

BRITISH RAILWAYS.

NORTH EASTERN
REGION.

STANDARD DRAWINGS.

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SIGNALLING DRAWINGS. (PREFIX-S).

TELECOMMUNICATIONS DRAWINGS.
(PREFIX-T).

SIGNAL ENGINEER'S DEPARTMENT.

YORK.

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DRAWN BY J.E.P. CHECKED BY W.M.E. DATE 9.9.59	CORR. REF. ST 4250 AUTHORITY DATE 9.9.59	1				HOME	DISTANT			
		2	STARTING			HOME	DISTANT			
		3	STARTING	HOME N°2		HOME N°1	DISTANT			
		4	STARTING		6'-0"	440 YDS	OUTER HOME	DISTANT NOTE: NO POINTS IN 440 YD. OVERLAP		
		5	STARTING	HOME	6'-0"	440 YDS	OUTER HOME	DISTANT NOTE: NO POINTS IN 440 YD OVERLAP		
		6	STARTING	HOME N°2	HOME N°1	6'-0"	440 YDS	OUTER HOME	DISTANT NOTE: NO POINTS IN 440 YD OVERLAP	
		7	STARTING	HOME N°2	HOME N°1	INNER HOME	6'-0"	440 YDS	OUTER HOME	INNER DISTANT OUTER DISTANT NOTE: NO POINTS IN 440 YD OVERLAP
		8	STARTING	HOME N°3	HOME N°2	HOME N°1	6'-0"	440 YDS	OUTER HOME	DISTANT NOTE: NO POINTS IN 440 YD OVERLAP

SIGNALS ENGINEER

STOP AND DISTANT SIGNALS

BRITISH RAILWAYS

N.E. REGION

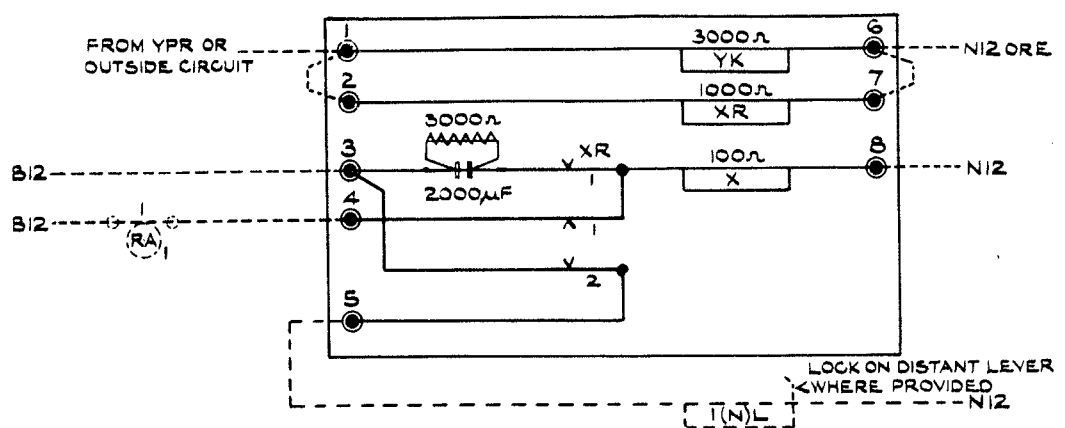
NON-ENCLATURE

OF

59 - YS - 43

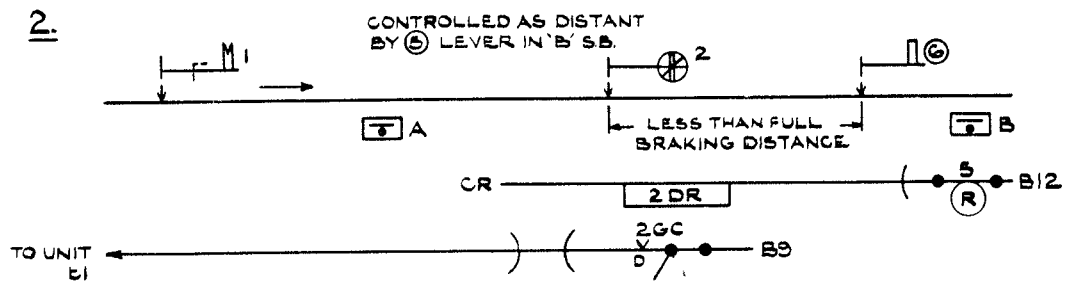
S/15.1

1.

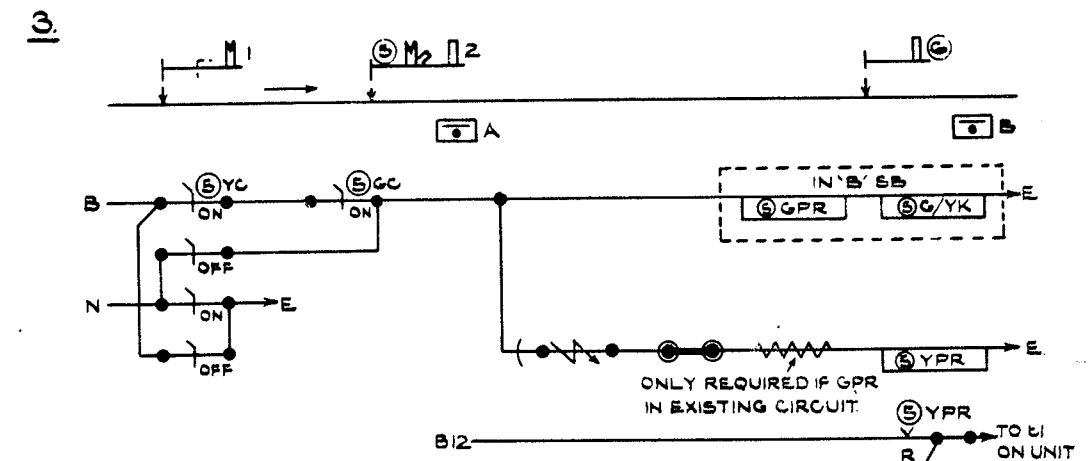


915/499/10	50°	ON/WRONG/OFF STOP	915/499/25	350°	ON/WRONG/OFF	DISTANT
"	/15	"	"	/30	3000°	ON/OFF (BIASED ON) DISTANT
"	/20	350°	"	995/12/28	SPECIAL COLOUR & DETAILS TO BE SPECIFIED	

2.

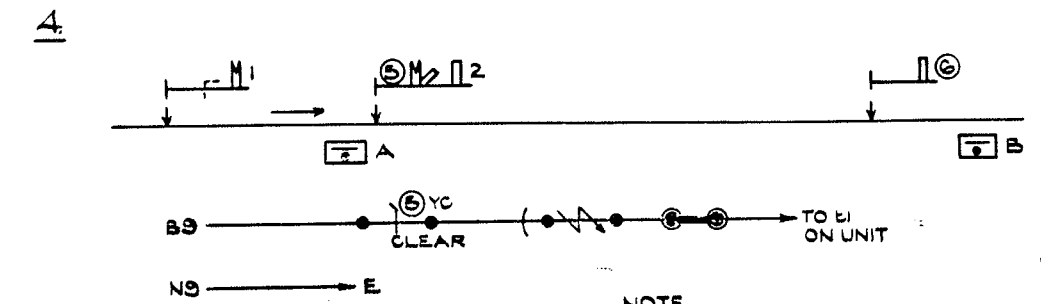


3.



EXISTING SIGNAL REPEATER IN 'B' SB

4.



NO EXISTING SIGNAL REPEATING CCT

NOTE: 2, 3 & 4 TYPICAL APPLICATIONS

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CHECKED BY	W.H.E.	AUTHORITY.	—
		DATE.	9: 9: 59.

BRITISH RAILWAYS. N.E. REGION.

AUDIBLE WARNING & INDICATOR UNIT
FOR USE WITH

ELECTRICAL DISTANT INDICATOR WORKING

A. F. WIGRAM.

SIGNAL ENGINEER.

59 - YS - 52

TUBULAR STEEL SIGNALS

S/16/1

2

COMPLETE WITH FULL SIZE UPPER QUADRANT FITTINGS
LANDINGS AND LADDERS (TO SPECIFICATION)

DESCRIPTION	QUANTITY	PROFILE
SINGLE ARM SIGNALS 16'-0" WITH SINGLE LEVER PLATE & SINGLE WIRE CRANK		
SINGLE ARM SIGNALS 20'-0" WITH SINGLE LEVER PLATE & SINGLE WIRE CRANK		
SINGLE ARM SIGNALS 22'-6" WITH SINGLE LEVER PLATE & SINGLE WIRE CRANK		
DOUBLE ARM SIGNALS 22'-6" WITH DOUBLE CONTROL LEVER PLATE & DOUBLE WIRE CRANK		
SINGLE ARM SIGNAL 25'-0" WITH SINGLE LEVER PLATE & SINGLE WIRE CRANK		
DOUBLE ARM SIGNAL 25'-0" WITH DOUBLE CONTROL LEVER PLATE & DOUBLE WIRE CRANK		

COMPLETE WITH FULL SIZE UPPER QUADRANT FITTINGS
LANDINGS AND LADDERS (TO SPECIFICATION)

DESCRIPTION	QUANTITY	PROFILE
<p>SINGLE ARM SIGNALS 27'-6" WITH SINGLE LEVER PLATE & SINGLE WIRE CRANK</p>		
<p>DOUBLE ARM SIGNALS 27'-6" WITH DOUBLE CONTROL LEVER PLATE & DOUBLE WIRE CRANK</p>		
<p>SINGLE ARM SIGNALS 30'-0" WITH SINGLE LEVER PLATE & SINGLE WIRE CRANK</p>		
<p>DOUBLE ARM SIGNALS 30'-0" WITH DOUBLE CONTROL LEVER PLATE & DOUBLE WIRE CRANK</p>		

TUBULAR STEEL SIGNALS

5/16/3

4

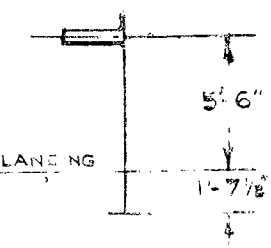
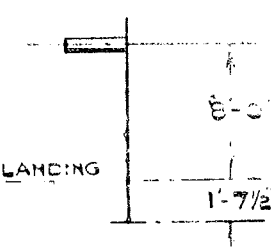
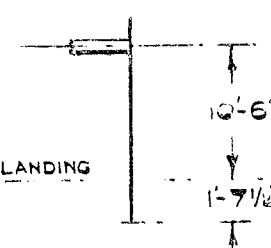
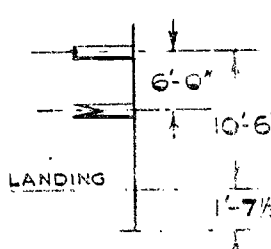
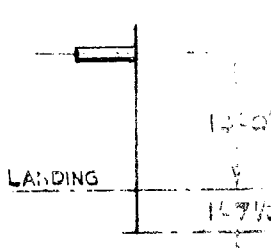
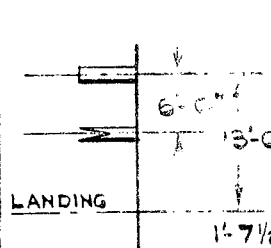
COMPLETE WITH MINIATURE UPPER QUADRANT FITTINGS
LANDINGS AND LADDERS. (TO SPECIFICATION)

DESCRIPTION	QUANTITY	PROFILE
<p>SINGLE ARM 16'-0" WITH SINGLE LEVER PLATE & SINGLE WIRE CRANK.</p>		
<p>DOUBLE ARM 18'-0" WITH DOUBLE LEVER PLATE & DOUBLE WIRE CRANK.</p>		
<p>TREBLE ARM 20'-0" WITH TREBLE LEVER PLATE & TREBLE WIRE CRANK.</p>		

TUBULAR STEEL DOLLS

5/10/4 5

COMPLETE WITH FULL SIZE UPPER QUADRANT FITTINGS
LANDINGS AND LADDERS. (TO SPECIFICATION)

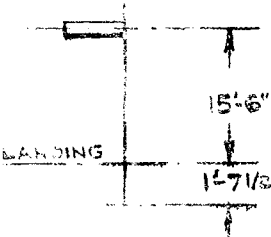
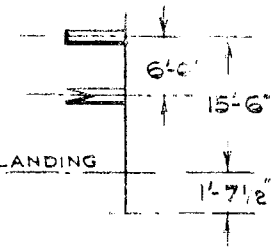
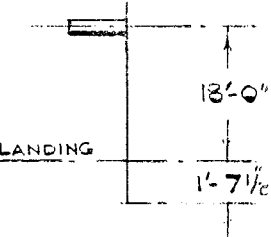
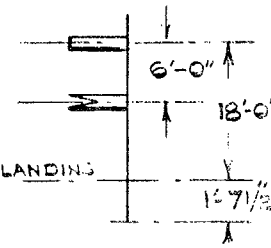
DESCRIPTION	QUANTITY	PROFILE
SINGLE ARM DOLLS 5'-6" WITH SINGLE WIRE CRANK.		 <p>Diagram showing a single arm doll with a horizontal arm of length 5'-6" and a vertical post. The distance from the base of the post to the landing level is 1'-7 1/2".</p>
SINGLE ARM DOLLS 8'-0" WITH SINGLE WIRE CRANK.		 <p>Diagram showing a single arm doll with a horizontal arm of length 8'-0" and a vertical post. The distance from the base of the post to the landing level is 1'-7 1/2".</p>
SINGLE ARM DOLLS 10'-6" WITH SINGLE WIRE CRANK.		 <p>Diagram showing a single arm doll with a horizontal arm of length 10'-6" and a vertical post. The distance from the base of the post to the landing level is 1'-7 1/2".</p>
DOUBLE ARM DOLLS 10'-6" WITH DOUBLE WIRE CRANK.		 <p>Diagram showing a double arm doll with two horizontal arms, each 6'-0" long, and a vertical post. The distance from the base of the post to the landing level is 1'-7 1/2".</p>
SINGLE ARM DOLLS 13'-0" WITH SINGLE WIRE CRANK.		 <p>Diagram showing a single arm doll with a horizontal arm of length 13'-0" and a vertical post. The distance from the base of the post to the landing level is 1'-7 1/2".</p>
DOUBLE ARM DOLLS 13'-0" WITH DOUBLE WIRE CRANK.		 <p>Diagram showing a double arm doll with two horizontal arms, each 6'-0" long, and a vertical post. The total length of the arms is 13'-0". The distance from the base of the post to the landing level is 1'-7 1/2".</p>

TUBULAR STEEL DOLLS

5/16/5

6/

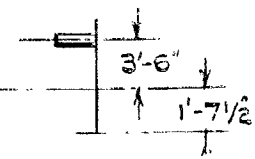
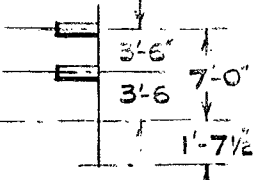
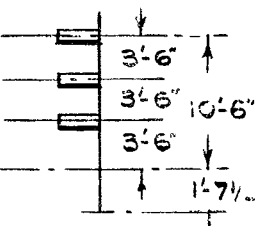
COMPLETE WITH FULL SIZE UPPER QUADRANT FITTINGS
LANDINGS AND LADDERS. (TO SPECIFICATION)

DESCRIPTION	QUANTITY	PROFILE
<p>SINGLE ARM DOLLS 15'-6" WITH SINGLE WIRE CRANK.</p>		
<p>DOUBLE ARM DOLLS 15'-6" WITH DOUBLE WIRE CRANK.</p>		
<p>SINGLE ARM DOLL 18'-0" WITH SINGLE WIRE CRANK.</p>		
<p>DOUBLE ARM DOLLS 18'-0" WITH DOUBLE WIRE CRANK.</p>		

TUBULAR STEEL DOLLS

5/16/61 ⁷

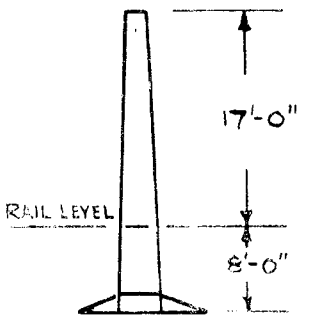
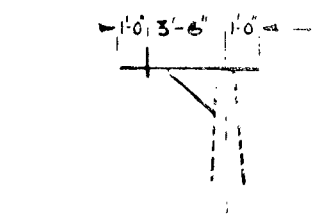
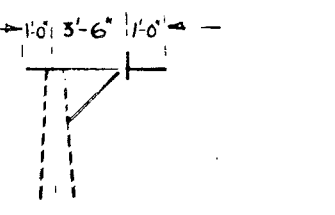
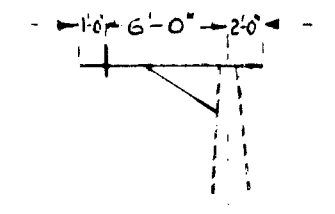
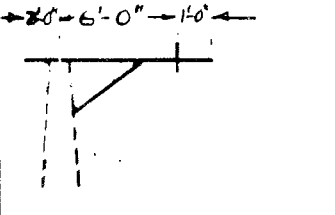
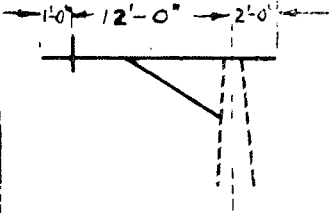
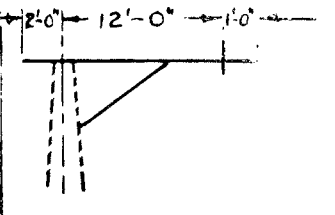
COMPLETE WITH MINIATURE UPPER QUADRANT FITTINGS
LANDINGS AND LADDERS. (TO SPECIFICATION)

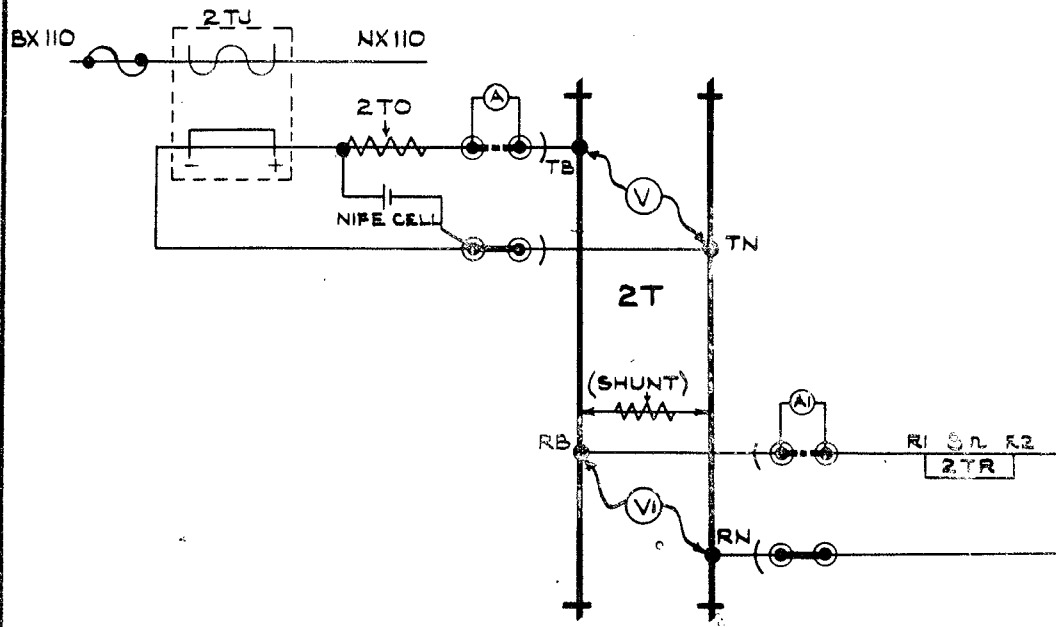
DESCRIPTION	QUANTITY	PROFILE
<p>SINGLE ARM DOLLS 3'-6" WITH SINGLE WIRE CRANK.</p>		
<p>DOUBLE ARM DOLLS 7'-0" WITH DOUBLE WIRE CRANK.</p>		
<p>TREBLE ARM DOLL 10'-6" WITH TREBLE WIRE CRANK</p>		

ANGLE AND PLATE MAIN POST, AND BRACKETS COMPLETE
 WITH WOOD DECKING AND HANDRAILS AS REQUIRED
 (TO SPECIFICATION AND DRAWING)

5/16/77

8

DESCRIPTION	QUANTITY	PROFILE
BRACKET MAIN POST 17'-0"		
BRACKET 3'-6" LEFT HAND		
BRACKET 3'-6" RIGHT HAND		
BRACKET 6'-0" LEFT HAND		
BRACKET 6'-0" RIGHT HAND		
BRACKET 12'-0" LEFT HAND		
BRACKET 12'-0" RIGHT HAND		



VOLTAGE AT FEED END = (V) } BY VOLTMETER
 " " RELAY " = (VI) }
 CURRENT FROM FEED = (A) } BY AMMETER
 " THROUGH RELAY = (A1) }

TO FIND :-

(A) DROP SHUNT

COMMENCE WITH A HIGH VALUE OF SHUNT RESISTANCE. REDUCING BY STEPS UNTIL TRACK RELAY ARMATURE DROPS AWAY.

(B) PICK-UP SHUNT

SHORT CIRCUIT TO. AND GRADUALLY INCREASE THE VALUE OF RESISTANCE BY STEPS, UNTIL TRACK RELAY ARMATURE PICKS-UP

NOTE. IN CASES WHERE TRACK RELAY IS QUITE CLOSE TO TRACK, SHUNT CAN BE TAKEN ACROSS RELAY TERMINALS.

(C) BALLAST RESISTANCE

TAKE READINGS BY INSERTING AMMETERS (A); (A1) IN SERIES WITH THE FEED AND RELAY ENDS, AND USE FORMULA AS GIVEN BELOW.

$$\text{BALLAST RESISTANCE} = \frac{(V) + (VI)}{2((A) - (A1))}$$

(D) RAIL RESISTANCE

$$\text{RAIL RESISTANCE} = \frac{2((V) - (VI))}{(A) + (A1)}$$

NOTE. ALL READINGS TO BE TAKEN SIMULTANEOUSLY AS FAR AS POSSIBLE.

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CHECKED BY	W.H.E.	AUTHORITY.	—	METHOD OF TESTING	
		DATE.	9:9:59		
A.F. WIGRAM.				DC TRACK CIRCUITS	
SIGNAL ENGINEER					
				59 - YS - 46	

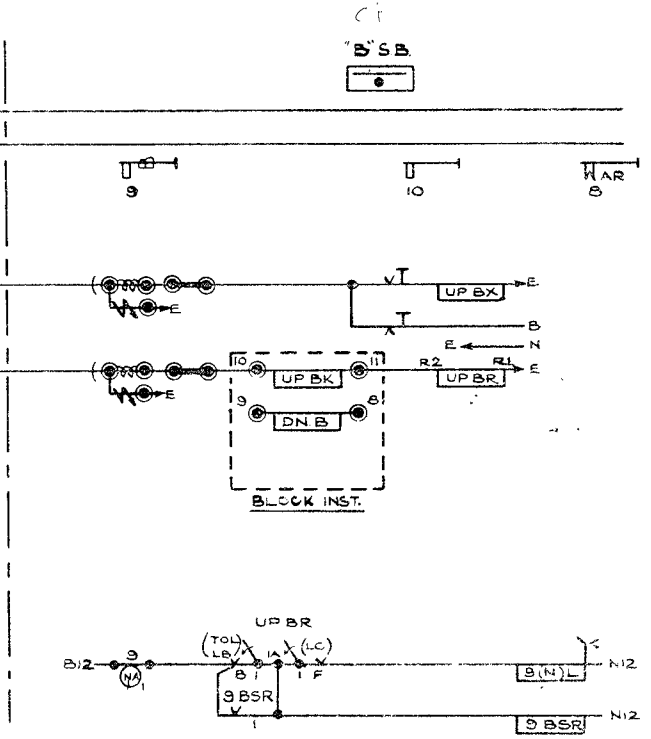
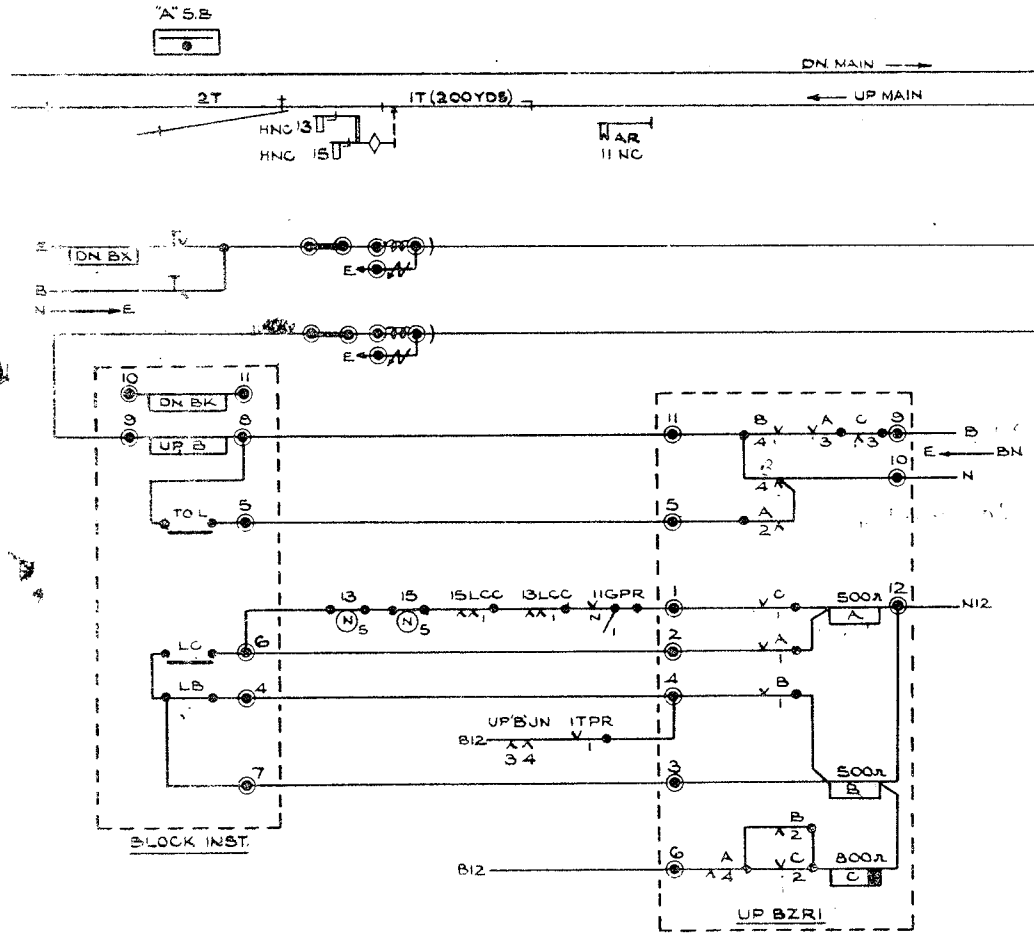
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 DATE: 9:9:59

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 JEP
 CORE. REF. ST.4250

BRITISH RAILWAYS.
 N.E. REGION.
 TYPICAL BLOCK CONTROLS

A.F. WIGRAM.

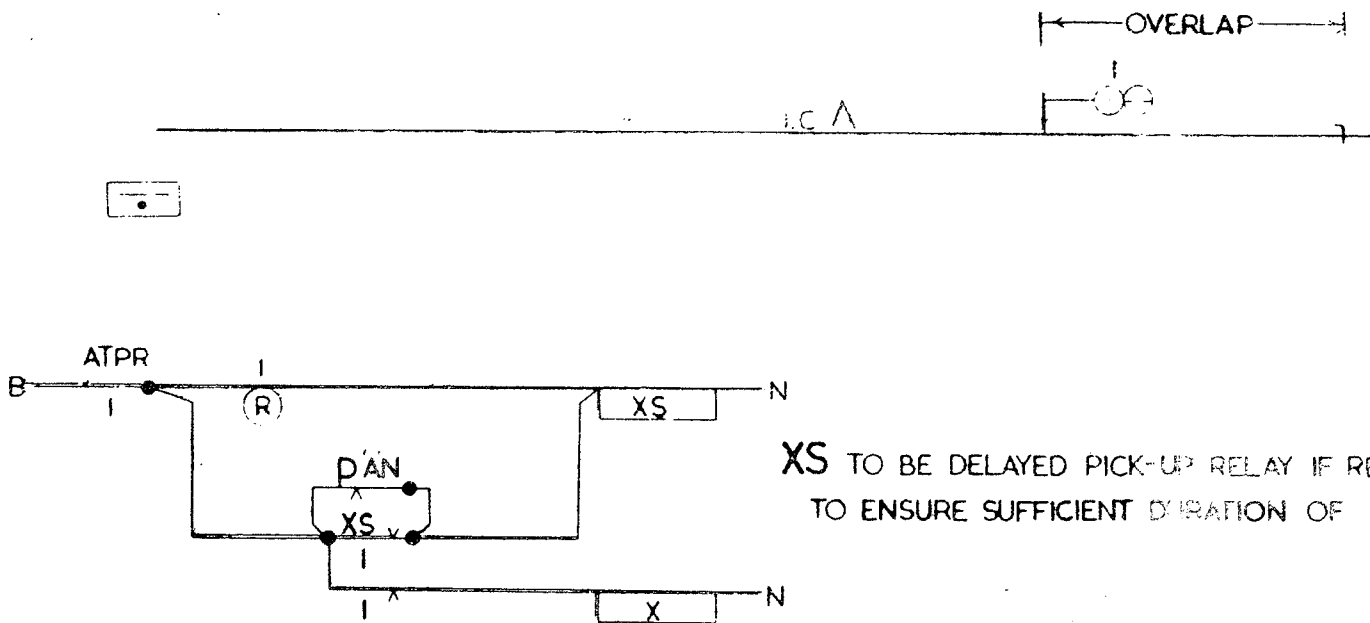
(SILWYN)



NOTE -
 SEQUENTIAL LOCKING BETWEEN N° 9 & 10 AND N° 10 LEVER TO BE NORMAL IN THE UP BLOCK CONTROL AT 'B' SB. ENSURING THAT N° 9 IS RESTORED TO NORMAL AFTER THE PASSAGE OF EACH TRAIN. THUS THE RELEASE BY LINE CLEAR OF N° 9 IS EFFECTIVE FOR ONE MOVEMENT ONLY.

LB. C&B. etc.

5/2/2



XS TO BE DELAYED PICK-UP RELAY IF REQUIRED TO ENSURE SUFFICIENT DURATION OF SHORT RING.

NOTES

- IF LEVER No.1 IS REVERSE, A SHORT RING IS GIVEN WHEN THE TRAIN CLEARS THE OVERLAP.
- IF LEVER No.1 IS NORMAL, A CONTINUOUS RING IS GIVEN WHEN THE TRAIN CLEARS THE OVERLAP.
- AN: ACKNOWLEDGEMENT PLUNGER

1/5/3/1

INTERMEDIATE **Block** Signal

"TRAIN RUNNING AWAY" INDICATION

NO SEPARATE OVERLAP TRACK PROVIDED

BRITISH RAILWAY
STANDARD

ELECTRICAL SIGNALLING

DATE	DRAWING No.
5. 7. 51.	BRS - SE 4

224/40

USING STANDARD SIGNALLING RELAYS)

SEPARATE OVERLAP TRACK PROVIDED
 TRAIN RUNNING AWAY INDICATION

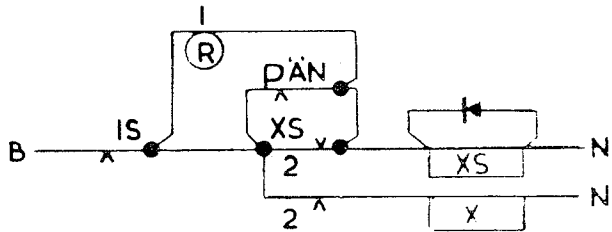
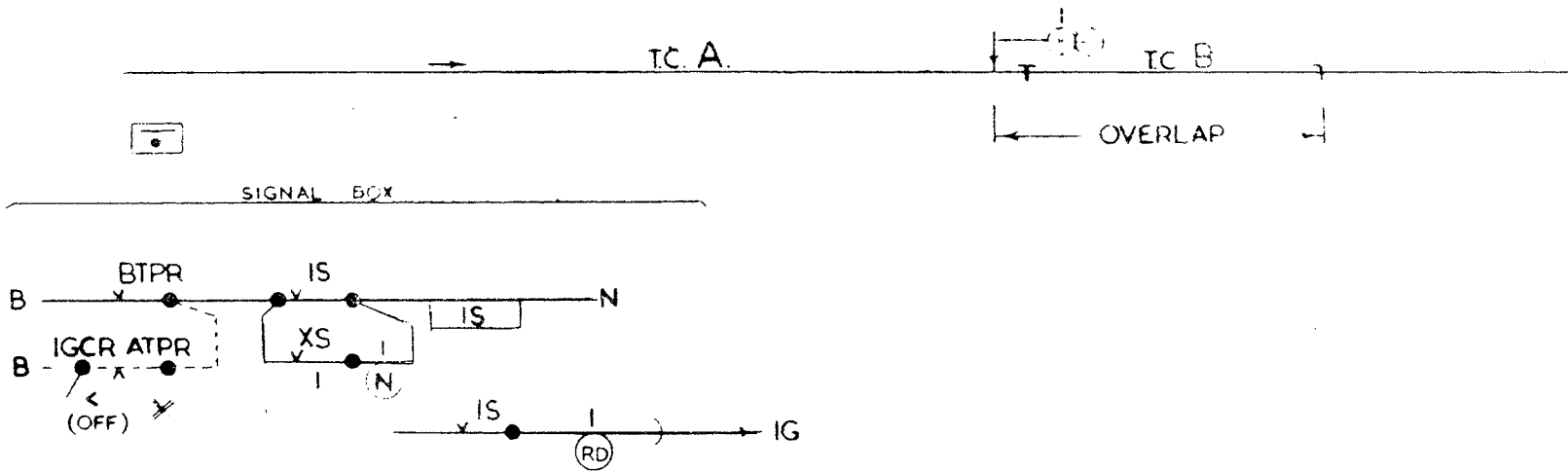
INTERMEDIATE BLOCK SIGNAL

BRITISH RAILWAY
 STANDARD

ELECTRICAL SIGNALLING

DATE DRAWING NO.

5. 7. 51 BRS SES



NOTES

IF LEVER No.1 IS REVERSED, A SHORT RING IS GIVEN WHEN THE TRAIN OCCUPIES TRACK CIRCUIT 'B'.

IF LEVER No.1 IS NORMAL A CONTINUOUS RING IS GIVEN WHEN THE TRAIN OCCUPIES TRACK CIRCUIT 'B'.

AN = ACKNOWLEDGEMENT PLUNGER.

* DOTTED WIRING TO BE ADDED WHERE CAST WHEEL REPLACEMENT REQUIRED (1 LEVER RD CONTACT MAY BE SUBSTITUTED FOR IGCR CONTACT WHERE SPARE RELAY CONTACTS ARE NOT AVAILABLE).

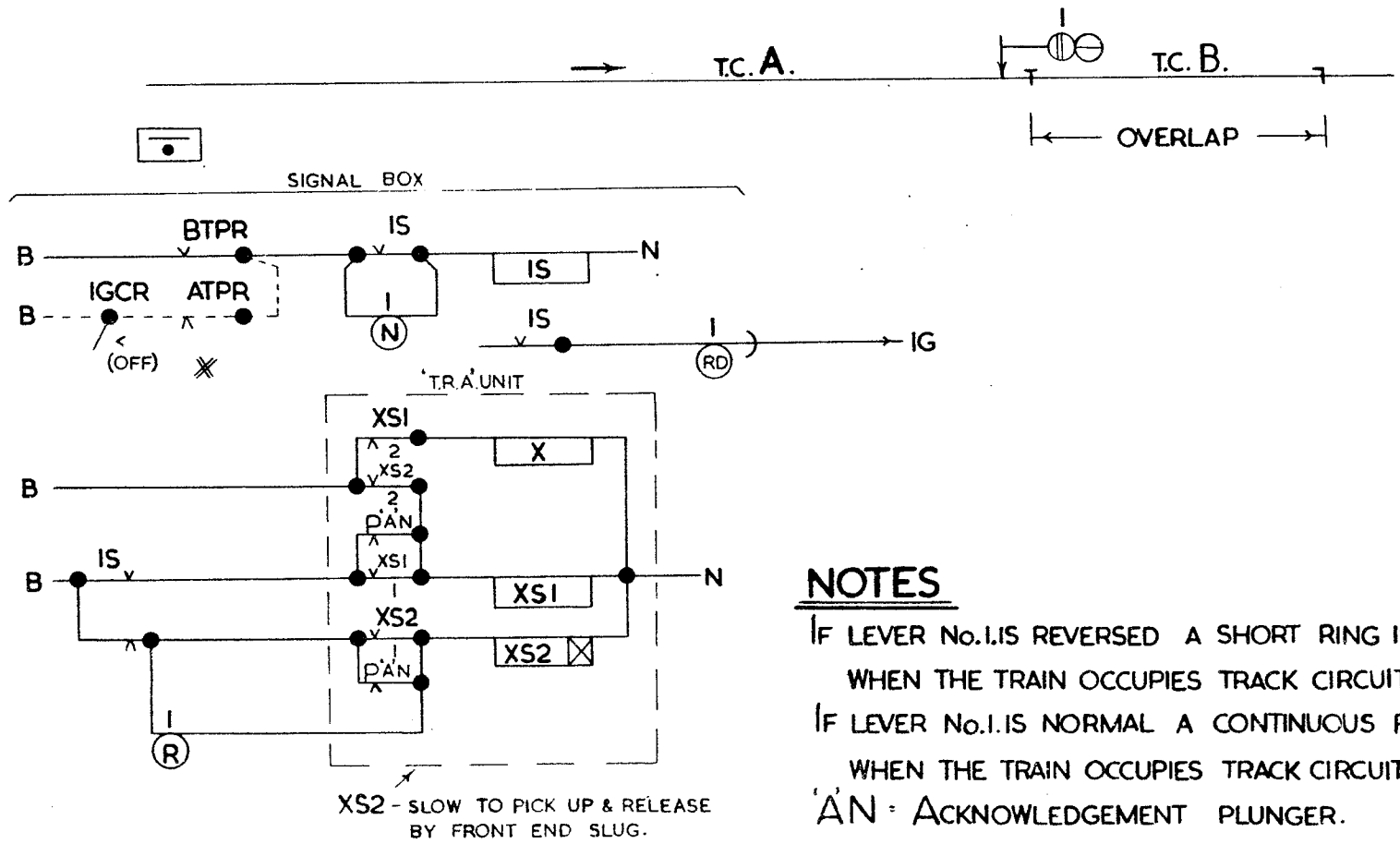
S/3/2

12

INTERMEDIATE BLOCK SIGNAL
 "TRAIN RUNNING AWAY" INDICATION
 SEPARATE OVERLAP TRACK PROVIDED
 USING TELEPHONE TYPE RELAYS
 FOR TRA UNIT.)

BRITISH RAILWAY
 STANDARD
 ELECTRICAL SIGNALLING

DATE	DRAWING No.
5. 7. 51.	BRS - SE6



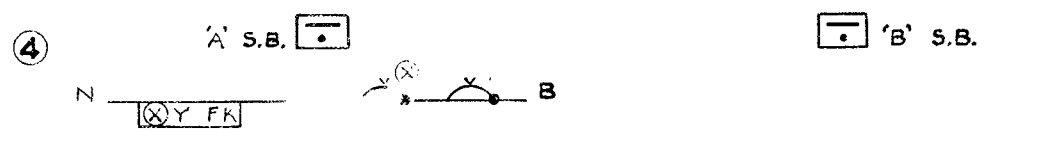
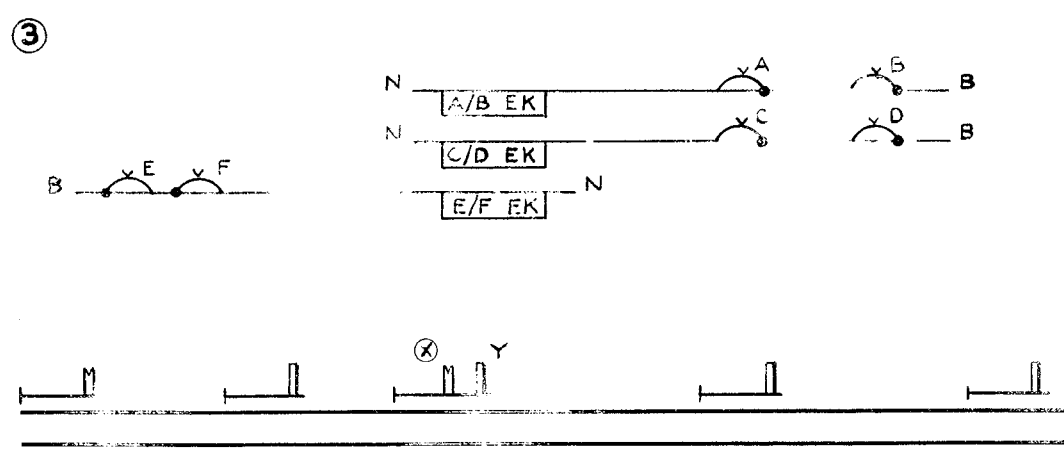
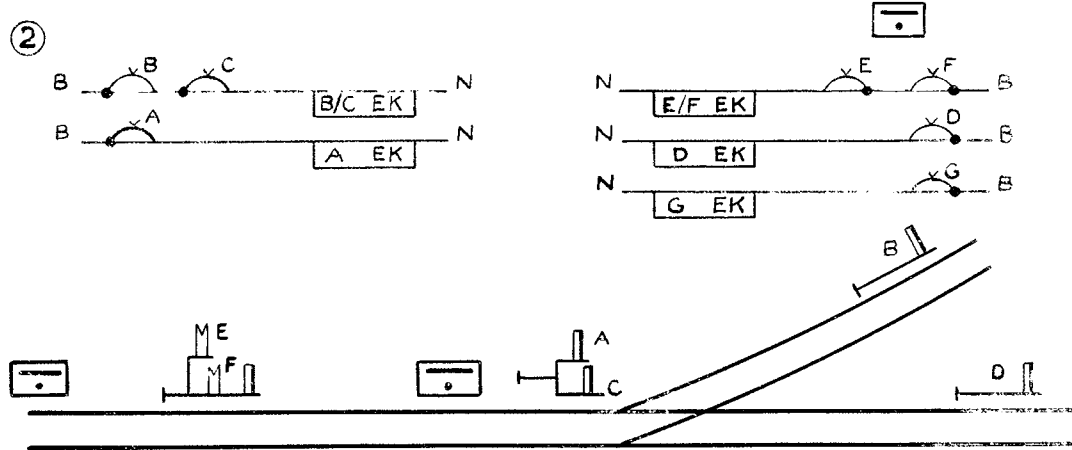
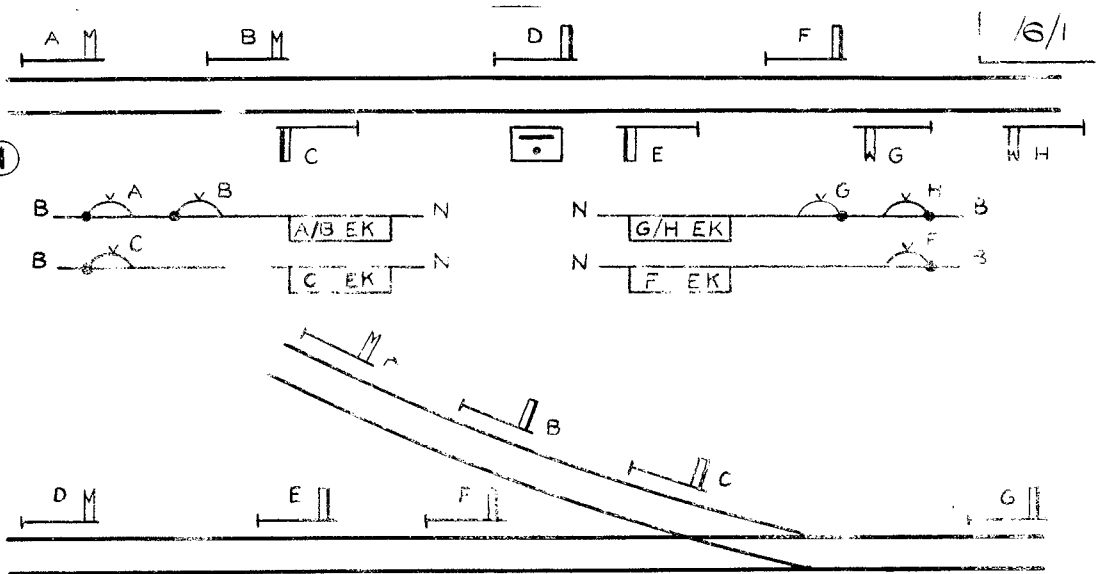
NOTES

IF LEVER No.1 IS REVERSED A SHORT RING IS GIVEN WHEN THE TRAIN OCCUPIES TRACK CIRCUIT 'B'.
 IF LEVER No.1 IS NORMAL A CONTINUOUS RING IS GIVEN WHEN THE TRAIN OCCUPIES TRACK CIRCUIT 'B'.
 'AN' = ACKNOWLEDGEMENT PLUNGER.

X DOTTED WIRING TO BE ADDED WHERE LAST WHEEL REPLACEMENT REQUIRED (1 LEVER RD CONTACT MAY BE SUBSTITUTED FOR IGCR CONTACT WHERE SPARE RELAY CONTACTS ARE NOT AVAILABLE).

S/3/3

5.



ASSUMING 'A' S.B. OPEN CONTINUOUSLY

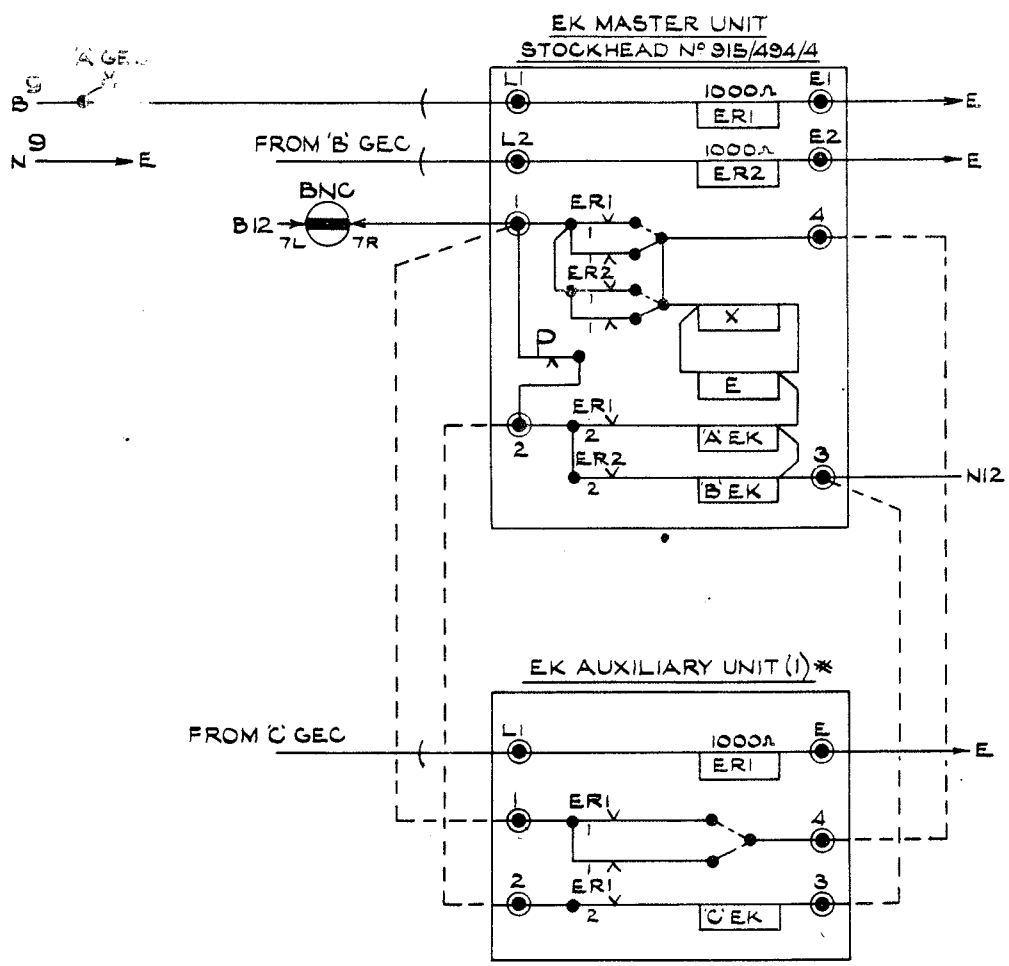
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CHECKED BY	RFC	AUTHTY	
INDOOR ASST	W.H.	DATE	27-4-50

BR NER

REPEATING OF OIL SIGNAL LAMPS

S&T ENGINEER

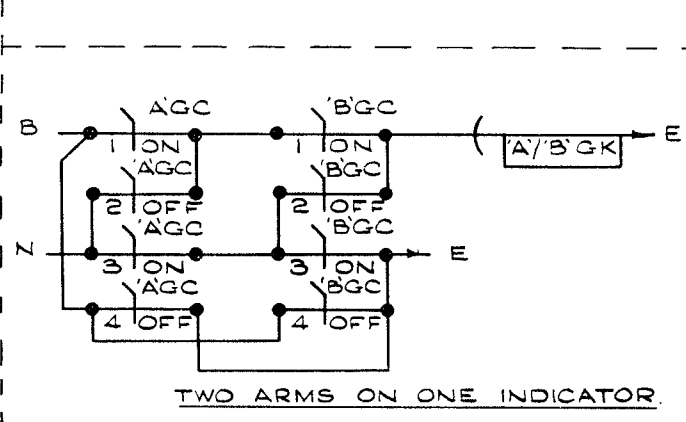
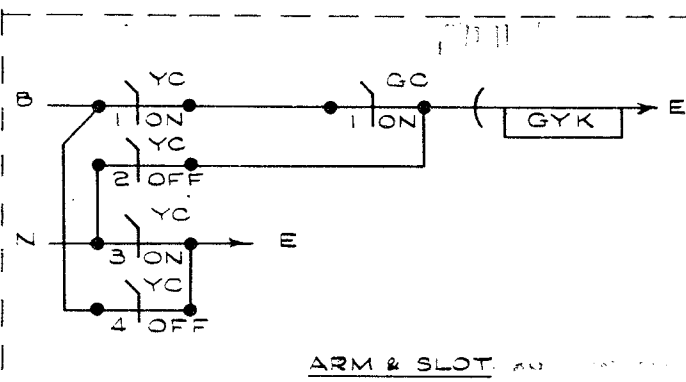
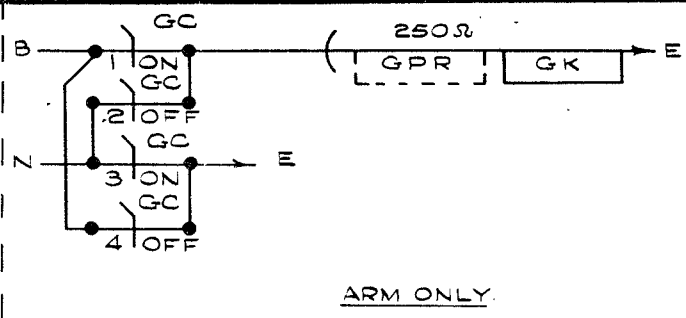
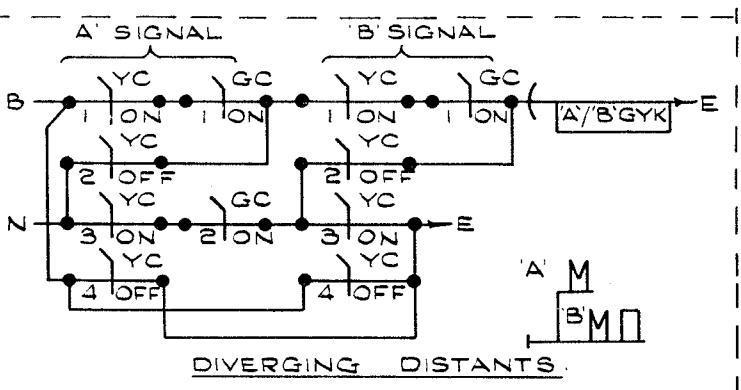
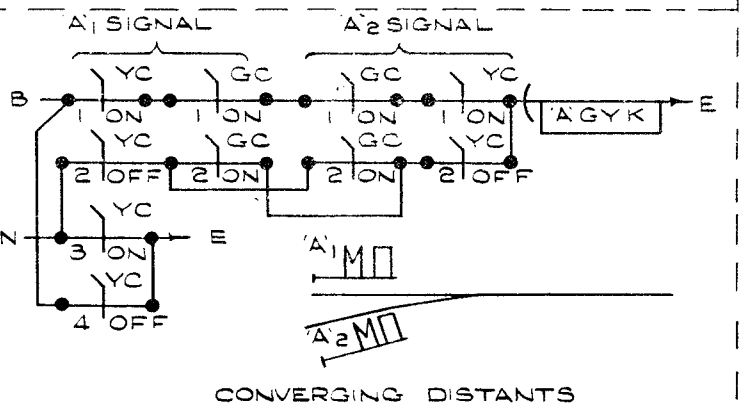
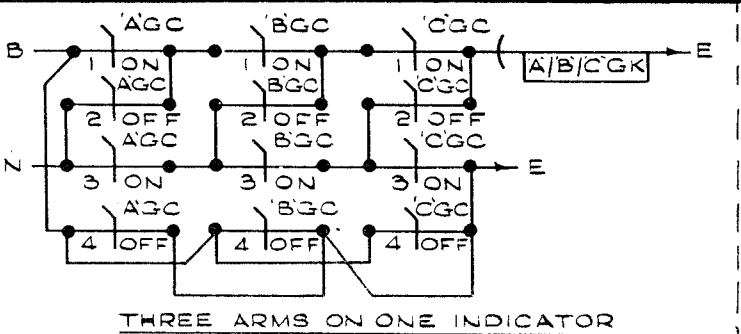
50. Y S. 168.



- 1. ADDITIONAL CONTACT IN BLOCK SWITCH TO BE PROVIDED WHERE SB CLOSSES
- 2. IF LESS THAN 3 INDICATIONS AUXILIARY UNIT NOT REQUIRED
IF MORE " " " EK AUXILIARY UNIT (2) OR (3) TO BE USED

3. *	AUXILIARY UNIT (1)	- 1	ADDITIONAL EK.	STOCKHEAD N° 915/494/1
	"	"	(2) - 2	" " EK's " " 915/494/2
	"	"	(3) - 3	" " EK's " " 915/494/3

DRAWN BY	J.E.P.	CORR. REF.	ST. 4250	BRITISH RAILWAYS.	N.E. REGION.
CHECKED BY	W.H.E.	AUTHORITY.	—	<u>STANDARD WIRING</u> <u>FOR</u> <u>LIGHT REPEATER INDICATION UNITS</u>	
		DATE.	9: 9: 59		
A. F. WIGRAM. <i>A. F. Wigram</i> ----- SIGNAL ENGINEER.				59 - YS - 39	



- GENERAL NOTES**
1. IF GPR REQUIRED IN GK CIRCUIT WIRING TO BE AS SHOWN IN CASE NO. 1
 2. BATTERY VOLTAGE FOR GK CIRCUIT WITH GPR & V. WITHOUT GPR 3V.
 3. GK RESISTANCE 250Ω. WHEN GPR NOT REQUIRED. 50Ω WHEN GPR REQUIRED.

DRAWN	WGB
TRACED	JPH
CHECKED	L.N.
APPROVED	
DATE	31.1.63
CORR REF.	ST. 453.
AUTHORITY	
A. F. WIGRAM	
CHIEF SIGNAL ENGINEER AND TELECOMM. ENGINEER.	

BRITISH RAILWAYS. N.E. REGION.

STANDARD WIRING DIAGRAMS.

SIGNAL ARM REPEATERS.

63 - YS - 459

S/7/1

ILLUSTRATION OF LAMPS
Nos SL 17, 22 & 34

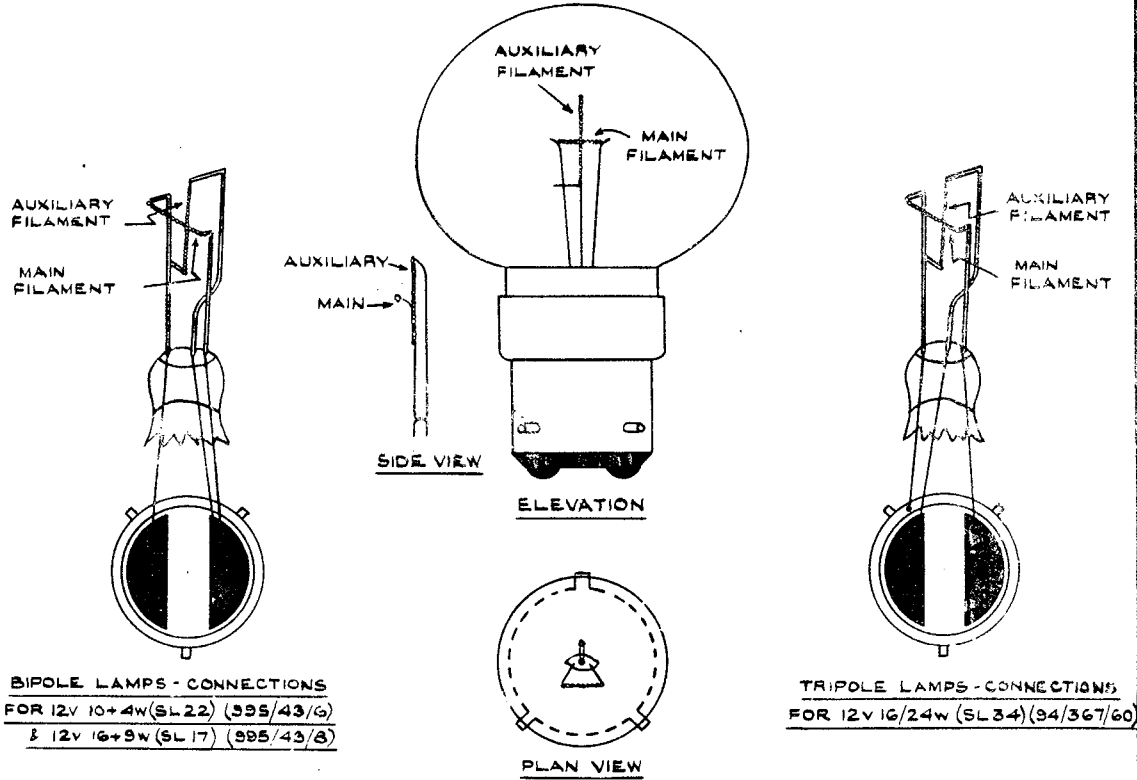
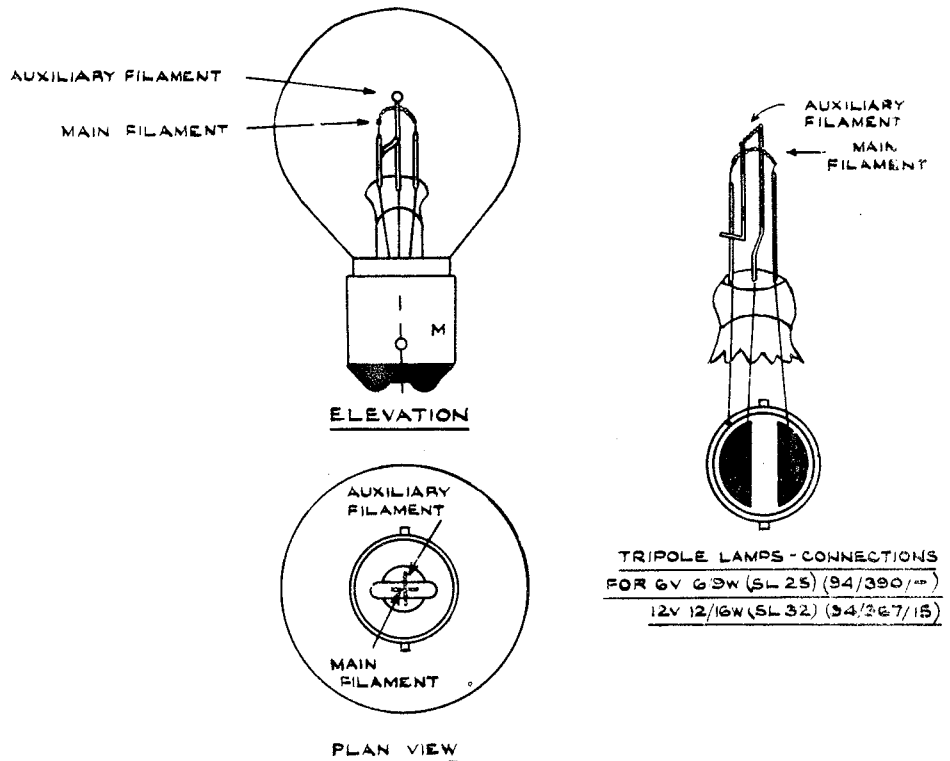
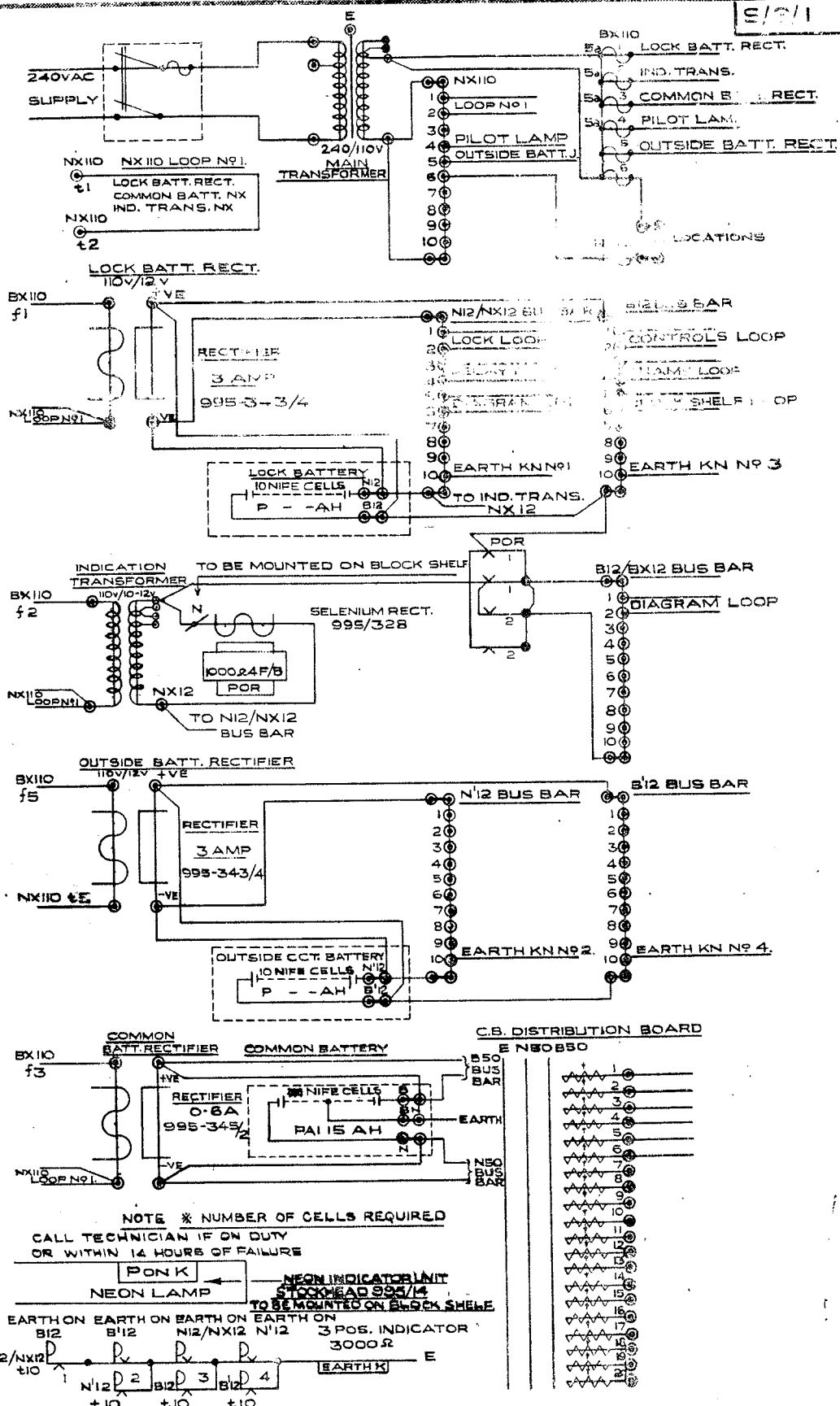


ILLUSTRATION OF LAMPS
Nos SL 25 & 32



DRAWN BY	J.E.P.	CORR. REF.	ST. 4250	BRITISH RAILWAYS.	N.E. REGION
CHECKED BY	W.H.E.	AUTHORITY.	—	DETAILS OF BIPOLE AND TRIPOLE LAMPS	
		DATE.	9:9:59		
A. F. WIGRAM.				59 - YS - 78	
SIGNAL ENGINEER.					




NOTE * NUMBER OF CELLS REQUIRED
 CALL TECHNICIAN IF ON DUTY
 OR WITHIN 14 HOURS OF FAILURE

NEON LAMP
 NEON INDICATOR UNIT
 STOCKHEAD 995/14
 TO BE MOUNTED ON BLOCK SHELF

EARTH ON B12 ON N12/NX12 ON 3 POS. INDICATOR ON EARTH ON
 B12 B12 N12/NX12 3 POS. INDICATOR
 3000 Ω

CELL TYPES	PAI 15AH STOCKHEAD No 991/5/15
	PV3 30AH " " 991/5/35
	PV6 45AH " " 991/5/45

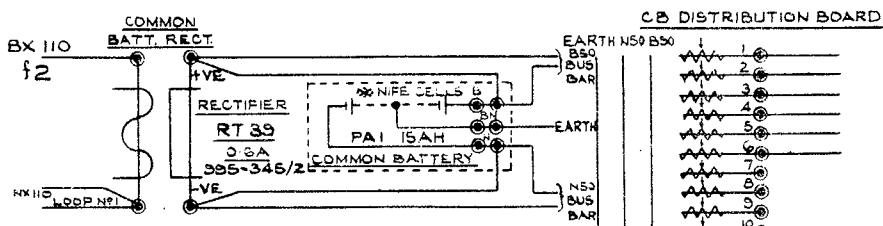
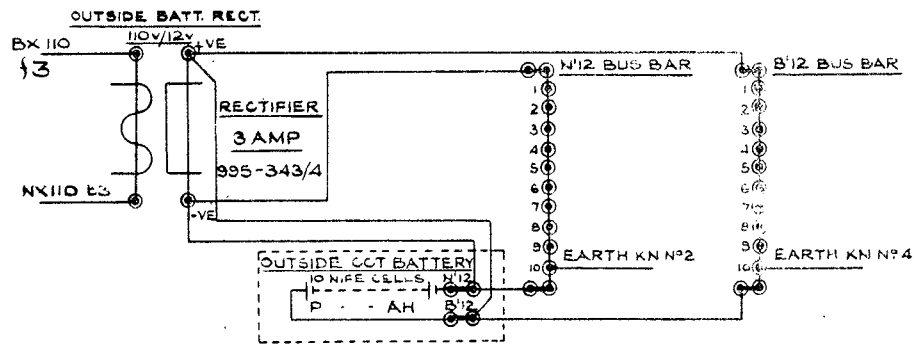
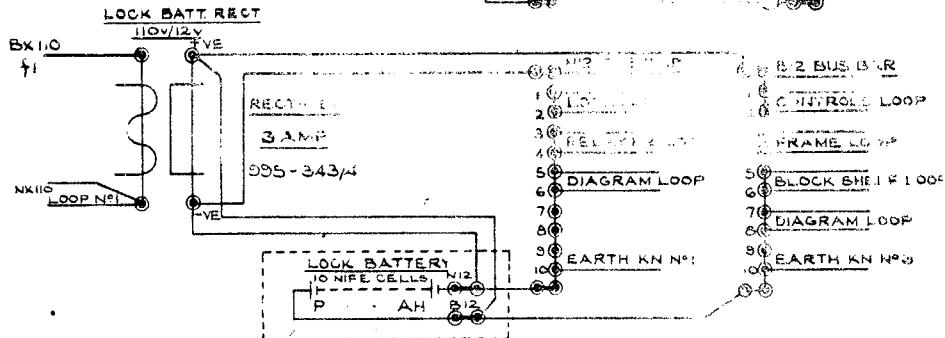
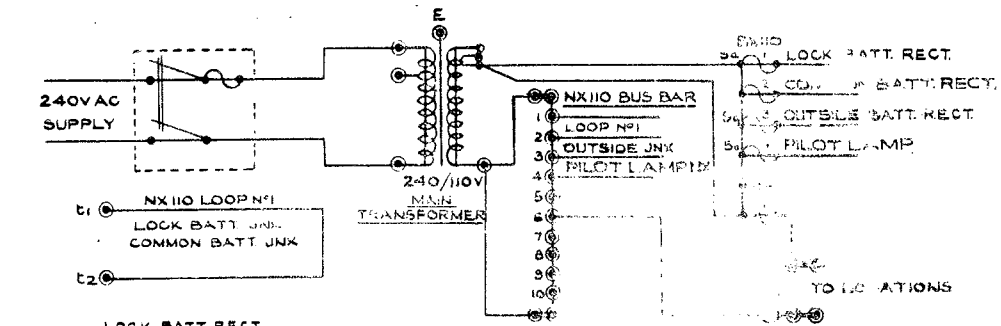
TYPE A - MORE THAN 10 INDICATIONS;
 TYPE B - 10 OR LESS INDICATIONS
 WIRING TO BE 1/0.44 CABLE

DRAWN BY	D.T.P.	CORR. REP.	ST. 4250
CHECKED BY	JATA	DATE	
A.F. WIGRAM			
 CHIEF S. & T. ENGINEER			

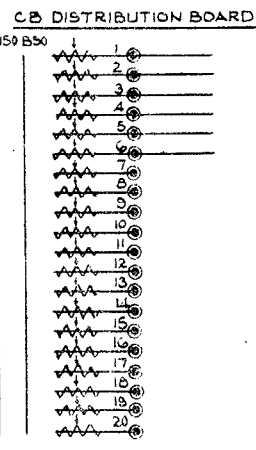
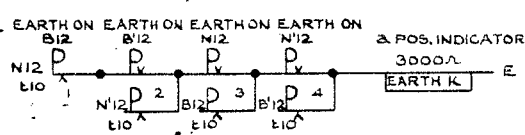
BRITISH RAILWAYS. N.E. REGION.

STANDARD DRAWING
 OF
POWER SUPPLY CIRCUITS
 TYPE "A"

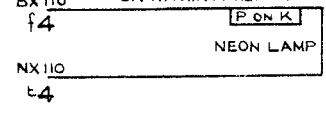
61 - YS - 602



NOTE * NUMBER OF CELLS REQUIRED



CALL TECHNICIAN IF ON DUTY OR WITHIN 14 HOURS OF FAILURE



NEON INDICATOR UNIT STOCKHEAD 995/14 TO BE MOUNTED ON BLOCK SHELF

CELL TYPES	PA1 15AH STOCKHEAD N° 991/5/15	TYPE A - MORE THAN 10 INDICATIONS
	PV3 30AH - 991/5/35	TYPE B - 10 OR LESS INDICATIONS
	PV5 45AH - 991/5/45	WIRING TO BE 1/0.044 CABLE

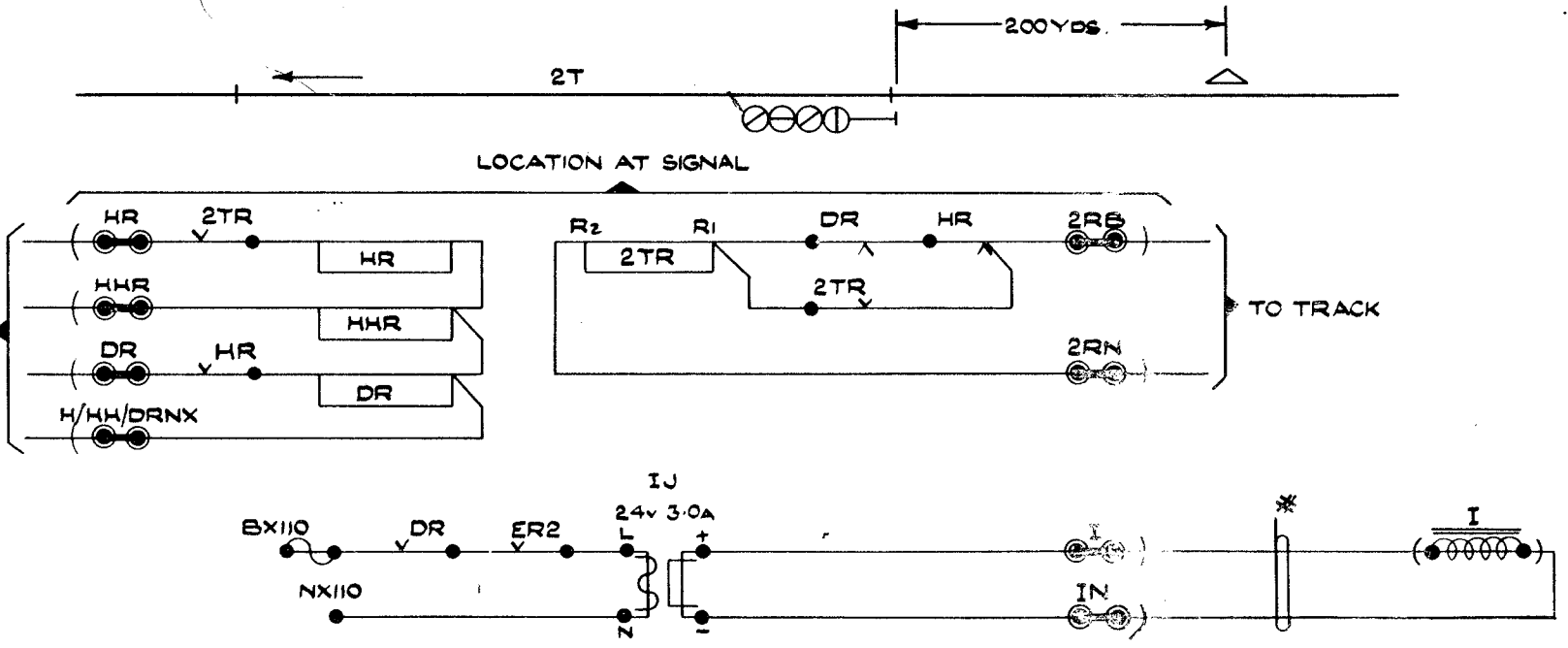
DRAWN BY	J.E.P.	CORR. REF.	ST. 4250
CHECKED BY	W.H.E.	AUTHORITY.	—
		DATE.	9:9:59

BRITISH RAILWAYS. N.E. REGION.
STANDARD DRAWING
OF
POWER SUPPLY CIRCUITS
TYPE 'B'

A.F. WIGRAM
A.F. Wigram
SIGNAL ENGINEER.

DRAWN BY A.F.W.	M.C.M.	CORR. REF.	ST 80
	A.M.		
CHECKED BY P.P.A.	AUTHORITY	DATE	23-2-59

FROM
 SIGNAL
 LEAD

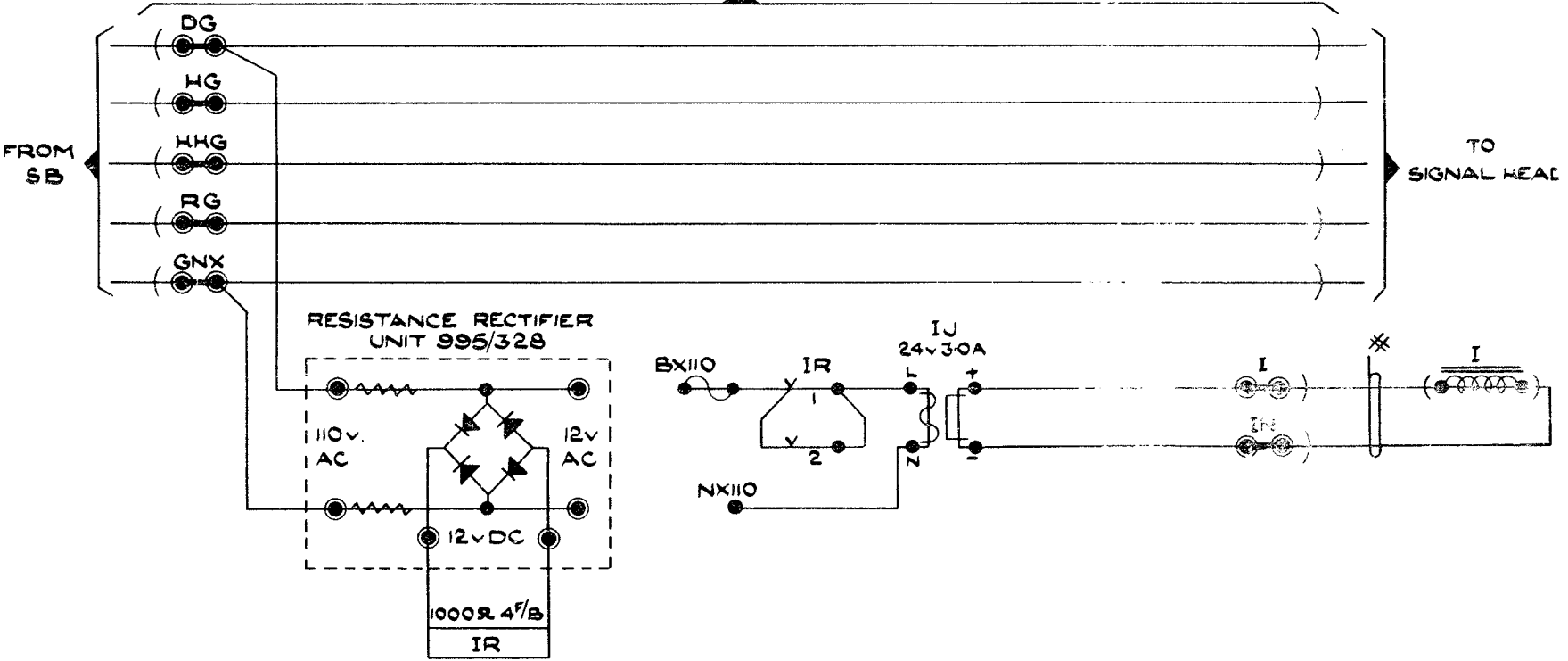
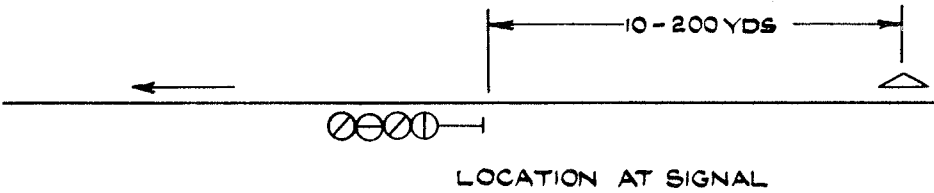


BRITISH RAILWAYS
 N.E. REGION
 AUTOMATIC TRAIN CONTROL
 TYPICAL CIRCUIT FOR A
 MULTI-UNIT SIGNAL
 WITH LOCAL FEED

Z.B. ER2 PROVES EITHER FILAMENT.
 * 2c 7/029 PCP SHEATHED CABLE.

SIGNAL ENGINEER
 A.F.W.

59-Y5-35/1



* 2C.7/029 PCP SHEATHED CABLE

DRAWN BY	M.C.M.	CORR. REF.	ST 90
CHECKED BY	A.M.	AUTHORITY	
	DATE		20.2.59

A.F. Wigman

[Signature]

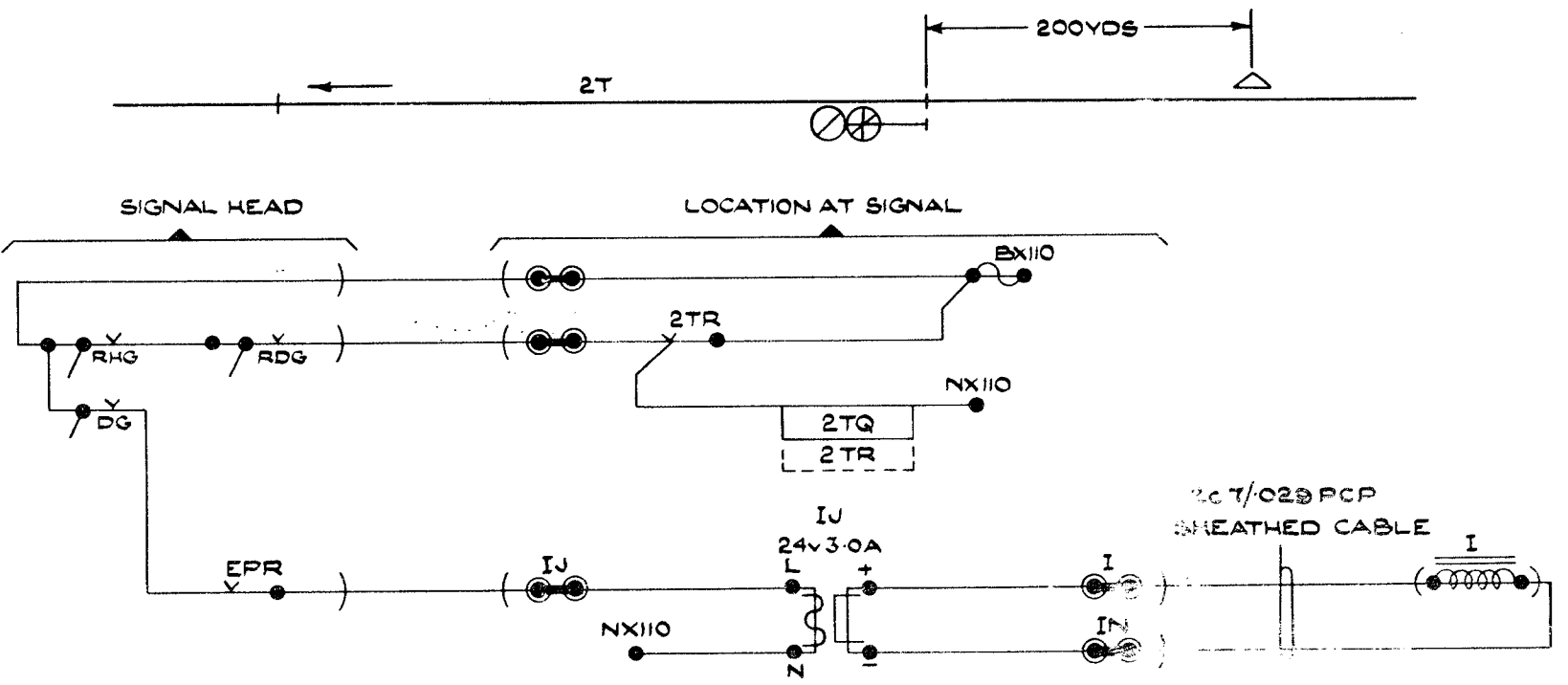
SIGNAL ENGINEER

BRITISH RAILWAYS N.E. REGION

AUTOMATIC TRAIN CONTROL

TYPICAL CIRCUIT FOR A
MULTI-UNIT SIGNAL
WITH SB CONTROL

59-YS-35/2



DRAWN BY	MGM	CORR. REF.	ST 80
CHECKED BY	JRM	AUTHORITY	
DATE	20-2-59		

BRITISH RAILWAYS N.E. REGION

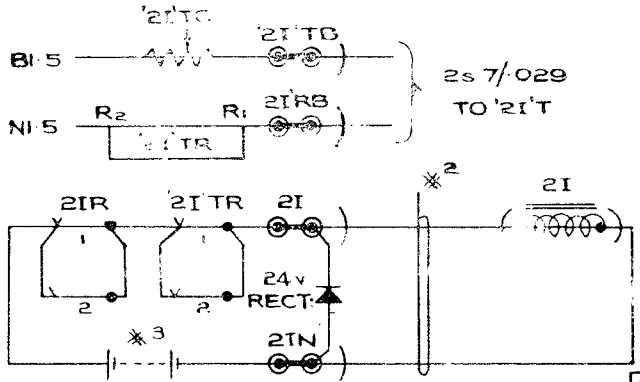
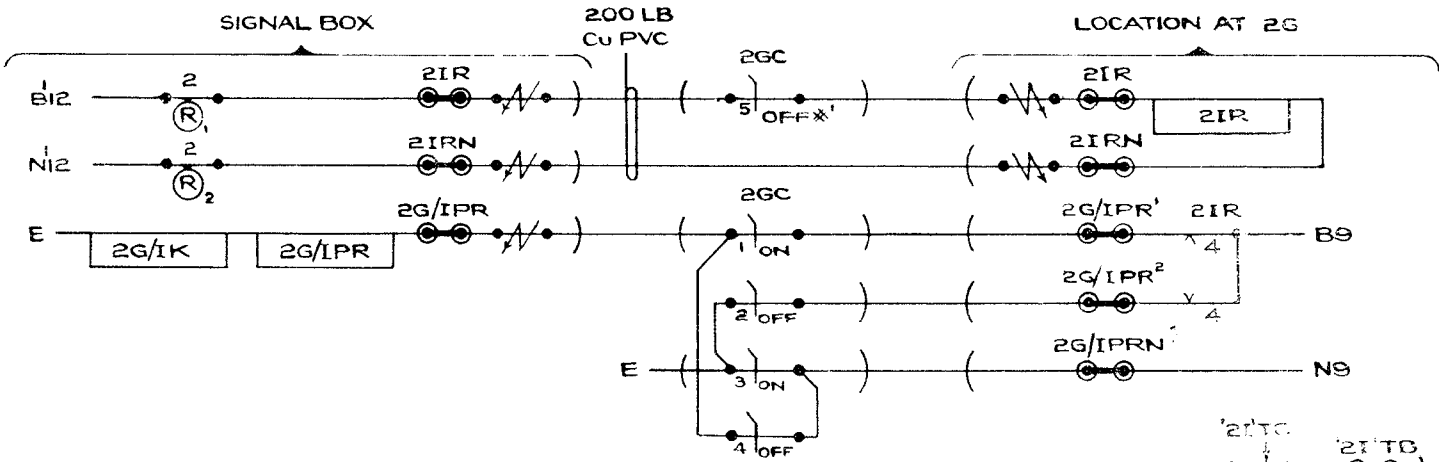
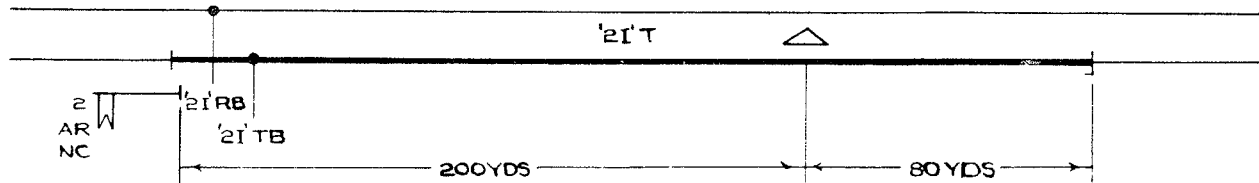
AUTOMATIC TRAIN CONTROL

TYPICAL CIRCUIT FOR A
SEARCHLIGHT SIGNAL

A.F. Wignall
21/1/59

SIGNAL ENGINEER

59-YS-35/3



- NOTES - TR COILS TO BE CONNECTED IN PARALLEL
TR TO PICK UP WITH 0.5 OHMS ACROSS RAILS
TRACK BATTERY TO BE ONE ADS.0 CELL
- *1 CONTACT TO MAKE FROM 27°
 - *2 2c 7/029 PCP SHEATHED CABLE
 - *3 12. ADS.0 CELLS.

DRAWN BY	MCM	CORR REF	ST90
CHECKED BY	JRH	AUTHORITY	
DATE	17.11.58		

BR. **AUTOMATIC TRAIN CONTROL** N.E.R.

TYPICAL CIRCUIT FOR A
MECHANICAL SIGNAL.
 (PRIMARY BATTERY)

A.F. Wigram
JRH

SIGNAL ENGINEER

59 - YS - 35/4

SIGNAL ENGINEER

59 - YS - 35/5

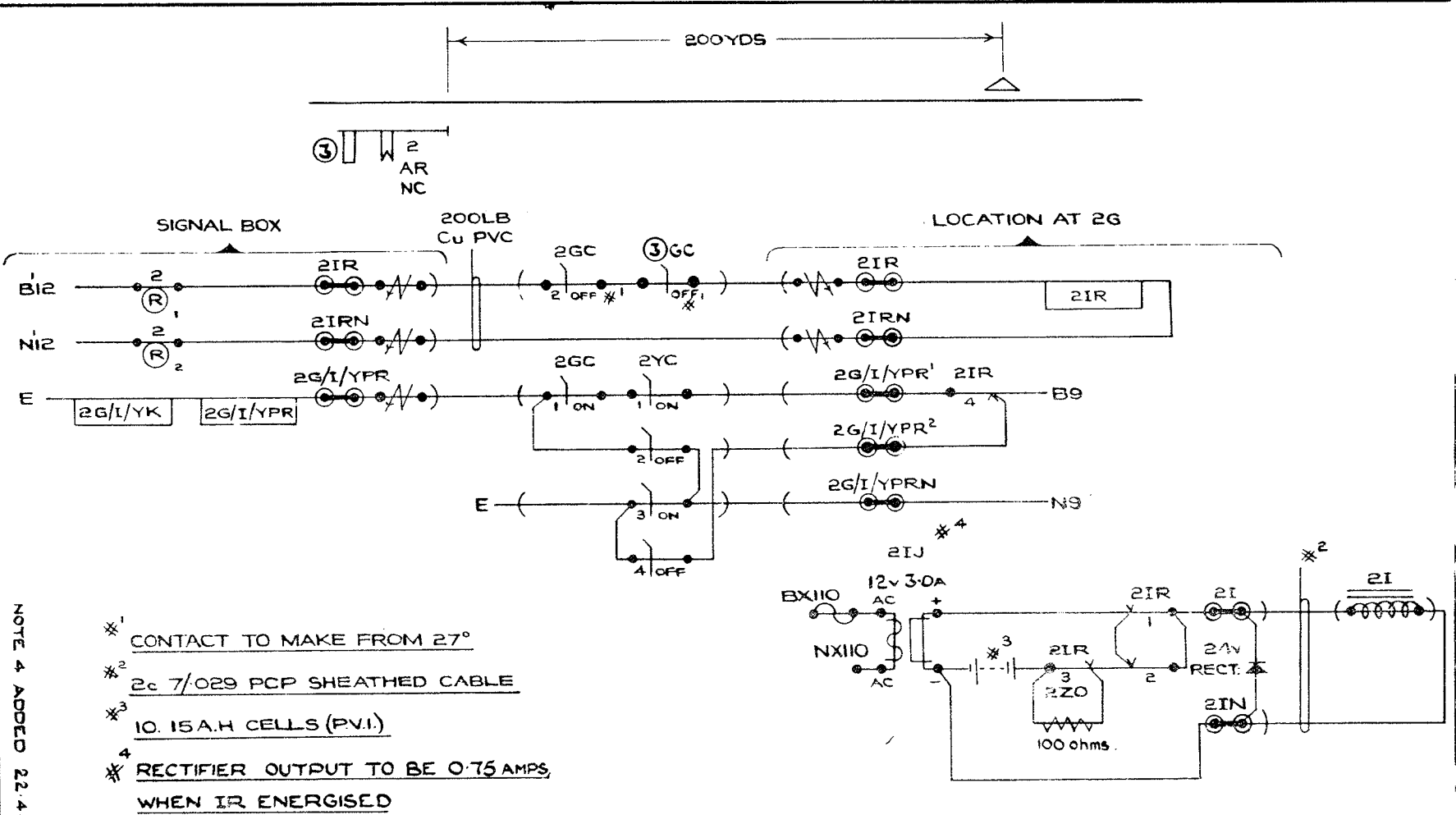
MECHANICAL SIGNAL
(POWER AVAILABLE)

AUTOMATIC TRAIN CONTROL

DRAWN BY	MGM	CORR. REF.	STBO
CHECKED BY	JPTA	AUTHORITY	
DATE	17-11-58		

B/R	N/E/R
-----	-------

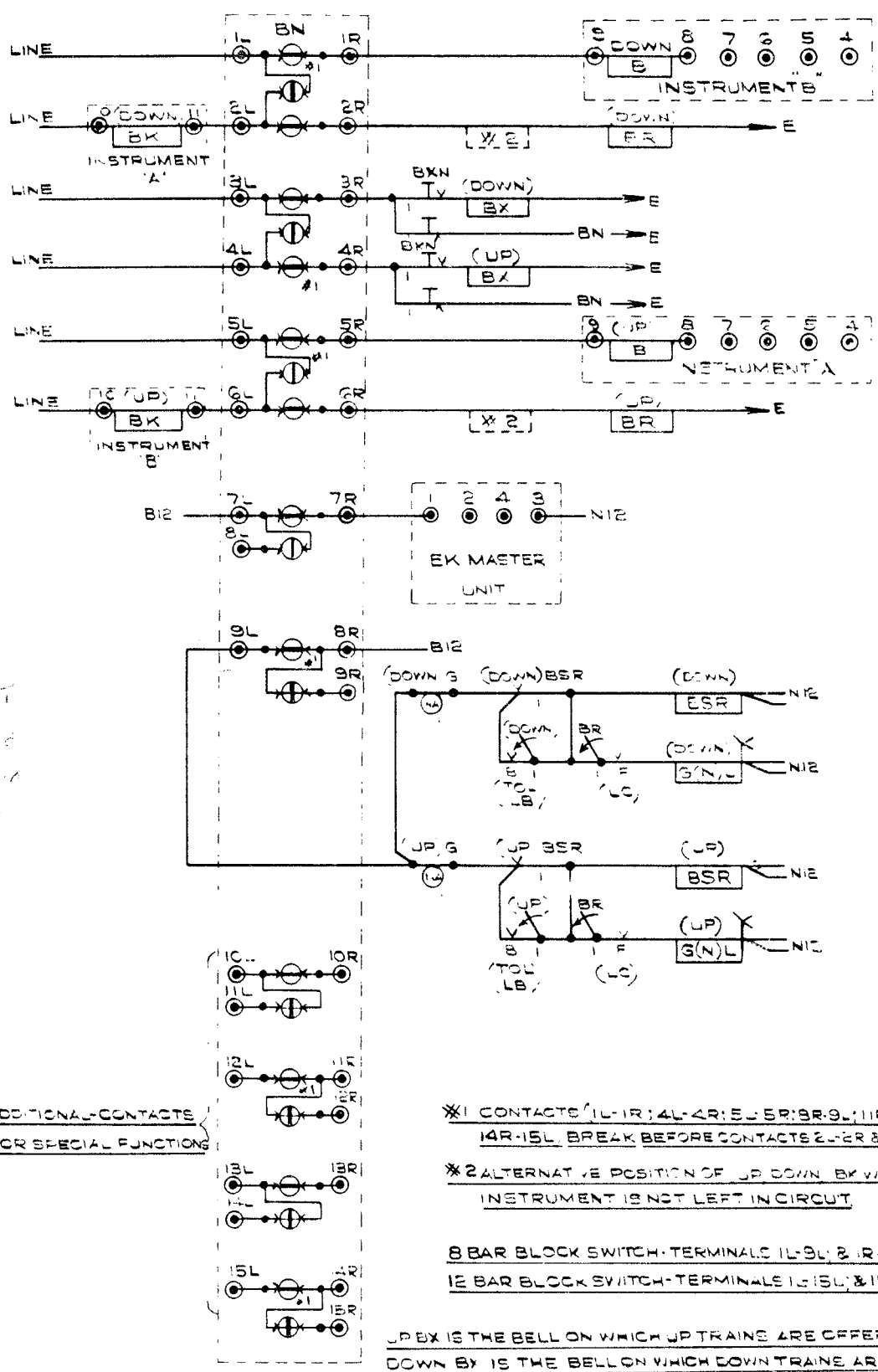
NOTE 4 ADDED 22.4.59 JAF/A/AM



- *₁ CONTACT TO MAKE FROM 27°
- *₂ 2c 7/029 PCP SHEATHED CABLE
- *₃ 10.15A.H CELLS (P.V.I.)
- *₄ RECTIFIER OUTPUT TO BE 0.75 AMPS, WHEN IR ENERGISED

S17/5

24



ADDITIONAL-CONTACTS FOR SPECIAL FUNCTIONS

*1 CONTACTS (1L-1R; 4L-4R; 5L-5R; 9R-9L; 11R-12L & 14R-15L. BREAK BEFORE CONTACTS 2L-2R & 3L-3R

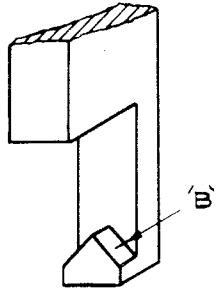
*2 ALTERNATIVE POSITION OF UP/DOWN BY WHERE INSTRUMENT IS NOT LEFT IN CIRCUIT

8 BAR BLOCK SWITCH-TERMINALS 1L-9L & 1R-9R
12 BAR BLOCK SWITCH-TERMINALS 1L-15L & 1R-5R

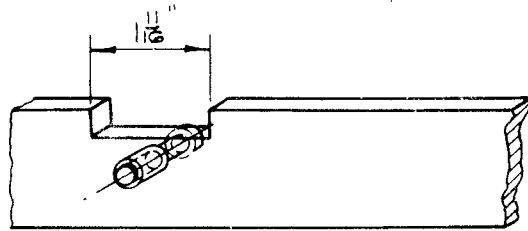
UP BX IS THE BELL ON WHICH UP TRAINS ARE OFFERED
DOWN BY IS THE BELL ON WHICH DOWN TRAINS ARE OFFERED

DRAWN BY	P.A.H	CORR. REF
CHECKED BY		AUTHORITY
		DATE
FOR USE IN SIGNAL SCHOOL YORK.		
SIGNAL ENGINEER		

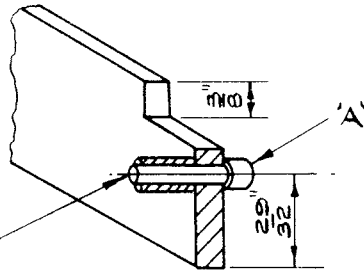
BRITISH RAILWAYS N.E. REGION
STANDARD 8 OR 12 BAR
(UNIVERSAL BLOCK SWITCH)
ARRANGEMENT & WIRING DETAILS
61-YSS-7



BOTTOM END OF FORCED DROP LOCK



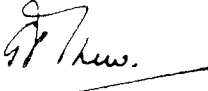
GROOVE & PIN IN PLUNGER
(PIN IS IN CENTRE OF GROOVE)



THIS END OF PIN RIVETTED OVER

SECTION THROUGH PLUNGER SHOWING ASSEMBLY OF STUD

IF LOCK SHOULD STICK UP, SHORT END (A) OF STUD WILL BEAR ON TAPER FACE 'B' ON LOCK, FORCING IT DOWN

DRAWN BY	R. M.	CORR. REF		BRITISH RAILWAYS.	NE. REGION
TRACED BY	D. C. S.	AUTHORITY		<u>LEVER LOCK, ELECTRIC.</u> <u>OPERATION OF FORCED DOWN FEATURE</u>	
CHECKED BY	NEP	DATE	10.7.63		
A. F. WIGRAM				<u>63 - YS - 577.</u>	
 CHIEF S & T ENGINEER.					

DRAWN	JWB
TRACED	B.S.
CHECKED	W.S.
APPROVED	W.S.
DATE	14.5.64
CORR REF	ST4250
AUTHORITY	A.F. WIGRAM
CHIEF S. & T. ENGINEER	<i>(Signature)</i>

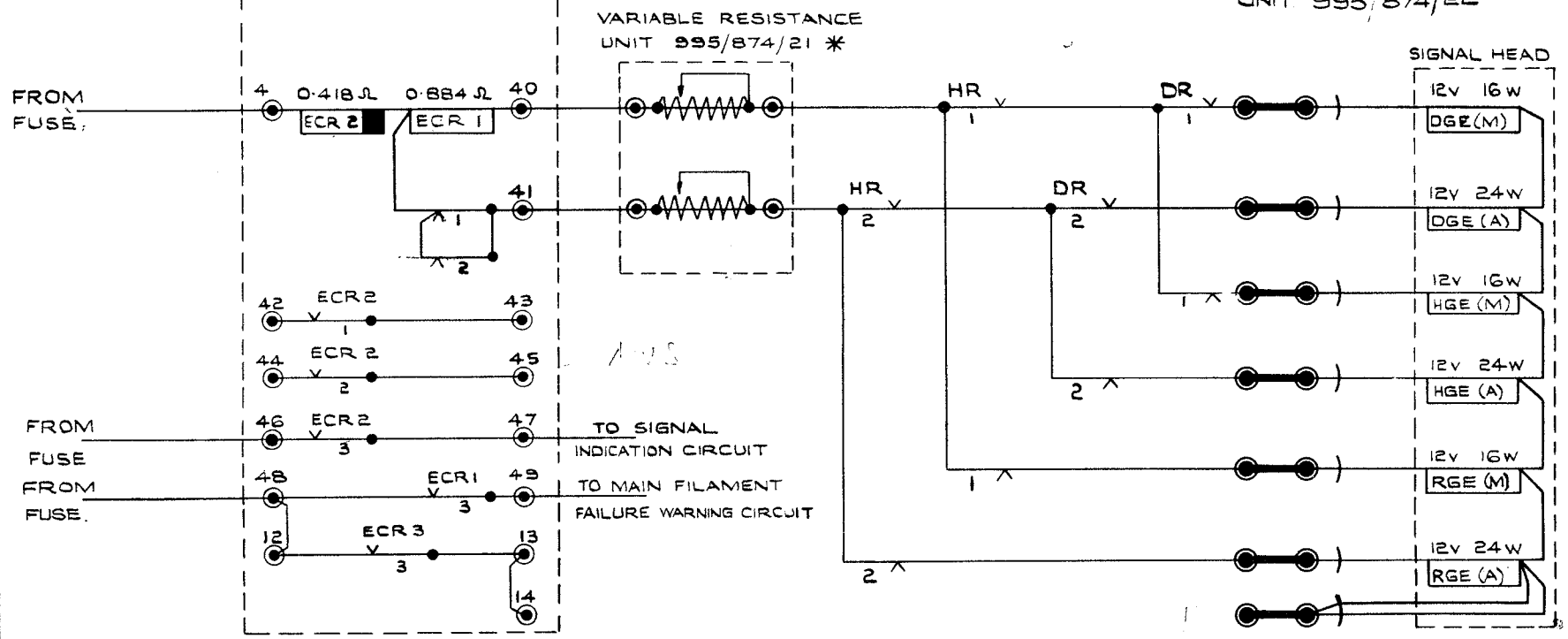
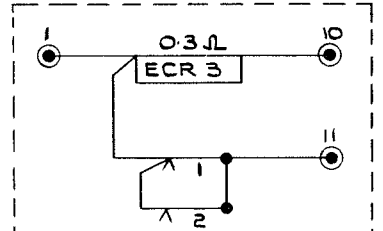
BRITISH RAILWAYS NE REGION

ECR UNIT

TYPICAL ARRANGEMENT FOR 3 ASPECT COLOUR LIGHT SIGNAL

64-YS-422.

ECR UNIT 2/3/4 ASPECT
995/170/3



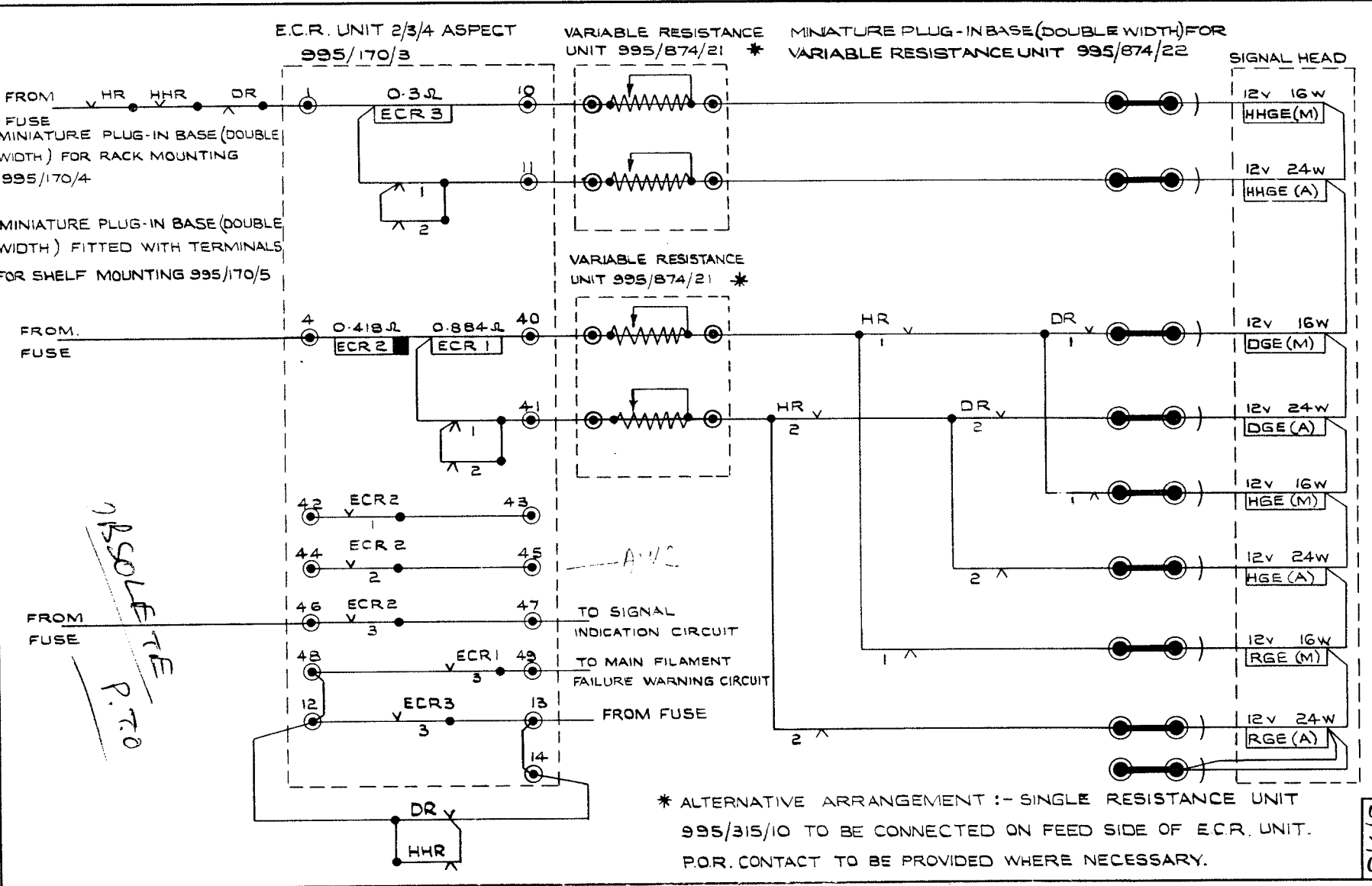
MINIATURE PLUG-IN BASE (DOUBLE WIDTH) FOR RACK MOUNTING 995/170/4

MINIATURE PLUG-IN BASE (DOUBLE WIDTH) FITTED WITH TERMINALS FOR SHELF MOUNTING 995/170/5

* ALTERNATIVE ARRANGEMENT:- SINGLE RESISTANCE UNIT 995/315/10 TO BE CONNECTED ON FEED SIDE OF E.C.R. UNIT. P.O.R. CONTACT TO BE PROVIDED WHERE NECESSARY.

MINIATURE PLUG-IN BASE (DOUBLE WIDTH) FOR VARIABLE RESISTANCE UNIT 995/874/22

CHIEF S. & T. ENGINEER A.F. WIGRAM <i>[Signature]</i>	AUTHORITY CORR. REF. ST 4250 DATE 14.5.64 APPROVED <i>[Signature]</i> CHECKED <i>[Signature]</i> TRACED B.S. DRAWN J.W.B.	BRITISH RAILWAYS NE. REGION
	TYPICAL ARRANGEMENT FOR 4 ASPECT COLOUR LIGHT SIGNAL	ECR UNIT
	64-YS-423	15/7/5
	P.70 P.SOLETE	TO SIGNAL INDICATION CIRCUIT TO MAIN FILAMENT FAILURE WARNING CIRCUIT FROM FUSE
	FROM FUSE FROM FUSE FROM FUSE	FROM FUSE FROM FUSE FROM FUSE



CHIEF SIGNAL AND TELECOMMUNICATIONS ENGINEER

A.F. WIGRAM.

DATE 21.7.55

APPROVED *[Signature]*

CHECKED *[Signature]*

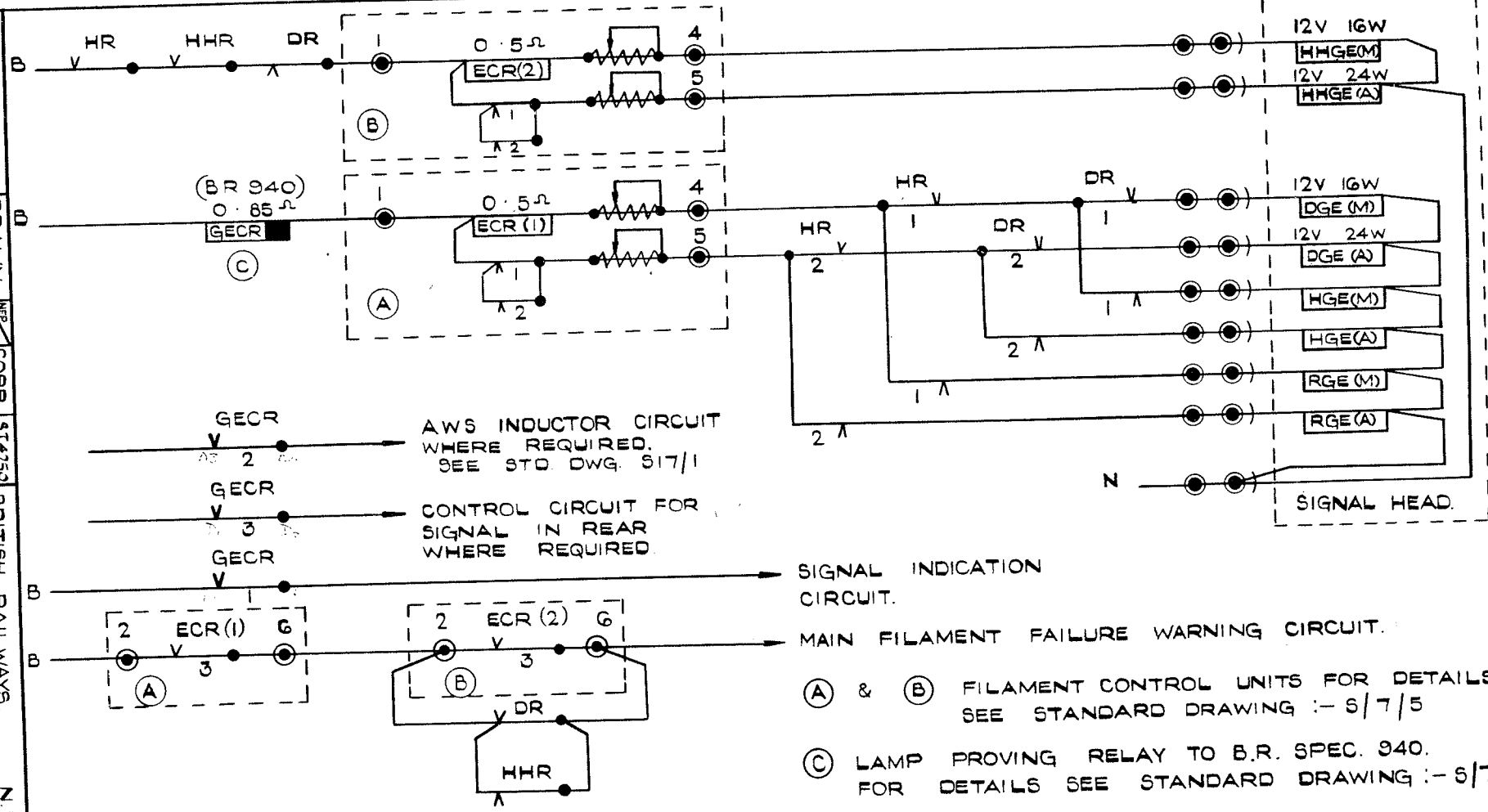
DRAWN *[Signature]*

BRITISH RAILWAYS. N.E. REGION.

MULTI UNIT COLOUR LIGHT SIGNALS

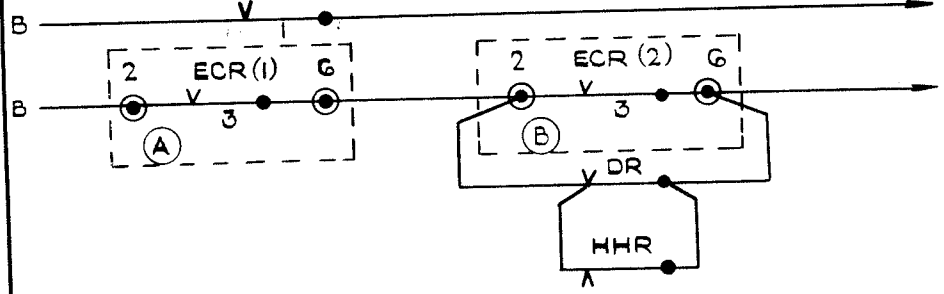
TYPICAL PROVING CIRCUITS.

DRG No 66-Ys-10611 AMENDMENTS



GECR
2
AWS INDUCTOR CIRCUIT WHERE REQUIRED. SEE STD DWG. S17/1

GECR
3
CONTROL CIRCUIT FOR SIGNAL IN REAR WHERE REQUIRED



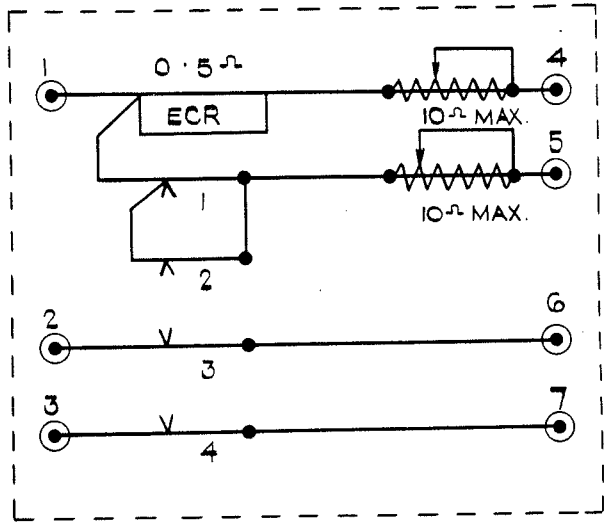
SIGNAL INDICATION CIRCUIT.

MAIN FILAMENT FAILURE WARNING CIRCUIT.

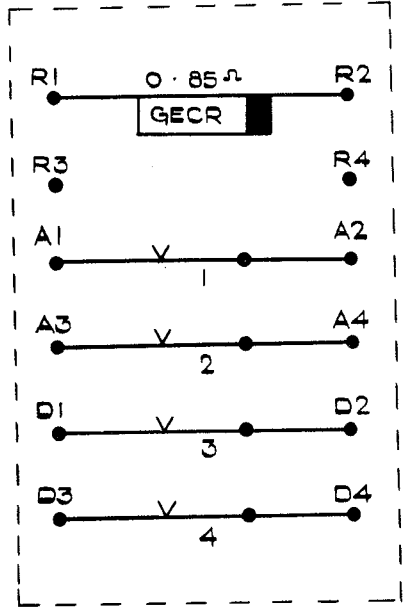
(A) & (B) FILAMENT CONTROL UNITS FOR DETAILS. SEE STANDARD DRAWING :- S/7/5

(C) LAMP PROVING RELAY TO B.R. SPEC. 940. FOR DETAILS SEE STANDARD DRAWING :- S/7/5.

N.B. UNIT (B) REQUIRED ONLY FOR HHGE. FOR STOCKHEAD CODE NUMBERS SEE DWG. S/7/5.

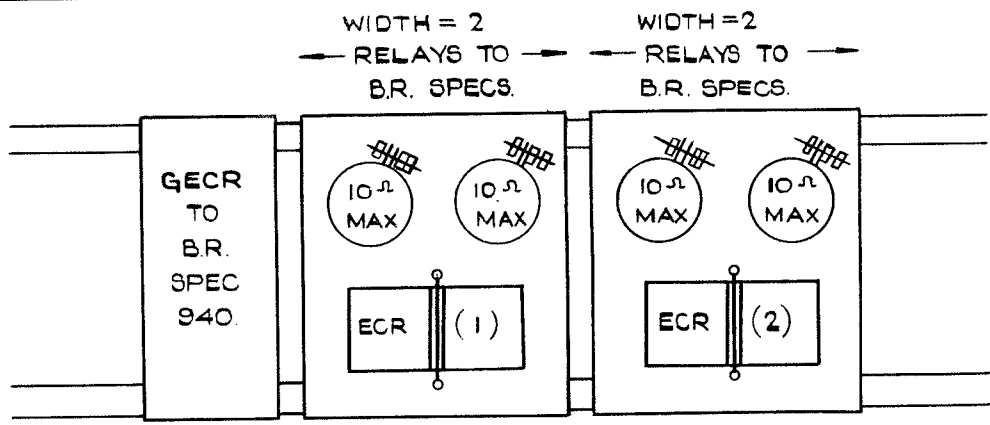


INTERNAL WIRING AND TERMINAL ARRANGEMENT OF FILAMENT CONTROL UNIT (COMBINED ECR AND RESISTANCE UNIT)
 CODE :- 995 / 170 / 6
 (TWO REQUIRED FOR 4-ASPECT SIGNAL)



INTERNAL WIRING AND CONNECTOR ARRANGEMENT OF GECR - DC. SAFETY TYPE RELAY TO BR. SPEC. 940 PLUG IN TYPE, REGISTRATION CODE 081 RELAY CODE :- 995 / 286 / 40. PLUG-BOARD, CODE :- 995 / 286 / 41.

DRAWN	MR	CORR.	ST.4253	BRITISH RAILWAYS.	N.E. REGION		
	CHKD	AUTH.			D.C. LIGHT PROVING RELAY		
	APPROVED	DATE	21.7.66		AND FILAMENT CONTROL UNITS.		
	A.F. WIGRAM.				FOR MULTI UNIT COLOUR LIGHT SIGNALS		
CHIEF SIGNAL AND TELECOMMUNICATIONS ENGINEER				INTERNAL WIRING.			
				DRG. NO 66-YS-1062	AMENDMENTS		



STANDARD RACK FOR
MINIATURE PLUG IN
RELAYS TO B.R. SPECS.
930 SERIES

VARIABLE RESISTORS :- 10 OHMS MAX. 60 WATTS.
WIREWOUND PORCELAIN RESISTORS STYLE VBT 39.
COMPLETE WITH FITTING DETAIL TB 18 -
CRESSAL LTD.

ECR'S :- P.O. 3000 TYPE, 0.5 OHM, FITTED
WITH HEAVY DUTY BACK CONTACTS. PLUG IN
RELAY WITH PLASTIC COVER. TYPE T6 11384/1 -
MAGNETIC DEVICES LTD.
BASE: 11-PIN STANDARD VALVE, ROUND.

UNIT (A) UNIT (B)

FILAMENT CONTROL UNITS
UNIT (B) REQUIRED ONLY
IF IHGE PROVIDED.

UNITS MOUNTED ON STEEL
PLATE DRILLED FOR
BOLTING TO RELAY RACK

2 BA. TERMINALS FITTED
ON BACK OF UNITS.

FOR STOCKHEAD CODE NUMBERS SEE DWG. S/7/5.

DRAWN	NEP	CORR.	ST.4250	BRITISH RAILWAYS	N.E. REGION.
	DEM				
CHECKED	W8	AUTH.		DC. LIGHT PROVING RELAYS	
APPROVED		DATE	21.7.66	AND FILAMENT CONTROL UNITS	
A.F. WIGRAM.				FOR MULTI UNIT COLOUR LIGHT SIGNALS	
CHIEF SIGNAL AND TELECOMMUNICATIONS ENGINEER				ASSEMBLY DETAILS	
				(NOT TO SCALE)	
DRG. N° 66-YS-1060				AMENDMENTS	

S/7/6

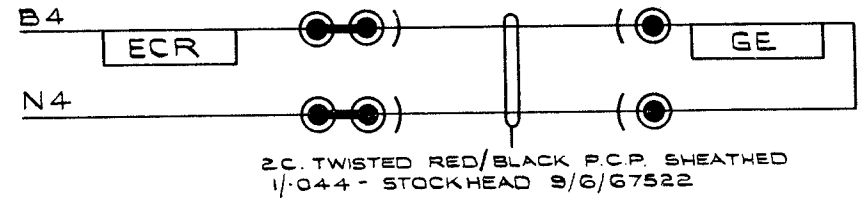
1. LAMP SUPPLY CIRCUIT

E.C.R. 2.5L RELAY 995/152/4

MAY BE OMITTED WHERE LAMP
PROVING IS NOT REQUIRED

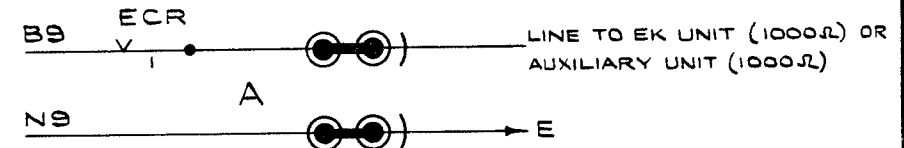
SIGNAL LAMP TYPE ADLAKE 1202-STOCKHEAD 995/48/1

LAMP 4 VOLT 0.5 WATT S.B.C. STOCKHEAD 995/32/2

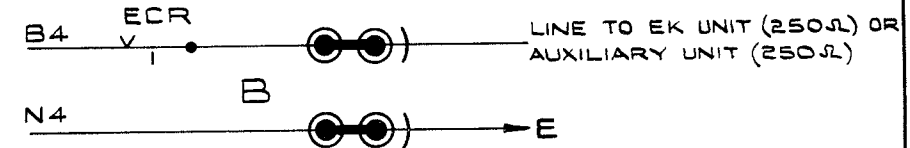


2. LAMP PROVING

A ARRANGEMENT TO BE USED WITH 1000Ω E.K. UNIT
BATTERY 6 - AD62 CELLS STOCKHEAD 415/722/2

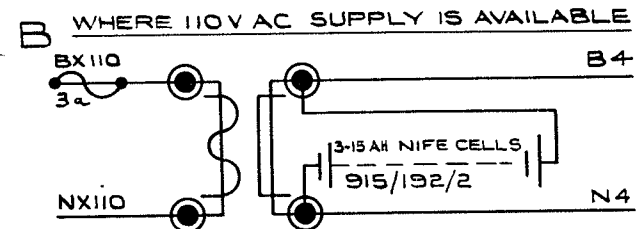


B ARRANGEMENT TO BE USED WITH 250Ω E.K. UNIT
BATTERY SEE LAMP POWER SUPPLY



3. LAMP POWER SUPPLY

A WHERE NO 110V AC SUPPLY IS AVAILABLE
3-618A CELLS SERIES CONNECTED -
STOCKHEAD 415/780/18



TRANSFORMER / RECTIFIER UNIT FOR
SEMAPHORE SIGNAL LIGHTING - STOCKHEAD 995/341/2

DRAWN	DTP/JWB
TRACED	B.S.
CHECKED	M.P.
APPROVED	M.P.
DATE	3.4.64
CORR. REF	ST 4250
AUTHORITY	
A.F. WIGRAM	
CHIEF SIGNAL AND TELECOMMUNICATIONS ENGR	

BRITISH RAILWAYS

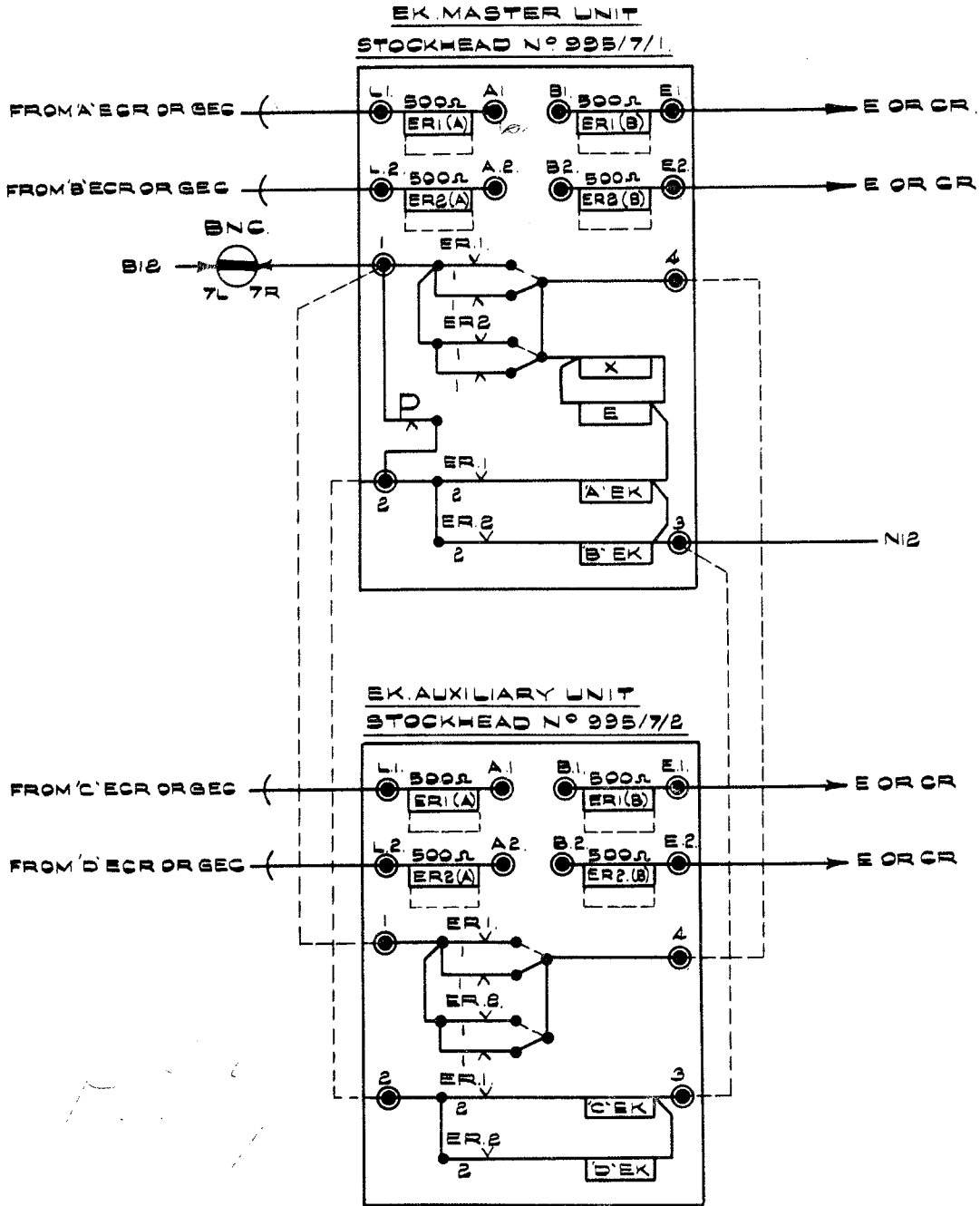
NE REGION

SEMAPHORE SIGNALS

TYPICAL ELECTRIC LIGHTING

CIRCUITS

64-YS-420



ZD. THE RELAYS IN THE ABOVE UNITS HAVE SPLIT WINDINGS EACH OF 500 OHMS.
 FOR 1000Ω RELAY CONNECT A & B TERMINALS (I.E. WINDINGS IN SERIES)
 FOR 250Ω RELAY CONNECT L & B ALSO A & B TERMINALS (I.E. WINDINGS IN PARALLEL)

RE-DRAWN NOV/56 RELAY COILS 500 + 500 OHMS AUXILIARY UNIT FOR TWO INDICATIONS ONLY.	DRAWN	WVS DSS	CORR	574250	BRITISH RAILWAYS	N.E. REGION
	CHECKED	<i>WVS</i>	AUTH			
	APPROVED	<i>WVS</i>	DATE	26.11.64	STANDARD WIRING	
	A. F. WIGRAM <i>A.F. Wigram</i>				FOR	
CHIEF SIGNAL AND TELECOMMUNICATIONS ENGINEER				ORG 1064-Y6-G15	LIGHT REPEATER INDICATION UNITS.	
				AMENDMENTS		

STANDARD COLOURS TO BE USED ON LOCKING FRAMES

QUADRANTS CATCH BLOCKS & BOXES	} -----	BLACK
WHOLE OF FRAME BELOW FLOOR LINE	-----	GREY
<u>LEVERS CONTROLLING:-</u>		
DISTANT SIGNALS	-----	YELLOW
STOP SIGNALS GROUND SIGNALS ROUTE LEVERS (CONTROLLING ROUTE INDICATORS)	} -----	RED
LEVER COLLARS ECONOMIC POINTS F.P. LOCKS CLEARANCE BARS	} -----	BLUE
		TOP HALF BLUE . BOTTOM HALF BLACK
POINTS SCOTCHES DERAILERS	} -----	BLACK
WICKET GATES GATE STOPS OR LOCKS BRIDGE LOCKS TURNTABLE LOCKS	} -----	BROWN
GONGS ASKING LEVERS	} -----	GREEN
SPARE LEVERS	-----	WHITE
RELEASE LEVERS SWITCH LEVERS ANNETTS KEY LEVERS BOLTLOCKING LEVERS DIRECTION LEVERS	} -----	TOP HALF BLUE BOTTOM HALF BROWN
		ELEC REL. LEVERS SHORT HANDLE - 6"
ACCEPTANCE LEVERS	-----	TOP HALF RED BOTTOM HALF BROWN
KING LEVERS	-----	ALTERNATE BROWN & WHITE 3 INCH HORIZONTAL STRIPES
DETONATORS	-----	ALTERNATE BLACK & WHITE 4 INCH CHEVRONS. CHEVRON TO POINT UPWARDS FOR UP LINE CHEVRON TO POINT DOWNWARDS FOR DOWN LINE
SIGNALS WORKING WITH DETONATOR PLACERS	} -----	TOP HALF RED BOTTOM HALF ALTERNATE BLACK & WHITE 4 INCH CHEVRONS CHEVRON TO POINT UPWARDS FOR UP LINE CHEVRON TO POINT DOWNWARDS FOR DOWN LINE
INDICATORS, FOG SIGNALLING & IN SIGNAL BOX	} -----	RED
CATE WHEEL		BLUE & BLACK

COLOURS TO BE IN ACCORDANCE WITH B.S 381C - 1948 AS FOLLOWS:-
RED No 537, YELLOW No 356, GREEN No 221, BLUE No 166, BROWN No 411, GREY No 632

ANY LEVER WHICH IS RELEASED FROM ANOTHER SIGNAL BOX e.g. LINE CLEAR RELEASE OR UNDERBOLT. TO HAVE A 3 INCH HORIZONTAL WHITE STRIPE HALF WAY DOWN LEVER

IN CASES OF LEVERS PAINTED IN ALTERNATE STRIPES, THESE TO COMMENCE WITH BLACK OR BROWN AT THE QUADRANT END OF LEVER.

IN CASES WHERE A LEVER CONTROLS TWO FUNCTIONS e.g. F.P. LOCK WORKING WITH POINTS, INTERMEDIATE BLOCK HOME & DISTANT SIGNALS, BOTH COLOURS TO BE USED. THE COLOUR USED ON TOP HALF OF LEVER TO REPRESENT THAT APPARATUS MOVING FIRST.

INT HOME WITH DIST. SIGNAL CONTROL TOP HALF RED. BOTTOM HALF YELLOW
WITH 3" WHITE BAND HALF WAY DOWN LEVER.

ISSUED WITH THE RAILWAY EXECUTIVE

LETTER DATED 28.4.52

REFERENCE I/ST/9466/7