

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

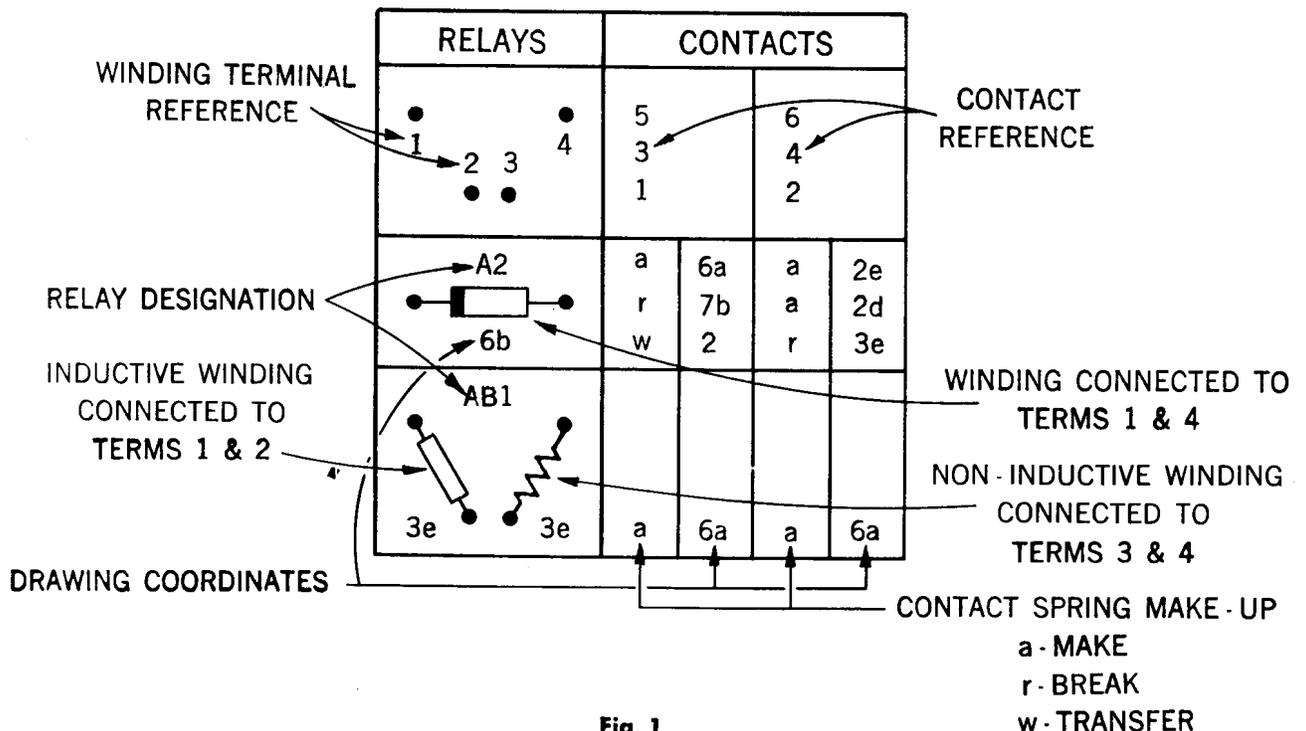


Fig. 1

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.

SYMBOL CHART

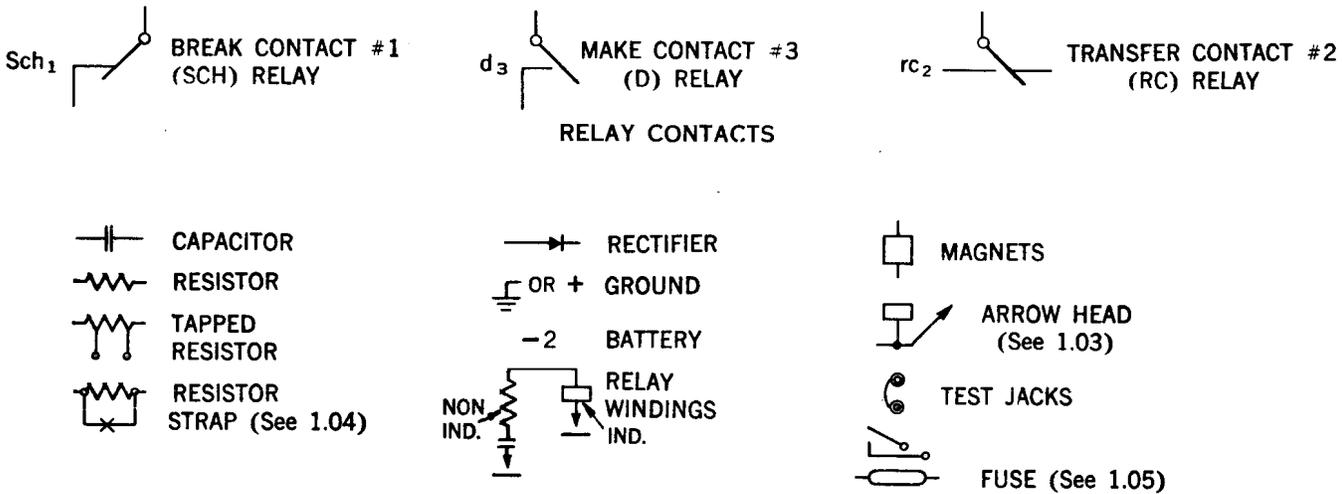


Fig. 2

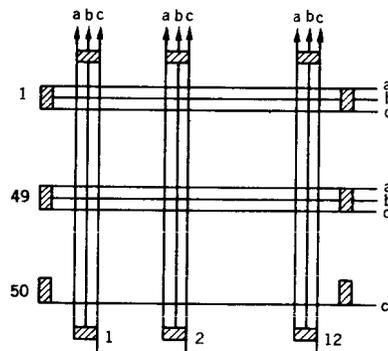
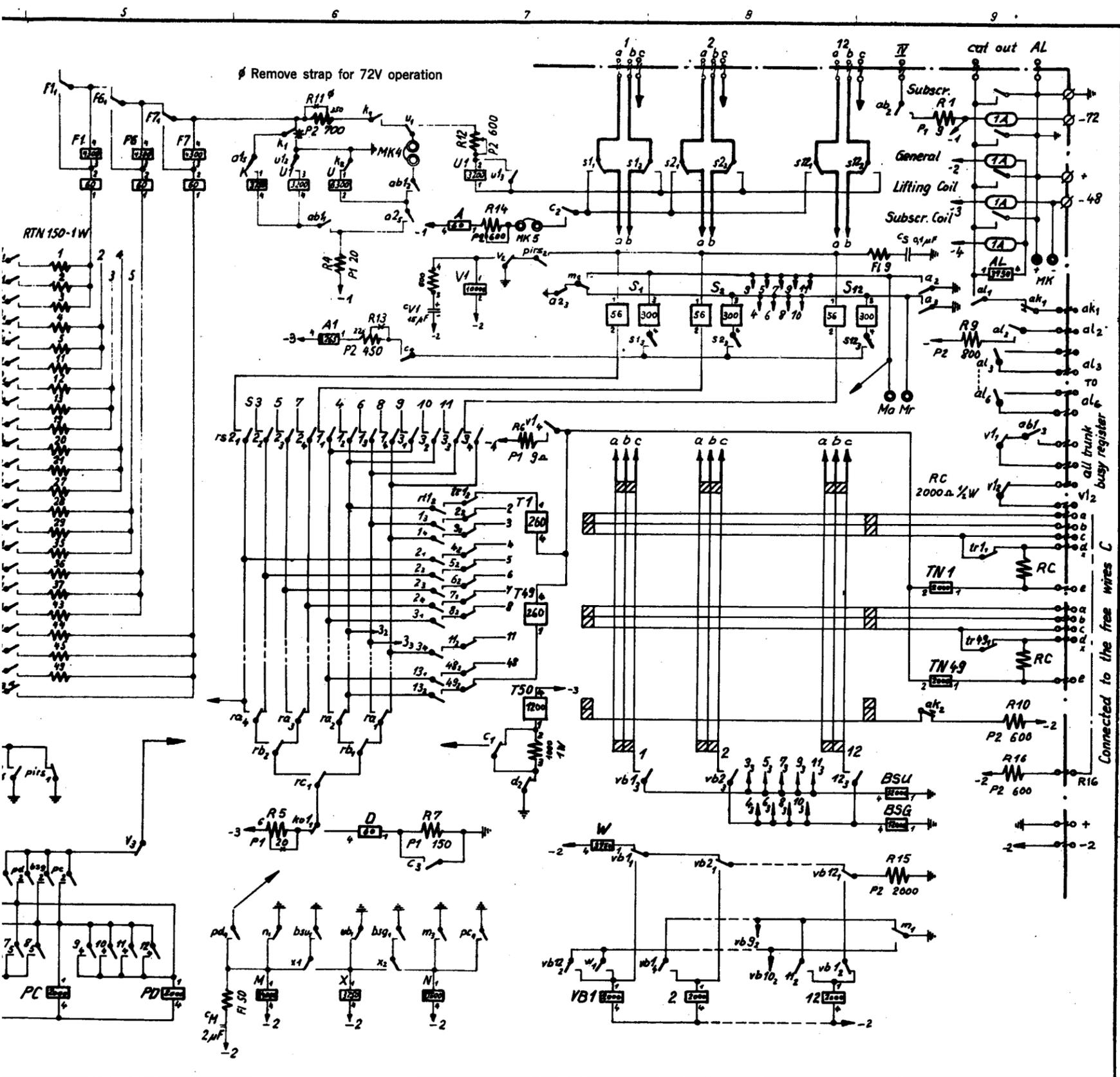


Fig. 3



Relays	Contacts	BSU	F5	G5	M
1 2 3 4	1 2 3 4	9d	0 6e 0 4e	r 2b r 3b r	0 7e 0 7b
A 7a	a 9b r 1e a 9b	C	0 7e 0 6b 0 7a	r 3b r 2b r	N 7e r 6e
A1 6b	0 6a 0 4d 0 1e 0 2d	D	0 2d 0 7d 0 7d	r 3b r 3b r 4a	PA 4e r 1b
A2 3d	0 7b 0 2d 0 2d	F1	0 5a 0 5a r 2a	r 4a r 4a r	PB 4e r 2b
AB 7e	0 2e 0 9a	F2	0 7r 0 2a	r 2a r	PC 5e r 1d 0 7e
AB1 3e	a 9b 0 6a 0 6a	F3	0 7r 0 2b	r 1b r	KO 2e r 3d r 2b
BSG 3d	a 6e 0 5e	F4	0 7r 0 3b	r 3b r	KO1 3e r 1e 0 6a
					PARS 2d 0 2e 0 7b

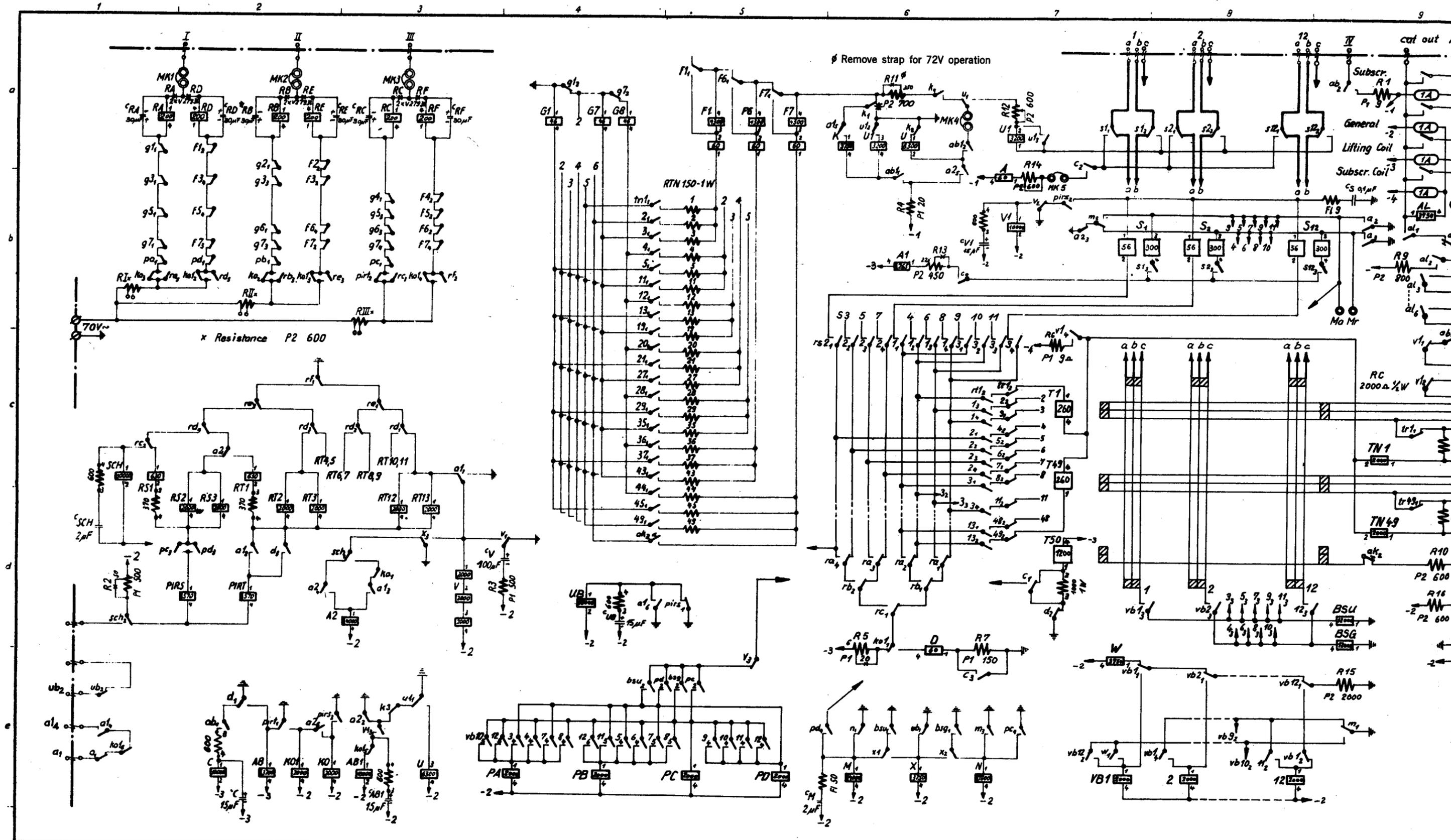
PIRT	RS1	RT12	V1	VB7	W
2d	0 6c 0 6c	0 0	0 7e 0 7e	0 0	0 7e
RA 1a	0 1b 0 6d 0 6d	0 6c 0 6c	0 7e 0 7e	0 0	X 3d 0 6e
RB 2a	0 2b 0 6d 0 6d	0 6c 0 6c	0 7e 0 7e	0 0	AL 3b 0 9a 0 9b
RC 3a	0 3b 0 7c 0 7c	0 6c 0 6c	0 7e 0 7e	0 0	
RD 2a	0 2b 0 7c 0 7c	0 6c 0 6c	0 7e 0 7e	0 0	
RE 2a	0 2b 0 7c 0 7c	0 6c 0 6c	0 7e 0 7e	0 0	
RF 3a	0 3b 0 7c 0 7c	0 6c 0 6c	0 7e 0 7e	0 0	

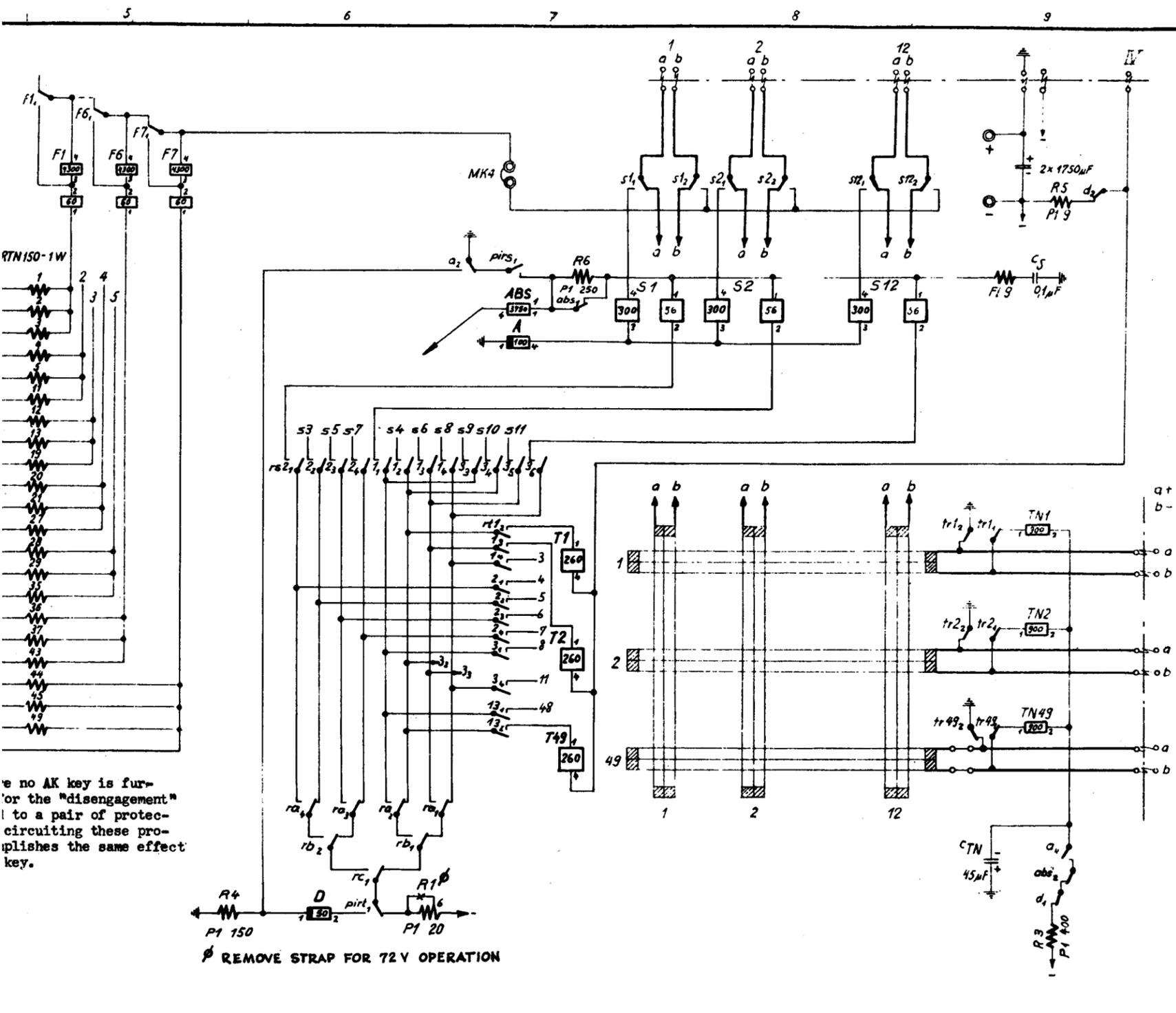
Lifting Coil	Contacts	Subscr. Coil	Subscr. relays	Contacts	Disconnecting rod	rest contacts
S1	a 8b w 7a w 9a	7c	TN1	a 4b	tr1	r 7c r 9c
S2	0 8b 0 8b w 8a w 9a	7c	TN49	a 4d	tr49	r 7d r 9d
S12	0 8b 0 9b w 8a w 9a	7d 7d				

GFELLER LINE CONCENTRATOR
49 - 12 - 2

CENTRAL OFFICE UNIT

S 11840





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

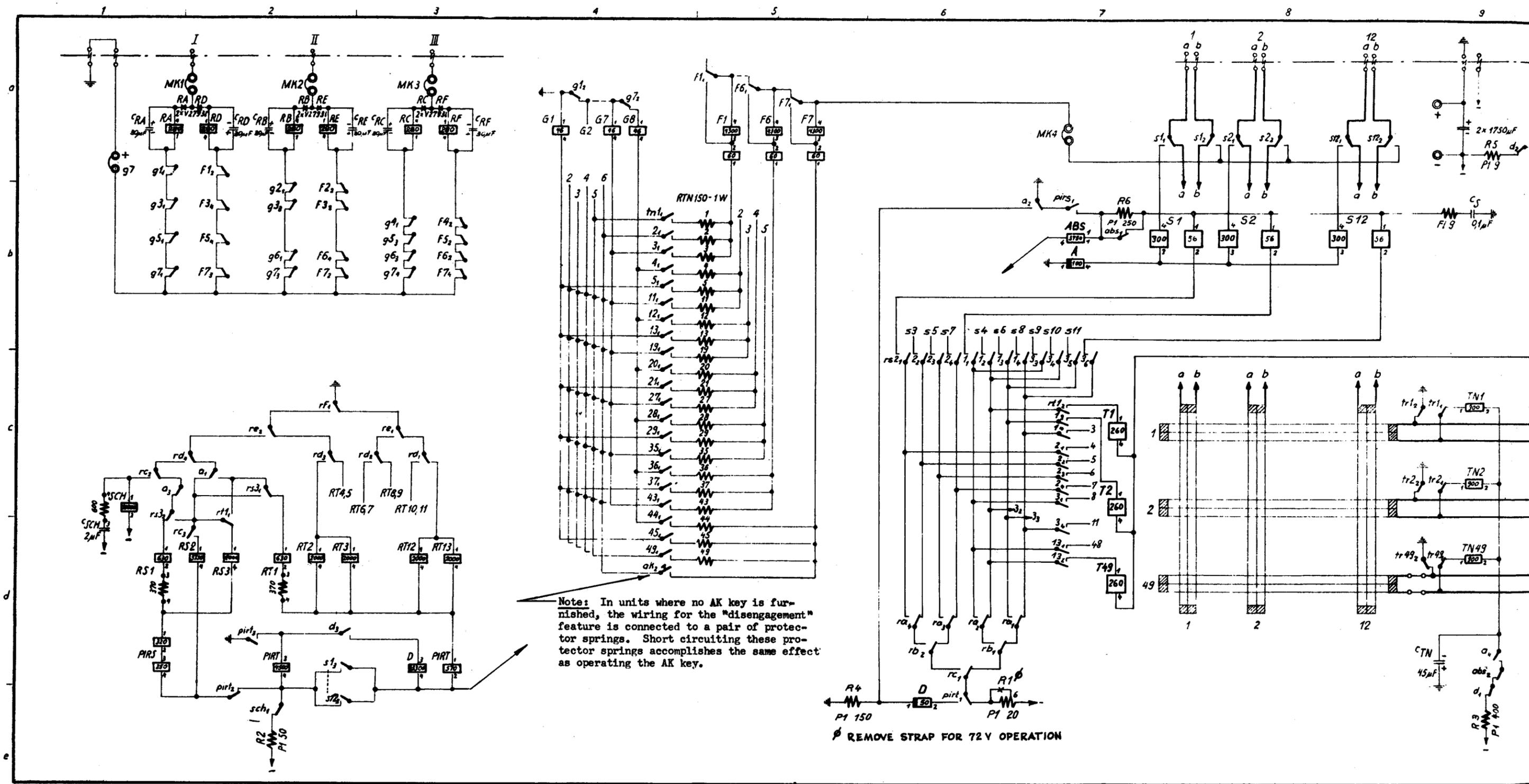
Relays	Contacts	F5	G5	RB	R53	SCM
F1	1c	5a	5a	3a	2d	7b
F2	1c	5a	5a	3a	2d	7b
F3	1c	5a	5a	3a	2d	7b
F4	1c	5a	5a	3a	2d	7b
F5	1c	5a	5a	3a	2d	7b
F6	1c	5a	5a	3a	2d	7b
F7	1c	5a	5a	3a	2d	7b
F8	1c	5a	5a	3a	2d	7b
F9	1c	5a	5a	3a	2d	7b
F10	1c	5a	5a	3a	2d	7b
F11	1c	5a	5a	3a	2d	7b
F12	1c	5a	5a	3a	2d	7b
F13	1c	5a	5a	3a	2d	7b
F14	1c	5a	5a	3a	2d	7b
F15	1c	5a	5a	3a	2d	7b
F16	1c	5a	5a	3a	2d	7b
F17	1c	5a	5a	3a	2d	7b
F18	1c	5a	5a	3a	2d	7b
F19	1c	5a	5a	3a	2d	7b
F20	1c	5a	5a	3a	2d	7b
F21	1c	5a	5a	3a	2d	7b
F22	1c	5a	5a	3a	2d	7b
F23	1c	5a	5a	3a	2d	7b
F24	1c	5a	5a	3a	2d	7b
F25	1c	5a	5a	3a	2d	7b
F26	1c	5a	5a	3a	2d	7b
F27	1c	5a	5a	3a	2d	7b
F28	1c	5a	5a	3a	2d	7b
F29	1c	5a	5a	3a	2d	7b
F30	1c	5a	5a	3a	2d	7b
F31	1c	5a	5a	3a	2d	7b
F32	1c	5a	5a	3a	2d	7b
F33	1c	5a	5a	3a	2d	7b
F34	1c	5a	5a	3a	2d	7b
F35	1c	5a	5a	3a	2d	7b
F36	1c	5a	5a	3a	2d	7b
F37	1c	5a	5a	3a	2d	7b
F38	1c	5a	5a	3a	2d	7b
F39	1c	5a	5a	3a	2d	7b
F40	1c	5a	5a	3a	2d	7b
F41	1c	5a	5a	3a	2d	7b
F42	1c	5a	5a	3a	2d	7b
F43	1c	5a	5a	3a	2d	7b
F44	1c	5a	5a	3a	2d	7b
F45	1c	5a	5a	3a	2d	7b
F46	1c	5a	5a	3a	2d	7b
F47	1c	5a	5a	3a	2d	7b
F48	1c	5a	5a	3a	2d	7b
F49	1c	5a	5a	3a	2d	7b
F50	1c	5a	5a	3a	2d	7b
F51	1c	5a	5a	3a	2d	7b
F52	1c	5a	5a	3a	2d	7b
F53	1c	5a	5a	3a	2d	7b
F54	1c	5a	5a	3a	2d	7b
F55	1c	5a	5a	3a	2d	7b
F56	1c	5a	5a	3a	2d	7b
F57	1c	5a	5a	3a	2d	7b
F58	1c	5a	5a	3a	2d	7b
F59	1c	5a	5a	3a	2d	7b
F60	1c	5a	5a	3a	2d	7b
F61	1c	5a	5a	3a	2d	7b
F62	1c	5a	5a	3a	2d	7b
F63	1c	5a	5a	3a	2d	7b
F64	1c	5a	5a	3a	2d	7b
F65	1c	5a	5a	3a	2d	7b
F66	1c	5a	5a	3a	2d	7b
F67	1c	5a	5a	3a	2d	7b
F68	1c	5a	5a	3a	2d	7b
F69	1c	5a	5a	3a	2d	7b
F70	1c	5a	5a	3a	2d	7b
F71	1c	5a	5a	3a	2d	7b
F72	1c	5a	5a	3a	2d	7b
F73	1c	5a	5a	3a	2d	7b
F74	1c	5a	5a	3a	2d	7b
F75	1c	5a	5a	3a	2d	7b
F76	1c	5a	5a	3a	2d	7b
F77	1c	5a	5a	3a	2d	7b
F78	1c	5a	5a	3a	2d	7b
F79	1c	5a	5a	3a	2d	7b
F80	1c	5a	5a	3a	2d	7b
F81	1c	5a	5a	3a	2d	7b
F82	1c	5a	5a	3a	2d	7b
F83	1c	5a	5a	3a	2d	7b
F84	1c	5a	5a	3a	2d	7b
F85	1c	5a	5a	3a	2d	7b
F86	1c	5a	5a	3a	2d	7b
F87	1c	5a	5a	3a	2d	7b
F88	1c	5a	5a	3a	2d	7b
F89	1c	5a	5a	3a	2d	7b
F90	1c	5a	5a	3a	2d	7b
F91	1c	5a	5a	3a	2d	7b
F92	1c	5a	5a	3a	2d	7b
F93	1c	5a	5a	3a	2d	7b
F94	1c	5a	5a	3a	2d	7b
F95	1c	5a	5a	3a	2d	7b
F96	1c	5a	5a	3a	2d	7b
F97	1c	5a	5a	3a	2d	7b
F98	1c	5a	5a	3a	2d	7b
F99	1c	5a	5a	3a	2d	7b
F100	1c	5a	5a	3a	2d	7b

Lifting Coil	Contacts	Subscr. Coil	Subscr. relays	Contacts	Disconnecting rod	Peak contacts
S1	7a	T1	TN1	9c	→ tr1	r 9c
S2	8a	T2	TN2	9c	→ tr2	r 9c
S12	9a	T49	TN49	9d	→ tr49	r 9d

Relays and coils seen from wiring side

GFELLER LINE CONCENTRATOR
49 - 12 - 2
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.

REMOVE STRAP FOR 72 V OPERATION