RANGE CHARTS AND COIN RELAY OPERATE VALUES

TABLE A

MAXIMUM ALLOWABLE CONDUCTOR LOOP RANGE WITHOUT RANGE EXTENSION – EXCLUDES NOMINAL 300-OHM ALLOWANCE FOR COIN TELEPHONE

CO TYPE	COIN-FIRST OFFICE	DIAL-TONE-FIRST OFFICE	NOTE
SXS	1050Ω	—	1
SXS	1200Ω	1200Ω	2
Panel	1200Ω	—	3
No. 1 XBR	1200Ω	1200Ω	3
No. 5 XBR	1300Ω	1300Ω	3, 6
No. 1 ESS	1300Ω	1300Ω	4
No. 2 ESS	1300Ω	1300Ω	5
No. 3 ESS	1300Ω	1300Ω	—

Notes:

General — Transmission requirements dictate a minimum transmitter current of 23 ma with totalizer in the home position.

*1. This value assumes the use of SD-31592-02 (Issue 32B or later) coin trunks which are useable in Coin-First offices only. For older trunks refer to Step-by-Step key sheets, as some loop ranges may be as low as 750 ohms.

*2. This value of loop assumes use of SD-32539-01 coin trunk.

3. This value is for offices arranged to operate with up to 1500-ohm external circuit resistance. For other applications refer to key sheets.

4. This value assumes a minimum CO voltage of 48 volts and office wiring of 100 ohms.

5. This value assumes a minimum CO voltage of 47 volts and office wiring of 50 ohms.

6. The 1300 ohm loop limit applies on offices equipped with a 48 volt battery or greater.

*Notes 1 and 2 assume that line relay equipment is of compatible range.

TABLE B

CONDUCTOR LOOP RESISTANCES IN OHMS WITH RANGE EXTENSION

TYPE OFFICE EQUIP.	2A RANGE EXTENDER OR DK1		SD-32053-01 DLL[8]		SD-26130-01 DLL[8]		SD-96592-01 DLL[8]		NS-02517-01 SRE[1,8]		8A RANGE EXTENDER COIN REG[9]		NOTES
	CF	DTF	CF	DTF	CF	DTF	CF	DTF	CF	DTF	CF	DTF	
SXS	1300[7]	—	1800	1800[5]	—	—	2700	2700	2100[7]	2400[7]	2800	2800	2, 3
No. 5 XBR	—	—	—	—	2800[6]	—	3100	3100	2400	2400	2800	2800	3, 4
No. 1 XBR	—	—	—	—	—	—	2700	2700	2400	2400	2800	2800	2, 3
No. 1 ESS	—	—	—	—	—	—	3100	3100	2400	2400	2800	2800	3, 1
No. 2 ESS	—	—	—	—	—	—	3100	3100	2400	2400	2800	2800	3, 4
No. 3 ESS	—	—	—	—	—	—	3100	3100	2400	2400	2800	2800	3, 4
RSS	—	—	—	—	—	—	—	—	—	—	2800	2800	

Notes:

General — The dial Long Line circuits and range extender listed are the only approved range extension equipment for coin lines.

1. Signaling range extender (SRE).
2. Minimum coin collect and coin return voltages are assumed to be ±116 volts. 1A coin relays (operate current of 41 ma) are assumed at coin telephone. For other coin voltages consult the SD working limits section.
3. Maximum ground resistance of 50 ohms and maximum DC earth potentials of ±3 volts are assumed. Values in excess of these limits will reduce ranges.
4. Minimum coin collect and coin return voltages are assumed to be ±130 volts. 1A coin relays (operate current of 41 ma) are assumed at coin telephone. For other coin voltages consult the SD working limits section.
5. Dial-tone-first operation is possible with circuits modified per drawing Issue 29D.
6. Coin-first operation in No. 5 Crossbar offices is possible if DLL circuit is modified per drawing Issue 7B. Not usable by TOUCH-TONE® equipment stations. All 1A stations must be modified to 1C equivalent.
7. SD31592-01 longitudinal voltage limit remains 4 volts with SRE or 2A.
8. Resistance shown includes dc resistance of any E-type repenters used (73 through 180 ohms).
9. 8A REG contains its own internal repeater and no external repeater is required.

TABLE C

OPERATE VALUES OF COIN RELAYS

MAKING ON RELAY	OPERATING TIME	OPERATE CURRENT	NON-OPERATE CURRENT
P-15E687 (Note 1)	Remove from service		
1A*	450 ± 50 milliseconds (20° to 100° F)	41 milliamps	30 milliamps
1A (Note 2)			

Note 1: On all routing and maintenance visits, replace the existing P-number relay with a 1A-type. P-number relays (650 ms) will not operate properly with No. 5 XBR, ESS, and SXS served by TSPS offices and are incompatible with the coin station test line and the KS-21250 test set. P-type relays may be identified by the smaller 5/32—inch diameter restoral spring as compared to the larger 9/32—inch restoral spring on 1A relays as shown in Fig. 7 and 8 of the public services maintenance check booklet.

Note 2: Coin relays marked 1A without the asterisk symbol have bifurcated rather than solid contact springs.