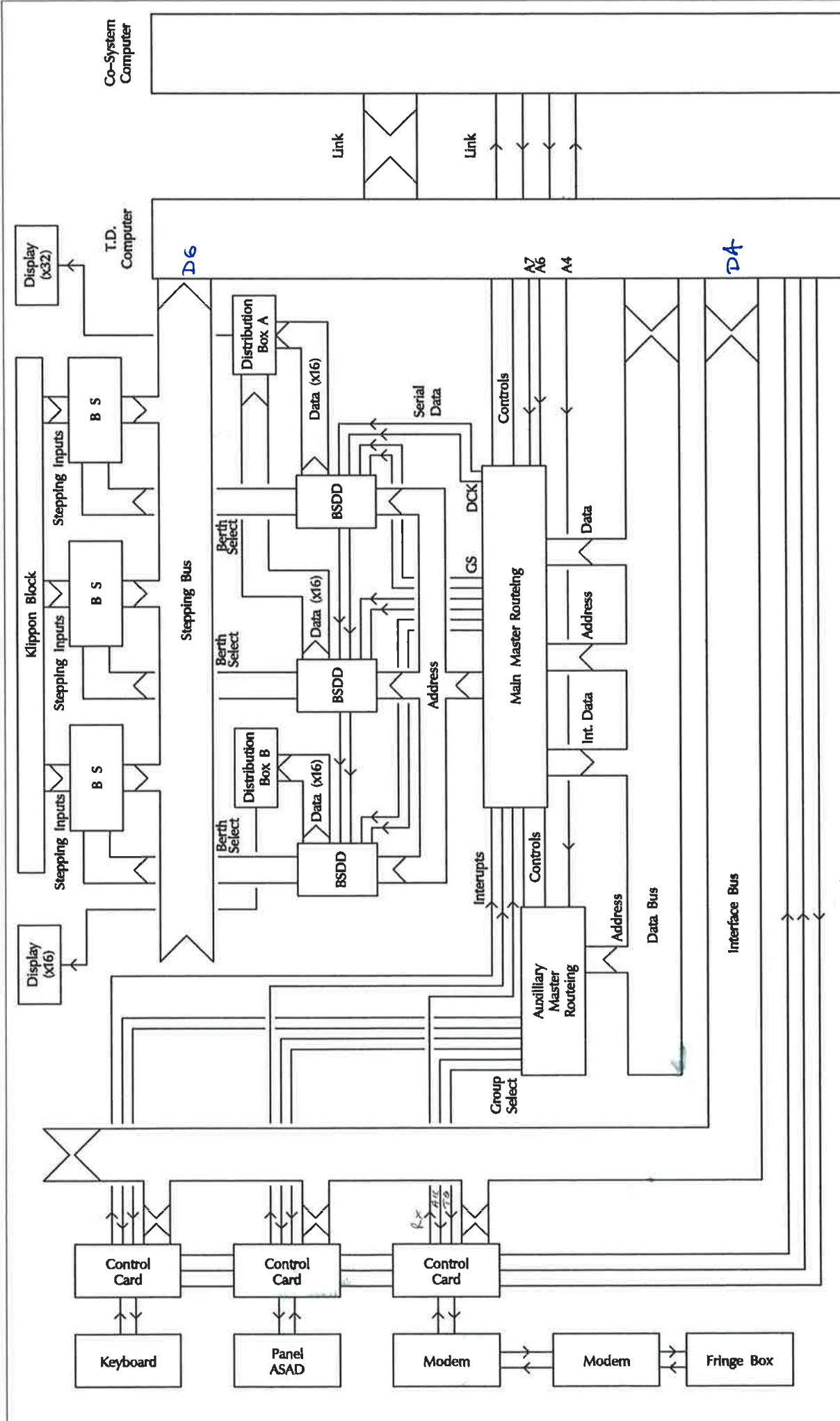
Revisions

Dwg. No.	Paget-1.dgn	
Produced	AB <i>AB</i>	14/12/94
Checked	DW <i>DW</i>	14/12/94
Scale	Not to scale	
Issued		

Signalling Control UK

British Rail
 Group Manager
 Signalling Projects Group
 Glasgow
 Sht. No. 1-1

DUNDEE T.D.
 Cabinet Layout

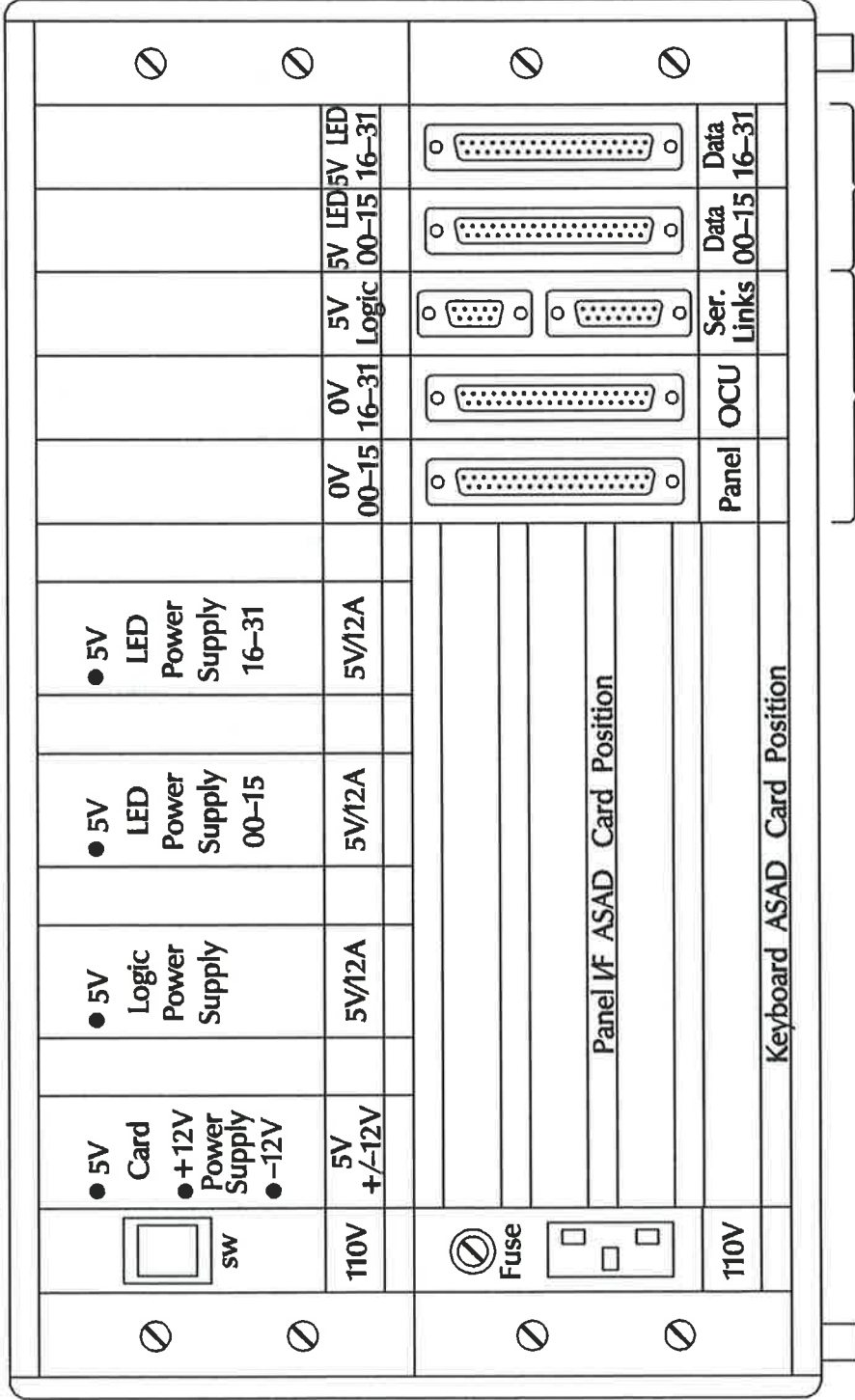


Dwg. No.		Page 1-2.dgn	
Produced	AB	AG	19/02/95
Checked	DW	DW	19/02/95
Scale			
Issued			

110V
Distribution
Module

Display
Power Supplies

DC Power
Distribution Modules



CONNECTOR	TYPE
Panel	37 way 'D' Male
OCU	37 way 'D' Female
Ser.Links	9 way 'D' Female
"	15 way 'D' Male
Data 00-15	37 way 'D' Male
Data 16-31	37 way 'D' Male

Revisions

Dwg. No.	Page 1-3 of 3
Produced	AB <u>AS</u> 14/12/94
Checked	DW <u>DW</u> 14/12/94
Scale	Not to scale
Issued	

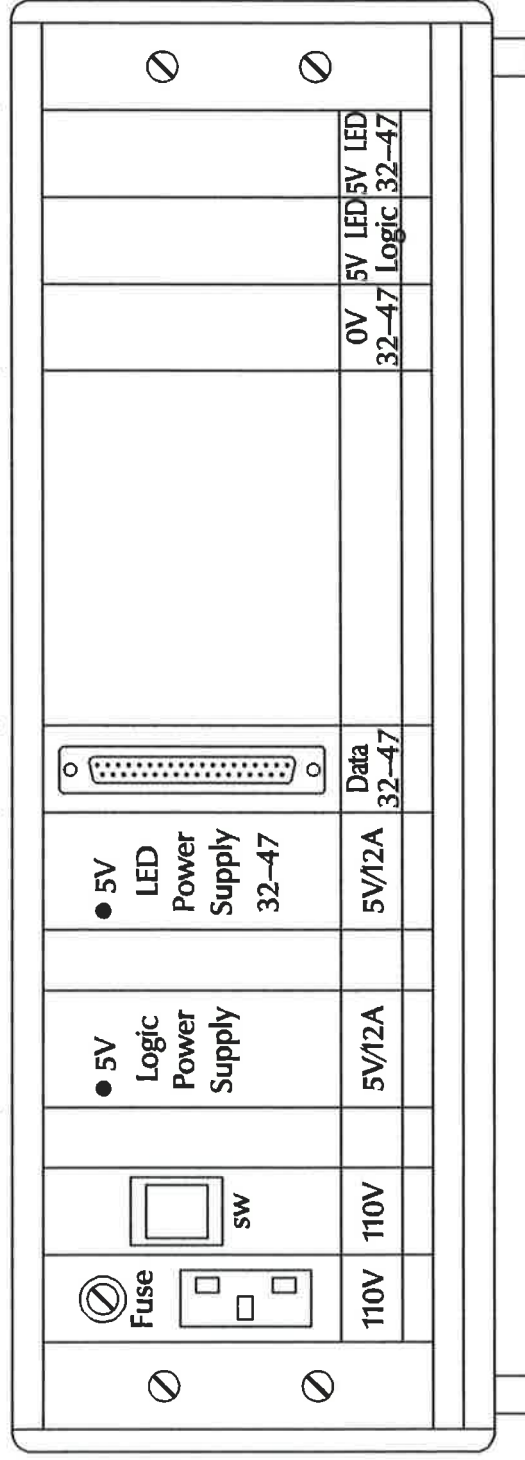
Signalling Control UK

DUNDEE T.D.
Distribution Box 'A' layout

Group Manager
Signalling Projects Group
Glasgow

Sht. No. 1-3

110V Distribution Module Display Power Supplies Display Data Distribution DC Power Distribution Modules

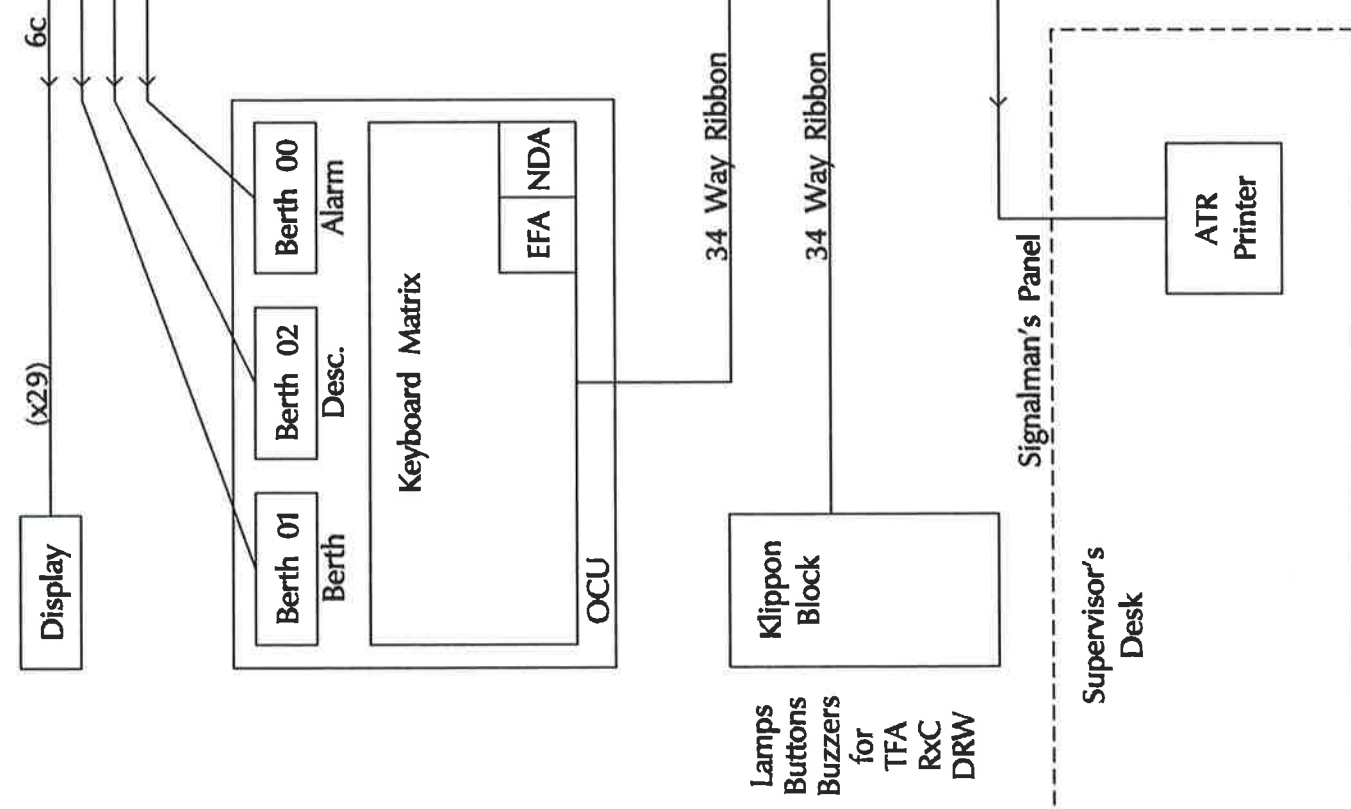
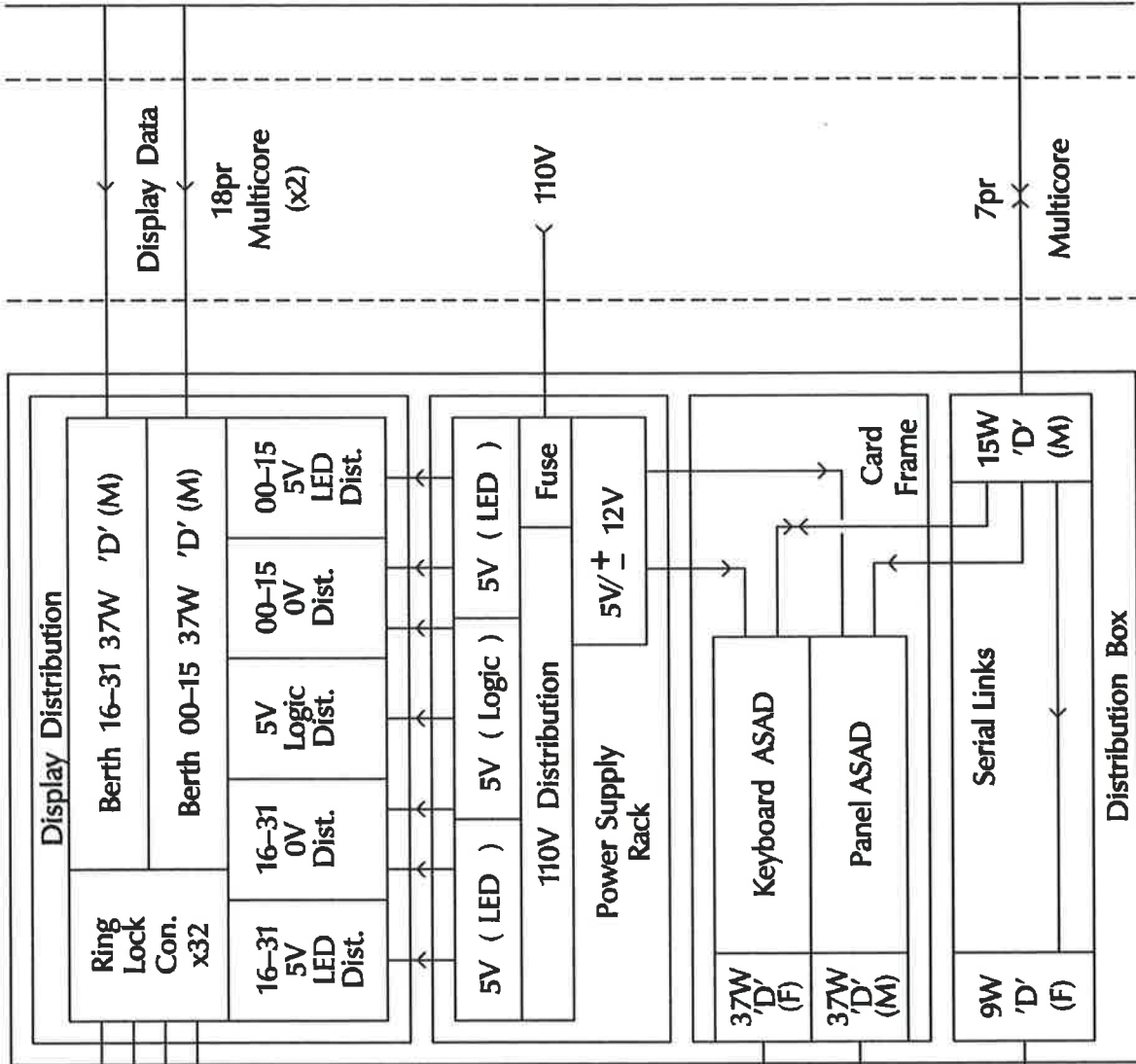


CONNECTOR	TYPE
Data 16-31	37 way 'D' Male

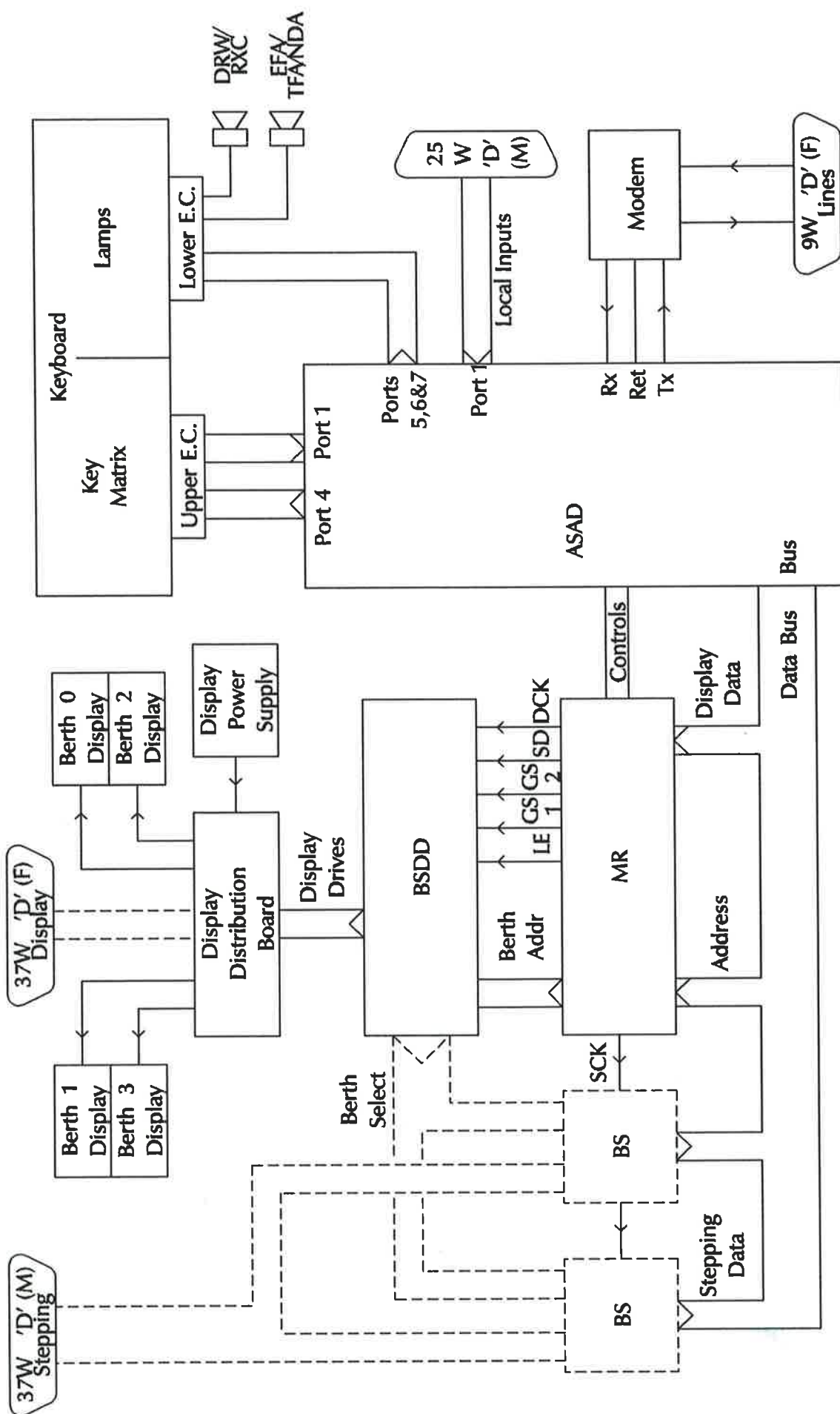
Revisions		Dwg. No.	Page1-4.dgn
Produced	AB	4/2	19/02/95
Checked	DW	3/2	19/02/95
Scale	Not to scale		
Issued			

● Signalling Control UK		British Rail	
DUNDEE T.D.		Group Manager Signalling Projects Group Glasgow	
Distribution Box 'B' layout		Sht. No.	1-4

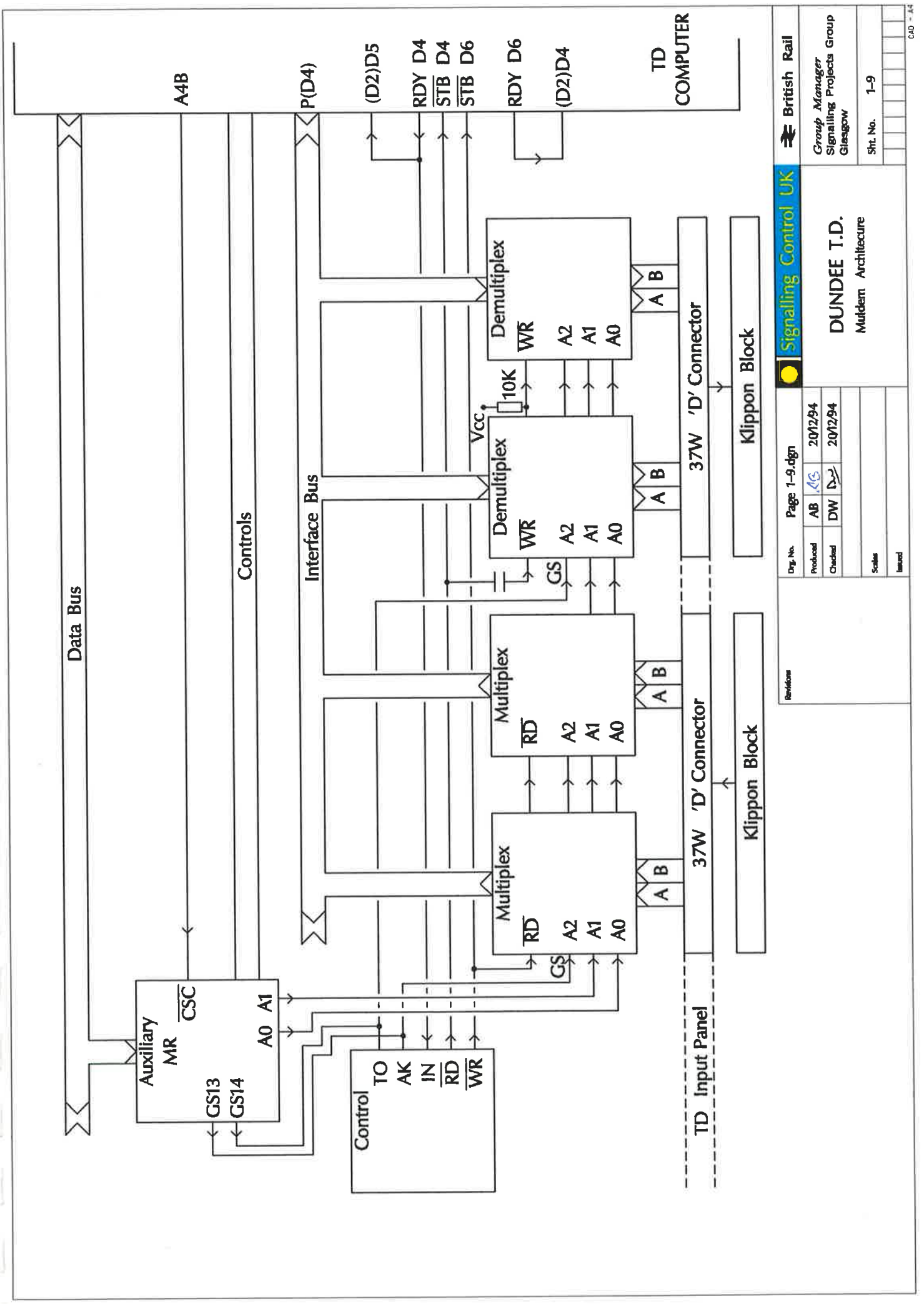
TD OUTPUT PANEL



		DUNDEE T.D. Distribution Architecture Distribution Box A	Group Manager Signalling Projects Group Glasgow Sh. No. 1-5
Dwg. No. Page 1-5.dgn		Produced AB <i>AB</i> 15/12/94 Checked DW <i>DW</i> 15/12/94	Scale Not to scale Issued
Revisions			



Dwg. No. Page 1-8.dgn		Produced AB 4/6 19/12/94	
Checked DW 0/2 19/12/94		Scale	
Revisions		Issued	
British Rail Group Manager Signalling Projects Group Glasgow		DUNDEE T.D. Fringe Box Architecture	
Sht. No. 1-8			

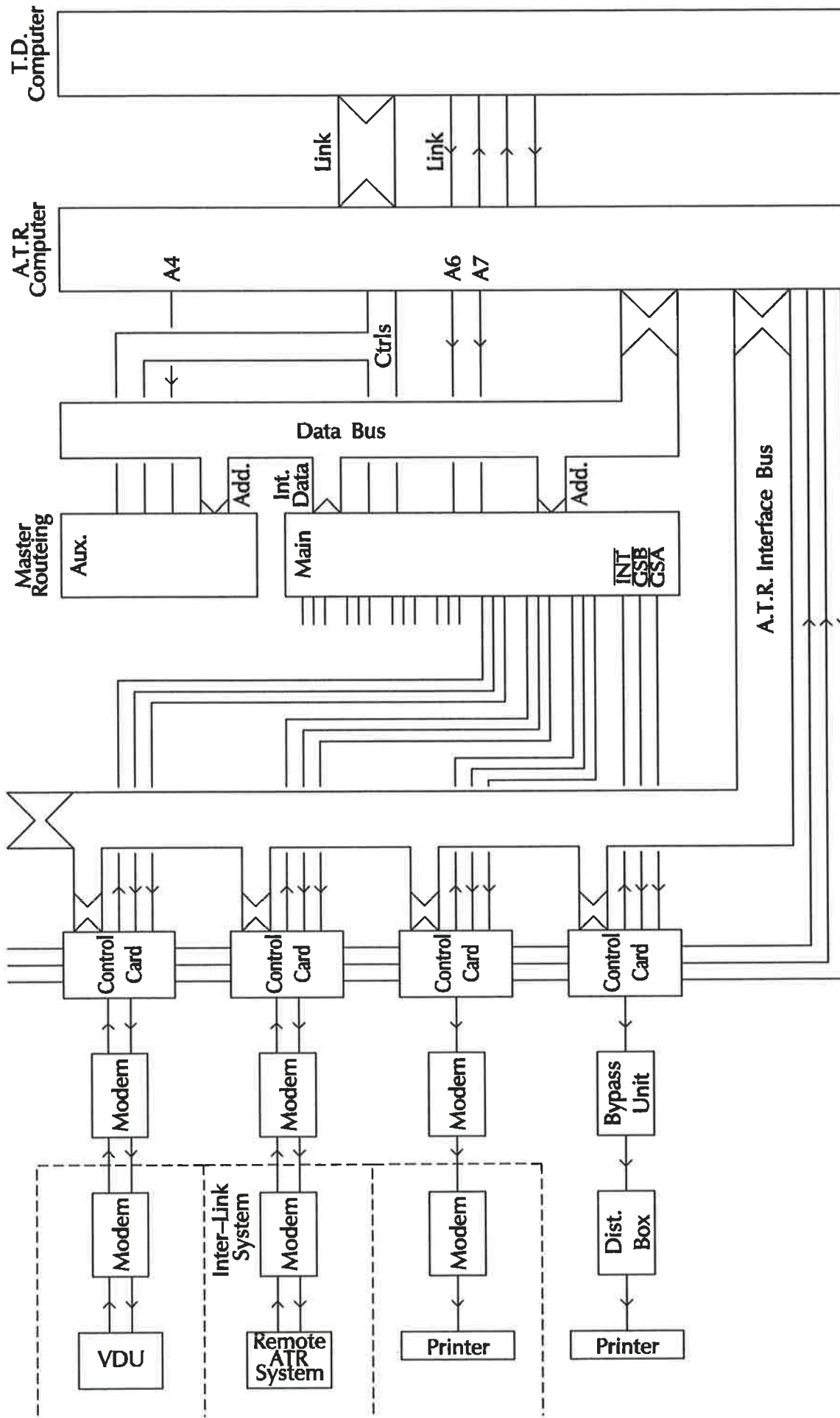


		Page 1-9.dgn	
Produced AB	Checked DW	20/12/94	20/12/94
Scale 		Issued 	
Revisions			
[Empty revision table]			

DUNDEE T.D.
 Mutton Architecture

Group Manager
 Signalling Projects Group
 Glasgow

Sht. No. 1-9



Revisions	Org. No.	Page 1-10.dgn	British Rail
	Produced	AB <i>AB</i> 20/12/94	Signalling Control UK
	Checked	DW <i>DW</i> 20/12/94	Group Manager Signalling Projects Group Glasgow
	Scale		Sht. No. 1-10
	Issued		
DUNDEE T.D.			
ATR Architecture			

VOLUME 2

SECTION 2 - BERTH ALLOCATION

2-1 Berths 00 - 65

BERTH NUMBER	BERTH NAME	COMMENTS
00	N/A	OCU "ALARM" BERTH
01	N/A	OCU "BERTH" SET-UP BERTH
02	N/A	OCU "DESCRIPTION" SET-UP BERTH
03	LNA1	LONGFORGAN APPROACH
04	D697	
05	D672	LONGFORGAN DEPARTURE
06	TSA1	TAYBRIDGE SOUTH APPROACH
07	D699	OUTPUTS TO MULDEM
08	D698/D933	
09	D715	
10	D714	TAYBRIDGE SOUTH DEPARTURE
11	D935	
12	D719	OUTPUTS TO MULDEM
13	D718/D931	
14	D938	
15	D724	OUTPUTS TO MULDEM
16	D944	
17	D722/D751	
18	D753	OUTPUTS TO MULDEM
19	D726	
20	D728	
21	D730/D737	
22	D746/D755	
23	D748/D757	
24	D943	
25	D758/D763	OUTPUTS TO MULDEM
26	D762/D765	
27	D769/D766	
28	D768	
29	CADP	
30	D772	
31	CAA1	
32	1002	
33	1001	
34	CLCK	
35-64		NOT ALLOCATED
65	C/O	

VOLUME 2

SECTION 3 - STEPPING TABLES

- 3-1 Block A
- 3-2 Block B
- 3-3 Block C
- 3-4 Block D
- 3-5 Block E
- 3-6 Block F
- 3-7 Block G
- 3-8 Block H

STEP			CONTROLS	
No.	From	To	Trigger	Conditions
1	LNA1	D697	535T	NONE
2	D672	C/O	534T	538T
3	D697	D699	553T	535T
4	D698	D672	554T	698UR
5	D933	C/O	576T	933UR 556T clear
6	-----	-----	-----	----- NOT USED -----
7	D718	D714	542T	718UR
8	D931	C/O	552T	931UR
9	D699	D737	559T	699UR 432NW 433NW 434RW 437RW 582T clear 588T clear
10	D699	D724	559T	699UR 699SHR 432NW 433RW 435NW (591T or 597T or 603T) 724 clear
11	D699	D944	559T	699UR 432RW 436NW
12	D699	D751	559T	699UR 432NW 433RW 435RW 601T clear 593T clear
13	D699	D753	559T	699UR 432NW 433RW 435NW 591T clear 597T clear 603T clear
14	D699	C/O	559T	699UR 432NW 433NW 434NW or 699UR 432NW 433NW 434RW 437NW or 699UR 699SHR 432NW 433RW 435RW (593T or 601T) or 699UR 699SHR 432NW 433RW 435RW (591T or 597T or 603T) 724 occ. 699 occ. or 699UR 699SHR 432NW 433NW 434RW 437RW (582T or 588T) or 699UR 432RW 436RW
15	-----	-----	-----	----- NOT USED -----
16	TSA1	D715	3485etc. T	NONE

No mention of ET BEGINS or AIR BEGINS!

STEP			CONTROLS	
No.	From	To	Trigger	Conditions
1	D719	D751 /D722	547T	719UR 427RW 432NW 433RW 435RW 593T clear 601T clear
2	D719	D753	547T	719UR 427RW 432NW 433RW 435NW 591T clear 597T clear 603T clear
3	D719	C/O	547T	719UR 427RW 432RW 436RW or 719UR 427RW 432NW 433NW 434NW or 719UR 427RW 432NW 433NW 434RW 437NW or 719UR 719SHR 427RW 432NW 433NW 434RW 437RW (582T or 588T) or 719UR 719SHR 427RW 432NW 433RW 435RW (593T or 601T) or 719UR 719SHR 427RW 432NW 433RW 435NW (591T or 597T or 603T) 724 occ. 719 occ.
4	D719	D737 /D730	547T	719UR 427RW 432NW 433NW 434RW 437RW 582T clear 588T clear
5	D719	D724	547T	719UR 719SHR 427RW 432NW 433RW 435NW (591T or 597T or 603T) 724 clear
6	D719	D944	547T	719UR 427RW 432RW 436NW
7	-----	-----	-----	----- NOT USED -----
8	D714	C/O	526T	714UR
9	D715	D719	525T	715UR
10	-----	-----	-----	----- NOT USED -----
11	D724	C/O	597T clear	753UR 591T clear 753 occ. 724 occ.
12	D724	D718 /D931	591T with 597T clear	724UR 427RW 424RW
13	D724	D698	591T with 597T clear	724UR 427NW 425NW 423RW 421NW
14	D724	C/O	591T with 597T clear	724UR 427NW 425NW 423RW 421RW
15	D724	D935	591T with 597T clear	724UR 427NW 425RW
16	D724	D753	597T clear	753UR 591T clear 753 clear 724 occ.

STEP			CONTROLS	
No.	From	To	Trigger	Conditions
1	-----	-----	-----	----- NOT USED -----
2	D726	D718 /D931	585T	726UR 438RW 434NW 428NW
3	D726	D718 /D931	585T	726UR 438NW 427RW 424RW
4	D726	D698 /D933	585T	726UR 438RW 434NW 428RW 427NW 421NW
5	D726	D698 /D933	585T	726UR 438NW 427NW 425NW 421NW
6	D726	C/O	585T	726UR 434NW 428RW 427NW 421RW 438RW or 726UR 438NW 427NW 425NW 421RW
7	D726	D935	585T	726UR 438NW 427NW 425RW
8	-----	-----	-----	----- NOT USED -----
9	D737 /D730	D757 /D748	602T	737UR 442RW 606T clear
10	D737 /D730	C/O	602T	737UR 737SHR 442NW 604T
11	D737 /D730	C/O	602T	737UR 737SHR 442RW 606T
12	D730 /D737	D718 /D931	582T	730UR 434NW 428NW
13	D730 /D737	D698 /D933	582T	730UR 434NW 428RW 421NW
14	D730 /D737	C/O	582T	730UR 434NW 428RW 421RW
15	D730 /D737	D935	582T	730UR 434RW
16	D737 /D730	D755 /D746	602T	737UR 442NW 604T clear

STEP			CONTROLS	
No.	From	To	Trigger	Conditions
1	D722 /D751	D718 /D931	593T	722UR 427RW 424RW
2	D722 /D751	D698 /D933	593T	722UR 427NW 425NW 423RW 421NW
3	D722 /D751	C/O	593T	722UR 427NW 425NW 423RW 421RW
4	D722 /D751	D935	593T	722UR 427NW 425RW
5	D751 /D722	D763 /D758	609T	751UR
6	D757 /D748	D765 /D762	608T	757UR
7	D748 /D757	D730 /D737	602T	748UR 588T clear
8	D748 /D757	C/O	602T	748UR 748SHR 588T
9	D746 /D755	D730 /D737	602T	746UR 588T clear
10	D746 /D755	C/O	602T	746UR 746SHR 588T
11	D755/ D746	D765 /D762	608T	755UR
12	D763 /D758	D769 /D766	617T	763UR
13	D758 /D763	D724	611T	758UR 445NW 597T clear 603T clear
14	D758 /D763	D722 /D751	611T	758UR 445RW 601T clear
15	D758 /D763	D753	611T	758UR 758SHR 445NW (597T or 603T) 753 clear
16	D758 /D763	C/O	611T	758UR 758SHR 445NW (597T or 603T) 753 occ. 758 occ. or 758UR 758SHR 445RW 601T

STEP			CONTROLS	
No.	From	To	Trigger	Conditions
1	-----	-----	-----	----- NOT USED -----
2	D762 /D765	D748 /D757	612T	762UR 444RW 606T clear
3	D762 /D765	D746 /D755	612T	762UR 444NW 604T clear
4	D762 /D765	C/O	612T	762UR 762SHR 444RW 606T
5	D762 /D765	C/O	612T	762UR 762SHR 444NW 604T
6	D765 /D762	D769 /D766	616T	765UR
7	-----	-----	-----	----- NOT USED -----
8	-----	-----	-----	----- NOT USED -----
9	D766 /D769	C/O	621T	766UR 453RW
10	D769 /D766	1001	627T	769UR
11	D766 /D769	D762 /D765	621T	766UR 453NW 447RW
12	D766 /D769	D758 /D763	621T	766UR 453NW 447NW
13	-----	-----	-----	----- NOT USED -----
14	D753	D763 /D758	609T with 603T clear	753UR
15	D753	D724	603T clear	724UR 609T clear 724 clear 753 occ.
16	D753	C/O	603T clear	724UR 609T clear 724 occ. 753 occ.

STEP			CONTROLS	
No.	From	To	Trigger	Conditions
1	D935	C/O	575T	935UR 935HR 425NW 426RW or 935UR 935HR 425NW 426NW 436RW or 935UR 935HR 425RW 432NW 433RW 435RW (593T or 601T) or 935UR 935HR 425RW 432NW 433RW 435NW (591T or 597T) or 935UR 935HR 425RW 432NW 433NW 434NW or 935UR 935HR 425RW 432NW 433NW 434RW 437NW or 935UR 935HR 425RW 432NW 433NW 434RW 437RW (582T or 588T)
2	D935	D944	575T	935UR 935HR 425NW 426NW 436NW
3	D935	D751 /D722	575T	935UR 935HR 425RW 432NW 433RW 435RW 593T clear 601T clear
4	D935	D753	575T	935UR 935HR 425RW 432NW 433RW 435NW 591T clear 597T clear 603T clear
5	D935	D724	575T	935UR 935HR 425RW 432NW 433RW 435NW 603T 591T clear 597T clear
6	D935	D737 /D730	575T	935UR 935HR 425RW 432NW 433NW 434RW 437RW 582T clear 588T clear
7	D935	C/O	567T	927UR 422RW
8	-----	-----	-----	----- NOT USED -----
9	D728	D698 /D933	582T	728UR 434NW 428RW 421NW
10	D728	C/O	582T	728UR 434NW 428RW 421RW
11	D728	D935	582T	728UR 434RW
12	D728	D718 /D931	582T	728UR 434NW 428NW
13	-----	-----	-----	----- NOT USED -----
14	-----	-----	-----	----- NOT USED -----
15	D768	D762 /D765	622T	768UR 446NW
16	D768	D758 /D763	622T	768UR 446RW

STEP			CONTROLS	
No.	From	To	Trigger	Conditions
1	D938	D698 /D933	577T	938UR 432RW 427NW 421NW
2	D938	D935	577T	938UR 432NW
3	D938	D718 /D931	577T	938UR 432RW 427RW 424RW
4	D938	C/O	577T	938UR 432RW 427NW 421RW
5	-----	-----	-----	----- NOT USED -----
6	D772	D768	632T	772UR
7	1002	D772	646T	1002UR
8	CADP	C/O	4006etcT	647T
9	D944	D718 /D931	577T	944UR 432RW 427RW 424RW
10	D944	C/O	577T	944UR 432RW 427NW 421RW
11	D944	D698 /D933	577T	944UR 432RW 427NW 421NW
12	D944	D935	577T	944UR 432NW
13	-----	-----	-----	----- NOT USED -----
14	-----	-----	-----	----- NOT USED -----
15	D943	D769 /D766	619T	943UR
16	-----	-----	-----	----- NOT USED -----

STEP			CONTROLS	
No.	From	To	Trigger	Conditions
1	CAA1	1002	4005etcT	NONE
2	1001	CADP	641T	1001UR
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				

VOLUME 2

SECTION 4 - BERTH STEPPING CARD ALLOCATION

- 4-1 BS Card Layout
- 4-2 Block A Card Positions 5 & 9
- 4-2 Block B Card Positions 13 & 17
- 4-3 Block C Card Positions 21 & 25
- 4-3 Block D Card Positions 29 & 33
- 4-4 Block E Card Positions 37 & 41
- 4-4 Block F Card Positions 45 & 49
- 4-5 Block G Card Positions 53 & 57
- 4-5 Block H Card Positions 61 & 65

Block A Steps 1-8					Card Position 05							
STEP No.	FROM BERTH		TO BERTH		SWITCH SETTING (0=ON)							
	NAME	No.	NAME	No.	1	2	3	4	5	6	7	8
1	LNA1	(03)	D697	(04)	1	1	0	1	1	1	1	0
2	D672	(05)	C/O	(65)	0	1	1	1	1	1	0	0
3	D697	(04)	D699	(07)	0	0	0	1	1	1	1	0
4	D698	(08)	D672	(05)	0	1	0	1	1	1	1	0
5	D933	(08)	C/O	(65)	0	1	1	1	1	1	0	0
6	--- NOT USED ---		--- NOT USED ---		x	x	x	x	x	x	x	1
7	D718	(13)	D714	(10)	1	0	1	0	1	1	1	0
8	D931	(13)	C/O	(65)	0	1	1	1	1	1	0	0

Block A Steps 9-16					Card Position 09							
STEP No.	FROM BERTH		TO BERTH		SWITCH SETTING (0=ON)							
	NAME	No.	NAME	No.	1	2	3	4	5	6	7	8
1	D699	(07)	D737	(21)	0	1	0	1	0	1	1	0
2	D699	(07)	D724	(15)	0	0	0	0	1	1	1	0
3	D699	(07)	D944	(16)	1	1	1	1	0	1	1	0
4	D699	(07)	D751	(17)	0	1	1	1	0	1	1	0
5	D699	(07)	D753	(18)	1	0	1	1	0	1	1	0
6	D699	(07)	C/O	(65)	0	1	1	1	1	1	0	0
7	--- NOT USED ---		--- NOT USED ---		x	x	x	x	x	x	x	1
8	TSA1	(06)	D715	(09)	0	1	1	0	1	1	1	0

Block B Steps 1-8					Card Position 13							
STEP No.	FROM BERTH		TO BERTH		SWITCH SETTING (0=ON)							
	NAME	No.	NAME	No.	1	2	3	4	5	6	7	8
1	D719	(12)	D751	(17)	0	1	1	1	0	1	1	0
2	D719	(12)	D753	(18)	1	0	1	1	0	1	1	0
3	D719	(12)	C/O	(65)	0	1	1	1	1	1	0	0
4	D719	(12)	D737	(21)	0	1	0	1	0	1	1	0
5	D719	(12)	D724	(15)	0	0	0	0	1	1	1	0
6	D719	(12)	D944	(16)	1	1	1	1	0	1	1	0
7	--- NOT USED ---		--- NOT USED ---		x	x	x	x	x	x	x	1
8	D714	(10)	C/O	(65)	0	1	1	1	1	1	0	0

Block B Steps 9-16					Card Position 17							
STEP No.	FROM BERTH		TO BERTH		SWITCH SETTING (0=ON)							
	NAME	No.	NAME	No.	1	2	3	4	5	6	7	8
1	D715	(09)	D719	(12)	1	1	0	0	1	1	1	0
2	--- NOT USED ---		--- NOT USED ---		x	x	x	x	x	x	x	1
3	D724	(15)	C/O	(65)	0	1	1	1	1	1	0	0
4	D724	(15)	D718	(13)	0	1	0	0	1	1	1	0
5	D724	(15)	D698	(08)	1	1	1	0	1	1	1	0
6	D724	(15)	C/O	(65)	0	1	1	1	1	1	0	0
7	D724	(15)	D935	(11)	0	0	1	0	1	1	1	0
8	D724	(15)	D753	(18)	1	0	1	1	0	1	1	0

"x" indicates that the position of the switch is irrelevant.

Block C Steps 1-8					Card Position 21							
STEP No.	FROM BERTH		TO BERTH		SWITCH SETTING (0=ON)							
	NAME	No.	NAME	No.	1	2	3	4	5	6	7	8
1	--- NOT USED ---		--- NOT USED ---		x	x	x	x	x	x	x	1
2	D726	(19)	D718	(13)	0	1	0	0	1	1	1	0
3	D726	(19)	D718	(13)	0	1	0	0	1	1	1	0
4	D726	(19)	D698	(08)	1	1	1	0	1	1	1	0
5	D726	(19)	D698	(08)	1	1	1	0	1	1	1	0
6	D726	(19)	C/O	(65)	0	1	1	1	1	1	0	0
7	D726	(19)	D935	(11)	0	0	1	0	1	1	1	0
8	--- NOT USED ---		--- NOT USED ---		x	x	x	x	x	x	x	1

Block C Steps 9-16					Card Position 25							
STEP No.	FROM BERTH		TO BERTH		SWITCH SETTING (0=ON)							
	NAME	No.	NAME	No.	1	2	3	4	5	6	7	8
1	D737	(21)	D757	(23)	0	0	0	1	0	1	1	0
2	D737	(21)	C/O	(65)	0	1	1	1	1	1	0	0
3	D737	(21)	C/O	(65)	0	1	1	1	1	1	0	0
4	D730	(21)	D718	(13)	0	1	0	0	1	1	1	0
5	D730	(21)	D698	(08)	1	1	1	0	1	1	1	0
6	D730	(21)	C/O	(65)	0	1	1	1	1	1	0	0
7	D730	(21)	D935	(11)	0	0	1	0	1	1	1	0
8	D737	(21)	D755	(22)	1	0	0	1	0	1	1	0

Block D Steps 1-8					Card Position 29							
STEP No.	FROM BERTH		TO BERTH		SWITCH SETTING (0=ON)							
	NAME	No.	NAME	No.	1	2	3	4	5	6	7	8
1	D722	(17)	D718	(13)	0	1	0	0	1	1	1	0
2	D722	(17)	D698	(08)	1	1	1	0	1	1	1	0
3	D722	(17)	C/O	(65)	0	1	1	1	1	1	0	0
4	D722	(17)	D935	(11)	0	0	1	0	1	1	1	0
5	D751	(17)	D763	(25)	0	1	1	0	0	1	1	0
6	D757	(23)	D765	(26)	1	0	1	0	0	1	1	0
7	D748	(23)	D730	(21)	0	1	0	1	0	1	1	0
8	D748	(23)	C/O	(65)	0	1	1	1	1	1	0	0

Block D Steps 9-16					Card Position 33							
STEP No.	FROM BERTH		TO BERTH		SWITCH SETTING (0=ON)							
	NAME	No.	NAME	No.	1	2	3	4	5	6	7	8
1	D746	(22)	D730	(21)	0	1	0	1	0	1	1	0
2	D746	(22)	C/O	(65)	0	1	1	1	1	1	0	0
3	D755	(22)	D765	(26)	1	0	1	0	0	1	1	0
4	D763	(25)	D769	(27)	0	0	1	0	0	1	1	0
5	D758	(25)	D724	(15)	0	0	0	0	1	1	1	0
6	D758	(25)	D722	(17)	0	1	1	1	0	1	1	0
7	D758	(25)	D753	(18)	1	0	1	1	0	1	1	0
8	D758	(25)	C/O	(65)	0	1	1	1	1	1	0	0

"x" indicates that the position of the switch is irrelevant.

Block E Steps 1-8					Card Position 37							
STEP No.	FROM BERTH		TO BERTH		SWITCH SETTING (0=ON)							
	NAME	No.	NAME	No.	1	2	3	4	5	6	7	8
1	--- NOT USED ---		--- NOT USED ---		x	x	x	x	x	x	x	1
2	D762	(26)	D748	(23)	0	0	0	1	0	1	1	0
3	D762	(26)	D746	(22)	1	0	0	1	0	1	1	0
4	D762	(26)	C/O	(65)	0	1	1	1	1	1	0	0
5	D762	(26)	C/O	(65)	0	1	1	1	1	1	0	0
6	D765	(26)	D769	(27)	0	0	1	0	0	1	1	0
7	--- NOT USED ---		--- NOT USED ---		x	x	x	x	x	x	x	1
8	--- NOT USED ---		--- NOT USED ---		x	x	x	x	x	x	x	1

Block E Steps 9-16					Card Position 41							
STEP No.	FROM BERTH		TO BERTH		SWITCH SETTING (0=ON)							
	NAME	No.	NAME	No.	1	2	3	4	5	6	7	8
1	D766	(27)	C/O	(65)	0	1	1	1	1	1	0	0
2	D769	(27)	1001	(33)	0	1	1	1	1	0	1	0
3	D766	(27)	D762	(26)	1	0	1	0	0	1	1	0
4	D766	(27)	D758	(25)	0	1	1	0	0	1	1	0
5	--- NOT USED ---		--- NOT USED ---		x	x	x	x	x	x	x	1
6	D753	(18)	D763	(25)	0	1	1	0	0	1	1	0
7	D753	(18)	D724	(15)	0	0	0	0	1	1	1	0
8	D753	(18)	C/O	(65)	0	1	1	1	1	1	0	0

Block F Steps 1-8					Card Position 45							
STEP No.	FROM BERTH		TO BERTH		SWITCH SETTING (0=ON)							
	NAME	No.	NAME	No.	1	2	3	4	5	6	7	8
1	D935	(11)	C/O	(65)	0	1	1	1	1	1	0	0
2	D935	(11)	D944	(16)	1	1	1	1	0	1	1	0
3	D935	(11)	D751	(17)	0	1	1	1	0	1	1	0
4	D935	(11)	D753	(18)	1	0	1	1	0	1	1	0
5	D935	(11)	D724	(15)	0	0	0	0	1	1	1	0
6	D935	(11)	D737	(21)	0	1	0	1	0	1	1	0
7	D935	(11)	C/O	(65)	0	1	1	1	1	1	0	0
8	--- NOT USED ---		--- NOT USED ---		x	x	x	x	x	x	x	1

Block F Steps 9-16					Card Position 49							
STEP No.	FROM BERTH		TO BERTH		SWITCH SETTING (0=ON)							
	NAME	No.	NAME	No.	1	2	3	4	5	6	7	8
1	D728	(20)	D698	(08)	1	1	1	0	1	1	1	0
2	D728	(20)	C/O	(65)	0	1	1	1	1	1	0	0
3	D728	(20)	D935	(11)	0	0	1	0	1	1	1	0
4	D728	(20)	D718	(13)	0	1	0	0	1	1	1	0
5	--- NOT USED ---		--- NOT USED ---		x	x	x	x	x	x	x	1
6	--- NOT USED ---		--- NOT USED ---		x	x	x	x	x	x	x	1
7	D768	(28)	D762	(26)	1	0	1	0	0	1	1	0
8	D768	(28)	D758	(25)	0	1	1	0	0	1	1	0

"x" indicates that the position of the switch is irrelevant.

Block G Steps 1-8					Card Position 53							
STEP No.	FROM BERTH		TO BERTH		SWITCH SETTING (0=ON)							
	NAME	No.	NAME	No.	1	2	3	4	5	6	7	8
1	D938	(14)	D698	(08)	1	1	1	0	1	1	1	0
2	D938	(14)	D935	(11)	0	0	1	0	1	1	1	0
3	D938	(14)	D718	(13)	0	1	0	0	1	1	1	0
4	D938	(14)	C/O	(65)	0	1	1	1	1	1	0	0
5	--- NOT USED ---		--- NOT USED ---		x	x	x	x	x	x	x	1
6	D772	(30)	D768	(28)	1	1	0	0	0	1	1	0
7	1002	(32)	D772	(30)	1	0	0	0	0	1	1	0
8	CADP	(29)	C/O	(65)	0	1	1	1	1	1	0	0

Block G Steps 9-16					Card Position 57							
STEP No.	FROM BERTH		TO BERTH		SWITCH SETTING (0=ON)							
	NAME	No.	NAME	No.	1	2	3	4	5	6	7	8
1	D944	(16)	D718	(13)	0	1	0	0	1	1	1	0
2	D944	(16)	C/O	(65)	0	1	1	1	1	1	0	0
3	D944	(16)	D698	(08)	1	1	1	0	1	1	1	0
4	D944	(16)	D935	(11)	0	0	1	0	1	1	1	0
5	--- NOT USED ----		--- NOT USED ----		x	x	x	x	x	x	x	1
6	--- NOT USED ----		--- NOT USED ----		x	x	x	x	x	x	x	1
7	D943	(24)	D769	(27)	0	0	1	0	0	1	1	0
8	--- NOT USED ---		--- NOT USED ---		x	x	x	x	x	x	x	1

Block H Steps 1-8					Card Position 61							
STEP No.	FROM BERTH		TO BERTH		SWITCH SETTING (0=ON)							
	NAME	No.	NAME	No.	1	2	3	4	5	6	7	8
1	CAA1	(31)	1002	(32)	1	1	1	1	1	0	1	0
2	1001	(33)	CADP	(29)	0	1	0	0	0	1	1	0
3					x	x	x	x	x	x	x	1
4					x	x	x	x	x	x	x	1
5					x	x	x	x	x	x	x	1
6					x	x	x	x	x	x	x	1
7					x	x	x	x	x	x	x	1
8					x	x	x	x	x	x	x	1

Block H Steps 9-16					Card Position 65							
STEP No.	FROM BERTH		TO BERTH		SWITCH SETTING (0=ON)							
	NAME	No.	NAME	No.	1	2	3	4	5	6	7	8
1					x	x	x	x	x	x	x	1
2					x	x	x	x	x	x	x	1
3					x	x	x	x	x	x	x	1
4					x	x	x	x	x	x	x	1
5					x	x	x	x	x	x	x	1
6					x	x	x	x	x	x	x	1
7					x	x	x	x	x	x	x	1
8					x	x	x	x	x	x	x	1

"x" indicates that the position of the switch is irrelevant.

VOLUME 2

SECTION 5 - CARD FRAME ALLOCATION

- 5-1 TD Top Rack
- 5-2 TD Upper Frame
- 5-3 TD Lower Frame
- 5-4 ATR Top Rack
- 5-4 ATR Modem Rack
- 5-4 ATR Upper Frame

TD TOP RACK			
Pos.	Module	Function	Allocation
1	110V SWITCHED	DISTRIBUTION	TD
7	PK55 5V/+&-12V	POWER SUPPLY	TD COMPUTER
19	PK55 5V/+&-12V	POWER SUPPLY	CARD FRAMES
31	PK60*	POWER SUPPLY	EXPANSION
43	PK60 12V 5A	POWER SUPPLY	ISOLATION
55	PK60*	POWER SUPPLY	EXPANSION
67	MODEM	INTERFACE	FB1 (TAYBRIDGE SOUTH)
73	MODEM	INTERFACE	FB2 (LONGFORGAN)
79	MODEM	INTERFACE	FB3 (CARNOUSTIE)

"*" indicates that no module is fitted in this position.

TD UPPER FRAME				
Pos.	Card	SES No.	Function	Allocation
5	BSDD	80SES1	BERTH SELECT & DISPLAY DRIVE	BERTHS 00-15
9	BSDD	80SES1	BERTH SELECT & DISPLAY DRIVE	BERTHS 16-31
13	BSDD	80SES1	BERTH SELECT & DISPLAY DRIVE	BERTHS 32-47
17	BSDD*	80SES1	BERTH SELECT & DISPLAY DRIVE	EXPANSION
21	MR	83SES2	MAIN	
25	MR	83SES2	AUXILIARY 1	INTERFACE ROUTING
29	MR*	83SES2	AUXILIARY 2	EXPANSION
33	CONTROL	82SES1	SERIAL LINK	FB1 (TAYBRIDGE SOUTH)
37	CONTROL	82SES1	SERIAL LINK	FB2 (LONGFORGAN)
41	CONTROL	82SES1	SERIAL LINK	FB3 (CARNOUSTIE)
45	CONTROL*	82SES1	SERIAL LINK	EXPANSION
49	CONTROL	82SES1	SERIAL LINK	KEYBOARD
53	CONTROL	82SES1	SERIAL LINK	PANEL I/F
57	*		INTERFACE	EXPANSION
61	*		INTERFACE	EXPANSION
65	DEM	82SES3	MULDEM	MESHING
69	DEM *	82SES3	MULDEM	EXPANSION
73	MUL	82SES2	MULDEM	E.T.
77	MUL*	82SES2	MULDEM	EXPANSION
81	CONTROL	82SES1	MULDEM CONTROL (SERIAL LINK)	MULDEM

"*" indicates that no card is fitted in this position.

TD LOWER FRAME				
Pos.	Card	SES No.	Function	Allocation
5	BS	83SES1	STEP VALIDATION	BLOCK A STEPS 1-8
9	BS	83SES1	STEP VALIDATION	BLOCK A STEPS 9-16
13	BS	83SES1	STEP VALIDATION	BLOCK B STEPS 1-8
17	BS	83SES1	STEP VALIDATION	BLOCK B STEPS 9-16
21	BS	83SES1	STEP VALIDATION	BLOCK C STEPS 1-8
25	BS	83SES1	STEP VALIDATION	BLOCK C STEPS 9-16
29	BS	83SES1	STEP VALIDATION	BLOCK D STEPS 1-8
33	BS	83SES1	STEP VALIDATION	BLOCK D STEPS 9-16
37	BS	83SES1	STEP VALIDATION	BLOCK E STEPS 1-8
41	BS	83SES1	STEP VALIDATION	BLOCK E STEPS 9-16
45	BS	83SES1	STEP VALIDATION	BLOCK F STEPS 1-8
49	BS	83SES1	STEP VALIDATION	BLOCK F STEPS 9-16
53	BS	83SES1	STEP VALIDATION	BLOCK G STEPS 1-8
57	BS	83SES1	STEP VALIDATION	BLOCK G STEPS 9-16
61	BS	83SES1	STEP VALIDATION	BLOCK H STEPS 1-8
65	BS	83SES1	STEP VALIDATION	BLOCK H STEPS 9-16
69	BS*	83SES1	STEP VALIDATION	EXPANSION
73	BS*	83SES1	STEP VALIDATION	EXPANSION
77	BS*	83SES1	STEP VALIDATION	EXPANSION
81	BS*	83SES1	STEP VALIDATION	EXPANSION

"*" indicates that no card is fitted in this position.

ATR TOP RACK			
Pos.	Module	Function	Allocation
1	100V SWITCHED	DISTRIBUTION	ATR
7	PK55 5V/+&-12V	POWER SUPPLY	ATR COMPUTER
19	PK55 5V/+&-12V	POWER SUPPLY	CARD FRAMES
31	PK60 12V 5A	POWER SUPPLY	-12V TX/RX
43	PK60 12V 5A	POWER SUPPLY	+12V TX/RX

ATR MODEM RACK			
Pos.	Module	Function	Allocation
1	BYPASS	LINE ROUTEING	LOCAL PRINTER
7	MODEM	TX/RX	
13	MODEM	TX/RX	
19	MODEM	TX/RX	
25	MODEM	TX/RX	
31	MODEM	TX/RX	
37	MODEM	TX/RX	
43	MODEM	TX/RX	

ATR UPPER FRAME				
Pos.	Card	SES No.	Function	Allocation
4	MR	83SES2	MAIN	LINK SELECTION
8	MR*	83SES2	AUXILIARY	EXPANSION
12	CONTROL	82SES1	SERIAL LINK	LOCAL PRINTER
16	CONTROL*	82SES1	SERIAL LINK	EXPANSION
20	CONTROL*	82SES1	SERIAL LINK	EXPANSION
24	CONTROL*	82SES1	SERIAL LINK	EXPANSION
28	CONTROL*	82SES1	SERIAL LINK	EXPANSION
32	CONTROL*	82SES1	SERIAL LINK	EXPANSION
36	CONTROL*	82SES1	SERIAL LINK	EXPANSION
40	CONTROL*	82SES1	SERIAL LINK	EXPANSION

*** indicates that no card is fitted in this position.

VOLUME 2

SECTION 6 - KLIPPON ALLOCATION

- 6-1 TD DC Rail
- 6-1 ATR DC Rail
- 6-1 AC Rail (ATR Cabinet)
- 6-2 Blocks A through H (Stepping)
- 6-3 Block L (Multiplexing)
- 6-4 Block M (Demultiplexing)
- 6-5 Panel Block

TD CABINET DC RAIL			
Terminal	Voltage	Allocation	Supply pos.
1	-----	--- NOT USED ---	---
2	+12V	ISOLATION (LOWER FRAME)	43
3	-----	--- NOT USED ---	---
4	0V	ISOLATION (LOWER FRAME)	43
5	+12V	COMMUNICATION (UPPER FRAME)	19
6	-12V	COMMUNICATION (UPPER FRAME)	19
7	+12V	COMPUTER (DRAWER)	7
8	-12V	COMPUTER (DRAWER)	7
9	+5V	CARDS (UPPER FRAME)	19
10	+5V	CARDS (LOWER FRAME)	19
11	+5V	COMPUTER (DRAWER)	7
12	0V	CARDS (UPPER FRAME)	19
13	0V	COMMUNICATIONS (UPPER FRAME)	19
14	0V	CARDS (LOWER FRAME)	19
15	0V	COMPUTER (LINKED TO ATR 0V)	7

ATR CABINET DC RAIL			
Terminal	Voltage	Allocation	Supply pos.
1	+12V	COMPUTER (DRAWER)	7
2	-12V	COMPUTER (DRAWER)	7
3	+12V	COMMUNICATION (CARD FRAME)	19
4	-12V	COMMUNICATION (CARD FRAME)	19
5	+12V	COMMUNICATION (MODEMS)	43
6	-12V	COMMUNICATION (MODEMS)	31
7	+5V	COMPUTER (DRAWER)	7
8	+5V	CARDS (CARD FRAME)	19
9	0V	COMPUTER (DRAWER)	7
10	0V	CARDS (CARD FRAME)	19
11	0V	COMMUNICATION (COMPUTER & CARDS)	7 & 19
12	0V	COMMUNICATION (MODEMS)	31 & 43

ATR CABINET AC RAIL			
Terminal	Voltage	Allocation	Comments
1	EARTH	--- NOT USED ---	-----
2	EARTH	--- NOT USED ---	-----
3	EARTH	--- NOT USED ---	-----
4	NX110	DISTRIBUTION BOX 'B'	-----
5	NX110	ATR	
6	NX110	TD	
7	BX110	DISTRIBUTION BOX 'B'	-----
8	BX110	ATR	
9	BX110	TD	
Lower 6	NX110		INPUT
Lower 9	BX110		INPUT

KLIPPON BLOCKS A - H				
Terminal No. Klippon		Backplane Terminal *	Identity	Comments
FRONT	1	Lc20	STEP 1 CONDITION	
	2	Lc21	STEP 2 CONDITION	
	3	Lc22	STEP 3 CONDITION	
	4	Lc23	STEP 4 CONDITION	
	5	Lc24	STEP 5 CONDITION	
	6	Lc25	STEP 6 CONDITION	
	7	Lc26	STEP 7 CONDITION	
	8	Lc27	STEP 8 CONDITION	
	C	Lc28	COMMON RETURN	
	9	Lc20	STEP 9 CONDITION	
	10	Lc21	STEP 10 CONDITION	
	11	Lc22	STEP 11 CONDITION	
	12	Lc23	STEP 12 CONDITION	
	13	Lc24	STEP 13 CONDITION	
	14	Lc25	STEP 14 CONDITION	
	15	Lc26	STEP 15 CONDITION	
	16	Lc27	STEP 16 CONDITION	
	C	Lc28	COMMON RETURN	
	19			
REAR	1	La20	STEP 1 TRIGGER	
	2	La21	STEP 2 TRIGGER	
	3	La22	STEP 3 TRIGGER	
	4	La23	STEP 4 TRIGGER	
	5	La24	STEP 5 TRIGGER	
	6	La25	STEP 6 TRIGGER	
	7	La26	STEP 7 TRIGGER	
	8	La27	STEP 8 TRIGGER	
	T	La28	COMMON RETURN	WRAPPED TO Lc28
	9	La20	STEP 9 TRIGGER	
	10	La21	STEP 10 TRIGGER	
	11	La22	STEP 11 TRIGGER	
	12	La23	STEP 12 TRIGGER	
	13	La24	STEP 13 TRIGGER	
	14	La25	STEP 14 TRIGGER	
	15	La26	STEP 15 TRIGGER	
	16	La27	STEP 16 TRIGGER	
	T	La28	COMMON RETURN	WRAPPED TO Lc28

* - See BS card allocations for card positions.

KLIPPON BLOCK L					
Terminal No.					
Block	Backplane	Identity	To/From	Allocation	Comments
1	P73 Lc21	Word A-b1	D769 tF8	769(M)DR	E.T.
2	P73 Lc22	Word A-b3			
3	P73 Lc23	Word A-b5			
4	P73 Lc24	Word A RET.	D769 tF9		
5	P73 Lc25	Word B-b1	D698 tF14	556TPR	E.T.
6	P73 Lc26	Word B-b3	D718 tF14	544TPR	E.T.
7	P73 Lc27	Word B-b5			
8	P73 Lc28	Word B RET.	D698 tF15		
9	P77 Lc21	Word A-b1			
10	P77 Lc22	Word A-b3			
11	P77 Lc23	Word A-b5			
12	P77 Lc24	Word A RET.			
13	P77 Lc25	Word B-b1			
14	P77 Lc26	Word B-b3			
15	P77 Lc27	Word B-b5			
16	P77 Lc28	Word B RET.			
17					NOT USED
18					NOT USED
19					NOT USED
20	P73 La21	Word A-b0	1001 tC36	1001(M)DR	E.T.
21	P73 La22	Word A-b2			
22	P73 La23	Word A-b4	D769 tF15	623TPR	E.T.
23	P73 La24	Word A-b6			
24	P73 La25	Word B-b0	D698 tF16	698DR	E.T.
25	P73 La26	Word B-b2	D718 tF16	718DR	E.T.
26	P73 La27	Word B-b4			
27	P73 La28	Word B-b6			
28	P77 La21	Word A-b0			
29	P77 La22	Word A-b2			
30	P77 La23	Word A-b4			
31	P77 La24	Word A-b6			
32	P77 La25	Word B-b0			
33	P77 La26	Word B-b2			
34	P77 La27	Word B-b4			
35	P77 La28	Word B-b6			
36					NOT USED
37					NOT USED

KLIPPON BLOCK M						
Terminal No.	Block	Backplane	Identity	To/From	Allocation	Comments
1		P65 Lc19	Word A-b0	MR2 tE61	D724	MESHING
2		P65 Lc20	Word A-b2	MR2 tB58	D699	MESHING
3		P65 Lc21	Word A-b4	MR2 tB57	D758	MESHING
4		P65 Lc22	Word A-b6			
5		P65 Lc23	Word B-b1			
6		P65 Lc24	Word B-b3			
7		P65 Lc25	Word B-b5			
8		P65 Lc26	Word B RET.			
9		P69 Lc19	Word A-b0			
10		P69 Lc20	Word A-b2			
11		P69 Lc21	Word A-b4			
12		P69 Lc22	Word A-b6			
13		P69 Lc23	Word B-b1			
14		P69 Lc24	Word B-b3			
15		P69 Lc25	Word B-b5			
16		P69 Lc26	Word B RET.			
17						NOT USED
18						NOT USED
19						NOT USED
20		P65 La19	Word A RET.	MR2 tE60	D753	MESHING
21		P65 La20	Word A-b1	MR2 tE62	D719	MESHING
22		P65 La21	Word A-b3	MR2 tB59		
23		P65 La22	Word A-b5			
24		P65 La23	Word B-b0			
25		P65 La24	Word B-b2			
26		P65 La25	Word B-b4			
27		P65 La26	Word B-b6			
28		P69 La19	Word A RET.			
29		P69 La20	Word A-b1			
30		P69 La21	Word A-b3			
31		P69 La22	Word A-b5			
32		P69 La23	Word B-b0			
33		P69 La24	Word B-b2			
34		P69 La25	Word B-b4			
35		P69 La26	Word B-b6			
36						NOT USED
37						NOT USED

PANEL BLOCK						
Terminal No. Block & "D"	Backplane Mod.	Card	Identity	Allocation	Comments	Terminals Used
1	c12	Lc12	Port 5 bit 0	L'FGAN TFA(S)	WRAP 1	✓
2	c13	Lc13	Port 5 bit 2	CARN'STIE TFA(S)	WRAP 2	✓
3	c14	Lc14	Port 5 RET.		WRAP 5	
4	c15	Lc15	Port 5 SUP.	B12 IN	WRAP 6	✓
5	c16	Lc16				
6	c17	Lc17	Port 6 bit 0	L'FGAN TFA(F)	WRAP 1	
7	c18	Lc18	Port 6 bit 2	CARN'STIE TFA(F)	WRAP 2	
8	c19	Lc19	Port 6 RET.		WRAP 5	
9	c20	Lc20	Port 7 RET.		WRAP 5	
10	c21	Lc21	Port 7 bit 3	RxC BUZZER	WRAP 4	
11	c22	Lc22	Port 7 bit 1	T.B. RxC		✓
12	c23	Lc23	Port 7 SUP.		WRAP 6	
13	c24	Lc24	Port 1(I) b0	L'FGAN TFA (AK)	BUTTON	✓
14	c25	Lc25	Port 1(I) b2	CARN'STIE TFA (AK)	BUTTON	✓
15	c26	Lc26	Port 1(I) b4	L'FGAN RxC (AK)	BUTTON	✓
16	c27	Lc27	Port 1(I) b6	CARN'STIE RxC (AK)	BUTTON	✓
17	c28	Lc28	ISO. RET.	AK BUTTON LOOP	WRAP 5	✓
18						
19						
20	a12	La12	Port 5 bit 1	T.B. TFA(S)	WRAP 3	✓
21	a13	La13	Port 5 bit 3	DRW BUZZER	WRAP 4	✓
22	a14	La14	Port 5 RET.	AK BUTTON LOOP	WRAP 5	✓
23	a15	La15				
24	a16	La16	Port 6 SUP.	B12 DRW BUZZER	WRAP 6	✓
25	a17	La17	Port 6 bit 1	T.B. TFA(F)	WRAP 3	
26	a18	La18	Port 6 bit 3	TFA BUZZER		✓
27	a19	La19	Port 6 RET.		WRAP 5	
28	a20	La20	Port 7 RET.		WRAP 5	
29	a21	La21	Port 7 bit 2	CARN'STIE RxC		✓
30	a22	La22	Port 7 bit 0	L'FGAN RxC		✓
31	a23	La23				
32	a24	La24	Port 1(I) b1	T.B. TFA (AK)	BUTTON	✓
33	a25	La25	Port 1(I) b3			
34	a26	La26	Port 1(I) b5	T.B. RxC (AK)	BUTTON	✓
35	a27	La27	Port 1(I) b7			
36	a28	La28	ISO. RET.	N12 IN	WRAP 5	✓
37						
	a30 c30			5V & 0V OPTIONAL LAMPS & BUZZERS	SUPPLY FOR	

VOLUME 2

SECTION 7 - MODULE ALLOCATION

- 7-1 Panel Module
- 7-2 OCU Module
- 7-3 Serial Links Module
- 7-4 Display Data (Berths 00-15)
- 7-5 Display Data (Berths 16-31)
- 7-6 Display Data (Berths 32-47)

PANEL MODULE					
Terminal No.	Block	Backplane	Identity	Allocation	Comments
& "D"	Mod.	Card			
1	c12	Lc12	Port 5 bit 0	L'F'GAN TFA(S)	WRAP 1
2	c13	Lc13	Port 5 bit 2	CARN'STIE TFA(S)	WRAP 2
3	c14	Lc14	Port 5 RET.		WRAP 5
4	c15	Lc15	Port 5 SUP.	B12 IN	WRAP 6
5	c16	Lc16			
6	c17	Lc17	Port 6 bit 0	L'F'GAN TFA(F)	WRAP 1
7	c18	Lc18	Port 6 bit 2	CARN'STIE TFA(F)	WRAP 2
8	c19	Lc19	Port 6 RET.		WRAP 5
9	c20	Lc20	Port 7 RET.		WRAP 5
10	c21	Lc21	Port 7 bit 3	RxC BUZZER	WRAP 4
11	c22	Lc22	Port 7 bit 1	T.B. RxC	
12	c23	Lc23	Port 7 SUP.		WRAP 6
13	c24	Lc24	Port 1(I) b0	L'F'GAN TFA (AK)	BUTTON
14	c25	Lc25	Port 1(I) b2	CARN'STIE RxC (AK)	BUTTON
15	c26	Lc26	Port 1(I) b4	L'F'GAN RxC (AK)	BUTTON
16	c27	Lc27	Port 1(I) b6	CARN'STIE TFA (AK)	BUTTON
17	c28	Lc28	ISO. RET.	AK BUTTON LOOP	WRAP 5
18					
19					
20	a12	La12	Port 5 bit 1	T.B. TFA(S)	WRAP 3
21	a13	La13	Port 5 bit 3	DRW BUZZER	WRAP 4
22	a14	La14	Port 5 RET.	AK BUTTON LOOP	WRAP 5
23	a15	La15			
24	a16	La16	Port 6 SUP.	B12 DRW BUZZER	WRAP 6
25	a17	La17	Port 6 bit 1	T.B. TFA(F)	WRAP 3
26	a18	La18	Port 6 bit 3	TFA BUZZER	
27	a19	La19	Port 6 RET.		WRAP 5
28	a20	La20	Port 7 RET.		WRAP 5
29	a21	La21	Port 7 bit 2	CARN'STIE RxC	
30	a22	La22	Port 7 bit 0	L'F'GAN RxC	
31	a23	La23			
32	a24	La24	Port 1(I) b1	T.B. TFA (AK)	BUTTON
33	a25	La25	Port 1(I) b3		
34	a26	La26	Port 1(I) b5	T.B. RxC (AK)	BUTTON
35	a27	La27	Port 1(I) b7		
36	a28	La28	ISO. RET.	N12 IN	WRAP 5
37					
	a30		5V & 0V OPTIONAL SUPPLY FOR LAMPS & BUZZERS		
	c30				

OCU (KEYBOARD) MODULE					
Terminal No. Block Backplane & "D" Mod. Card			Identity	Allocation	Comments
1	c22	Lc22	Port 7 bit 1		
2	c21	Lc21	Port 7 bit 3		
3	c20	Lc20	Port 7 RET.		
4	c19	Lc19	Port 6 RET.	0V	WRAP 4
5	c18	Lc18	Port 6 bit 2	EFA BUZZER	WRAP 1
6	c17	Lc17	Port 6 bit 0	EFA (F)	WRAP 2
7	c16	Lc16			
8	c15	Lc15	Port 5 SUP.	5V	WRAP 3
9	c14	Lc14	Port 5 RET.	0V	WRAP 4
10	c13	Lc13	Port 5 bit 2	NDA BUZZER	WRAP 1
11	c12	Lc12	Port 5 bit 0	EFA (S)	WRAP 2
12	c11	Uc24	Row 7	MATRIX	
13	c10	Uc23	Row 5	MATRIX	
14	c9	Uc22	Row 3	MATRIX	
15	c8	Uc21	Row 1	MATRIX	
16	c7	Uc20	Port 1 bit 6	MATRIX	
17	c6	Uc19	Port 1 bit 4	MATRIX	
18	c5	Uc18	Port 1 bit 2	MATRIX	
19	c4	Uc17	Port 1 bit 0	MATRIX	
20	a21	La21	Port 7 bit 2		
21	a20	La20	Port 7 RET.		
22	a19	La19	Port 6 RET.		WRAP 4
23	a18	La18	Port 6 bit 3		
24	a17	La17	Port 6 bit 1	NDA (F)	
25	a16	La16	Port 6 SUP.	5V	WRAP 3
26	a15	La15			
27	a14	La14	Port 5 RET.		WRAP 4
28	a13	La13	Port 5 bit 3		
29	a12	La12	Port 5 bit 1		
30	a11	Ua24	Row 8	MATRIX	
31	a10	Ua23	Row 6	MATRIX	
32	a9	Ua22	Row 4	MATRIX	
33	a8	Ua21	Row 2	MATRIX	
34	a7	Ua20	Port 1 bit 7	MATRIX	
35	a6	Ua19	Port 1 bit 5	MATRIX	
36	a5	Ua18	Port 1 bit 3	MATRIX	
37	a4	Ua17	Port 1 bit 1	MATRIX	
	a1		5V LED		WRAP 3
	c1		0V LED		WRAP 4

SERIAL LINKS MODULE					
Terminal No. 15 "D" Backplane Input Mod. Card			9 "D" Output	Allocation	Comments
1					
2	a21	Lc8		O.C.U. Rx	
3	a22	Lc6		O.C.U. Tx	
4	a23	Lc8		PANEL Rx	
5	a24	Lc6		PANEL Tx	
6			2	A.T.R. Rx	WRAP 6 TO 2
7			3	A.T.R. Tx	WRAP 7 TO 3
8					
9	c21	Lc7		O.C.U. GND	
10					
11					
12	c24	Lc7		PANEL GND	
13			6	A.T.R. GND	WRAP 13 TO 6
14					
15					

Display Data (BERTHS 00-15)			
'D' TYPE PIN No.	BERTH NUMBER	ALLOCATION	BACKPLANE TERMINAL
1	00	L1A	Pos5 Lc2
20		L1B	Pos5 La2
2	01	L2A	Pos5 Lc3
21		L2B	Pos5 La3
3	02	L3A	Pos5 Lc4
22		L3B	Pos5 La4
4	03	L4A	Pos5 Lc5
23		L4B	Pos5 La5
5	04	L5A	Pos5 Lc6
24		L5B	Pos5 La6
6	05	L6A	Pos5 Lc7
25		L6B	Pos5 La7
7	06	L7A	Pos5 Lc8
26		L7B	Pos5 La8
8	07	L8A	Pos5 Lc9
27		L8B	Pos5 La9
9	08	L9A	Pos5 Lc10
28		L9B	Pos5 La10
10	09	L10A	Pos5 Lc11
29		L10B	Pos5 La11
11	10	L11A	Pos5 Lc12
30		L11B	Pos5 La12
12	11	L12A	Pos5 Lc13
31		L12B	Pos5 La13
13	12	L13A	Pos5 Lc14
32		L13B	Pos5 La14
14	13	L14A	Pos5 Lc15
33		L14B	Pos5 La15
15	14	L15A	Pos5 Lc16
34		L15B	Pos5 La16
16	15	L16A	Pos5 Lc17
35		L16B	Pos5 La17
17			
36			
18			
37			
19			

Display Data (BERTHS 16-31)			
'D' TYPE PIN No.	BERTH NUMBER	ALLOCATION	BACKPLANE TERMINAL
1	16	L1A	Pos9 Lc2
20		L1B	Pos9 La2
2	17	L2A	Pos9 Lc3
21		L2B	Pos9 La3
3	18	L3A	Pos9 Lc4
22		L3B	Pos9 La4
4	19	L4A	Pos9 Lc5
23		L4B	Pos9 La5
5	20	L5A	Pos9 Lc6
24		L5B	Pos9 La6
6	21	L6A	Pos9 Lc7
25		L6B	Pos9 La7
7	22	L7A	Pos9 Lc8
26		L7B	Pos9 La8
8	23	L8A	Pos9 Lc9
27		L8B	Pos9 La9
9	24	L9A	Pos9 Lc10
28		L9B	Pos9 La10
10	25	L10A	Pos9 Lc11
29		L10B	Pos9 La11
11	26	L11A	Pos9 Lc12
30		L11B	Pos9 La12
12	27	L12A	Pos9 Lc13
31		L12B	Pos9 La13
13	28	L13A	Pos9 Lc14
32		L13B	Pos9 La14
14	29	L14A	Pos9 Lc15
33		L14B	Pos9 La15
15	30	L15A	Pos9 Lc16
34		L15B	Pos9 La16
16	31	L16A	Pos9 Lc17
35		L16B	Pos9 La17
17			
36			
18			
37			
19			

Display Data (BERTHS 32-47)			
'D' TYPE PIN No.	BERTH NUMBER	ALLOCATION	BACKPLANE TERMINAL
1	32	L1A	Pos13 Lc2
20		L1B	Pos13 La2
2	33	L2A	Pos13 Lc3
21		L2B	Pos13 La3
3	34	L3A	Pos13 Lc4
22		L3B	Pos13 La4
4	35	L4A	Pos13 Lc5
23		L4B	Pos13 La5
5	36	L5A	Pos13 Lc6
24		L5B	Pos13 La6
6	37	L6A	Pos13 Lc7
25		L6B	Pos13 La7
7	38	L7A	Pos13 Lc8
26		L7B	Pos13 La8
8	39	L8A	Pos13 Lc9
27		L8B	Pos13 La9
9	40	L9A	Pos13 Lc10
28		L9B	Pos13 La10
10	41	L10A	Pos13 Lc11
29		L10B	Pos13 La11
11	42	L11A	Pos13 Lc12
30		L11B	Pos13 La12
12	43	L12A	Pos13 Lc13
31		L12B	Pos13 La13
13	44	L13A	Pos13 Lc14
32		L13B	Pos13 La14
14	45	L14A	Pos13 Lc15
33		L14B	Pos13 La15
15	46	L15A	Pos13 Lc16
34		L15B	Pos13 La16
16	47	L16A	Pos13 Lc17
35		L16B	Pos13 La17
17			
36			
18			
37			
19			

VOLUME 2

SECTION 8 - FRINGE BOX UNIT "D" ALLOCATION

8-1 Lines

8-1 Local Inputs

FRINGE BOX LINES				
Terminal No. 9 Pin "D"	Backplane (Modem)	Identity	Lightning Protection Klippon Block Allocation *	Comments
1	28	Tx B		
2				
3				
4				
5	25	Rx B		
6	26	Tx A		
7				
8				
9	24	Rx A		

* Carnoustie F.B. ONLY

FRINGE BOX LOCAL INPUTS				
Terminal No. 25 Pin "D"	Backplane (ASAD)	Identity	Allocation	Comments
1	Lc30	VISO	B12 INDICATION	
2	Lc24	IP1 0		
3	La24	IP1 1		
4	Lc25	IP1 2		
5	La25	IP1 3		
6	Lc26	IP1 4		
7	La26	IP1 5		
8	Lc27	IP1 6		
9	La27	IP1 7	C/O CONTACT	
10	Lc28	ISO RET.		
11	La28	ISO RET.	RETURN	
12				
13	Lc32	ISO RET.	N12 INDICATION	
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				

VOLUME 2

SECTION 9 - SPARES

Suggested Spares

Type	Description	Qty	Comments
<u>Power Supplies</u>			
PK 55	5V 5A +/-12V 1A	2	TD / ATR
PK 60	5V 12A	2	TD
PK 60	12V 5A	2	TD / ATR
PK60 - III	5V 12A	2	Dist. Box B / Carnoustie F.B.
<u>Cards</u>			
SDB-80E	PROCESSOR	1	TD
SDB-80E	PROCESSOR	1	ATR
85 SES 2	ASAD	2	SATELLITES
82 SES 1	CONTROL	2	TD / ATR
80 SES 1	BSDD	2	TD
83 SES 2	MASTER ROUTEING	2	TD / ATR
83 SES 1	BERTH STEPPING	2	TD
82 SES 2	MULTIPLEXING	2	TD
82 SES 3	DEMULTIPLEXING	2	TD
<u>Modules</u>			
2072	ONE CARD MODEM	2	TD / ATR
83 SES 4	DISPLAY MODULE	2	TD
<u>Other</u>			
SES FB1	FRINGE BOX UNIT	1	COMPLETE
TEXAS 703	PRINTER	1	ATR
	LONG DISPLAY CABLE	2	DISTRIBUTION BOX TO DISPLAY
	SHORT DISPLAY CABLE	2	DISTRIBUTION BOX TO DISPLAY
	DISPLAY DATA CABLE	1	TD OUTPUT PANEL TO DISTRIBUTION BOX
	STEPPING DATA CABLE	1	IDF TO TD INPUT PANEL

VOLUME 2

SECTION 10 - RECORD OF MODIFICATION

DUNDEE TRAIN DESCRIBER - RECORD OF MODIFICATION

ISSUE DATE	MODIFICATION
April 1992	Meshing changes arising from Plan S877075 :-
	Block A Step 16 Trigger - from 3487 etc.T to 3485 etc.T
	Block B Step 8 Trigger - from 524T to 526T
	Condition - from 528T to 714UR
	Block B Step 9 Trigger - from 533T to 525T
	Condition - from 523T to 715UR
March 1995	Major changes arising from Plan L011/DS/0001 :-
	Broughty Ferry F.B. decommissioned
	Carnoustie F.B. Commissioned
	New 16 display Distribution Box in Dundee Panel
	New Stepping Block H
	Stepping & E.T. changes
	Dundee T.D. Program update
	Changes to pages in First Line Manual :-
	VOLUME 1
	Section 5 - 7, 20
	Section 6 - 1, 2, 4, 5, 10 to 15
	VOLUME 2
	Section 1 - Index, Dgn2 - Dgn10
	Section 2 - Index, 1
	Section 3 - Index, 8
	Section 4 - Index, 2, 3, 4, 5
	Section 5 - 1, 2, 3
	Section 6 - Index, 1, 2, 3, 5
	Section 7 - 1, 4, 5, 6
	Section 8 - 1
	Section 9 - 1
	Section 10 - 1

VOLUME 2

SECTION 11 - FAULT LOG

DUNDEE TRAIN DESCRIBER - FAULT LOG

<u>DATE</u>	<u>FAULT & ACTION TAKEN</u>	<u>TECHNICIAN</u>
.		.