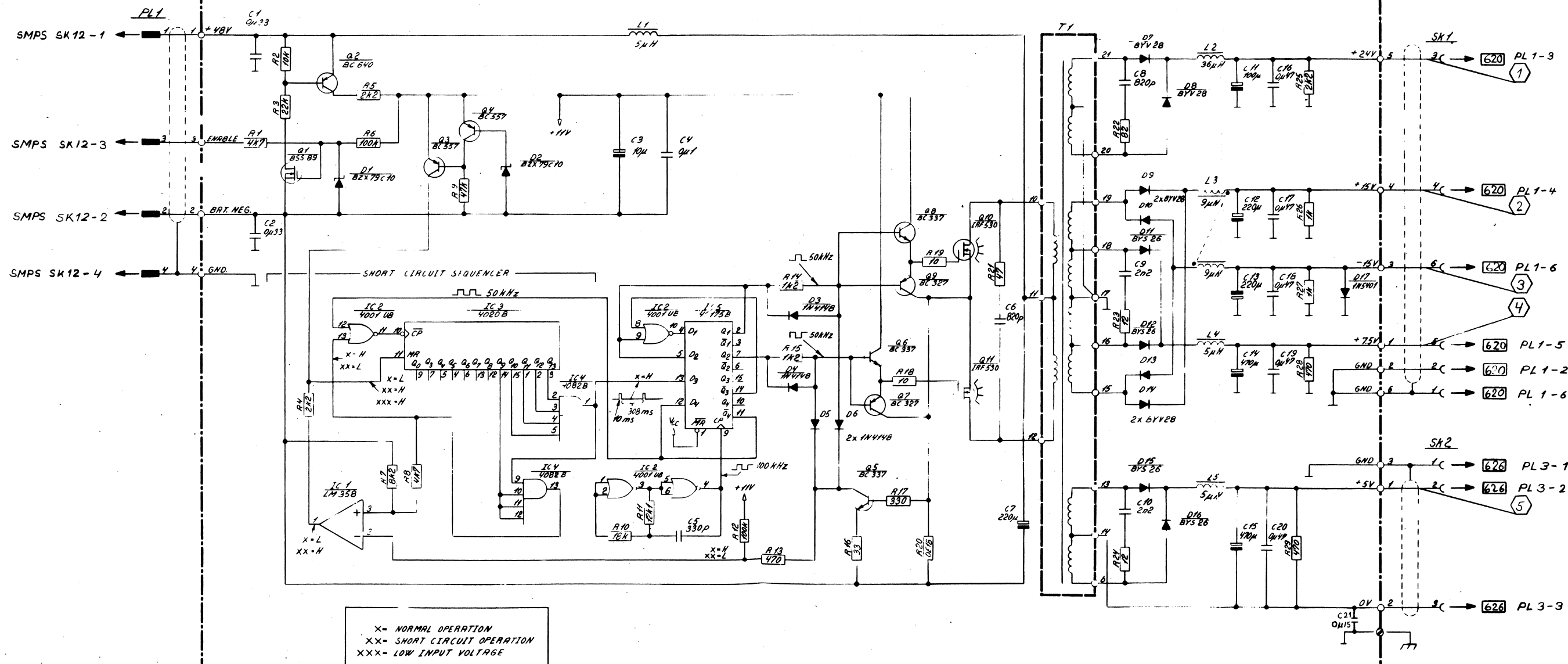


TECHNICAL DESCRIPTION

PCB 621 VOLTAGE CONVERTER BOARD

The voltage converter is a push-pull converter with isolation. There is no stabilisation, it only converts the stabilized 40 V voltage from the Switched Mode Power Supply. The converter frequency is controlled by IC2 and IC5. The converter starts when the enable input is high. The output is protected by a Short Circuit Sequencer. During a shortcircuit the gate voltage of Q10 and Q11 is controlled by Q5 so that the current through Q10 and Q11 is limited to approx. 3 A and sensed by R20. A sequence network, consisting of IC1, IC2, IC3 and IC4 is sensing the gate voltage of Q10 and Q11. If the voltage is low, the converter is shut-off for 300 msec. and then restarted as the shortcircuit sequencer is disabled for 10 msec. by IC4, thus allowing the converter to work for 10 msec. charging the output capacitors. In case of no shortcircuit the gate voltage of Q10 and Q11 will be high and the converter will continue to work. In case of a shortcircuit the gate voltage of Q10 and Q11 will remain low and the sequence network shut off the converter for 300 msec. etc. This means that the loss in Q10 and Q11 will be reduced by a duty factor 1:30. At the same time the current in the output circuit will be reduced and the wiring thereby protected.



PCB 621 VOLTAGE CONVERTER
VERSION 2A MAIN DIAGRAM

PARTS LIST FOR VOLTAGE CONVERTER BOARD 621 VERSION 2A

PARTS LIST FOR VOLTAGE CONVERTER BOARD 621 VERSION 2A

Printed Circuit Board Complete 621							
IC1	LM358	107 562 11	C9,10	2.2 nF	10%	63V	602 322 00
IC2	4001UB	850 035 80	C11	100 uF	-10+50%	40V W.alum.	652 810 01
IC3	4020B	850 400 11	C14,15	470 uF	-10+50%	40V W.alum.	652 847 01
IC4	4082B	850 402 00	C16-20	0.47 uF	10%	63V Polyes.	622 547 01
IC5	40175	850 408 20	C21	0.15 uF			623 515 01
Q1	BSS89	854 017 50	L1,4,5	5 uH			373 574 4X
Q2	BC640	843 008 90	L2	36 uH			103 574 51
Q3,4	BC557	840 064 00	L3	9 uH			103 574 61
Q5,6,8	BC337	840 055 70	T1				383 604 61
Q7,9	BC327	840 033 70	PL1				106 601 80
Q10,11	BC327	840 032 70	SK1	MOLEX SOCKET 6 POL.			106 601 60
	IRF530	843 053 00	SK2	MOLEX SOCKET 3 POL.			106 601 70
D1,2	BZX79C10	832 791 00					
D3-6	1N4148	830 414 80					
D7-10,13,14	BYV28	831 002 80					
D11,12,15,16	BYS26	831 002 60					
D17	1N5401	831 540 10					
R1,8	4.7 kohm	501 347 00					
R2	10 kohm	501 410 00					
R3	22 kohm	501 422 00					
R4	2.2 kohm	501 322 00					
R5	2.2 kohm	544 322 00					
R6,12	100 kohm	501 510 00					
R7	8.2 kohm	501 382 00					
R9	47 kohm	501 447 00					
R10	18 kohm	501 418 00					
R11	12.1kohm	511 412 10					
R13	470 ohm	501 247 00					
R14,15	1.2 kohm	501 312 00					
R16	33 ohm	501 133 00					
R17	330 ohm	501 233 00					
R18,19	10 ohm	501 110 00					
R20	0.18 ohm	526 001 80					
R21	47 ohm	501 147 00					
R22	82 ohm	501 182 00					
R23,24	12 ohm	501 112 00					
R25	2.2 kohm	512 322 00					
R26,27	1 kohm	512 310 00					
R28,29	470 ohm	512 247 00					
C1,2	0.33 uF	624 533 00					
C3	10 uF	651 710 01					
C4	0.1 uF	622 510 00					
C5	330 pF	615 233 00					
C6,8	820 pF	602 282 00					
C7,12,13	220 uF	652 822 02					