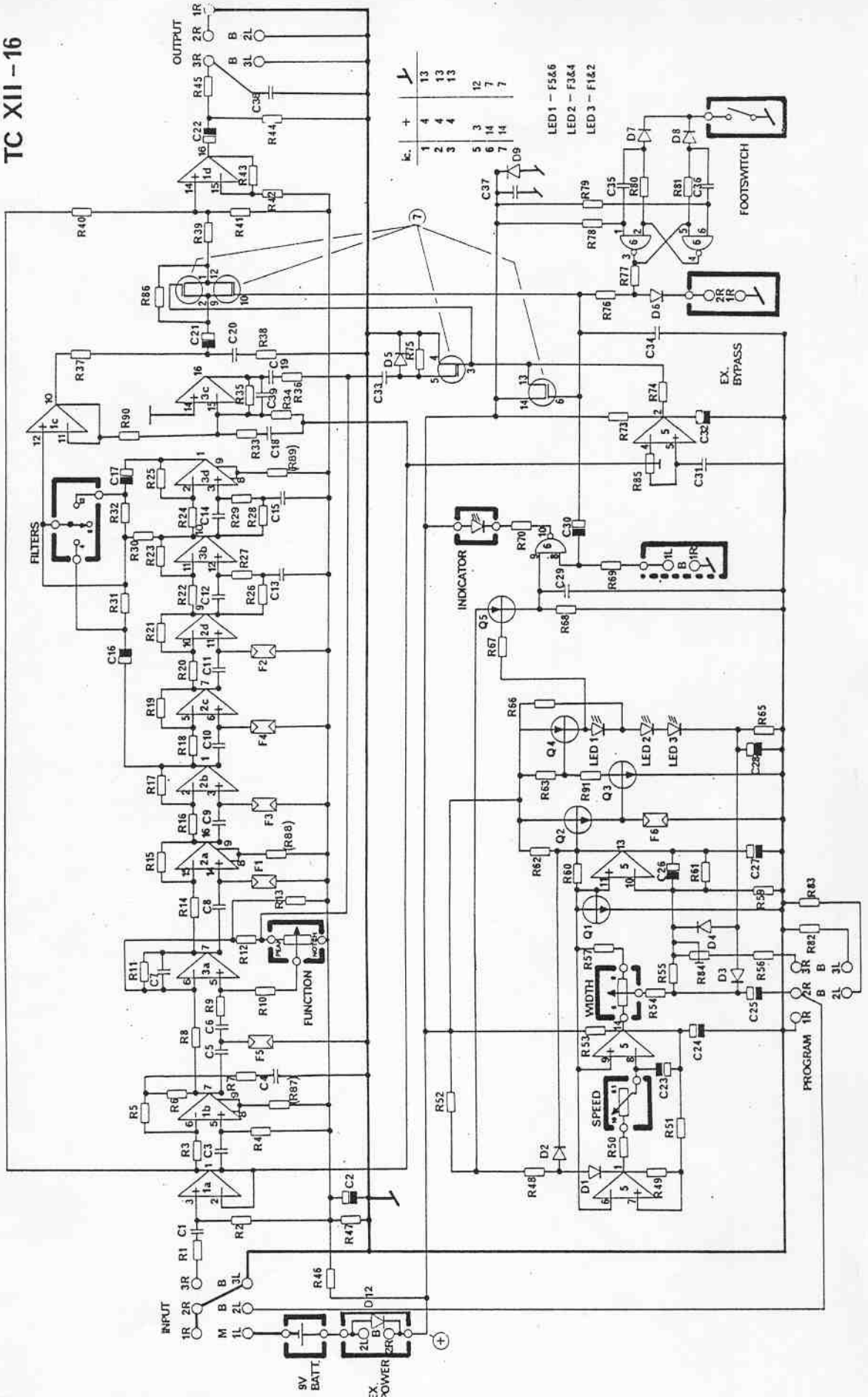


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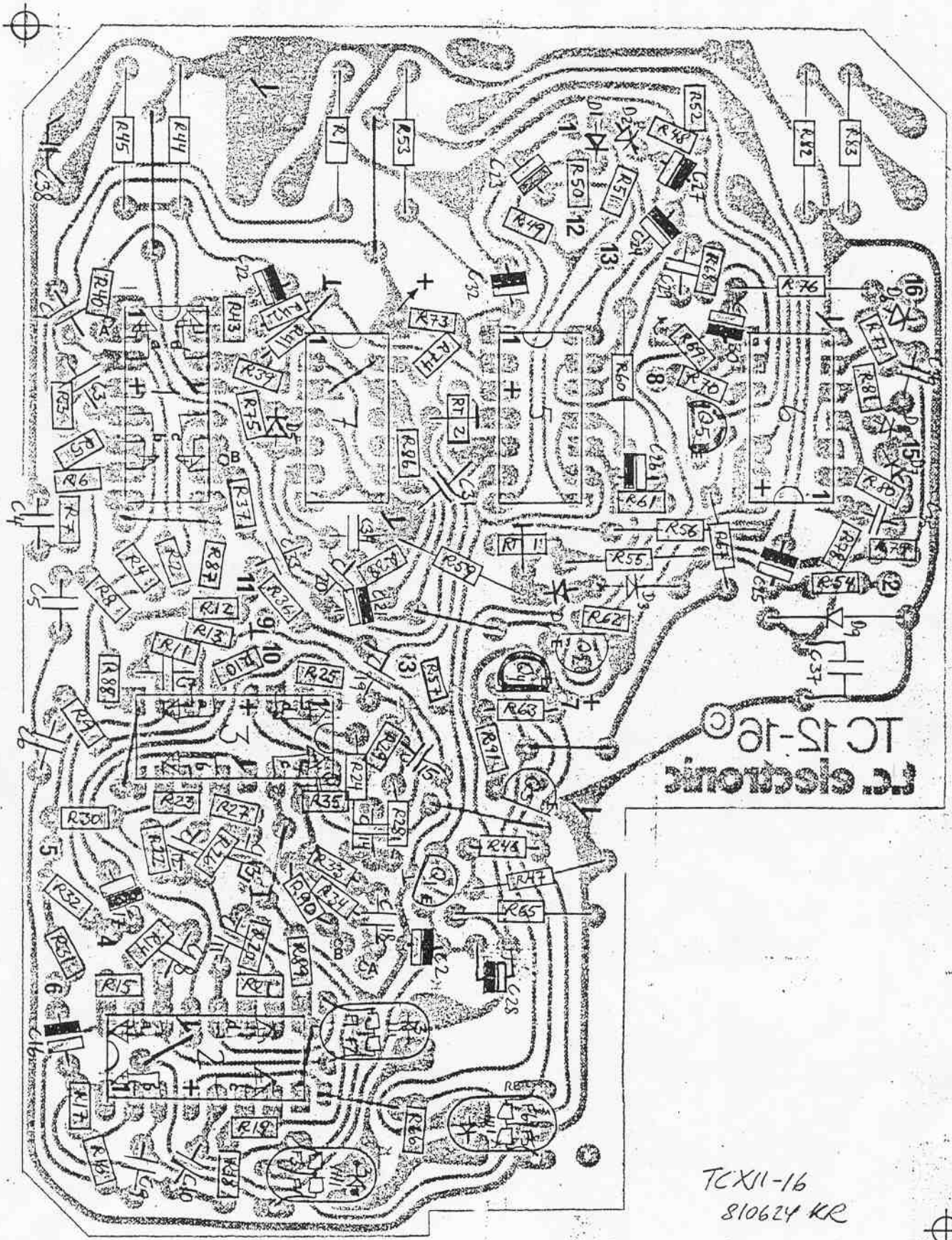


k.	+	13
1	4	13
2	4	13
3	4	13
5	3	12
6	14	7
7	14	7

LED 1 - F5&6
LED 2 - F3&4
LED 3 - F1&2

R WITH () ONLY USED IF IC1-3 = RC4149

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R10624		KR	SCHEMATIC TC XII & TC XII R/K	1201-16
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		doc. TC XII version 16	t.c. electronic	



t.c. electronic
TC 15-16

TCXII-16
810624 KR

DATE 810624	DRG. KR	APP. KR	TITLE TC XII & TC XII B/K PARTS LAYOUT	DRG. NO. 1201-16
840213	KR		SCALE	
			MAT.	
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RESISTORS

R1	4,7	KOhm	L	R31	1	MOhm		R61	200	KOhm
R2	1	MOhm		R32	1	MOhm		R62	68	KOhm
R3	10	KOhm		R33	10	KOhm		R63	22	KOhm
R4	4,7	KOhm		R34	18	KOhm		R65	100	Ohm
R5	10	KOhm		R35	18	KOhm		R66	1	MOhm
R6	1,8	KOhm		R36	1,5	KOhm		R67	2,2	MOhm
R7	1	KOhm		R37	1,8	KOhm		R68	2,2	MOhm
R8	22	KOhm		R38	1	KOhm		R69	6,8	MOhm
R9	22	KOhm		R39	22	KOhm		R70	1	KOhm
R10	22	KOhm		R40	22	KOhm				
R11	22	KOhm		R41	47	KOhm				
R12	20	KOhm		R42	10	KOhm				
R13	18	KOhm		R43	4,7	KOhm		R73	1	MOhm
R14	10	KOhm		R44	15	KOhm	L	R74	1	MOhm
R15	10	KOhm		R45	270	Ohm	L	R75	100	KOhm
R16	10	KOhm		R46	82	KOhm		R76	100	KOhm
R17	10	KOhm		R47	120	KOhm	L	R77	100	KOhm
R18	10	KOhm		R48	47	KOhm		R78	10	KOhm
R19	10	KOhm		R49	18	KOhm		R79	10	KOhm
R20	10	KOhm		R50	10	KOhm		R80	2,2	MOhm
R21	10	KOhm		R51	4,7	KOhm		R81	2,2	MOhm
R22	10,0	KOhm		R52	10	KOhm		R82	15	KOhm
R23	16,2	KOhm		R53	68	KOhm	L	R83	100	KOhm
R24	10,0	KOhm	L	R54	68	KOhm				
R25	16,2	KOhm		R55	330	KOhm	L	R86	2,2	MOhm
R26	7,50	KOhm	*)	R56	220	KOhm	L	R87		
R27	13	KOhm	*)	R57	3,3	KOhm		R88		
R28	7,50	KOhm	*)					R89		
R29	16,2	KOhm	*)	R59	820	KOhm	L	R90	20	KOhm
R30	10	KOhm		R60	10	KOhm	L	R91	68	KOhm

In TC XII B/K the components marked w.*) are different:

R26	15,0	KOhm		R28	15,0	KOhm	
R27	27	KOhm		R29	32,4	KOhm	

POTENTIOMETERS

P1	1	MOhm	neg.log.	(SPEED)
P2	22	KOhm	lin.	(FUNCTION)
P3	100	KOhm	lin.	(WIDTH)

VARIABLE RESISTORS

VR1	100	KOhm
VR2	100	KOhm

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CAPACITORS

C1	47 nF	20%	poly.	(2e)	C20	47 nF	20%	poly.	(2e)
C2	22 uF	16V	ellyt.		C21	1 uf	35V	ellyt.	
C3	22 nF	20%	poly.	(2e) *)	C22	4,7 uF	35V	ellyt.	
C4	47 nF	20%	poly.	(2e)	C23	10 uF	35V	ellyt.	
C5	47 nF	20%	poly.	(2e) *)	C24	4,7 uF	35V	ellyt.	
C6	100 nF	20%	poly.	(2e)	C25	22 uF	16V	ellyt.	
C7	68 nF	20%	plaq.	(2e) *)	C26	22 uF	35V	tant.	
C8	47 nF	20%	poly.	(2e) *)	C27	4,7 uF	35V	ellyt.	
C9	47 nF	20%	poly.	(2e) *)	C28	4,7 uF	35V	ellyt.	
C10	10 nF	20%	poly.	(2e) *)	C29	22 nF		plaq.	(2e)
C11	10 nF	20%	poly.	(2e) *)	C30	1 uf	35V	tant.	
C12	2,2 nF	10%	poly.	(2e)	C31	47 nF	20%	poly.	(2e)
C13	22 nF	10%	poly.	(2e)	C32	1 uf	35V	ellyt.	
C14	2,2 nF	10%	poly.	(2e)	C33	100 nF	20%	poly.	(2e)
C15	22 nF	10%	poly.	(2e)	C34	100 nF	20%	poly.	(2e)
C16	4,7 uF	35V	ellyt.		C35	10 nF		plaq.	(2e)
C17	4,7 uF	35V	ellyt.		C36	10 nF		plaq.	(2e)
C18	6,8 nF	20%	poly.	(2e)	C37	100 nF	20%	poly.	(2e)
C19	33 nF	20%	poly.	(2e) *)	C39	220 pF	20%	plaq.	(2e)

In TC XII B/K the components marked w.*) are different:

C3	47 nF	20%	poly.	(2e)	C9	100 nF	20%	poly.	(2e)
C5	100 nF	20%	poly.	(2e)	C10	22 nF	20%	poly.	(2e)
C7	1 nF	20%	plaq.	(2e)	C11	22 nF	20%	poly.	(2e)
C8	100 nF	20%	poly.	(2e)	C19	68 nF	20%	poly.	(2e)

INTEGRATED CIRCUITS

IC 1	XR 4212	(selected)
IC 2	RC 4149	(selected)
IC 3	RC 4149	(selected)
IC 5	LM 339	
IC 6	CD 4011	A or UB
IC 7	HEF 4007	UB

TRANSISTORS & DIODES

Q1 - Q3	BC548C	NPN	20V
Q4 & Q5	BC558B	PNP	20V
D1 - D8	1N4148		
D9	1N4001		
D10	not used		
D11	XC 2090R	LED	Ø3/red

(If IC 1 = RC 4149, R47 = 100 KOhm & C 38 = 2,2 nF plaq.)
(R87-88-89 = 470K ONLY IF IC1-IC2-IC3 =RC 4149,16 PIN)

OPTOCOUPERS

OP1, OP2 & OP3 : TC OPTO (matched)

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