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314

PLANNING OF DATEL NETWORK CONTROL SYSTEMS

DATEL 4832 DNCS (MODEM 24)

DNCS Cabinet No. 1-B

CONTENTS

1	SCOPE
2	GENERAL DESCRIPTION
3	FACILITIES SCHEDULE
4	ACCOMMODATION REQUIREMENTS
5	ADVICE NOTE PROCEDURE
6	STORES LIST
7	CONSTRUCTION
8	INSTALLATION
9	SETTING-UP AND TESTING
10	ENQUIRIES
APPENDIX A STANDBY REQUIREMENTS	

1 SCOPE This instruction describes the planning and assembly of DATEL 4832 systems using a Datel Network Control Systems (DNCS) Cabinet No. 1-B to provide standard facilities for the termination of 4 wire private circuits or two 2 wire exchange lines at data network centres using Modem 24. Appendix A details the requirements for Standby Operation.

2 GENERAL DESCRIPTION The term DATEL 4832 DNCS has been introduced to describe the above installations. One DNCS Cabinet No. 1-B can accommodate up to:-

(a) six Modem 24 and associated Control units for working over the PSTN,
or

(b) up to 6 Modem 24 and associated Control Units for working over Private Circuits, or

(c) any combination of Private Circuits and PSTN Lines and associated Control Units for operation with up to a maximum of 6 Modem 24.

(The title 'DATEL NETWORK CONTROL SYSTEMS' and 'CABINET NO. 1-B' have been introduced to maintain continuity with Marketing documentation. These terms are used for commercial purposes only and should not be quoted for stores requisitions.)

3 FACILITIES SCHEDULE A Datel 4832 DNCS installation using the Control Unit 61A for operation over the PSTN or Control Unit 41A for operation over Private Circuits provides the following facilities:-

3.1 General

(a) Test access to all modems.

(b) Lamp indication of 'modem on line'.

- (c) Individual isolation of mains supply to each modem.
- (d) Mains supply isolation switch for the complete rack.
- (e) Mains socket outlet for portable test equipment.
- (f) Control of audible alarm.

3.2 Private Circuits

- (a) Accommodation for 6 Modem 24.
- (b) Flexibility between private circuits and all modems.
- (c) DC test point for all private circuits.
- (d) Provision of a PSTN circuit for speech only.
- (e) Modem permanently connected to Line.

3.3 Exchange Lines

- (a) Accommodation for 6 Modem 24.
- (b) DC test point for all exchange lines.
- (c) Customer controlled 'busy'ing'.
- (d) Selection using manual answering.
- (e) Provision of Double Dial up Standby circuit.
- (f) Selection of either PSTN Line of the 'Double Dial Up' pair of Lines.
- (g) Automatic busy'ing of normal PSTN Lines when selecting the Standby circuit.
- (h) Speech over all exchange lines (with the exception of one of the Standby Lines).

4 ACCOMMODATION REQUIREMENTS The dimensions of the rack are as follows:-

Width 597 mm
Depth 598 mm
Height 2000 mm

add 76 mm if a plinth is fitted. (See paragraph 4.5.)

4.1 Floor Space In addition to the floor area which the rack occupies, obstruction free working areas are required as follows:-

- (a) An area extending 838 mm in front and to the rear of each rack for the whole of its width.
- (b) Where more than one rack is installed they can be fitted side by side to form a suite. See Drawing RPA 7072.

4.2 Floor Loading The weight of a fully equipped rack will not exceed 350 kg.

4.3 Rack Fixing The rack must be fixed to the floor by means of 6 mm diameter bolts which will be supplied by the customer. The fixing for these bolts is the responsibility of the customer and must be such that the bolts can be inserted downward through the base of the rack and be capable of withstanding an upward pull of 1780N. See Drawing RPA 7072 Sheet 3.

4.4 Power Supply Each rack requires a 200-250 volt, 50 Hz supply fed via a 13A mains socket outlet which must be provided by the customer. The supply must be exclusive to the DNCS equipment and not form part of the office ring main circuit. Due attention should be given to the phase relationships of mains supplies serving suites of cabinets (eg cabinets sharing common mains driven Test equipment or within arms reach should be connected to the same phase supply).

4.5 Cable Entry to Racks Power cables, interface cables and Post Office cables will normally be fed into the racks from below the floor. Plinths can be supplied for the racks to provide space for the cabling when the racks are mounted on solid floors. See Drawing RPA 7072 for details of the plinth.

5 ADVICE NOTE PROCEDURE Advice notes issued for private circuits or exchange lines which are to be terminated on this equipment will contain a reference to 'DATEL 4832 DNCS' for identification purposes. The advice notes will contain a reference to "Provide a DNCS Cabinet No. 1" and to "Provide DNCS XXX/N" where XXX refers to the appropriate control unit and N is the number of control units to be fitted in the rack, eg Provide DNCS 61A/4 indicates that 4 Modem 24 PSTN control units are to be fitted.

5.1 The Datel 4832 DNCS advice note gives authority for providing and installing the following:-

- (a) The rack.
- (b) The common equipment.
- (c) The Control Units.

5.2 The circuit advice note gives authority for providing:-

- (a) Private circuits or exchange lines.
- (b) Modems.

The Advice Note details together with the stores lists contained in paragraph 6 should be used to determine the stores required to complete the installation.

6 STORES LISTS Paragraph 6.1.1 lists the stores required for each rack whilst paragraphs 6.1.2.1 and 6.1.2.2 lists the stores required on a Private circuit and PSTN circuit respectively. Order the stores listed in 6.2 as required.

6.1 Stores Obtainable from PE/S

6.1.1 Equipment Required on a Per Rack Basis

TABLE 1

Description	Quantity
Connectors 205D40A	2
Equipment 62 type, Adaptors 1/D67833	1
" " " " 2/D67833	1
" " " Bracket Mounting D79109	1
" " " " " D81204	1
" " " Cover D67394	1
" " " " 6/D78675	1
" " " " 4/D67412	2
" " " Guides Card 1/D67384	4
" " " Shelf D67383	2
Handsets No. 3 (Grey)	1
Mounting Plate Dummy (Cream) 2/D90161	1
Panel Distribution 1/TG 2454 or 2/TG 2454	1
Panel Test Access 1/TG 2548	1
Plug No. 420 Grey 3A	1
Plug for Socket Outlet No. 103	3
Rack Apparatus 73B-1	1
Retainers D78928	1 Kit
Socket Outlet No. 25	1
Strip Connection 150/6A	1
Switch Rotary No. 25	1
Tablet Test 2A/D79473	1
Telephone Unit 1/DPL101	1
" " D79652	1

Paragraph 6.1.2 follows

6.1.2 Stores Required on a Per Modem Basis

6.1.2.1 Private Circuits

TABLE 2

No. of Modems						Description
1	2	3	4	5	6	
1	2	3	4	5	6	Attenuator Unit No. 6A
1	2	3	4	5	6	Cords, Connection 2/D99009
7	6	5	4	3	2	Equipment 62 type, Card Dummy 12/D67411
5	5	4	4	3	3	" " " Cover D67394
6	6	6	6	6	6	" " " Guides Card 1/D67384
1	1	1	1	1	1	" " " Cover 4/D67412
1	1	2	2	3	3	" " " Shelf 1/D78926
1	2	3	4	5	6	Kit No. 296A
2	4	6	8	10	12	Key Dummies No. 4 (Grey)
1	2	3	4	5	6	Mounting Unit 1A
8	16	24	32	40	48	Part No. 2/DSO/24
0	0	0	0	1	1	Panel Distribution 1/TG 2454
1	2	3	4	5	6	Transformer Unit 9A/A...J NOTE 2
8	16	24	32	40	48	Links U No. 33 (Black)

NOTE 1: See TI C3 P1070 for determination of the transformer ratio.

NOTE 2: Use Cord, Connecting D78751 for patching purposes.

NOTE 3: See Appendix A for Private Circuit with PSTN Standby requirements.

6.1.2.2 Exchange Lines

No. of Modems						Description
1	2	3	4	5	6	
1	1	2	2	3	3	Equipment 62 type, Shelf 1/D78926
1	1	1	1	1	1	Buzzer No. 33A
1	1	1	1	1	1	Clip 91B
2	3	4	5	6	7	Connectors 205D 40A
1	2	3	4	5	6	Cords, Connection 2/D99009
1	2	3	4	5	6	Connectors 205B 40A
1	1	1	1	1	1	Cover 98A
5	5	4	4	3	3	Equipment 62 type, Cover D67394
7	6	5	4	3	2	" " " Card Dummy 12/D67411
1	2	3	4	5	6	" " " Card Frame 2/D79394
7	7	7	7	7	7	" " " Guides Card 1/D67384
1	1	1	1	1	1	" " " " " 2/D67384
1	1	1	1	1	1	" " " Cover 4/D67412
1	2	3	4	5	6	Handles Key 18/10
1	2	3	4	5	6	" " 18/22
2	3	4	5	6	7	" " 18/27
1	2	3	4	5	6	Transformer Unit 9A/A
2	4	6	8	10	12	Keys 1102
0	0	0	0	1	1	Panel Distribution 1/TG 2454 or 2/TG 2454

No. of Modems						Description
1	2	3	4	5	6	
1	1	1	1	1	1	Keys 1302
1	2	3	4	5	6	" 1002
1	2	3	4	5	6	Kit 419A
2	4	6	8	10	12	Links U No. 33 (Black)
1	1	1	1	1	1	Lamp Fitting No. 5A Red
1	1	1	1	1	1	Lamp No. 8 22 V Clear
1	1	1	1	1	1	Resistor Coil No. 40 8.2Ω
4	8	12	16	20	24	Valves, Electronic CV 7138
1	1	1	1	1	1	Power Unit 1003
2	4	6	8	10	12	Ringling Detector Module 1/TG 2553
4	8	12	16	20	24	Resistors 91DF 1 kΩ
4	6	8	10	12	14	" 91EJ 33 k
3	5	7	9	11	13	Parts No. 1/DST/1018
1	2	3	4	5	6	Key Dummies No. 4
2	4	6	8	10	12	Relay Module 1/TG 2557

6.1.3 Wire, Cable and Cord Flexible

Cord Flexible 3183Y 1.5 mm²
 Cable ELP 6491X 1.0 mm² (appropriate Colours)
 Wire Equipment 1000 Series 0.5 mm
 Wire Equipment 2000 Series 0.5 mm
 Wire Equipment 1903/1W 0.9 mm (Green)
 Earthing 9141/1W 0.9 mm

6.2 Small Stores

DESCRIPTION	QUANTITY	USE
SCREWS		
1 BA 12.7 mm CH HD Nip	2	Strip Connexion 150/6A
1 BA 19.1 mm CH HD Nip	12	Mounting Plates Dummy
2 BA 19.1 mm RD HD Nip	2	Switch Rotary 25
4 BA 31.7 mm CSK Nip	2	Lamp Fitting 5A
4 BA 19.1 mm CSK Nip	2	Socket Outlet 25
4 BA 25.4 mm CSK Nip	2	Socket Outlet Double
6 BA 8 mm CH HD Nip	16 per CU61A	Control Unit 61A parts
NUTS AND WASHERS		
1 BA	2	
2 BA	2	
4 BA	6	
6 BA	16/CU61A	

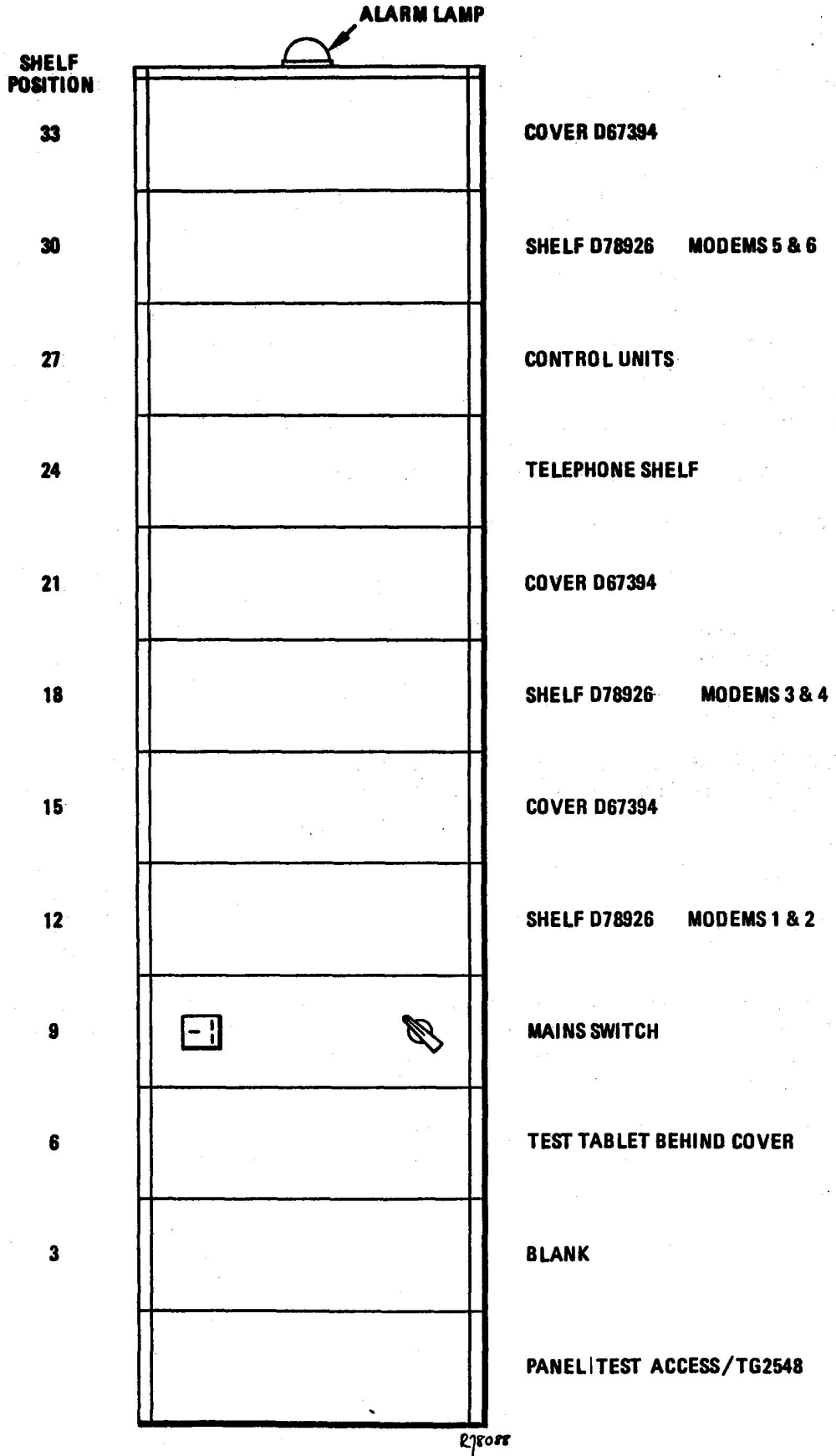


FIG. 1 RACK LAYOUT

DESCRIPTION	QUANTITY
MISC PVC Sleeving Sleeves, Rubber No. 81-84 Labels to drawing 78822 81300 78823 (Sheet 2) 99001	12/15 mm

6.3 Local Purchase Mk 781 plus box Mk 2142. Obtainable from local electrical suppliers, or equivalent.

Two red and 2 yellow 0.2 in diameter LEDs per CU61A. (Obtainable from RS Components Stock No. 586 475 - Red and 586 497 - Yellow.)

One Grommet (suitable for a 12.7 mm panel hole).

6.4 List of Drawings, Diagrams and Telecom Instructions (TIs)

DRAWINGS	DIAGRAMS	TIs (WORKS SPECS)
Figures 1 to 17 attached to TG 19065 RPA 5749 RPA 7072	DT/DTW 1259	C3 I8433 TG 19064 TG 19065

7 CONSTRUCTION Details on the procedure to be adopted to enable the rack and items forming the Datel 4832 DNCS to be constructed are contained in Works Specification TG 19065.

The layout of the modems and Control Units is given in Figure 1.

8 INSTALLATION See Works Specification TG 19065 for details on fixing the rack into position.

This Works Specification should be retained with the installation. This Works Specification should therefore include details of the particular rack arrangement, Figure 1 and the stores list in the Works Specification should be suitably amended to include these details.

9 SETTING-UP TESTING Details of the procedure to be adopted during the setting-up and testing of the installation are contained in Works Specification TG 19065 and TI C3 I8433.

Figure 1A follows

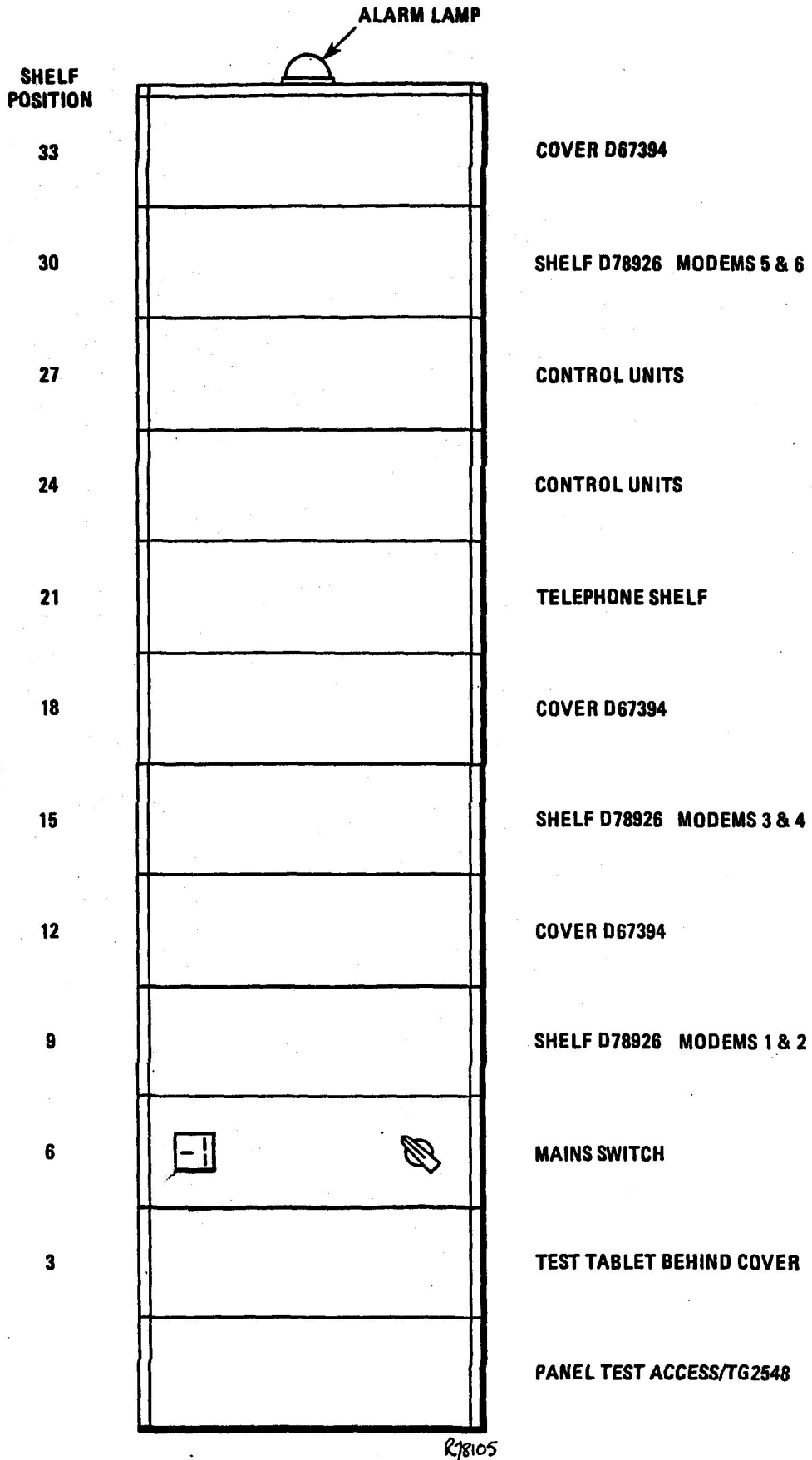


FIG. 1A RACK LAYOUT

APPENDIX A

DATEL 4832 (MODEM 24) STANDBY REQUIREMENTS

1 This Appendix describes the additional requirements to those contained in the main section of this TI when Standby working using Double Dial Up operation over a pair of PSTN lines is requested.

2 PRIVATE CIRCUIT WITH PSTN STANDBY Operation of the Modem 24 on Private Circuit with a 'Double Dial Up' Standby facility requires the use of a Control Unit 41A and a Control Unit 61A. The arrangement shown in Figure 1 is suitable for accommodating upto 5 Modems and associated control units. When a full rack of 6 Modem 24 with Standby PSTN operation is required a further control unit shelf will be required. See Figure 1A for details of the amendment to the Standard layout.

3 STORES LIST In addition to the stores detailed in para 6.1.2.1 of the main section order the following items:

CONTROL UNIT 61A (see Works Specification TG 19064) parts.

- 1 - Key 1351 - with Handles Key 18/10 (Control Unit 41A - 'OFF PW').
- 1 - 0.2 in dia LED Yellow with holder (PC 'On Line') (NOTE 1).
- 1 - Grommet 6.35 mm inside dia (NOTE 1).
- 1 - Resistor 91DF 1 k Ω .
- 1 - Shelf D78926 (NOTE 2).
- 8 - Equipment 62 type Guide Card 1/D67384 - (NOTE 2).
- 8 - Connectors 205D40A - (NOTE 2).

NOTE 1 RS Components supplier details are as follows:- Grommet RS Stock No. 543 204, LED RS Stock No. 586 497.

NOTE 2 Only required with 6 Modem 24 on Standby.

Omit an Equipment 62 type, Cover D67394 from the stores list if the additional Shelf D67383 above is ordered.

BTHQ/ME/BS7.3

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