

SIGNALLING RESISTANCE LIMITS FOR PRIVATE CCTS;
 INTER-SWBD. PRIVATE CCTS. AND INTER-SWBD. EXTNS..
 (USING P.B.X. AUXILIARY APPARATUS.)

N 705
 3 PANELS-1
 17-6-55

CIRCULATION	GENERAL
	Suffix
PAPER	W
	Amend
RESISTANCE LIMITS FOR U.A.A. No. 95, SA 75207/8 ADDED. 16.8.62	
REDRAWN U.A.A. No. 97 ADDED. LIMITS AMENDED. 2.10.61	
REDRAWN. LIMITS AMENDED. NOTES ADDED. 10.12.57 A	

MINIMUM SIGNALLING VOLTAGE AT P.B.X. (NOTE 4)	MAXIMUM PERMISSIBLE LINE LOOP RESISTANCE (NOTES 2 & 3)							
	U.A.A. No. 45	U.A.A. No. 97	U.A.A. N985	R/S SA7518	R/S SA7515	R/S SA7310 SA7315	R/S SA8128 SA8142 SA8162	R/S SA8109 SA8190
15	1150	—	—	—	—	—	—	—
16	1300	—	1300	—	—	—	—	—
18	1600	—	1600	—	—	—	—	—
20	1900	—	1900	1900	1600	—	—	—
22	2200	—	2200	2200	1900	—	—	—
24	2500	—	2500	—	—	—	—	—
26	2800	—	2800	—	—	—	—	—
28	3100	—	3100	—	—	—	—	—
30	3400	—	3400	—	—	—	—	—
36	—	—	—	—	—	3700	—	—
45	—	4800	—	—	—	—	—	—
46	—	—	—	—	—	—	4200	2600

NOTES.

- THE SIGNALLING LIMITS SHOWN REFER TO THE UNIT & SIGNALLING BATTERY VOLTAGE AT ONE END OF THE CIRCUIT WHEN THE SIGNALLING VOLTAGES AND/OR UNITS AT THE ENDS OF THE CIRCUIT DIFFER, THE LIMIT FOR EACH SIGNALLING VOLTAGE AND UNIT SHOULD BE FOUND FROM THE TABLE AND THE LOWER LIMIT USED.
- IN THE CASE OF TWO WIRE CIRCUITS THE FIGURE SHOWN IS THE MAXIMUM LOOP RESISTANCE OF THE PAIR. IN THE CASE OF FOUR WIRE CIRCUITS THE FIGURE SHOWN IS THE MAXIMUM LOOP RESISTANCE OF THE SIGNALLING PHANTOM (i.e. HALF THE LOOP RES. OF ONE PAIR).
- WHERE THE DISTANT END OF THE CIRCUIT IS A U.A.A. No. 97 THE LOOP RESISTANCE SHOWN SHOULD BE REDUCED BY 200Ω.
- THIS COLUMN SHOWS THE LOWEST VOLTAGE WHICH WILL BE AVAILABLE AT THE SIGNALLING RELAY UNDER ADVERSE CONDITIONS AND SHOULD NOT BE TAKEN AS THE NOMINAL VOLTAGE OF THE APPARATUS.

TABLE 2. SIGNALLING GROUP B:- LOOP IN; G/AC OUT

MINIMUM SIG. VOLTAGE AT P.B.X. (NOTE 4)	MAXIMUM PERMISSIBLE LINE LOOP RESISTANCE															
	U.A.A. CBS. 536 OR U.A.A. No. 18 WITH LOW RES. RELAY. (RELAY No. 7136)		U.A.A. No. 18 WITH HIGH RES. RELAY (REL. No. 4509) (NOTE 1)		U.A.A. No. 45 OR U.A.A. N985 (NOTE 2) OR R/S SA7518 (NOTE 3)		U.A.A. No. 97.		R/S SA 7310 OR SA 7315		R/S SA 7515		R/S SA 8128 SA 8142 OR SA 8162		R/S SA 8109 OR SA 8190	
	INCLUDING DISTANT APPARATUS (NOTE 5)	C.B. TELE.	INCLUDING DISTANT APPARATUS (NOTE 5)	INCLUDING DISTANT APPARATUS (NOTE 5)	C.B. TELE.	INCLUDING DISTANT APPARATUS (NOTE 5)	C.B. TELE.	INCLUDING DISTANT APPARATUS (NOTE 5)	C.B. TELE.	INCLUDING DISTANT APPARATUS (NOTE 5)	C.B. TELE.	INCLUDING DISTANT APPARATUS (NOTE 5)	C.B. TELE.	INCLUDING DISTANT APPARATUS (NOTE 5)	C.B. TELE.	
15	500	350	950	850	200	—	—	—	—	—	—	—	—	—	—	
16	550	400	1100	950	250	—	—	—	—	—	—	—	—	—	—	
18	600	450	1450	1100	300	—	—	—	—	—	—	—	—	—	—	
20	700	550	1800	1250	400	—	—	—	—	1100	450	—	—	—	—	
22	800	650	2100	1400	500	—	—	—	—	1200	550	—	—	—	—	
24	850	700	2450	1550	550	—	—	—	—	—	—	—	—	—	—	
26	950	800	2800	1700	650	—	—	—	—	—	—	—	—	—	—	
28	1050	900	3100	1850	700	—	—	—	—	—	—	—	—	—	—	
30	1150	1000	3450	2000	800	—	—	—	—	—	—	—	—	—	—	
36	—	—	—	—	—	—	—	2100	1100	—	—	—	—	—	—	
45	—	—	—	—	—	2550	1200	—	—	—	—	—	—	—	—	
46	—	—	—	—	—	—	—	—	—	—	—	2100	1500	3000	1000	

NOTES.

- C.B. TELEPHONES CANNOT BE USED. ALLOW 50Ω FOR L.B. TELES.
- THE MINIMUM SIGNALLING VOLTAGE IS 16 VOLTS.
- LOOP RESISTANCE FIGURES FOR MINIMUM SIGNALLING VOLTAGES OF 20 & 22V ONLY ARE TO BE USED FOR THIS RELAY SET.
- THIS COLUMN SHOWS THE LOWEST VOLTAGE WHICH WILL BE AVAILABLE AT THE SIGNALLING RELAY UNDER ADVERSE CONDITIONS AND SHOULD NOT BE TAKEN AS THE NOMINAL VOLTAGE OF THE APPARATUS.
- TO OBTAIN MAXIMUM LINE LOOP RESISTANCE DEDUCT THE RESISTANCE OF THE DISTANT APPARATUS FROM THE FIGURE QUOTED, I.E. IF DISTANT APPARATUS=50Ω THEN MAXIMUM PERMISSIBLE LINE LOOP RESISTANCE AT 15V=500Ω-50Ω=450Ω.

SIGNALLING RESISTANCE LIMITS FOR PRIVATE CCTS; INTER-SWBD. PRIVATE CCTS. AND INTER-SWBD. EXTNS..

(USING P.B.X. AUXILIARY APPARATUS)

N705
3 PANELS-3
17-6-55

GENERAL	Suffix
16 B. 6.2 2 10.41 10-12-57 R	C B A
RESISTANCE LIMITS FOR U.A.A. No. 98 AS SA 7520/28 ADDED. RE-DRAWN U.A.A. No. 97 ADDED. LIMITS AMENDED. RE-DRAWN. LIMITS AMENDED. NOTES ADDED.	
Amend	
W	
DATE	

TABLE 3. SIGNALLING GRP. E:- GEN/BAL. BATT. B/W, & GRP. G:- AUTO/BAL. BATT. IN; GEN/BAL. BATT. OUT.					
MINIMUM SIGNALLING VOLTAGE AT P.B.X. (NOTE 3)	MAXIMUM PERMISSIBLE LINE LOOP RESISTANCE (NOTE 2)				
	U.A.A. N 985 RS SA 7519 SA 7520 SA 7528 OR SA 8143	RELAY SET SA8129	RELAY SET SA8191	PANEL SIGNALLING No.7	U.A.A. No. 98.
16	500	1300	100	1200	500
18	2100	2500	1700	2550	2100
20	3700	3600	3300	3850	3800
22	5300	4800	4900	5200	5500
24	6900	5900	6500	6550	7200
26	8500	7100	8100	7850	8900
28	10,100	8200	9700	9200	10,600
30	11,700	9400	11,300	10,550	12,300
32	13,300	10,500	12,900	11,850	14,000
34	14,900	11,600	14,500	13,200	15,600
36	16,500	12,800	16,100	14,550	17,400
38	18,100	13,900	17,700	15,850	19,200
40	19,700	15,100	19,300	17,200	20,800
45	23,700	17,900	23,300	20,500	25,200
46	24,500	18,500	24,000	21,200	26,000

NOTES.

1. THE SIGNALLING LIMIT IS SHOWN IN TERMS OF THE VOLTAGE AT ONE P.B.X. AND THE TYPE OF UNIT FITTED AT THE OTHER P.B.X. WHEN THE SIGNALLING VOLTAGES AND/OR UNITS AT THE ENDS OF A CIRCUIT DIFFER, THE LIMIT FOR EACH SIGNALLING VOLTAGE AND DISTANT UNIT SHOULD BE FOUND FROM THE TABLE AND THE LOWER LIMIT USED.
2. IN THE CASE OF TWO WIRE CIRCUITS THE FIGURE SHOWN IS THE MAXIMUM LOOP RESISTANCE OF THE PAIR. IN THE CASE OF FOUR WIRE CIRCUITS THE FIGURE SHOWN IS THE MAXIMUM LOOP RESISTANCE OF THE SIGNALLING PHANTOMS (i.e. HALF THE LOOP RES. OF ONE PAIR)
3. THIS COLUMN SHOWS THE LOWEST VOLTAGE WHICH WILL BE AVAILABLE AT THE SIGNALLING RELAY UNDER ADVERSE CONDITIONS AND SHOULD NOT BE TAKEN AS THE NOMINAL VOLTAGE OF THE APPARATUS.