

TERMINATION OF 2-WIRE EXTENSION
ON SWITCHBOARD P.M.B.X. No. 2/2A OR No. 2/2B

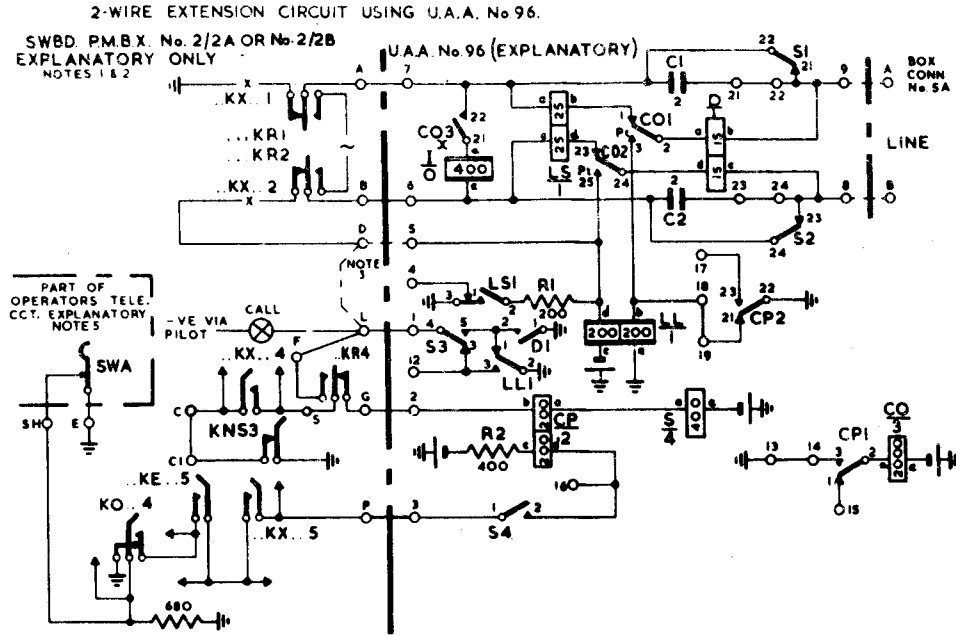
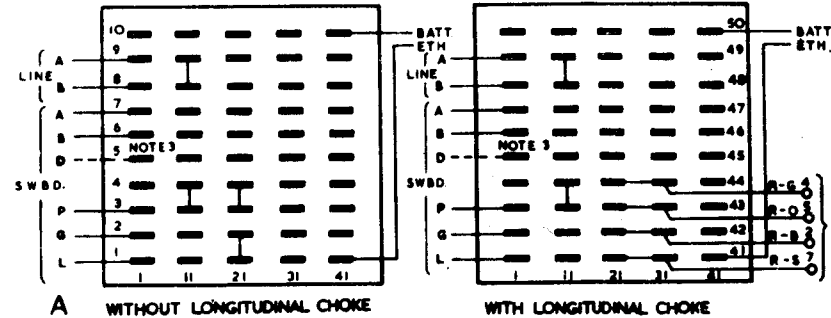


FIG. 2
CONNEXIONS ON STRIP, CONNEXION No. 121A IN U.A.A. No. 96 OR 96A.



1. SEE SA 7163 FOR CIRCUIT AND TERM. BLOCK OF SWBD.
2. U.A.A. NO. 96 OR 96A CAN ONLY BE PROVIDED ON EXTENSIONS 4-6. FOR CONNEXION OF THE U.A.A. SEE FIG. 4.
3. WHEN THE CONNEXION OF AN EXTENSION WITH A LINE LOOP RESISTANCE BETWEEN 500-920 Ω IS PERMISSIBLE, DISCONNECT STRAP L-D ON TERMINAL BLOCK IN SWBD AND CONNECT TERMINAL 'D' IN THE SWBD. TO TAG 5 IN THE U.A.A. ANY SPARE CONDUCTOR IN THE CORD OR CABLE PROVIDED FOR CONNEXION OF MISCELLANEOUS FACILITIES SHOULD BE USED FOR THIS PURPOSE.
4. CABLE P.V.C. NO. 1. 12 WIRE 6 1/2 SHOULD NORMALLY BE USED FOR CABLING BETWEEN THE BOX CONN. NO. 5A AND THE U.A.A. NO. 96 OR 96A.
5. FOR CONNEXIONS TO THE OPERATORS TELEPHONE SEE DGM. N1102 FIGS. 2 OR 3 AS REQUIRED.

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	D	NOTE 5 ADDED. FIG. 5 AND NOTES A, B & C AMENDED. OTHER MINOR AMENDMENTS.	H.M.A. 6-6-69

FIG 3 2-WIRE EXTENSION CIRCUIT USING U.A.A. No. 96A

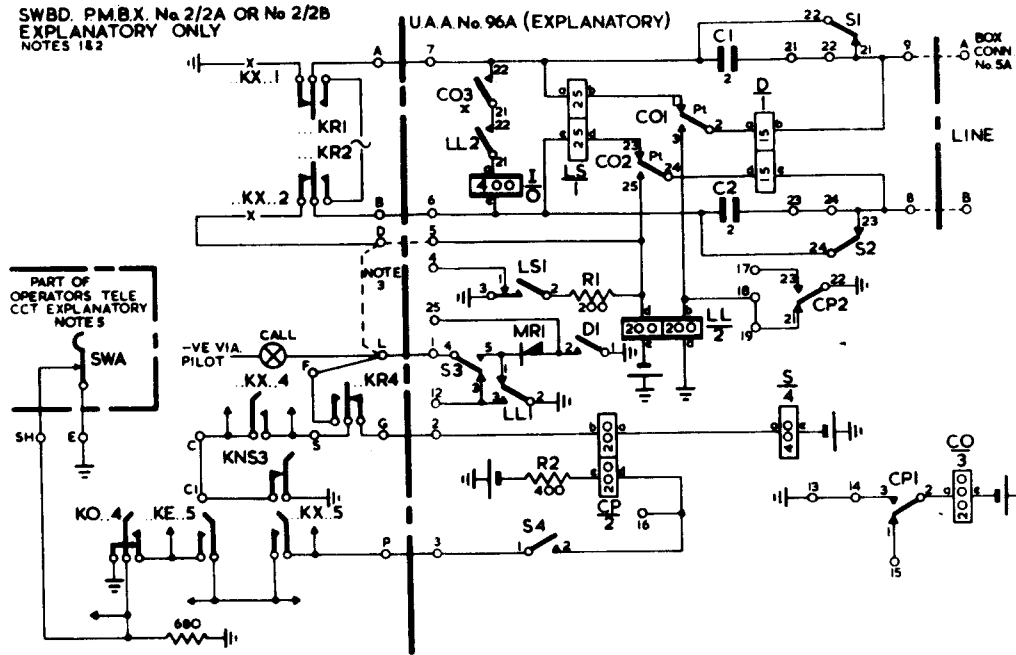
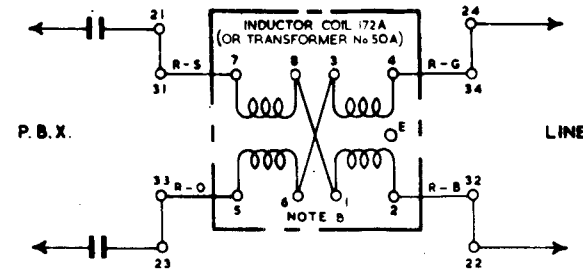


FIG 4. CONNEXIONS FOR EXTENSIONS WITH U.A.A. No.96 OR 96A

EXTN No.	CHANGES TO SWITCHBOARD TERMINAL BLOCK		CABLING BETWEEN BOX CONN No. 5A & U.A.A. No.96 OR No.96A (NOTE 4)			STRAPS TO BE PROVIDED ON STRIP CONN. 12A IN U.A.A.	
	CORDAGE AND STRAPPING ALTERATIONS	PART OF TERM. BLOCK SHOWN AFTER CHANGES HAVE BEEN MADE	BOX CONN. No. 5A		U.A.A. TAG NUMBER	WITHOUT LONGITUDINAL CHOKE	WITH LONGITUDINAL CHOKE
			WIRE	TERMINAL			
4	DISCONNECT STRAP 36-37		A	A16	7		
	PROVIDE " 20-21	A B C CI P	B	A17	6		13-14
	" " 38-39	(18) (19) (20) (21) (22) (23)	L SWBD	A18	1		18-19
	MOVE CORD FROM 23-22		P	A19	3	13-14	21-31
" " 41-40		G	A20	2	18-19	21-31	
" " 20-38		D	NOTE 3	NOTE 3	21-22	22-32	
		(36) (37) (38) (39) (40) (41)	A LINE	D1	9	23-24	23-33
		S D /L F /G	B	D2	8		24-34
			BATT	D11	50		
			EARTH	DE1	41		
5	DISCONNECT STRAP 42-43		A	A21	7		
	PROVIDE " 26-27	A B C CI P	B	A22	6		
	" " 44-45	(24) (25) (26) (27) (28) (29)	L SWBD	A23	1		
	MOVE COPD FROM 29-28		P	A24	3	SEE EXTN No. 4	SEE EXTN No. 4
" " 47-46		G	A25	2			
" " 26-44		D	NOTE 3	NOTE 3			
		(42) (43) (44) (45) (46) (47)	A LINE	D3	9		
		S D /L F /G	B	D4	8		
			BATT	D12	50		
			EARTH	DE2	41		
6	DISCONNECT STRAP 48-49		A	A26	7		
	PROVIDE " 32-33	A B C CI P	B	A27	6		
	" " 50-51	(30) (31) (32) (33) (34) (35)	L SWBD	A28	1		
	MOVE CORD FROM 35-34		P	A29	3	SEE EXTN. No. 4	SEE EXTN. No. 4
" " 53-52		G	A30	2			
" " 32-50		D	NOTE 3	NOTE 3			
		(48) (49) (50) (51) (52) (53)	A LINE	D5	9		
		S D /L F /G	B	D6	8		
			BATT	D13	50		
			EARTH	DE3	41		

FIG. 5 CONNEXION OF LONGITUDINAL CHOKE IN THE U.A.A. No. 96 OR No. 96A. (NOTE A)



- A. THE LONGITUDINAL CHOKE TO BE FITTED IN THE U.A.A. AT P.B.X.'S WITH SUBSCRIBER'S PRIVATE METERING (S.P.M.). WHERE S.P.M. IS NOT PROVIDED THE METER PULSES MAY BE AUDIBLE AND IN THESE CASES THE LONGITUDINAL CHOKE SHOULD ALSO BE FITTED.
- B. A WIRING FORM HAS BEEN PROVIDED IN THE U.A.A. FOR THE CONNEXION OF THE LONGITUDINAL CHOKE. INDUCTOR COIL 172A IS NOT PROVIDED WITH TAGS 1, 3, 6 & 8. THE WIRES SHOULD BE TERMINATED AS SHOWN IN FIG. 4. STRAPS SHOULD BE PROVIDED BETWEEN TAGS 1-8 & 3-6 WHEN A TRANSFORMER No. 50A IS FITTED.
- C. WHERE A LONGITUDINAL CHOKE IS REQUIRED STRAPPING SHOULD BE PROVIDED ON THE STRIP CONN. No. 121A OF THE U.A.A. IN ACCORDANCE WITH FIG. 2B.

CIRCUIT OPERATION

EXTENSION TO EXTENSION CALL

DEPENDING ON THE LOOP RESISTANCE OF THE EXTN. LINE, A CALLING SIGNAL CAN BE GIVEN AT THE SWITCHBOARD IN TWO WAYS.

1. EXTN. LINE WITH A LOOP RESISTANCE LESS THAN 500 Ω.
ETH. VIA ...KX...1, ...KR1, A LINE, U.A.A. (ALL RELAYS RLSED)
EXTN. TELE. LOOP, U.A.A., B LINE, ...KR2, ...KX...2 & EXTN. CALL LAMP TO BATT... EXTN. CALL LAMP LIGHTS.
2. EXTN. LINE LOOP RESISTANCE 500-920 Ω.
ETH. VIA ...KX...1, ...KR1, A LINE, U.A.A., EXTN TELE. LOOP, B LINE, ...KR2, ...KX...2, TERM D, TAG 5 U.A.A., TO OPERATE RELAY LL TO BATT... LL1 LIGHTS EXTN. CALL LAMP.

THE CALL IS ANSWERED BY OPERATING KEYS ...KX... & ...KO IN THE SAME CONN. CCT. & LIFTING THE OPERATOR'S HANDSET. ...KX...1 & ...KX...2 DISCONNECT THE CALLING SIGNAL & EXTEND EXTN. TO CONN. CCT. ETH. VIA KNS3, ...KX...4, ...KR4 OPERATES RELAYS CP & S IN SERIES TO BATT... CP1 OPERATES RELAY CO. CO1 & CO2 SWITCH THE U.A.A. INTO THE DIVIDED FEED CONDITION. THE TRANSMISSION FEED FOR THE EXTN. IS NOW SUPPLIED VIA RELAY LL. CONNEXION TO ANOTHER EXTN. CAN BE MADE IN THE NORMAL WAY. RELAY D IS CONNECTED DIFFERENTIALLY & WILL NOT OPERATE. WHEN THE EXTN. RECALLS THE OPERATOR AN EARTHED LOOP IS APPLIED ON THE A & B WIRES TO THE U.A.A. & RELAY D WILL OPERATE DUE TO THE RESULTING UNBALANCED CURRENT BETWEEN THE TWO COILS. D1 LIGHTS EXTN. CALL LAMP. WHEN THE EXTN. HANDSET IS REPLACED RELAY LL RELEASES. ETH. VIA LL1 & S3 LIGHTS THE EXTN. CALL LAMP TO GIVE A CLEARING SIGNAL.

TO CALL AN EXTN. VIA THE U.A.A. KEY ...KP IS OPERATED ...KR1 & ...KR2 EXTEND RINGING THROUGH THE UNIT (ALL RELAYS RLSED) TO RING THE EXTN... WHEN THE EXTN. ANSWERS, THE CALL LAMP WILL LIGHT & KEY ...KX... SHOULD BE OPERATED TO THE REQUIRED CONN. CCT..

EXTENSION TO EXCHANGE CALL

WHEN THE OPERATOR EXTENDS AN EXTN. TO AN EXCH. LINE BY OPERATION OF THE SELECTED ...KE... KEY TO THE SAME CONN. CCT., A 680A ETH. IS CONNECTED TO THE d-e COIL OF RELAY CP VIA KO...4, ...KE...5, ...KX...5, P TERM, TAG 3, (U.A.A.) & S4. ALTHOUGH RELAY CP IS CONNECTED DIFFERENTIALLY IT DOES NOT RELEASE BECAUSE THE OUT OF BALANCE CURRENT IN THE COILS IS SUFFICIENT TO HOLD RELAY CP, (THE 680A ETH. CONDITION IS USED TO MAINTAIN A PROHIBITION FACILITY ON P.CCTS. WHEN OPERATOR ENTERS THE CONN. CCT.) THE TRANSMISSION FEED FOR THE EXTN. IS SUPPLIED VIA RELAY LL & THAT FOR THE OPERATOR BY THE PUBLIC EXCH.. WHEN OPERATOR RESTORES KEY KO... OR REPLACES THE HANDSET, A FULL ETH. IS CONNECTED BY KO...4 OR SWA TO THE d-e COIL OF RELAY CP. EQUAL CURRENTS NOW FLOW IN BOTH COILS & RELAY CP RELEASES. CP1 RELEASES RELAY CO. CP2 CONNECTS A SHORT-CIRCUIT ACROSS THE a-b COIL OF RELAY LL. CO1 & CO2 RELEASING CHANGES OVER THE EXTN. TRANSMISSION FEED FROM THE U.A.A. TO THE PUBLIC EXCH.. RELAYS LS & D ARE CONNECTED IN SERIES WITH THE EXCH. LINE TO GIVE SUPERVISORY & RECALL SIGNALS RESPECTIVELY. RELAY LS OPERATES & RELAY D WILL OPERATE WHEN A RECALL SIGNAL IS APPLIED (SEE EXTN-EXTN CALL). LS1 HOLDS RELAY LL. RELAY LL NOW FUNCTIONS AS A RELIEF FOR RELAY LS. ETH. VIA LL1 & S3 WILL GIVE A CLEARING SIGNAL WHEN THE EXTN. HANDSET IS REPLACED. THE SHORT-CIRCUIT APPLIED TO RELAY LL BY CP2 MAKES THE RELAY SLOW TO RELEASE & PREVENTS THE EXTN CALL LAMP FLASHING ON THROUGH DIALLING TO THE PUBLIC EXCH.. RETARD 1 & CO3 ENSURE THAT CALLS TO THE PUBLIC EXCH. ARE NOT RELEASED WHEN THE U.A.A. CHANGES FROM A DIVIDED TO A THROUGH TRANSMISSION FEED.

NIGHT SERVICE

WHEN AN EXTN. IS CONNECTED THROUGH ON NIGHT SERVICE KNS3 PREVENTS THE OPERATION OF RELAY S IN THE U.A.A.. S1 & S2 RELEASED CONNECT A SHORT-CIRCUIT ACROSS RELAYS LS & D TO PROVIDE A THROUGH CCT. TO THE PUBLIC EXCH.. S4 PREVENTS RELAY CP OPERATING ON THE d-e COIL.

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