NTP 297-3601-316

DMS-10 Family

600-Series Generics

DIP Switch Settings for Printed Circuit Packs and Balance Networks

08.01
For Generic 602.20 Standard August 2006

NORTEL

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Section 1: Introduction

Scope and purpose of this publication

This Nortel technical publication (NTP) contains the necessary information for setting dual in-line package (DIP) switches on printed circuit packs and balancing networks equipped in the DMS-10 switch.

Organization

Section 2 includes information on switch settings for the circuit packs; the switch setting information is arranged alpha-numerically according to pack code. Section 3 provides information on switch settings for balancing networks; this information is arranged alpha-numerically according to product code.

The switch setting information for each circuit pack or balancing network includes the following:

- a simplified outline drawing that identifies each DIP-switch and indicates its approximate position on the pack or balancing network

  Note: *Since the purpose for these drawings is to indicate DIP-switch positions, physical components located on the faceplate of the pack, such as LEDs, light pipes, and switches, are not depicted. For information about these components, refer to NTP 297-3601-500, General Maintenance Information.*

- tables indicating the various switch-selectable options and the necessary settings for each option

Notational conventions

All tables in this publication use the following notational convention:

"0" indicates that the switch is in the OFF position.

"1" indicates that the switch is in the ON position.

"-" indicates "not applicable" and that the position of the switch is irrelevant.

Section 2: Switch settings for printed circuit packs

Figure 2-1: NT0X10 Miscellaneous Scan Detection pack - switch locations

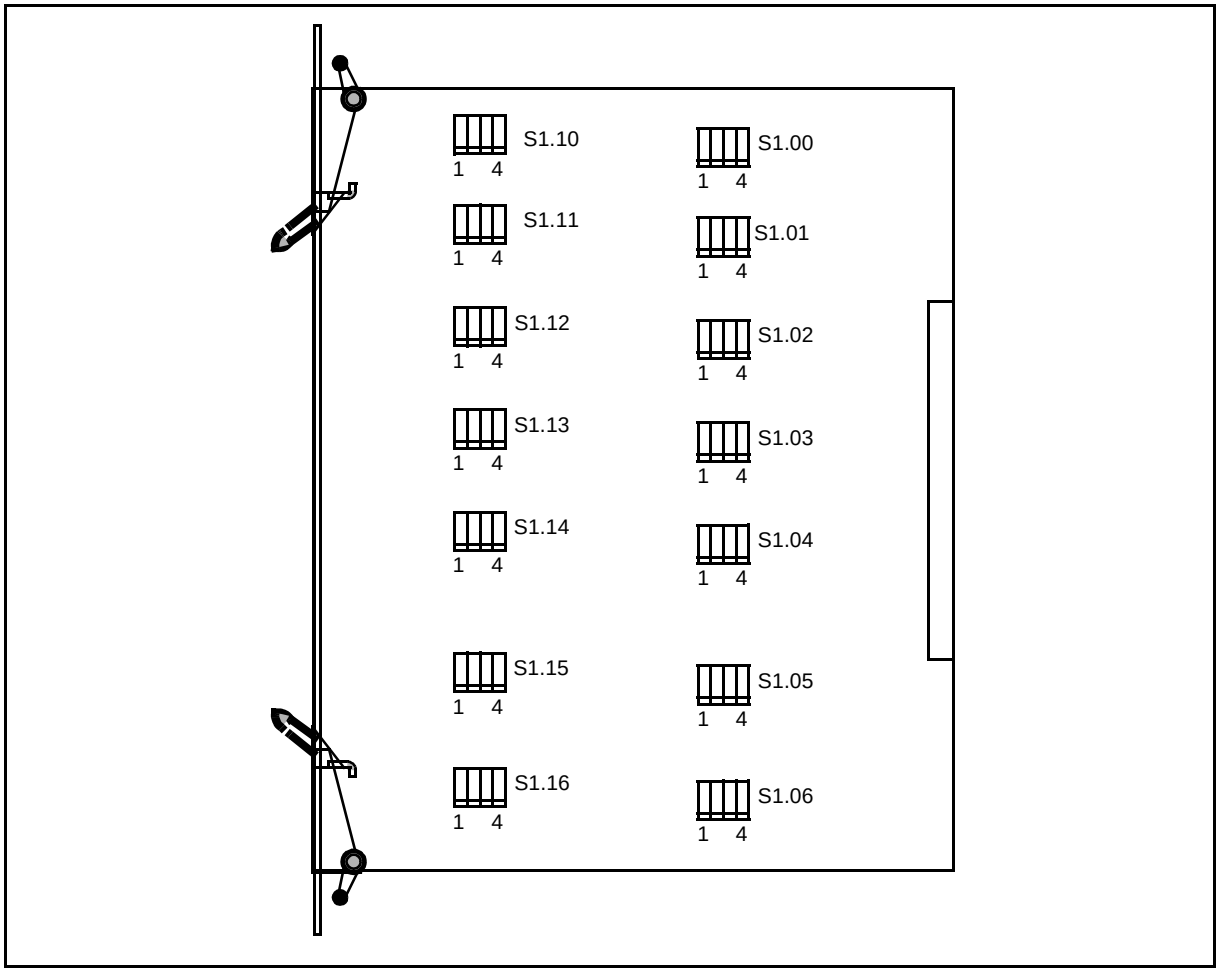
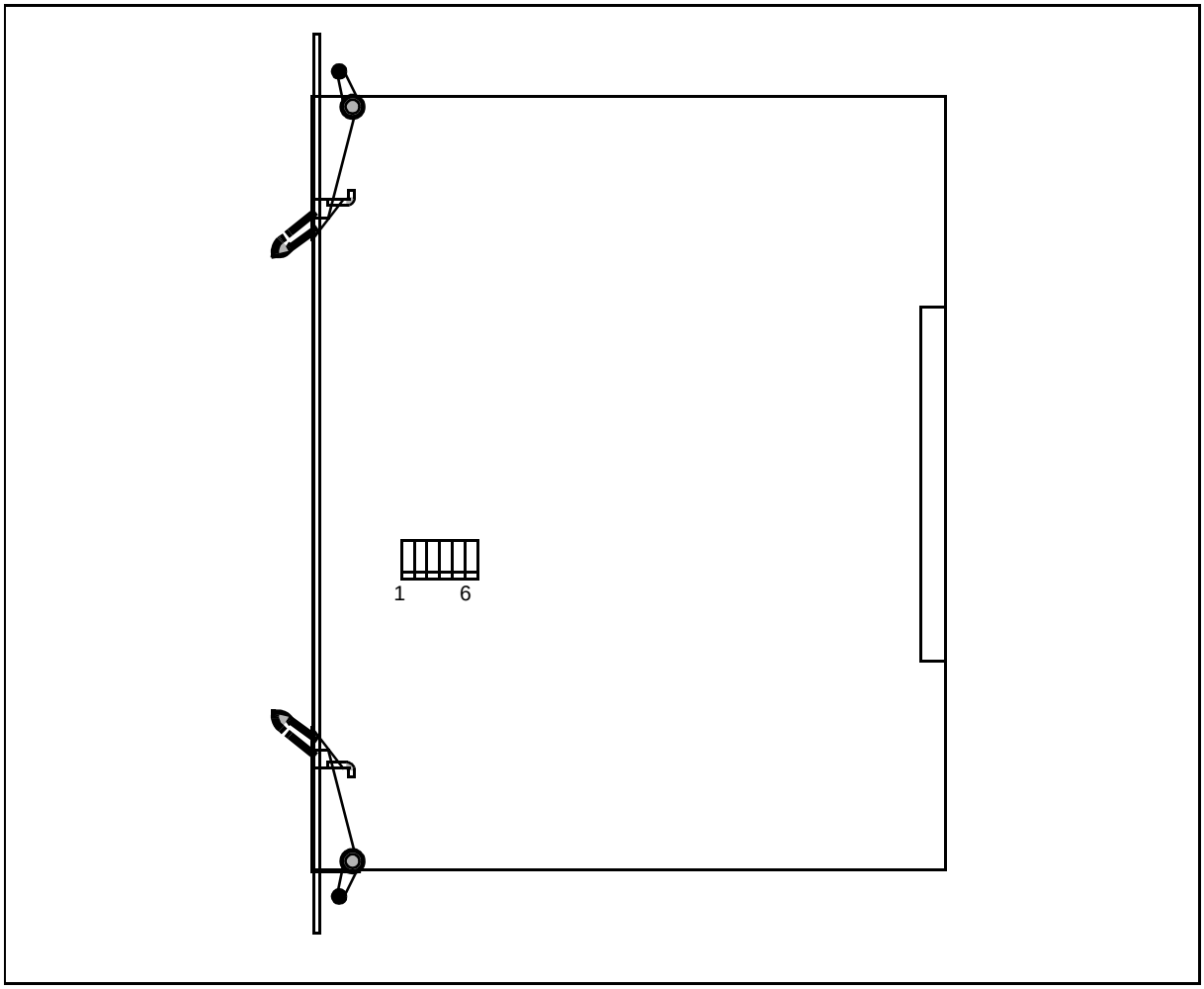


Table 2-A:
NT0X10 Miscellaneous Scan Detection pack - switch settings

Option	**Switch 1**			
	1	**2**	**3**	**4**
Loop Detector	1	-	1	-
Ground or Battery Detector	0	-	0	-

Note: *Settings: 1 = ON, 0 = OFF, - = NOT APPLICABLE. S1 positions apply to S1.00 through S1.06 and S1.10 through S1.16.*

Figure 2-2: NT2T03 Miscellaneous Line pack - switch locations



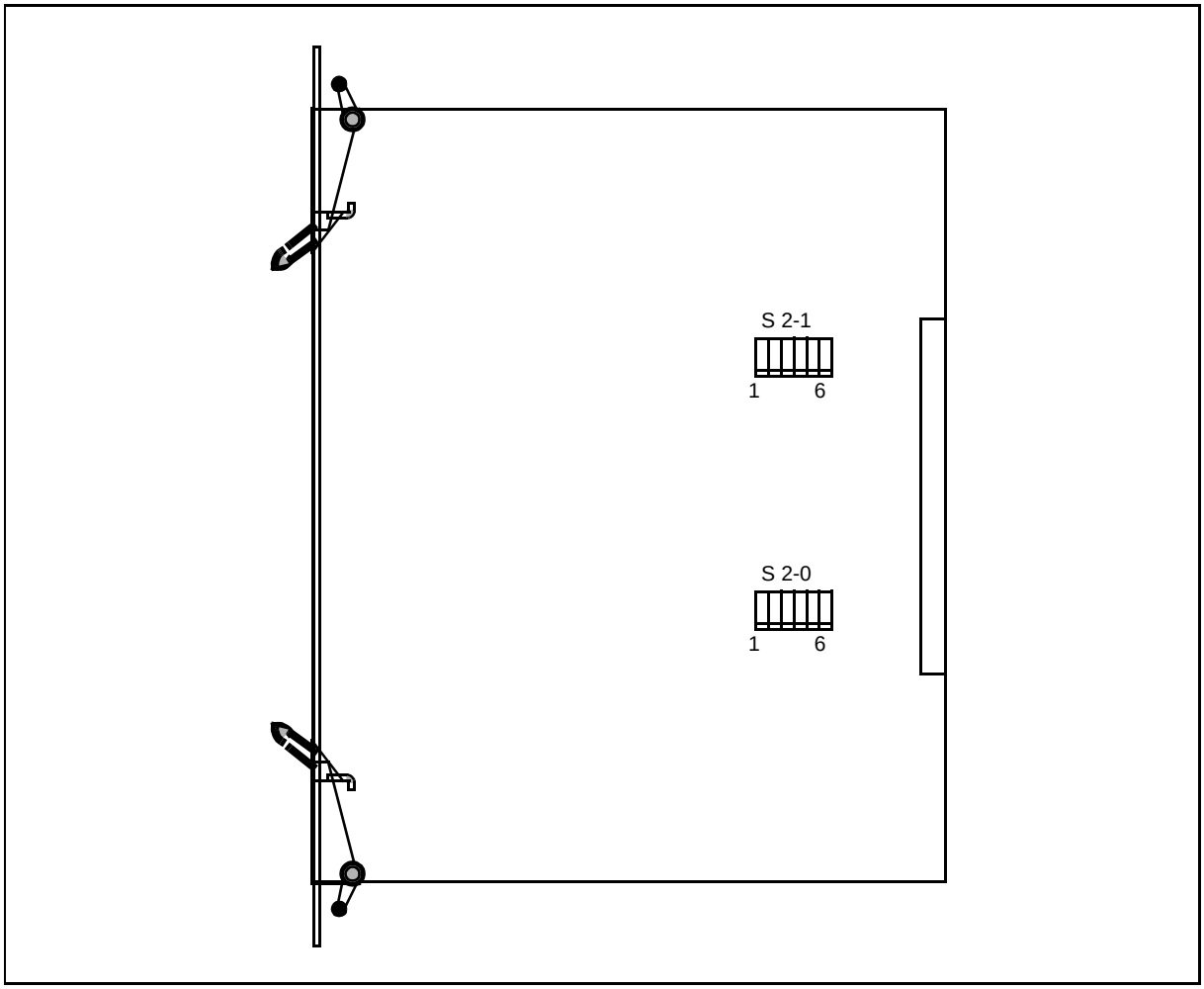
Note: *For correct operation of this pack, the software configuration of the pack options must match the DIP-switch option settings. To configure or query these options in software, refer to Overlay NTWK or CPK, PACK prompting sequence, prompts STR1 and STR2.*

Table 2-B:
NT2T03 Miscellaneous Line pack - switch settings

Option	Circuit 1 Switches 4 5 6	Circuit 2 Switches 1 2 3
Loop start	0 1 1	1 1 0
Ground start	1 0 0	0 0 1

Note: *Settings: 1 = ON, 0 = OFF, - = NOT APPLICABLE.*

Figure 2-3: NT2T04 Prepay Coin Line pack - switch locations



Note: *For correct operation of this pack, the software configuration of the pack options must match the DIP-switch option settings. To configure or query these options in software, refer to Overlay NTWK or CPK, PACK prompting sequence, prompts STR1, STR2, COI1, and COI2.*

Table 2-C:
NT2T04 Prepay Coin Line pack - switch settings

Option	**Switches (Line 1 or Line 2)**					
	1	**2**	**3**	**4**	**5**	**6**
Loop start	1	-	-	1	1	0
Ground start	0	-	-	0	0	1
Coin control voltage on tip and ring	-	1	-	-	-	-
Coin control voltage on tip only	-	0	-	-	-	-

Note: *Settings: 1 = ON, 0 = OFF, - = NOT APPLICABLE.*

Figure 2-4: NT2T08 and NT2T09 Extended-Range (two-party and eight-party) Line packs - switch locations

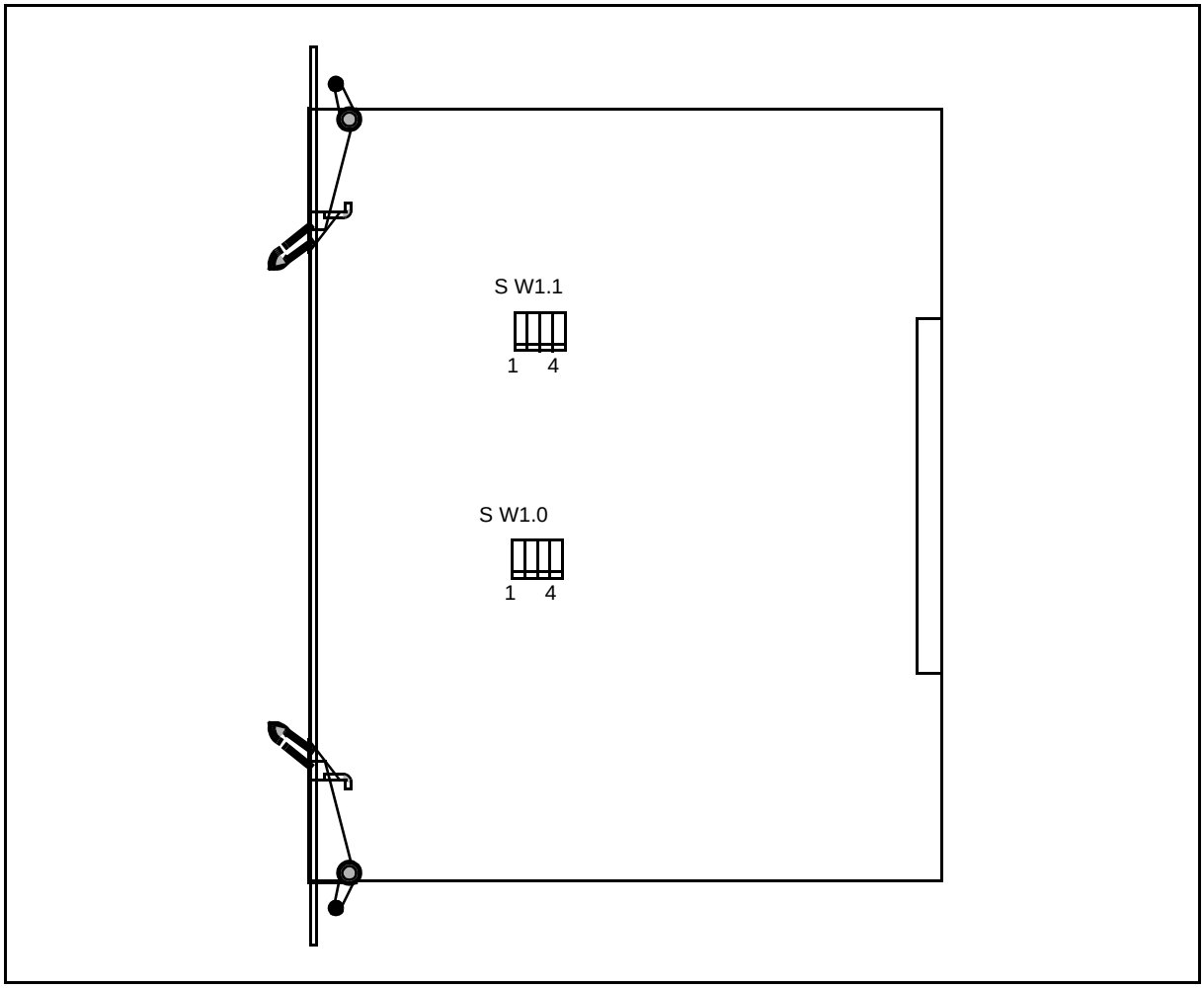


Table 2-D:
NT2T08 and NT2T09 Extended-Range Line packs - switch settings

	Switch 1				Switch 2			
	1	**2**	**3**	**4**	**1**	**2**	**3**	**4**
Normal	1	0	1	0	1	0	1	0
Fixed gain	0	1	0	1	0	1	0	1

Note: *Settings: 1 = ON, 0 = OFF, - = NOT APPLICABLE.*

Figure 2-5: NT2T16 Incoming Test Trunk pack - switch locations

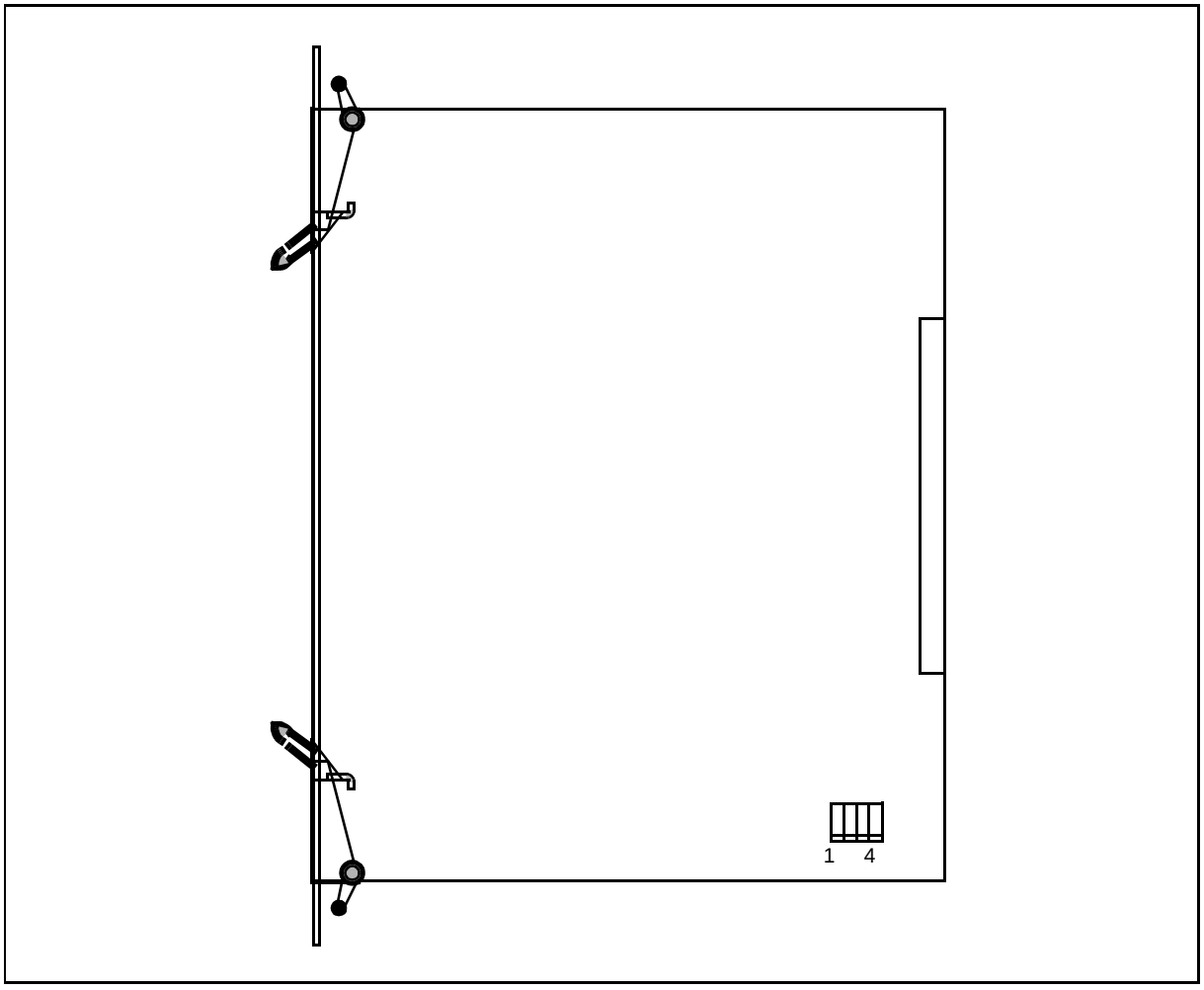


Table 2-E: **NT2T16 Incoming Test Trunk pack - switch settings**				
Tip-Ring Polarity	**Switches** **1**	**2**	**3**	**4**
Normal (T-, R+)	1	1	0	0
Reversed (T+, R-)	0	0	1	1

Note: *Settings: 1 = ON, 0 = OFF, - = NOT APPLICABLE.*

Figure 2-6: NT2T17 Noller Test Trunk pack - switch locations

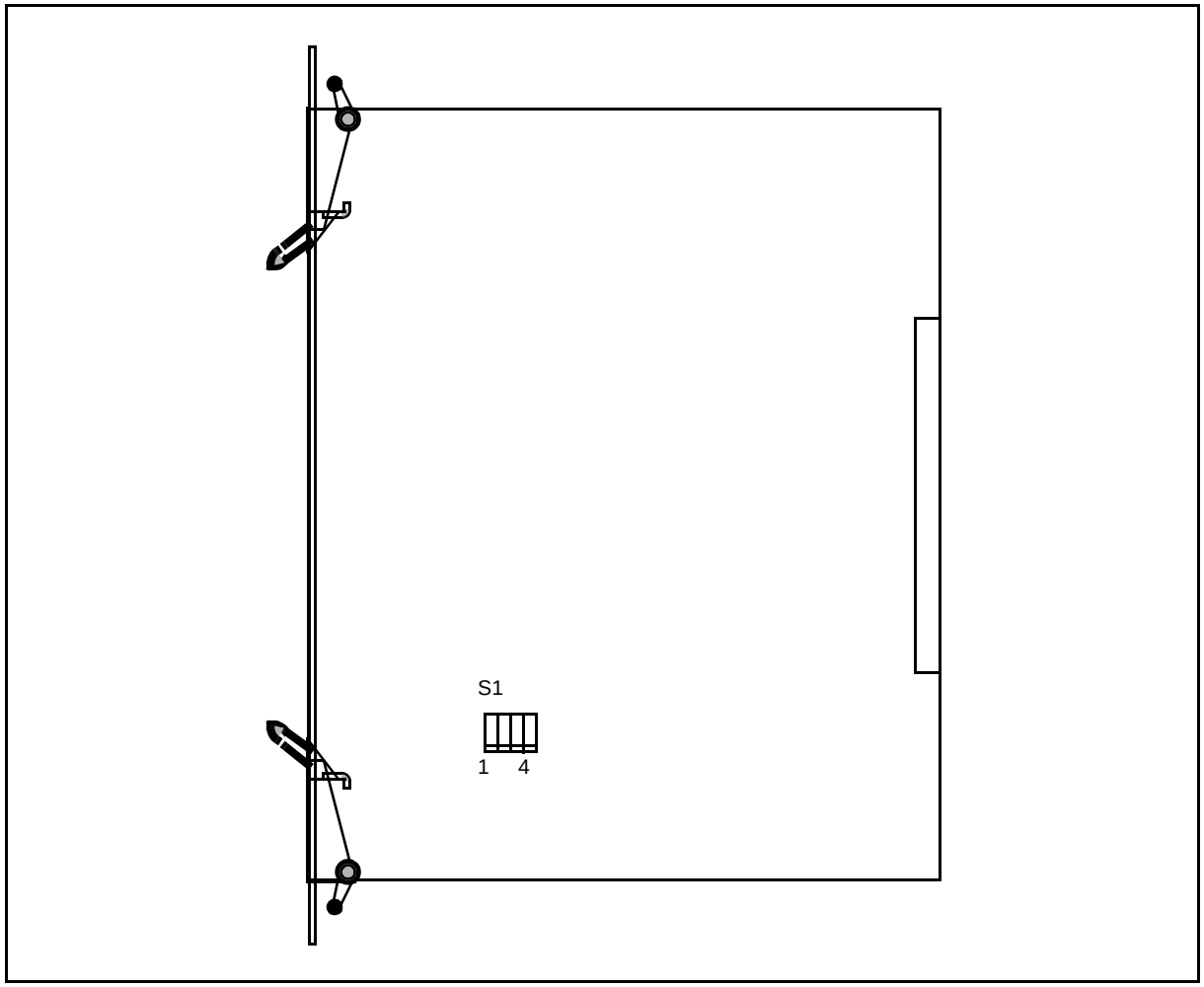


Table 2-F: **NT2T17 Noller Test Trunk pack - switch settings**				
Noller Badger Test Station	**Switches** **1**	**2**	**3**	**4**
Model 612 or 612A	0	0	0	0
Model 680	1	1	0	0

Note: *Settings: 1 = ON, 0 = OFF, - = NOT APPLICABLE.*

Figure 2-7: NT2T20 and NT2T21 E&M (two-wire and four-wire) Trunk packs - switch locations

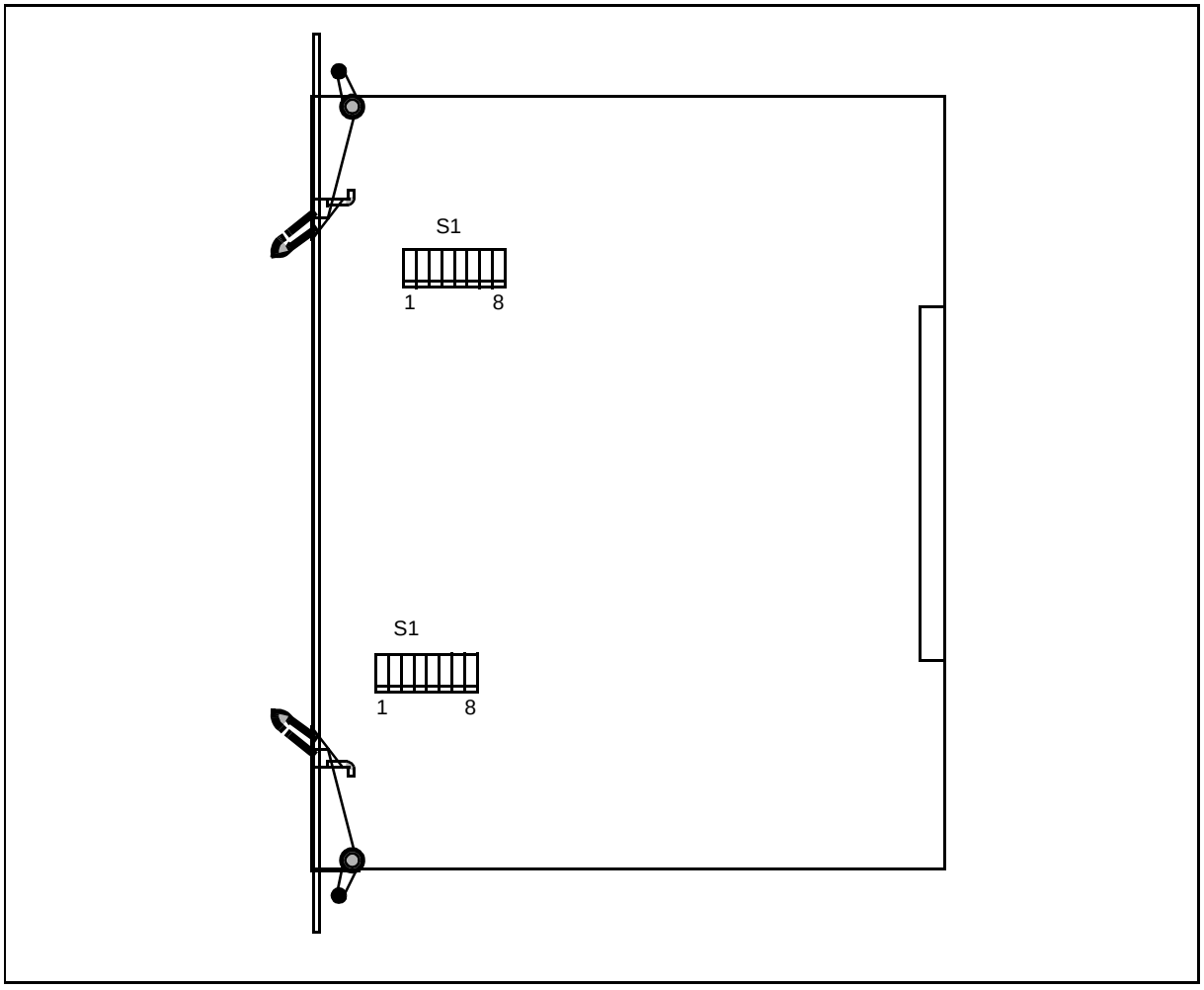


Table 2-G:
NT2T20 and NT2T21 E&M Trunk packs - switch settings

A/D Insertion Gain (dB)	Switches 1 2 3 4 5 6 7 8							D/A Insertion Gain (dB)	Switches 1 2 3 4 5 6 7 8							
0	0	0	0	1	-	-	-	0	-	-	-	-	1	0	-	0
+1	0	0	1	0	-	-	-	-1	-	-	-	-	0	1	-	0
+2	0	1	0	0	-	-	-	-2	-	-	-	-	0	0	-	1
+3	1	0	0	0	-	-	-		currently not used							

Note: *Settings: 1 = ON, 0 = OFF, - = NOT APPLICABLE.*

Figure 2-8: NT2T23 Miscellaneous Loop Trunk pack - switch locations

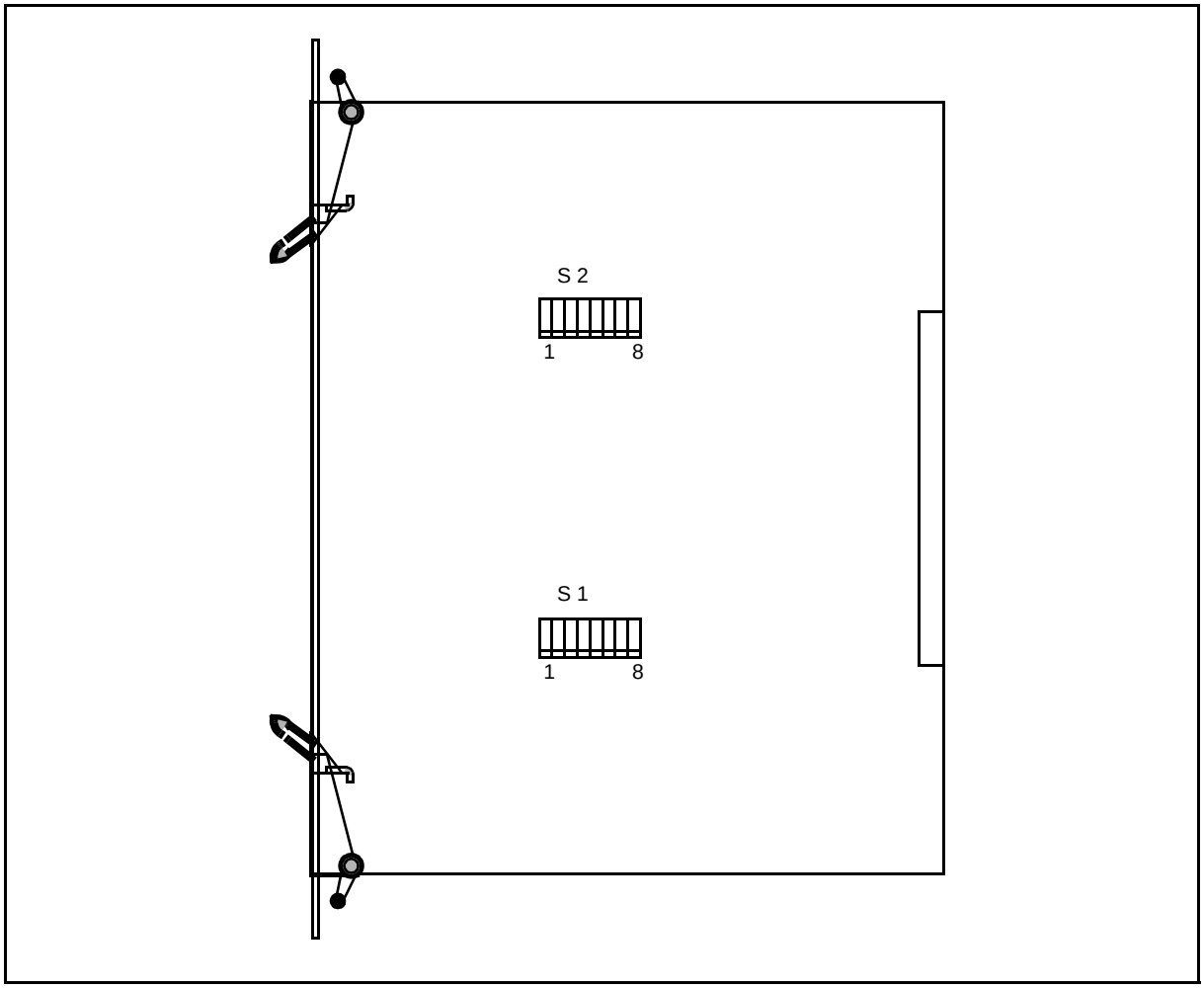


Table 2-H:
NT2T23 Miscellaneous Loop Trunk pack - 1 and 2 switch settings

A/D Insertion Gain (dB)	Switches 1 5	2 6	3 7	4 8	D/A Insertion Gain (dB)	Switches 1 5	2 6	3 7	4 8	Super vision Range (Ω)	Switches 1 5	2 6	3 7	4 8
0	0	0	1	-	0	-	-	-	1	0-3000	-	-	-	-
	-	-	-	-		0	0	-	-		-	1	0	
+1	0	1	0	-	-1	-	-	-	0	3001-4500	-	-	-	-
	-	-	-	-		1	0	-	-		-	0	1	
+2	1	0	0	-	-2	-	-	-	0					
	-	-	-	-		0	1	-	-					

Note: *Settings: 1 = ON, 0 = OFF, - = NOT APPLICABLE.*

Figure 2-9: NT2T24 Outgoing Loop Trunk pack - switch locations

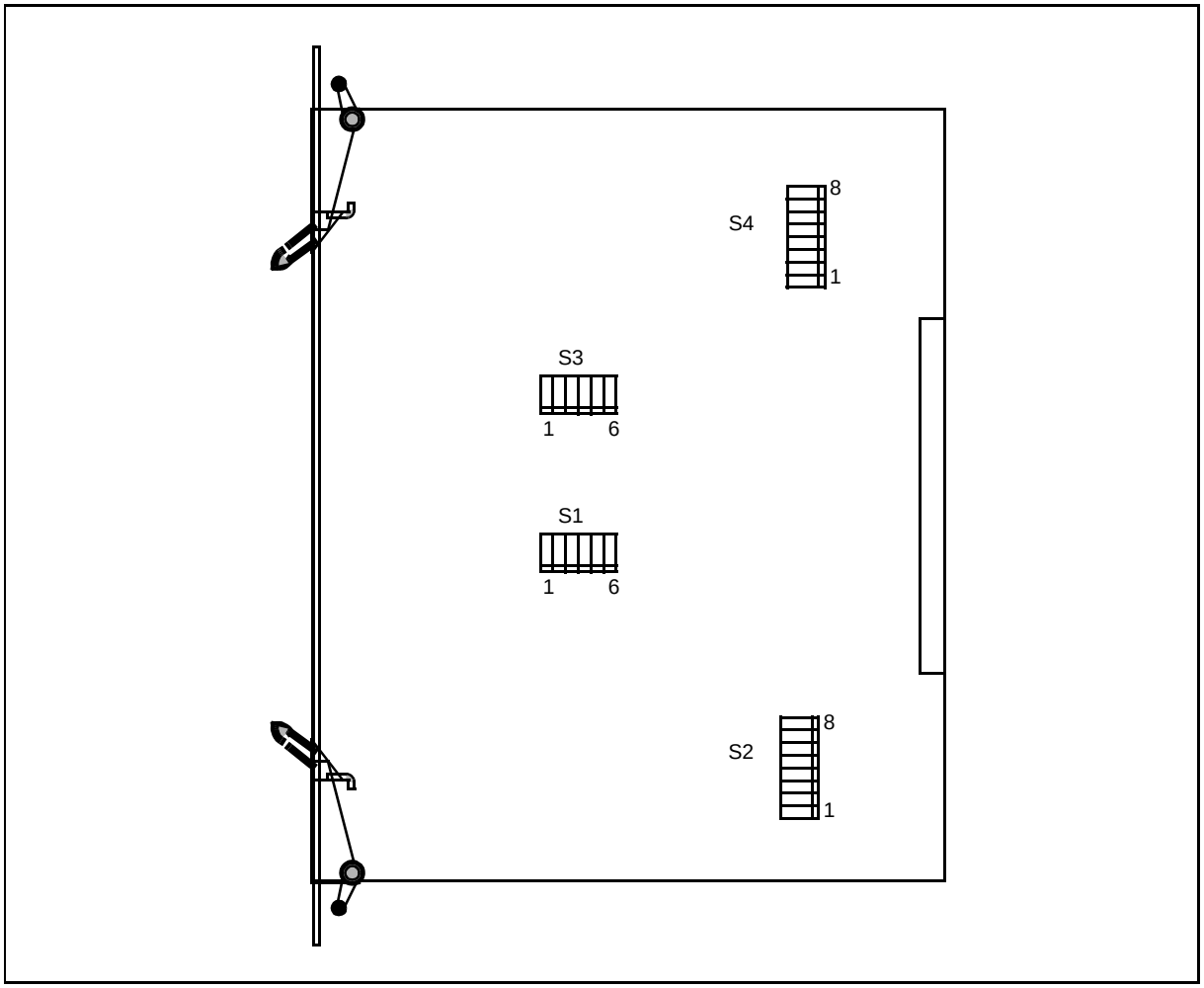


Table 2-I:
NT2T24 Outgoing Loop Trunk pack - switch settings (S1 and S3 switches)

A/D Insertion Gain (dB)	Switches 1	2	3	4	5	6	D/A Insertion Gain (dB)	Switches 1	2	3	4	5	6
0	0	0	1	-	-	-	0	-	-	-	1	0	0
+1	0	1	0	-	-	-	-1	-	-	-	0	1	0
+2	1	0	0	-	-	-	-2	-	-	-	0	0	1

Note: *Settings: 1 = ON, 0 = OFF, - = NOT APPLICABLE.*

Table 2-J:
NT2T24 Outgoing Loop Trunk pack - switch settings (S2 and S4 switches)

Outpulsing Type	**Switches**							
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Battery/Ground 200/200 Ω	1	1	1	1	1	0	0	0
Battery/Ground 574/574 Ω	0	0	1	1	1	0	0	0
Loop	0	0	0	0	0	0	1	1

Note: *Settings: 1 = ON, 0 = OFF, - = NOT APPLICABLE.*

Figure 2-10: NT2T27 Four-Wire E&M Trunk pack with pad switching - switch locations

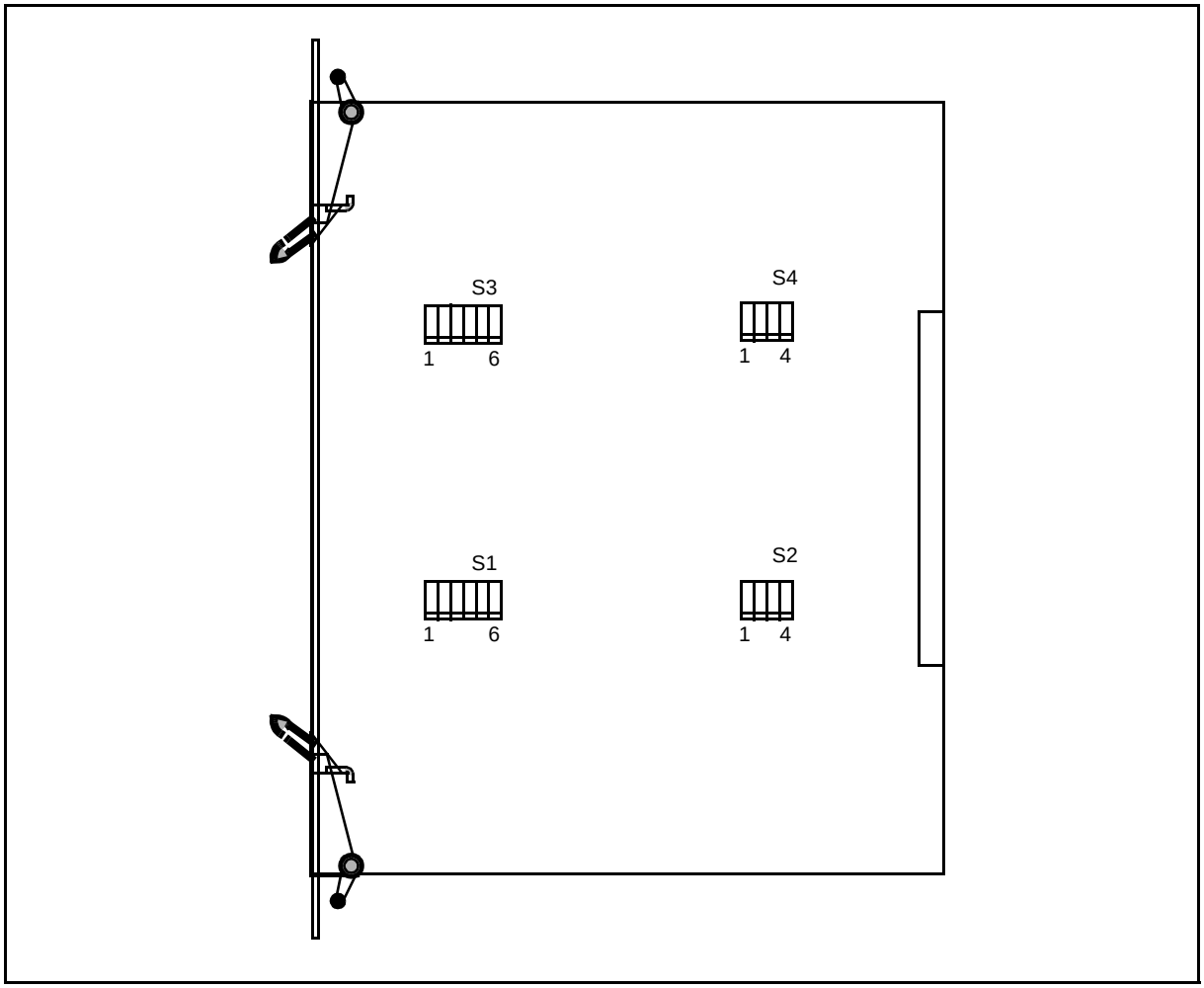


Table 2-K:
NT2T27 Four-Wire E&M Trunk pack with pad switching - switch settings (S2 and S4 switches)

A/D Insertion Gain (dB)	Switches 1	2	3	4	5	6	D/A Insertion Gain (dB)	Switches 1	2	3	4	5	6
0	0	0	1	-	-	-	0	-	-	-	1	0	0
+1	0	1	0	-	-	-	-1	-	-	-	0	1	0
+2	1	0	0	-	-	-	-2	-	-	-	0	0	1

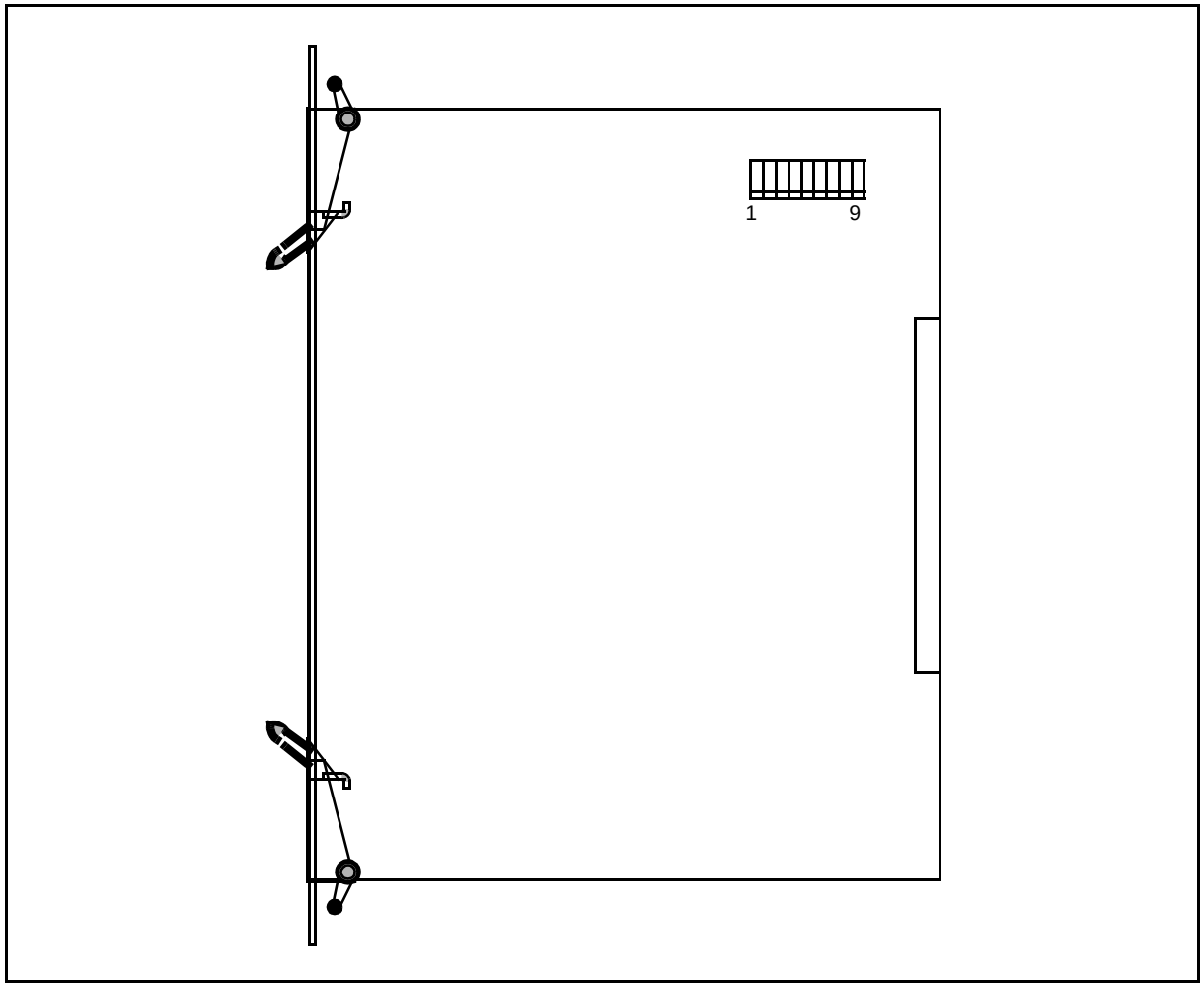
Note: *Settings: 1 = ON, 0 = OFF, - = NOT APPLICABLE.*

Table 2-L:
NT2T27 Four-Wire E&M Trunk pack with pad switching - switch settings

E&M Signaling Option	Trunk Circuit	S2 Switches 1	2	3	4	S4 Switches 1	2	3	4
Type I	1	0	1	1	0	-	-	-	-
	2	-	-	-	-	0	1	1	0
Type II	1	1	0	0	1	-	-	-	-
	2	-	-	-	-	1	0	0	1

Note: *Settings: 1 = ON, 0 = OFF, - = NOT APPLICABLE.*

Figure 2-11: NT2T32 Carrier Interface pack - switch locations



Note: *In order to be used with Operations Support Systems (OSS) telemetry for DMS-10 Clusters, the Carrier Interface pack must be vintage AE or later (that is, NT2T32AE or later).*

Table 2-M:
NT2T32 Carrier Interface pack - switch settings

Length of Cable from DCM/REM to Office Repeater Bay (feet)	**Switches**							
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**
0-150	1	-	0	0	0	0	0	0
151-450	0	-	1	0	0	1	0	1
451-750	0	-	0	1	1	0	1	0

Note: *Settings: 1 = ON, 0 = OFF, - = NOT APPLICABLE.*

Switch 2 is not used on 2T32AD and earlier vintage packs; settings for this switch on 2T32AE and later vintage packs are shown in Table 2-N.

Table 2-N:
NT2T32AE (and later) Carrier Interface pack switch settings - for mode selection

Mode	Switch (switch position 2)							
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Normal Timeslot 1 is a voice channel	-	0	-	-	-	-	-	-
DLC Timeslot 1 is a 56 kbit/s data link	-	0	-	-	-	-	-	-
DLC/OSS Timeslot 1 is a 48 kbit/s data link and a 1.2 kbit/s (1200 baud) data link for OSS telemetry	-	1	-	-	-	-	-	-

Note: *Settings: 1 = ON, 0 = OFF, - = NOT APPLICABLE.*

Switch 9 is not used on 2T32AE and earlier vintage packs; settings for this switch on 2T32AF and later vintage packs are shown in Table 2-O.

Table 2-O:
N2T32AF (and later) Carrier Interface pack switch settings - for mode selection

Mode	Switch (switch position 9)								
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**
Normal Timeslot 1 is a voice channel	-	-	-	-	-	-	-	-	1
DLC Timeslot 1 is a 56 kbit/s data link	-	0	-	-	-	-	-	-	0
DLC/DAS Timeslot 1 is a 40 kbit/s data link and a 1.2 kbit/s (1200 baud) data link for OSS telemetry	-	1	-	-	-	-	-	-	0

Note: *Settings: 1 = ON, 0 = OFF, - = NOT APPLICABLE.*

Figure 2-12: NT2T40 Auxiliary Ringing and Tone pack - switch locations

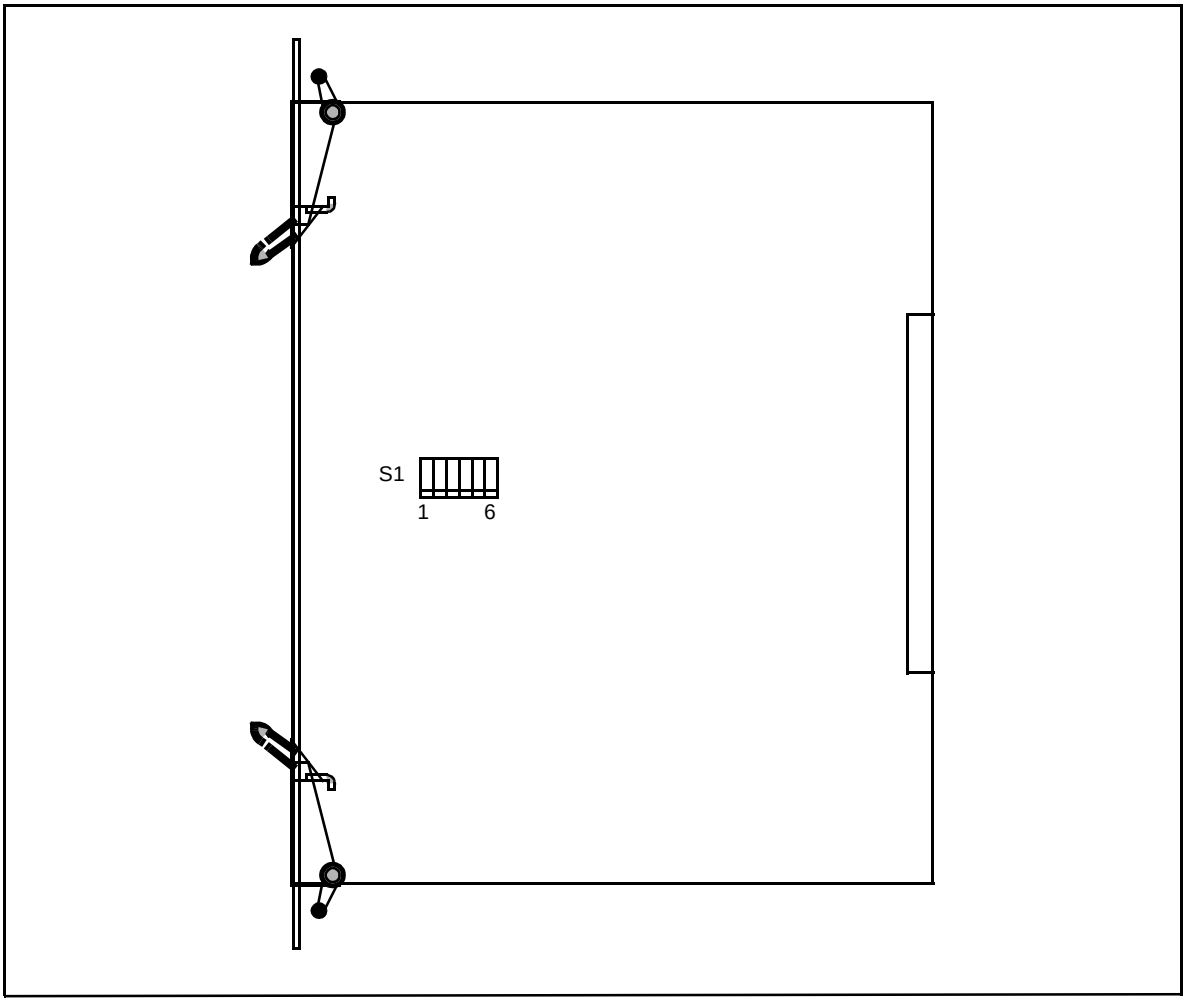
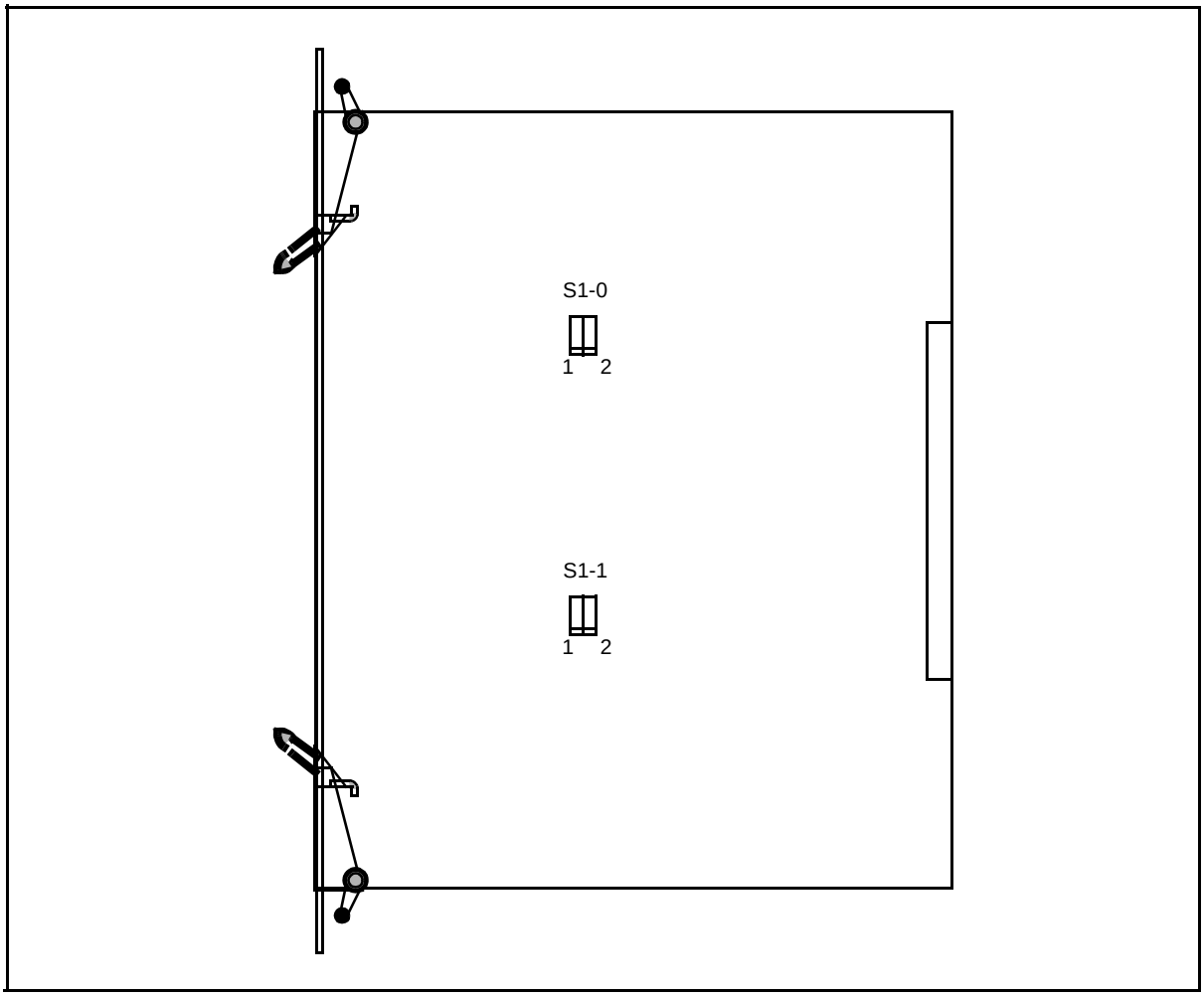


Table 2-P:
NT2T40 Auxiliary Ringing and Tone pack - switch settings

Ringing Current	**Switches**					
	1	**2**	**3**	**4**	**5**	**6**
Inserted	0	-	-	-	-	-
Not inserted	1	-	-	-	-	-
Multifrequency ringing	-	-	-	1	1	-
Superimposed ringing	-	1	1	-	-	-

Note: *Settings: 1 = ON, 0 = OFF, - = NOT APPLICABLE.*

Figure 2-13: NT2T44 0-dB Miscellaneous Line pack - switch locations



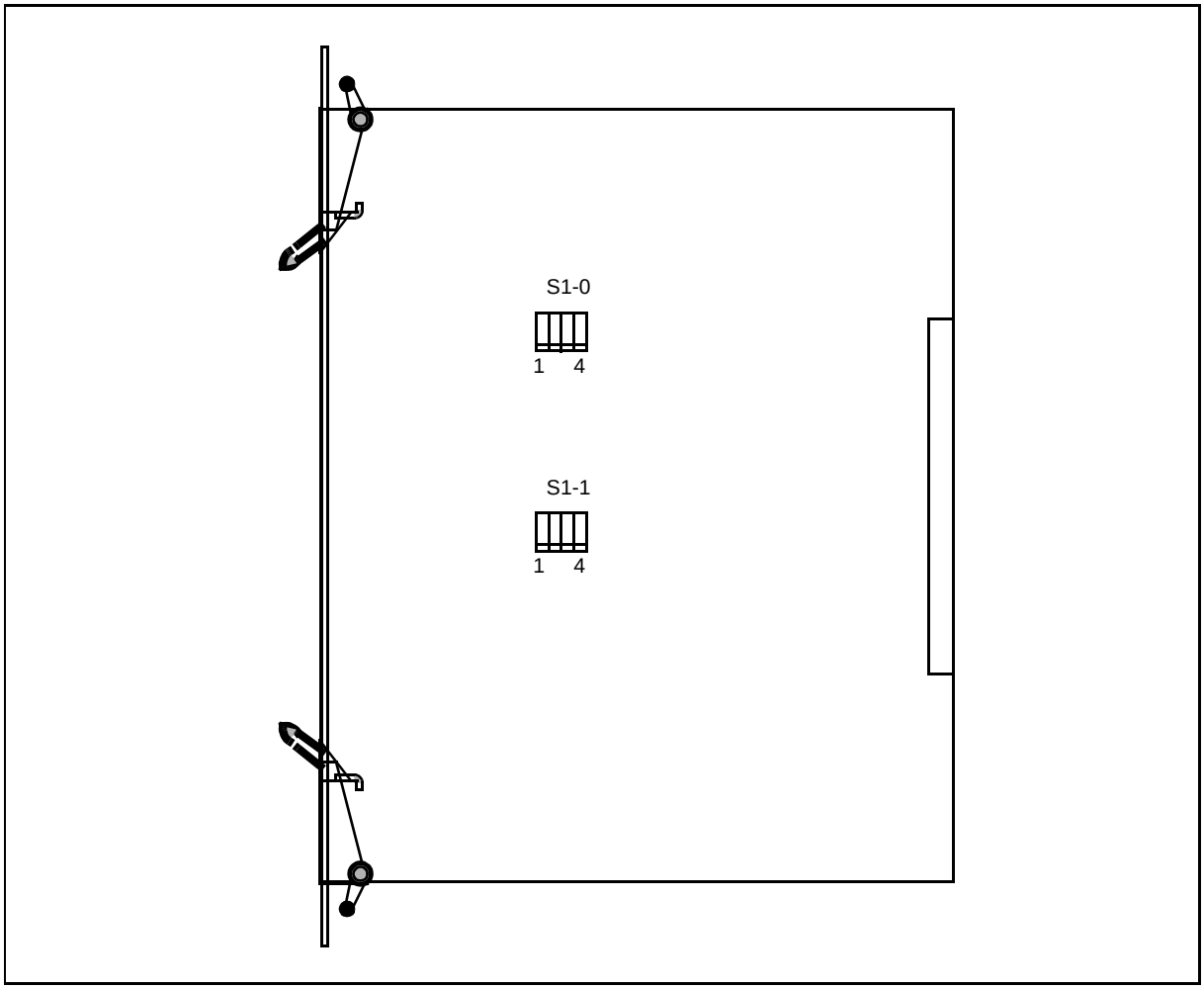
Note: *For correct operation of this pack, the software configuration of the pack options must match the DIP-switch option settings. To configure or query these options in software, refer to Overlay NTWK or CPK, PACK prompting sequence, prompts STR1 and STR2.*

Table 2-Q:
NT2T44 Miscellaneous Line pack - switch settings

Option	**Line 1** **S1 - 0** **1 2**	**Line 2** **S1 - 1** **1 2**
Loop start	1 0	1 0
Ground start	0 1	0 1
Loop disconnect	0 1	0 1

Note: *Settings: 1 = ON, 0 = OFF, - = NOT APPLICABLE.*

Figure 2-14: NT2T45 0-dB Coin Line pack - switch locations



Note: *For correct operation of this pack, the software configuration of the pack options must match the DIP-switch option settings. To configure or query these options in software, refer to Overlay NTWK or CPK, PACK prompting sequence, prompts STR1, STR2, COI1, and COI2.*

Table 2-R:
NT2T45 0-db Coin Line pack - switch settings

Option	**Switches (S1, S2)** **Circuits 1 & 2** **1** **2** **3** **4**
Loop start	0 1 - 1
Ground start	1 0 - 0
Coin control voltage on tip and ring	- - 1 -
Coin control voltage on tip only	- - 0 -

Note: *Settings: 1 = ON, 0 = OFF, - = NOT APPLICABLE.*

Figure 2-15: NT2T46 (Series A - V) Peripheral Processor pack - switch locations

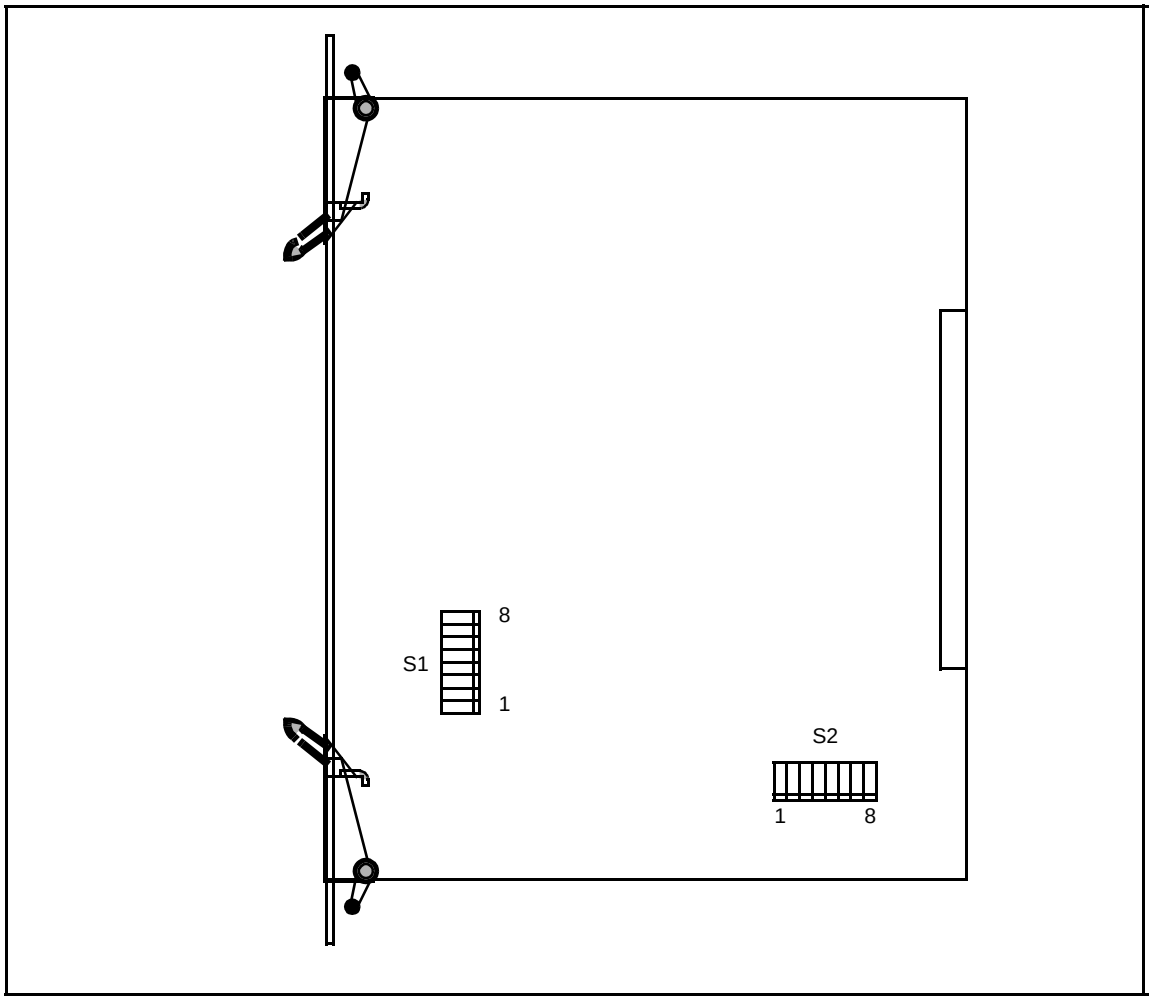


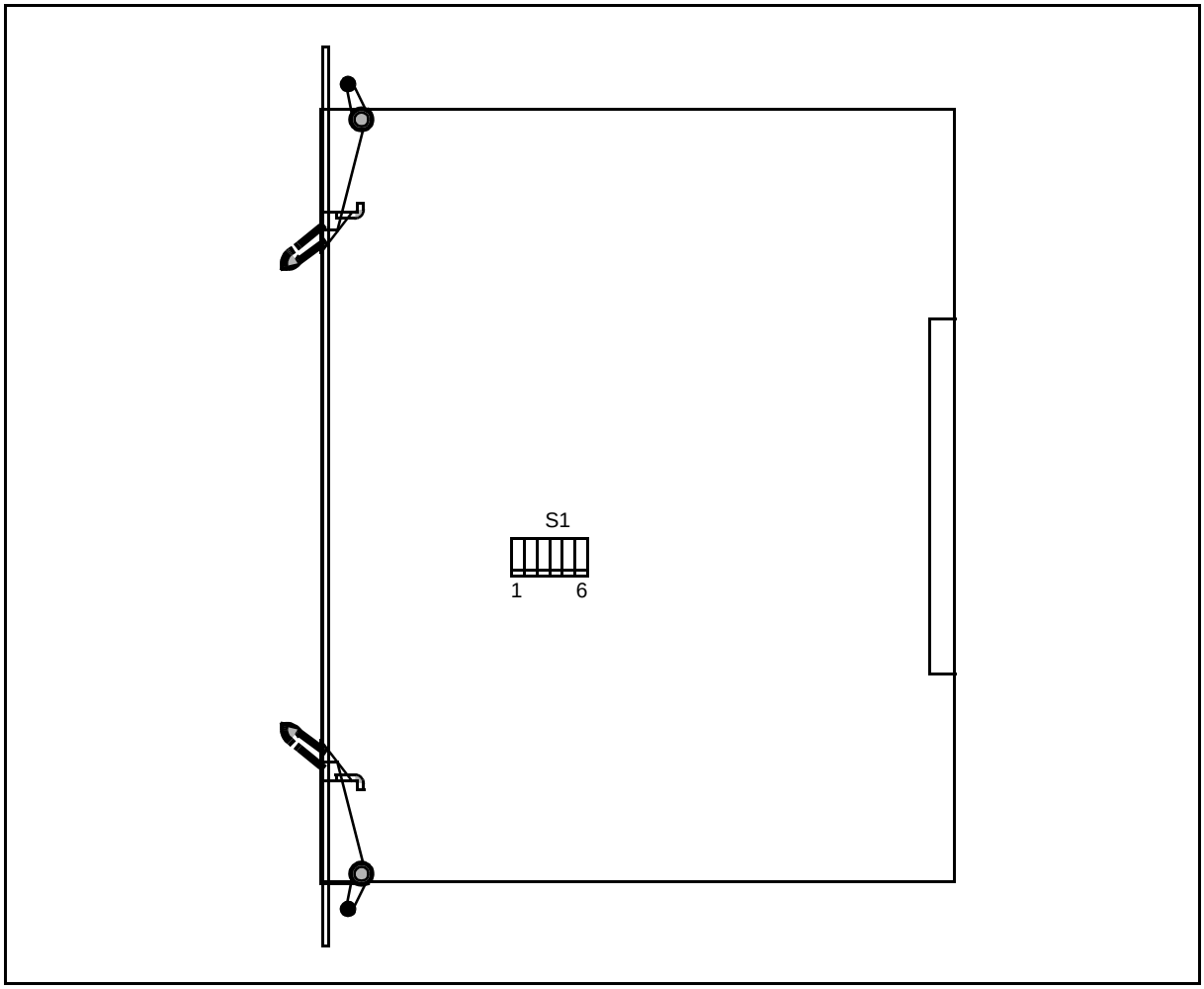
Table 2-S: NT2T46 (Series A - V) Peripheral Processor pack - switch settings								
DIP Switch	**Switches**							
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**
S1	1	1	1	1	1	1	1	1
S2	1	0	1	0	1	0	1	0

Note 1: Settings: 1 = ON, 0 = OFF, - = NOT APPLICABLE.

Note 2: NT2T46 releases 0023 and later do not employ DIP switches.

CAUTION: Switches 1 and 2 on the NT2T46 (Series A - V) pack are for shop testing only. For use in a DMS-10 switch they must be set as indicated above.

Figure 2-16: NT2T48 CAMA Position Signaling pack - switch locations



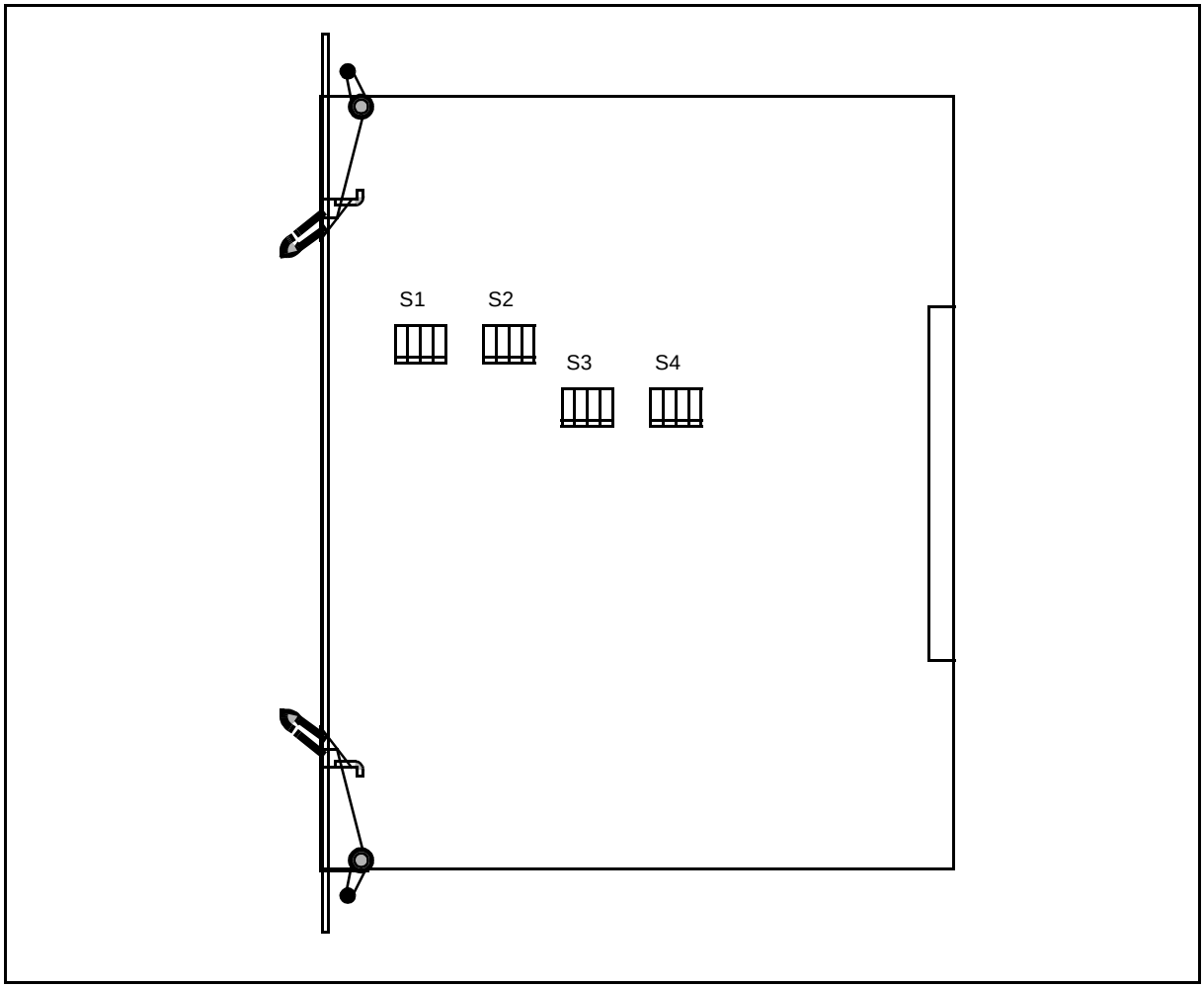
Note: *The 2T48 has a balancing network plugin, the 2T25.*

Table 2-T:
NT2T48 CAMA Position Signaling pack - switch settings

A/D Insertion Gain (dB)	Switches 1 6	2	3	4	5	D/A Insertion Gain (dB)	Switches 1 6	2	3	4	5
0	0	0	1	-	- -	0	- 0	-	-	1	0
-1	0	1	0	-	- -	1	- 0	-	-	0	1
-2	1	0	0	-	- -	2	- 1	-	-	0	0

Note: *Settings: 1 = ON, 0 = OFF, - = NOT APPLICABLE.*

Figure 2-17: NT2T53 A-bit Processor pack - switch locations



Note 1: The ringing cycle is divided into four 1.5-s periods. Switches S1, S2, S3, and S4 allow selection of any one of the 12 frequencies listed in Table 2-U. S1 controls the frequency in time period 1; S2 controls the frequency in time period 2; S3 controls the frequency in time period 3; S4 controls the frequency in time period 4.

Note 2: The DIP switch on the Multifrequency Ringing Line pack (QPP541B) should not be in the SCM position when the NT2T53AC pack is provisioned.

Table 2-U:
NT2T53AC A-bit Processor pack - switch settings

Frequency	Switches 1	2	3	4	Frequency	Switches 1	2	3	4
16 2/3	1	1	1	1	42	1	0	0	1
20	0	1	1	1	50	0	0	0	1
25	1	0	1	1	54	1	1	1	0
30	0	0	1	1	60	0	1	1	0
33 1/3	1	1	0	1	66	1	0	1	0
40	0	1	0	1	66 2/3	0	0	1	0

Note: *Settings: 1 = ON, 0 = OFF, - = NOT APPLICABLE.*

Figure 2-18: NT2T54 Digital Group (digroup) pack - switch locations

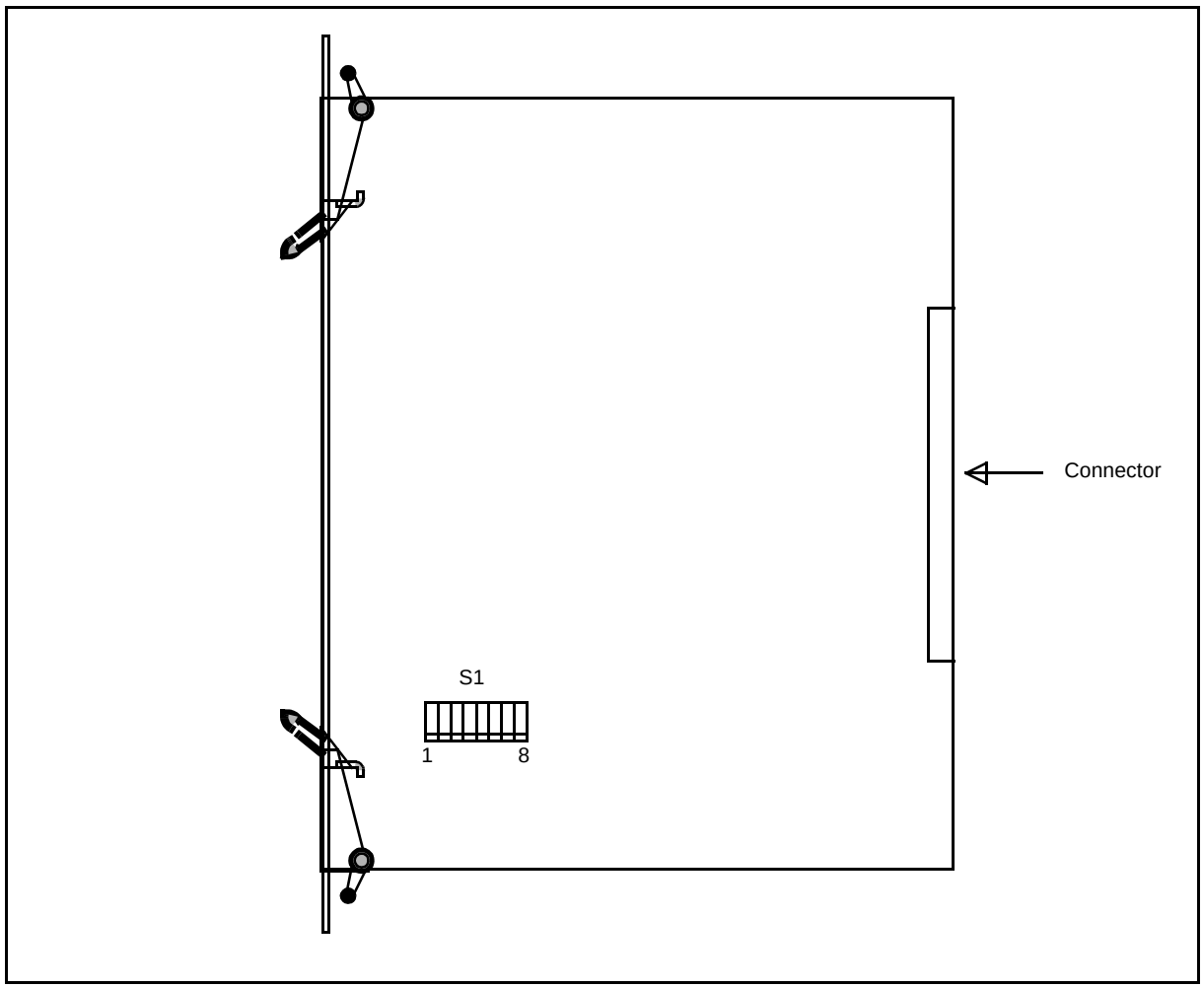
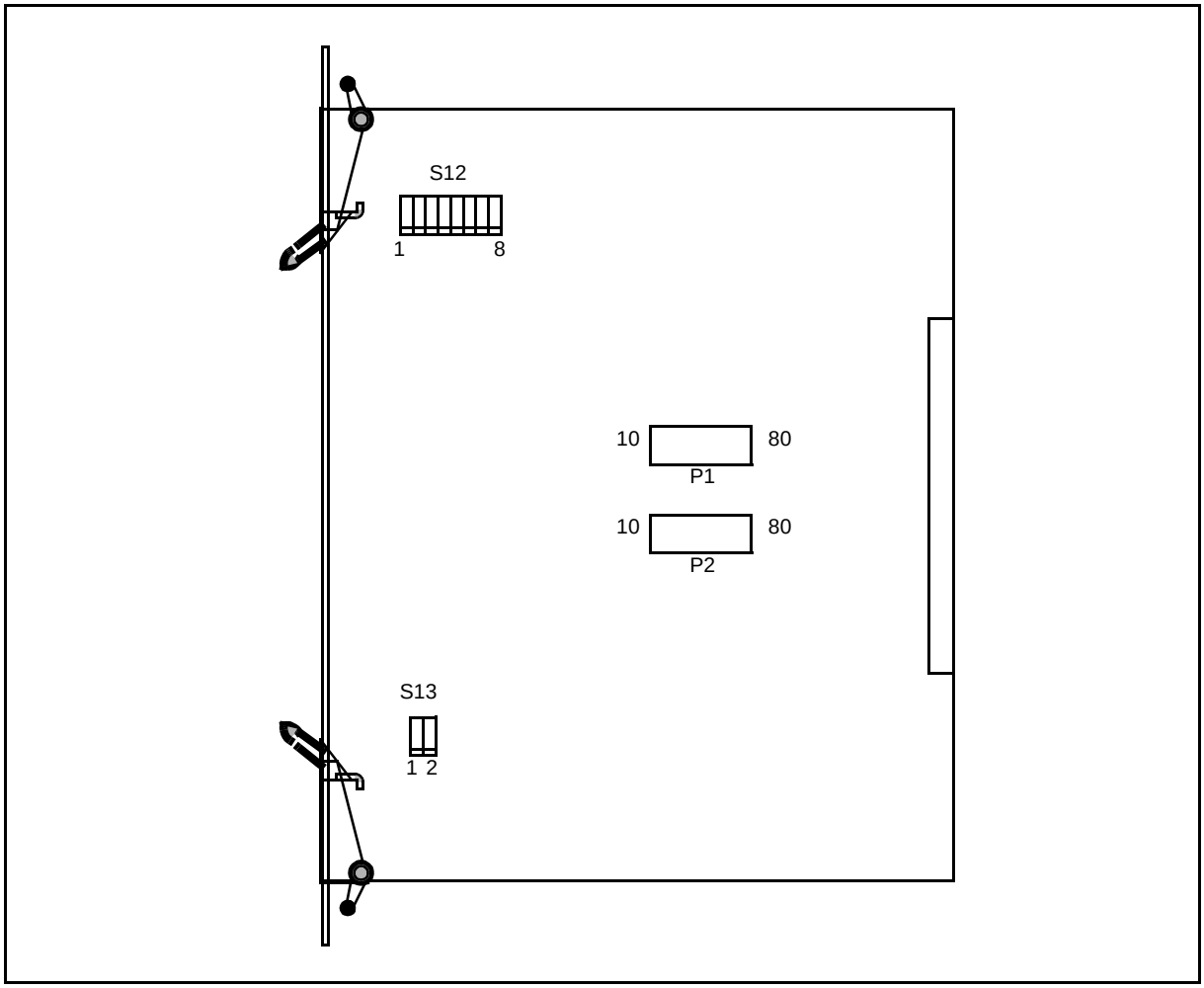


Table 2-V: **NT2T54 Digital Group pack - switch settings**								
Length of Cable from SCM to Office Repeater Bay (feet)	**Switches** **1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
0-150	1	0	0	0	0	0	0	0
151-400	0	1	0	0	1	0	0	1
401-750	0	0	1	1	0	0	1	0

Note: *Settings: 1 = ON, 0 = OFF, - = NOT APPLICABLE.*

Figure 2-19: NT2T55 1-for-N Protection Switch pack - switch locations



Note: *Both timer plugs (P1 and P2) must be set to the same value (either 10 or 80 seconds).*

Table 2-W:
NT2T55 1-for-N Protection Switch pack - switch settings

Length of Cable from SCM to Office Repeater Bay (feet)	S12 Switches 1	2	3	4	5	6	7	8
0-150	1	0	0	0	0	0	0	0
151-400	0	1	0	0	1	0	0	1
401-750	0	0	1	1	0	0	1	0

Note: *Settings: 1 = ON, 0 = OFF, - = NOT APPLICABLE.*

Table 2-X: **NT2T55 1-for-N Protection Switch pack - switch settings**	
Automatic Loopback Enabled?	**Switch (S13)** **1 2**
Yes	1 0
No	0 1

Note: *Settings: 1 = ON, 0 = OFF, - = NOT APPLICABLE.*

Figure 2-20: NT2T85 Digital Recorded Announcement Trunk pack - switch locations

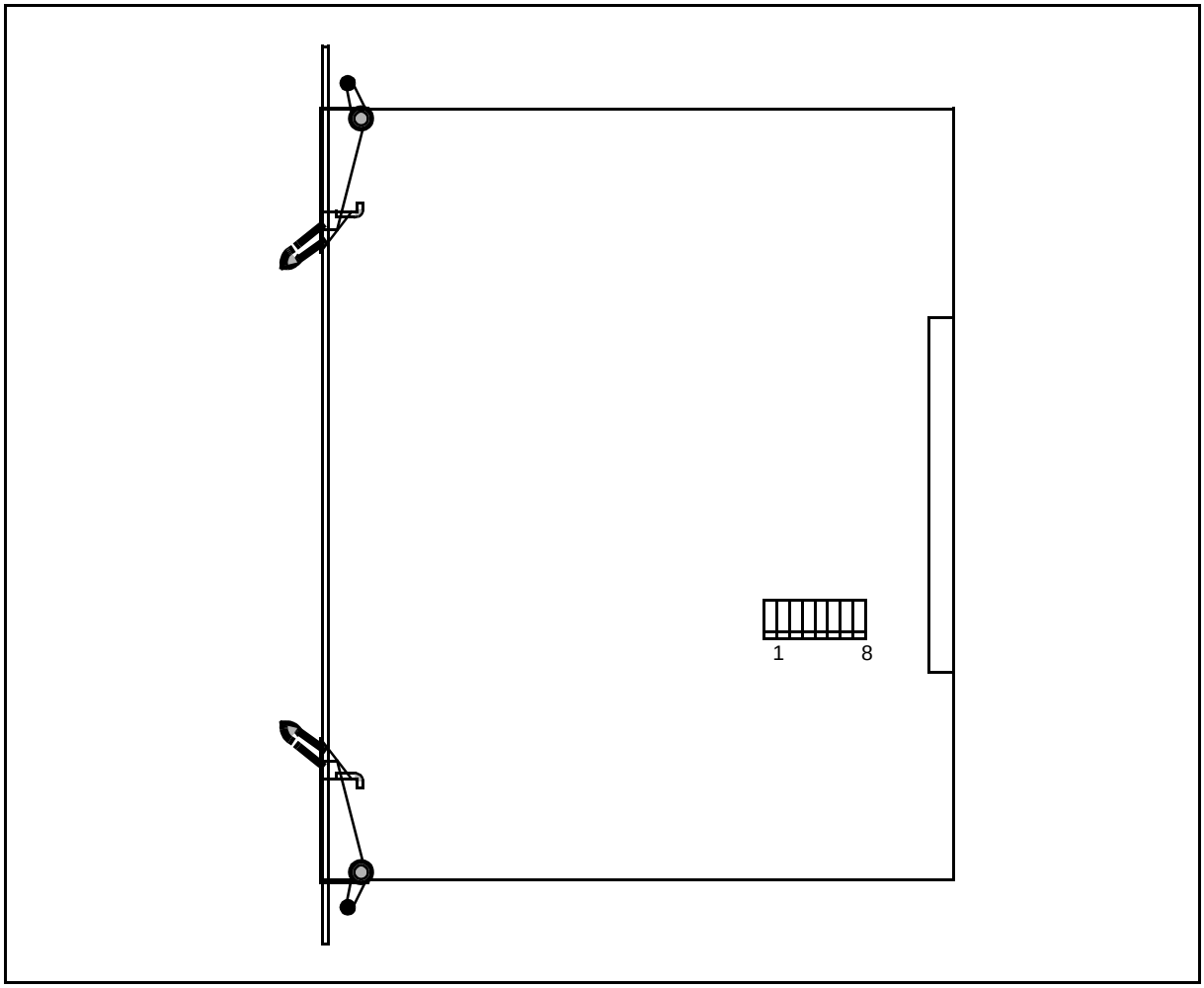


Table 2-Y:
NT2T85AA/AB Digital Recorded Announcement Trunk pack switch settings for battery option

Battery Option ?	Switches 1	2	3	4	5	6	7	8
Yes, equipped with battery	-	-	-	-	1	0	1	-
No, not equipped with battery	-	-	-	-	0	1	0	-

Note 1: Settings: 1 = ON, 0 = OFF, - = NOT APPLICABLE.

Note 2: Both Message Length and Battery Option must be set.

Table 2-Z:
NT2T85AA Digital Recorded Announcement Trunk pack - switch settings for message length

Message Length (seconds)	Switches 1	2	3	4	5	6	7	8
1	1	1	1	1	-	-	-	-
2	0	1	1	1	-	-	-	-
3	1	0	1	1	-	-	-	-
4	0	0	1	1	-	-	-	-
5	1	1	0	1	-	-	-	-
6	0	1	0	1	-	-	-	-
7	1	0	0	1	-	-	-	-
8	0	0	0	1	-	-	-	-
9	1	1	1	0	-	-	-	-
10	0	1	1	0	-	-	-	-
11	1	0	1	0	-	-	-	-
12	0	0	1	0	-	-	-	-
13	1	1	0	0	-	-	-	-
14	0	1	0	0	-	-	-	-
15	1	0	0	0	-	-	-	-

Note: *Settings: 1 = ON, 0 = OFF, - = NOT APPLICABLE.*

Table 2-AA:
NT2T85AB Digital Recorded Announcement Trunk pack - switch settings for message length

Message Length (seconds)	Switches 1	2	3	4	5	6	7	8
4	1	1	-	-	-	-	-	-
8	0	1	-	-	-	-	-	-
12	1	0	-	-	-	-	-	-
16	0	0	-	-	-	-	-	-

Note: *Settings: 1 = ON, 0 = OFF, - = NOT APPLICABLE.*

Figure 2-21: NT2X57 Miscellaneous Signal Distribution pack - switch locations

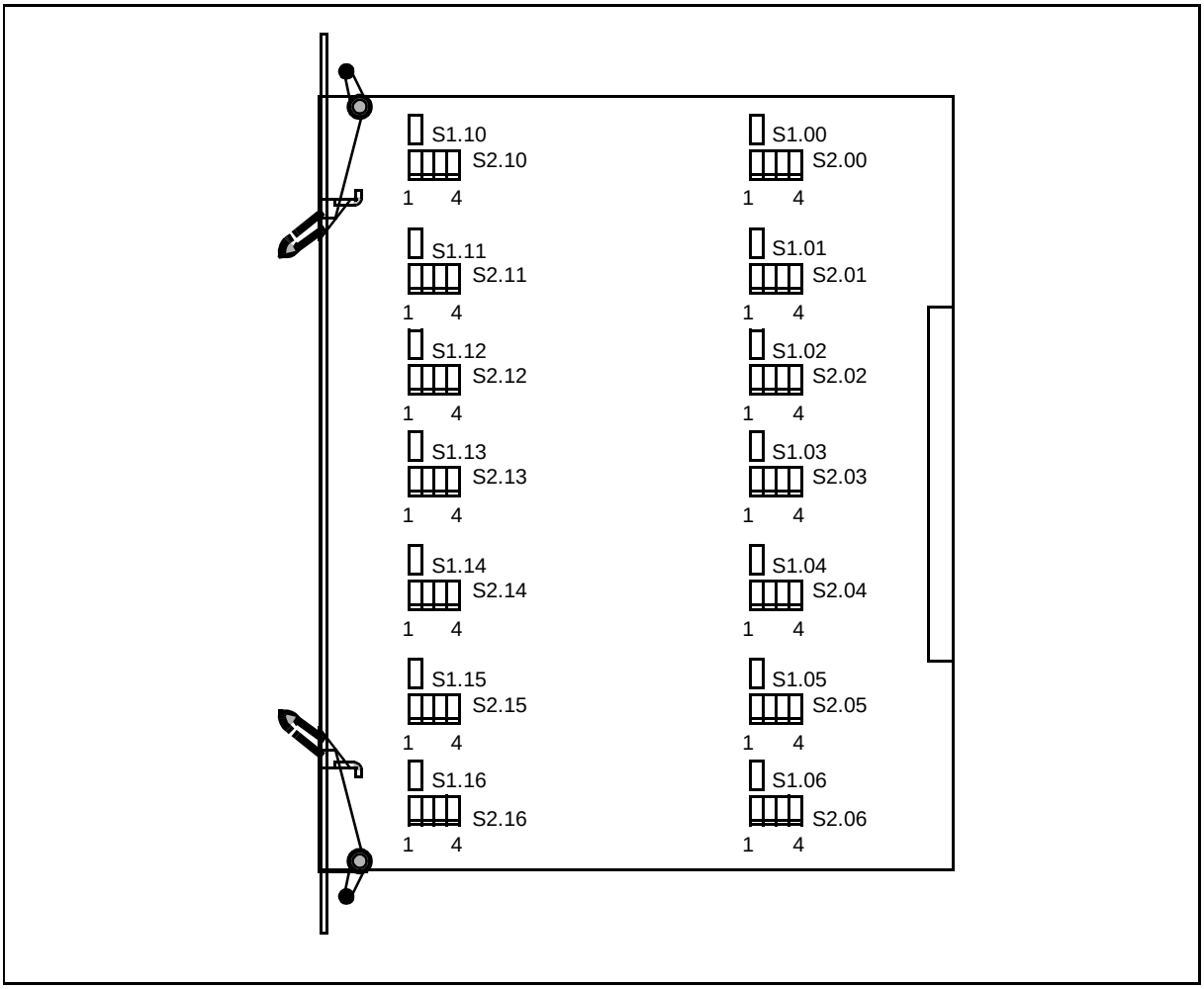


Table 2-AB:
NT2X57 Miscellaneous Signal Distribution pack - switch settings

SD Point Set	SD Point Clear	Output Lead Condition Used	Switch 1	Switch 2			
				1	2	3	4
Ground - applied	Ground - removed	Single (SD1XX) [XX = 00 - 06, 10 - 16]	0	0	-	-	1
Ground - removed	Ground - applied	Single (SD1XX) [XX = 00 - 06, 10 - 16]	1	0	-	-	1
Loop - closed	Loop - open	Double (SD1XX, SD2XX) [XX = 00 - 06, 10 - 16]	0	1	-	-	0
Loop - open	Loop - closed	Double (SD1XX, SD2XX) [XX = 00 - 06, 10 - 16]	1	1	-	-	0

Note: *Settings: 1 = ON, 0 = OFF, - = NOT APPLICABLE. S1 positions apply to S1.00 through S1.06 and S1.10 through S1.16. S2 positions apply to S2.00 through S2.06 and S2.10 through S2.16.*

Figure 2-22: NT2X90 Incoming/Outgoing Test Trunk pack - switch locations

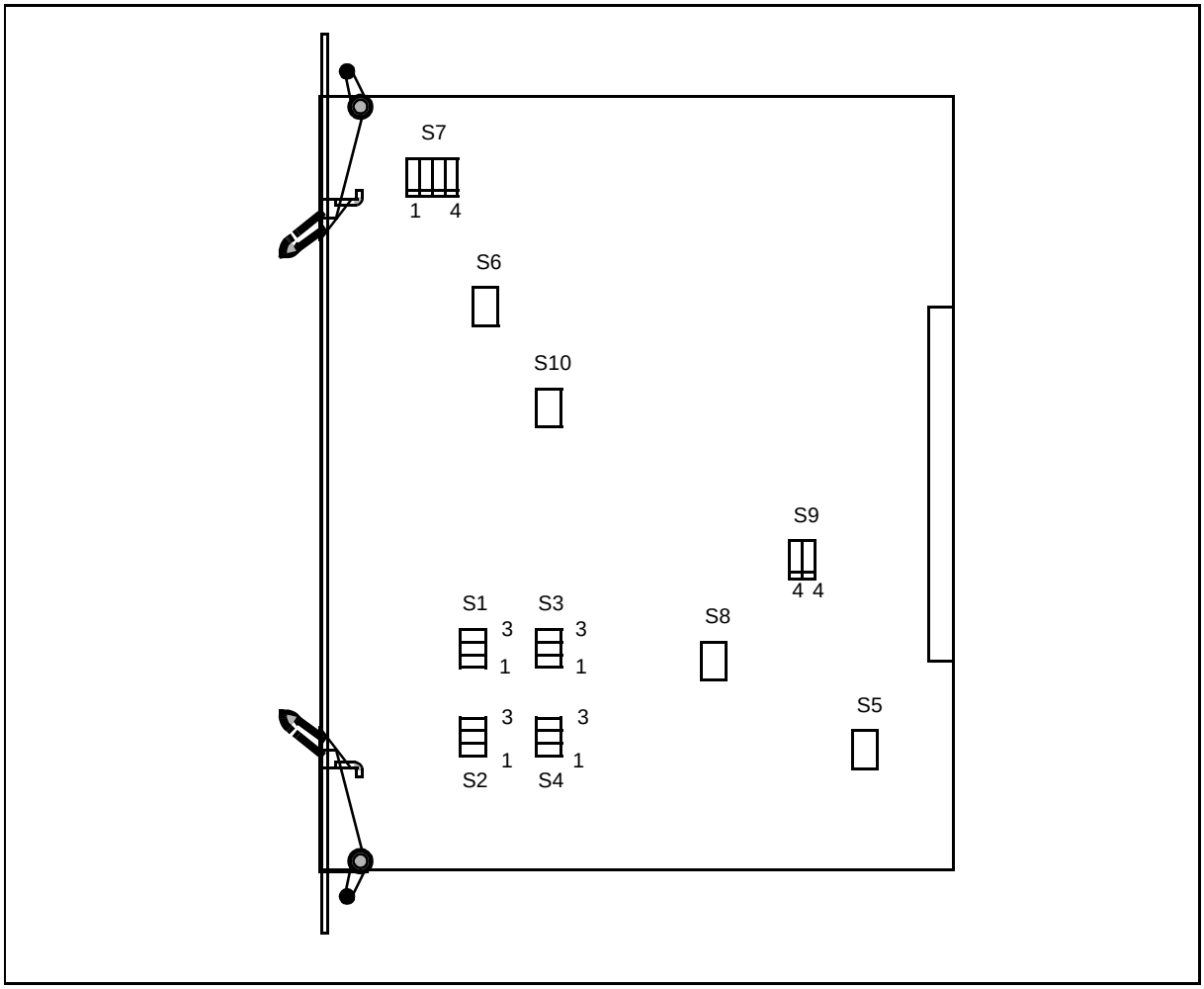


Table 2-AC:
NT2X90 Incoming/Outgoing Test Trunk pack - S1 through S4 switch settings

DIP Switch	A/D Insertion Gain (dB)	Switches 1	2	3	DIP Switch	D/A Insertion Gain (dB)	Switches 1	2	3
S1	+2	1	0	0	S3	+2	1	0	0
	+4	0	1	0		+4	0	1	0
	+8	0	0	1		+8	0	0	1
S2	+0.25	1	0	0	S4	+0.25	1	0	0
	+0.5	0	1	0		+0.5	0	1	0
	+1	0	0	1		+1	0	0	1

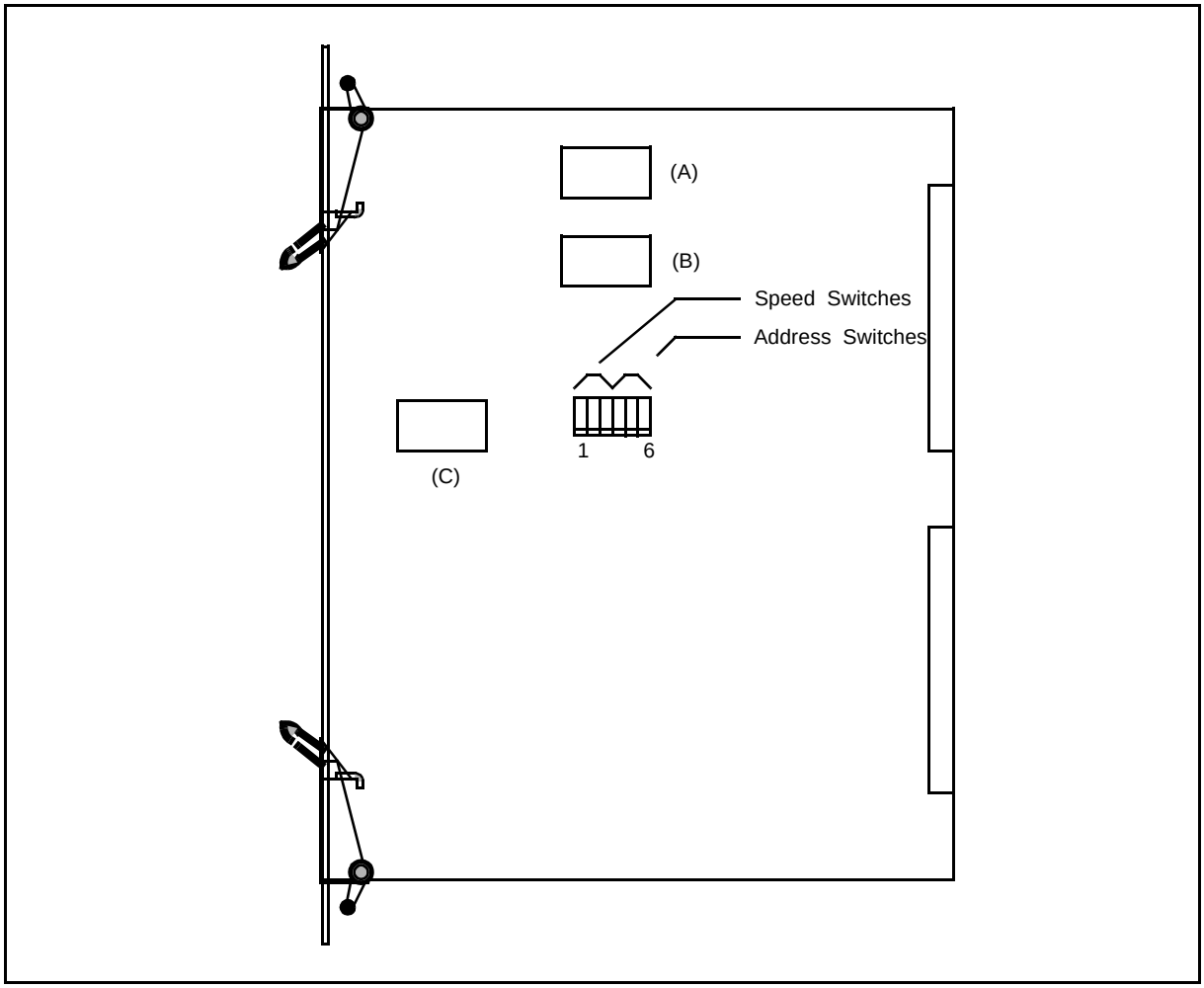
Note: *Settings: 1 = ON, 0 = OFF, - = NOT APPLICABLE. For test trunk applications, all switches on switch blocks S1 through S4 should be set to the OFF position.*

Table 2-AD:
NT2X90 Incoming/Outgoing Test Trunk pack - S5 through S10 switch settings

DIP Switch		Switches 1	2	3	4
S5	Short Loop (S/LP)	1			
	Long Loop (L/LP)	0			
S6	Internal Ground (INT)	1			
	External Ground (EXT)	0			
S7	Normal Idle Tip and Ring (NORM)	1	1	1	1
	Reverse Idle Tip and Ring (REV)	0	0	0	0
S8	Line Test Position (LTP)	1			
	CALRS Line Identification	0			
S9	I/C	1		1	
	Line Test Position (LTP)	0		0	
S10	Short Sleeve (S/SL)	1			
	Long Sleeve (L/SL)			0	

Note: *Settings: 1 = ON, 0 = OFF, - = NOT APPLICABLE. For S5, set switches for Short Loop (S/LP). For S6, set switches for Internal Ground (INT). For S8 and S9, set switches to select Line Test Position (LTP). For S10, set switches for Short Sleeve (S/SL).*

Figure 2-23: NT3T09 Serial Data Interface pack - switch locations



Note: *An option plug is inserted in one of the plug positions (A), (B), or (C), depending upon the type of device connected to the 3T09 pack, as follows:*

A. For a modem.
B. For an RS-232C port (maintenance terminal).
C. For a 20-mA current loop.

Table 2-AE:
NT3T09 Serial Data Interface pack - switch settings

Device Number	Address Switches 4	5	6
0 - 1 (Device numbers 0 and 1 are preassigned to the 3T71 TTY ports. Therefore, they cannot be used for the 3T09.)	-	-	-
2	1	0	1
3	0	0	1
4	1	1	0
5	0	1	0
6	1	0	0
7 (This switch is dedicated to a Switching Control Center System [SCCS])	0	0	0

Note: *Settings: 1 = ON, 0 = OFF, - = NOT APPLICABLE.*

Table 2-AF:
NT3T09 Serial Data Interface pack - switch settings for baud rate assignment

Device Speed (baud)	Speed Switches 1	2	3
110	1	0	0
300	0	0	0
1200	0	0	1
2400	0	1	0
4800	0	1	1

Note 1: Settings: 1 = ON, 0 = OFF, - = NOT APPLICABLE.

Note 2: 110 baud protocol setting - 7 bits ASCII, 1 bit parity (output parity is mark; input is echoed and parity is ignored internally), 2 stop bits

Note 3: 300, 1200, 2400, and 4800 baud protocol setting - 7 bits ASCII, 1 bit parity (output parity is mark; input is echoed and parity is ignored internally), 1 stop bit

Figure 2-24: NT3T10 Magnetic Tape Controller pack - switch locations

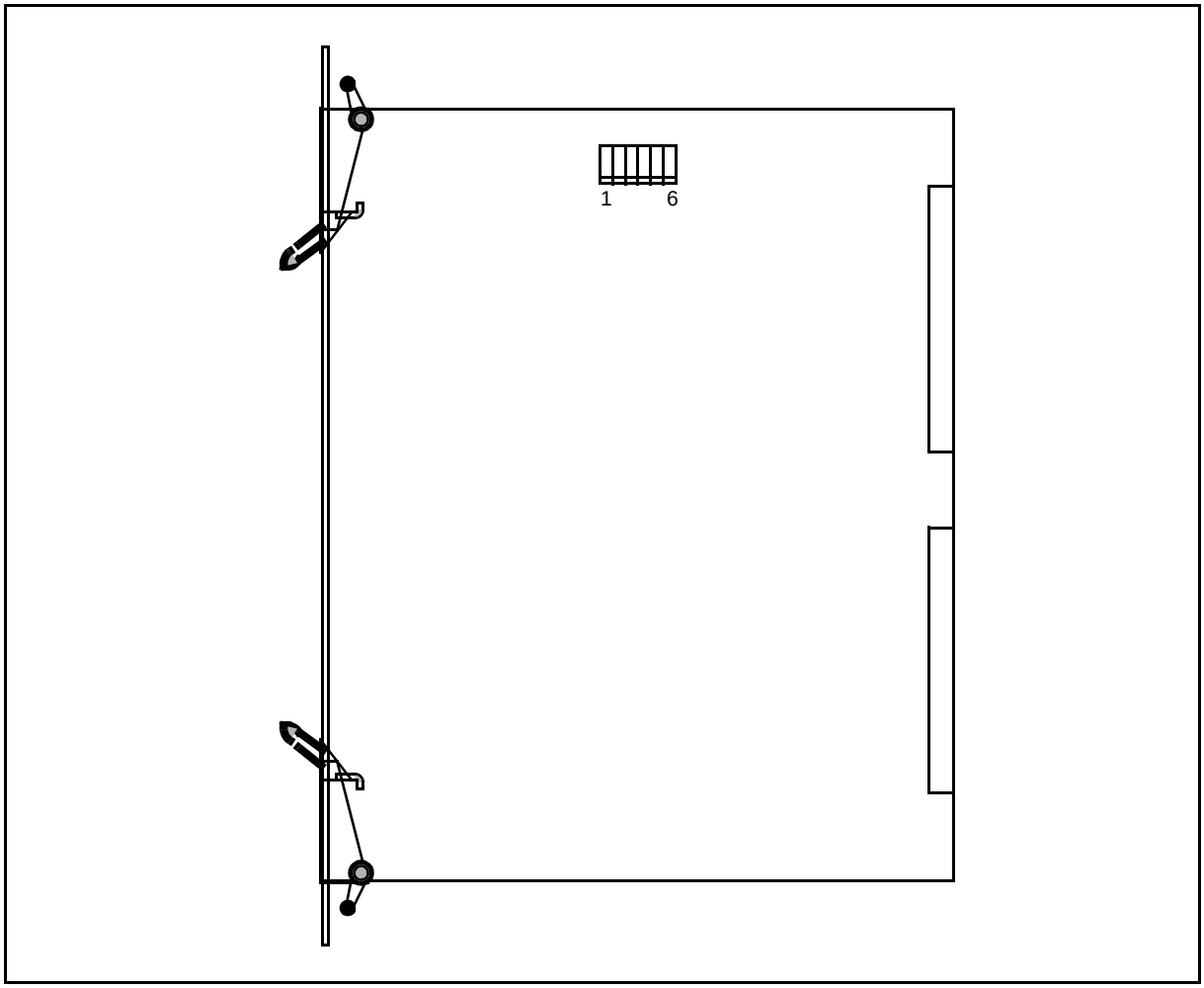


Table 2-AG: NT3T10 Magnetic Tape Controller pack - switch settings						
Tape Unit Device Number	**Switches**					
	1	**2**	**3**	**4**	**5**	**6**
0	1	1	1	-	-	-
1	1	1	0	-	-	-
2	1	0	1	-	-	-
3	1	0	0	-	-	-

Note: *Settings: 1 = ON, 0 = OFF, - = NOT APPLICABLE.*

Figure 2-25: NT3T25 Ringing Generator pack - switch locations

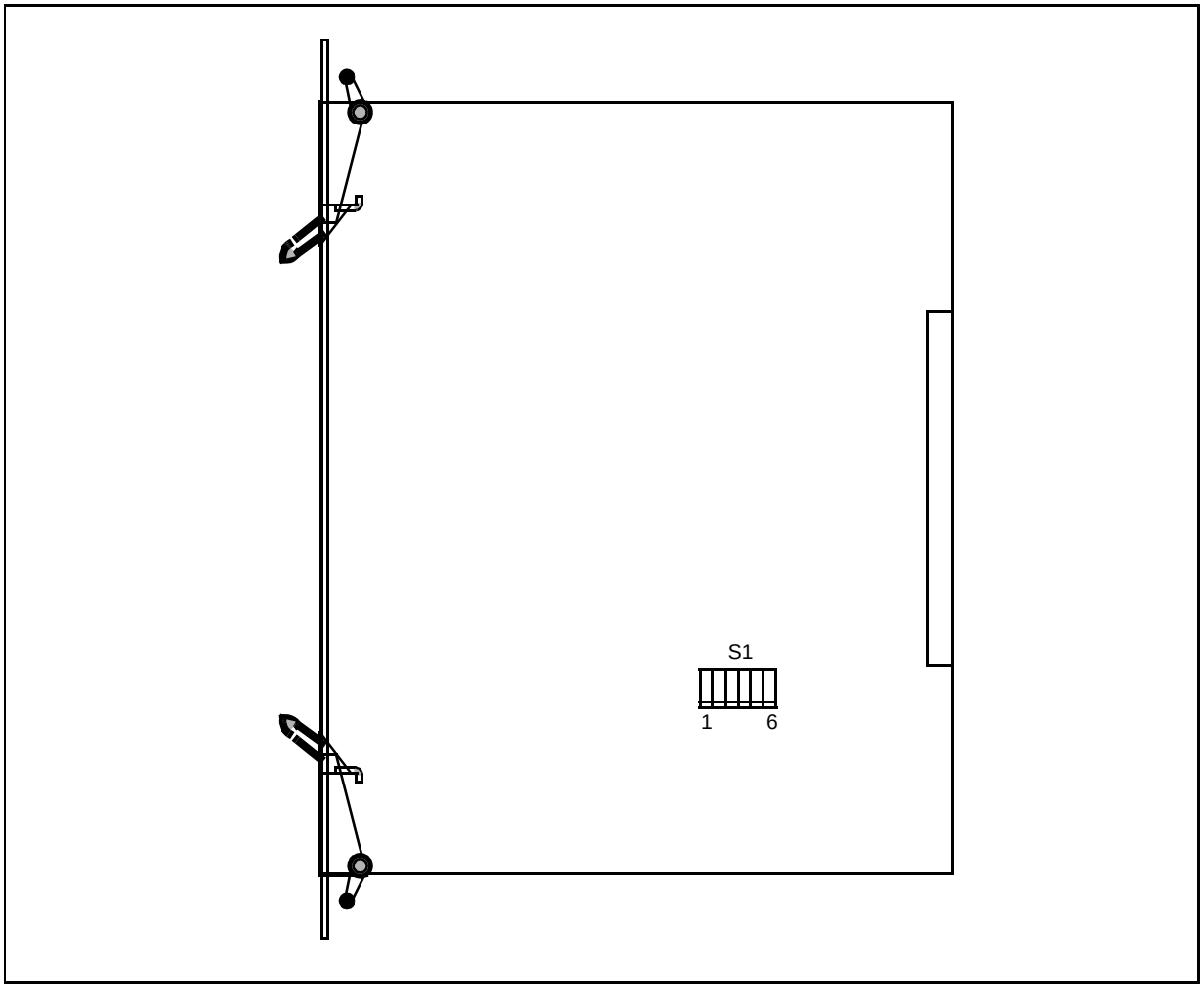


Table 2-AH: **NT3T25 Ringing Generator pack - switch settings**						
Type of Ringing	**Switches** **1**	**2**	**3**	**4**	**5**	**6**
Single frequency 1	1	0	1	0	0	1
Single frequency 2	0	1	1	0	0	1
Single frequency 3	1	0	0	1	0	1
Single frequency 4	0	1	0	1	0	1
Multifrequency	0	0	0	0	1	0

Note: *Settings: 1 = ON, 0 = OFF, - = NOT APPLICABLE.*

Figure 2-26: NT3T27 Ringing Monitor pack - switch locations

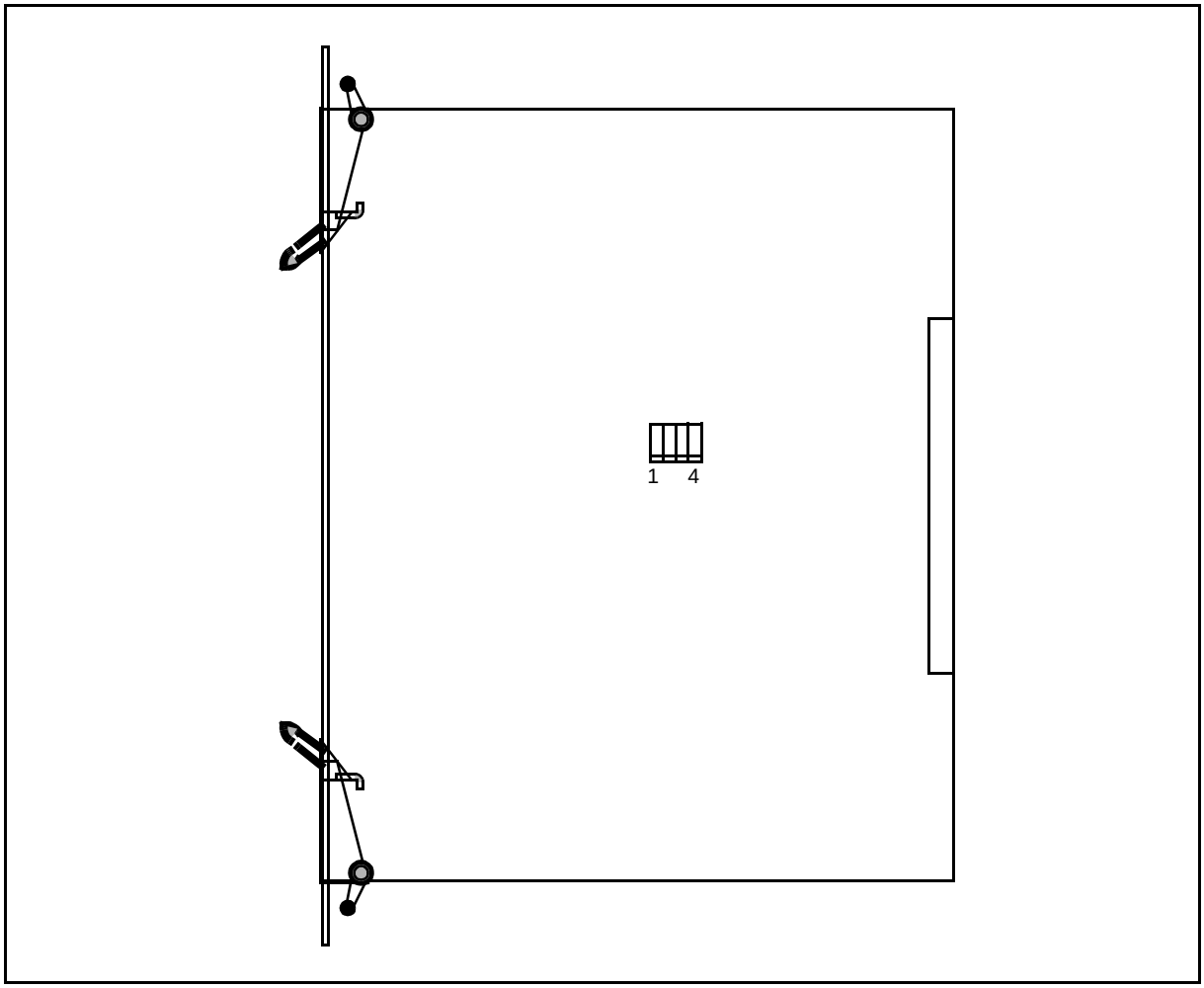
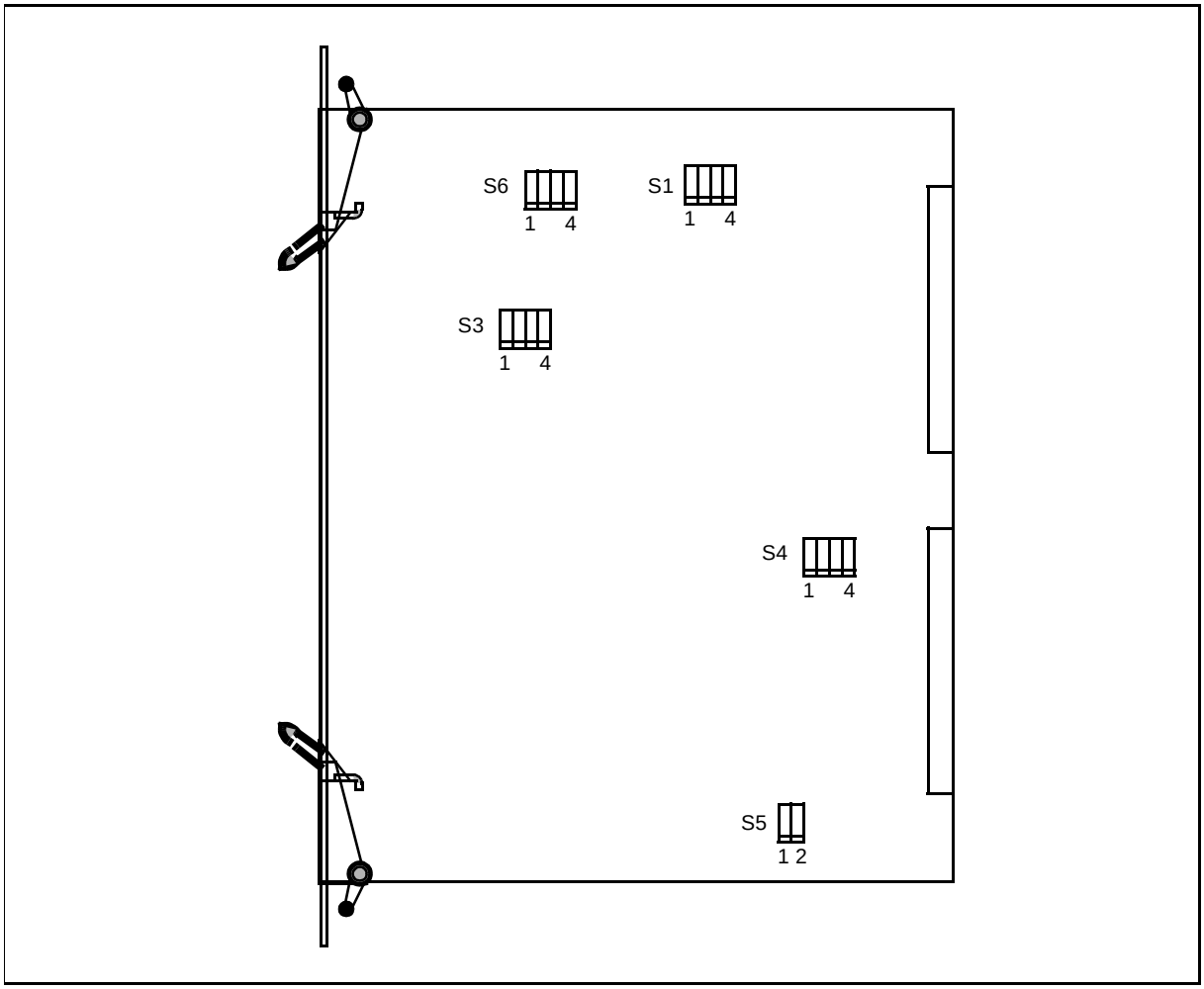


Table 2-AI:
NT3T27 Ringing Monitor pack - switch settings

Option	Switches 1	2	3	4
SF and MF equipped	0	0	0	0
SF and +48V SF equipped	0	0	0	0
MF and +48V SF not equipped	1	1	0	0
105 not equipped	0	0	1	0
SF not equipped	0	0	0	1

Note: *Settings: 1 = ON, 0 = OFF, - = NOT APPLICABLE.*

Figure 2-27: NT3T50 Data Link Controller pack - switch locations



Note: *S6 is found on 3T50CB packs or later versions only.*

Table 2-AJ:
NT3T50 Data Link Controller pack - switch settings

DLC Board Number	DLC Address (Hexadecimal)	S1 Switches 1	2	3	4
0	3C00	1	1	1	1
1	3C04	0	1	1	1
2	3C08	1	1	1	0
3	3C0C	0	1	1	0
4	3C10	1	1	0	1
5	3C14	0	1	0	1
6	3C18	1	1	0	0
7	3C1C	0	1	0	0

Table 2-AJ: (Continued)
NT3T50 Data Link Controller pack - switch settings

DLC Board Number	DLC Address (Hexadecimal)	S1 Switches 1	2	3	4
8	3C20	1	0	1	1
9	3C24	0	0	1	1
10	3C28	1	0	1	0
11	3C2C	0	0	1	0
12	3C30	1	0	0	1
13	3C34	0	0	0	1
14	3C38	1	0	0	0
15	3C3C	0000			

Note: *Settings: 1 = ON, 0 = OFF, - = NOT APPLICABLE.*

CAUTION: Incorrect address settings may cause system problems and a serious degradation of service. For example, duplicating an address setting across two different NT3T50 packs will result in conflicts.

Table 2-AK:
NT3T50 Data Link Controller pack - switch settings for interface modes

Interface Mode	S5 Switches 1 (channel A)	2 (channel B)
RS-232C	0	0
RS-422	1	1

Note: *Settings: 1 = ON, 0 = OFF, - = NOT APPLICABLE.*

Table 2-AL:
NT3T50 Data Link Controller pack - switch settings for clock modes

Clock Mode	S3 Switches 1	2	3	4
Channel A internal receive	down	-	-	-
Channel A internal transmit	-	down	-	-
Channel A external receive	up	-	-	-
Channel A external transmit	-	up	-	-
Channel B internal receive	-	-	down	-
Channel B internal transmit	-	-	-	down
Channel B external receive	-	-	up	-
Channel B external transmit	-	-	-	up

Note: *Settings: For these switches, the "up" or "down" position is a reliable indicator of the selected clock mode and should be followed; - =NOT APPLICABLE. Switches 1 and 2, Channel A; Switches 3 and 4, Channel B.*

Table 2-AM:
NT3T50 Data Link Controller pack - switch settings for interface modes

Interface Mode	S4 Switches 1 2 3 4
Channel A RS-232C	up - - up
Channel A RS-422	down - - down
Channel B RS-232C	- up up -
Channel B RS-422	- down down -

Note: *Settings: For these switches, the "up" or "down" position is a reliable indicator of the selected clock mode and should be followed; - =NOT APPLICABLE. Switches 1 and 4, Channel A; Switches 2 and 3, Channel B.*

Table 2-AN:
NT3T50 Data Link Controller pack - switch settings for interface modes

Interface Mode	S6 Switches (3T50CB and later) 1 2 3 4
Channel A RS-232C	up - - -
Channel A RS-422	down - - -
Channel B RS-232C	- up - -
Channel B RS-422	- down - -

Note: *Settings: For these switches, the "up" or "down" position is a reliable indicator of the selected interface mode and should be followed; - =NOT APPLICABLE. Switches 1 and 2 in the "down" position is for digital data links; Switches 1 and 2 in the "up" position is for analog data links. Switch 1, Channel A; Switch 2, Channel B.*

Figure 2-28: NT3T55 Ringing and Alarm Control pack - switch locations

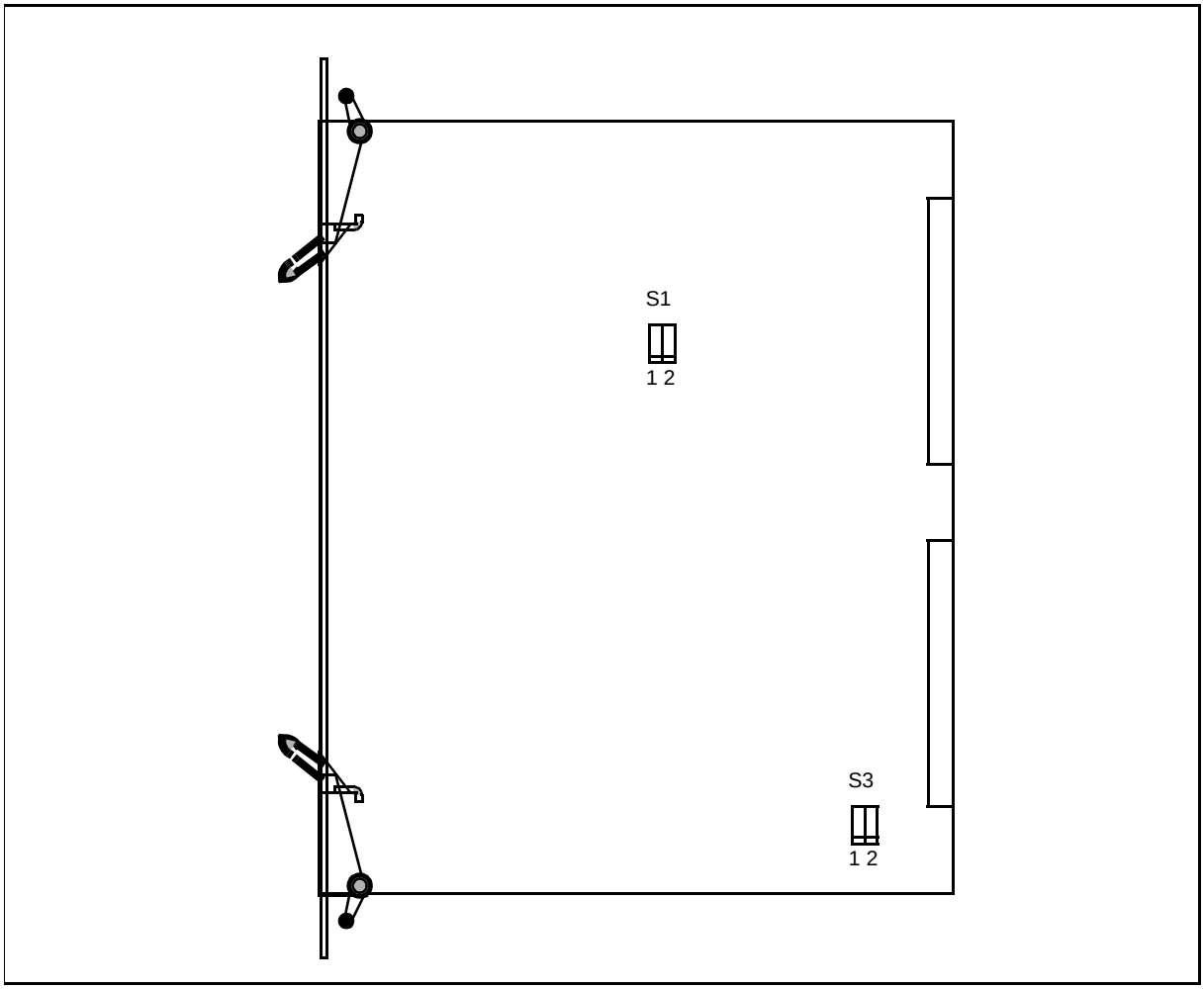
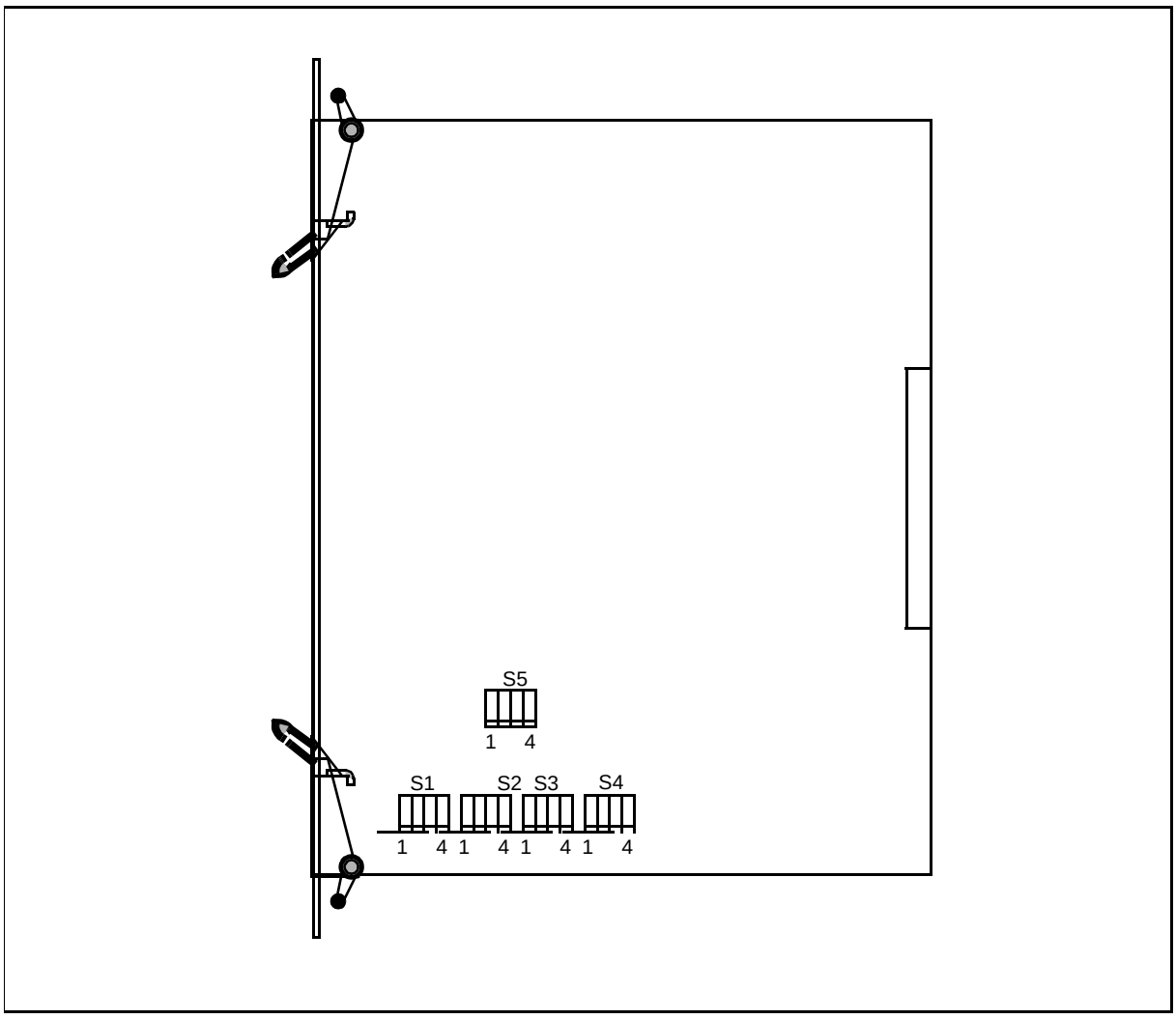


Table 2-AO: NT3T55 Ringing and Alarm Control pack - switch				
S1 Switch Settings			**S3 Switch Settings**	
Dead- System Delay	**SYSLOAD Delay**	**Switches 1 2**	**Option**	**Switches 1 2**
4 min	8 min	0 0	Beeper	0 -
2 min	8 min	1 0	No Beeper	1 -
2 min	12 min	1 1		
2 min	12 min	0 1		

Note: *Settings: 1 = ON, 0 = OFF, - = NOT APPLICABLE.*

Figure 2-29: NT3T59AB Dual Ringing Generator pack - switch locations



Note: *Switch blocks S1 - S4 control the multifrequency ringing cycle, which is divided into four 1.5-second periods. Switch block S1 controls time period 1, switch block S2 controls time period 2, switch block S3 controls time period 3, and switch block S4 controls time period 4. Switch block S5 controls the single-frequency ringing cycle.*

Table 2-AP:
NT3T59AB Dual Ringing Generator pack - S1, S2, S3, S4, and S5 switch settings

Frequency (Hz)	S1 - S5 Switches			
	1	**2**	**3**	**4**
16	1	1	1	1
16 2/3	0	1	1	1
20	1	0	1	1
25	0	0	1	1
30	1	1	0	1
33 1/3	0	1	0	1
40	1	0	0	1
42	0	0	0	1
50	1	1	1	0
54	0	1	1	0
60	1	0	1	0
66	0	0	1	0
66 2/3	1	1	0	0

Note: *Settings: 1 = ON, 0 = OFF, - = NOT APPLICABLE.*

Figure 2-30: NT3T70BD System Bus Controller pack - switch locations

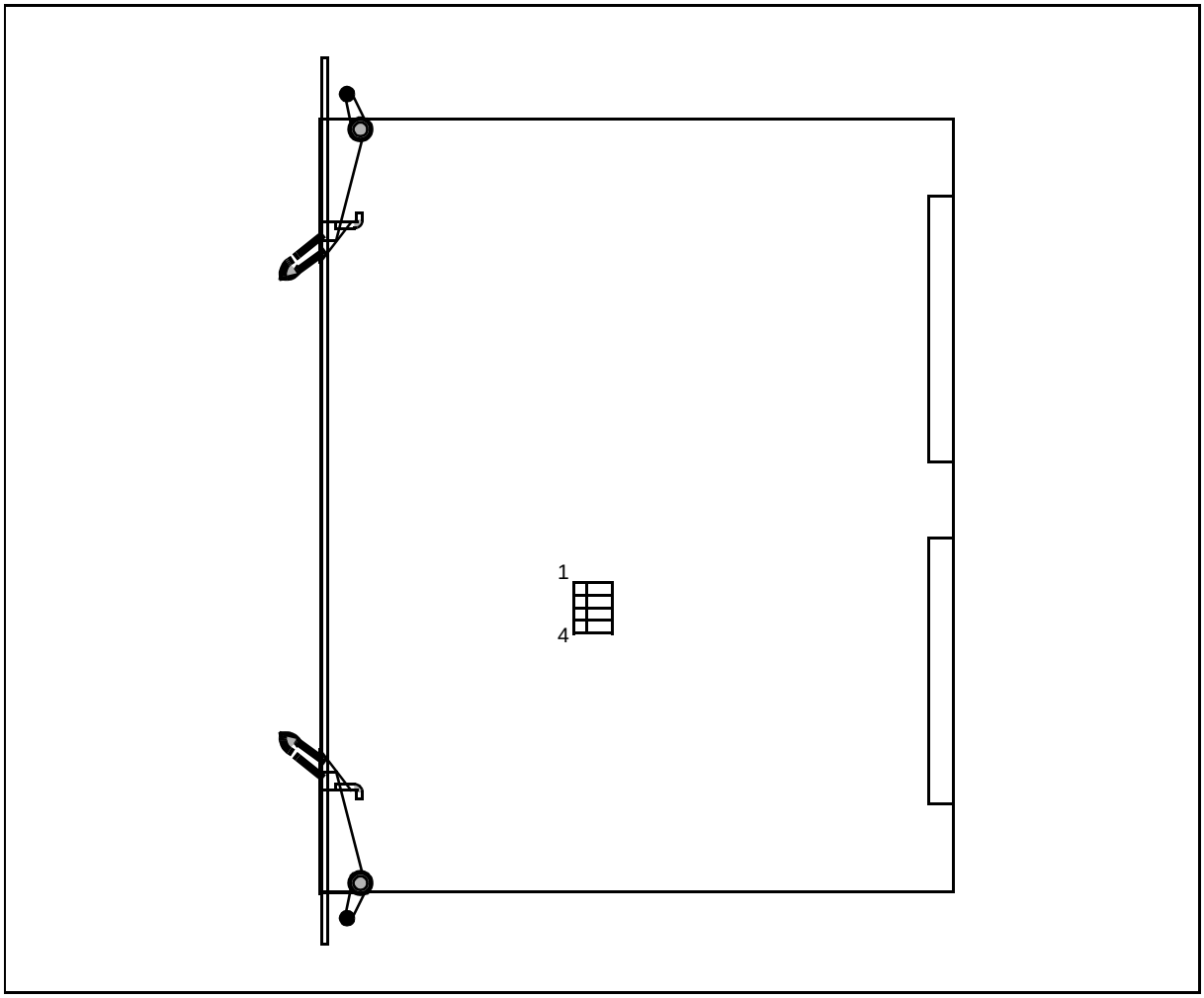


Table 2-AQ: **NT3T70BD System Bus Controller pack - switch 1 and switch 2 settings**				
Option	**Switches** **1**	**2**	**3**	**4**
Internal clock generator	1	0	(see Table 2-AR)	
External clock-sync source	0	1	(see Table 2-AR)	

Note 1: Settings: 1 = ON, 0 = OFF. Switches 3 and 4 appear on NT3T70BC and later versions of the pack.

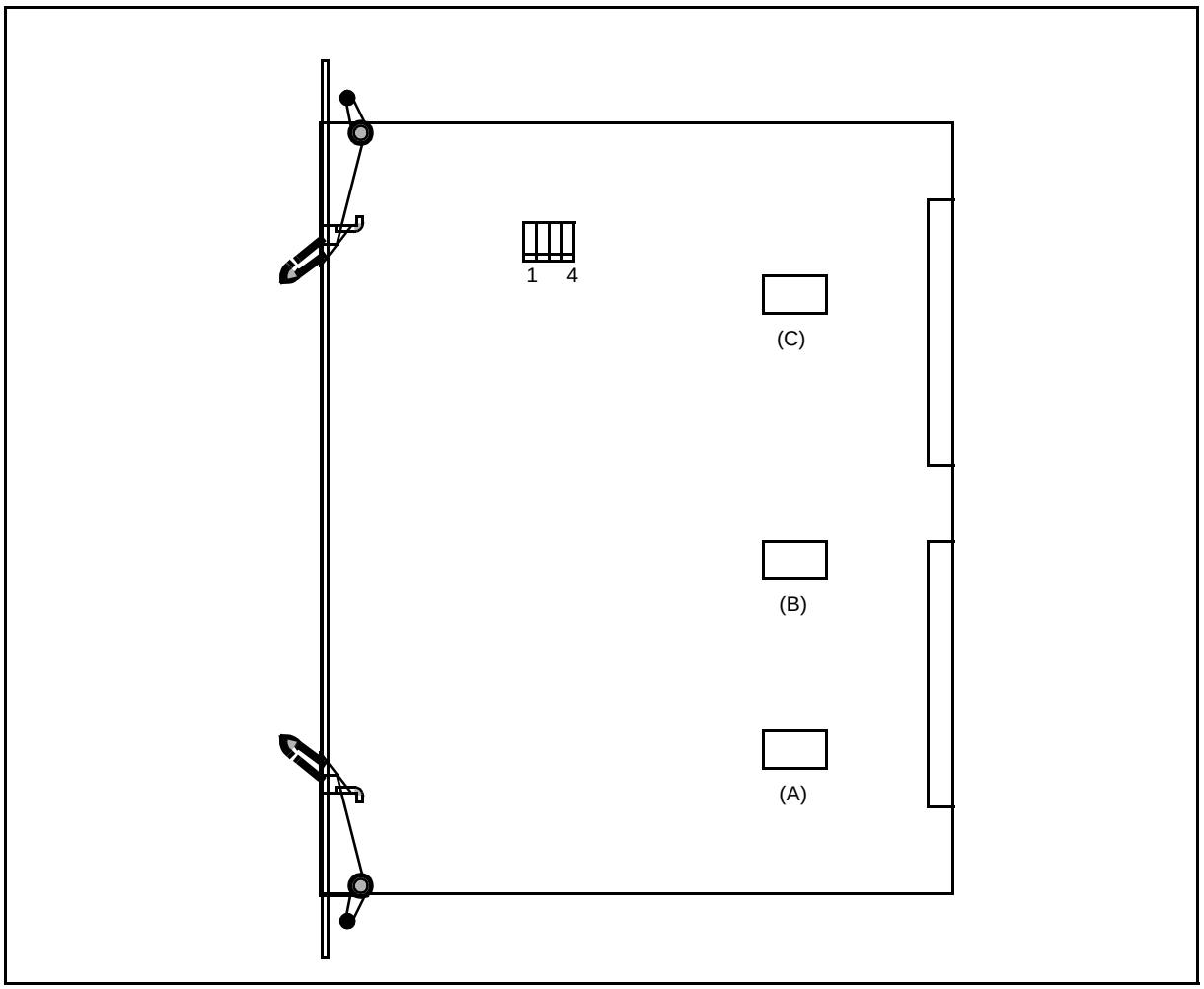
Note 2: During a changeout of both SBC packs, the family codes of the mate packs and the settings for switches 3 and 4 can temporarily conflict without affecting system operation.

Table 2-AR:
NT3T70BD System Bus Controller pack - switch 3 and switch 4 settings

Function		Switch 3 Setting	Switch 4 Setting
Mate System Bus Controller type	NT3T70BC and earlier	1	1
	NT3T70BD and later	0	0

Note: *Settings: 1 = ON, 0 = OFF, - = NOT USED.*

Figure 2-31: NT3T71 Maintenance Interface pack - switch locations



Note: *An option plug is inserted in one of the plug positions (A, B, or C), depending upon the type of device connected to the NT3T71 pack, as follows: A - for a DCE device such as a modem; B - for a DTE device such as a maintenance terminal; C - for a 20 mA current loop.*

Table 2-AS:
NT3T71 Maintenance Interface pack switch settings

Baud Rate	**Switches**			
	1	**2**	**3**	**4**
110	0	1	1	1
150	0	0	1	1
300	0	1	0	1
600	0	0	0	1
1200	0	1	1	0

Table 2-AS: (Continued)
NT3T71 Maintenance Interface pack switch settings

Baud Rate	Switches 1	2	3	4
2400	0	0	1	0
4800	0	1	0	0
9600	0	0	0	0
19200 (Applies to the AB and later versions of the pack)	1	0	0	0

Note 1: Settings: 1 = ON, 0 = OFF, - = NOT APPLICABLE.

Note 2: Eight data bits can be input and output by serial data interface (SDI) hardware. The parity bit is not used. One stop bit is used for all settings except 110 baud, which selects two stop bits. The DMS-10 system software handles OUTPUT and INPUT streams according to how the SDI port is assigned in the DMO field as follows:

- SDI port assigned to TTY (terminal equipment or terminal program):
  - OUTPUT: the highest order bit (8) is forced in software to space (0). The remaining seven bits represent the ASCII character. Thus, the configuration settings of the terminal or terminal program should be: 7 bits data, space parity, and 1 stop bit.

  Alternatively, a terminal setup of 7 bits, mark parity, and 1 stop bit can be used if the terminal ignores parity. Consult an operator's manual for the terminal or program if necessary. The SDI does not support an extended ASCII character set on devices capable of displaying extended ASCII when the eighth bit is set to mark (for example, interfacing to DOS-compatible PCs or terminal programs).

  - INPUT: eight bits are input and echoed; the highest order bit is ignored by software. This does not affect terminal settings.
- SDI port assigned for applications that use an eight-bit data stream (that is, MDR, SCCS, SMDI). These applications are non-ASCII based and the equipment outputs and inputs 8 data bits.
  - OUTPUT: all eight bits are transmitted
  - INPUT: all eight bits are received and processed

Note: *At baud rates above 1200, caution should be used when interfacing with equipment other than man-machine interface equipment. The rate of data transfer associated with machine-machine interfaces can exceed the buffer capacity of the I/O system, which can result in loss of data.*

Figure 2-32: NT3T72 I/O Bus Extender pack - switch locations for pack versions AD and earlier

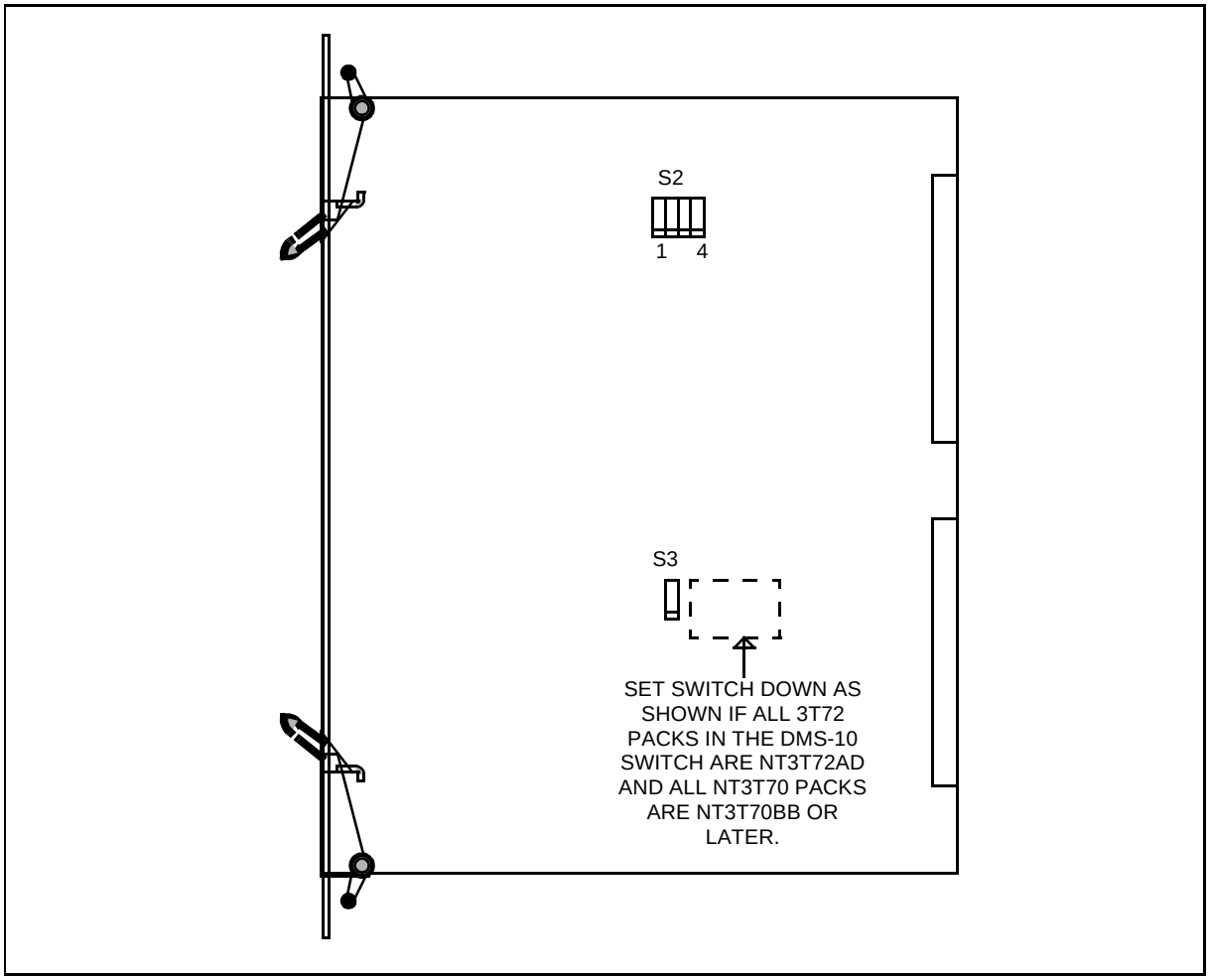


Table 2-AT:
NT3T72 I/O Bus Extender pack - S2 switch settings for pack versions AD and earlier

Type of Shelf	Pack Location (bsp)			Switches 1	2	3	4
Control	CE	3	2	0	0	0	0
Control	CE	3	3	0	0	0	0
Network	CE	1	2	0	0	1	0
Network	CE	1	3	1	0	1	0
Network	CE	1	4	0	1	0	0
Network	CE	1	5	1	1	0	0
CPU/Network	CE	3	2	0	0	0	0
CPU/Network	CE	3	3	0	0	0	0
CPU/Network	CE	3	2	0	1	0	0
CPU/Network	CE	3	3	1	1	0	0
GPIO	CE	3	1	0	1	1	0
GPIO	CE	3	1	1	1	1	0
GPIO	CE	1	1	0	0	0	1
GPIO	CE	1	1	1	0	0	1

Note: *Settings: 1 = ON, 0 = OFF, - = NOT APPLICABLE.*

CAUTION: Incorrect address settings may cause system problems and a serious degradation of service. For example, duplicating an address setting across two different NT3T72 packs will result in conflicts.

Table 2-AU:
NT3T72AD I/O Bus Extender pack - S3 switch settings

NT3T72	NT3T70	S3 Switch
All 3T72s are AD or higher.	BB or higher	down
All 3T72s are AD or higher.	BA or lower	up
All 3T72s are not AD or higher.	Do not care	up

Figure 2-33: NT3T72AE I/O Bus Extender pack - switch locations

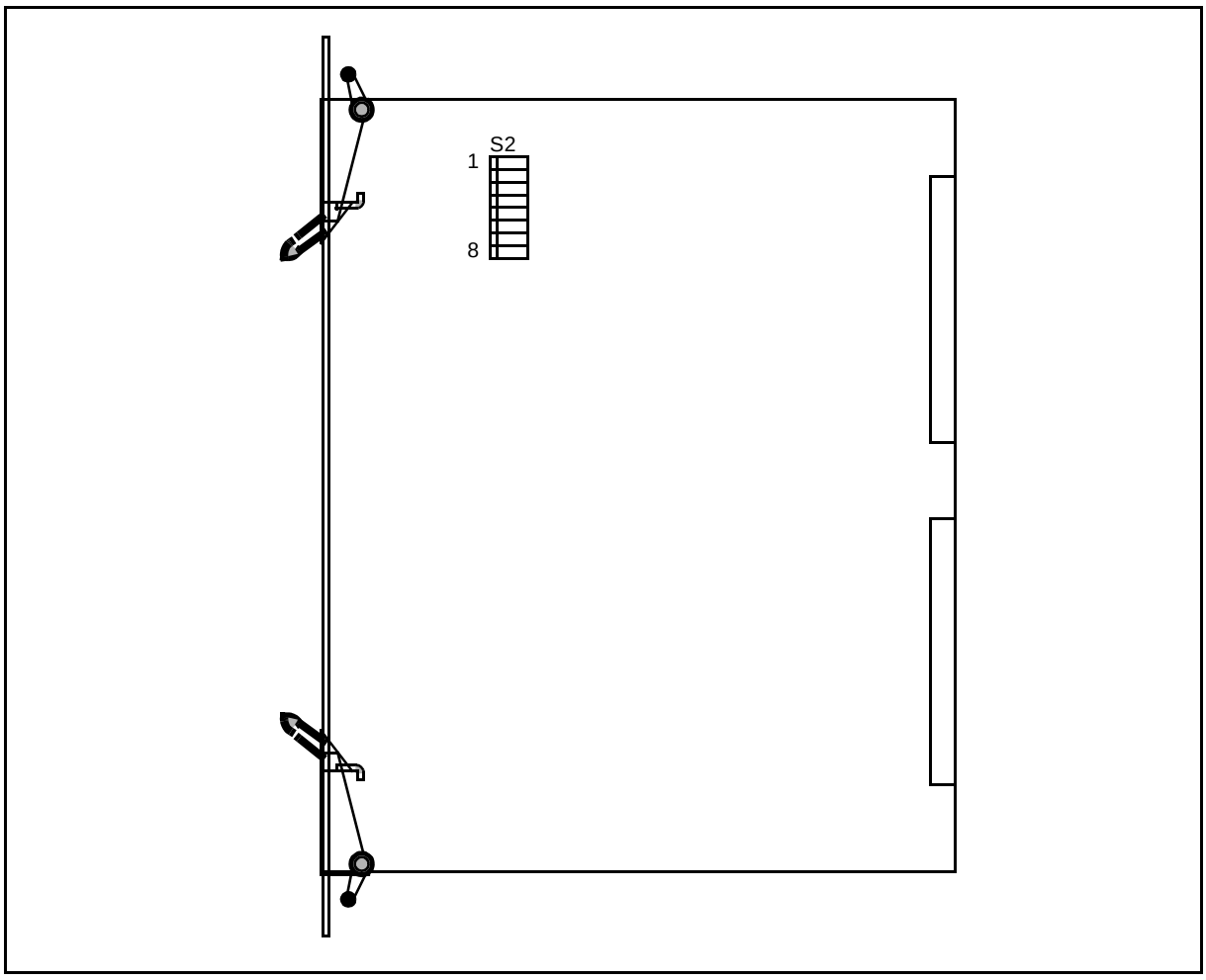


Table 2-AV:
NT3T72AE I/O Bus Extender pack - S2 switch settings - switches 1-4

Type of Shelf	Pack Location (bsp)	Switches 1	2	3	4
Control	CE 3 2 15	0	0	0	0
Control	CE 3 3 15	0	0	0	0
Network	CE 1 2 2/3	0	0	1	0
Network	CE 1 3 2/3	1	0	1	0
Network	CE 1 4 2/3	0	1	0	0
Network	CE 1 5 2/3	1	1	0	0
CPU/Network	CE 3 2 8 (J1T72A-1/B-1) or 7 (J1T72C-1)	0	0	0	0

Table 2-AV:
NT3T72AE I/O Bus Extender pack - S2 switch settings - switches 1-4

Type of Shelf	Pack Location (bsp)			Switches 1	2	3	4
CPU/Network	CE	3	8 (J1T72A-1/B-1) or 7 (J1T72C-1)	0	0	0	0
CPU/Network	CE	2	14/15 (J1T72B-1) or 13/14 (J1T72C-1)	0	1	0	0
CPU/Network	CE	3	14/15 (J1T72B-1) or 13/14 (J1T72C-1)	1	1	0	0
CPU/Network (DMS-10 EN)	CE 1	4	9 (J8M75A-1)	0	0	0	0
CPU/Network (DMS-10 EN)	CE 1	5	9 (J8M75A-1)	0	0	0	0
CPU/Network (DMS-10 EN)	CE 1	4	10/11 (J8M75A-1)	0	1	0	0
CPU/Network (DMS-10 EN)	CE 1	5	10/11 (J8M75A-1)	1	1	0	0
GPIO (DMS-10 EN)	CE 1	2	2/3 (J1T81A-1)	0	1	1	0
GPIO (DMS-10 EN)	CE 1	2	19/20 (J1T81A-1)	1	1	1	0
GPIO (DMS-10 EN)	CE 1	3	2/3 (J1T81A-1)	0	0	0	1
GPIO (DMS-10 EN)	CE 1	3	19/20 (J1T81A-1)	1	0	0	1
GPIO (DMS-10 EN)	CE 3	1	2/3 (J1T81A-1)	0	1	1	0
GPIO (DMS-10 EN)	CE 3	1	19/20 (J1T81A-1)	1	1	1	0
GPIO	CE 3	1	2/3 (J1T81A-1)	0	1	1	0
GPIO	CE 3	1	19/20 (J1T81A-1)	1	1	1	0
GPIO	CE 1	1	2/3 (J1T81A-1)	0	0	0	1
GPIO	CE 1	1	19/20 (J1T81A-1)	1	0	0	1

Note: *Settings: 1 = ON, 0 = OFF, - = NOT APPLICABLE.*

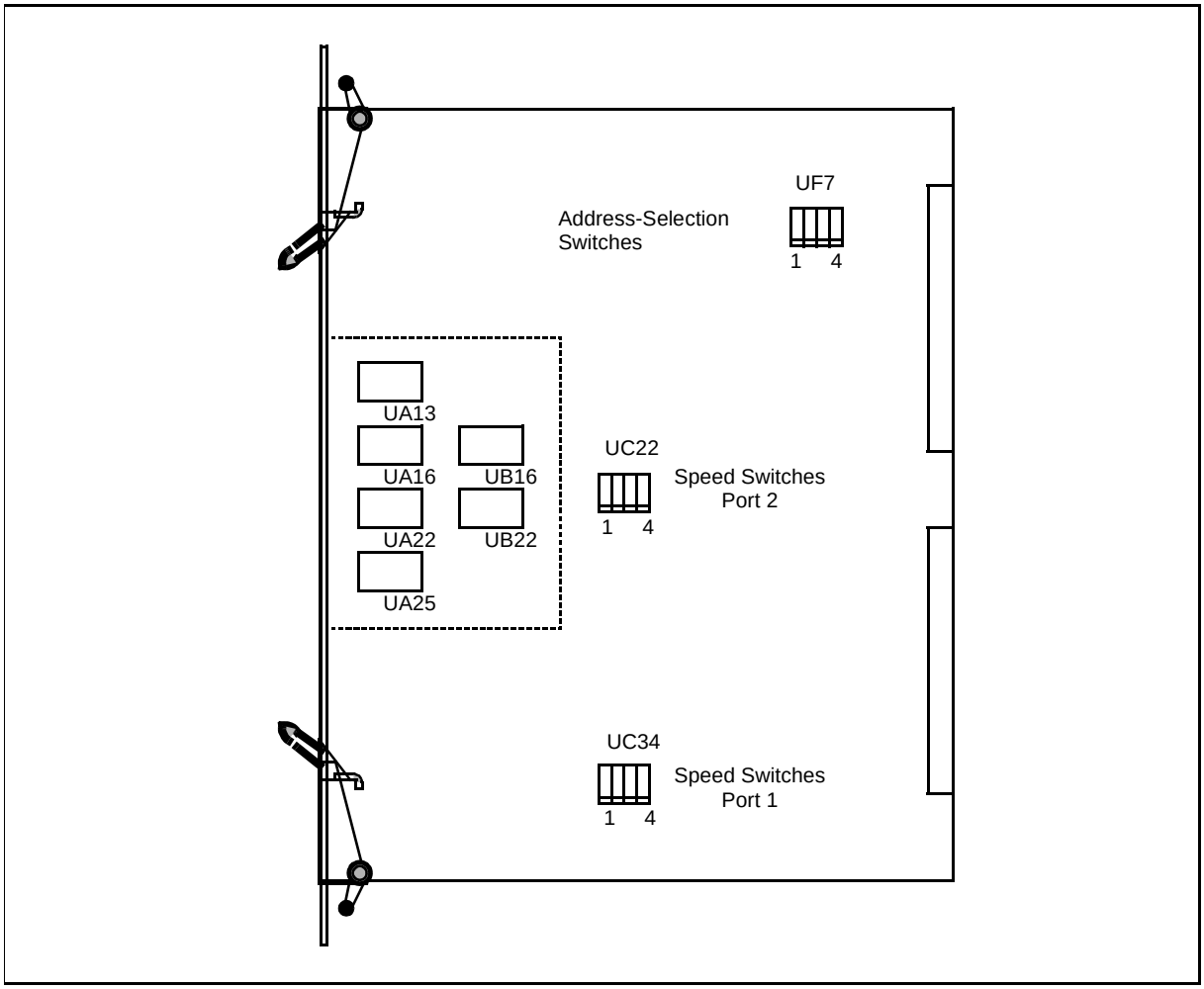
CAUTION: Incorrect address settings may cause system problems and a serious degradation of service. For example, duplicating an address setting across two different NT3T72 packs will result in conflicts.

Table 2-AW:
NT3T72AE I/O Bus Extender pack - S2 switch settings - switches 5-8

NT3T72	NT3T70	Switches 5	6	7	8
All 3T72s are AD or higher.	BB or higher	0	-	-	-
All 3T72s are AD or higher.	BA or lower	1	-	-	-
All 3T72s are not AD or higher.	Do not care	1	-	-	-

Note: *Settings: 1 = ON, 0 = OFF, - = NOT APPLICABLE.*

Figure 2-34: NT3T80AA (Series A-E) Dual Serial Data Interface pack - switch locations



Note: *Program sockets should be selected according to the following table:*

Table 2-AX:
NT3T80AA (Series A-E) Program socket selection

Socket location	Port	Connecting device
UA13 UA25	1 2	When the 3T80 connects to a modem.
UA16 UA22	1 2	When the 3T80 connects to an RS-232C port (maintenance terminal).
UB16 UB22	1 2	When the 3T80 connects directly to a 20-mA current loop. ***Note:*** This function is not supported when the NT3T45CA, or higher, paddleboard is provisioned.

Table 2-AY:
NT3T80AA (Series A-E) Dual Serial Data Interface pack - switch settings for TTY assignment

Device Number	Address Switches 1	2	3	4
2-3	-	1	1	0
4-5	-	1	0	1
6-7	-	1	0	0
8-9	-	0	1	1
10-11	-	0	1	0
12-13	-	0	0	1
14-15	-	0	0	0

Note 1: Settings: 1 = ON, 0 = OFF, - = NOT APPLICABLE.

Note 2: Device numbers 0 and 1 are preassigned to the NT3T71 TTY ports. Therefore, they cannot be used for the NT3T80.

CAUTION: Incorrect address settings may cause system problems and a serious degradation of service. For example, setting a device (TTY) address on the NT3T80 to "- 1 1 1" will result in conflicts because this is the preassigned address setting for TTYs 0 and 1 on the NT3T71 pack. Likewise, duplicating an address setting for two different devices (TTYs) on two different NT3T80 packs will result in conflicts.

Table 2-AZ:
NT3T80AA (Series A-E) Dual Serial Data Interface pack - switch settings for baud rate assignment

Device Speed (Baud)	Speed Switches 1	2	3	4
110	-	1	1	1
150	-	0	1	1
300	-	1	0	1
600	-	0	0	1
1200	-	1	1	0
2400	-	0	1	0
4800	-	1	0	0
9600	-	0	0	0

Note 1: Settings: 1 = ON, 0 = OFF, - = NOT APPLICABLE.

Note 2: Eight data bits can be input and output by serial data interface (SDI) hardware. The parity bit is not used. One stop bit is used for all settings except 110 baud, which selects two stop bits. The DMS-10 system software handles OUTPUT and INPUT streams according to how the SDI port is assigned in the DMO field as follows:

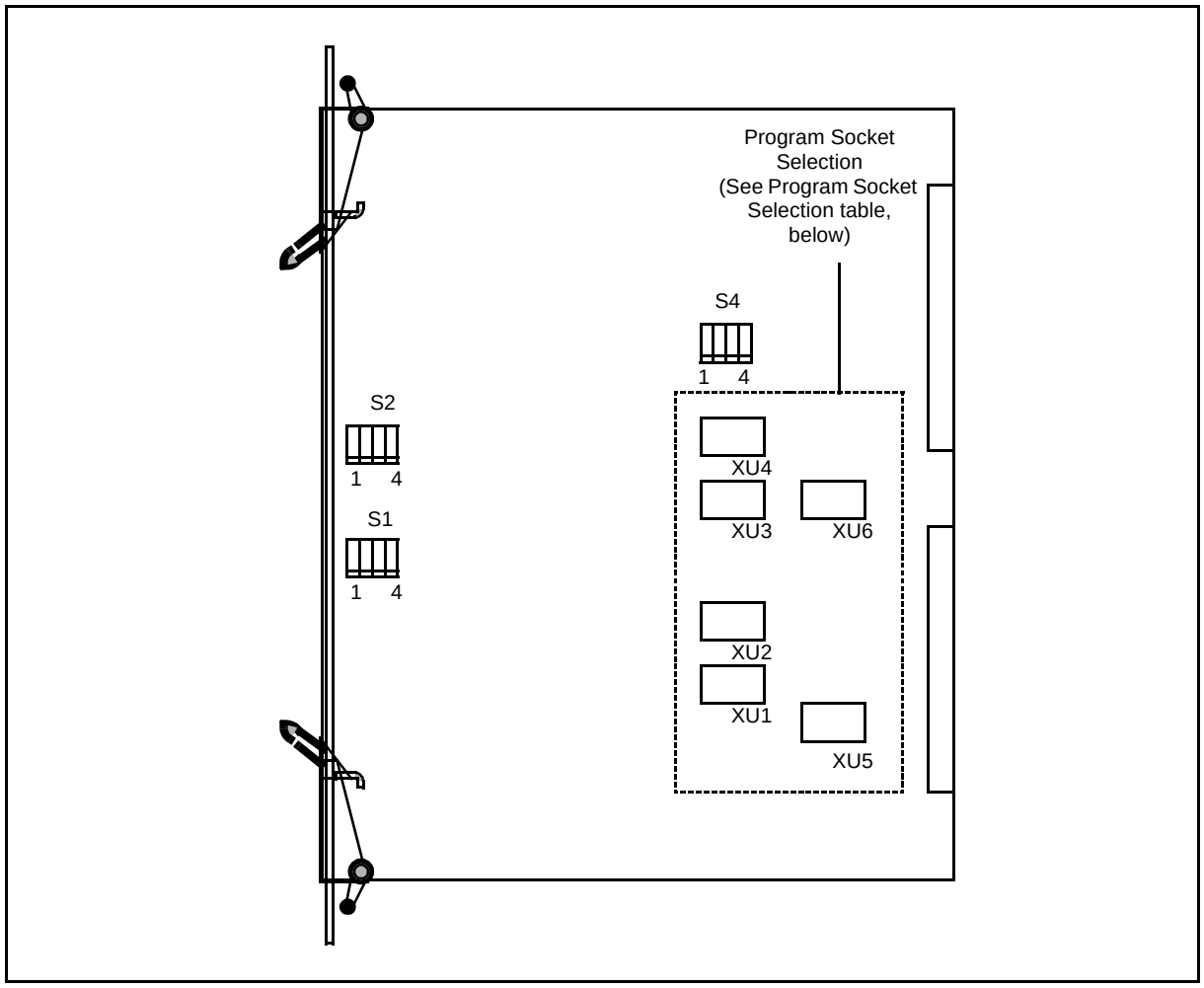
- SDI port assigned to TTY (terminal equipment or terminal program):
  - OUTPUT: the highest order bit (8) is forced in software to space (0). The remaining seven bits represent the ASCII character. Thus, the configuration settings of the terminal or terminal program should be: 7 bits data, space parity, and 1 stop bit.

  Alternatively, a terminal setup of 7 bits, mark parity, and 1 stop bit can be used if the terminal ignores parity. Consult an operator's manual for the terminal or program if necessary. The SDI does not support an extended ASCII character set on devices capable of displaying extended ASCII when the eighth bit is set to mark (for example, interfacing to DOS-compatible PCs or terminal programs).

  - INPUT: eight bits are input and echoed; the highest order bit is ignored by software. This does not affect terminal settings.
- SDI port assigned for applications that use an eight-bit data stream (that is, MDR, SCCS, SMDI). These applications are non-ASCII based and the equipment outputs and inputs 8 data bits.
  - OUTPUT: all eight bits are transmitted.
  - INPUT: all eight bits are received and processed.

  Note: *At baud rates above 1200, caution should be used when interfacing with equipment other than man-machine interface equipment. The rate of data transfer associated with machine-machine interfaces can exceed the buffer capacity of the I/O system, which can result in loss of data.*

Figure 2-35: NT3T80AA (Series F) Dual Serial Data Interface pack - switch locations



Note: Program sockets selection guidelines are shown in Table 2-BA.

Table 2-BA:
NT3T80AA (Series F) Program socket selection

Socket location	Port	Connecting device
XU4 XU1	1 2	Used when the NT3T80AA connects to an RS-232 DCE device such as a modem.
XU3 XU2	1 2	Used when the NT3T80AA connects to an RS-232 DTE device such as a maintenance TTY.
XU6 XU5	1 2	Used when the 3T80AA connects to a 20-mA current loop. ***Note:*** *This function is not supported when the NT3T45CA, or higher, paddleboard is provisioned.*

Note: Generally, an RS-232 DCE device can be identified by its female DB-25 connector and an RS-232 DTE device by its male DB-25 connector.

Table 2-BB:
NT3T80AA (Series F) Dual Serial Data Interface pack - switch settings for TTY assignment

Device Number	S4 Switches 1	2	3	4
2-3	-	1	1	0
4-5	-	1	0	1
6-7	-	1	0	0
8-9	-	0	1	1
10-11	-	0	1	0
12-13	-	0	0	1
14-15	-	0	0	0

Note 1: Settings: 1 = ON, 0 = OFF, - = NOT APPLICABLE.

Note 2: Device numbers 0 and 1 are preassigned to the NT3T71 TTY ports. Therefore, they cannot be used for the NT3T80.

CAUTION: Incorrect address settings may cause system problems and a serious degradation of service. For example, setting a device (TTY) address on the NT3T80 to "- 1 1 1" will result in conflicts because this is the preassigned address setting for TTYs 0 and 1 on the NT3T71 pack. Likewise, duplicating an address setting for two different devices (TTYs) on two different NT3T80 packs will result in conflicts.

Table 2-BC:
NT3T80AA (Series F) Dual Serial Data Interface pack - switch settings for baud rate assignment

Device Speed (Baud)	S1 switches (port 1) S2 switches (port 2) 1	2	3	4
110	-	1	1	1
150	-	0	1	1
300	-	1	0	1
600	-	0	0	1
1200	-	1	1	0
2400	-	0	1	0
4800	-	1	0	0
9600	-	0	0	0

Note 1: Settings: 1 = ON, 0 = OFF, - = NOT APPLICABLE.

Note 2: Eight data bits can be input and output by serial data interface (SDI) hardware. The parity bit is not used. One stop bit is used for all settings except 110 baud, which selects two stop bits. The DMS-10 system software handles

OUTPUT and INPUT streams according to how the SDI port is assigned in the DMO field as follows:

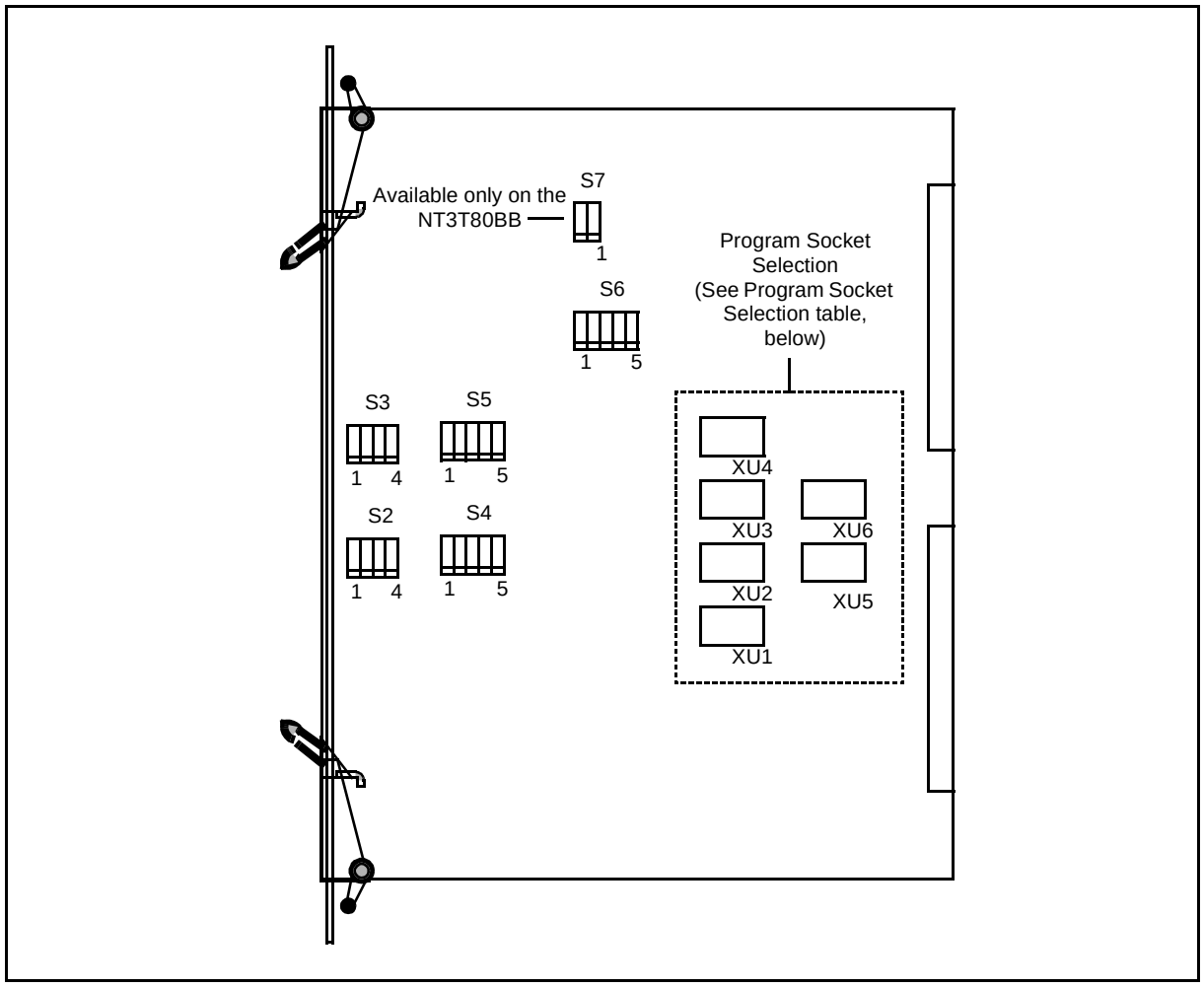
- SDI port assigned to TTY (terminal equipment or terminal program):
  - OUTPUT: the highest order bit (8) is forced in software to space (0). The remaining seven bits represent the ASCII character. Thus, the configuration setttings of the terminal or terminal program should be: 7 bits data, space parity, and 1 stop bit.

  Alternatively, a terminal setup of 7 bits, mark parity, and 1 stop bit can be used if the terminal ignores parity. Consult an operator's manual for the terminal or program if necessary. The SDI does not support an extended ASCII character set on devices capable of displaying extended ASCII when the eighth bit is set to mark (for example, interfacing to DOS-compatible PCs or terminal programs).

  - INPUT: eight bits are input and echoed; the highest order bit is ignored by software. This does not affect terminal settings.
- SDI port assigned for applications that use an eight-bit data stream (that is, MDR, SCCS, SMDI). These applications are non-ASCII based and the equipment outputs and inputs 8 data bits.
  - OUTPUT: all eight bits are transmitted.
  - INPUT: all eight bits are received and processed.

  Note 3: At baud rates above 1200, caution should be used when interfacing with equipment other than man-machine interface equipment. The rate of data transfer associated with machine-machine interfaces can exceed the buffer capacity of the I/O system, which can result in loss of data.

Figure 2-36: NT3T80BA/BB Dual Serial Data Interface pack - switch locations



Note: Program sockets should be selected according to the following table:

Table 2-BD:
NT3T80BA/BB Program socket selection

Socket location	Port	Connecting device
XU6 XU5	1 2	Used when the NT3T80BA or BB connects to an RS-232 DCE device such as a modem.
XU3 XU2	1 2	Used when the NT3T80BA or BB connects to an RS-232 DTE device such as a maintenance TTY. ***Note:*** *Alarm (TBOS) uses DTE settings.*

Table 2-BD:
NT3T80BA/BB Program socket selection

Socket location	Port	Connecting device
XU4 XU1	1 2	Used when the NT3T80BA connects to a 20-mA current loop. ***Note:*** *This function is not supported when the NT3T45CA, or higher, paddleboard is provisioned.*

Note: Generally, an RS-232 DCE device can be identified by its female DB-25 connector and an RS-232 DTE device by its male DB-25 connector.

Table 2-BE:
NT3T80BA/BB Dual Serial Data Interface pack - switch settings for tty assignment

Device Number	S6 Address Switches				
	1	2	3	4	5
2-3	0	0	0	0	1
4-5	0	0	0	1	0
6-7	0	0	0	1	1
8-9	0	0	1	0	0
10-11	0	0	1	0	1
12-13	0	0	1	1	0
14-15	0	0	1	1	1
18-19	0	1	0	0	1
20-21	0	1	0	1	0
22-23	0	1	0	1	1
24-25	0	1	1	0	0
26-27	0	1	1	0	1
28-29	0	1	1	1	0
30-31	0	1	1	1	1

Note 1: Settings: 1 = ON, 0 = OFF, - = NOT APPLICABLE.

Note 2: Device numbers 0 and 1 are preassigned to the NT3T71 TTY ports. Therefore, they cannot be used for the NT3T80. Device numbers 16 and 17 are not assignable because the NT3T71 ports are also preassigned to other devices. Therefore, they also cannot be used for the NT3T80.

CAUTION: Incorrect address settings may cause system problems and a serious degradation of service. For example, setting a device (TTY) address on the NT3T80 to “0 0 0 0 0" will result in conflicts because this is the preassigned address setting for TTYs 0 and 1 on the NT3T71 pack. Setting a device (TTY) address on the NT3T80 to “0 1 0 0 0" will also result in conflicts because this is the preassigned address setting for device numbers 16 and 17. Likewise, duplicating an address setting for two different devices (TTYs) on two different NT3T80 packs will result in conflicts.

Table 2-BF:
NT3T80BA/BB Dual Serial Data Interface pack - protocol switch settings

Protocol	**S4 Switches (port 1)** **S5 Switches (port 2)** **1**	**2**	**3**	**4**	**5**
8 bits, no parity, 1 stop bit (see Note Note 2:)	0	1	0	0	-
7 bits, even parity, 1 stop bit	1	1	0	1	0
7 bits, odd parity, 1 stop bit	1	1	0	1	1
7 bits, no parity, 2 stop bits	0	0	0	1	-
8 bits, odd parity, 2 stop bits (see Note 4)	1	0	0	0	1

Note 1: Settings: 1 = ON, 0 = OFF, - = NOT APPLICABLE.

Note 2: This setting makes the pack equivalent to an NT3T80AA version.

Note 3: Eight data bits can be input and output by serial data interface (SDI) hardware. The parity bit is not used. One stop bit is used for all settings except 110 baud, which selects two stop bits. The DMS-10 system software handles OUTPUT and INPUT streams according to how the SDI port is assigned in the DMO field as follows:

- SDI port assigned to TTY (terminal equipment or terminal program).
  - OUTPUT: the highest order bit (8) is forced in software to space (0). The remaining seven bits represent the ASCII character. Thus, the configuration setttings of the terminal or terminal program should be: 7 bits data, space parity, and 1 stop bit.

  Alternatively, a terminal setup of 7 bits, mark parity, and 1 stop bit can be used if the terminal ignores parity. Consult an operator's manual for the terminal or program if necessary. The SDI does not support an extended ASCII character set on devices capable of displaying extended ASCII when the eighth bit is set to mark (for example, interfacing to DOS-compatible PCs or terminal programs).

  - INPUT: eight bits are input and echoed; the highest order bit is ignored by software. This does not affect terminal settings.

- SDI port assigned for applications that use an eight-bit data stream (that is, MDR, SCCS, SMDI). These applications are non-ASCII based and the equipment outputs and inputs 8 data bits. So the setting of 8-bit data is used and the parity and stop bit settings match those of the equipment in the application.

  - OUTPUT: all eight bits are transmitted.

  - INPUT: all eight bits are received and processed.

  Note 4: For TBOS expanded alarm interface 1 start bit 8 data bits 2 slot bits odd parity.

Table 2-BG:
NT3T80BA/BB Dual Serial Data Interface pack - switch settings for baud rate assignment

Device Speed (Baud)	S2 Switches (port 1) S3 Switches (port 2) 1 2 3 4
110	1 1 0 1
150	1 0 1 1
300	1 0 1 0
600	1 0 0 1
1200	1 0 0 0
2400	0 1 0 1
4800	0 0 1 1
9600	0 0 0 1
19200	0 0 0 0

Note 1: Settings: 1 = ON, 0 = OFF, - = NOT APPLICABLE.

Note 2: At baud rates above 1200, caution should be used when interfacing with equipment other than man-machine interface equipment. The rate of data transfer associated with machine-machine interfaces can exceed the buffer capacity of the I/O system, which can result in loss of data.

Note 3: 2400 baud required for TBOS alarms.

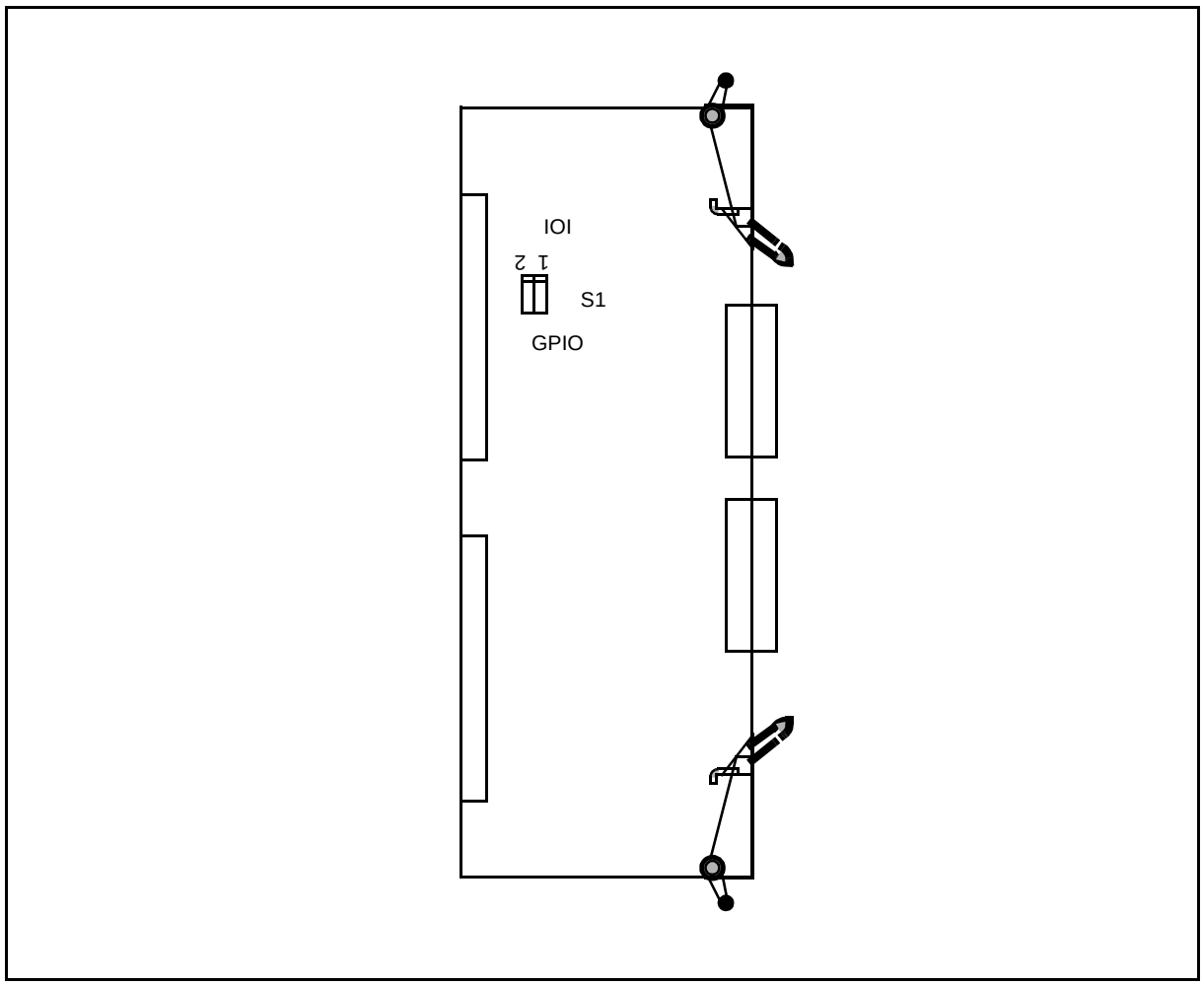
Table 2-BH:
NT3T80BB Dual Serial Data Interface pack - pack type assignment

Pack Type	S7 Switches 1 2
NT3T80AA	1 -
NT3T80BA	0 -

Note 1: Settings: 1 = ON, 0 = OFF, - = NOT APPLICABLE.

Note 2: Set the pack type switch (switch 1) to ON when the NT3T80BB is used to replace an NT3T80AA. The switch should be set to OFF for all other applications.

Figure 2-37: NT3T87 BB Input/Output Interface paddleboard - switch locations



Note: The NT3T87 BB paddleboard on the backplane of the IOI or GPIO shelf contains a DIP-switch (S1) that selects the shelf address. The right switch (also known as S1.1) on this DIP-switch must be set in the "up" position when the paddleboard is provisioned on the IOI shelf. When the paddleboard is provisioned on the GPIO shelf, this switch must be set in the "down" position. The left switch (also known as S1.2) on this DIP-switch is not used.

Figure 2-38: NT3T90 Input/Output Interface pack - switch locations

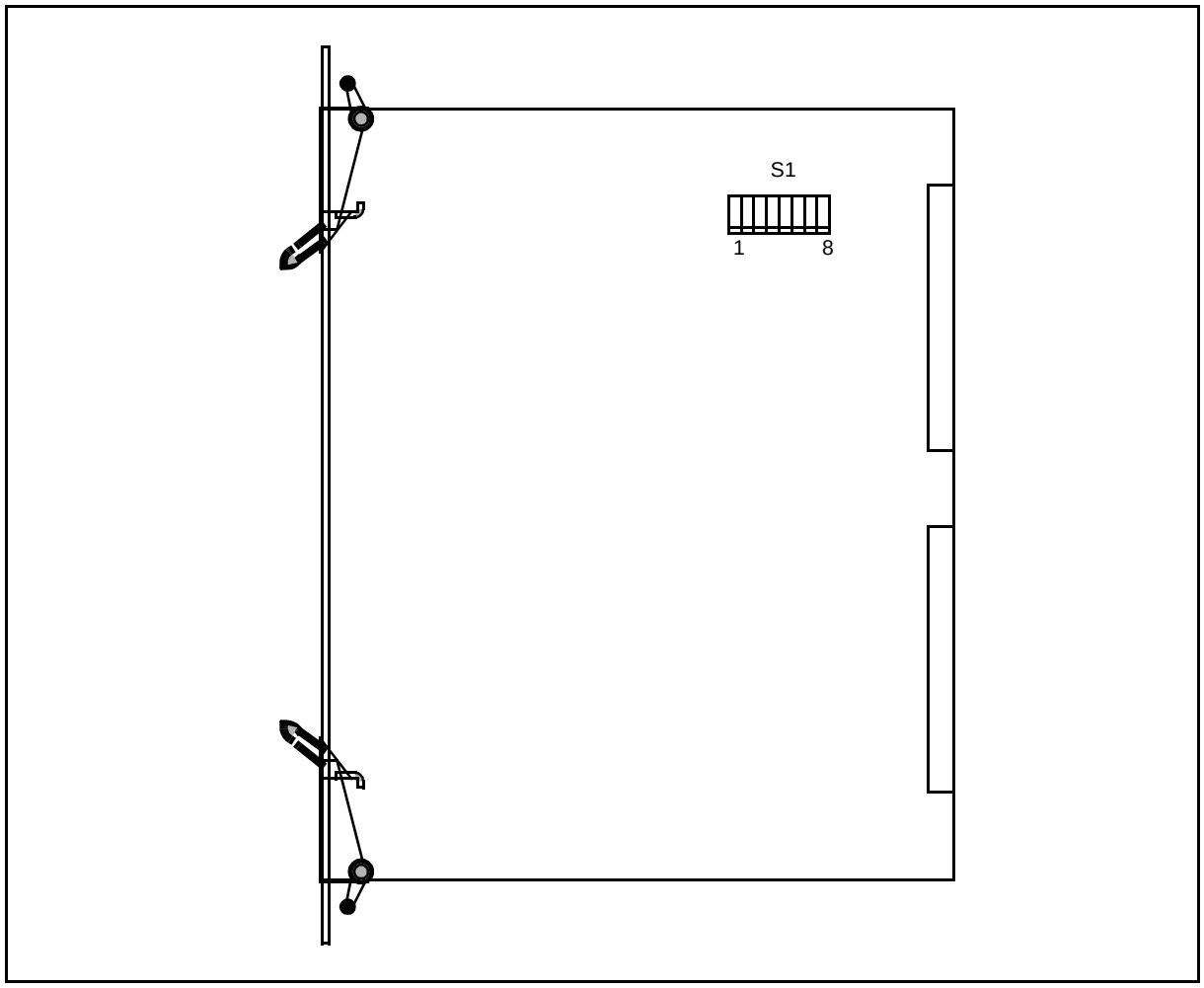


Table 2-BI:
NT3T90 Input/Output Interface pack - switch settings for base address

IOI Board Number on Network or GPIO shelf	Base Address (hexadecimal)	Switches 1	2	3	4	5	6	7	8
1 (IOI pack used for 1600 bpi feature)	3FD0	-	-	1	0	1	1	0	1
2 (IOI pack used for 1600 bpi feature)	3FE0	-	-	0	1	1	1	0	1
3 (IOI pack used for 1600 bpi feature)	3FF8	-	-	0	0	0	1	0	1

Note 1: Settings: 1 = ON, 0 = OFF, - = NOT APPLICABLE.

Note 2: Any two of the three IOI packs that are available for 1600 BPI can be used at one time. Pack numbers are assigned in Overlay CNFG (LOGU prompting sequence).

Figure 2-39: NT3T93 Integrated Modem pack - switch locations

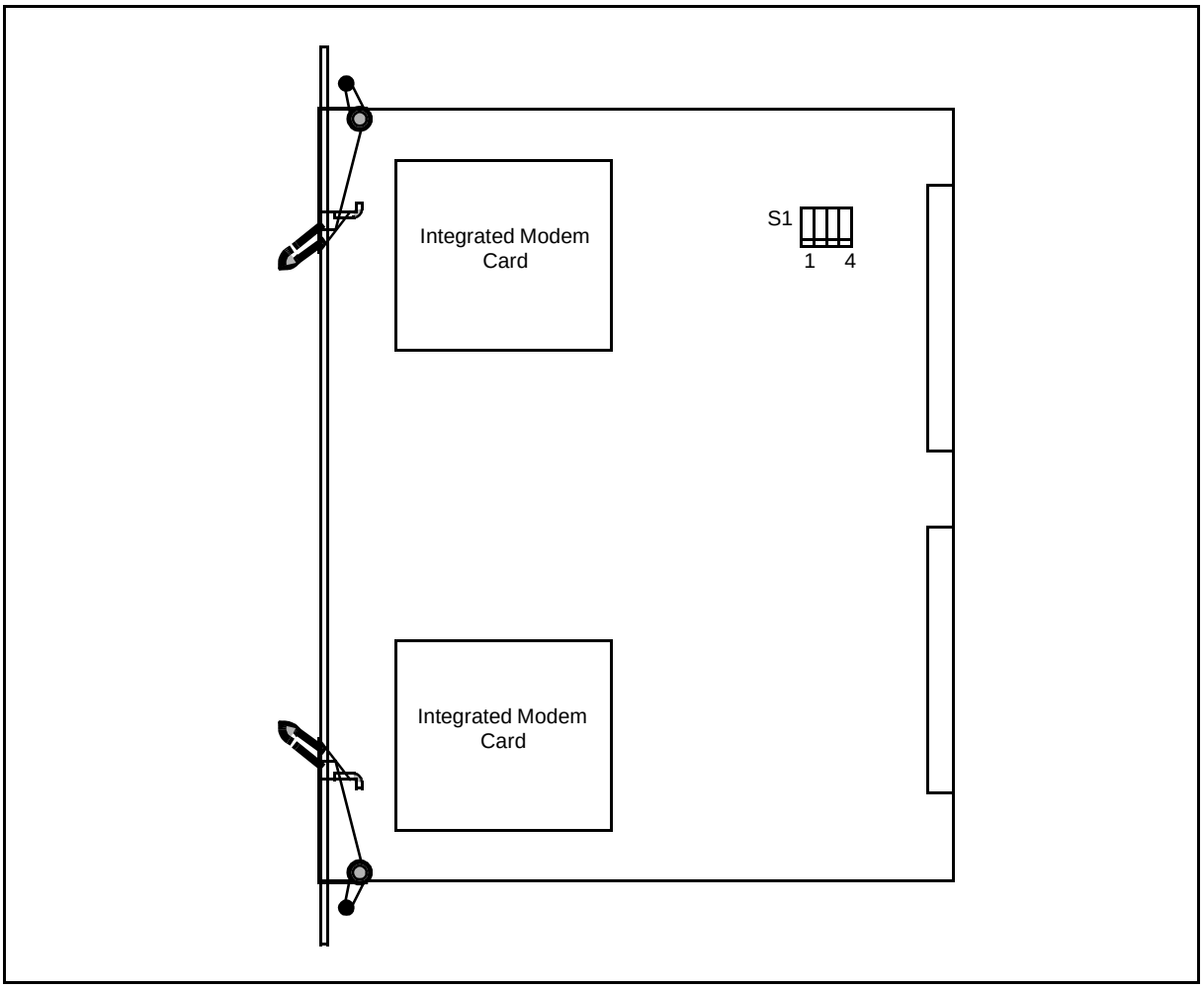


Table 2-BJ:
NT3T93 Integrated Modem pack - switch settings

Device Number	Address Switches 1	2	3	4
0-1 (Device numbers 0 and 1 are preassigned to the 3T71 TTY ports. Therefore, they cannot be assigned to the 3T93.)	-	-	-	-
2-3	-	1	1	0
4-5	-	1	0	1
6-7	-	1	0	0
8-9	-	0	1	1
10-11	-	0	1	0
12-13	-	0	0	1
14-15	-	0	0	0

Note: Settings: 1 = ON, 0 = OFF, - = NOT APPLICABLE.

Figure 2-40: NT4T01 Tone and Digit Sender pack and Extended Tone and Digit Sender pack - switch locations

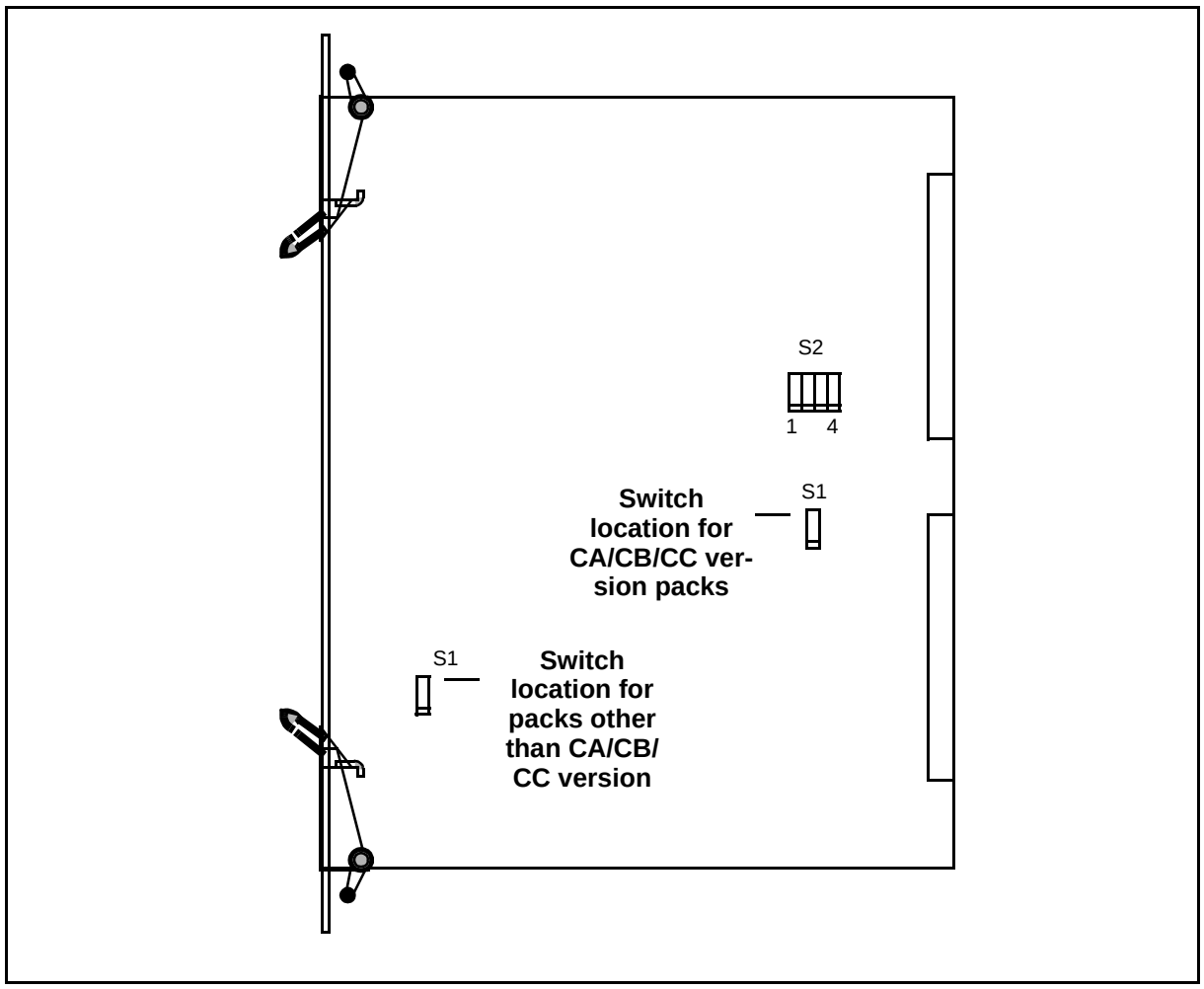


Table 2-BK:
NT4T01 Tone and Digit Sender pack - S1 switch settings for device selection for loop channels in diloop 0

Diloop Half	Switch position
Service Channel A	down
Service Channel B	up

Note: The S1 switch must always be set in the up position (toward the top of the pack).

Table 2-BL:
NT4T01 Tone and Digit Sender pack - S2 switch settings for data-channel clock rate to DLC pack

Switch	Switch in UP position (toward the top of the pack)	Switch in DOWN position (toward the bottom of the pack)	Signal	DLC Pack Position
1	64 kbytes	Transmit 56 Clock	Transmit Data Clock 0	7, 6
2	64 kbytes	Receive 56 Clock	Receive Data Clock 0	7, 6
3	64 kbytes	Transmit 56 Clock	Transmit Data Clock 1	5, 4
4	64 kbytes	Receive 56 Clock	Receive Data Clock 1	5, 4

Figure 2-41: NT4T03 3-Way Conference pack - switch locations

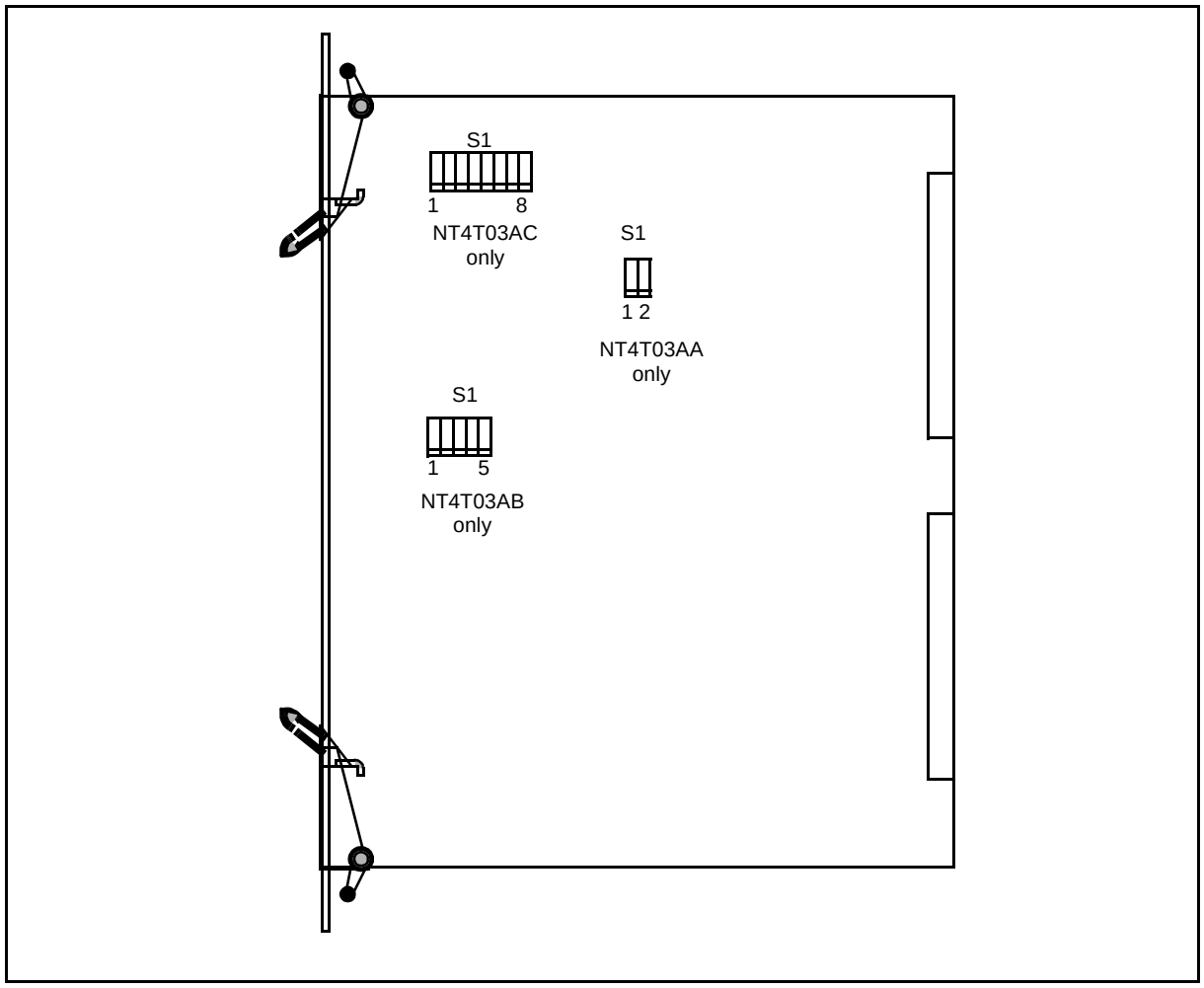


Table 2-BM: **NT4T03AA 3-Way Conference pack - switch settings**	
Option	**S1 Switches** **1 2**
μ-law (North America)	0 1
A-law	1 1

Note: Settings: 1 = ON, 0 = OFF, - = NOT APPLICABLE.

Table 2-BN:
NT4T03AB 3-Way Conference pack - switch settings

Option	S1 Switches				
	1	**2**	**3**	**4**	**5**
μ-law (North America)	0	1	0	0	1
A-law	1	1	0	0	1

Note: Settings: 1 = ON, 0 = OFF, - = NOT APPLICABLE.

Table 2-BO: -
NT4T03AC 3-Way Conference pack - switch settings

Option	S1 Switches							
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**
μ-law (North America)	0	1	0	0	1	0	0	0
A-law	1	1	0	0	1	0	0	0

Note: Settings: 1 = ON, 0 = OFF, - = NOT APPLICABLE.

Figure 2-42: NT4T07 Type 8 Bus Terminator pack - switch locations

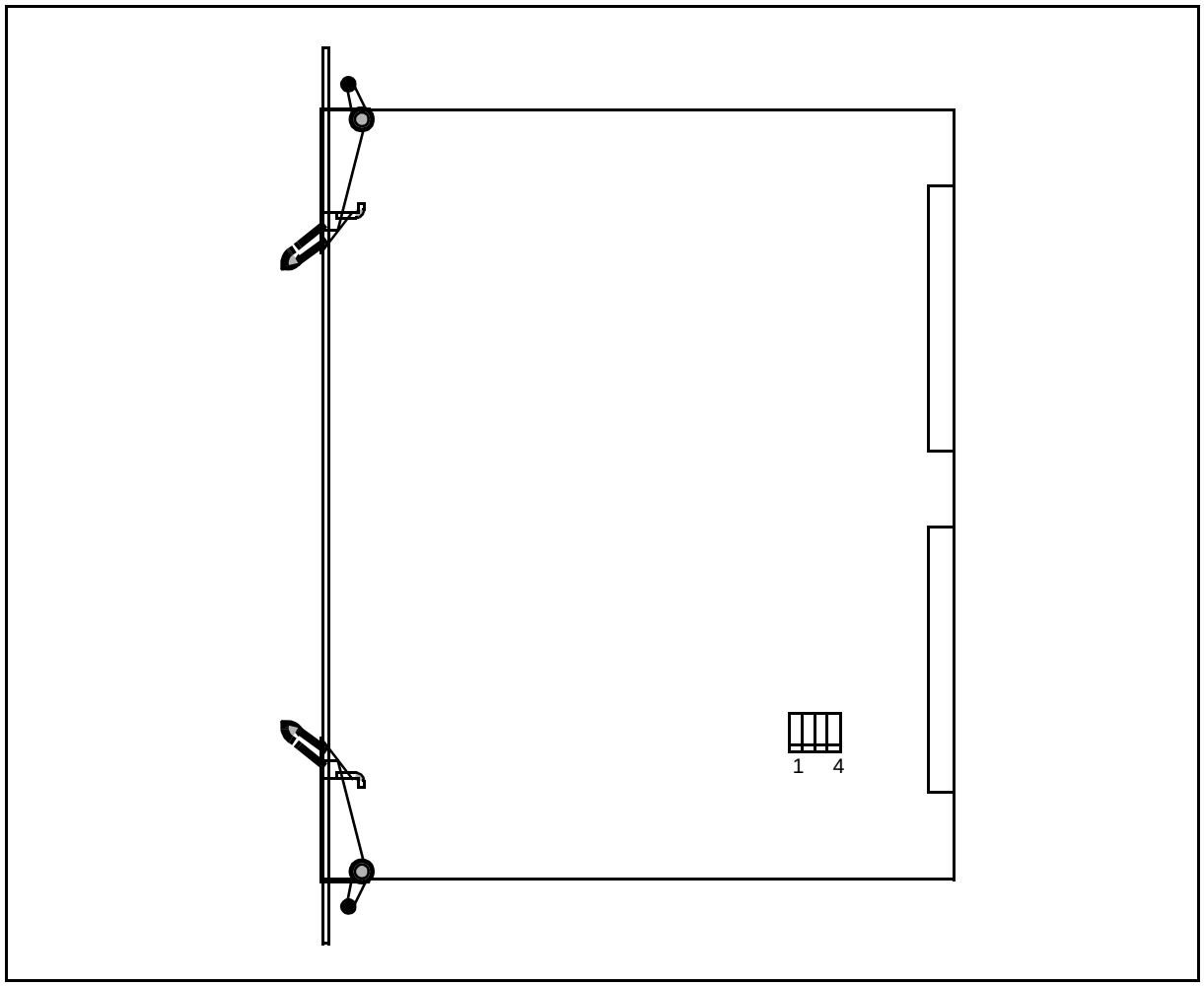


Table 2-BP:
NT4T07 Type 8 Bus Terminator - switch settings

Network Shelf	Location	Switches 1	2	3	4
0	CE 01, shelf 4	1	1	-	-
1	CE 01, shelf 5	0	1	-	-
2	CE 01, shelf 2	1	0	-	-
3	CE 01, shelf 3	0	0	-	-

Note: Settings: 1 = ON, 0 = OFF, - = NOT APPLICABLE.

Figure 2-43: NT4T09 Subscriber Remote Interface (SRI) pack - switch locations

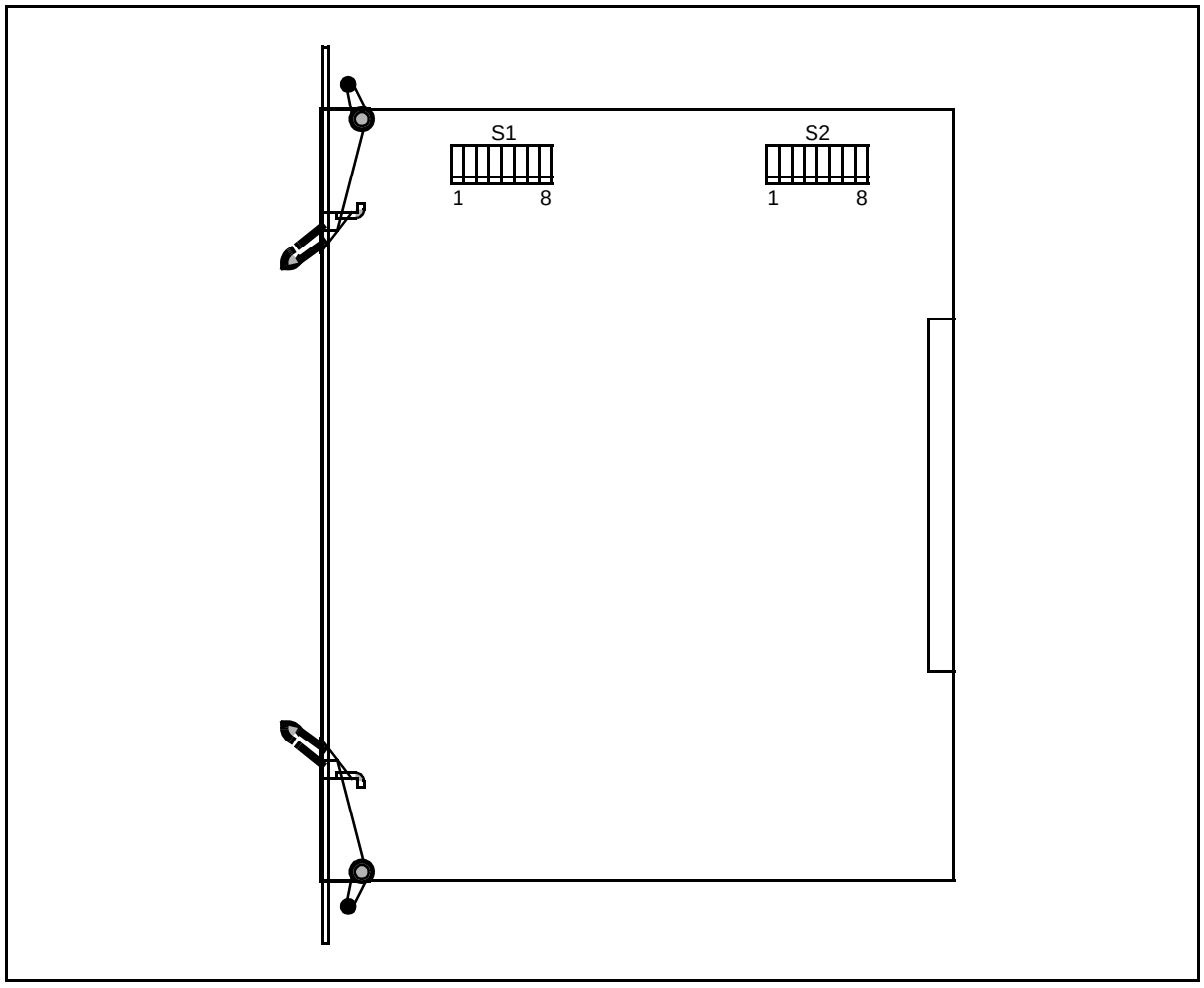


Table 2-BQ: **NT4T09 SRI pack - switch settings**									
Length of Cable from SRI Pack to First Office Repeater		**S1 (Port 0) and S2 (Port 1) Switches**							
		1	**2**	**3**	**4**	**5**	**6**	**7**	**8**
(feet)	**(meters)**								
0 -150	0 - 46	0	1	0	1	0	0	0	0
151 - 450	47 - 137	0	0	1	0	0	1	0	1
451 - 650	138 - 200	1	0	0	0	1	0	1	0

Note: Settings: 1 = ON, 0 = OFF, - = NOT APPLICABLE.

Figure 2-44: NT4T16 LAN/CPU Interface (LCI) pack - switch locations

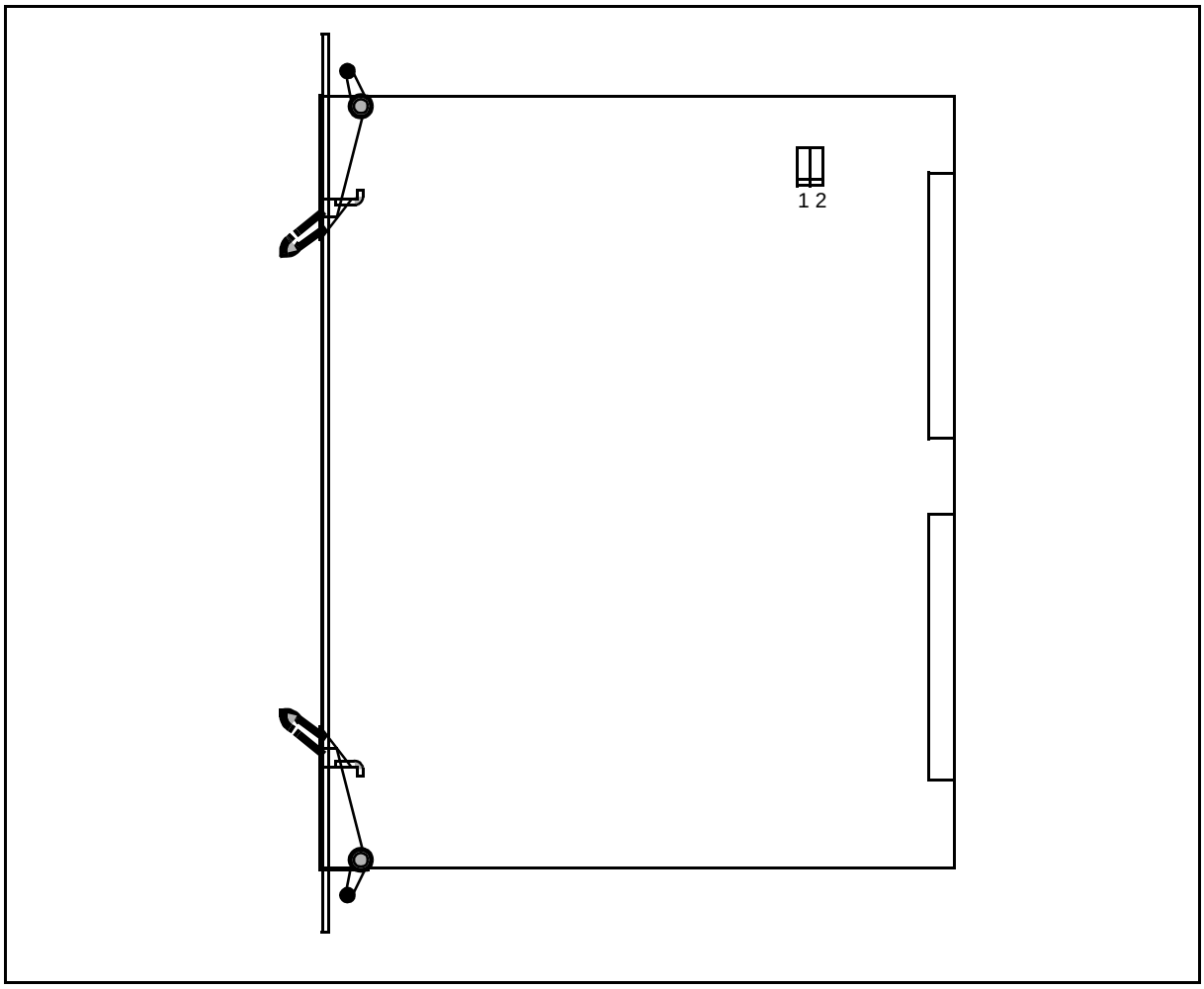


Table 2-BR: **NT4T16 LCI pack - switch settings**	
Logical Pack Number (for locations of the packs, refer to Overlay LAN (LCI) in NTP 297-3601-311)	**Switches** **1 2**
0 (controls LAN A)	0 0
1 (controls LAN B)	1 0

Note: Settings: 1 = ON, 0 = OFF, - = NOT APPLICABLE.

Figure 2-45: NT4T19 LAN Shelf Controller (LSC) paddleboard - switch locations

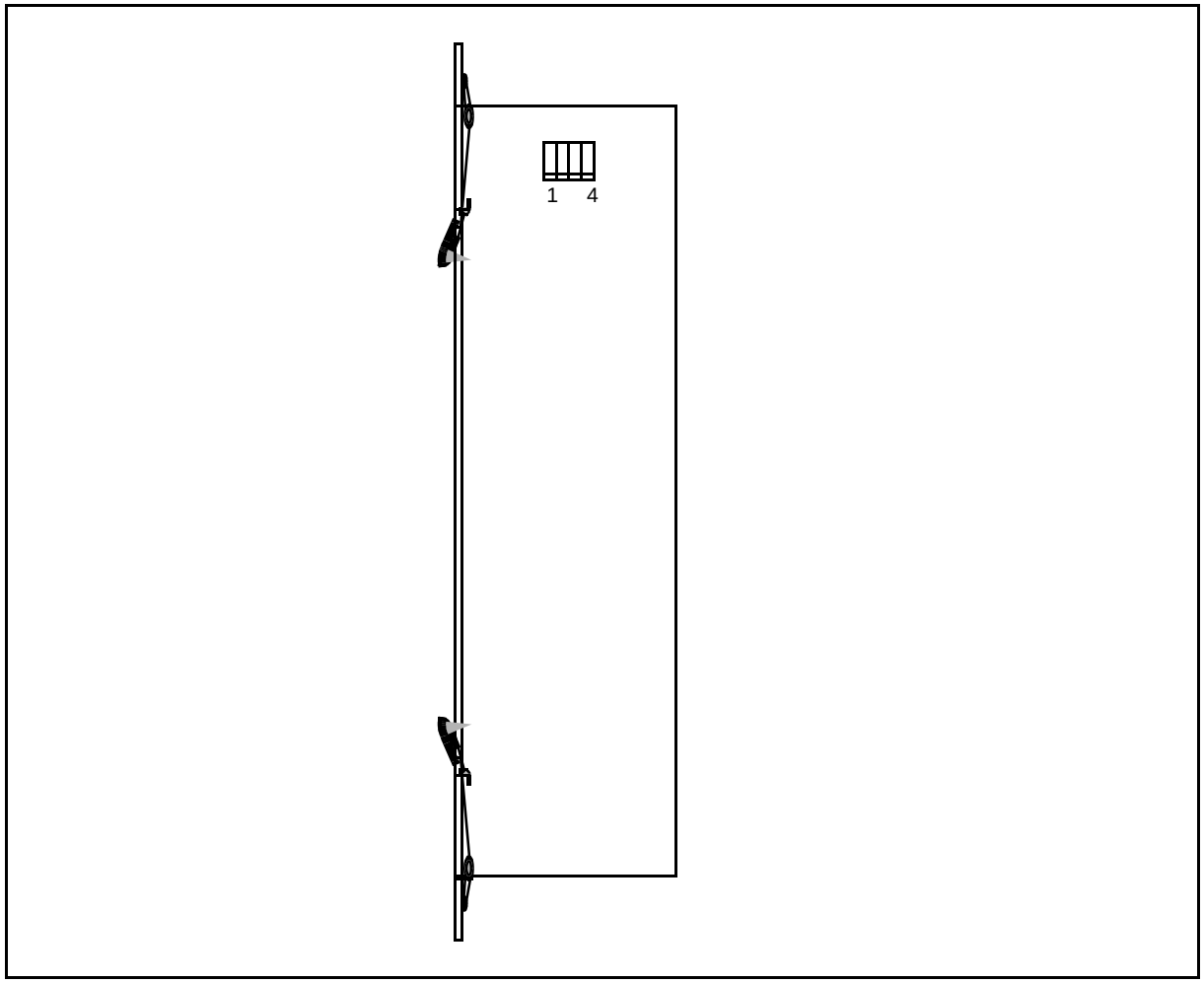


Table 2-BS: **NT4T19 LSC paddleboard - switch settings**				
Logical Shelf Number (for location of the shelves, refer to Overlay LAN (LSHF) in NTP 297-3601-311)	**Switches** **1**	**2**	**3**	**4**
0	0	0	0	0
1	0	1	0	0
2	0	0	1	0
3	0	1	1	0

Note: Settings: 1 = ON, 0 = OFF, - = NOT APPLICABLE.

Figure 2-46: NT4T24 Span Interface Controller - switch location

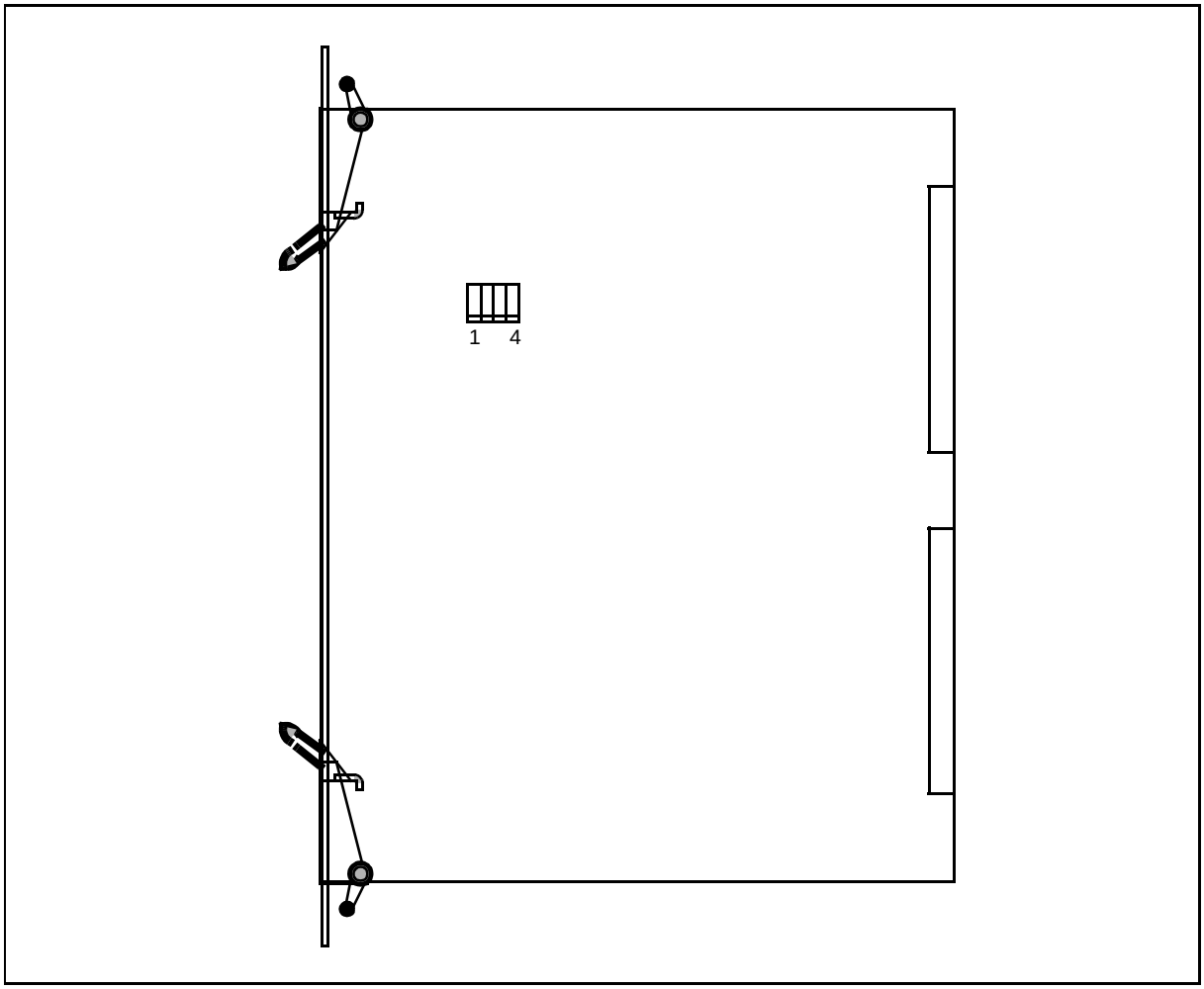
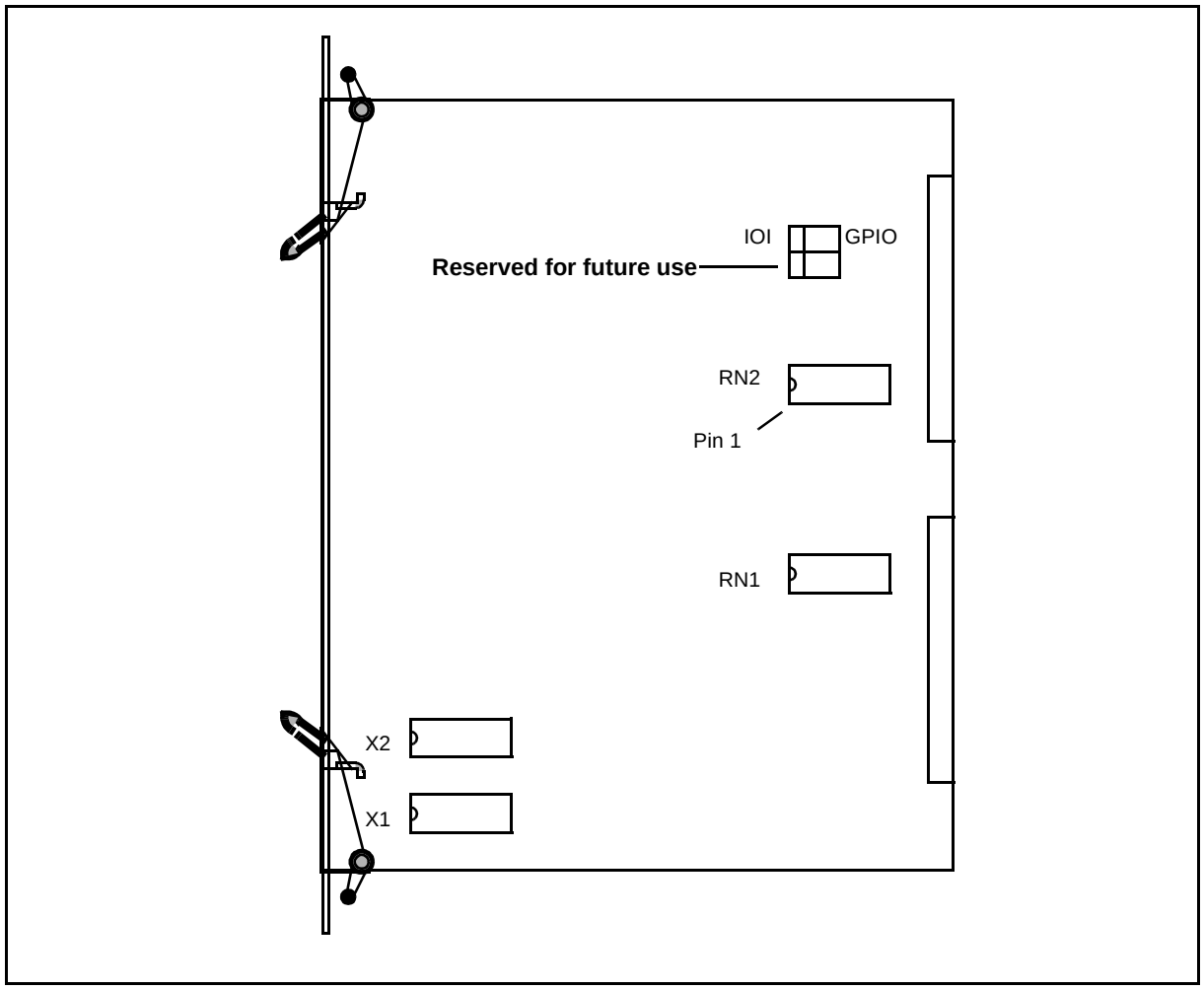


Table 2-BT: **Span Interface Controller - switch settings**				
Product Stream	**Switches** **1**	**2**	**3**	**4**
International	1	0	0	0
North America	0	0	0	0
North America - ISDN PRI	0	0	0	1

Note: Settings: 1 = ON, 0 = OFF, - = NOT USED.

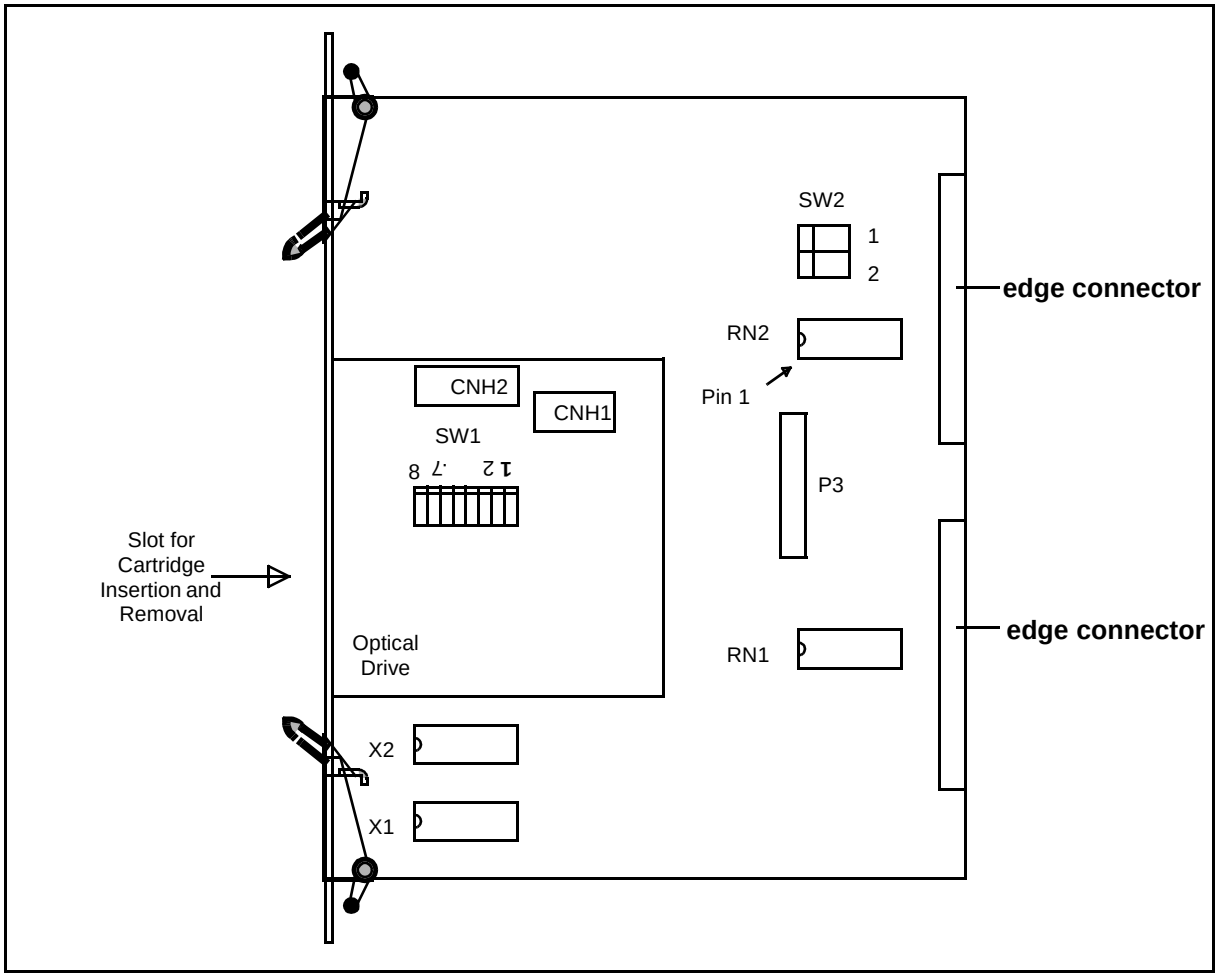
Figure 2-47: NT4T31 Hard Disk Drive pack - switch locations



Note 1: The top DIP-switch must be set to the "left" position. This setting indicates that the pack is provisioned on the IOI shelf; the alternate setting is reserved for future use.

Note 2: When the NT4T31 pack is terminated with an NT3T87AA paddleboard (as when the pack replaces the NT3T51 Disk Drive), the 14-pin DIP termination resistors located at positions RN1 and RN2 must be moved to positions X1 and X2. If the pack is not terminated with the NT3T87AA, the resistors should remain in positions RN1 and RN2.

Figure 2-48: NT4T32BA Magneto Optical Mini-Disk Unit pack-switch locations



Note: The 14-pin DIP termination resistors should be installed in positions RN1 and RN2 when the NT4T32BA is located in an IOI or GPIO shelf. All jumpers should be removed from the CNH1 and CNH2 locations.

Table 2-BU:
NT4T32BA Magneto-Optical Mini-Disk Unit - SW1 switch settings

IOI device (SCSI ID)	**SW1 switches**							
	S1	**S2**	**S3**	**S4**	**S5**	**S6**	**S7**	**S8**
IOI-A and IOI-B (ID = 1)	0	0	1	1	0	0	0	0

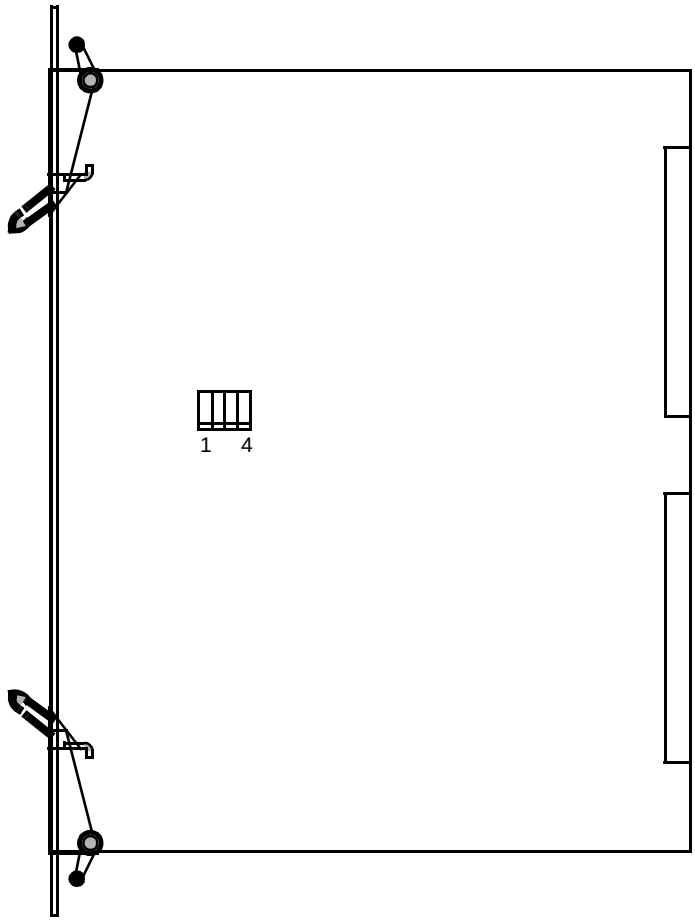
Note 1: Settings: 1 = ON, 0 = OFF, - = NOT USED.

Note 2: The settings for S1-S3 are used together to define the SCSI device address, and the setting for S4 is used to define the SCSI bus parity check.

Table 2-BV: **NT4T32BA Magneto-Optical Mini-Disk Unit - SW2 switch settings**	
Network Configuration	**SW2 switches** **S1 S2**
DMS-10EN	GPIO -
DMS-10 Classic Network	IOI -

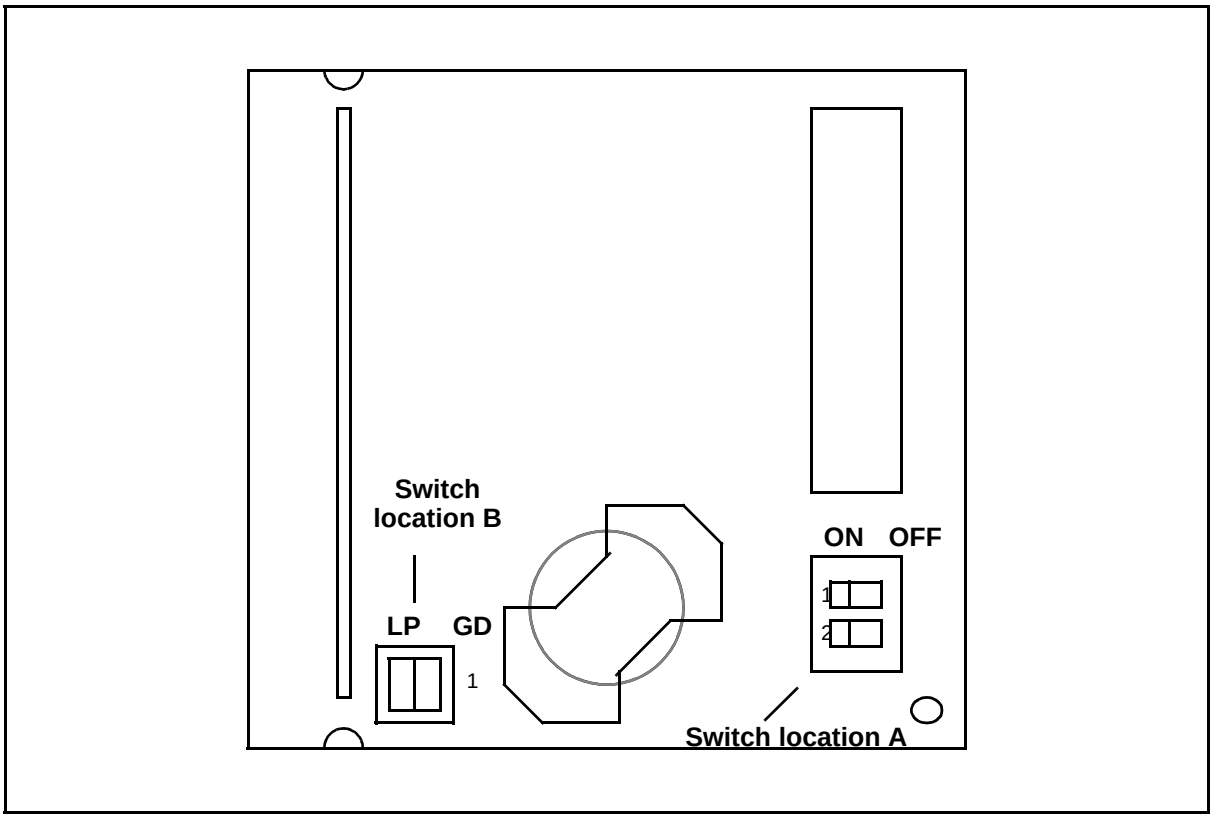
Note: Settings: GPIO = switch set toward the GPIO marking; IOI = switch set toward the IOI marking; - = NOT USED.

Figure 2-49: NT4T50AA CALEA Dialed Digit Extraction pack - switch location



Note: All 4 DIP switches must be set to 0 (OFF).

Figure 2-50: NT6X18AA Type B Line card - switch locations



Note: This illustration shows the locations of switches for two versions of the NT6X18AA Type B line card. Table 2-BW: should be used when the switch appears in location A. Table 2-BX: should be used when the switch appears in location B.

Table 2-BW:
NT6X18AA Type B Line card - settings for switches in location A

Release Level	Option	Switches 1	2
01, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 1A, 1B, 1C, 1D, 1E, 1F, 1G, 1H, 1J, 1K, 1L, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 2A, 2B, 2C, 2D, 2E, 2F, 2G, 2H, 2J, 2K, 2L, 2M, 2N, 2P, 2R, 2U, 30, 31, 32, 33, 34, 35, 36, 37	Ground Start	1	0
	Loop Start	0	1

Note 1: Settings: 1 = ON, 0 = OFF, - = NOT APPLICABLE.

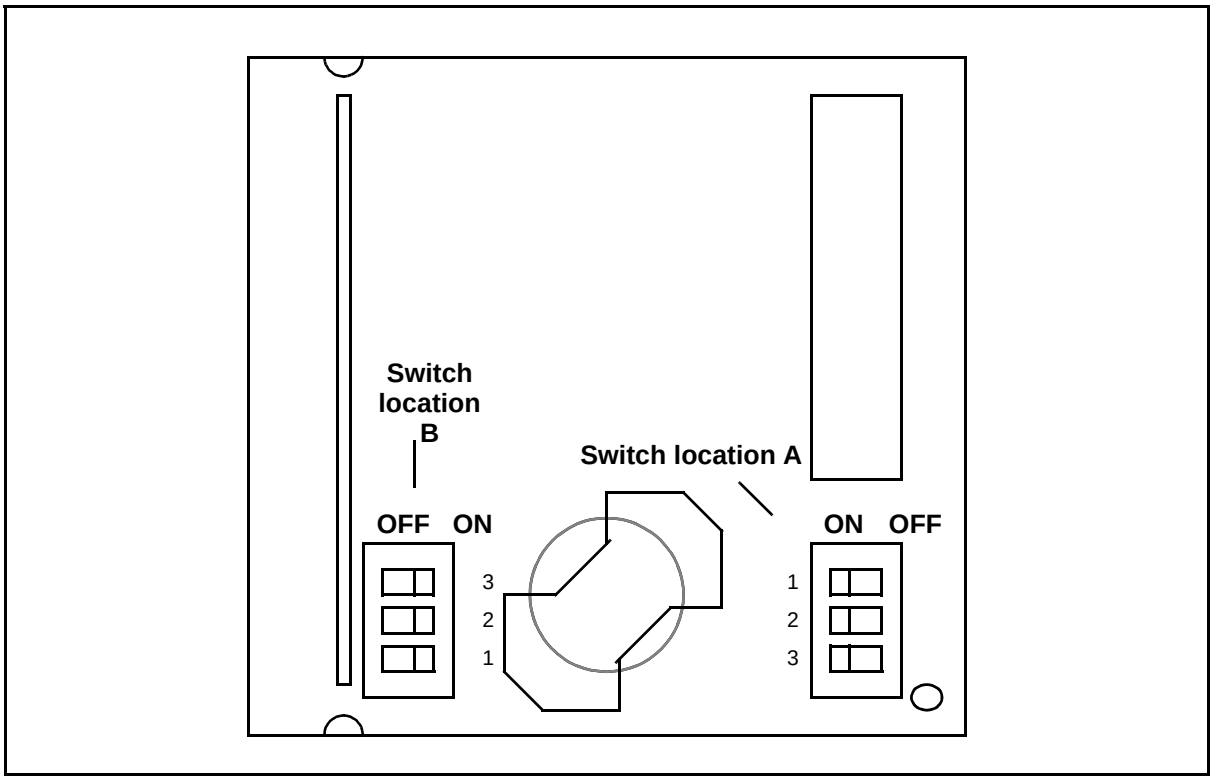
Note 2: For LPDS (loop start with disconnect signal), the NT6X18AA pack DIP-switches should be set for “Ground start.”

Table 2-BX:
NT6X18AA Type B Line card - settings for switch in location B

Release Level	Option	Switch setting
2S, 2T, 2V, 2W, 2X, 2Y, 2Z, AA, AB, AC	Ground Start	GD
	Loop Start	LP

Note: For LPDS (loop start with disconnect signal), the NT6X18AA pack DIP-switches should be set for "Ground start."

Figure 2-51: NT6X18AB Type B (+48 V coin) Line card - switch locations



Note: This illustration shows the locations of switches for two versions of the NT6X18AB Type B line card. Table 2-BY: should be used when the switch appears in location A. Table 2-BZ: should be used when the switch appears in location B.

Table 2-BY:
NT6X18AB Type B (+48 V coin) Line card - settings for switches in location A

Release Level	Option	Switches 1	2	3
10, 11, 12, 13, 14, 15, 16, 17, 18, 1A, 1B, 1D, 1E, 1F, 1G, 1H, 1J, 1K, 1L, 1M, 1N, 1P, 1R, 1S, 1T, 1U, 1V, 1W, 1X, 1Y, 1Z, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 2A, 2B, 2C, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 3A, 3B, 3C, 3D, 3E, 3F, 3G, 3H, 3J, 3K, 3L, 3M, 3N, 3P, 3R, 4E, 4G, 4H, 4J, 4K, 4L, 4M, 4N, 4P, 4Q, 4R, 4S, 4T, 4U, 4V, 4W	Loop Start	0	0	1
	Loop Start with +48 V coin fraud protection	1	0	1
	Ground Start	0	1	0
	Ground Start with +48 V coin fraud protection	1	1	0

Note 1: Settings: 1 = ON, 0 = OFF, - = NOT APPLICABLE.

Note 2: For LPDS (loop start with disconnect signal), the NT6X18AB pack DIP-switches should be set for “Ground start.”

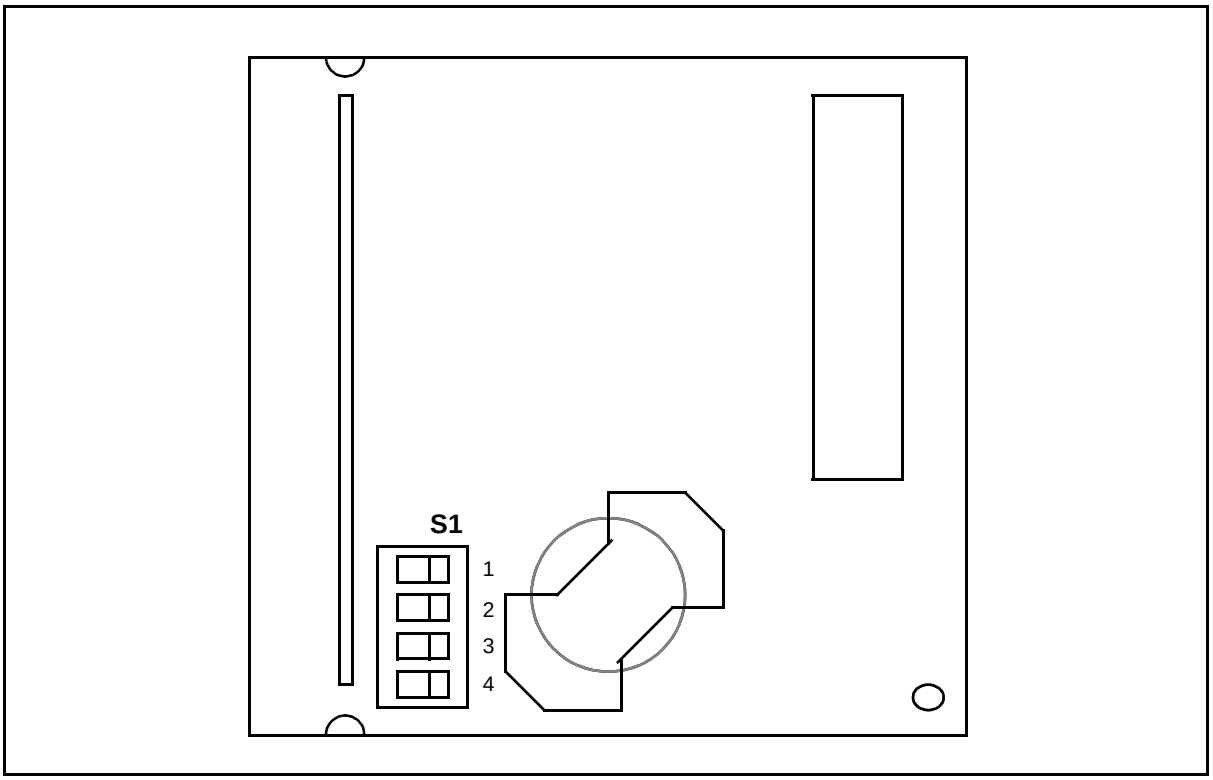
Table 2-BZ:
NT6X18AB Type B (+48 V coin) Line card - settings for switches in location B

Release Level	Option	Switches 1	2	3
3S, 3T, 3U, 3V, 3W, 3X, 3Y, 3Z, 4A, 4B, 4C, 4D, 4X, 4Y, 4Z, 5A, 5B, 5C, 5D	Loop Start	1	0	0
	Loop Start with +48 V coin fraud protection	1	0	1
	Ground Start	0	1	0
	Ground Start with +48 V coin fraud protection	0	1	1

Note 1: Settings: 1 = ON, 0 = OFF, - = NOT APPLICABLE.

Note 2: For LPDS (loop start with disconnect signal), the NT6X18AB pack DIP-switches should be set for "Ground start."

Figure 2-52: NT6X21AD P-phone line card



Note: ON position of switch is to the left.

Table 2-CA:
NT6X21AD P-phone line card - settings for S1 switches

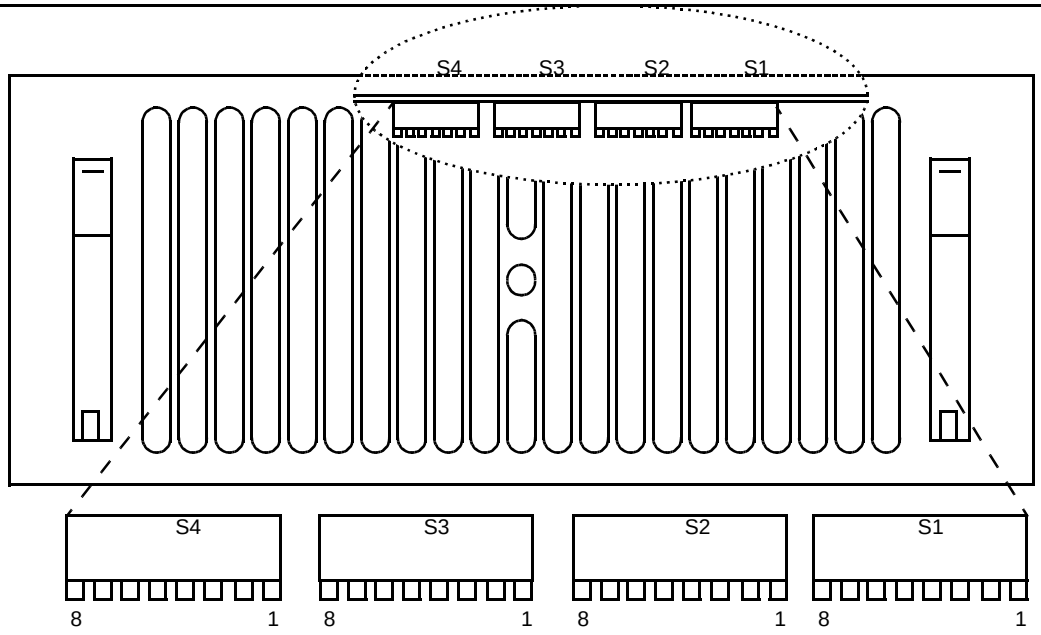
Application	**switch 1 (D/A voice)**		**switch 2 (Balance)**		**switches 3 and 4 (Signaling level)**			
	ON	**OFF**	**ON**	**OFF**	**both ON**	**4 ON 3 OFF**	**3 ON 4 OFF**	**both OFF**
	0dB	**-3.5dB**	**NL**	**9 + 2**	**1.3Vpp**	**0.8Vpp**	**0.6Vpp**	**0.14Vpp**
long loop: 19-24dB EML	X		X		X			
medium loop: 17-19dB EML	X		X			X		
medium loop: 4-17dB EML		X		X			X	
short loop: 0-4dB EML		X		X				X
Nortel Networks UDLCs		X	X					X

Table 2-CA: (Continued)
NT6X21AD P-phone line card - settings for S1 switches

Application	**switch 1 (D/A voice)**		**switch 2 (Balance)**		**switches 3 and 4 (Signaling level)**			
	ON	**OFF**	**ON**	**OFF**	**both ON**	**4 ON 3 OFF**	**3 ON 4 OFF**	**both OFF**
	0dB	**-3.5dB**	**NL**	**9 + 2**	**1.3Vpp**	**0.8Vpp**	**0.6Vpp**	**0.14Vpp**
Other vendors' UDLCs	X			X			X	
NT6X21AC equivalent mode		X	X		X			

Note: dB = decibel; NL = non-loaded; 9 + 2 = loaded (900 ohm + 2.16 micro-farads) network; Vpp = voltage peak to peak; EML = estimated measured loss.

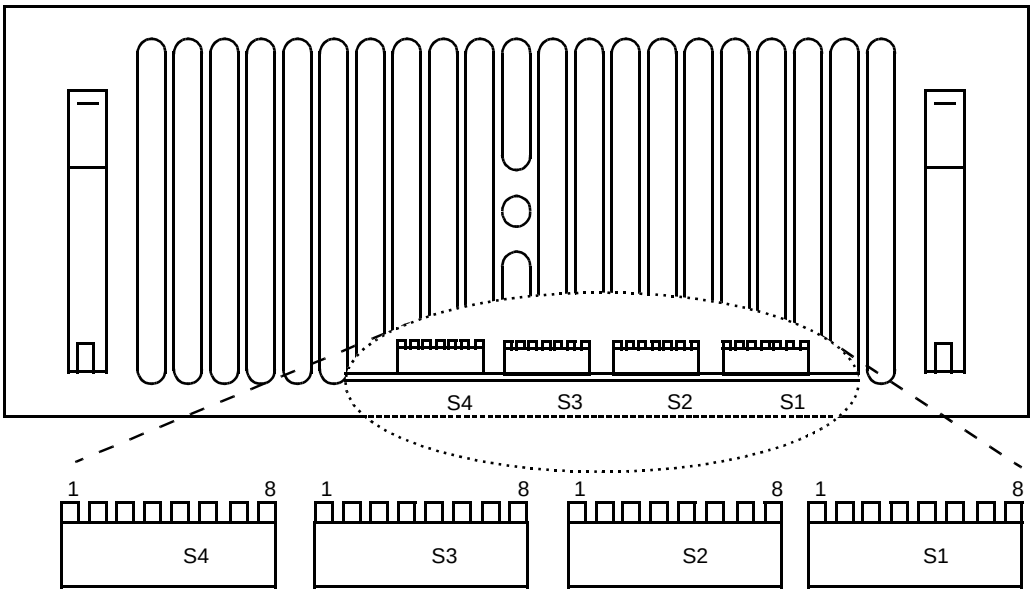
Figure 2-53: NT6X30 Ringing Generator pack (versions prior to CA) - cutaway showing switch locations



CAUTION: All four switch positions of S5, which is located at the rear of the pack, must be in the ON position. This switch is for testing purposes only. Serious damage to the line concentrating equipment can occur if any or all of the switch positions are not in the ON position.

S1 controls timeslot 1, S2 controls timeslot 2, S3 controls timeslot 3, and S4 controls timeslot 4.

Figure 2-54: NT6X30 Ringing Generator pack (CA and later versions) - cutaway showing switch locations



S1 controls timeslot 1, S2 controls timeslot 2, S3 controls timeslot 3, and S4 controls timeslot 4.

Table 2-CB:
NT6X30 Ringing Generator pack - S1, S2, S3, and S4 switch settings for coded ringing

Frequency (Hz)	Volts (ac)	Type of Ringing	Switches 1	2	3	4	5	6	7	8
20	86	Coded (-)	1	1	1	1	1	1	1	-
30	95	Coded (-)	1	1	1	0	1	0	1	-
30	110	Coded (-)	1	0	1	0	1	0	1	-
30	120	Coded (-)	1	1	0	0	1	0	1	-

For this type of ringing, the appropriate multiparty line ringing type defined in Overlay CNFG (CP) in response to prompt MPRT, is CODE (see NTP 297-3601-311, *Data Modification Manual*).

Settings: 1 = ON, 0 = OFF, - = NOT APPLICABLE. Ignore 0 and 1 stenciled on the circuit board; use the ON position stenciled on the DIP switches. For the NT6X30CA, switch 8 must be set to the *on* position.

Table 2-CC:
NT6X30 Ringing Generator pack - switch settings for 40 V superimposed, nonrevertive ringing

DIP Switch	Switches 1	2	3	4	5	6	7	8	Frequency (Hz)	Volts (ac)	Type of Ringing
S1	1	1	1	0	0	0	0	-	20	86	Superimposed (-)
S2	1	1	1	0	0	0	0	-	20	86	Superimposed (-)
S3	1	0	1	0	0	0	0	-	20	86	Superimposed (+)
S4	1	0	1	0	0	0	0	-	20	86	Superimposed (+)

For this type of ringing, the appropriate multiparty line ringing type defined in Overlay CNFG (CP) in response to prompt MPRT, is SIMP (see NTP 297-3601-311, *Data Modification Manual*).

Settings: 1 = ON, 0 = OFF, - = NOT APPLICABLE. Ignore 0 and 1 stenciled on the circuit board; use the ON position stenciled on the DIP switches. For the NT6X30CA, switch 8 must be set to the *on* position.

Table 2-CD:
NT6X30 Ringing Generator pack - switch settings for 48 V superimposed, revertive ringing

DIP Switch	Switches 1	2	3	4	5	6	7	8	Frequency (Hz)	Volts (ac)	Type of Ringing
S1	0	1	1	0	0	0	0	-	20	86	Superimposed (-)
S2	0	1	1	0	0	0	0	-	20	86	Superimposed (-)
S3	0	0	1	0	0	0	0	-	20	86	Superimposed (+)
S4	0	0	1	0	0	0	0	-	20	86	Superimposed (+)

For this type of ringing, the appropriate multiparty line ringing type defined in Overlay CNFG (CP) in response to prompt MPRT, is SIMP (see NTP 297-3601-311, *Data Modification Manual*).

Settings: 1 = ON, 0 = OFF, - = NOT APPLICABLE. Ignore 0 and 1 stenciled on the circuit board; use the ON position stenciled on the DIP switches. For the NT6X30CA, switch 8 must be set to the *on* position.

Table 2-CE:
NT6X30 Ringing Generator pack - S1, S2, S3, and S4 switch settings for U.S. Bell standard synchromonic frequency ringing

Frequency (Hz)	Volts (ac)	Type of Ringing	Switches 1	2	3	4	5	6	7	8
16	90	Multifrequency (-)	1	1	1	0	1	1	1	-
16	105	Multifrequency (-)	1	0	1	0	1	1	1	-
16	120	Multifrequency (-)	1	1	0	0	1	1	1	-
20	90	Multifrequency (-)	1	1	1	0	0	1	1	-
20	105	Multifrequency (-)	1	0	1	0	0	1	1	-
20	120	Multifrequency (-)	1	1	0	0	0	1	1	-
30	95	Multifrequency (-)	1	1	1	0	1	0	1	-
30	110	Multifrequency (-)	1	0	1	0	1	0	1	-

Table 2-CE: (Continued)
NT6X30 Ringing Generator pack - S1, S2, S3, and S4 switch settings for U.S. Bell standard synchromonic frequency ringing

Frequency (Hz)	Volts (ac)	Type of Ringing	Switches 1	2	3	4	5	6	7	8
30	120	Multifrequency (-)	1	1	0	0	1	0	1	-
42	100	Multifrequency (-)	1	1	1	1	1	1	0	-
42	115	Multifrequency (-)	1	0	1	1	1	1	0	-
42	130	Multifrequency (-)	1	1	0	1	1	1	0	-
54	110	Multifrequency (-)	1	1	1	1	0	1	0	-
54	125	Multifrequency (-)	1	0	1	1	0	1	0	-
54	140	Multifrequency (-)	1	1	0	1	0	1	0	-
66	125	Multifrequency (-)	1	1	1	1	1	0	0	-
66	140	Multifrequency (-)	1	0	1	1	1	0	0	-
66	155	Multifrequency (-)	1	1	0	1	1	0	0	-

For this type of ringing, the appropriate multiparty line ringing type defined in Overlay CNFG (CP) in response to prompt MPRT, is MFR2 (see NTP 297-3601-311, *Data Modification Manual*).

Settings: 1 = ON, 0 = OFF, - = NOT APPLICABLE. Ignore 0 and 1 stenciled on the circuit board; use the ON position stenciled on the DIP switches. For the NT6X30CA, switch 8 must be set to the *on* position.

The frequencies 16 Hz and 20 Hz cannot be used at the same time.

Table 2-CF:
NT6X30 Ringing Generator pack - S1, S2, S3, and S4 switch settings for U.S. Bell standard harmonic frequency ringing

Frequency (Hz)	Volts (ac)	Type of Ringing	Switches 1	2	3	4	5	6	7	8
16 2/3	90	Multifrequency (-)	1	1	1	1	0	1	1	-
16 2/3	105	Multifrequency (-)	1	0	1	1	0	1	1	-
16 2/3	120	Multifrequency (-)	1	1	0	1	0	1	1	-
25	95	Multifrequency (-)	1	1	1	1	1	0	1	-
25	110	Multifrequency (-)	1	0	1	1	1	0	1	-
25	120	Multifrequency (-)	1	1	0	1	1	0	1	-
33 1/3	100	Multifrequency (-)	1	1	1	1	0	0	1	-
33 1/3	115	Multifrequency (-)	1	0	1	1	0	0	1	-
33 1/3	130	Multifrequency (-)	1	1	0	1	0	0	1	-
50	110	Multifrequency (-)	1	1	1	0	1	1	0	-
50	125	Multifrequency (-)	1	0	1	0	1	1	0	-
50	140	Multifrequency (-)	1	1	0	0	1	1	0	-
66 2/3	125	Multifrequency (-)	1	1	1	0	1	0	0	-

Table 2-CF: (Continued)
NT6X30 Ringing Generator pack - S1, S2, S3, and S4 switch settings for U.S. Bell standard harmonic frequency ringing

Frequency (Hz)	Volts (ac)	Type of Ringing	Switches 1	2	3	4	5	6	7	8
66 2/3	140	Multifrequency (-)	1	0	1	0	1	0	0	-
66 2/3	155	Multifrequency (-)	1	1	0	0	1	0	0	-

For this type of ringing, the appropriate multiparty line ringing type defined in Overlay CNFG (CP) in response to prompt MPRT, is MFR2 (see NTP 297-3601-311, *Data Modification Manual*).

Settings: 1 = ON, 0 = OFF, - = NOT APPLICABLE. Ignore 0 and 1 stenciled on the circuit board; use the ON position stenciled on the DIP switches. For the NT6X30CA, switch 8 must be set to the *on* position.

Table 2-CG:
NT6X30 Ringing Generator pack - S1, S2, S3, and S4 switch settings for U.S. Bell standard decimonic frequency ringing

Frequency (Hz)	Volts (ac)	Type of Ringing	Switches 1	2	3	4	5	6	7	8
20	90	Multifrequency (-)	1	1	1	0	0	1	1	-
20	105	Multifrequency (-)	1	0	1	0	0	1	1	-
20	120	Multifrequency (-)	1	1	0	0	0	1	1	-
30	95	Multifrequency (-)	1	1	1	0	1	0	1	-
30	110	Multifrequency (-)	1	0	1	0	1	0	1	-
30	120	Multifrequency (-)	1	1	0	0	1	0	1	-
40	100	Multifrequency (-)	1	1	1	0	0	0	1	-
40	115	Multifrequency (-)	1	0	1	0	0	0	1	-
40	130	Multifrequency (-)	1	1	0	0	0	0	1	-
50	110	Multifrequency (-)	1	1	1	0	1	1	0	-
50	125	Multifrequency (-)	1	0	1	0	1	1	0	-
50	140	Multifrequency (-)	1	1	0	0	1	1	0	-
60	125	Multifrequency (-)	1	1	1	0	0	1	0	-
60	140	Multifrequency (-)	1	0	1	0	0	1	0	-
60	155	Multifrequency (-)	1	1	0	0	0	1	0	-

For this type of ringing, the appropriate multiparty line ringing type defined in Overlay CNFG (CP) in response to prompt MPRT, is MFR2 (see NTP 297-3601-311, *Data Modification Manual*).

Settings: 1 = ON, 0 = OFF, - = NOT APPLICABLE. Ignore 0 and 1 stenciled on the circuit board; use the ON position stenciled on the DIP switches. For the NT6X30CA, switch 8 must be set to the *on* position.

Table 2-CH:
NT6X30 Ringing Generator pack - S1, S2, S3, and S4 switch settings for REA standard synchromonic frequency ringing

Frequency (Hz)	Volts (ac)	Type of Ringing	Switches 1	2	3	4	5	6	7	8
16	90	Multifrequency (-)	0	1	1	0	1	1	1	-
16	105	Multifrequency (-)	0	0	1	0	1	1	1	-
16	120	Multifrequency (-)	0	1	0	0	1	1	1	-
20	90	Multifrequency (-)	0	1	1	0	0	1	1	-
20	105	Multifrequency (-)	0	0	1	0	0	1	1	-
20	120	Multifrequency (-)	0	1	0	0	0	1	1	-
30	95	Multifrequency (-)	0	1	1	0	1	0	1	-
30	110	Multifrequency (-)	0	0	1	0	1	0	1	-
30	120	Multifrequency (-)	0	1	0	0	1	0	1	-
42	100	Multifrequency (-)	0	1	1	1	1	1	0	-
42	115	Multifrequency (-)	0	0	1	1	1	1	0	-
42	130	Multifrequency (-)	0	1	0	1	1	1	0	-
54	110	Multifrequency (-)	0	1	1	1	0	1	0	-
54	125	Multifrequency (-)	0	0	1	1	0	1	0	-
54	140	Multifrequency (-)	0	1	0	1	0	1	0	-
66	125	Multifrequency (-)	0	1	1	1	1	0	0	-
66	140	Multifrequency (-)	0	0	1	1	1	0	0	-
66	155	Multifrequency (-)	0	1	0	1	1	0	0	-

For this type of ringing, the appropriate multiparty line ringing type defined in Overlay CNFG (CP) in response to prompt MPRT, is MFR1 (see NTP 297-3601-311, *Data Modification Manual*).

Settings: 1 = ON, 0 = OFF, - = NOT APPLICABLE. Ignore 0 and 1 stenciled on the circuit board; use the ON position stenciled on the DIP switches. For the NT6X30CA, switch 8 must be set to the *on* position.

The frequencies 16 Hz and 20 Hz cannot be used at the same time.

Table 2-CI:
NT6X30 Ringing Generator pack - S1, S2, S3, and S4 switch settings for REA standard harmonic frequency ringing

Frequency (Hz)	Volts (ac)	Type of Ringing	Switches 1	2	3	4	5	6	7	8
16 2/3	90	Multifrequency (-)	0	1	1	1	0	1	1	-
16 2/3	105	Multifrequency (-)	0	0	1	1	0	1	1	-
16 2/3	120	Multifrequency (-)	0	1	0	1	0	1	1	-
25	95	Multifrequency (-)	0	1	1	1	1	0	1	-
25	110	Multifrequency (-)	0	0	1	1	1	0	1	-

Table 2-CI:
NT6X30 Ringing Generator pack - S1, S2, S3, and S4 switch settings for REA standard harmonic frequency ringing

Frequency (Hz)	Volts (ac)	Type of Ringing	Switches 1	2	3	4	5	6	7	8
25	120	Multifrequency (-)	0	1	0	1	1	0	1	-
33 1/3	100	Multifrequency (-)	0	1	1	1	0	0	1	-
33 1/3	115	Multifrequency (-)	0	0	1	1	0	0	1	-
33 1/3	130	Multifrequency (-)	0	1	0	1	0	0	1	-
50	110	Multifrequency (-)	0	1	1	0	1	1	0	-
50	125	Multifrequency (-)	0	0	1	0	1	1	0	-
50	140	Multifrequency (-)	0	1	0	0	1	1	0	-
66 2/3	125	Multifrequency (-)	0	1	1	0	1	0	0	-
66 2/3	140	Multifrequency (-)	0	0	1	0	1	0	0	-
66 2/3	155	Multifrequency (-)	0	1	0	0	1	0	0	-

For this type of ringing, the appropriate multiparty line ringing type defined in Overlay CNFG (CP) in response to prompt MPRT, is MFR1 (see NTP 297-3601-311, *Data Modification Manual*).

Settings: 1 = ON, 0 = OFF, - = NOT APPLICABLE. Ignore 0 and 1 stenciled on the circuit board; use the ON position stenciled on the DIP switches. For the NT6X30CA, switch 8 must be set to the *on* position.

Table 2-CJ:
NT6X30 Ringing Generator pack - S1, S2, S3, and S4 switch settings for REA standard decimonic frequency ringing

Frequency (Hz)	Volts (ac)	Type of Ringing	Switches 1	2	3	4	5	6	7	8
20	90	Multifrequency (-)	0	1	1	0	0	1	1	-
20	105	Multifrequency (-)	0	0	1	0	0	1	1	-
20	120	Multifrequency (-)	0	1	0	0	0	1	1	-
30	95	Multifrequency (-)	0	1	1	0	1	0	1	-
30	110	Multifrequency (-)	0	0	1	0	1	0	1	-
30	120	Multifrequency (-)	0	1	0	0	1	0	1	-
40	100	Multifrequency (-)	0	1	1	0	0	0	1	-
40	115	Multifrequency (-)	0	0	1	0	0	0	1	-
40	130	Multifrequency (-)	0	1	0	0	0	0	1	-
50	110	Multifrequency (-)	0	1	1	0	1	1	0	-
50	125	Multifrequency (-)	0	0	1	0	1	1	0	-
50	140	Multifrequency (-)	0	1	0	0	1	1	0	-
60	125	Multifrequency (-)	0	1	1	0	0	1	0	-
60	140	Multifrequency (-)	0	0	1	0	0	1	0	-

Table 2-CJ: (Continued)
NT6X30 Ringing Generator pack - S1, S2, S3, and S4 switch settings for REA standard decimonic frequency ringing

Frequency (Hz)	Volts (ac)	Type of Ringing	Switches 1	2	3	4	5	6	7	8
60	155	Multifrequency (-)	0	1	0	0	0	1	0	-

For this type of ringing, the appropriate multiparty line ringing type defined in Overlay CNFG (CP) in response to prompt MPRT, is MFR1 (see NTP 297-3601-311, *Data Modification Manual*).

Settings: 1 = ON, 0 = OFF, - = NOT APPLICABLE. Ignore 0 and 1 stenciled on the circuit board; use the ON position stenciled on the DIP switches. For the NT6X30CA, switch 8 must be set to the *on* position.

Figure 2-55: NT6X50AA DS-1 Interface pack - switch locations

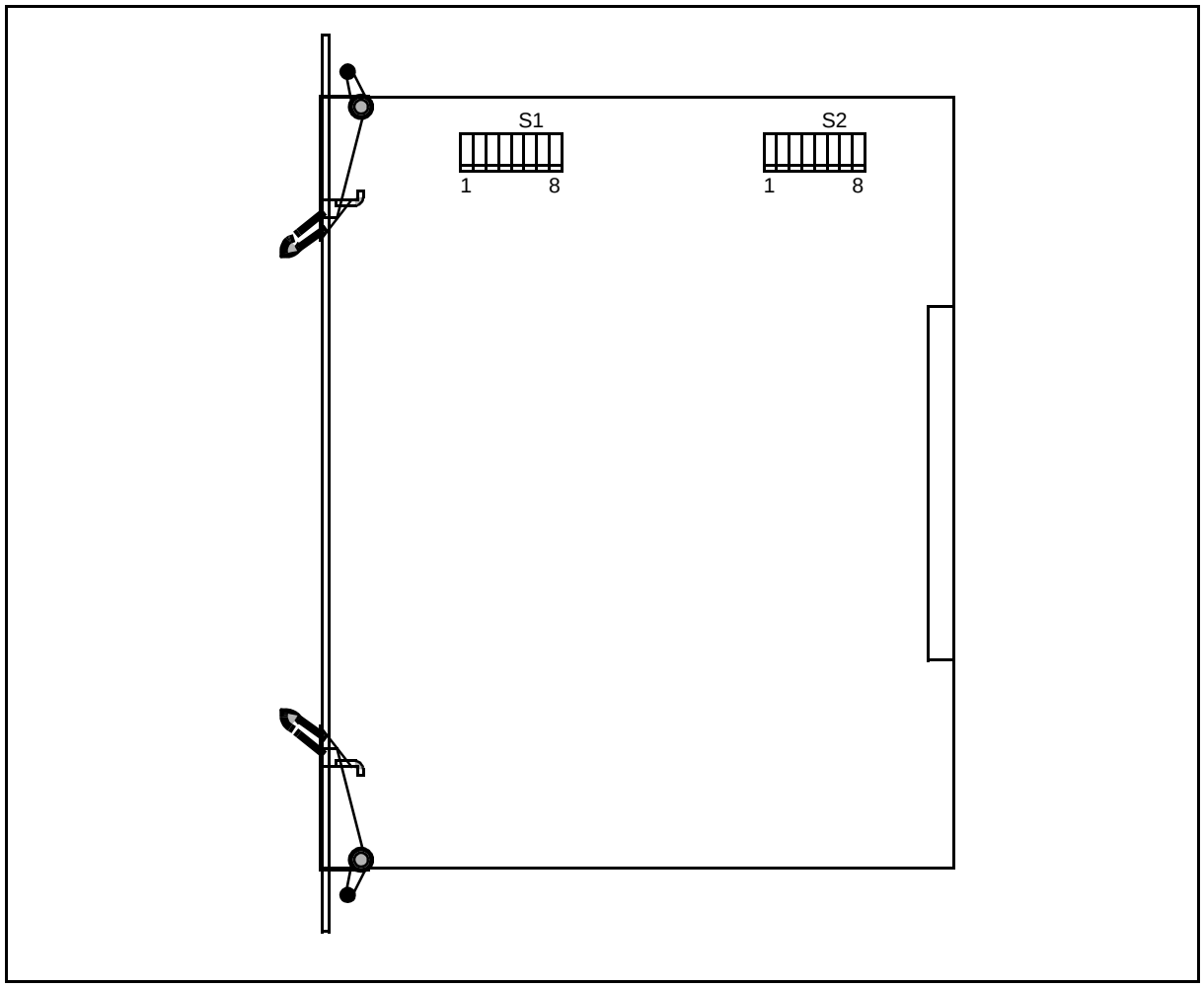
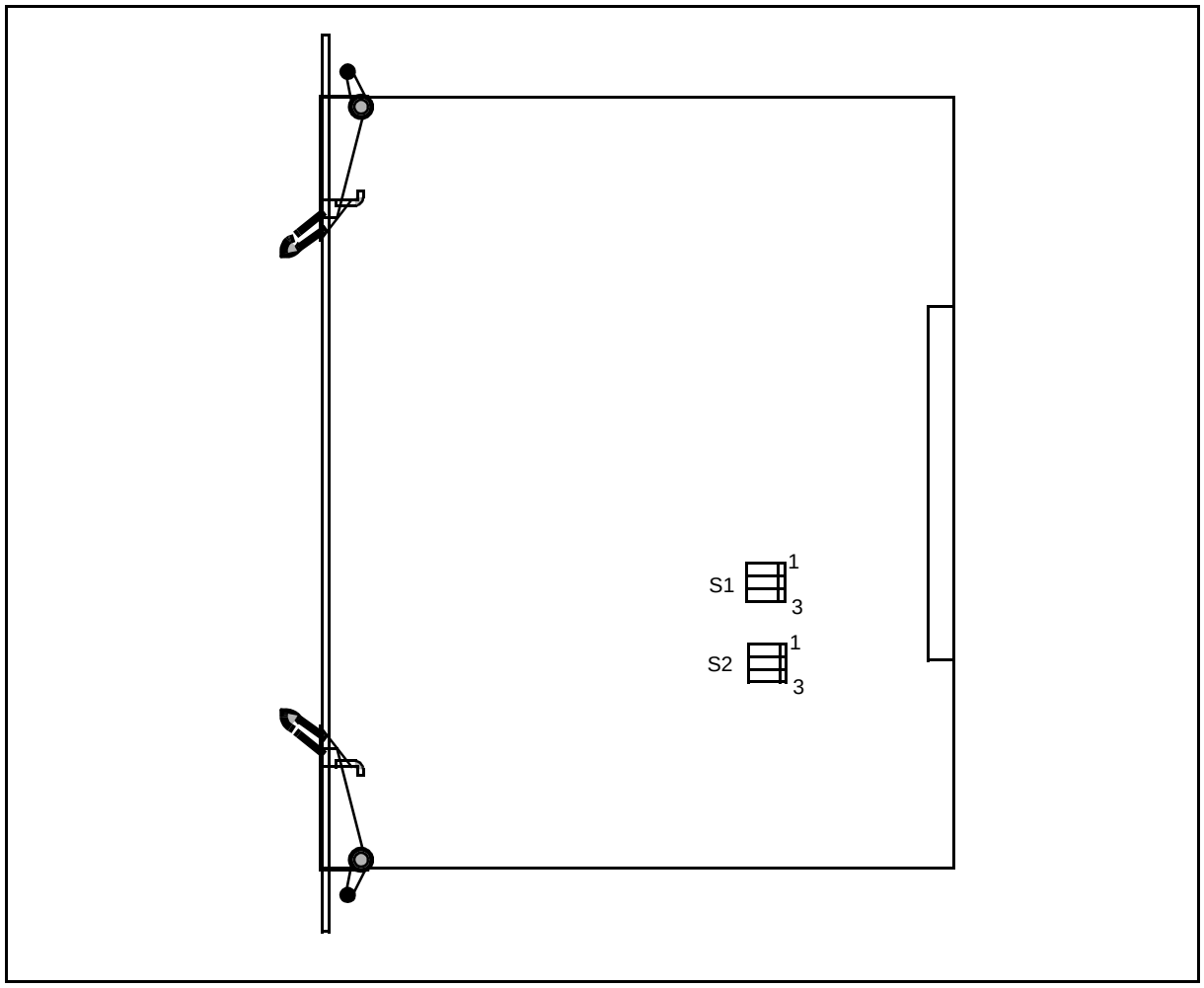


Table 2-CK:
NT6X50AA DS-1 Interface - switch settings

Length of Cable from HIE Shelf to First Office Repeater		S1 (port 0) and S2 (port 1) Switches							
(feet)	(meters)	1	2	3	4	5	6	7	8
0-150	0-46	0	1	0	1	0	0	0	0
151-450	47-137	0	0	1	0	0	1	0	1
451-650	138-200	1	0	0	0	1	0	1	0

Note: Settings: 1 = ON, 0 = OFF, - = NOT APPLICABLE.

Figure 2-56: NT6X50AB, DS-1 Interface pack - switch locations



Note: *Switch location may vary based on vintage of pack.*

Table 2-CL:
NT6X50AB, DS-1 Interface - switch settings for 22 AWG DS-1 cable

Length of cable from DS-1 Interface pack to first office repeater		**S1 (port 0) and S2 (port 1) Switches**		
		1	**2**	**3**
Meters	**Feet**			
0-41	0-135	1	0	0
42-81	136-266	0	1	1
82-122	267-400	0	1	0
123-163	401-535	0	0	1
164-200	536-656	0	0	0

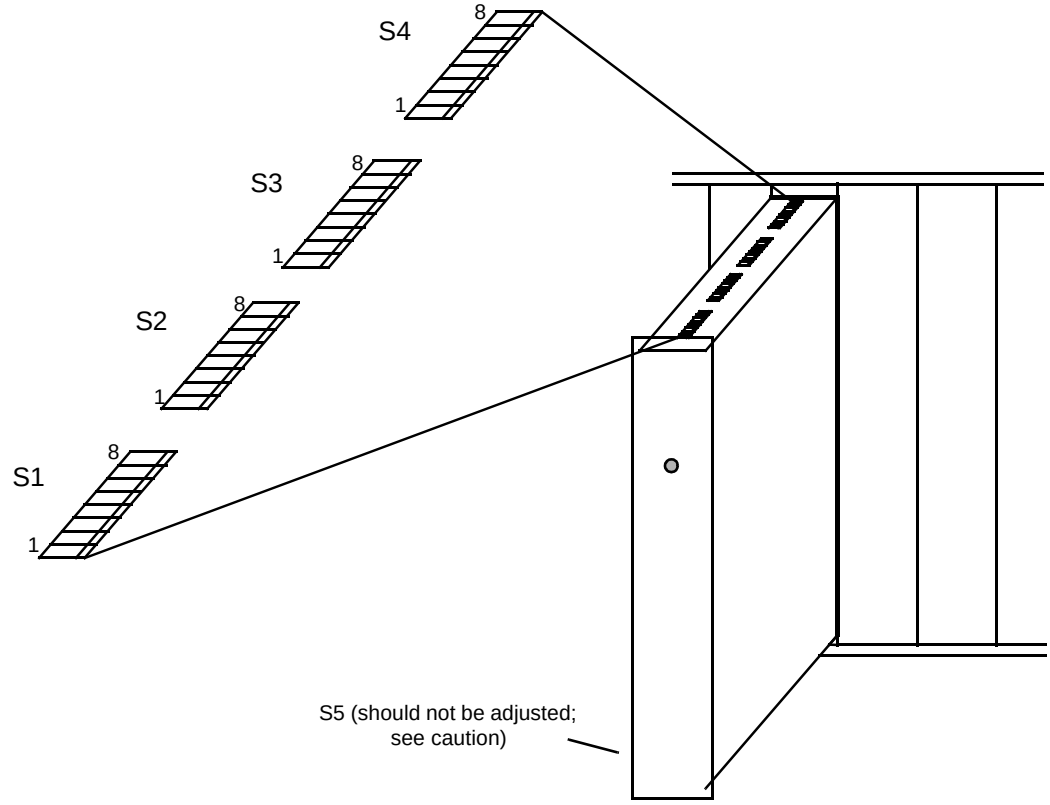
Note: Settings: 1 = ON, 0 = OFF, - = NOT APPLICABLE.

Table 2-CM:
NT6X50AB, DS-1 Interface - switch settings for 24 AWG DS-1 cable

Length of cable from DS-1 Interface pack to first office repeater		S1 (port 0) and S2 (port 1) Switches		
		1	2	3
Meters	**Feet**			
0-27	0-89	1	0	0
28-55	90-181	0	1	1
56-82	182-269	0	1	0
83-110	270-361	0	0	1
111-116	362-381	0	0	0

Note: Settings: 1 = ON, 0 = OFF, - = NOT APPLICABLE.

Figure 2-57: NT6X60 Ringing Generator pack - switch locations for pack versions prior to CA

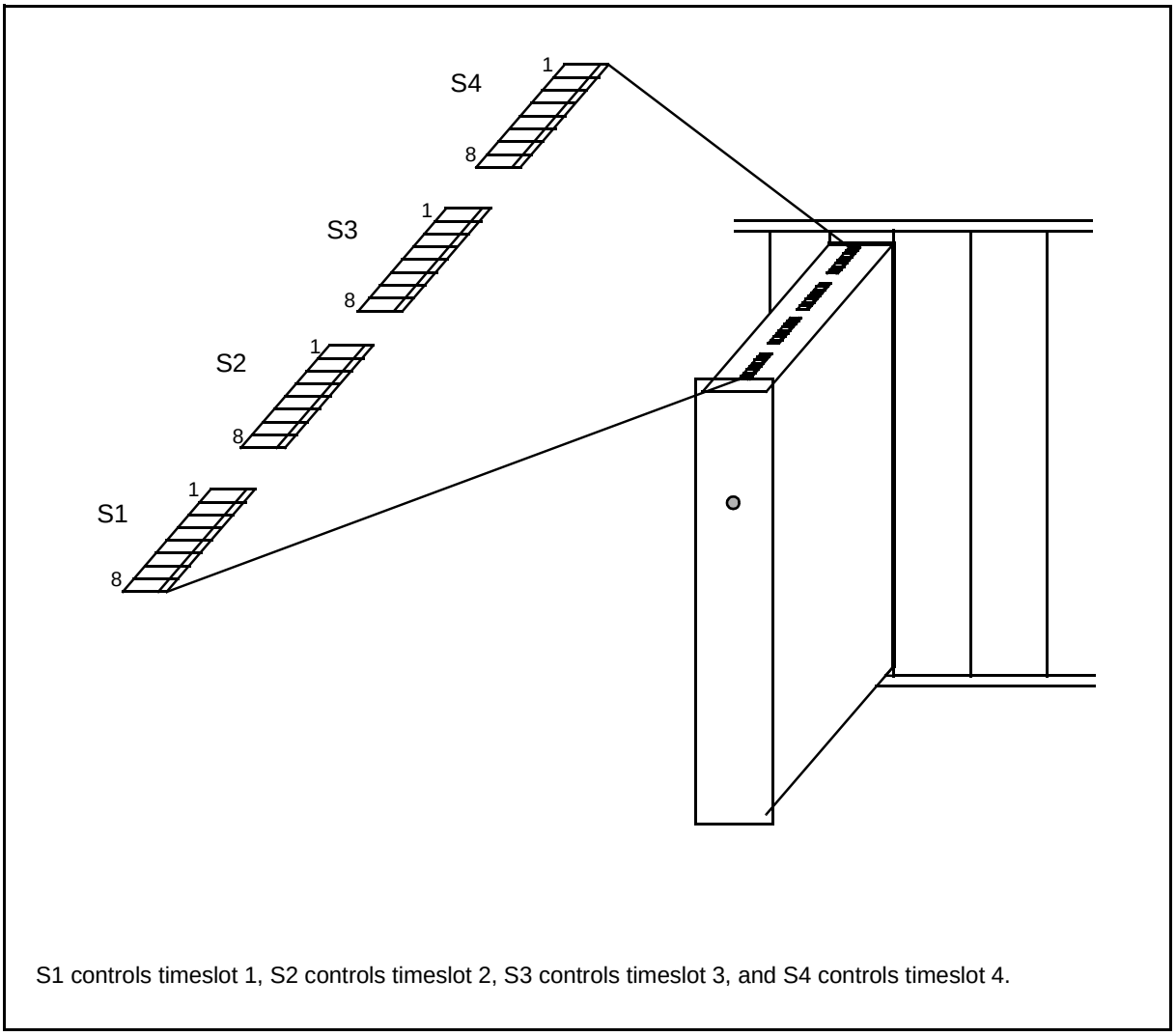


CAUTION: All four switch positions of S5, which is located at the rear of the pack, must be in the ON position. This switch is for testing purposes only. Serious damage to the line concentrating equipment can occur if any or all of the switch positions are not in the ON position.

S1 controls timeslot 1, S2 controls timeslot 2, S3 controls timeslot 3, and S4 controls timeslot 4.

Note: Refer to the DIP-switch-setting tables for the 6X30 Ringing Generator pack. The settings are the same for both Ringing Generator packs.

Figure 2-58: NT6X60 Ringing Generator pack - switch locations for pack versions CA and later



S1 controls timeslot 1, S2 controls timeslot 2, S3 controls timeslot 3, and S4 controls timeslot 4.

Note 1: Refer to the DIP-switch-setting tables for the 6X30 Ringing Generator pack. The settings are the same for both Ringing Generator packs.

Note 2: Switch S5 does not appear on versions CA and later.

Figure 2-59: NT6X85AA DS-1 Interface pack - switch locations

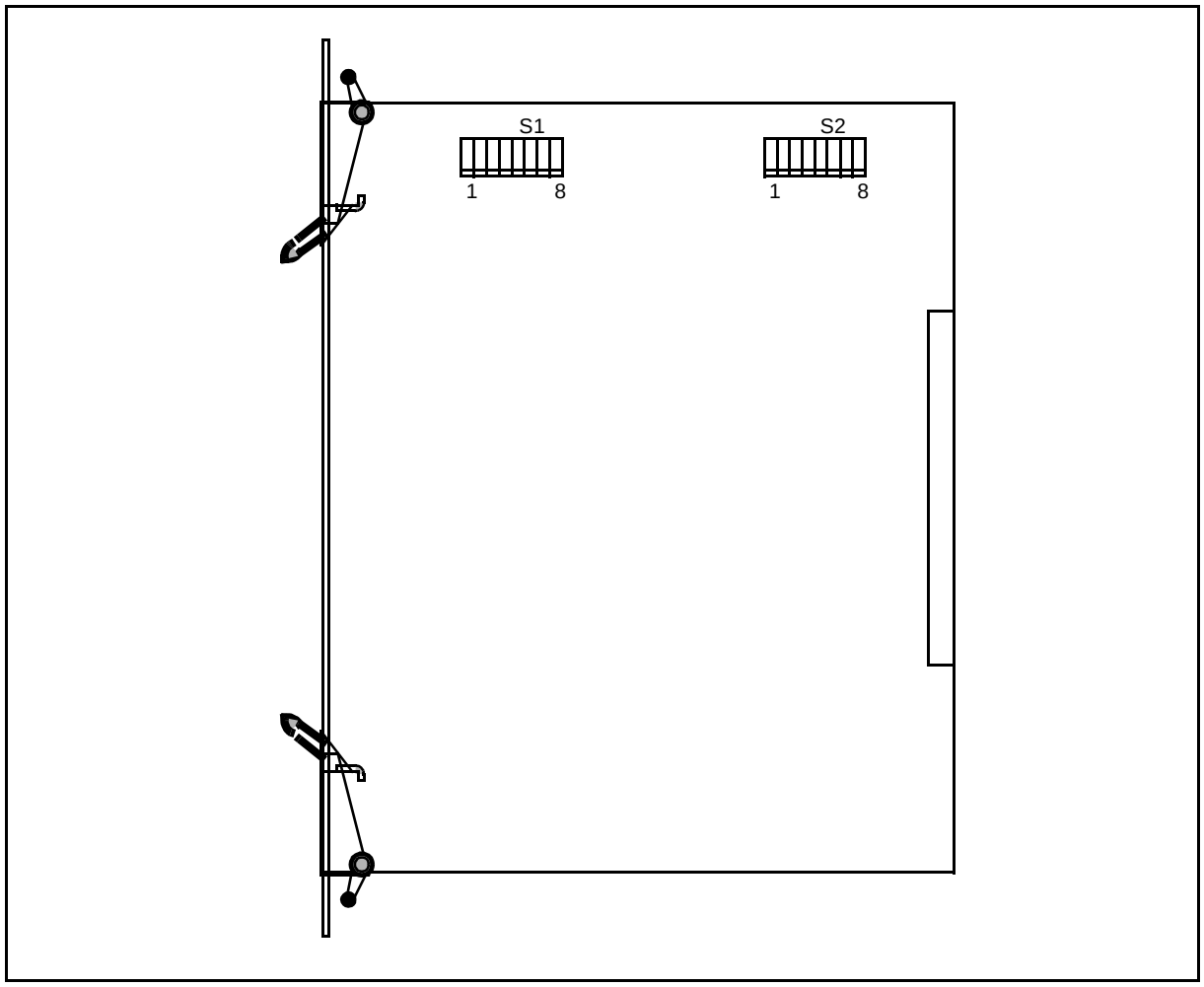


Table 2-CN:
NT6X85AA DS-1 Interface pack - switch settings

Length of Cable from SCM-10S to SLC-96, or from SCM-10U to DMS-1U		S1 (port 0) Switches							S2 (port 1) Switches						
(feet)	(meters)	1	2	3	4	5	6	7	1	2	3	4	5	6	7
		8							8						
0-300	0-91	0	0	0	1	0	0	0	1	0	0	0	0	0	0
		0							0						
300-450	91-137	0	1	0	0	0	1	0	0	1	0	0	1	0	0
		1							1						
450-656	137-200	1	0	0	0	1	0	1	0	0	1	0	0	1	1
		0							0						

Note: Settings: 1 = ON, 0 = OFF, - = NOT APPLICABLE.

Figure 2-60: NT6X85AB/AC (Release 1) DS-1 Interface pack - switch locations

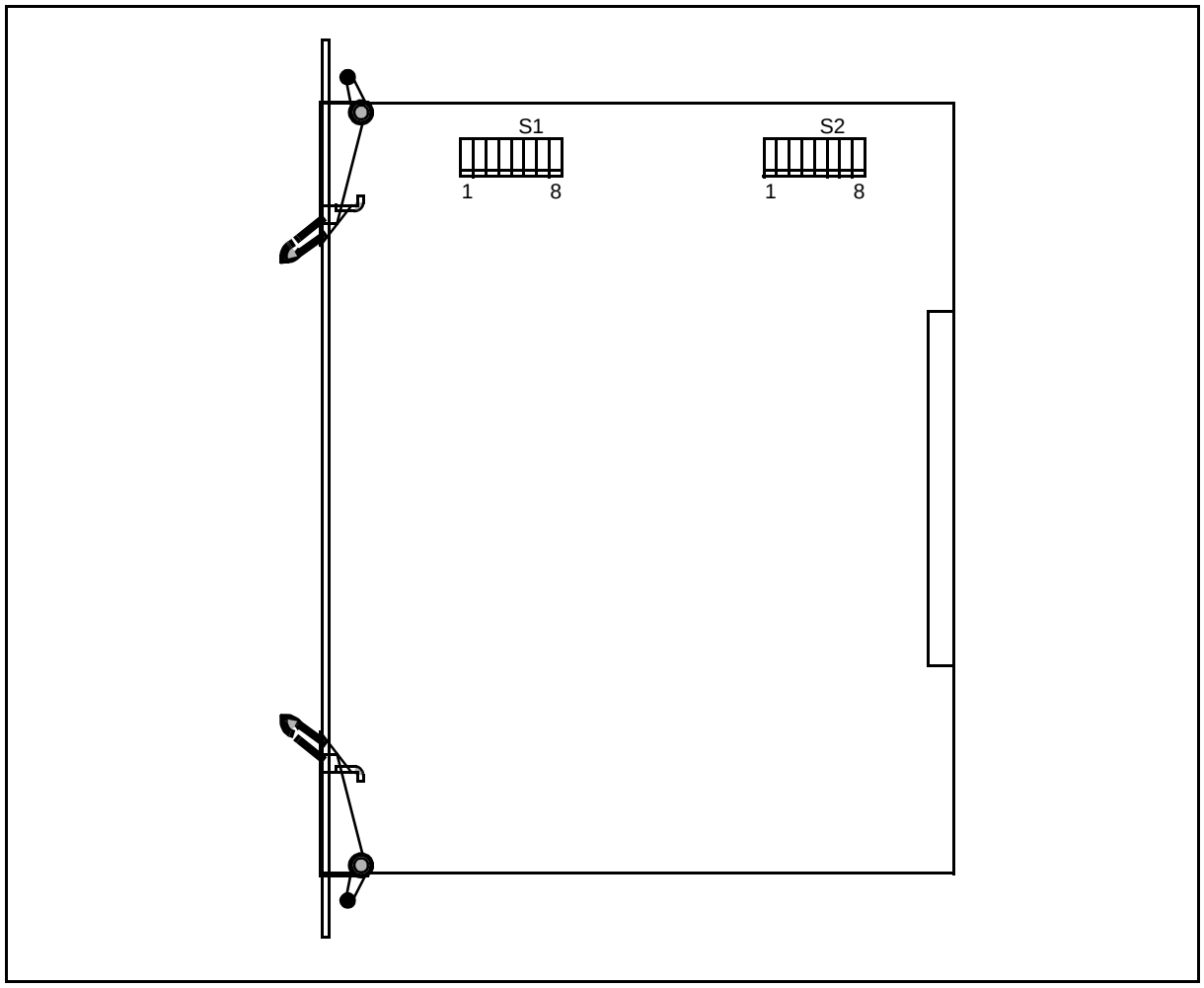


Table 2-CO:
NT6X85AB/AC (Release 1) DS-1 Interface pack - switch settings

Length of Cable from SCM-10S to SLC-96 ORB, or from SCM-10U to DMS-1U ORB (feet) (meters)		S1 (port 0) Switches 1 8	2	3	4	5	6	7	S2 (port 1) Switches 1 8	2	3	4	5	6	7
0-300	0-91	0 0	1	0	1	0	0	0	0 0	1	0	1	0	0	0
300-450	91-137	0 1	0	1	0	0	1	0	0 1	0	1	0	0	1	0
450-656	137-200	1 0	0	0	0	1	0	1	1 0	0	0	0	1	0	1

Note: Settings: 1 = ON, 0 = OFF, - = NOT APPLICABLE.

Figure 2-61: NT6X85AC (Release 2 and later) DS-1 Interface pack - switch locations

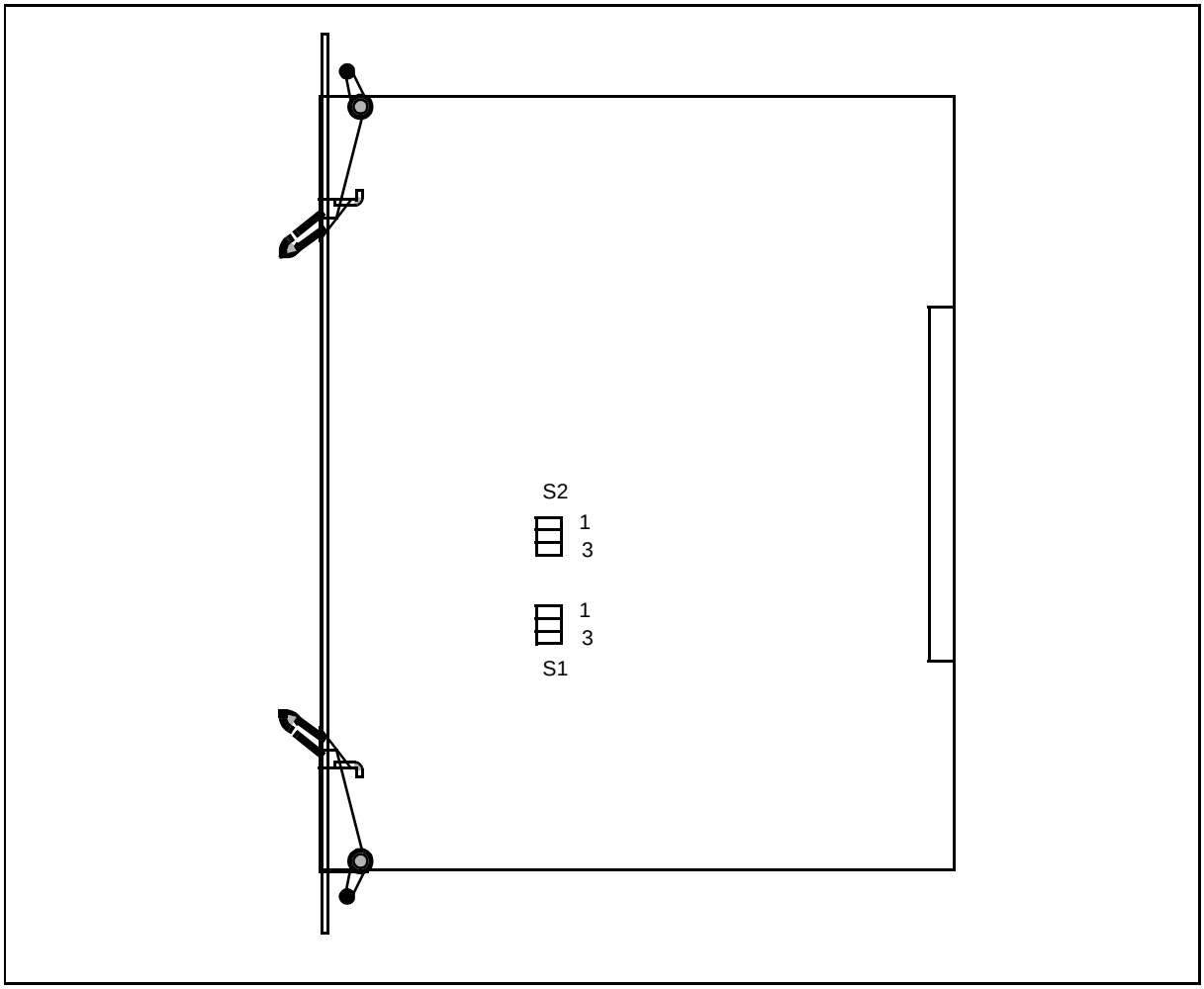


Table 2-CP:
NT6X85AC (Release 2 and later) DS-1 Interface pack - switch settings for 24 AWG DS-1 cable

Length of Cable from SCM-10S to SLC-96 ORB, or from SCM-10U to DMS-1U ORB		S1 (port 0) Switches	S2 (port 1) Switches
feet	meters	1 2 3	1 2 3
0-90	0-27	1 0 0	1 0 0
90-180	27-55	0 1 1	0 1 1
180-270	55-82	0 1 0	0 1 0
270-360	82-110	0 0 1	0 0 1
360-380	110-116	0 0 0	0 0 0

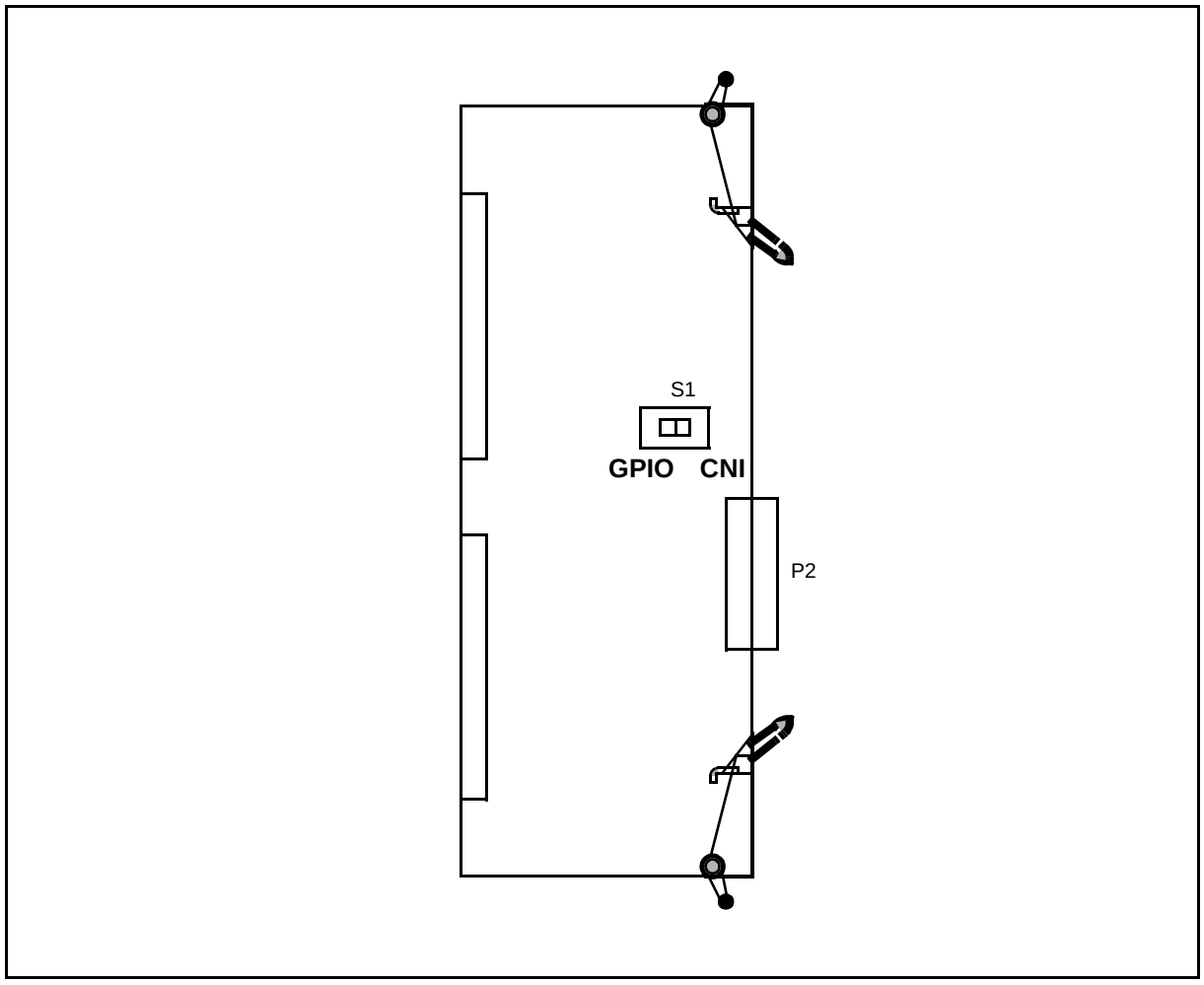
Note: Settings: 1 = ON, 0 = OFF, - = NOT APPLICABLE.

Table 2-CQ:
NT6X85AC (Release 2 and later) DS-1 Interface pack - switch settings for 22 AWG DS-1 cable

Length of Cable from SCM-10S to SLC-96 ORB, or from SCM-10U to DMS-1U ORB		S1 (port 0) Switches	S2 (port 1) Switches
feet	meters	1 2 3	1 2 3
0-133	0-41	1 0 0	1 0 0
133-266	41-81	0 1 1	0 1 1
266-399	81-122	0 1 0	0 1 0
399-533	122-163	0 0 1	0 0 1
533-655	163-200	0 0 0	0 0 0

Note: Settings: 1 = ON, 0 = OFF, - = NOT APPLICABLE.

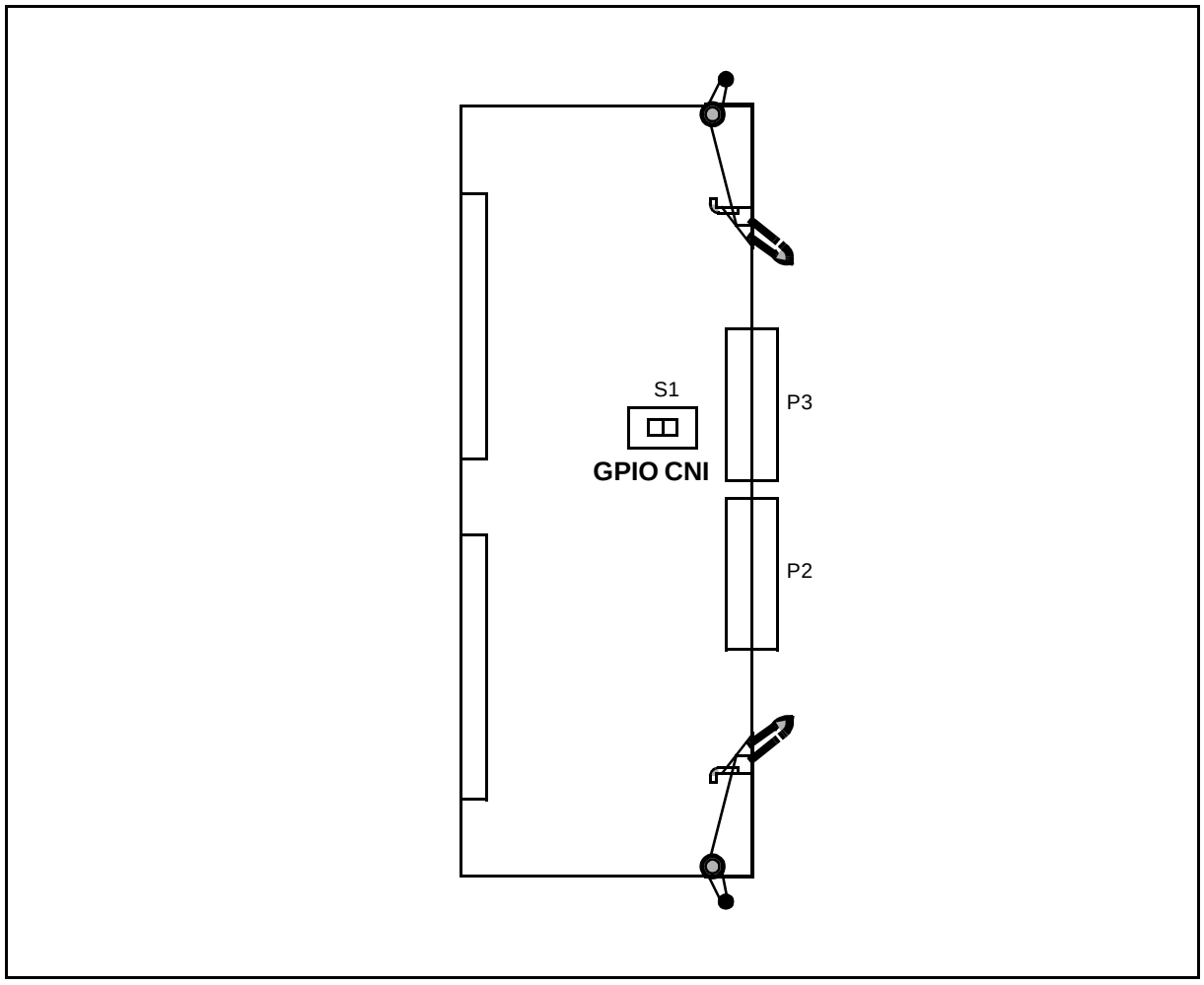
Figure 2-62: NT8T44 Terminating I/O Bus paddleboard - switch location



Note: Dip switch should be set to GPIO position in all applications.

Table 2-CR: **NT8T44 Terminating I/O Bus paddleboard - S1 switch setting**	
Location	S1 Switch Setting
GPIO shelf	GPIO (left-hand position)

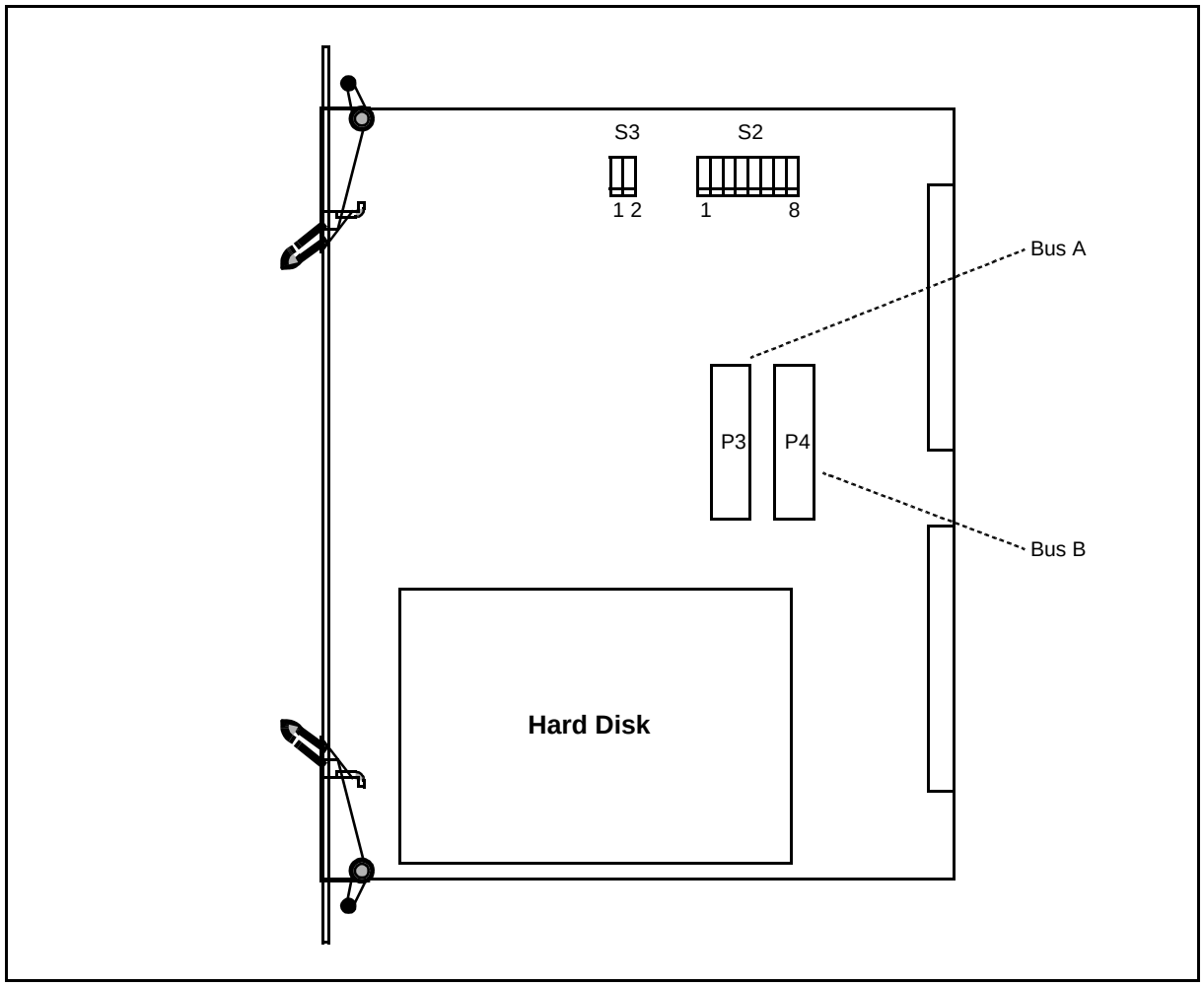
Figure 2-63: NT8T79 Non-terminating I/O Bus paddleboard - switch location



Note: Dip switch should be set to GPIO position in all applications.

Table 2-CS: **NT8T79 Non-terminating I/O Bus paddleboard - S1 switch setting**	
Location	S1 Switch Setting
GPIO shelf	GPIO (left-hand position)

Figure 2-64: NT8T90 SCSI Bus I/O and Disk Drive pack - switch locations



Note: For information about installation of jumpers P3 - 4, see Table 2-CU:.

Table 2-CT:
NT8T90 SCSI Bus I/O and Disk Drive pack - S2 switch settings

Pack Location	**S2 Switches**							
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Control Shelf, CPU Network Shelf, or CNI Module with base address 3FC8	-	-	1	1	0	1	-	0

Note: Settings: 1 = ON, 0 = OFF, - = NOT APPLICABLE.

Table 2-CU: **NT8T90 SCSI Bus I/O and Disk Drive pack - jumpers table**			
		Bus A Drive (HD0)	**Bus B Drive (HD1)**
		Jumper P4	
	1	not installed	not Installed

Note: Jumpers P3 and P4 connect the integrated disk drive to Bus A or to Bus B.

Table 2-CV: **NT8T90 SCSI Bus I/O and Disk Drive pack - S3 switch settings**
S3 Switches (Reserved for factory use) 1 2
0- (switch 1 is always set to OFF position)

Note: Settings: 1 = ON, 0 = OFF, - = NOT APPLICABLE.

Figure 2-65: NT8X18AA DS-30A Peripheral Interface pack - switch locations

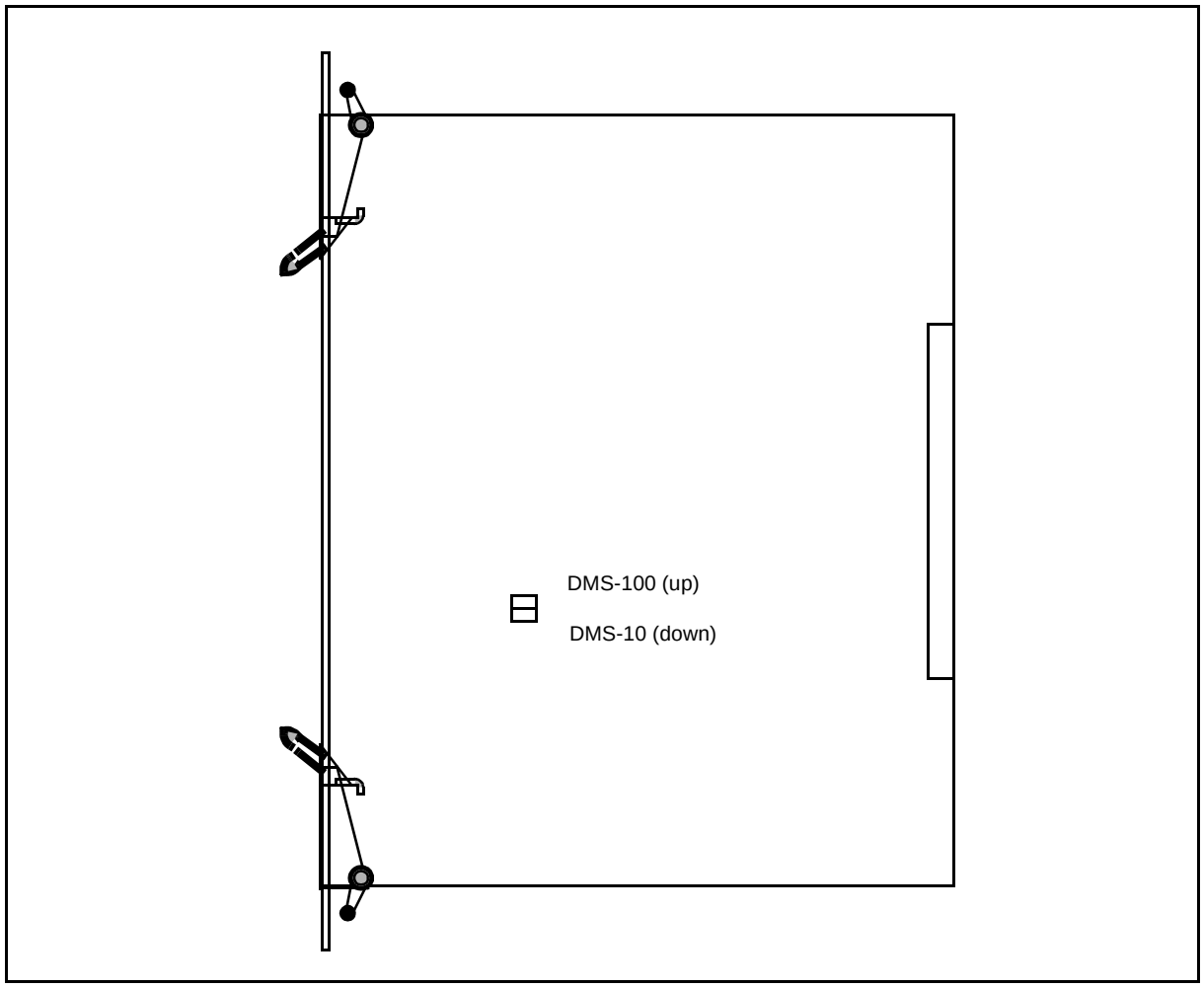


Table 2-CW: **NT8X18AA DS-30A Peripheral Interface pack - switch settings**	
Configuration	**Switch Settings**
DMS-10	Down
DMS-100	Up

Note: Other versions of NT8X18 (such as NT8X18BA and NT8X18BB) do not have DIP switches.

Figure 2-66: NT9Y00 OPSM Cabinet Controller pack - switch locations

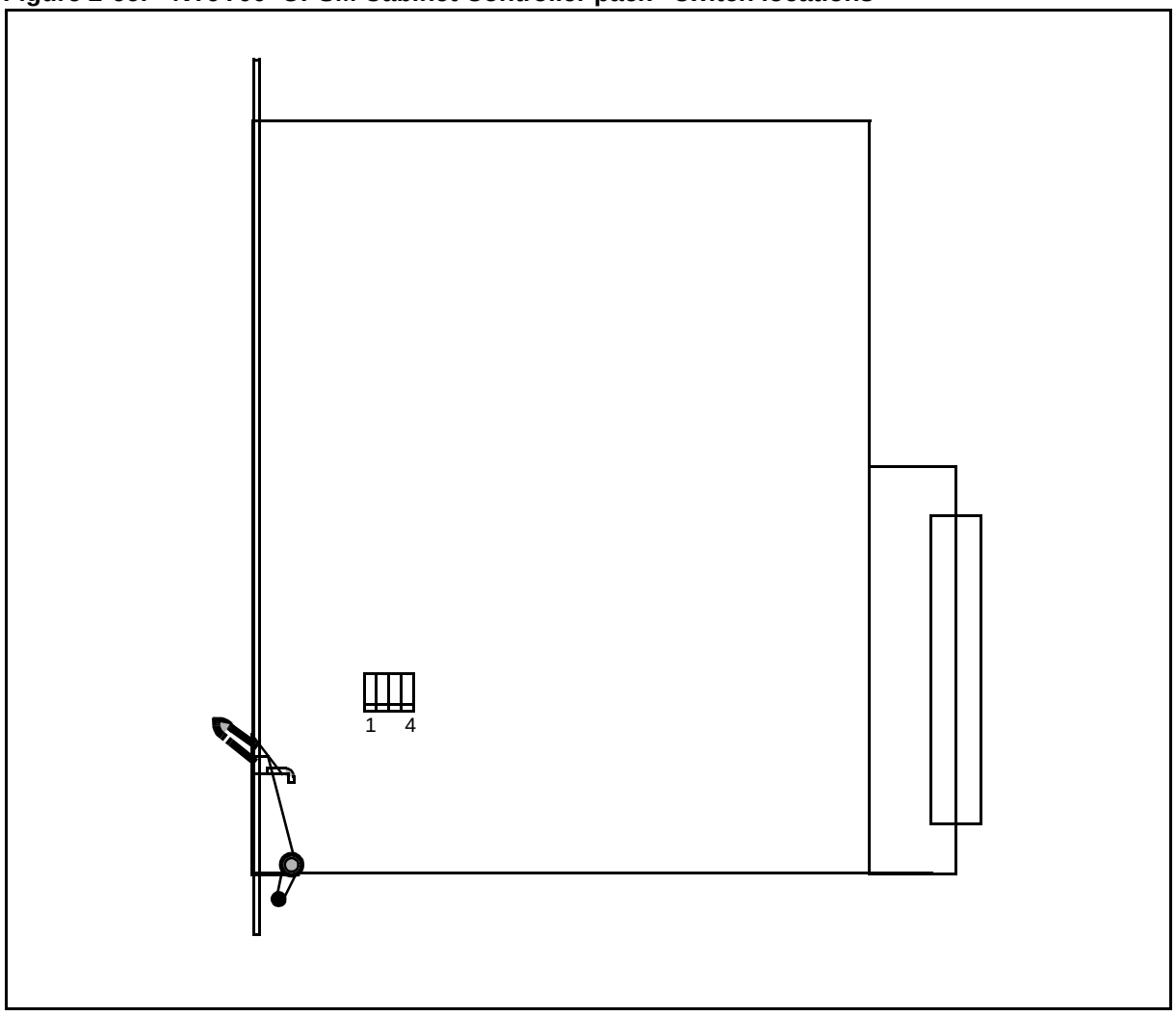


Table 2-CX: **NT9Y00 OPSM Cabinet Controller pack - switch settings**				
Option	**S1 Switch Settings** **1**	**2**	**3**	**4**
OPSM Open Version	1	-	-	-
OPSM Closed Version	0	-	-	-
VDU Disabled	-	-	-	0
VDU Enabled	-	-	-	1
Wet batteries	-	0	-	-
Gel batteries	-	1	-	-

Note: Settings: 1 = ON, 0 = OFF, - = NOT APPLICABLE.

Figure 2-67: NT9Y12AB Switching Matrix pack - switch locations

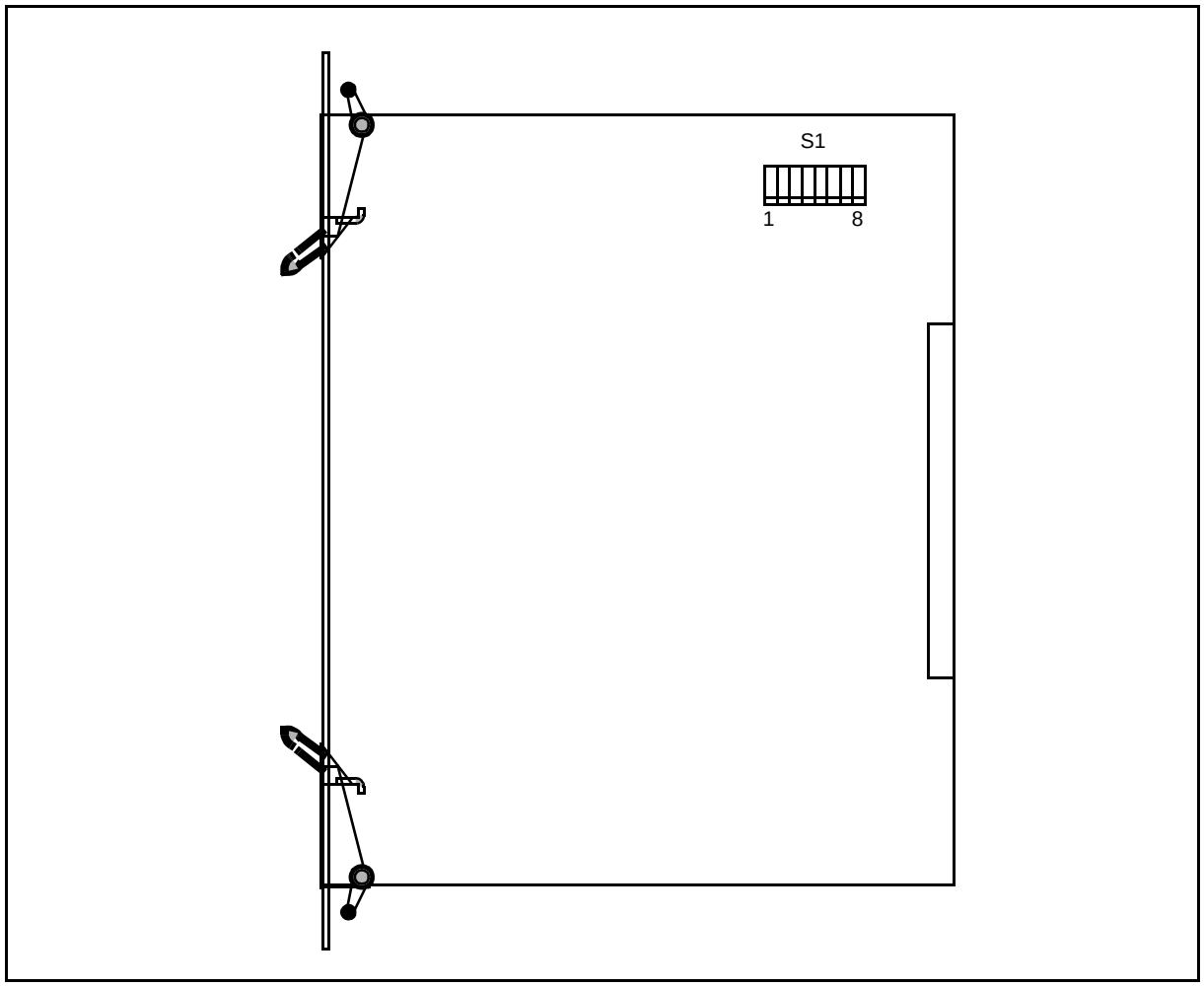


Table 2-CY:
NT9Y12AB Switching Matrix pack - switch settings

Length of Cable from Switching Matrix Pack to First Office Repeater (feet)	(meters)	S1 Switch Settings 1	2	3	4	5	6	7	8
0-150	0-46	0	0	1	0	0	0	0	0
151-450	47-137	1	0	0	1	0	1	0	0
451-650	138-200	0	1	0	0	1	0	1	0

Note: Settings: 1 = ON, 0 = OFF, - = NOT APPLICABLE.

Figure 2-68: NT9Y12AC Switching Matrix pack - switch locations

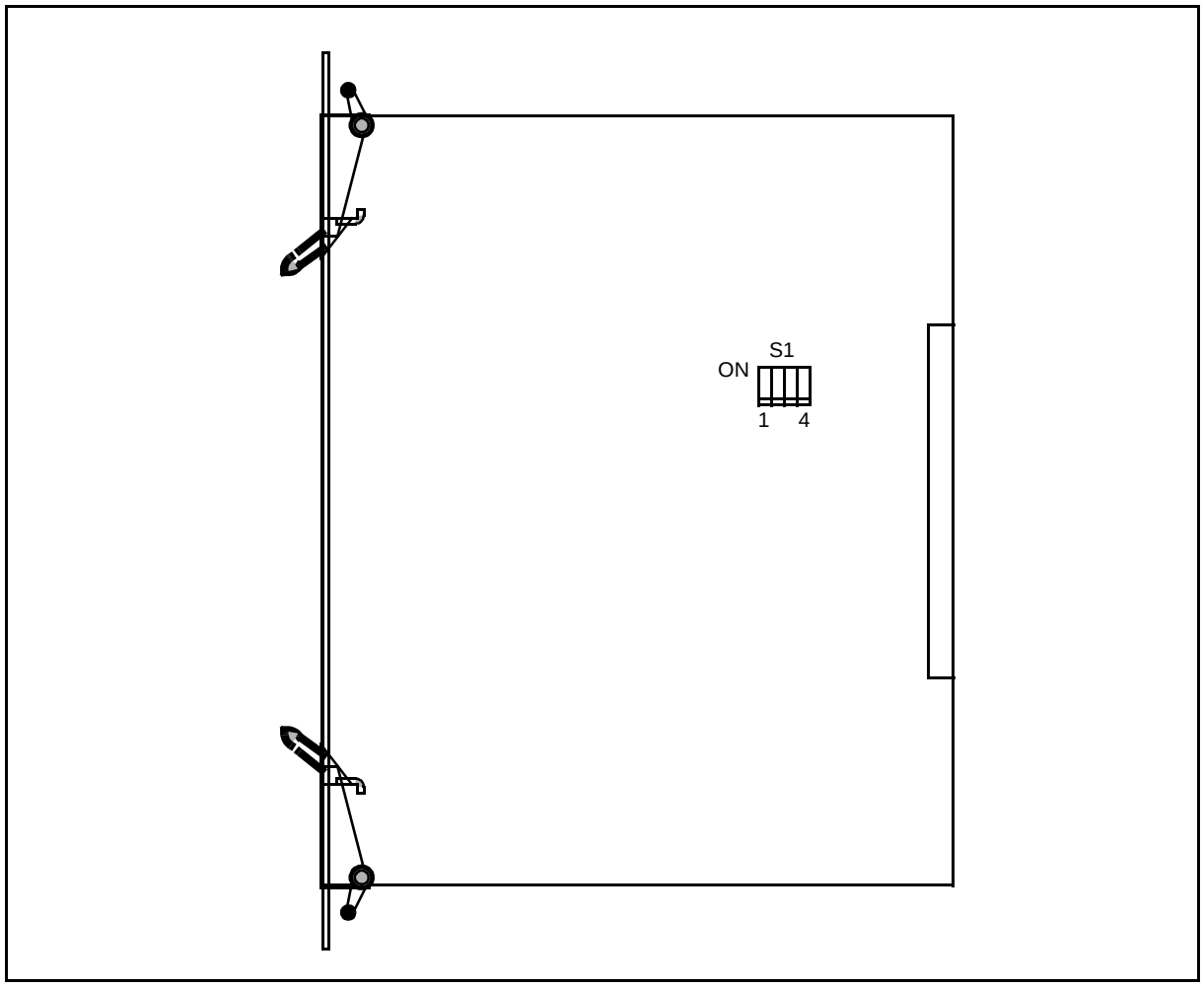


Table 2-CZ: **NT9Y12AC Switching Matrix pack - switch (1-3) settings**				
Length of Cable from witching Matrix Pack to First Office Repeater		**S1 Switch (1-3) Settings**		
Feet	**Meters**	**1**	**2**	**3**
0 - 133	0 - 41	0	0	1
133 - 266	41 - 81	1	1	0
266 - 399	81 - 122	0	1	0
399 - 533	122 - 163	1	0	0
533 - 655	163 - 200	0	0	0

Note: Settings: 1 = ON, 0 = OFF, - = NOT APPLICABLE.

Table 2-DA: **NT9Y12AC Switching Matrix pack - switch (4) settings**	
Transmission Mode	**S1 (4) Switch Settings**
56kb transmission mode	1
64kb transmission mode	0

Figure 2-69: NT9Y14BA, Series G RSLM/OPSM Processor pack - switch locations

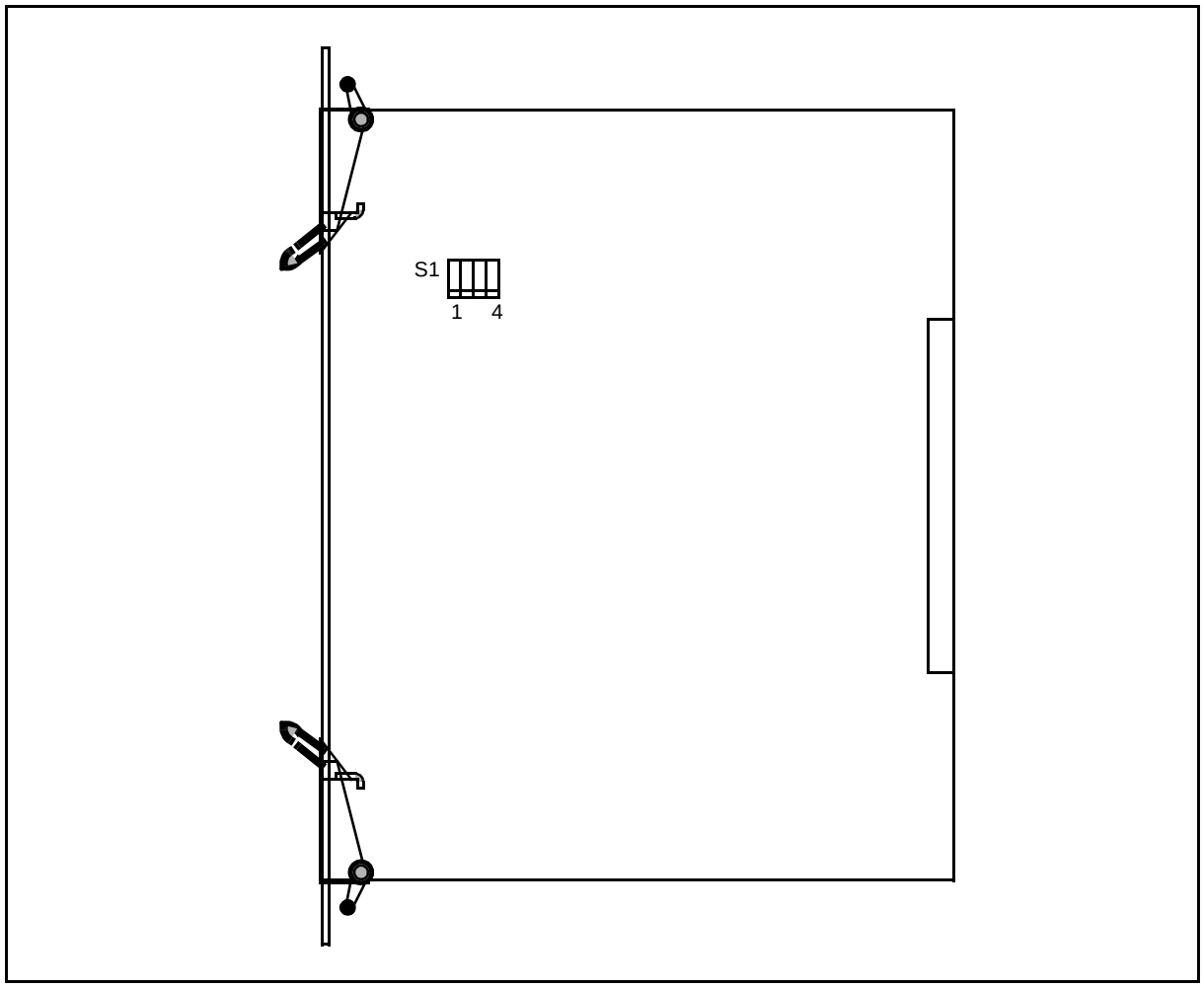


Table 2-DB: **NT9Y14BA Series G RSLM/OPSM Processor pack - switch settings**				
EPROM Type	**S1 Switch Settings** **1**	**2**	**3**	**4**
8K EPROM (not currently used)	0	-	1	0
16K EPROM	1	0	1	0

Note: Settings: 1 = ON, 0 = OFF, - = NOT APPLICABLE.

Figure 2-70: NT9Y17AA RSLE Dual Host Interface and Clock pack (2-switch version) - switch locations

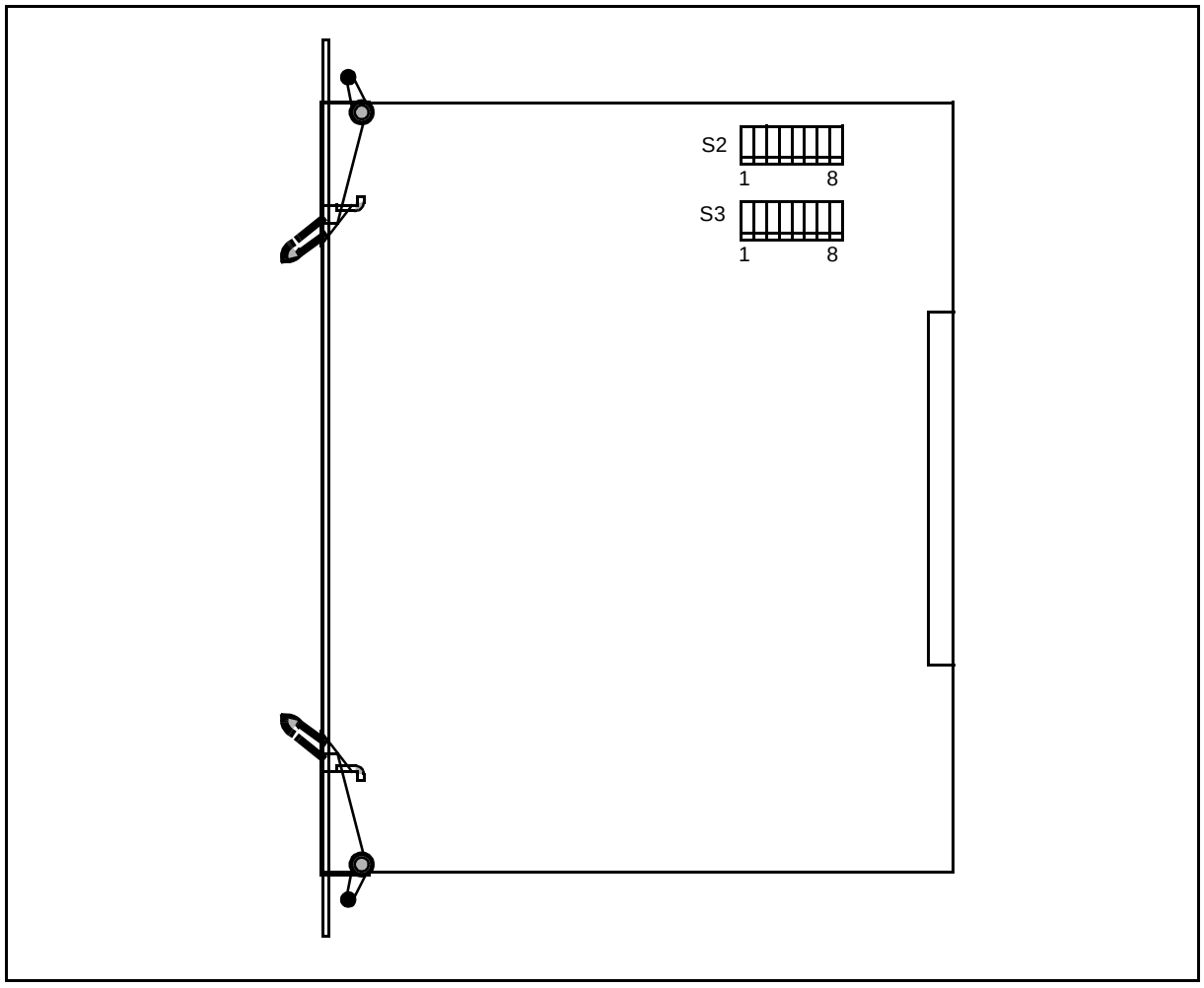


Table 2-DC:
NT9Y17AA RSLE Dual Host Interface and Clock pack (2-switch version) - switch settings

Length of Cable from RSLE Dual Host Interface and Clock pack to First Office Repeater (feet)	(meters)	S3 Switch Settings for T1-0 1	2	3	4	5	6	7 8	S2 Switch Settings for T1-1 1	2	3	4	5	6	7 8
0-150	0-46	0	0	0	0	0	1	0 0	0	0	0	0	0	1	0 0
151-450	47-137	1	0	0	0	1	0	0 1	0	1	0	1	0	0	1 0
451-650	138-200	0	1	1	0	0	0	1 0	0	0	1	0	1	0	0 1

Note: Settings: 1 = ON, 0 = OFF, - = NOT APPLICABLE.

Figure 2-71: NT9Y17AA RSLE Dual Host Interface and Clock pack (1-switch version) - switch location

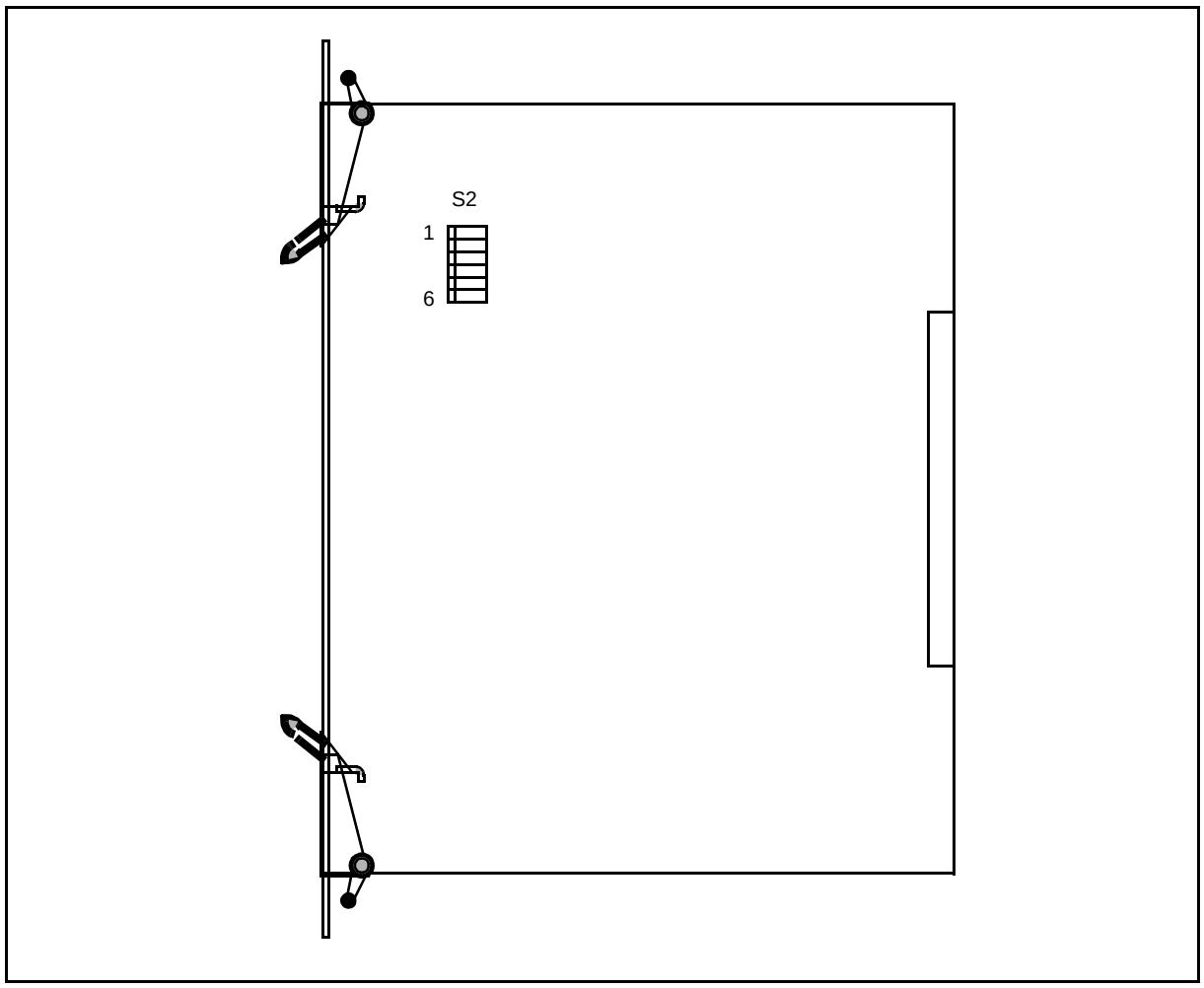


Table 2-DD:
NT9Y17AA RSLE Dual Host Interface and Clock pack (1-switch version) - switch settings

Length of Cable from RSLE Dual Host Interface and Clock pack to First Office Repeater		S2 Switch Settings for T1-0			S2 Switch Settings for T1-1		
Feet	**Meters**	**1**	**2**	**3**	**4**	**5**	**6**
0 - 133	0 - 41	0	0	1	0	0	1
133 - 266	41 - 81	1	1	0	1	1	0
266 - 399	81 - 122	0	1	0	0	1	0
399 - 533	122 - 163	1	0	0	1	0	0
533 - 655	163 - 200	0	0	0	0	0	0

Note: Settings: 1 = ON, 0 = OFF, - = NOT APPLICABLE.

Figure 2-72: NT9Y17AB RSLE Dual Host Interface and Clock pack - switch locations

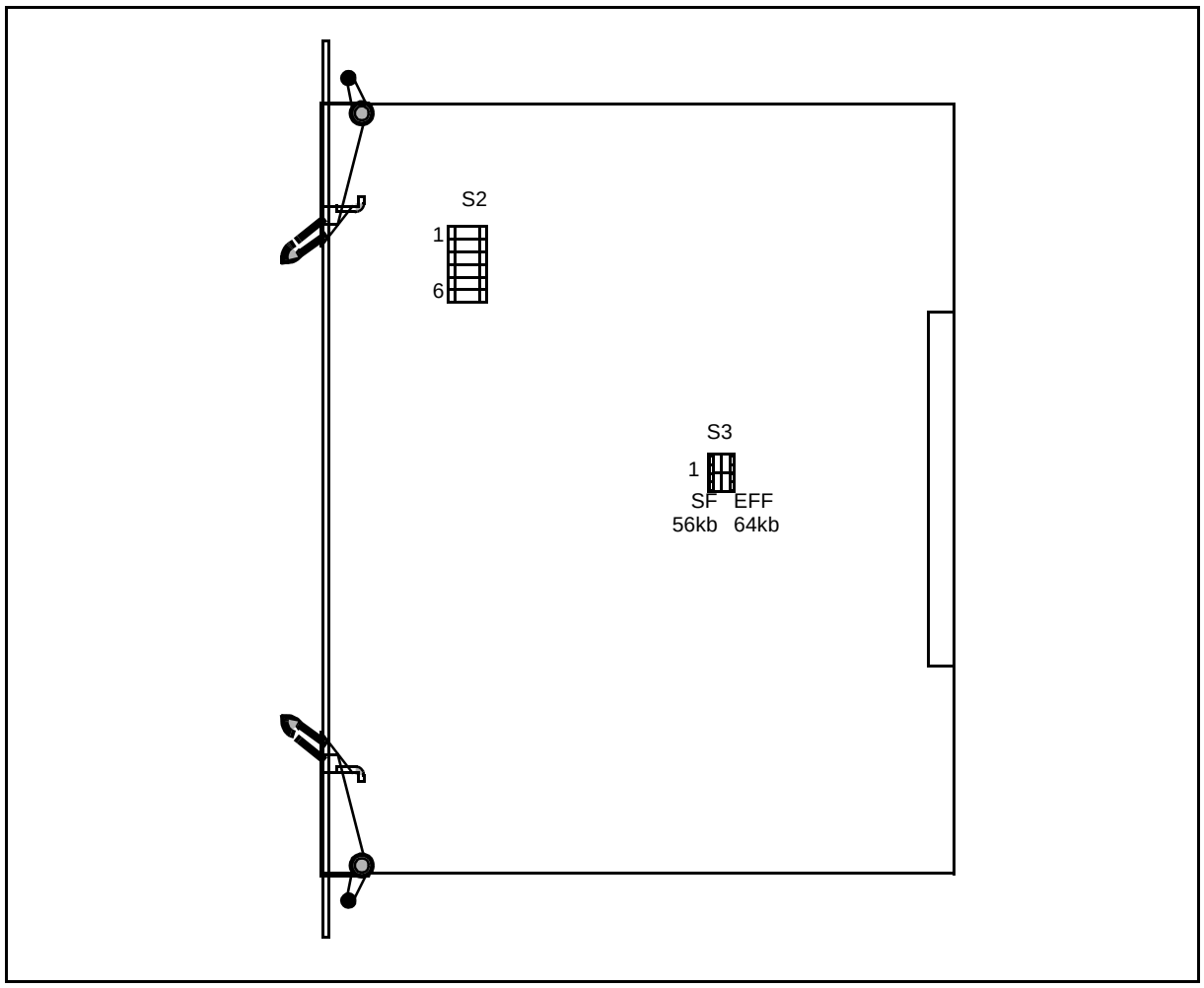


Table 2-DE:
NT9Y17AB RSLE Dual Host Interface and Clock pack S2 switch settings

Length of Cable from RSLE Dual Host Interface and Clock pack to First Office Repeater		S2 Switch Settings for T1-0			S2 Switch Settings for T1-1		
Feet	**Meters**	**1**	**2**	**3**	**4**	**5**	**6**
0 - 133	0 - 41	0	0	1	0	0	1
133 - 266	41 - 81	1	1	0	1	1	0
266 - 399	81 - 122	0	1	0	0	1	0
399 - 533	122 - 163	1	0	0	1	0	0
533 - 655	163 - 200	0	0	0	0	0	0

Note: Settings: 1 = ON, 0 = OFF, - = NOT APPLICABLE.

Table 2-DF:
NT9Y17AB RSLE Dual Host Interface and Clock pack S3 switch settings

Transmission Mode	S3 Switch Settings
56kb transmission mode	Left
64kb transmission mode	Right

Figure 2-73: NT9Y18 RSLE Tone pack - switch locations

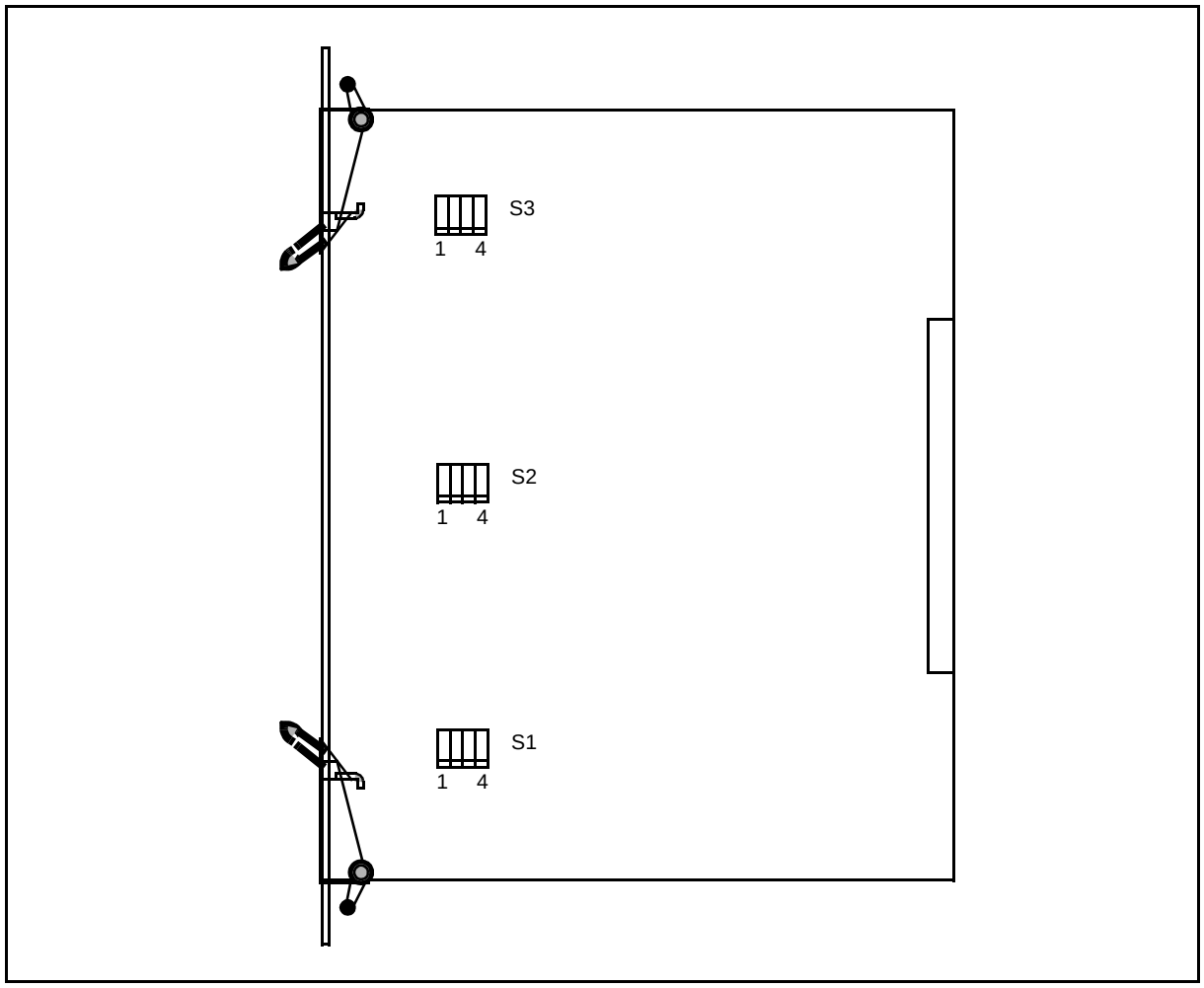


Table 2-DG: **NT9Y18 RSLE Tone pack - switch settings**				
Oscillator Source	**S1, S2, and S3 Switch Settings** **1**	**2**	**3**	**4**
Normal	1	1	1	1
Disconnected (for testing purposes only)	0	0	0	0

Note: Settings: 1 = ON = Up, 0 = OFF = Down.

Figure 2-74: NT9Y20AA RSLE Dual Host Interface pack (2-switch version) - switch locations

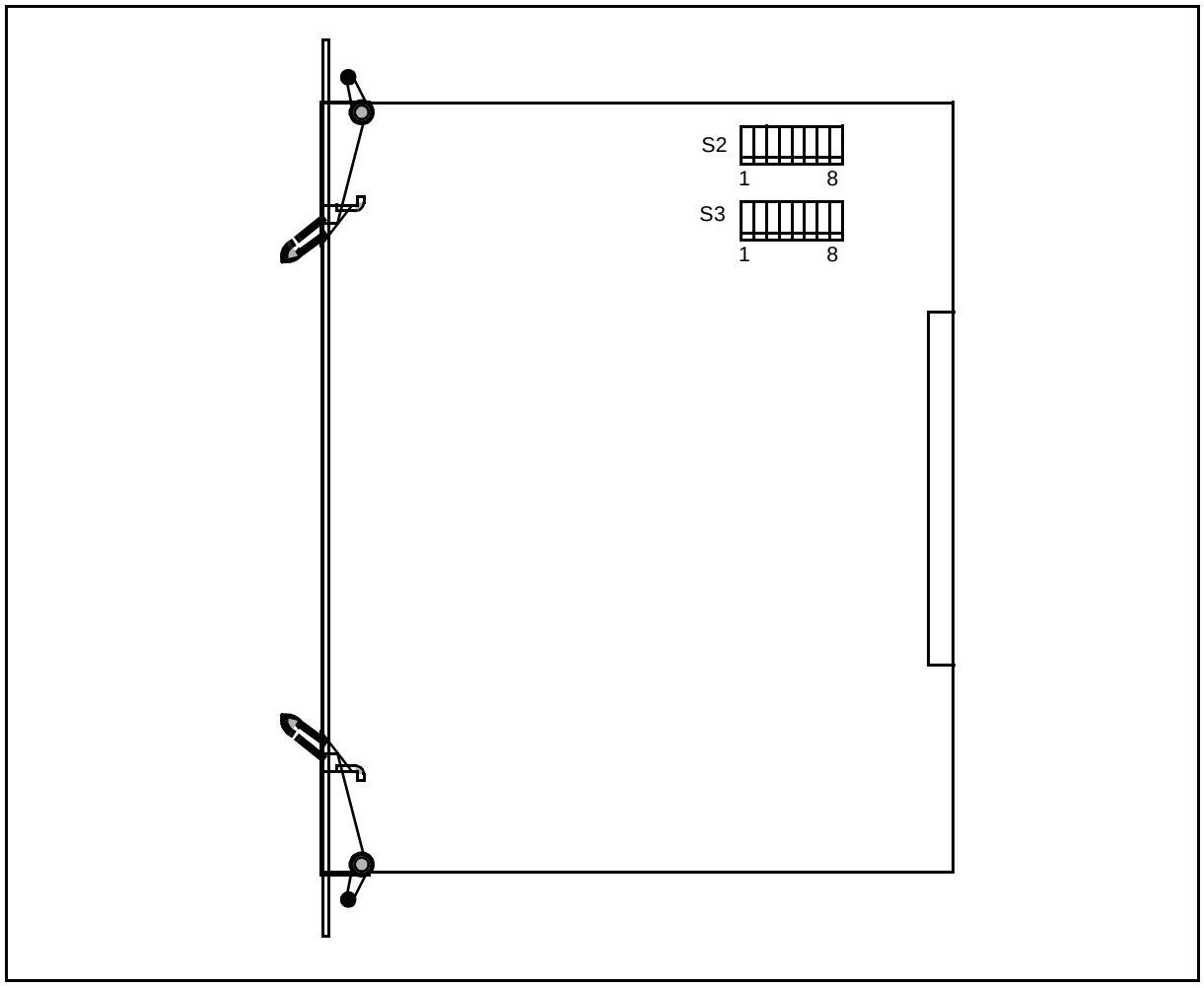


Table 2-DH:
NT9Y20AA RSLE Dual Host Interface pack (2-switch version) - switch settings

Length of Cable from RSLE Dual Host Interface pack to First Office Repeater		S3 Switch Settings for T1-0							S2 Switch Settings for T1-1						
(feet)	(meters)	1 8	2	3	4	5	6	7	1 8	2	3	4	5	6	7
0-150	0-46	0 0	0	0	0	0	1	0	0 0	0	0	0	0	1	0
151-450	47-137	1 1	0	0	0	1	0	0	0 0	1	0	1	0	0	1
451-650	138-200	0 0	1	1	0	0	0	1	0 1	0	1	0	1	0	0

Note: Settings: 1 = ON, 0 = OFF, - = NOT APPLICABLE.

Figure 2-75: NT9Y20AA RSLE Dual Host Interface pack (1-switch version) - switch location

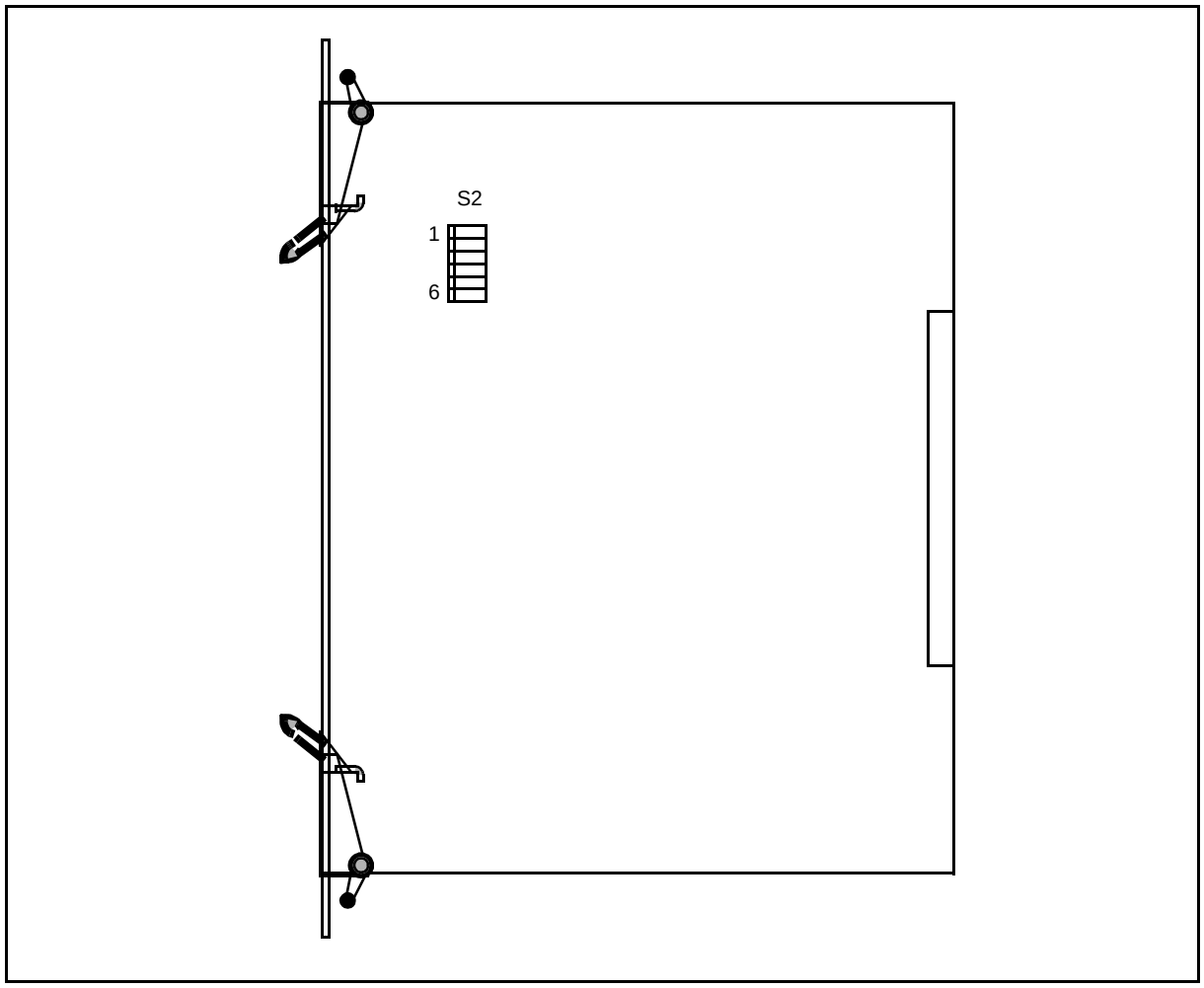


Table 2-DI:
NT9Y20AA RSLE Dual Host Interface pack (1-switch version) - switch settings

Length of Cable from RSLE Dual Host Interface pack to First Office Repeater		S2 Switch Settings for T1-0			S2 Switch Settings for T1-1		
Feet	**Meters**	**1**	**2**	**3**	**4**	**5**	**6**
0 - 133	0 - 41	0	0	1	0	0	1
133 - 266	41 - 81	1	1	0	1	1	0
266 - 399	81 - 122	0	1	0	0	1	0
399 - 533	122 - 163	1	0	0	1	0	0
533 - 655	163 - 200	0	0	0	0	0	0

Note: Settings: 1 = ON, 0 = OFF, - = NOT APPLICABLE.

Figure 2-76: NT9Y20AB RSLE Dual Host Interface -switch locations

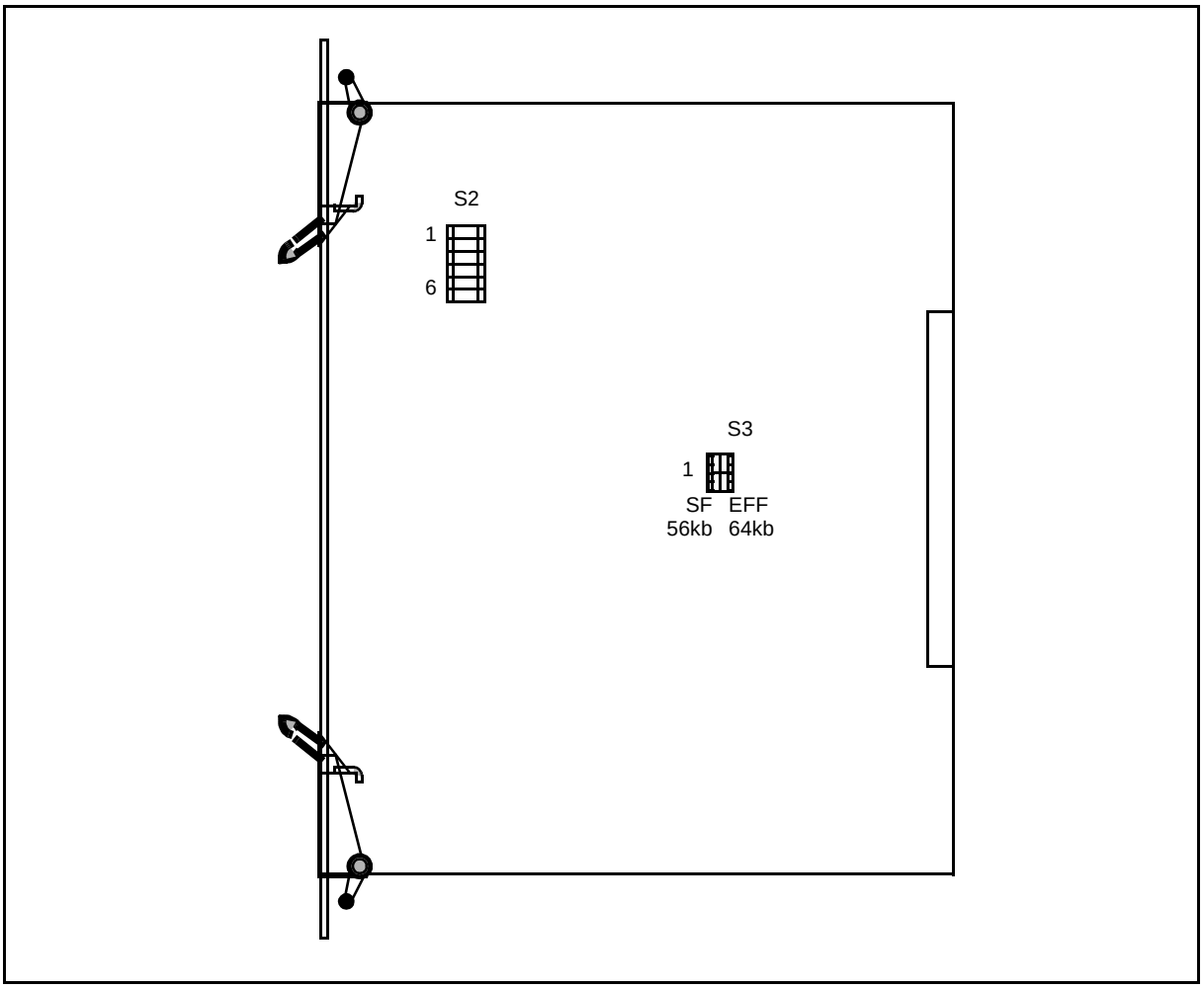


Table 2-DJ:
NT9Y20AB RSLE Dual Host Interface pack S2 switch settings

Length of Cable from RSLE Dual Host Interface to First Office Repeater		S2 Switch Settings for T1-0			S2 Switch Settings for T1-1		
Feet	**Meters**	**1**	**2**	**3**	**4**	**5**	**6**
0 - 133	0 - 41	0	0	1	0	0	1
133 - 266	41 - 81	1	1	0	1	1	0
266 - 399	81 - 122	0	1	0	0	1	0
399 - 533	122 - 163	1	0	0	1	0	0
533 - 655	163 - 200	0	0	0	0	0	0

Note: Settings: 1 = ON, 0 = OFF, - = NOT APPLICABLE.

Table 2-DK:
NT9Y20AB RSLE Dual Host Interface S3 switch settings

Transmission Mode	S3 Switch Settings
56kb transmission mode	Left
64kb transmission mode	Right

Figure 2-77: NT9Y22 RSLE Processor pack - switch locations

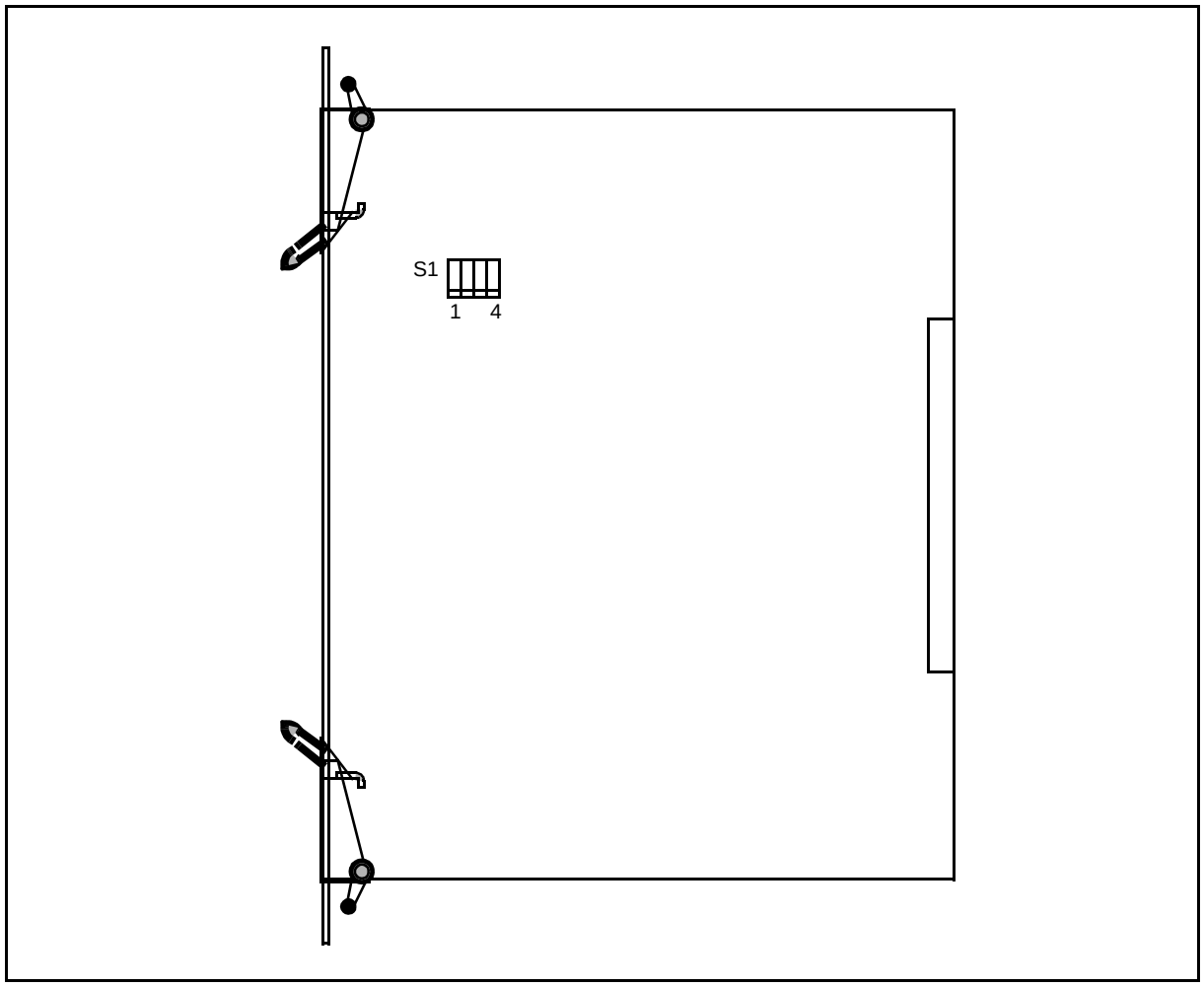


Table 2-DL: **NT9Y22 RSLE Processor pack - switch settings**				
EPROM Type	**S1 Switch Settings** **1**	**2**	**3**	**4**
8K EPROM (not currently used)	0	-	1	0
16K EPROM	1	0	1	0

Note: Settings: 1 = ON, 0 = OFF, - = NOT APPLICABLE.

Figure 2-78: NTMX73AA PCM Signaling pack - switch locations

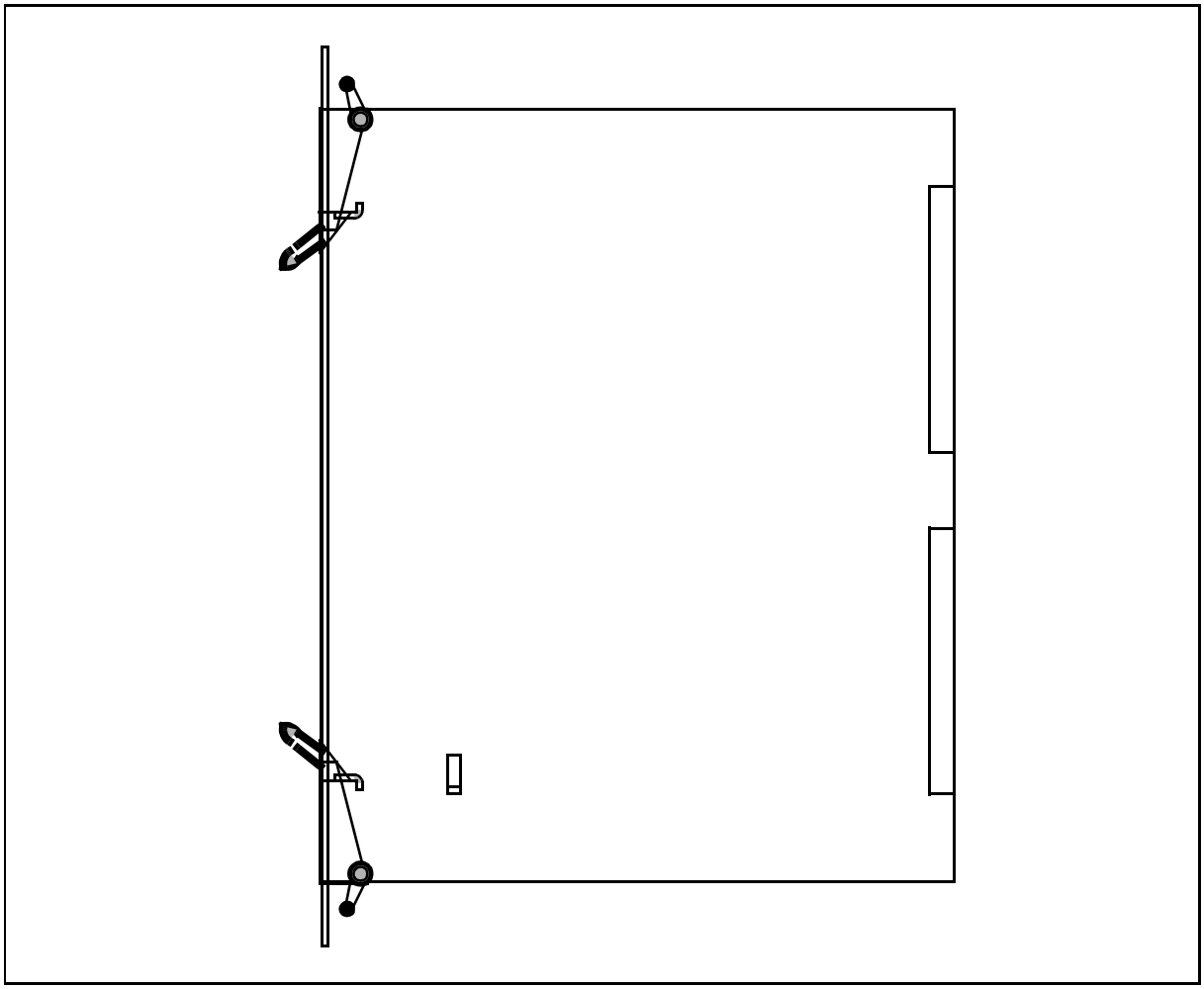


Table 2-DM:
NTMX73AA PCM Signaling pack - switch settings

Configuration	Switch Setting
RSC-S	down

Note: Other versions of NTMX73 (such as NTMX73AB and NTMX73BA) do not have DIP switches.

Figure 2-79: NTMX81 Dual DS-1 Interface pack - switch locations

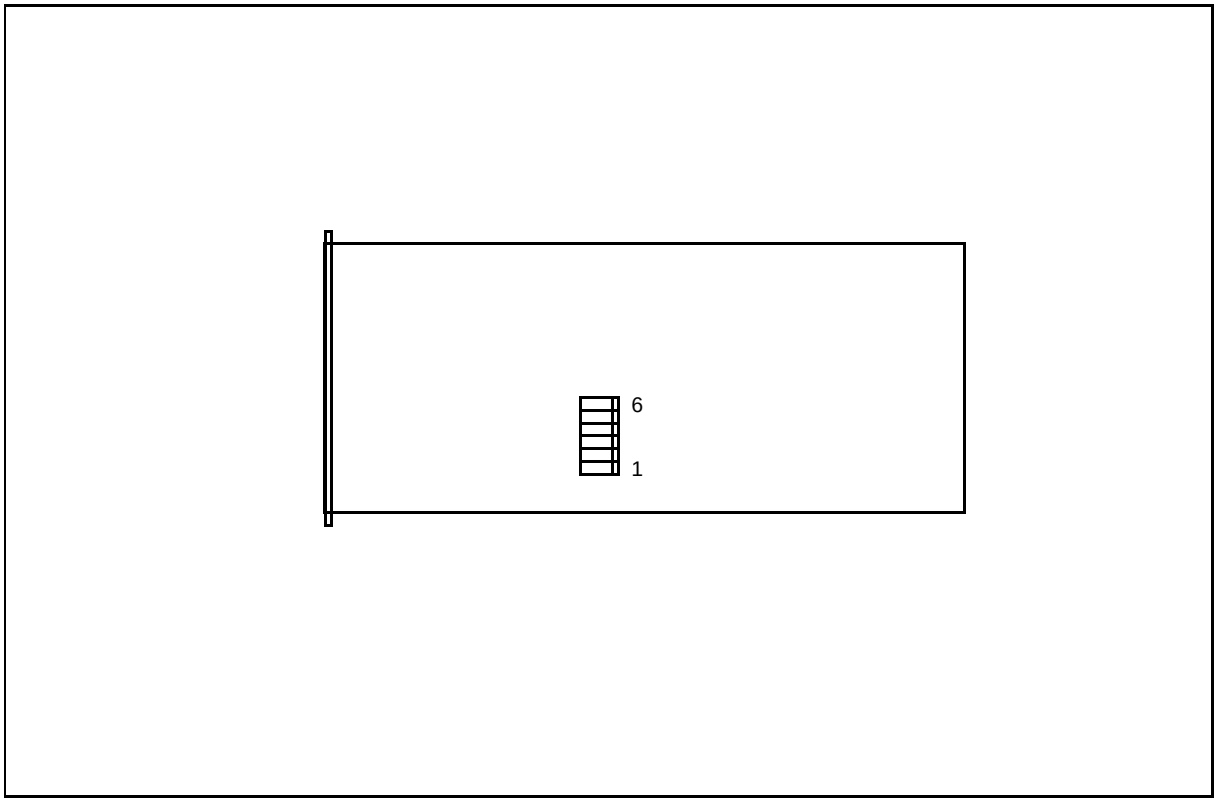


Table 2-DN:
NTMX81 Dual DS-1 Interface pack - switch settings

Distance to cross-connect	Switches					
	1	**2**	**3**	**4**	**5**	**6**
0 - 133 feet (0 - 41 meters)	0	0	1	0	0	1
134 - 266 feet (42 - 81 meters)	1	1	0	1	1	0
267 - 399 feet (82 -122 meters)	0	1	0	0	1	0
400 - 533 feet (123 - 163 meters)	1	0	0	1	0	0
534 - 655 feet (164 - 200 meters)	0	0	0	0	0	0

Note 1: Settings: 1 = ON, 0 = OFF, - = NOT APPLICABLE.

Note 2: Switches 1 - 3 belong to even ports; switches 4 - 6 belong to odd ports.

Figure 2-80: NTMX8505 Enhanced Remote Cluster Controller 2 shelf backplane - switch locations

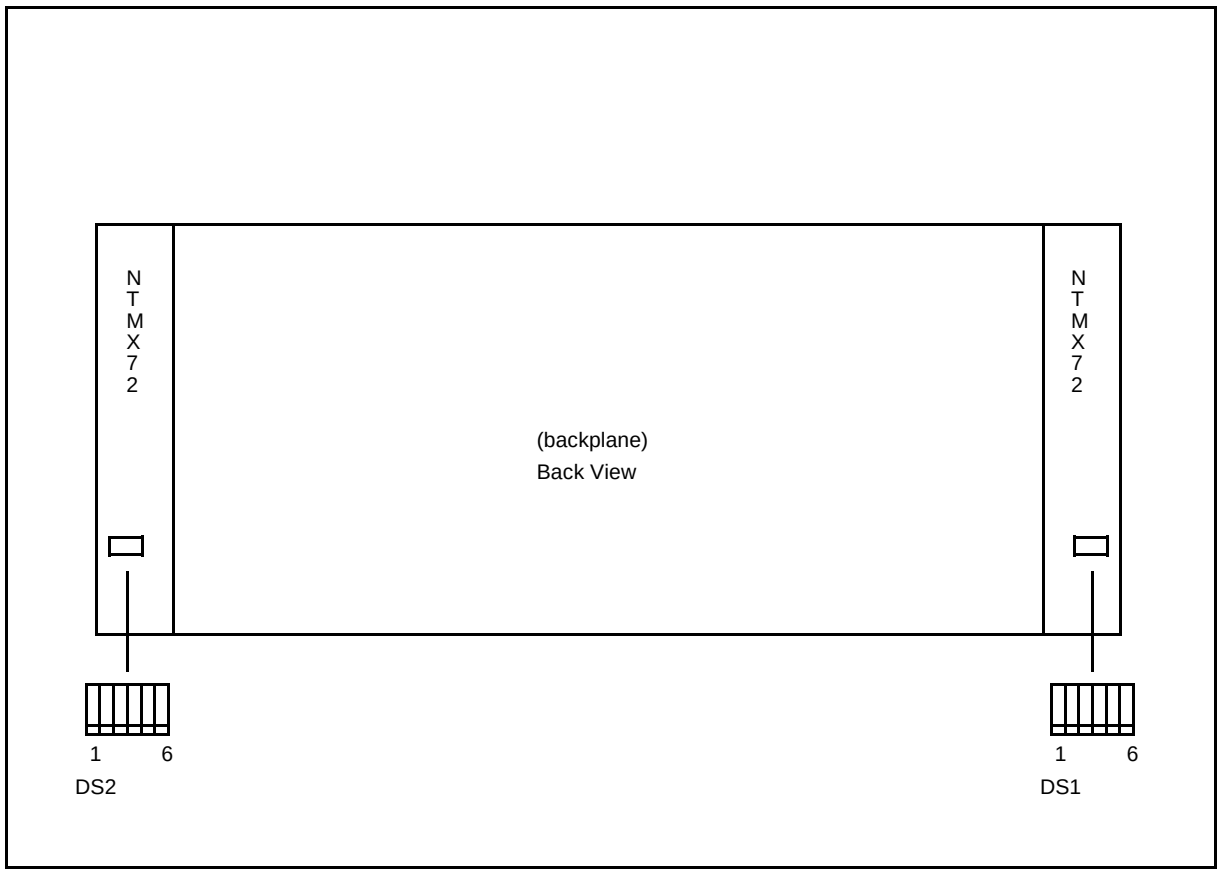
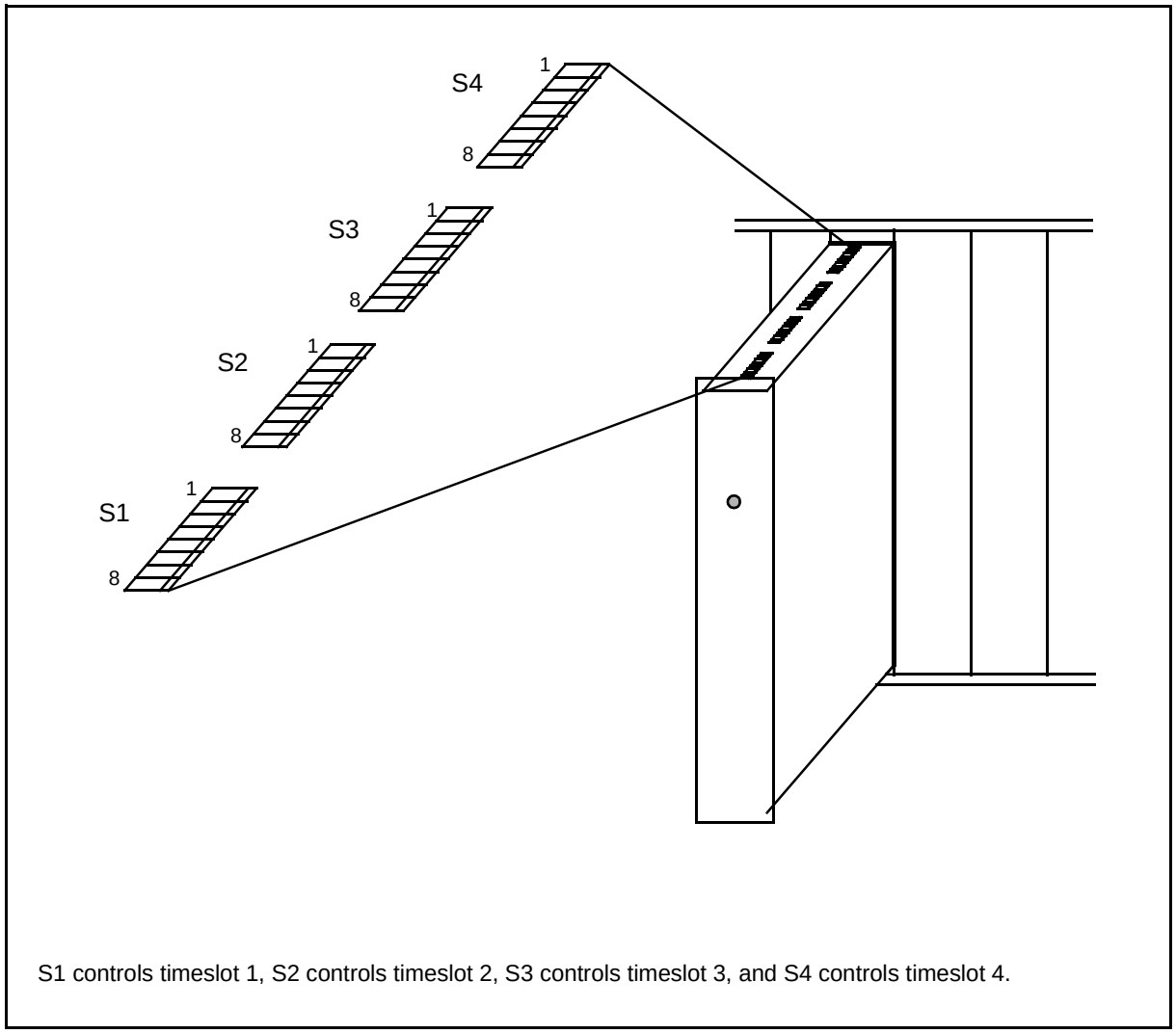


Table 2-DO:
NTMX8505 Enhanced Remote Cluster Controller 2 shelf backplane - switch settings

Option	Switches 1	2	3	4	5	6
DS-1 super frame ZCS (zero code suppression) (56 kbps)	-	0	0	1	1	0
DS-1 extended super frame B8ZS (B8 zero substitution) (64 kbps)	-	0	0	0	1	1
DMS-10 settings for ESMA shelf in an MVIE bay	-	0	1	1	1	0

Note: Settings: 1 = ON, 0 = OFF, - = NOT APPLICABLE.

Figure 2-81: NTTR60 (6X60) Ringing Generator pack - switch locations



S1 controls timeslot 1, S2 controls timeslot 2, S3 controls timeslot 3, and S4 controls timeslot 4.

Note: Refer to the DIP-switch-setting tables for the 6X30 Ringing Generator pack. The settings are the same for both Ringing Generator packs.

Figure 2-82: NTTR8602 Star Hub Control shelf backplane - switch locations

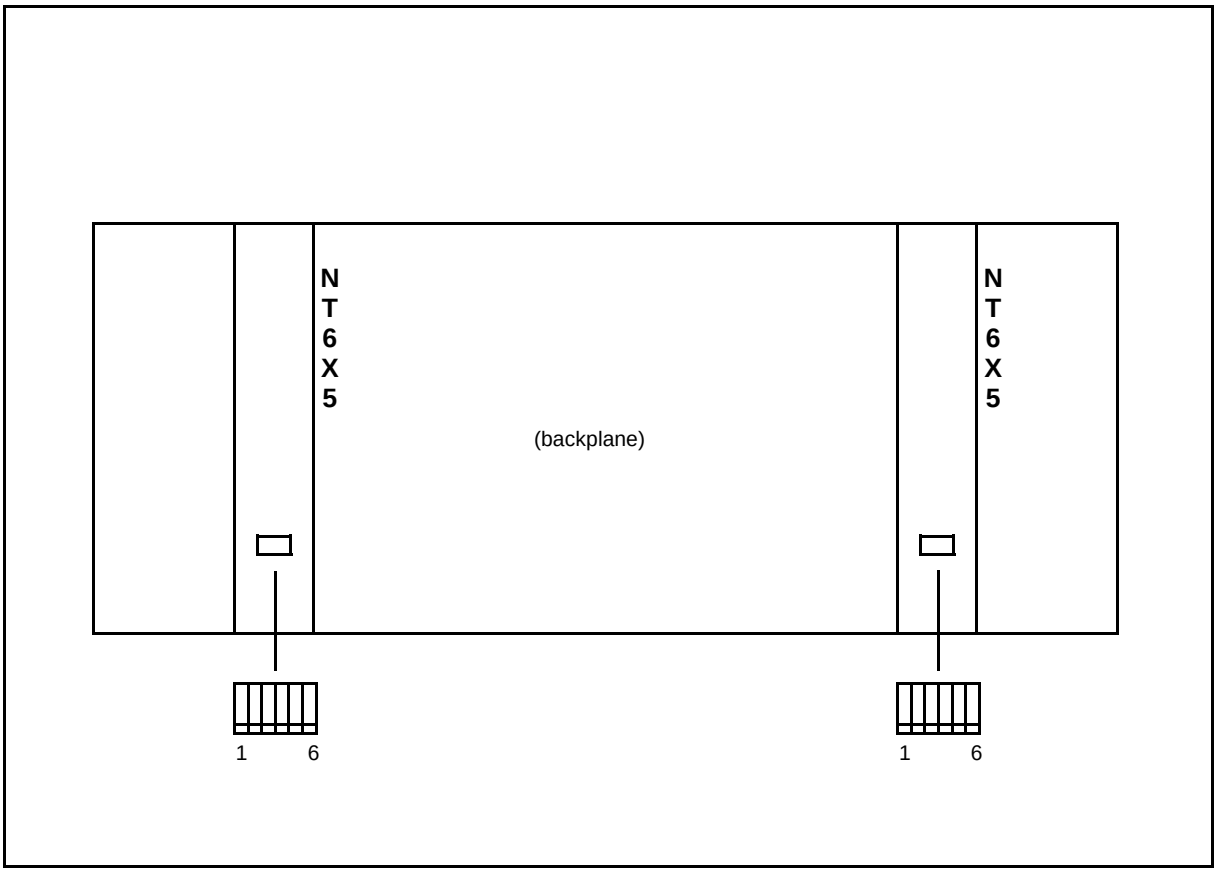


Table 2-DP: **NTTR8602 Star Hub Control shelf backplane - switch settings**						
Option	**Switches** **1**	**2**	**3**	**4**	**5**	**6**
DS-1 super frame ZCS (zero code suppression) (56 kbps)	1	1	0	1	1	1
DS-1 extended super frame ZCS (default to support ISDN 64 kbps clear channel)	0	0	0	0	0	0

Note: Settings: 1 = ON, 0 = OFF, - = NOT APPLICABLE.

Figure 2-83: QPP519 Fault Locate Order Wire pack - switch locations

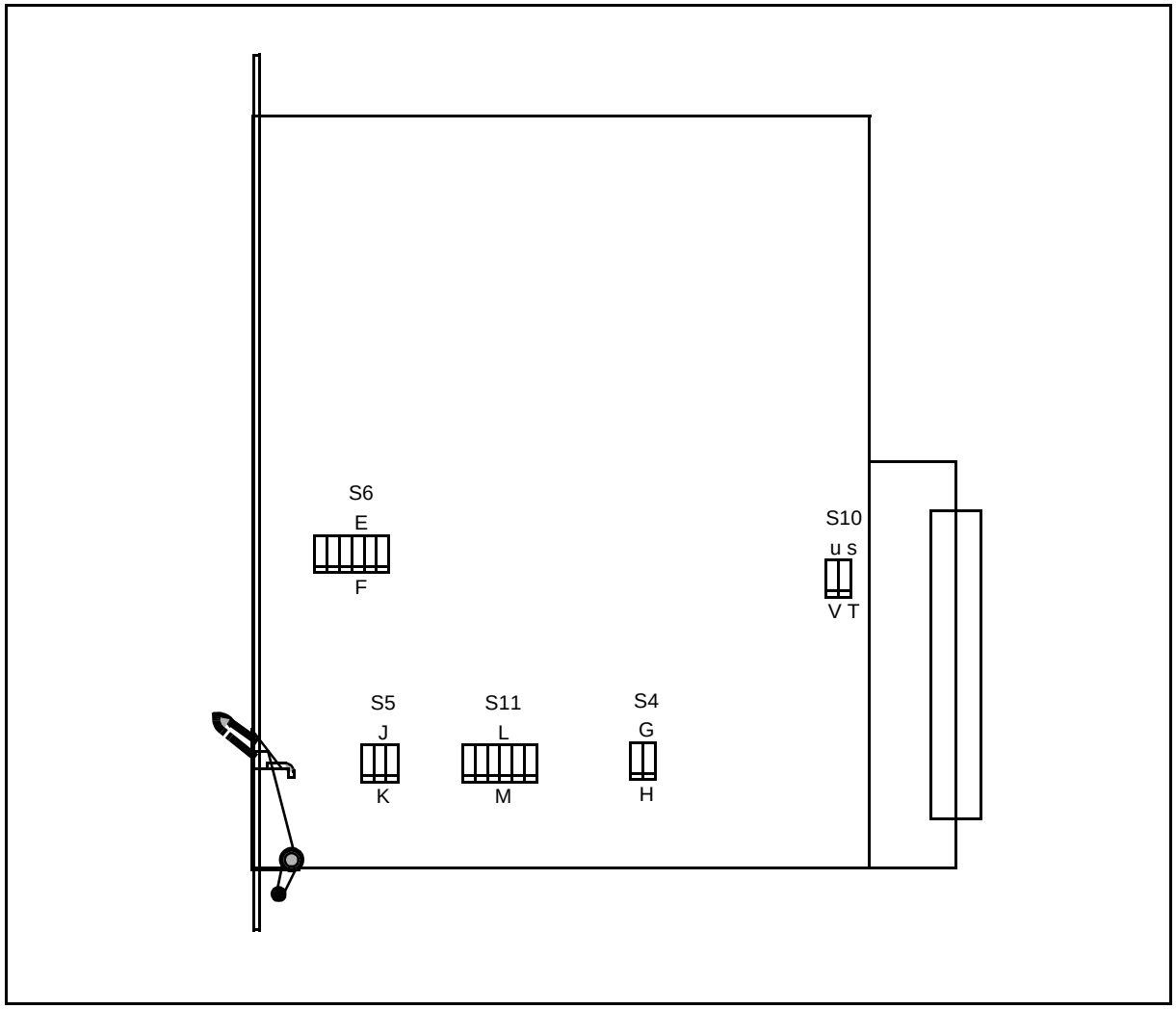


Table 2-DQ: **QPP519 Fault Locate Order Wire pack - switch settings for the fault-locate filter option**	
Option	**Switch 4 Position**
Fault Pair 1	G
Fault Pair 2	H

Note: Set switches toward option to be selected.

Table 2-DR:
QPP519 Fault Locate Order Wire pack - switch settings for the fault pair termination option

Option	Switch 5 Position
Fault pair terminated	J
Bridged	K

Note: Set switches toward option to be selected.

Table 2-DS:
QPP519 Fault Locate Order Wire pack - switch settings for the fault pair termination option

Fault-Locate Jack Attenuation Option	Switch 6 Position
15 dB	E
0 dB	F

Note: Set switches toward option to be selected.

Table 2-DT:
QPP519 Fault Locate Order Wire pack - switch settings for the signal loopback option

Signal Loopback Option	Switch 10 Position
Loopback enabled	U, S
No loopback	V, T

Note: Set switches toward option to be selected.

Table 2-DU:
QPP519 Fault Locate Order Wire pack - switch settings for the fault pair power source option

Fault Pair Power Source Option	Switch 11 Position
External V+	L
-48 V battery	M

Note: Set switches toward option to be selected.

Figure 2-84: QRY18 Office Repeater pack - switch locations

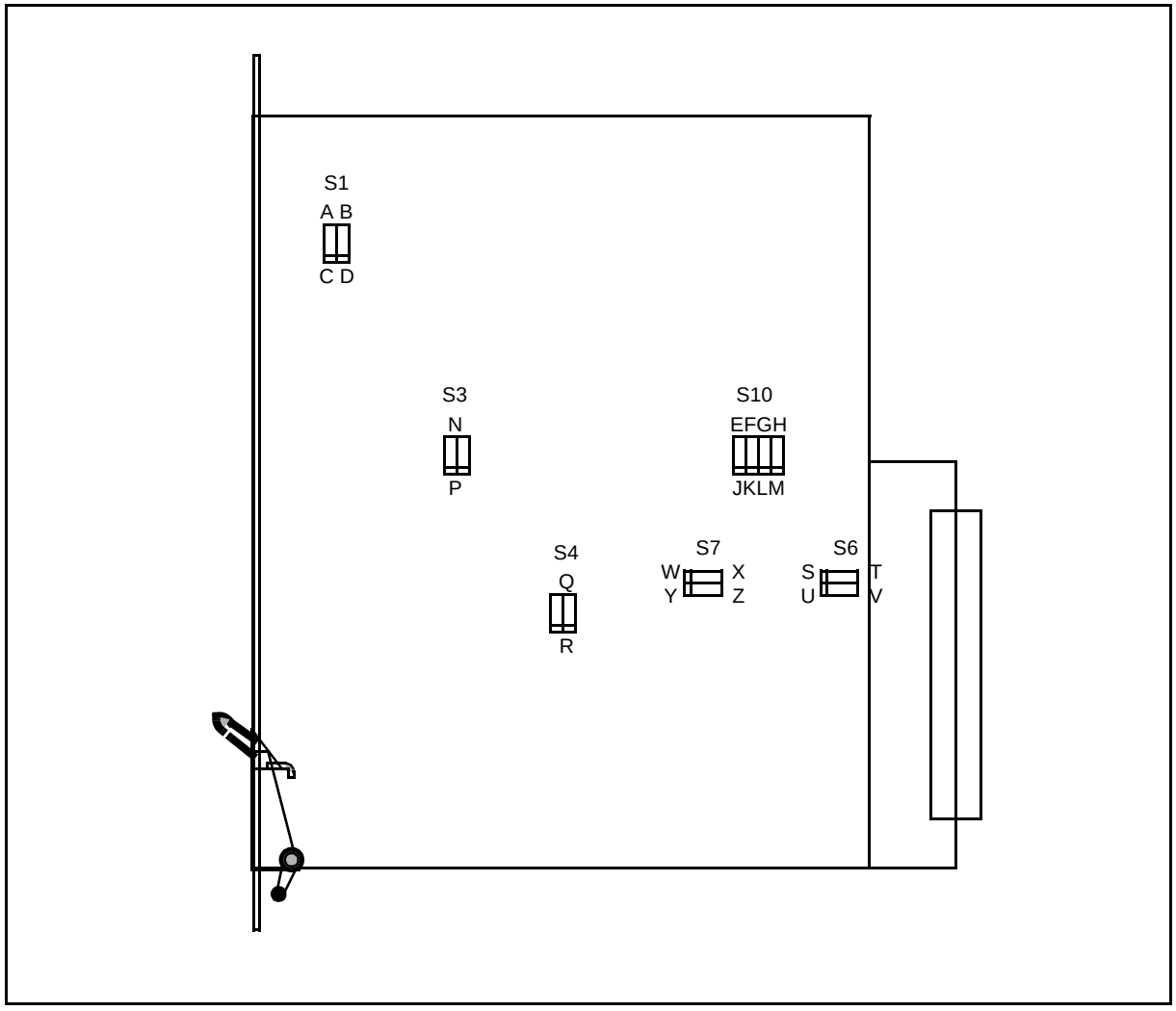


Table 2-DV: **QRY18 Office Repeater pack - switch settings for the line current option**	
Option	**Switch 1 Position**
60 mA	A, B
100 mA	C, B
140 mA	C, D

Note: Set switches toward option to be selected.

Table 2-DW:
QRY18 Office Repeater pack - switch settings for the line build-out option

Option	Switch 3 Position
Line build-out option OUT	N
Line build-out option IN	P

Note: Set switches toward option to be selected.

Table 2-DX:
QRY18 Office Repeater pack - switch settings for the fault/locate output option

Option	Switch 7 Position
Normal	W, Y
Side 1	Y, X
Side 2	W, Z

Note: Set switches toward option to be selected.

Table 2-DY:
QRY18 Office Repeater pack - switch settings for the signal loopback option

Option	Switch 6 Position
Loopback enabled	S, U
No loopback required	T, V

Note: Set switches toward option to be selected.

Table 2-DZ:
QRY18 Office Repeater pack - switch settings for the powering option

Option	Switch 10 Position
Two-cable system in all offices	E, K, G, M
One-cable system in powering office	J, F, L, H
One-cable system in looping office	J, F, L, H
One-cable system in “Through” office	J, F, G, M

Note: Set switches toward option to be selected.

Table 2-EA:
QRY18 Office Repeater pack - switch settings for the powering option (QRY18A through D, Series A and B only)

Option	Switch 10 Position
Two-cable system in all offices	J, F, G, M
One-cable system in powering office	J, F, L, H
One-cable system in looping office	J, F, L, H
One-cable system in “Through” office	E, K, G, M

Note: Set switches toward option to be selected.

Table 2-EB:
QRY18 Office Repeater pack - switch settings for the equalizer option

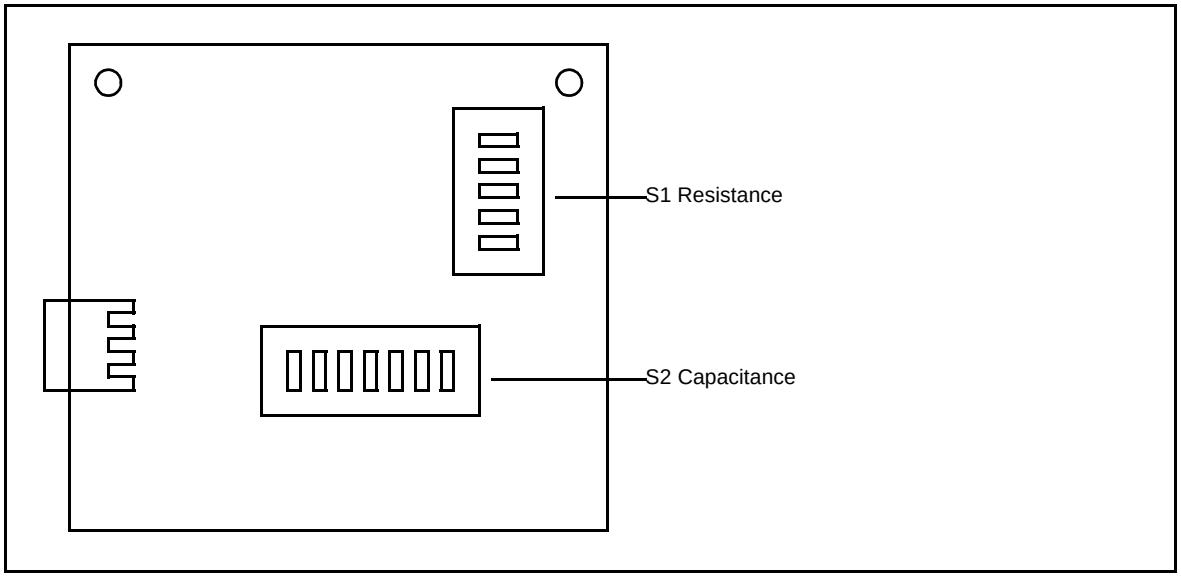
Option	Switch 4 Position
Equalizer IN	Q
Equalizer OUT	R

Note 1: Set switches toward option to be selected.

Note 2: The Equalizer switch is pre-set for QRY18A through D, Series A and B only.

Section 3: Switch settings for balance networks

Figure 3-1: NT2X77 Balance Network - switch locations



Note: *The Compromise Balance Networks NT2X77AA and AB have two switches: S1 for resistance settings and S2 for capacitance settings. The Compromise Balance Network NT2X77AC has one switch: S2 for capacitance settings only*

Table 3-A:
NT2X77 Balance Network - switch settings for 19-gauge end-section non-loaded cable

Length		**S1 Switches**					**S2 Switches**						
		1	**2**	**3**	**4**	**5**	**1**	**2**	**3**	**4**	**5**	**6**	**7**
Feet	Meters												
250	76.2	1	1	1	1	1	0	0	1	0	0	0	0
500	152.4	1	1	1	1	1	1	1	1	0	0	0	0
750	228.6	0	1	1	1	1	0	1	0	1	0	0	0

Table 3-A: (Continued)
NT2X77 Balance Network - switch settings for 19-gauge end-section non-loaded cable

Length		S1 Switches					S2 Switches						
		1	2	3	4	5	1	2	3	4	5	6	7
Feet	Meters												
1000	304.8	0	1	1	1	1	0	1	1	1	0	0	0
1500	457.2	0	1	1	1	1	0	0	1	0	1	0	0
2000	609.6	1	0	1	1	1	1	1	0	1	1	0	0
2500	762.0	1	0	1	1	1	1	0	0	0	0	1	0
3000	914.4	1	0	1	1	1	1	1	1	0	0	1	0
3500	1066.8	0	0	1	1	1	0	1	1	1	0	1	0
4000	1219.2	0	0	1	1	1	1	1	0	0	1	1	0
4500	1371.6	0	0	1	1	1	1	0	0	1	1	1	0
5000	1524.0	0	0	1	1	1	0	0	0	0	0	0	1
5500	1676.4	1	1	0	1	1	0	1	1	0	0	0	1
6000	1828.8	1	1	0	1	1	0	1	0	1	0	0	1
6500	1981.2	1	1	0	1	1	0	0	0	0	1	0	1
7000	2133.6	1	1	0	1	1	1	0	1	0	1	0	1
7500	2286.0	1	1	0	1	1	1	1	0	1	1	0	1
8000	2438.4	1	1	0	1	1	0	0	0	0	0	1	1
8500	2590.8	1	1	0	1	1	0	1	1	0	0	1	1
9000	2743.2	1	1	0	1	1	0	1	0	1	0	1	1

Note: *Settings: 1 = ON, 0 = OFF*

Table 3-B:
NT2X77 Balance Network - switch settings for 22-gauge end-section non-loaded cable

Length		S1 Switches					S2 Switches						
		1	2	3	4	5	1	2	3	4	5	6	7
Feet	Meters												
250	76.2	1	1	1	1	1	0	0	1	0	0	0	0
500	152.4	0	1	1	1	1	1	1	1	0	0	0	0
750	228.6	0	1	1	1	1	0	1	0	1	0	0	0
1000	304.8	1	0	1	1	1	1	0	1	1	0	0	0
1500	457.2	0	0	1	1	1	0	0	1	0	1	0	0
2000	609.6	0	0	1	1	1	1	0	0	1	1	0	0
2500	762.0	1	0	1	1	1	0	0	0	0	0	1	0
3000	914.4	0	1	0	1	1	1	0	1	0	0	1	0
3500	1066.8	0	1	0	1	1	1	1	0	1	0	1	0
4000	1219.2	1	0	0	1	1	1	0	0	0	1	1	0

Table 3-B: (Continued)
NT2X77 Balance Network - switch settings for 22-gauge end-section non-loaded cable

Length		S1 Switches					S2 Switches						
		1	2	3	4	5	1	2	3	4	5	6	7
Feet	Meters												
4500	1371.6	1	0	0	1	1	0	1	1	0	1	1	0
5000	1524.0	0	0	0	1	1	1	1	0	1	1	1	0
5500	1676.4	0	0	0	1	1	0	0	0	0	0	0	1
6000	1828.8	1	1	1	0	1	1	0	1	0	0	0	1
6500	1981.2	1	1	1	0	1	0	1	0	1	0	0	1
7000	2133.6	1	1	1	0	1	0	1	1	1	0	0	0
7500	2286.0	1	1	1	0	1	1	1	0	0	1	0	1
8000	2438.4	0	1	1	0	1	1	1	1	0	1	0	1
8500	2590.8	0	1	1	0	1	0	0	1	1	1	0	1
9000	2743.2	0	1	1	0	1	1	1	1	1	1	0	1

Note: *Settings: 1 = ON, 0 = OFF*

Table 3-C: -
NT2X77 Balance Network - switch settings for 24-gauge end-section non-loaded cable

Length		S1 Switches					S2 Switches						
		1	2	3	4	5	1	2	3	4	5	6	7
Feet	Meters												
250	76.2	0	1	1	1	1	0	0	1	0	0	0	0
500	152.4	0	1	1	1	1	1	1	1	0	0	0	0
750	228.6	1	0	1	1	1	0	1	0	1	0	0	0
1000	304.8	0	0	1	1	1	1	0	1	1	0	0	0
1500	457.2	1	1	0	1	1	1	1	0	0	1	0	0
2000	609.6	0	1	0	1	1	1	0	0	1	1	0	0
2500	762.0	1	0	0	1	1	0	1	1	1	1	0	0
3000	914.4	0	0	0	1	1	0	0	1	0	0	1	0
3500	1066.8	1	1	1	0	1	1	0	0	1	0	1	0
4000	1219.2	0	1	1	0	1	0	1	1	1	0	1	0
4500	1371.6	1	0	1	0	1	0	1	0	0	1	1	0
5000	1524.0	0	0	1	0	1	1	1	1	0	1	1	0
5500	1676.4	1	1	0	0	1	1	1	0	1	1	1	0
6000	1828.8	1	1	0	0	1	1	1	1	1	1	1	0
6500	1981.2	0	1	0	0	1	0	0	1	0	0	0	1
7000	2133.6	0	1	0	0	1	1	1	1	0	0	0	1
7500	2286.0	0	1	0	0	1	1	1	0	1	0	0	1

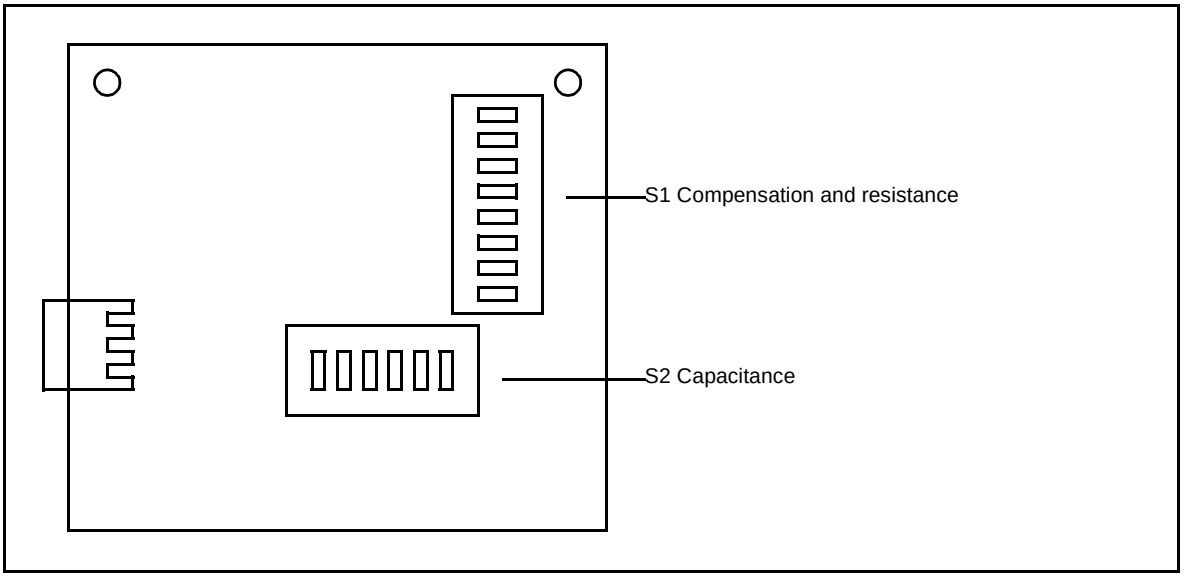
Table 3-C: - (Continued) **NT2X77 Balance Network - switch settings for 24-gauge end-section non-loaded cable**														
Length		**S1 Switches**					**S2 Switches**							
		1	**2**	**3**	**4**	**5**	**1**	**2**	**3**	**4**	**5**	**6**	**7**
Feet	Meters													
8000	2438.4	1	0	0	0	1	0	1	1	1	0	0	1
8500	2590.8	1	0	0	0	1	0	1	0	0	1	0	1
9000	2743.2	1	0	0	0	1	1	0	1	0	1	0	1

Note: *Settings: 1 = ON, 0 = OFF*

Table 3-D: **NT2X77 Balance Network - switch settings for 26-gauge end-section non-loaded cable**														
Length		**S1 Switches**					**S2 Switches**							
		1	**2**	**3**	**4**	**5**	**1**	**2**	**3**	**4**	**5**	**6**	**7**
Feet	Meters													
250	76.2	0	1	1	1	1	0	0	1	0	0	0	0
500	152.4	1	0	1	1	1	1	1	1	0	0	0	0
750	228.6	0	0	1	1	1	0	1	0	1	0	0	0
1000	304.8	1	1	0	1	1	1	0	1	1	0	0	0
1500	457.2	1	0	0	1	1	0	1	0	0	1	0	0
2000	609.6	1	1	1	0	1	0	0	0	1	1	0	0
2500	762.0	1	0	1	0	1	0	0	1	1	1	0	0
3000	914.4	1	1	0	0	1	1	0	0	0	0	1	0
3500	1066.8	1	0	0	0	1	0	1	1	0	0	1	0
4000	1219.2	0	0	0	0	1	0	1	0	1	0	1	0
4500	1371.6	1	1	1	1	0	0	1	1	1	0	1	0
5000	1524.0	1	0	1	1	0	1	0	0	0	1	1	0
5500	1676.4	0	0	1	1	0	1	0	0	0	1	1	0
6000	1828.8	1	1	0	1	0	0	0	0	1	1	1	0
6500	1981.2	0	1	0	1	0	1	1	0	1	1	1	0
7000	2133.6	1	0	0	1	0	0	1	1	1	1	1	0
7500	2286.0	1	0	0	1	0	1	0	0	0	0	0	1
8000	2438.4	0	0	0	1	0	0	0	1	0	0	0	1
8500	2590.8	0	0	0	1	0	0	1	1	0	0	0	1
9000	2743.2	0	0	0	1	0	1	0	0	1	0	0	1

Note: *Settings: 1 = ON, 0 = OFF*

Figure 3-2: NT2X80AA Balance Network - switch locations



Note: *For configurations A-C, S1 is located to the bottom right and S2 is located to the top left, facing the component side of the card with the socket to the top. For configuration D, S2 is located to the bottom right and S1 is located to the top left, facing the component side of the card with the socket to the bottom.*

Table 3-E:
NT2X80AA Balance Network - switch settings for 19-gauge end-section H88 loaded cable

Length		**S1 Switches**								**S2 Switches**					
		1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**1**	**2**	**3**	**4**	**5**	**6**
		8	**7**	**6**	**5**	**4**	**3**	**2**	**1**	**6**	**5**	**4**	**3**	**2**	**1**
Feet	Meters														
125	38.1	1	1	0	1	1	1	1	1	0	0	0	0	0	0
375	114.3	1	1	0	1	1	1	1	1	0	0	0	0	0	0
625	190.5	1	1	0	1	1	1	1	1	1	0	0	0	0	0
875	266.7	1	1	0	1	1	1	1	1	0	0	0	0	0	0
1125	342.9	1	1	0	1	1	1	1	1	0	0	0	0	0	0
1375	419.1	1	1	0	1	1	1	1	1	1	1	0	0	0	0
1625	495..3	1	1	0	1	1	1	1	1	0	1	1	0	0	0
1875	571.5	1	1	0	1	1	1	1	1	0	1	0	1	0	0
2125	647.7	1	1	0	0	1	1	1	1	1	0	1	1	0	0
2375	723.9	1	1	0	0	1	1	1	1	0	0	0	0	1	0
2625	800.1	1	1	0	0	1	1	1	1	0	0	1	0	1	0
2875	876.3	1	1	0	0	1	1	1	1	1	1	1	0	1	0

Table 3-E: (Continued)
NT2X80AA Balance Network - switch settings for 19-gauge end-section H88 loaded cable

Length		S1 Switches								S2 Switches					
		1 8	2 7	3 6	4 5	5 4	6 3	7 2	8 1	1 6	2 5	3 4	4 3	5 2	6 1
Feet	Meters														
3125	952.5	1	1	0	0	1	1	1	1	1	1	0	1	1	0
3375	1028.7	1	1	0	0	1	1	1	1	0	1	1	1	1	0
3625	1104.9	1	1	0	1	0	1	1	1	0	1	0	0	0	1
3875	1181.1	1	1	0	1	0	1	1	1	0	0	1	0	0	1
4125	1257.4	1	1	0	1	0	1	1	1	0	0	1	1	0	1
4375	1333.5	1	1	0	1	0	1	1	1	1	1	0	1	0	1
4625	1409.7	1	1	0	1	0	1	1	1	0	1	1	1	0	1
4875	1485.9	1	1	0	1	0	1	1	1	0	1	0	0	1	1
5125	1562.1	1	1	0	0	0	1	1	1	1	0	1	0	1	1
5375	1638.3	1	1	0	0	0	1	1	1	0	0	0	1	1	1
5625	1714.5	1	1	0	0	0	1	1	1	1	1	0	1	1	1
5875	1790.7	1	1	0	0	0	1	1	1	0	1	1	1	1	1
6000	1828.8	1	1	0	1	1	0	1	1	1	1	1	1	1	1

Note 1: Settings: 1 = ON, 0 = OFF

Note 2: Top setting (1 through 8) for configurations A, B, and D. Bottom setting (8 through 1) for configuration C.

Table 3-F:
NT2X80AA Balance Network - switch settings for 22-gauge end-section H88 loaded cable

Length		S1 Switches								S2 Switches					
		1 8	2 7	3 6	4 5	5 4	6 3	7 2	8 1	1 6	2 5	3 4	4 3	5 2	6 1
Feet	Meters														
125	38.1	1	0	0	1	1	1	1	1	0	0	0	0	0	0
375	114.3	1	0	0	1	1	1	1	1	0	0	0	0	0	0
625	190.5	1	0	0	1	1	1	1	1	0	0	0	0	0	0
875	266.7	1	0	0	1	1	1	1	1	0	0	0	0	0	0
1125	342.9	1	0	0	1	1	1	1	1	1	0	0	0	0	0
1375	419.1	1	0	0	1	1	1	1	1	1	0	1	0	0	0
1625	495.3	1	0	0	0	1	1	1	1	0	0	0	1	0	0
1875	571.5	1	0	0	1	1	1	1	1	1	1	0	1	0	0
2125	647.7	1	0	0	1	1	1	1	1	1	1	1	1	0	0
2375	723.9	1	0	0	1	0	1	1	1	0	1	0	0	1	0
2625	800.1	1	0	0	1	0	1	1	1	1	0	1	0	1	0

Table 3-F: (Continued)
NT2X80AA Balance Network - switch settings for 22-gauge end-section H88 loaded cable

Length		S1 Switches								S2 Switches					
		1 8	2 7	3 6	4 5	5 4	6 3	7 2	8 1	1 6	2 5	3 4	4 3	5 2	6 1
Feet	Meters														
2875	876.3	1	0	0	0	0	1	1	1	0	0	0	1	1	0
3125	952.5	1	0	0	0	0	1	1	1	1	1	0	1	1	0
3375	1028.7	1	0	0	1	1	0	1	1	0	1	1	1	1	0
3625	1104.9	1	0	0	1	1	0	1	1	1	0	0	0	0	1
3875	1181.1	1	0	0	0	1	0	1	1	0	0	1	0	0	1
4125	1257.4	1	0	0	0	1	0	1	1	1	1	1	0	0	1
4375	1333.5	1	0	0	0	1	0	1	1	0	1	0	1	0	1
4625	1409.7	1	0	0	1	0	0	1	1	1	1	1	0	0	1
4875	1485.9	1	0	0	1	0	0	1	1	1	1	0	0	1	1
5125	1562.1	1	0	0	1	0	0	1	1	1	1	0	0	1	1
5375	1638.3	1	0	0	0	0	0	1	1	0	1	1	0	1	1
5625	1714.5	1	0	0	0	0	0	1	1	0	0	0	1	1	1
5875	1790.7	1	0	0	0	0	0	1	1	1	1	0	1	1	1
6000	1828.8	1	0	0	1	1	1	0	1	0	1	1	1	1	1

Note 1: Settings: 1 = ON, 0 = OFF

Note 2: Top setting (1 through 8) for configurations A, B, and D. Bottom setting (8 through 1) for configuration C.

Table 3-G:
NT2X80AA Balance Network - switch settings for 24-gauge end-section H88 loaded cable

Length		S1 Switches								S2 Switches					
		1 8	2 7	3 6	4 5	5 4	6 3	7 2	8 1	1 6	2 5	3 4	4 3	5 2	6 1
Feet	Meters														
125	38.1	0	1	0	1	1	1	1	1	0	0	0	0	0	0
375	114.3	0	1	0	1	1	1	1	1	0	0	0	0	0	0
625	190.5	0	1	0	1	1	1	1	1	0	0	0	0	0	0
875	266.7	0	1	0	1	1	1	1	1	0	0	0	0	0	0
1125	342.9	0	1	0	1	1	1	1	1	1	0	0	0	0	0
1375	419.1	0	1	0	0	1	1	1	1	1	0	1	0	0	0
1625	495.3	0	1	0	1	0	1	1	1	0	0	0	1	0	0
1875	571.5	0	1	0	1	0	1	1	1	1	1	0	1	0	0
2125	647.7	0	1	0	0	0	1	1	1	1	1	1	1	0	0
2375	723.9	0	1	0	0	0	1	1	1	0	1	0	0	1	0

Table 3-G: (Continued)
NT2X80AA Balance Network - switch settings for 24-gauge end-section H88 loaded cable

Length		S1 Switches								S2 Switches					
		1 8	2 7	3 6	4 5	5 4	6 3	7 2	8 1	1 6	2 5	3 4	4 3	5 2	6 1
Feet	Meters														
2625	800.1	0	1	0	1	1	0	1	1	1	0	1	0	1	0
2875	876.3	0	1	0	1	1	0	1	1	0	0	0	1	1	0
3125	952.5	0	1	0	0	1	0	1	1	1	1	0	1	1	0
3375	1028.7	0	1	0	1	0	0	1	1	1	0	1	1	1	0
3625	1104.9	0	1	0	0	0	0	1	1	0	0	0	0	0	1
3875	1181.1	0	1	0	0	0	0	1	1	1	1	0	0	0	1
4125	1257.4	0	1	0	1	1	1	0	1	0	1	1	0	0	1
4375	1333.5	0	1	0	1	1	1	0	1	1	0	0	1	0	1
4625	1409.7	0	1	0	0	1	1	0	1	1	1	0	1	0	1
4875	1485.9	0	1	0	0	1	1	0	1	0	1	1	1	0	1
5125	1562.1	0	1	0	1	0	1	0	1	0	0	0	0	1	1
5375	1638.3	0	1	0	1	0	1	0	1	1	1	0	0	1	1
5625	1714.5	0	1	0	0	0	1	0	1	1	0	1	0	1	1
5875	1790.7	0	1	0	0	0	1	0	1	0	0	0	1	1	1
6000	1828.8	0	1	0	0	0	1	0	1	1	1	0	1	1	1

Note 1: Settings: 1 = ON, 0 = OFF

Note 2: Top setting (1 through 8) for configurations A, B, and D. Bottom setting (8 through 1) for configuration C.

Table 3-H:
NT2X80AA Balance Network - switch settings for 26-gauge end-section H88 loaded cable

Length		S1 Switches								S2 Switches					
		1 8	2 7	3 6	4 5	5 4	6 3	7 2	8 1	1 6	2 5	3 4	4 3	5 2	6 1
Feet	Meters														
125	38.1	0	0	1	1	1	1	1	1	0	0	0	0	0	0
375	114.3	0	0	1	1	1	1	1	1	0	0	0	0	0	0
625	190.5	0	0	1	1	1	1	1	1	0	0	0	0	0	0
875	266.7	0	0	1	1	1	1	1	1	0	0	0	0	0	0
1125	342.9	0	0	1	1	1	1	1	1	1	0	0	0	0	0
1375	419.1	0	0	1	1	1	1	1	1	1	0	1	0	0	0
1625	495.3	0	0	1	0	0	1	1	1	0	0	0	1	0	0
1875	571.5	0	0	1	1	1	0	1	1	1	1	0	1	0	0
2125	647.7	0	0	1	0	1	0	1	1	0	1	1	1	0	0

Table 3-H:
NT2X80AA Balance Network - switch settings for 26-gauge end-section H88 loaded cable

Length		S1 Switches								S2 Switches					
		1 8	2 7	3 6	4 5	5 4	6 3	7 2	8 1	1 6	2 5	3 4	4 3	5 2	6 1
Feet	Meters														
2375	723.9	0	0	1	1	0	0	1	1	1	0	0	0	1	0
2625	800.1	0	0	1	0	0	0	1	1	1	1	0	0	1	0
2875	876.3	0	0	1	1	1	1	0	1	0	1	1	0	1	0
3125	952.5	0	0	1	0	1	1	0	1	1	0	0	1	1	0
3375	1028.7	0	0	1	1	0	1	0	1	1	1	0	1	1	0
3625	1104.9	0	0	1	0	0	1	0	1	0	1	1	1	1	0
3875	1181.1	0	0	1	1	1	0	0	1	1	0	0	0	0	1
4125	1257.4	0	0	1	0	1	0	0	1	1	1	0	0	0	1
4375	1333.5	0	0	1	0	1	0	0	1	1	0	1	0	0	1
4625	1409.7	0	0	1	1	0	0	0	1	0	0	0	1	0	1
4875	1485.9	0	0	1	0	0	0	0	1	0	1	0	1	0	1
5125	1562.1	0	0	1	1	1	1	1	0	0	0	1	1	0	1
5375	1638.3	0	0	1	1	1	1	1	0	0	1	1	1	0	1
5625	1714.5	0	0	1	0	1	1	1	0	0	0	0	0	1	1
5875	1790.7	0	0	1	1	0	1	1	0	0	1	0	0	1	1
6000	1828.8	0	0	1	1	0	1	1	0	0	0	1	0	1	1

Note 1: Settings: 1 = ON, 0 = OFF

Note 2: Top setting (1 through 8) for configurations A, B, and D. Bottom setting (8 through 1) for configuration C.

Figure 3-3: QNB65A Balance Network - switch locations

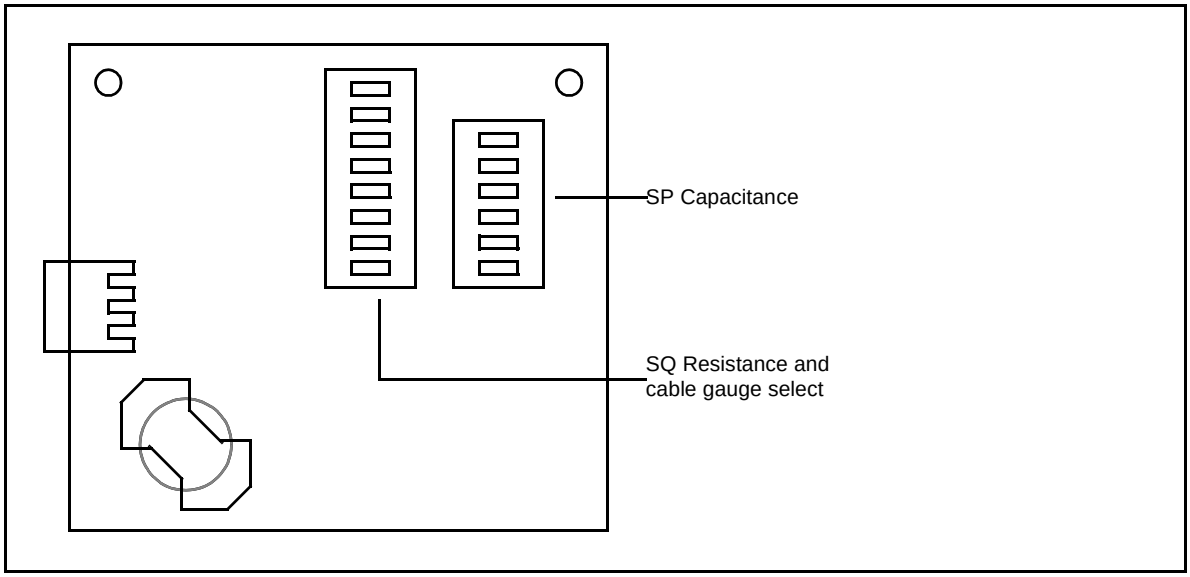


Table 3-I:
QNB65A Balance Network - switch settings for 19-gauge end-section H88 loaded cable

Length		Capacitance (μF)	SP Switches				Resistance (Ω)	SQ Switches				
			1	2	3	4		1	2	3	4	5
			5	6				6	7	8		
Ft X 1000	Meters											
1.2-1.3	366-396	0.0	0 0	0 0	0	0	0	1 1	1 1	1 1	1	1
1.3-1.5	396-457	2.250	0 0	1 0	0	0	0	1 1	1 1	1 1	1	1
1.5-1.7	457-518	5.625	1 0	0 0	1	0	0	1 1	1 1	1 1	1	1
1.7-1.9	518-579	9.000	0 0	0 0	0	1	0	1 1	1 1	1 1	1	1
1.9-2.0	579-610	11.250	0 0	1 0	0	1	0	1 1	1 1	1 1	1	1
2.0-2.1	610-640	12.375	1 0	1 0	0	1	0	1 1	1 1	1 1	1	1
2.1-2.2	640-671	13.500	0 0	0 0	1	1	0	1 1	1 1	1 1	1	1
2.2-2.3	671-701	15.750	0 0	1 0	1	1	0	1 1	1 1	1 1	1	1
2.3-2.5	701-762	16.875	1 0	1 0	1	1	0	1 1	1 1	1 1	1	1

Table 3-I: (Continued)
QNB65A Balance Network - switch settings for 19-gauge end-section H88 loaded cable

Length		Capacitance (μF)	SP Switches				Resistance (Ω)	SQ Switches				
			1 5	2 6	3	4		1 6	2 7	3 8	4	5
Ft X 1000	Meters											
2.5-2.6	762-793	18.000	0 1	0 0	0	0	0	1 1	1 1	1 1	1	1
2.6-2.7	793-823	19.125	1 1	0 0	0	0	0	1 1	1 1	1 1	1	1
2.7-2.8	823-854	23.625	1 1	0 0	1	0	0	1 1	1 1	1 1	1	1
2.8-2.9	854-884	24.750	0 1	1 0	1	0	0	1 1	1 1	1 1	1	1
2.9-3.0	884-914	25.875	1 1	1 0	1	0	0	1 1	1 1	1 1	1	1
3.0-3.1	914-944	28.125	1 1	0 0	0	1	0	1 1	1 1	1 1	1	1
3.1-3.2	944-975	29.250	0 1	1 0	0	1	0	1 1	1 1	1 1	1	1
3.2-3.3	975-1005	30.325	1 1	1 0	0	1	0	1 1	1 1	1 1	1	1
3.3-3.4	1005-1036	31.500	0 1	0 0	1	1	0	1 1	1 1	1 1	1	1
3.4-3.5	1036-1066	33.750	0 1	1 0	1	1	20	1 1	1 1	1 1	0	1
3.5-3.6	1066-1097	34.875	1 1	1 0	1	1	20	1 1	1 1	1 1	0	1
3.6-3.7	1097-1127	36.000	0 0	0 1	0	0	20	1 1	1 1	1 1	0	1
3.7-3.8	1127-1158	37.125	1 0	0 1	0	0	20	1 1	1 1	1 1	0	1
3.8-3.9	1158-1188	39.375	1 0	1 1	0	0	20	1 1	1 1	1 1	0	1
3.9-4.0	1188-1219	40.500	0 0	0 1	1	0	20	1 1	1 1	1 1	0	1
4.0-4.2	1219-1280	42.750	0 0	1 1	1	0	40	1 1	1 1	1 1	1	0
4.2-4.4	1280-1341	46.125	1 0	0 1	0	1	40	1 1	1 1	1 1	1	0
4.4-4.6	1341-1402	48.375	1 0	1 1	0	1	40	1 1	1 1	1 1	1	0

Table 3-I: (Continued)
QNB65A Balance Network - switch settings for 19-gauge end-section H88 loaded cable

Length		Capacitance (μF)	SP Switches				Resistance (Ω)	SQ Switches				
			1 5	2 6	3	4		1 6	2 7	3 8	4	5
Ft X 1000	Meters											
4.6-4.8	1402-1463	50.625	1 0	0 1	1	1	60	1 1	1 1	1 1	0	0
4.8-5.0	1463-1524	55.125	1 1	0 1	0	0	60	1 1	1 1	1 1	0	0
5.0-5.2	1524-1585	57.375	1 1	1 1	0	0	80	1 0	1 1	1 1	1	1
5.2-5.4	1585-1646	60.750	0 1	1 1	1	0	80	1 0	1 1	1 1	1	1
5.4-5.6	1646-1707	63.000	0 1	0 1	0	1	80	1 0	1 1	1 1	1	1
5.6-5.8	1707-1768	66.375	1 1	1 1	0	1	80	1 0	1 1	1 1	1	1
5.8-6.0	1768-1829	69.750	0 1	1 1	1	1	80	1 0	1 1	1 1	1	1

Note: *Settings: 1 = ON, 0 = OFF*

Table 3-J:
QNB65A Balance Network - switch settings for 22-gauge end-section H88 loaded cable

Length		Capacitance(μF)	SP Switches				Resistance(Ω)	SQ Switches				
			1 5	2 6	3	4		1 6	2 7	3 8	4	5
Ft X 1000	Meters											
1.2-1.3	366-396	0.0	0 0	0 0	0	0	40	1 1	1 1	1 1	1	0
1.3-1.5	396-457	2.250	0 0	1 0	0	0	40	1 1	1 1	1 1	1	0
1.5-1.7	457-518	4.500	0 0	0 0	1	0	40	1 1	1 1	1 1	1	0
1.7-1.9	518-579	7.875	1 0	1 0	1	0	60	1 1	1 1	1 1	1	0
1.9-2.0	579-610	10.125	1 0	0 0	0	1	60	1 1	1 1	1 1	1	0
2.0-2.1	610-640	11.250	0 0	1 0	0	1	60	1 1	1 1	1 1	1	0

Table 3-J: (Continued)
QNB65A Balance Network - switch settings for 22-gauge end-section H88 loaded cable

Length		Capacitance(μF)	SP Switches				Resistance(Ω)	SQ Switches				
			1 5	2 6	3	4		1 6	2 7	3 8	4	5
Ft X 1000	Meters											
2.1-2.2	640-671	13.500	0 0	0 0	1	1	60	1 1	1 1	1 1	1	0
2.2-2.3	671-701	14.625	1 0	0 0	1	1	60	1 1	1 1	1 1	1	0
2.3-2.4	701-732	15.750	0 0	1 0	1	1	60	1 1	1 1	1 1	1	0
2.4-2.5	732-762	18.000	0 1	0 0	0	0	60	1 1	1 1	1 1	1	0
2.5-2.6	762-793	19.125	1 1	0 0	0	0	60	1 1	1 1	1 1	1	0
2.6-2.7	793-823	20.250	0 1	1 0	0	0	60	1 1	1 1	1 1	1	0
2.7-2.8	823-854	22.500	0 1	0 0	1	0	60	1 1	1 1	1 1	1	0
2.8-2.9	854-884	23.625	1 1	0 0	1	0	60	1 1	1 1	1 1	1	0
2.9-3.0	884-914	25.875	1 1	1 0	1	0	80	1 0	1 1	1 1	1	1
3.0-3.1	914-944	27.000	0 1	0 0	0	1	80	1 0	1 1	1 1	1	1
3.1-3.2	944-975	28.125	1 1	0 0	0	1	80	1 0	1 1	1 1	1	1
3.2-3.3	975-1005	29.250	0 1	1 0	0	1	80	1 0	1 1	1 1	1	1
3.3-3.4	1005-1036	31.500	0 1	0 0	1	1	80	1 0	1 1	1 1	1	1
3.4-3.5	1036-1066	32.625	1 1	0 0	1	1	80	1 0	1 1	1 1	1	1
3.5-3.6	1066-1097	33.750	0 1	1 0	1	1	80	1 0	1 1	1 1	1	1
3.6-3.7	1097-1127	36.000	0 0	0 1	0	0	100	1 0	1 1	1 1	0	1

Table 3-J: (Continued)
QNB65A Balance Network - switch settings for 22-gauge end-section H88 loaded cable

Length		Capacitance(μF)	SP Switches				Resistance(Ω)	SQ Switches				
			1	2	3	4		1	2	3	4	5
			5	6				6	7	8		
Ft X 1000	Meters											
3.7-3.8	1127-1158	37.125	1 0	0 1	0	0	100	1 0	1 1	1 1	0	1
3.8-3.9	1158-1188	38.250	0 0	1 1	0	0	100	1 0	1 1	1 1	0	1
3.9-4.0	1188-1219	39.375	1 0	1 1	0	0	100	1 0	1 1	1 1	0	1
4.0-4.2	1219-1280	41.625	1 0	0 1	1	0	120	1 0	1 1	1 1	1	0
4.2-4.4	1280-1341	43.875	1 0	1 1	1	0	120	1 0	1 1	1 1	1	0
4.4-4.6	1341-1402	47.250	0 0	1 1	0	1	120	1 0	1 1	1 1	1	0
4.6-4.8	1402-1463	49.500	0 0	0 1	1	1	140	1 0	1 1	1 1	0	0
4.8-5.0	1463-1524	51.750	0 0	1 1	1	1	140	1 0	1 1	1 1	0	0
5.0-5.2	1524-1585	55.125	1 1	0	0	01	140	1 0	1 1	1 1	0	0
5.2-5.4	1585-1646	57.375	1 1	1 1	0	0	160	1 1	1 0	1 1	1	1
5.4-5.6	1646-1707	59.625	1 1	0 1	1	0	160	1 1	1 0	1 1	1	1
5.6-5.8	1707-1768	63.000	0 1	0 1	0	1	180	1 1	1 0	1 1	1	1
5.8-6.0	1768-1829	65.250	0 1	1 1	0	1	180	1 1	1 0	1 1	1	1

Note: Settings: 1 = ON, 0 = OFF

Table 3-K:
QNB65A Balance Network - switch settings for 24-gauge end-section H88 loaded cable

Length		Capacitance(μF)	SP Switches				Resistance(Ω)	SQ Switches				
			1 5	2 6	3	4		1 6	2 7	3 8	4	5
Ft X 1000	Meters											
1.2-1.3	366-396	0.0	0 0	0 0	0	0	0	1 1	1 1	1 1	1	1
1.3-1.5	396-457	3.375	1 0	1 0	0	0	20	1 1	1 1	1 1	0	1
1.5-1.7	457-518	4.500	0 0	0 0	1	0	20	1 1	1 1	1 1	0	1
1.7-1.9	518-579	9.000	0 0	0 0	0	1	40	1 1	1 1	1 1	1	0
1.9-2.0	579-610	11.250	0 0	1 0	0	1	40	1 1	1 1	1 1	1	0
2.0-2.1	610-640	12.375	1 0	1 0	0	1	60	1 1	1 1	1 1	0	0
2.1-2.2	640-671	14.625	1 0	0 0	1	1	60	1 1	1 1	1 1	0	0
2.2-2.3	671-701	15.750	0 0	1 0	1	1	60	1 1	1 1	1 1	0	0
2.3-2.4	701-732	18.000	0 1	0 0	0	0	60	1 1	1 1	1 1	0	0
2.4-2.5	732-762	19.125	1 1	0 0	0	0	80	1 0	1 1	1 1	1	1
2.5-2.6	762-793	20.250	0 1	1 0	0	0	80	1 0	1 1	1 1	1	1
2.6-2.7	793-823	21.375	1 1	1 0	0	0	80	1 0	1 1	1 1	1	1
2.7-2.8	823-854	23.625	1 1	0 0	1	0	80	1 0	1 1	1 1	1	1
2.8-2.9	854-884	24.750	0 1	1 0	1	0	100	1 0	1 1	1 1	0	1
2.9-3.0	884-914	25.875	1 1	1 0	1	0	100	1 0	1 1	1 1	0	1
3.0-3.1	914-944	28.125	1 1	0 0	0	1	100	1 0	1 1	1 1	0	1

Table 3-K: (Continued)
QNB65A Balance Network - switch settings for 24-gauge end-section H88 loaded cable

Length		Capacitance(μF)	SP Switches				Resistance(Ω)	SQ Switches				
			1 5	2 6	3	4		1 6	2 7	3 8	4	5
Ft X 1000	Meters											
3.1-3.2	944-975	29.250	0 1	1 0	0	1	100	1 0	1 1	1 1	0	1
3.2-3.3	975-1005	30.375	1 1	1 0	0	1	120	1 0	1 1	1 1	1	0
3.3-3.4	1005-1036	31.500	0 1	0 0	1	1	120	1 0	1 1	1 1	1	0
3.4-3.5	1036-1066	33.750	0 1	1 0	1	1	120	1 0	1 1	1 1	1	0
3.5-3.6	1066-1097	34.875	1 1	1 0	1	1	120	1 0	1 1	1 1	1	0
3.6-3.7	1097-1127	36.000	0 0	0 1	0	0	140	1 0	1 1	1 1	0	0
3.7-3.8	1127-1158	38.250	0 0	1 1	0	0	140	1 0	1 1	1 1	0	0
3.8-3.9	1158-1188	39.375	1 0	1 1	0	0	140	1 0	1 1	1 1	0	0
3.9-4.0	1188-1219	40.500	0 0	0 1	1	0	140	1 0	1 1	1 1	0	0
4.0-4.2	1219-1280	42.750	0 0	1 1	1	0	160	1 1	1 0	1 1	1	1
4.2-4.4	1280-1341	46.125	1 0	0 1	0	1	160	1 1	1 0	1 1	1	1
4.4-4.6	1341-1402	48.375	1 0	1 1	0	1	180	1 1	1 0	1 1	0	1
4.6-4.8	1402-1463	50.625	1 0	0 1	1	1	180	1 1	1 0	1 1	0	1
4.8-5.0	1463-1524	54.000	0 1	0 1	0	0	200	1 1	1 0	1 1	1	0
5.0-5.2	1524-1585	56.250	0 1	1 1	0	0	200	1 1	1 0	1 1	1	0
5.2-5.4	1585-1646	59.625	1 1	0 1	1	0	220	1 1	1 0	1 1	0	0
5.4-5.6	1646-1707	61.875	1 1	1 1	1	0	220	1 1	1 0	1 1	0	0

Table 3-K: (Continued)
QNB65A Balance Network - switch settings for 24-gauge end-section H88 loaded cable

Length		Capacitance(μF)	SP Switches 1 5	2 6	3	4	Resistance(Ω)	SQ Switches 1 6	2 7	3 8	4	5
Ft X 1000	Meters											
5.6-5.8	1707-1768	65.250	0 1	1 1	0	1	240	1 0	1 0	1 1	1	1
5.8-6.0	1768-1829	67.500	0 1	0 1	1	1	240	1 0	1 0	1 1	1	1

Note: Settings: 1 = ON, 0 = OFF

Table 3-L:
QNB65A Balance Network - switch settings for 26-gauge end-section H88 loaded cable

Length		Capacitance(μF)	SP Switches 1 5	2 6	3	4	Resistance (Ω)	SQ Switches 1 6	2 7	3 8	4	5
Ft X 1000	Meters											
1.2-1.3	366-396	3.365	1 0	1 0	0	0	60	1 1	1 1	1 1	0	0
1.3-1.5	396-457	4.500	0 0	0 0	1	0	80	1 0	1 1	1 1	1	1
1.5-1.7	457-518	6.750	0 0	1 0	1	0	100	1 0	1 1	1 1	0	1
1.7-1.9	518-579	10.125	1 0	0 0	0	1	120	1 0	1 1	1 1	1	0
1.9-2.0	579-610	12.375	1 0	1 0	0	1	120	1 0	1 1	1 1	1	0
2.0-2.1	610-640	13.500	0 0	0 0	1	1	14	1 0	1 1	1 1	0	0
2.1-2.2	640-671	15.759	0 0	1 0	1	1	140	1 0	1 1	1 1	0	0
2.2-2.3	671-701	16.875	1 0	1 0	1	1	140	1 0	1 1	1 1	0	0
2.3-2.4	701-732	18.000	0 1	0 0	0	0	160	1 1	1 0	1 1	1	1
2.4-2.5	732-762	19.125	1 1	0 0	0	0	160	1 1	1 0	1 1	1	1

Table 3-L: (Continued)
QNB65A Balance Network - switch settings for 26-gauge end-section H88 loaded cable

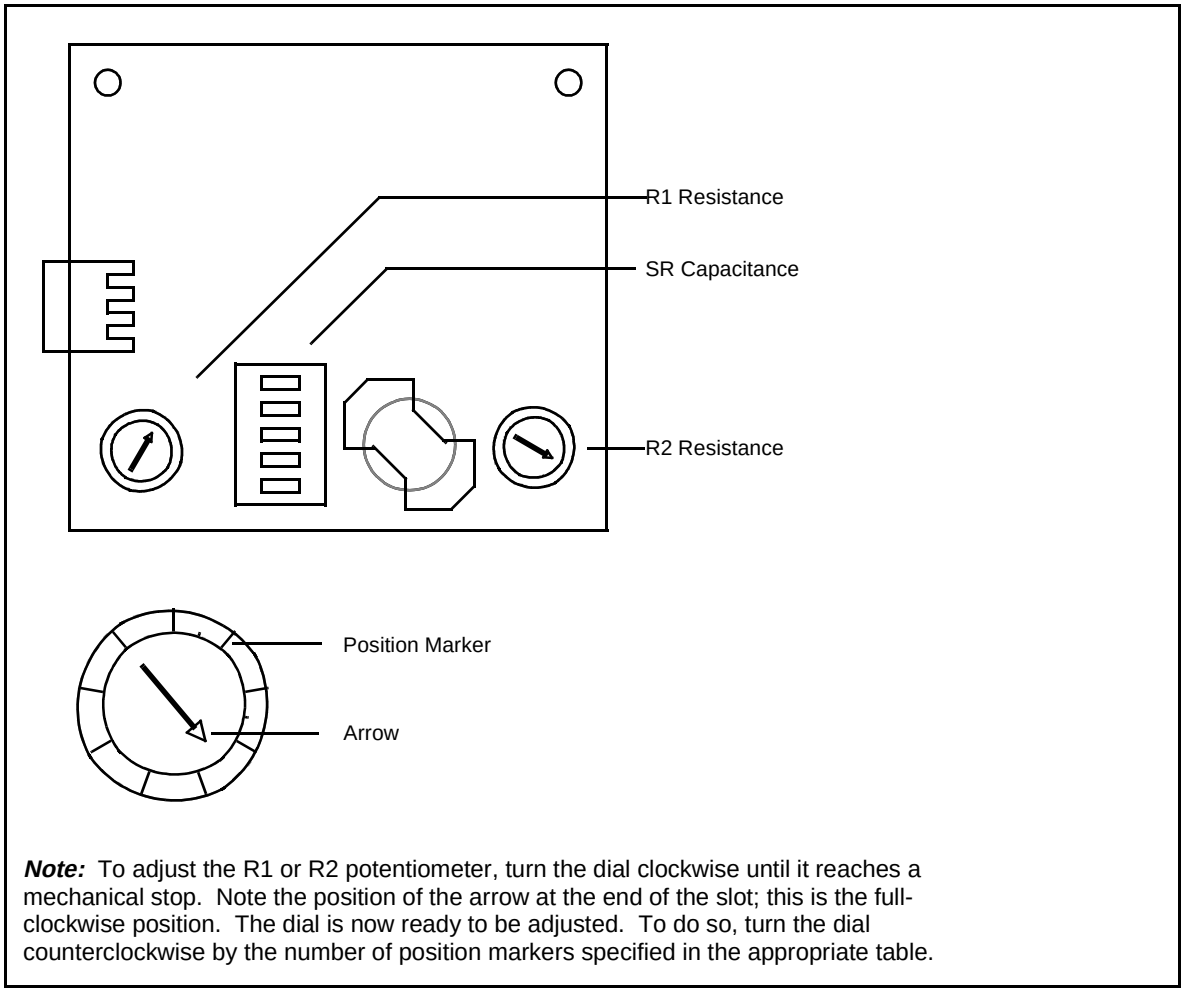
Length		Capacitance(μF)	SP Switches				Resistance (Ω)	SQ Switches				
			1 5	2 6	3	4		1 6	2 7	3 8	4	5
Ft X 1000	Meters											
2.5-2.6	762-793	20.250	0 1	1 0	0	0	180	1 1	1 0	1 1	0	1
2.6-2.7	793-823	21.375	1 1	1 0	0	0	180	1 1	1 0	1 1	0	1
2.7-2.8	823-854	22.500	0 1	0 0	1	0	180	1 1	1 0	1 1	0	1
2.8-2.9	854-884	23.625	1 1	0 0	1	0	200	1 1	1 0	1 1	1	0
2.9-3.0	884-914	24.750	0 1	1 0	1	0	200	1 1	1 0	1 1	1	0
3.0-3.1	914-944	25.875	1 1	1 0	1	0	220	1 1	1 0	1 1	0	0
3.1-3.2	944-975	27.000	0 1	0 0	0	1	220	1 1	1 0	1 1	0	0
3.2-3.3	975-1005	28.125	1 1	0 0	0	1	220	1 1	1 0	1 1	0	0
3.3-3.4	1005-1036	29.250	0 1	1 0	0	1	240	1 0	1 0	1 1	1	1
3.4-3.5	1036-1066	30.375	1 1	1 0	0	1	240	1 0	1 0	1 1	1	1
3.5-3.6	1066-1097	31.500	0 1	0 0	1	1	260	1 0	1 0	1 1	0	1
3.6-3.7	1097-1127	32.625	1 1	0 0	1	1	260	1 0	1 0	1 1	0	1
3.7-3.8	1127-1158	33.750	0 1	1 0	1	1	260	1 0	1 0	1 1	0	1
3.8-3.9	1158-1188	34.875	1 1	1 0	1	1	280	1 0	1 0	1 1	1	0
3.9-4.0	1188-1219	36.000	0 0	0 1	0	0	280	1 0	1 0	1 1	1	0
4.0-4.2	1219-1280	38.250	0 0	0 1	0	0	280	1 0	1 0	1 1	1	0

Table 3-L: (Continued)
QNB65A Balance Network - switch settings for 26-gauge end-section H88 loaded cable

Length		Capacitance(μF)	SP Switches				Resistance (Ω)	SQ Switches				
			1 5	2 6	3	4		1 6	2 7	3 8	4	5
Ft X 1000	Meters											
4.2-4.4	1280-1341	40.500	0 0	0 1	1	0	300	1 0	1 0	1 1	0	0
4.4-4.6	1341-1402	42.75	0 0	1 1	1	0	300	1	1 0	1 0	0	0 1
4.6-4.8	1402-1463	45.000	0 0	0 1	0	1	320	1 1	1 1	1 0	1	1
4.8-5.0	1463-1524	46.125	1 0	0 1	0	1	320	1 1	1 1	1 0	1	1
5.0-5.2	1524-1585	49.500	0 0	0 1	1	1	320	1 1	1 1	1 0	1	1
5.2-5.4	1585-1646	51.750	0 0	1 1	1	1	340	1 1	1 1	1 0	0	1
5.4-5.6	1646-1707	54.000	0 1	0 1	0	0	340	1 1	1 1	1 0	0	1
5.6-5.8	1707-1768	56.250	0 1	1 1	0	0	340	1 1	1 1	1 0	0	1
5.8-6.0	1768-1829	58.500	0 1	0 1	1	0	340	1 1	1 1	1 0	0	1

Note: *Settings: 1 = ON, 0 = OFF*

Figure 3-4: QNB65B Balance Network - switch locations



Note: To adjust the R1 or R2 potentiometer, turn the dial clockwise until it reaches a mechanical stop. Note the position of the arrow at the end of the slot; this is the full-clockwise position. The dial is now ready to be adjusted. To do so, turn the dial counterclockwise by the number of position markers specified in the appropriate table.

Table 3-M:
QNB65B Balance Network - switch settings for 19-gauge end-section non-loaded cable without impedance compensator at far end of cable

Length		Resistance		Capacitance					
Ft X 1000	**Meters**	**R1**	**R2**	**Capacitance Value (μF)**	**SR Switches**				
					1	**2**	**3**	**4**	**5**
6-7	1829-2134	5.5	0	0.27	0	0	1	1	0
7-9	2134-2743	4	0	0.23	0	0	0	1	0
9-11	2743-3353	2.5	1	0.17	0	1	0	0	0
11-13	3353-3962	5	1	0.17	0	1	0	0	0
13-15	3962-4572	1.5	1	0.17	0	1	0	0	0
15-17	4572-5182	1.5	1	0.19	0	0	1	0	0
17-19	5182-5791	1.5	2	0.23	0	0	0	1	0

Table 3-M: (Continued)
QNB65B Balance Network - switch settings for 19-gauge end-section non-loaded cable without impedance compensator at far end of cable

Length		Resistance		Capacitance					
Ft X 1000	Meters	R1	R2	Capacitance Value (μF)	SR Switches 1	2	3	4	5
19-21	5791-6401	1.5	4..5	0.25	0	1	0	1	0
21-23	6401-7010	1.5	4.5	0.27	0	0	1	1	0
23-25	7010-7620	1.5	5	0.29	0	1	1	1	0
25-27	7620-8230	1.5	3	0.31	0	0	0	0	1
27-29	8230-8839	1.5	4	0.33	0	1	0	0	1
29-31	8839-9449	1.5	4	0.35	0	1	0	0	1
31-33	9449-10005	1.5	6	0.37	0	0	1	0	1
33-35	10005-10068	1.3	6	0.37	0	1	1	0	1
35-36	10068-10973	2	6	0.37	0	1	1	0	1

Note 1: Settings: 1 = ON, 0 = OFF

Note 2: See Figure 3-4 for information about how to set the R1 and R2 potentiometers.

Table 3-N:
QNB65B Balance Network - switch settings for 22-gauge end-section non-loaded cable without impedance compensator at far end of cable

Length		Resistance		Capacitance					
Ft X 1000	Meters	R1	R2	Capacitance Value (μF)	SR Switches 1	2	3	4	5
6-7	1829-2134	5	0	0.17	0	1	0	0	0
7-9	2134-2743	4.5	0	0.19	0	0	1	0	0
9-11	2743-3353	4	1.5	0.19	0	0	1	0	0
11-13	3353-3962	3.5	4	0.19	0	0	1	0	0
13-15	3962-4572	3.5	3	0.19	0	0	1	0	0
15-17	4572-5182	2.5	2	0.19	0	0	1	0	0
17-19	5182-5791	2.5	2	0.19	0	0	1	0	0
19-21	5791-6401	2.5	3	0.23	0	0	0	1	0
21-23	6401-7010	2.5	3	0.23	0	0	0	1	0
23-25	7010-7620	3	4	0.25	0	1	0	1	0
25-27	7620-8230	3	4	0.25	0	1	0	1	0
27-29	8230-8839	3	4	0.27	0	0	1	1	0
29-31	8839-9949	3	4	0.27	0	0	1	1	0
31-32	9949-9754	3	5	0.29	0	1	1	1	0

Note 1: Settings: 1 = ON, 0 = OFF

Note 2: See Figure 3-4 for information about how to set the R1 and R2 potentiometers.

Table 3-O:
QNB65B Balance Network - switch settings for 24-gauge end-section non-loaded cable without impedance compensator at far end of cable

Length		Resistance		Capacitance					
Ft X 1000	**Meters**	**R1**	**R2**	**Capacitance Value (μF)**	**SR Switches**				
					1	**2**	**3**	**4**	**5**
6-7	1829-2134	5.5	0	0.17	0	1	0	0	0
7-9	2134-2743	5.5	0	0.17	0	1	0	0	0
9-11	2743-3353	4	3	0.17	0	1	0	0	0
11-13	3353-3962	4	3	0.17	0	1	0	0	0
13-15	3962-4572	4	3	0.17	0	1	0	0	0
15-17	4572-5182	3.5	3	0.19	0	0	1	0	0
17-19	5182-5791	3.5	3	0.19	0	0	1	0	0
19-21	5791-6401	3.5	4.5	0.21	0	1	1	0	0
21-23	6401-7010	3.5	4	0.21	0	1	1	0	0
23-25	7010-7620	3.5	5	0.23	0	0	0	1	0
25-27	7620-8230	4	5	0.23	0	0	0	1	0
27-28	8230-8534	4	5	0.23	0	0	0	1	0

Note 1: Settings: 1 = ON, 0 = OFF

Note 2: See Figure 3-4 for information about how to set the R1 and R2 potentiometers.

Table 3-P:
QNB65B Balance Network - switch settings for 26-gauge end-section non-loaded cable without impedance compensator at far end of cable

Length		Resistance		Capacitance					
Ft X 1000	**Meters**	**R1**	**R2**	**Capacitance Value (μF)**	**SR Switches**				
					1	**2**	**3**	**4**	**5**
6-7	1829-2134	7	5	0.15	1	0	0	0	0
7-9	2134-2743	6	4.5	0.15	1	0	0	0	0
9-11	2743-3353	5.5	6	0.15	1	0	0	0	0
11-13	3353-3962	5	7	0.15	1	0	0	0	0
13-15	3962-4572	5	7	0.15	1	0	0	0	0
15-17	4572-5182	5	4	0.17	0	1	0	0	0
17-19	5182-5791	5	4	0.17	0	1	0	0	0
19-21	5791-6401	5	8	0.19	0	0	1	0	0
21-23	6401-7010	5	6	0.19	0	0	1	0	0
23-25	7010-7620	5	5	0.19	0	0	1	0	0

Table 3-P: (Continued)
QNB65B Balance Network - switch settings for 26-gauge end-section non-loaded cable without impedance compensator at far end of cable

Length		Resistance		Capacitance					
Ft X 1000	Meters	R1	R2	Capacitance Value (μF)	SR Switches 1	2	3	4	5
25-26	7620-7925	5	5	0.21	0	1	1	0	0

Note 1: Settings: 1 = ON, 0 = OFF

Note 2: See Figure 3-4 for information about how to set the R1 and R2 potentiometers.

Table 3-Q:
QNB65B Balance Network - switch settings for 19-gauge end-section non-loaded cable with impedance compensator at far end of cable

Length		Resistance		Capacitance					
Ft X 1000	Meters	R1	R2	Capacitance Value (μF)	SR Switches 1	2	3	4	5
6-7	1829-2134	3.5	3	0.15	1	0	0	0	0
7-9	2134-2743	2.5	3.5	0.15	1	0	0	0	0
9-11	2743-3353	1.5	4	0.15	1	0	0	0	0
11-13	3353-3962	1	4	0.15	1	0	0	0	0
13-15	3962-4572	.5	3.5	0.15	1	0	0	0	0
15-17	4572-5182	1	3.5	0.23	1	0	1	0	0
17-18	5182-5486	1	4	0.39	1	1	1	0	0

Note 1: Settings: 1 = ON, 0 = OFF

Note 2: See Figure 3-4 for information about how to set the R1 and R2 potentiometers.

Table 3-R:
QNB65B Balance Network - switch settings for 22-gauge end-section non-loaded cable with impedance compensator at far end of cable

Length		Resistance		Capacitance					
Ft X 1000	Meters	R1	R2	Capacitance Value (μF)	SR Switches 1	2	3	4	5
6-7	1820-2134	4	3	0.15	1	0	0	0	0
7-9	2134-2743	3	3.5	0.15	1	0	0	0	0
9-11	2743-3353	2.5	4	0.15	1	0	0	0	0
11-13	3353-3962	2.5	4	0.15	1	0	0	0	0
13-15	3962-4572	2	3.5	0.15	1	0	0	0	0
15-17	4572-5182	2	3.5	0.23	1	0	1	0	0
17-18	5182-5486	2	4	0.39	1	1	1	0	0

Note 1: Settings: 1 = ON, 0 = OFF

Note 2: See Figure 3-4 for information about how to set the R1 and R2 potentiometers.

Table 3-S:
QNB65B Balance Network - switch settings for 24-gauge end-section non-loaded cable with impedance compensator at far end of cable

Length		Resistance		Capacitance					
Ft X 1000	Meters	R1	R2	Capacitance Value (μF)	SR Switches 1	2	3	4	5
6-7	1829-2134	4.5	2.5	0.15	1	0	0	0	0
7-9	2134-2743	3.5	3	0.15	1	0	0	0	0
9-11	2743-3353	3.5	2.5	0.15	1	0	0	0	0
11-13	3353-3962	3	3	0.15	1	0	0	0	0
13-15	3962-4572	3	3.5	0.15	1	0	0	0	0
15-17	4572-5182	2.5	4	0.15	1	0	0	0	0
17-18	5182-5486	3	4.5	0.23	1	0	1	0	0

Note 1: Settings: 1 = ON, 0 = OFF

Note 2: See Figure 3-4 for information about how to set the R1 and R2 potentiometers.

Table 3-T:
QNB65B Balance Network - switch settings for 26-gauge end-section non-loaded cable with impedance compensator at far end of cable

Length		Resistance		Capacitance					
Ft X 1000	Meters	R1	R2	Capacitance Value (μF)	SR Switches 1	2	3	4	5
6-7	1829-2134	5	1.5	0.15	1	0	0	0	0
7-9	2134-2743	5	2.5	0.15	1	0	0	0	0
9-11	2743-3353	5	3	0.15	1	0	0	0	0
11-13	3353-3692	5	4	0.15	1	0	0	0	0

Note 1: Settings: 1 = ON, 0 = OFF

Note 2: See Figure 3-4 for information about how to set the R1 and R2 potentiometers.

Figure 3-5: QNB65C Balance Network - switch locations

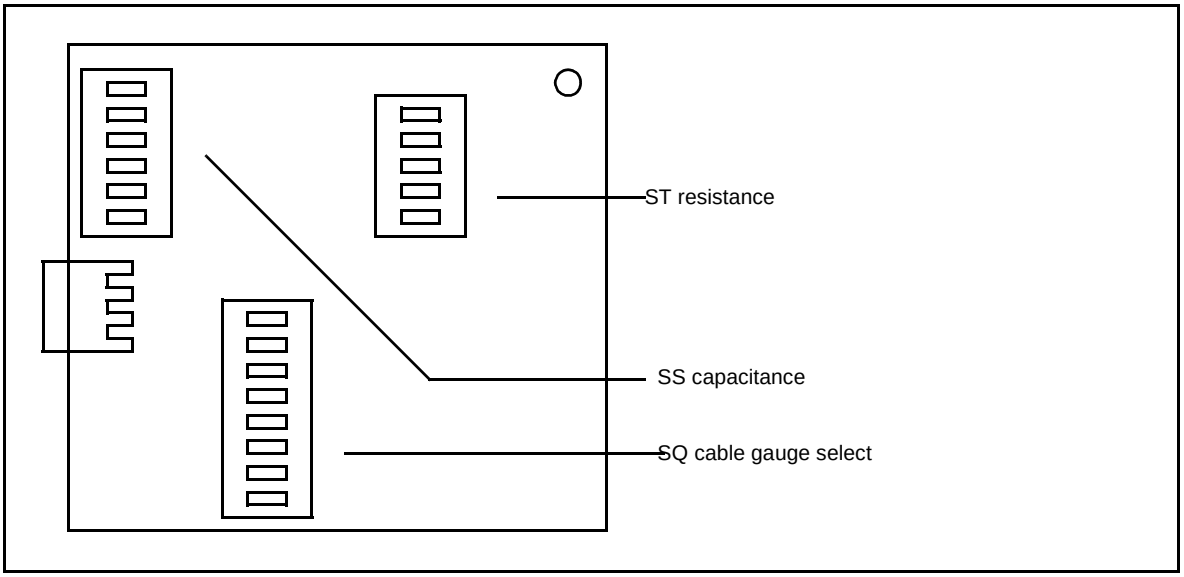


Table 3-U:
QNB65C Balance Network - switch settings for 19-gauge end-section D66 loaded cable

SQ Switches

1	2	3	4	5	6	7	8
1	0	0	0	1	1	1	1

Length		Capacitance(μF)	SS Switches 1 5	2 6	3	4	Resistance Value (Ω)	ST Switches 1 5	2	3	4
Ft X 1000	**Meters**										
0.9-1.0	274-305	5.625	1 0	0	1	0	0	1 1	1	1	1
1.0-1.1	305-335	6.750	0 0	1	1	0	0	1 1	1	1	1
1.1-1.2	335-366	9.000	0 0	0	0	1	0	1 1	1	1	1
1.2-1.3	366-396	10.125	1 0	0	0	1	0	1	1 1	1	1
1.3-1.4	396-427	11.250	0 0	1	0	1	0	1	1 1	1	1
1.4-1.5	427-457	13.500	0 0	0	1	1	0	1	1 1	1	1
1.5-1.6	457-488	14.625	1 0	0	1	1	0	1	1 1	1	1

Table 3-U: (Continued)
QNB65C Balance Network - switch settings for 19-gauge end-section D66 loaded cable

SQ Switches

1	2	3	4	5	6	7	8
1	0	0	0	1	1	1	1

Length		Capacitance(μF)	SS Switches				Resistance Value (Ω)	ST Switches			
			1 5	2 6	3	4		1 5	2	3	4
Ft X 1000	**Meters**										
1.6-1.7	488-518	15.750	0 0	1 0	1	1	0	1 1	1	1	1
1.7-1.8	518-549	18.00	0 1	0 0	0	0	20	0 1	1	1	1
1.8-1.9	549-579	19.125	1 1	0 0	0	0	20	0 1	1	1	1
1.9-2.0	579-610	20.750	0 1	1 0	0	0	20	0 1	1	1	1
2.0-2.1	610-640	22.500	0 1	0 0	1	0	20	0 1	1	1	1
2.1-2.2	640-671	23.625	1 1	0 0	1	0	40	1 1	0	1	1
2.2-2.3	671-701	24.750	0 1	1 0	1	0	40	1 1	0	1	1
2.3-2.4	701-732	25.875	1 1	1 0	1	0	40	1 1	0	1	1
2.4-2.5	732-762	28.125	1 1	0 0	0	1	40	1 1	0	1	1
2.5-2.6	762-793	29.250	0 1	1 0	0	1	40	1 1	0	1	1
2.6-2.7	793-832	30.375	1 1	1 0	0	1	40	1 1	0	1	1
2.7-2.8	832-854	31.500	0 1	0 0	1	1	40	1 1	0	1	1
2.8-2.9	854-884	33.750	0 1	1 0	1	1	40	1 1	0	1	1
2.9-3.0	884-914	34.875	1 1	1 0	1	1	40	1 1	0	1	1
3.0-3.1	914-944	36.000	0 0	0 1	0	1	40	1 1	0	1	1

Table 3-U: (Continued)
QNB65C Balance Network - switch settings for 19-gauge end-section D66 loaded cable

SQ Switches

1	2	3	4	5	6	7	8
1	0	0	0	1	1	1	1

Length		Capacitance(μF)	SS Switches				Resistance Value (Ω)	ST Switches			
			1 5	2 6	3	4		1 5	2	3	4
Ft X 1000	**Meters**										
3.1-3.2	944-975	38.250	0 0	1 1	0	1	40	1 1	0	1	1
3.2-3.3	975-1005	39.375	1 0	1 1	0	1	60	0 1	0	1	1
3.3-3.4	1005-1036	40.500	0 0	0 1	1	1	60	0 1	0	1	1
3.4-3.5	1036-1066	41.625	1 0	0 1	1	1	60	0 1	0	1	1
3.5-3.6	1066-1097	43.875	1 0	1 1	1	1	60	0 1	0	1	1
3.6-3.7	1097-1127	45.000	0 1	0 1	0	0	60	0 1	0	1	1
3.7-3.8	1127-1158	46.125	1 1	0 1	0	0	80	1	1 1	0	1
3.8-3.9	1158-1188	48.375	1 1	1 1	0	0	80	1	1 1	0	1
3.9-4.0	1188-1219	49.500	0 1	0 1	1	0	80	1	1 1	0	1
4.0-4.1	1219-1249	50.625	1 1	0 1	1	0	80	1 1	1	0	1
4.1-4.2	1249-1280	52.875	1 1	1 1	1	0	80	1 1	1	0	1
4.2-4.3	1280-1310	54.000	0 1	0 1	0	1	100	0	1 1	0	1
4.3-4.4	1310-1341	55.125	1 1	0 1	0	1	100	0	1 1	0	1
4.4-4.5	1341-1371	56.250	0 1	1 1	0	1	100	0 1	1	0	1

Note: *Settings: 1 = ON, 0 = OFF*

Table 3-V:
QNB65C Balance Network - switch settings for 22-gauge end-section D66 loaded cable

SQ Switches

1	2	3	4	5	6	7	8
0	1	0	0	1	1	0	0

Length		Capacitance(μF)	SS Switches				Resistance Value (Ω)	ST Switches			
			15	26	3	4		15	2	3	4
Ft X 1000	**Meters**										
0.9-1.0	274-305	4.500	00	00	1	0	100	01	1	0	1
1.0-1.1	305-335	5.625	10	00	1	0	100	01	1	0	1
1.1-1.2	335-366	6.750	01	00	1	0	120	11	0	0	1
1.2-1.3	366-396	9.000	00	00	0	1	120	11	0	0	1
1.3-1.4	396-427	10.125	10	00	0	1	120	11	0	0	1
1.4-1.5	427-457	11.250	01	00	0	1	120	11	0	0	1
1.5-1.6	457-488	13.500	00	00	1	1	120	11	0	0	1
1.6-1.7	488-518	14.625	10	00	1	1	140	01	0	0	1
1.7-1.8	518-549	15.750	01	00	1	1	140	01	0	0	1
1.8-1.9	549-579	16.875	11	00	1	1	140	01	0	0	1
1.9-2.0	579-610	19.125	10	10	0	0	140	01	0	0	1
2.0-2.1	610-640	20.250	01	10	0	0	160	11	1	1	0
2.1-2.2	640-671	22.500	00	10	1	0	160	11	1	1	0
2.2-2.3	671-701	23.625	10	10	1	0	160	11	1	1	0
2.3-2.4	701-732	24.750	01	10	1	0	160	11	1	1	0

Table 3-V: (Continued)
QNB65C Balance Network - switch settings for 22-gauge end-section D66 loaded cable

SQ Switches

1	2	3	4	5	6	7	8
0	1	0	0	1	1	0	0

Length		Capacitance(μF)	SS Switches				Resistance Value (Ω)	ST Switches			
			1 5	2 6	3	4		1 5	2	3	4
Ft X 1000	**Meters**										
2.4-2.5	732-762	25.875	1 1	1 0	1	0	160	1 1	1	1	0
2.5-2.6	762-793	27.000	0 1	0 0	0	1	180	0 1	1	1	0
2.6-2.7	793-832	29.250	0 1	1 0	0	1	180	0 1	1	1	0
2.7-2.8	832-854	30.375	1 1	1 0	0	1	180	0 1	1	1	0
2.8-2.9	854-884	31.500	0 1	0 0	1	1	180	0 1	1	1	0
2.9-3.0	884-914	32.625	1 1	0 0	1	1	200	1 1	0	1	0
3.0-3.1	914-944	33.750	0 1	1 0	1	1	200	1 1	0	1	0
3.1-3.2	944-975	34.875	1 1	1 0	1	1	200	1 1	0	1	0
3.2-3.3	975-1005	37.125	1 0	0 1	0	1	200	1 1	0	1	0
3.3-3.4	1005-1036	38.250	0 0	1 1	0	1	200	1 1	0	1	0
3.4-3.5	1036-1066	39.375	1 0	1 1	0	1	220	0 1	0	1	0
3.5-3.6	1066-1097	40.500	0 0	0 1	1	1	220	0 1	0	1	0
3.6-3.7	1097-1127	41.625	1 0	0 1	1	1	220	0 1	0	1	0
3.7-3.8	1127-1158	42.750	0 0	1 1	1	1	220	0 1	0	1	0
3.8-3.9	1158-1188	45.000	0 1	0 1	0	0	240	1 1	1	0	0

Table 3-V: (Continued)
QNB65C Balance Network - switch settings for 22-gauge end-section D66 loaded cable

SQ Switches
1 2 3 4 5 6 7 8
0 1 0 0 1 1 0 0

Length		Capacitance(μF)	SS Switches 1 2 3 4 5 6	Resistance Value (Ω)	ST Switches 1 2 3 4 5
Ft X 1000	**Meters**				
3.9-4.0	1188-1219	46.125	1 0 0 0 1 1	240	1 1 0 0 1
4.0-4.1	1219-1249	47.250	0 1 0 0 1 1	240	1 1 0 0 1
4.1-4.2	1249-1280	48.375	1 1 0 0 1 1	240	1 1 0 0 1
4.2-4.3	1280-1310	49.5000	0 0 1 0 1 1	260	1 1 0 0 1
4.3-4.4	1310-1341	51.750	0 1 1 0 1 1	260	0 1 0 0 1
4.4-4.5	1341-1371	52.875	1 1 1 0 1 1	260	0 1 0 0 1

Note: *Settings: 1 = ON, 0 = OFF*

Table 3-W:
QNB65C Balance Network - switch settings for 24-gauge end-section D66 loaded cable

SQ Switches
1 2 3 4 5 6 7 8
0 0 1 0 0 1 0 1

Length		Capacitance(μF)	SS Switches 1 2 3 4 5 6	Resistance Value (Ω)	ST Switches 1 2 3 4 5
Ft X 1000	**Meters**				
0.9-1.0	274-305	5.625	1 0 1 0 0 0	20	0 1 1 1 1
1.0-1.1	305-335	6.750	0 1 1 0 0 0	40	1 0 1 1 1
1.1-1.2	335-366	9.000	0 0 0 1 0 0	40	1 0 1 1 1
1.2-1.3	366-396	10.125	1 0 0 1 0 0	60	1 0 1 1 1

Table 3-W: (Continued)
QNB65C Balance Network - switch settings for 24-gauge end-section D66 loaded cable

SQ Switches

1	2	3	4	5	6	7	8
0	0	1	0	0	1	0	1

Length		Capacitance(µF)	SS Switches				Resistance Value (Ω)	ST Switches			
			1 5	2 6	3	4		1 5	2	3	4
Ft X 1000	**Meters**										
1.3-1.4	396-427	11.250	0 0	1 0	0	1	60	0 1	0	1	1
1.4-1.5	427-457	13.500	0 0	0 0	1	1	60	0 1	0	1	1
1.5-1.6	457-488	14.625	1 0	0 0	1	1	60	0 1	0	1	1
1.6-1.7	488-518	15.750	0 0	1 0	1	1	80	1 1	1	0	1
1.7-1.8	518-549	18.000	0 1	0 0	0	0	80	1 1	1	0	1
1.8-1.9	549-579	19.125	1 1	0 0	0	0	80	1 1	1	0	1
1.9-2.0	579-610	20.250	0 1	1 0	0	0	100	0 1	1	0	1
2.0-2.1	610-640	21.375	1 1	1 0	0	0	100	0 1	1	0	1
2.1-2.2	640-671	23.625	1 1	0 0	1	0	120	1 1	0	0	1
2.2-2.3	671-701	24.750	0 1	1 0	1	0	120	1 1	0	0	1
2.3-2.4	701-732	25.875	1 1	1 0	1	0	120	1 1	0	0	1
2.4-2.5	732-762	27.000	0 1	0 0	0	1	140	0 1	0	0	1
2.5-2.6	762-793	28.125	1 1	0 0	0	1	140	0 1	0	0	1
2.6-2.7	793-832	29.250	0 1	1 0	0	1	140	0 1	0	0	1
2.7-2.8	832-854	30.375	1 1	1 0	0	1	140	0 1	0	0	1

Table 3-W: (Continued)
QNB65C Balance Network - switch settings for 24-gauge end-section D66 loaded cable

SQ Switches

1	2	3	4	5	6	7	8
0	0	1	0	0	1	0	1

Length		Capacitance(µF)	SS Switches				Resistance Value (Ω)	ST Switches			
			1 5	2 6	3	4		1 5	2	3	4
Ft X 1000	**Meters**										
2.8-2.9	854-884	32.625	1 1	0 0	1	1	160	1 1	1	1	0
2.9-3.0	884-914	33.750	0 1	1 0	1	1	160	1 1	1	1	0
3.0-3.1	914-944	34.875	1 1	1 0	1	1	160	1 1	1	1	0
3.1-3.2	944-975	36.000	0 0	0 1	0	1	160	1 1	1	1	0
3.2-3.3	975-1005	37.175	1 0	0 1	0	1	180	0 1	1	1	0
3.3-3.4	1005-1036	38.250	0 0	1 1	0	1	180	0 1	1	1	0
3.4-3.5	1036-1066	39.375	1 0	1 1	0	1	180	0 1	1	1	0
3.5-3.6	1066-1097	40.500	0 0	0 1	1	1	180	0 1	1	1	0
3.6-3.7	1097-1127	41.625	1 0	0 1	1	1	200	1 1	0	1	0
3.7-3.8	1127-1158	42.750	0 0	1 1	1	1	200	1 1	0	1	0
3.8-3.9	1158-1188	43.875	1 0	1 1	1	1	200	1 1	0	1	0
3.9-4.0	1188-1219	46.125	1 1	0 1	0	0	220	0 1	0	1	0
4.0-4.1	1219-1249	47.250	0 1	1 1	0	0	220	0 1	0	1	0
4.1-4.2	1249-1280	48.375	1 1	1 1	0	0	220	0 1	0	1	0
4.2-4.3	1280-1310	49.500	0 1	0 1	1	0	220	0 1	0	1	0

Table 3-W: (Continued)
QNB65C Balance Network - switch settings for 24-gauge end-section D66 loaded cable

SQ Switches
1 2 3 4 5 6 7 8
0 0 1 0 0 1 0 1

Length		Capacitance(μF)	SS Switches 1 2 3 4 5 6	Resistance Value (Ω)	ST Switches 1 2 3 4 5
Ft X 1000	**Meters**				
4.3-4.4	1310-1341	50.625	1 0 1 0 1 1	240	1 1 0 0 1
4.4-4.5	1341-1371	51.750	0 1 1 0 1 1	240	1 1 0 0 1

Note: Settings: 1 = ON, 0 = OFF

Table 3-X:
QNB65C Balance Network - switch settings for 26-gauge end-section D66 loaded cable

SQ Switches
1 2 3 4 5 6 7 8
0 0 1 0 0 1 0 1

Length		Capacitance(μF)	SS Switches 1 2 3 4 5 6	Resistance Value (Ω)	ST Switches 1 2 3 4 5
Ft X 1000	**Meters**				
0.9-1.0	274-305	4.500	0 0 1 0 0 0	80	1 1 0 1 1
1.0-1.1	305-335	5.625	1 0 1 0 0 0	100	0 1 0 1 1
1.1-1.2	335-366	6.750	0 1 1 0 0 0	100	0 1 0 1 1
1.2-1.3	366-396	9.000	0 0 0 1 0 0	120	1 0 0 1 1
1.3-1.4	396-427	10.125	1 0 0 1 0 0	120	1 0 0 1 1
1.4-1.5	427-457	11.250	0 1 0 1 0 0	140	0 0 0 1 1
1.5-1.6	457-488	13.500	0 0 1 1 0 0	140	0 0 0 1 1
1.6-1.7	488-518	15.625	1 0 1 1 0 0	160	1 1 1 0 1

Table 3-X: (Continued)
QNB65C Balance Network - switch settings for 26-gauge end-section D66 loaded cable

SQ Switches

1	2	3	4	5	6	7	8
0	0	1	0	0	1	0	1

Length		Capacitance(µF)	SS Switches				Resistance Value (Ω)	ST Switches			
			1 5	2 6	3	4		1 5	2	3	4
Ft X 1000	**Meters**										
1.7-1.8	518-549	15.750	0 0	1 0	1	1	160	1 1	1	1	0
1.8-1.9	549-579	16.875	1 0	1 0	1	1	180	0 1	1	1	0
1.9-2.0	579-610	19.125	1 1	0 0	0	0	180	0 1	1	1	0
2.0-2.1	610-640	20.250	0 1	1 0	0	0	200	1 1	0	1	0
2.1-2.2	640-671	22.500	0 1	0 0	1	0	200	1 1	0	1	0
2.2-2.3	671-701	23.625	1 1	0 0	1	0	220	0 1	0	1	0
2.3-2.4	701-732	24.750	0 1	1 0	1	0	220	0 1	0	1	0
2.4-2.5	732-762	25.875	1 1	1 0	1	0	240	1 1	1	0	0
2.5-2.6	762-793	27.000	0 1	0 0	0	1	240	1 1	1	0	0
2.6-2.7	793-832	27.000	0 1	0 0	0	1	260	0 1	1	0	0
2.7-2.8	832-854	28.024	1 1	0 0	0	1	260	0 1	1	0	0
2.8-2.9	854-884	29.250	0 1	1 0	0	1	280	1 1	0	0	0
2.9-3.0	884-914	30.375	1 1	1 0	0	1	280	1 1	0	0	0
3.0-3.1	914-944	31.500	0 1	0 0	1	1	300	0 1	0	0	0
3.1-3.2	944-975	32.625	1 1	0 0	1	1	300	0 1	0	0	0

Table 3-X: (Continued)
QNB65C Balance Network - switch settings for 26-gauge end-section D66 loaded cable

SQ Switches

1	2	3	4	5	6	7	8
0	0	1	0	0	1	0	1

Length		Capacitance(μF)	SS Switches 1 5	2 6	3	4	Resistance Value (Ω)	ST Switches 1 5	2	3	4
Ft X 1000	**Meters**										
3.2-3.3	975-1005	33.750	0 1	1 0	1	1	300	0 1	0	0	0
3.3-3.4	1005-1036	34.875	1 1	1 0	1	1	320	1 0	1	1	1
3.4-3.5	1036-1066	36.000	0 0	0 1	0	1	320	1 0	1	1	1
3.5-3.6	1066-1097	37.125	1 0	0 1	0	1	340	0 0	1	1	1
3.6-3.7	1097-1127	38.250	0 1	0 1	0	1	340	0 0	1	1	1
3.7-3.8	1127-1158	39.375	1 1	0 1	0	1	360	1 0	0	1	1
3.8-3.9	1158-1188	40.500	0 0	0 1	1	1	360	1 0	0	1	1
3.9-4.0	1188-1219	41.625	1 0	0 1	1	1	380	0 0	0	1	1
4.0-4.1	1219-1249	42.750	0 1	0 1	1	1	380	0 0	0	1	1
4.1-4.2	1249-1280	43.875	1 1	0 1	1	1	380	0 0	0	1	1
4.2-4.3	1280-1310	45.500	0 0	1 1	0	0	400	1 0	1	0	1
4.3-4.4	1310-1341	46.125	1 0	1 1	0	0	400	1 0	1	0	1
4.4-4.5	1341-1371	47.250	0 1	1 1	0	0	420	0 0	1	0	1

Note: *Settings: 1 = ON, 0 = OFF*

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DMS-10 Family

600-Series Generics

DIP Switch Settings for Printed Circuit Packs and Balance Networks

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