

TERMINATION OF 2-WIRE EXTENSION  
ON SWITCHBOARD P.M.B.X. No. 2/3A

NOTES:

- SEE DGM SA7164 FOR CCT AND TERM BLOCK OF SWITCHBOARD.
- U.A.A. NO. 96 OR 96A CAN ONLY BE PROVIDED ON EXTENSIONS 7-12 FOR CONNEXION OF THE U.A.A. SEE FIG 3 CONTACT LL2 IS NOT PROVIDED ON A U.A.A. NO. 96.
- WHEN THE CONNEXION OF AN EXTENSION WITH A LINE LOOP RESISTANCE BETWEEN 500-850Ω IS PERMISSIBLE, DISCONNECT STRAP D-L ON TERMINAL BLOCK IN SWBD AND PROVIDE AN ADDITIONAL WIRE BETWEEN D AND TAG 5 IN THE U.A.A. ANY SPARE CONDUCTOR IN THE CORD & CABLE PROVIDED FOR CONN OF MISC FACILITIES SHOULD BE USED FOR THIS PURPOSE.
- ON EARLY SUPPLIES OF THE U.A.A. NO. 96 RECTIFIER MR1 AND WIRING TO TAGS 12 & 25 ON THE STRIP CONN. NO. 121A WAS NOT PROVIDED, ALSO RETARD I WAS 1000Ω. BEFORE ONE OF THESE U.A.A. IS CONNECTED TO THE SWBD, IT SHOULD BE MODIFIED AS DETAILED IN DGM N1115.
- CABLE P.V.C. NO. 1 12 WIRE 6/2 SHOULD NORMALLY BE USED FOR CABLING BETWEEN THE BOX, CONN. NO. 5B AND THE U.A.A. NO. 96 OR 96A.
- THE STRAPS PROVIDED ON THE SOLDERED CONNEXION BLOCK SHOULD BE CHANGED FROM FIG 3A TO 3B OF DGM SA71640 FORMERLY LD1641 SHEET 2.
- THE LONGITUDINAL CHOKE TO BE FITTED IN THE U.A.A. NO. 96 OR 96A 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.
- A WIRING FORM HAS BEEN PROVIDED IN THE U.A.A. NO. 96 OR 96A 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. 30A IS FITTED.
- 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.
- FOR CONNEXIONS TO THE OPERATOR'S TELEPHONE SEE DGM N1103 FIGS 2 OR 3 AS REQUIRED.

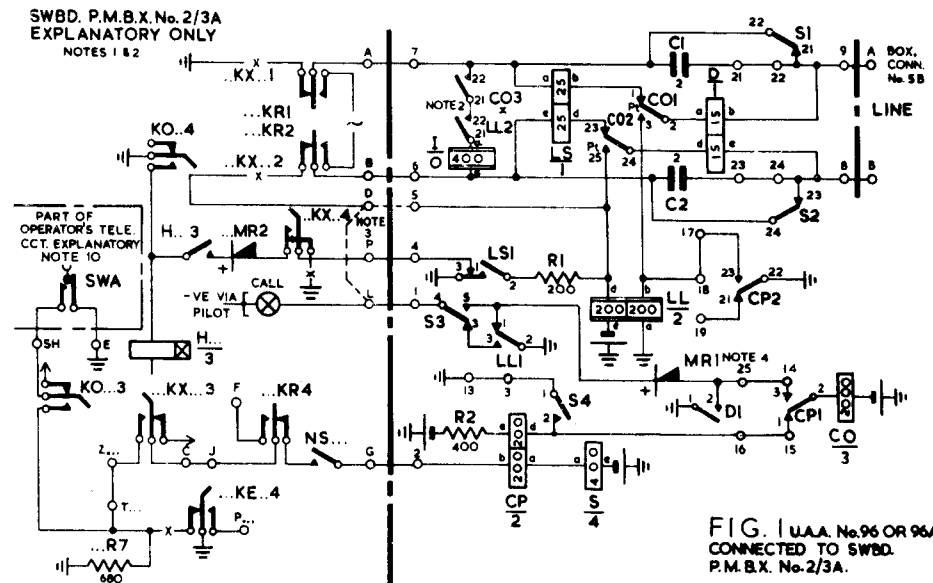


FIG. 1 U.A.A. No.96 OR 96A  
CONNECTED TO SWBD.  
P.M.B.X. No.2/3A.

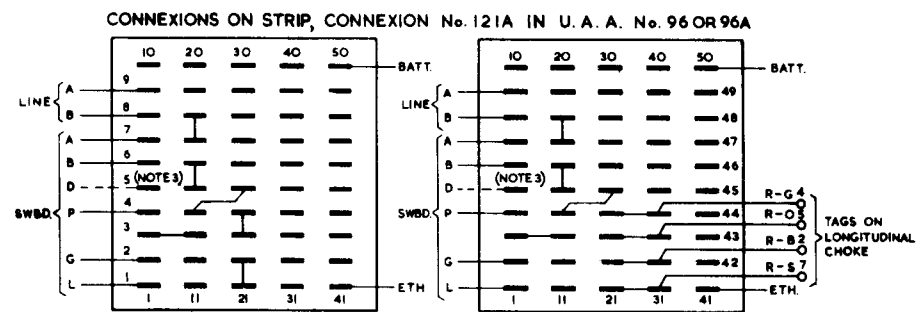


FIG. 2A  
WITHOUT LONGITUDINAL CHOKE

FIG. 2B  
WITH LONGITUDINAL CHOKE (FIG.4)

PO TELECOMMS HQRS				
PAPER - W	ISSUE			
DISTRIBUTION- GENERAL	E	NEW FORMAT.	ME/PDI.2.1	21-11-80
	D	NOTE 10 ADDED. F 6 3 AMENDED.	H.M.A.	6.6.69



CIRCUIT OPERATION  
EXTENSION TO EXTENSION CALL

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

1. EXTN. LINE WITH A LOOP RESISTANCE LESS THAN 500Ω.  
ETH VIA ...KX...1, ...KR1, 'A' LINE, U.A.A. (ALL RELAYS RELEASED) EXTN TELE LOOP, U.A.A., B LINE, ...KR2, ...KX...2 TERM D, TERM L & EXTN CALL LAMP TO BATT.  
EXTN CALL LAMP LIGHTS.
2. EXTN. LINE LOOP RESISTANCE 500-850Ω.  
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 OPERATORS HANDSET. ...KX...1 & ...KX...2 DISCONNECT THE CALLING SIGNAL & EXTEND EXTN TO CONN. CCT. ETH VIA ...KE...4, ...KX...3, ...KR4, NS..., TERM G, TAG 2 U.A.A., TO OPERATE RELAYS CP & S TO BATT. ETH VIA S4 CAUSES A BALANCING CURRENT TO FLOW IN THE d-e COIL OF RELAY CP WHICH NOW RELEASES. ETH VIA S4 & 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. WHEN THE EXTN RECALLS THE OPERATOR AN EARTHED LOOP IS APPLIED ON THE A&B WIRES TO THE U.A.A. DUE TO THE RESULTING UNBALANCED CURRENT BETWEEN THE TWO COILS OF RELAY D, THE RELAY OPERATES. 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 ...KR IS OPERATED, ...KR1 & ...KR2 EXTEND RINGING THROUGH THE UNIT (ALL RELAYS RELEASED) 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; THE U.A.A. REMAINS IN THE DIVIDED FEED CONDITION AND THE TRANSMISSION FEED FOR THE EXTN. IS VIA RELAY LL & THAT FOR THE OPERATOR BY THE PUBLIC EXCH. WHEN THE OPERATOR RESTORES KEY KO... OR REPLACES THE HANDSET, THE FULL ETH APPLIED TO RELAYS CP & S IN SERIES IS REPLACED BY A 680Ω ETH. VIA RESISTOR ...R7. (THE ETH VIA ...KE...4 WAS REMOVED WHEN KEY ...KE... WAS OPERATED.). THE RESULTING UNBALANCED CURRENT CAUSES DIFFERENTIALLY CONNECTED RELAY CP TO OPERATE. 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 I & CO3 ~~are~~ 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 THE NIGHT SERVICE KEY IS OPERATED RELAY NS IN THE SWITCHBOARD RELEASES. CONTACT NS... PREVENTS THE OPERATION OF RELAY S IN THE U.A.A. WHEN AN EXTENSION IS CONNECTED THROUGH ON NIGHT SERVICE. S1 & S2 RELEASED CONNECT A SHORT CIRCUIT ACROSS RELAYS LS & D TO PROVIDE A THROUGH CCT TO THE PUBLIC EXCH..