GFELLER LINE CONCENTRATOR 49-12-2

SCHEMATICS

1. GENERAL

1.01 This is one of a group of sections pertaining to the Gfeller line concentrator. This section contains the schematics S11840 and S11841, for model 49-12-2, submitted by the Gfeller Company and an explanation of the symbols and drawing methods used.

1.02 The Gfeller concentrator schematics are of the detached contact type similar to those now in use in the Bell System.

1.03 Arrowheads, bearing no designation, are used to indicate a tie-in between two points of the circuit which are separated on the same sheet. The connection of the two points may be found by following the direction of the arrowhead, in a straight line to its associated arrowhead (Fig 2).

1.04 Resistor strapping with an X on the strap as indicated on R2, R5, R11, R13 of S11840 and R1 of S11841 is used to indicate strap removal when 60-volt operation is used (Fig. 2). 60-volt operation is no longer used in the Bell System, it has been replaced with 72-volt to extend the dc range of the line concentrator. When 72-volt operation is used, strap removal on resistors R11 of S11840 and R1 of S11841 is required as indicated by the symbol ϕ.

1.05 Fuses are represented by an oval-shaped symbol (Fig. 2). The contacts shown above

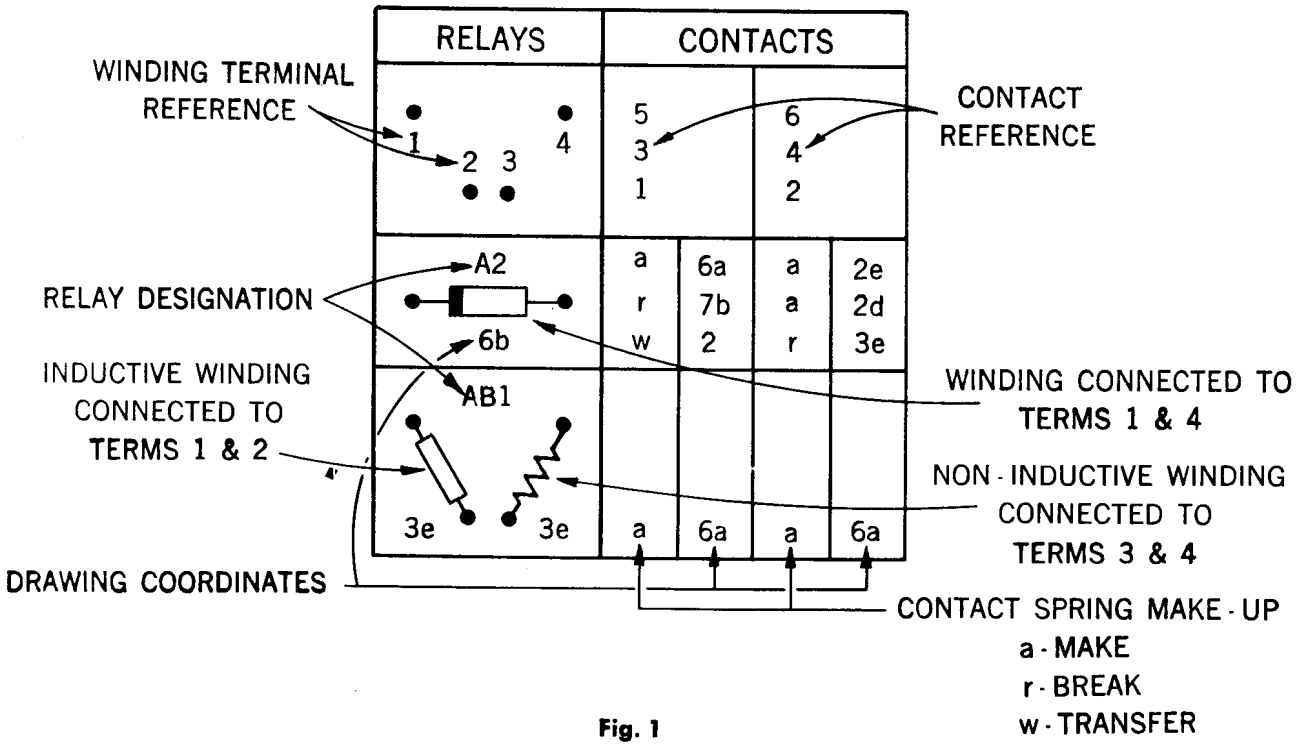


Fig. 1

each symbol are the fuse alarm contacts. Each fuse is designated by the equipment to which it supplies power as well as by a number; this number is also associated with arrowheads at the various components of the central office unit to indicate the source of the battery supply.

1.06 The Gfeller switch vertical bars are drawn in a vertical plane and numbered 1 through 12. The horizontal bars are drawn in a horizontal plane and numbered 1 through 49. The horizontal bar designated 50 is a test bar associated only with the central office unit switch. The a, b, and c designations are the European equivalent of the Bell System T, R, and S, respectively.

1.07 The tables at the bottom of the schematics give the location of each relay winding terminal and its associated contacts by drawing coordinates. The contact spring make-up is also shown. Part of a table is shown in Fig. 1 with a labeled description.

1.08 Fig. 2 contains a list of designated symbols as used in the schematics.

1.09 Fig. 3 shows the schematic of the Gfeller line switch.

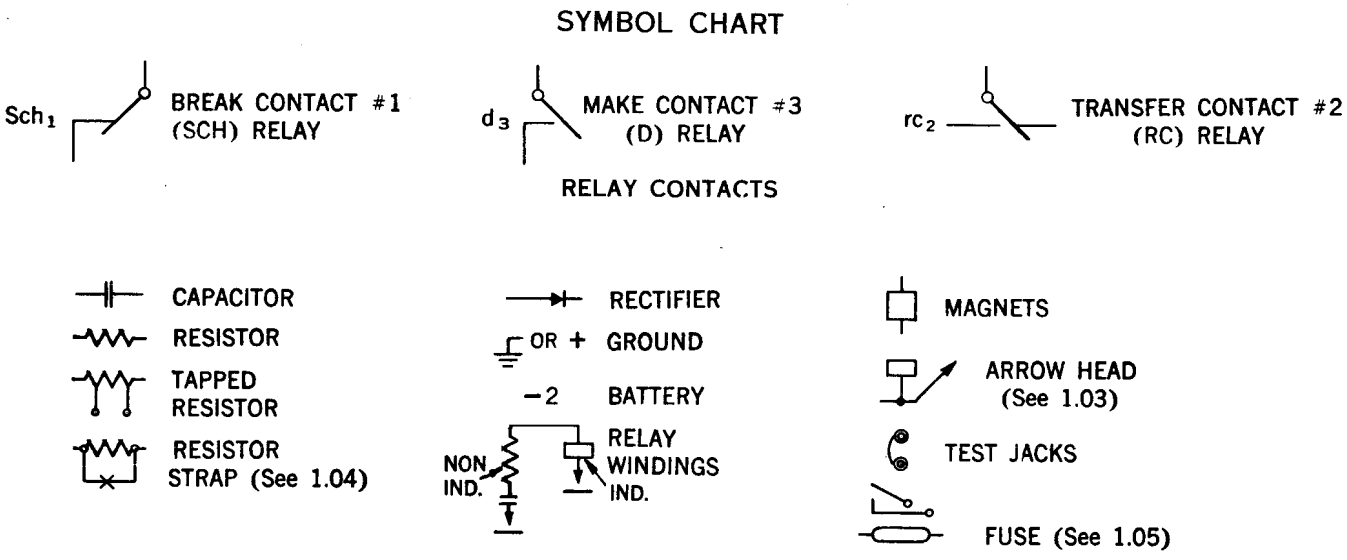


Fig. 2

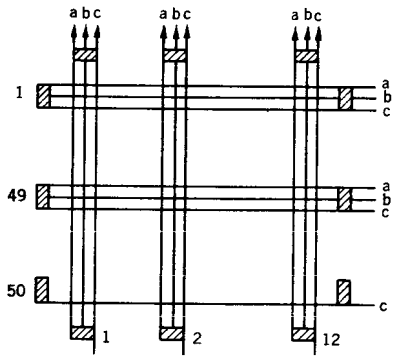
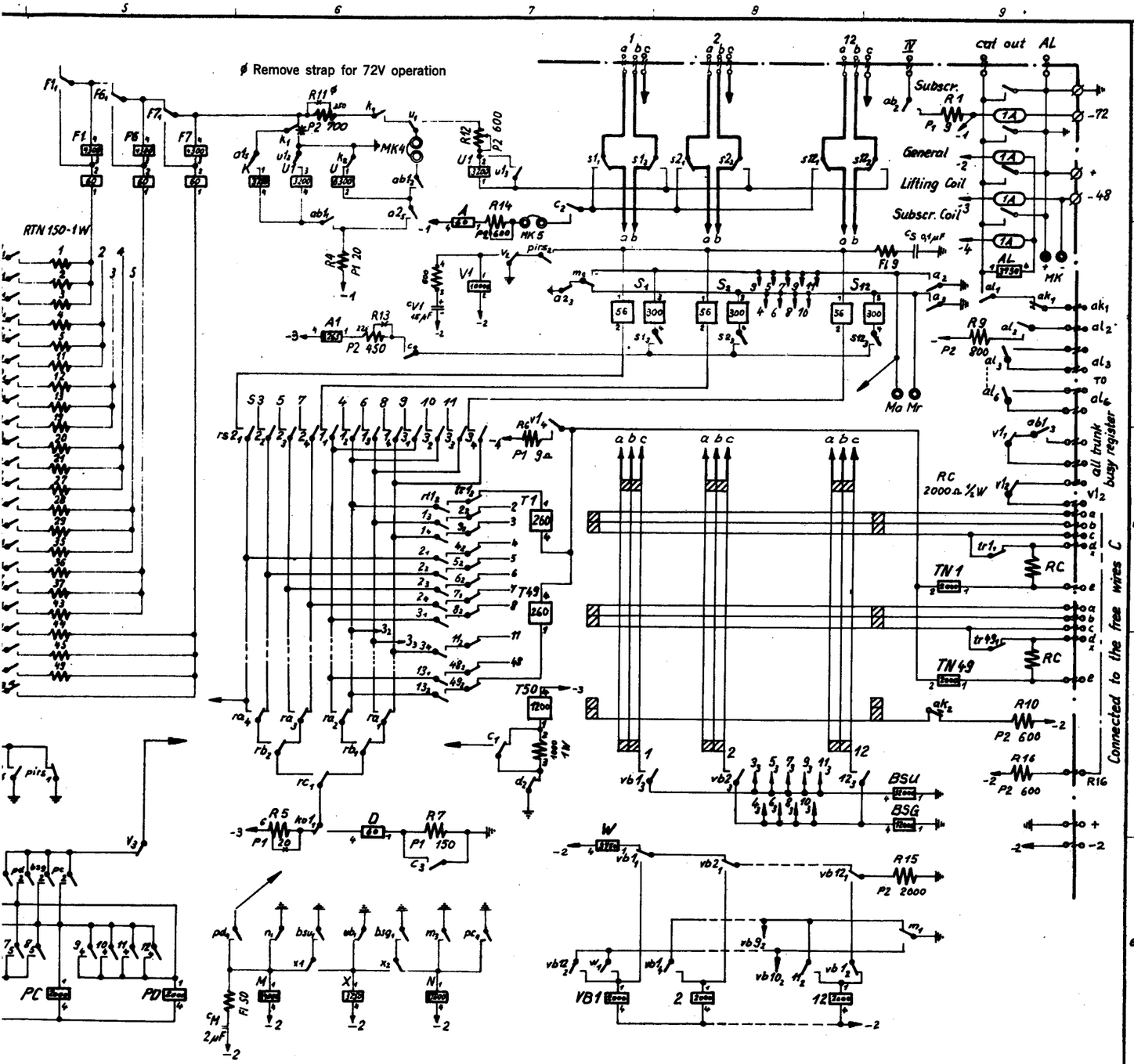
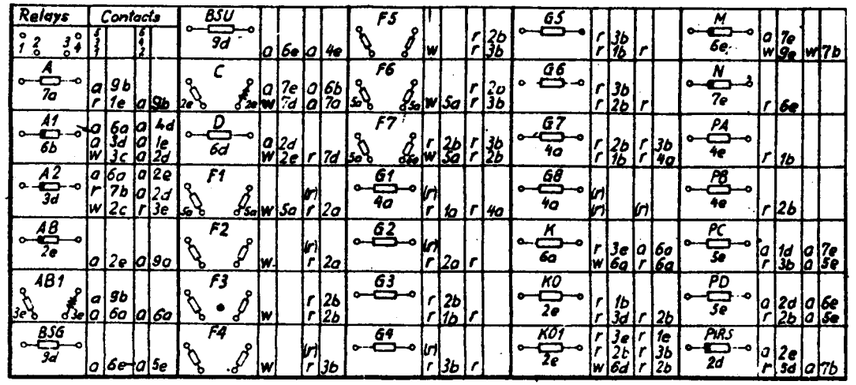
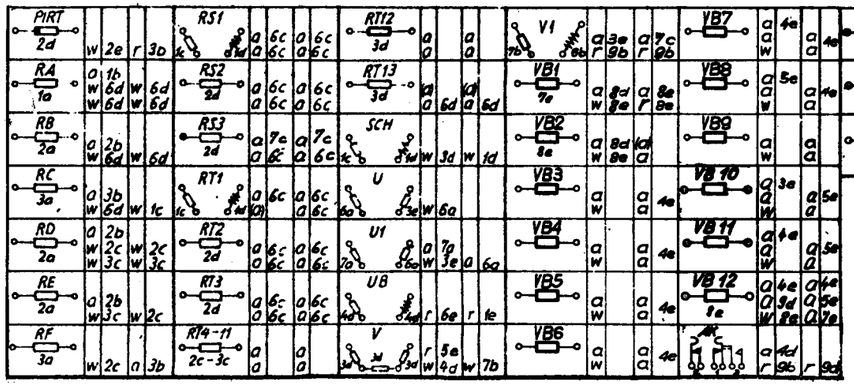


Fig. 3







Lifting Coil	Contacts	Subscr. Coil	Subscr. relays	Contacts	Disconnecting rod	reed contacts
			TN1		tr1	
S1		T1				
S2		T49	TN49		tr49	
S12		T50				

Relays and coils seen from wiring side

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CENTRAL OFFICE UNIT

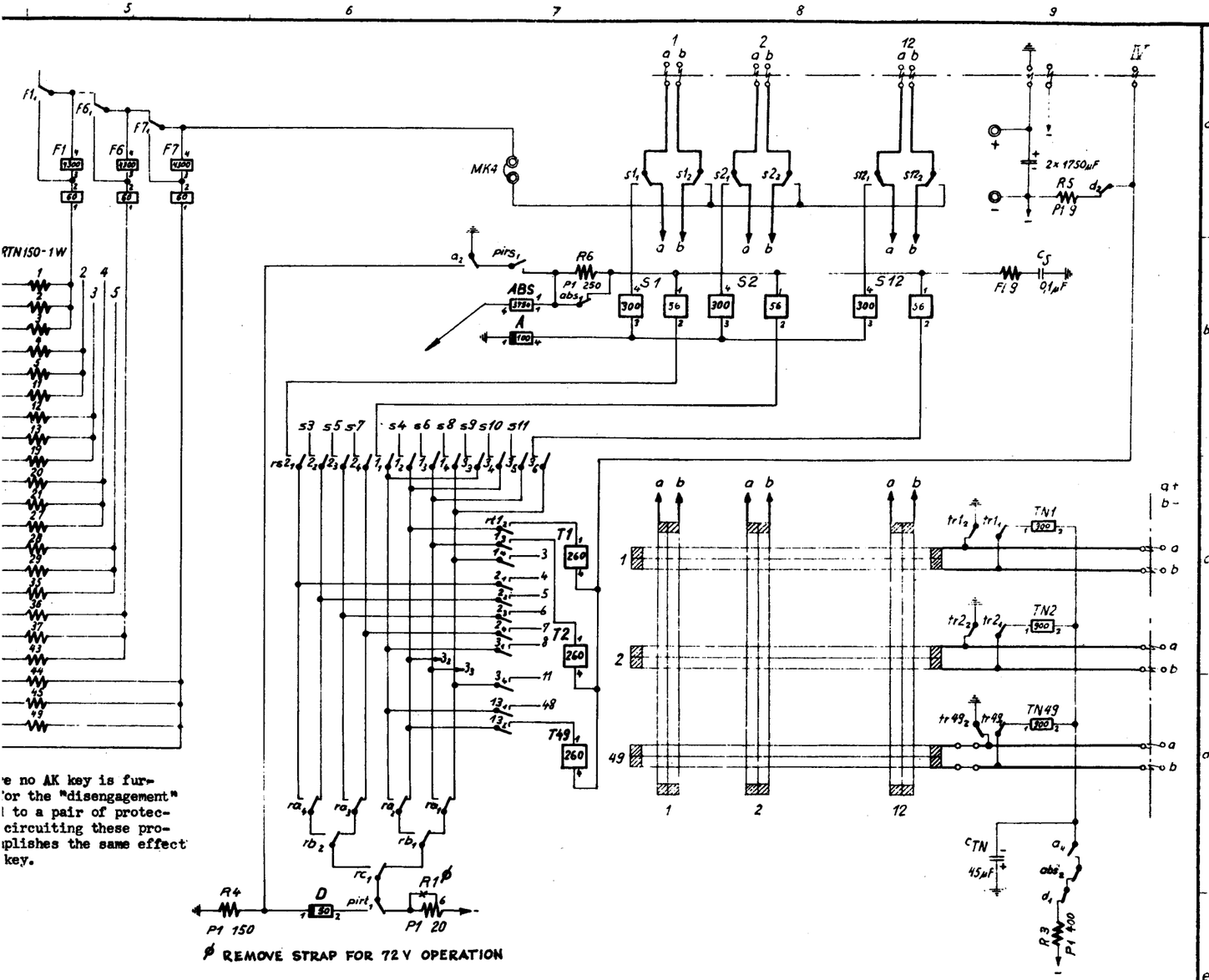
S 11840

× Resistance P2 600

ϕ Remove strap for 72V operation

RTN 150-1W

cut out



'e no AK key is fur-
'or the "disengagement"
l to a pair of protec-
circuiting these pro-
uplishes the same effect
key.

Relays	Contacts	F5		G5		R8		RS3		SCH	
A 7b	r 1c w 2c a 9d w 7b	F6 5a 5a	w 5a r 2b r 3b	G6	r 3b r 2b r	RC 3a	a 2d w 6d w 1c	2d	a 7c a 7c w 2c w 1c	1c 1c	r 2e
D 3d 3d	a 2d r 9d r 9a	F7 5a 5a	r 3b w 3a r 3b r 2b	G7 4a	r 2b r 1b r 3b r 4a	RD 2a	w 2c w 3c w 2c w 3c	RT1 2d 3d	a 7c a 7c w 2d w 1c	ABS 7b	r 1b r 9d
F1 5a 5a	w 5a (r) r 2a	G1 4a	(r) r 1a r 4a	G8 4a	(r) (r) (r)	RE 2a	w 3c w 2c	RT2 2d	a 7c a 7c a 7c a 7c		
F2	w (r) r 2b	G2	(r) r 2b r	PIRS 4d 2d	a 7b	RF 3a	w 2c w	RT3 2d	a 7c a 7d a 7c a 7d		
F3	w r 2b r 2b	G3	r 2b r 1b r	PIRT 3d 2d	a 2d w 6e r 2e	RS1 4d 3d	a 6c a 6c a 6c a 6c	RT4-11 2-3d	a a a a		
F4	w (r) r 3b	G4	(r) r 3b r	RA 4a	w 6d w 7d w 6d w 6d	RS2 3d	a 6c a 6c a 6c	RT12 3d	a a a a		
								RT13 3d	(a) a 7d (a) a 7d	ak	a 4d

Lifting Coil	Contacts	Subscr. Coil	Subscr. relays	Contacts	Disconnecting rod	Hook contacts
S1 7a 7b	a w 2d a w 7a w 8a	T1 7c	TN1 9c	a 4b	tr1	r 9c r 9c
S2 8a 8b	a w 8a w 8a	T2 7c	TN2 9c	a 4b	tr2	r 9c r 9c
S12 8b 9b	a w 2e 8a w 9a	T49 7d	TN49 9d	a 4d	tr49	r 9d r 9d

Relays and coils seen from wiring side

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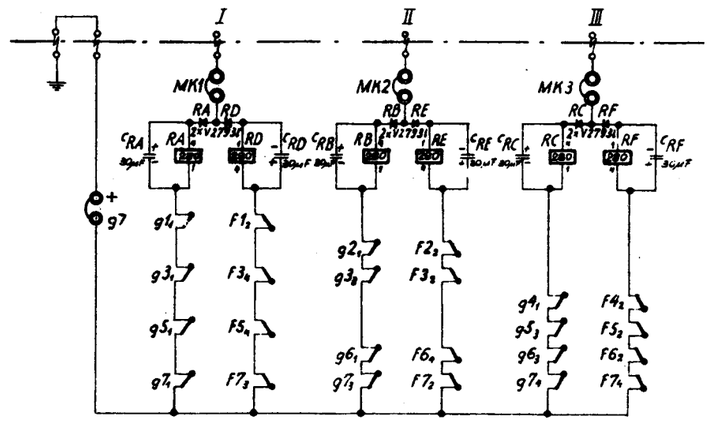
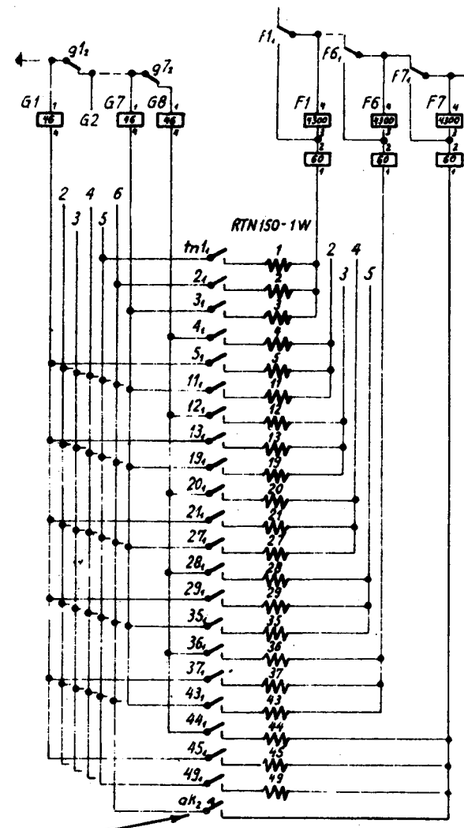
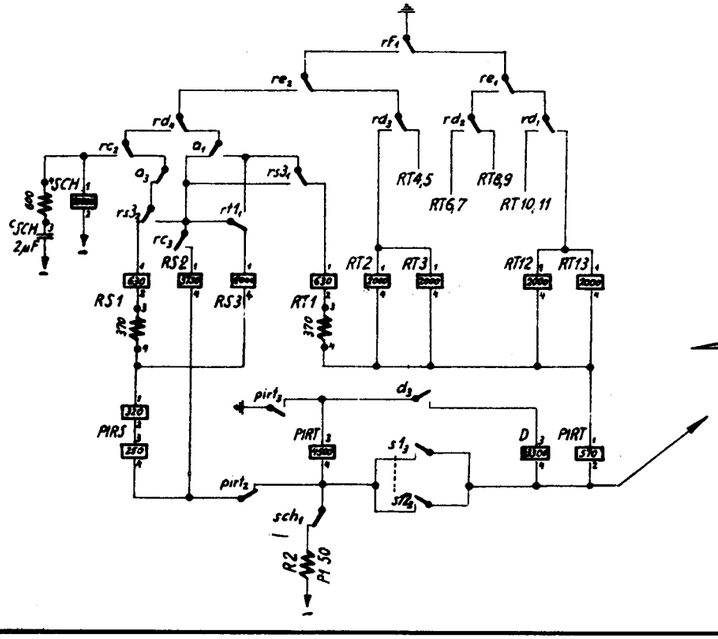
REMOTE UNIT

S 11841







Note: In units where no AK key is furnished, the wiring for the "disengagement" feature is connected to a pair of protector springs. Short circuiting these protector springs accomplishes the same effect as operating the AK key.