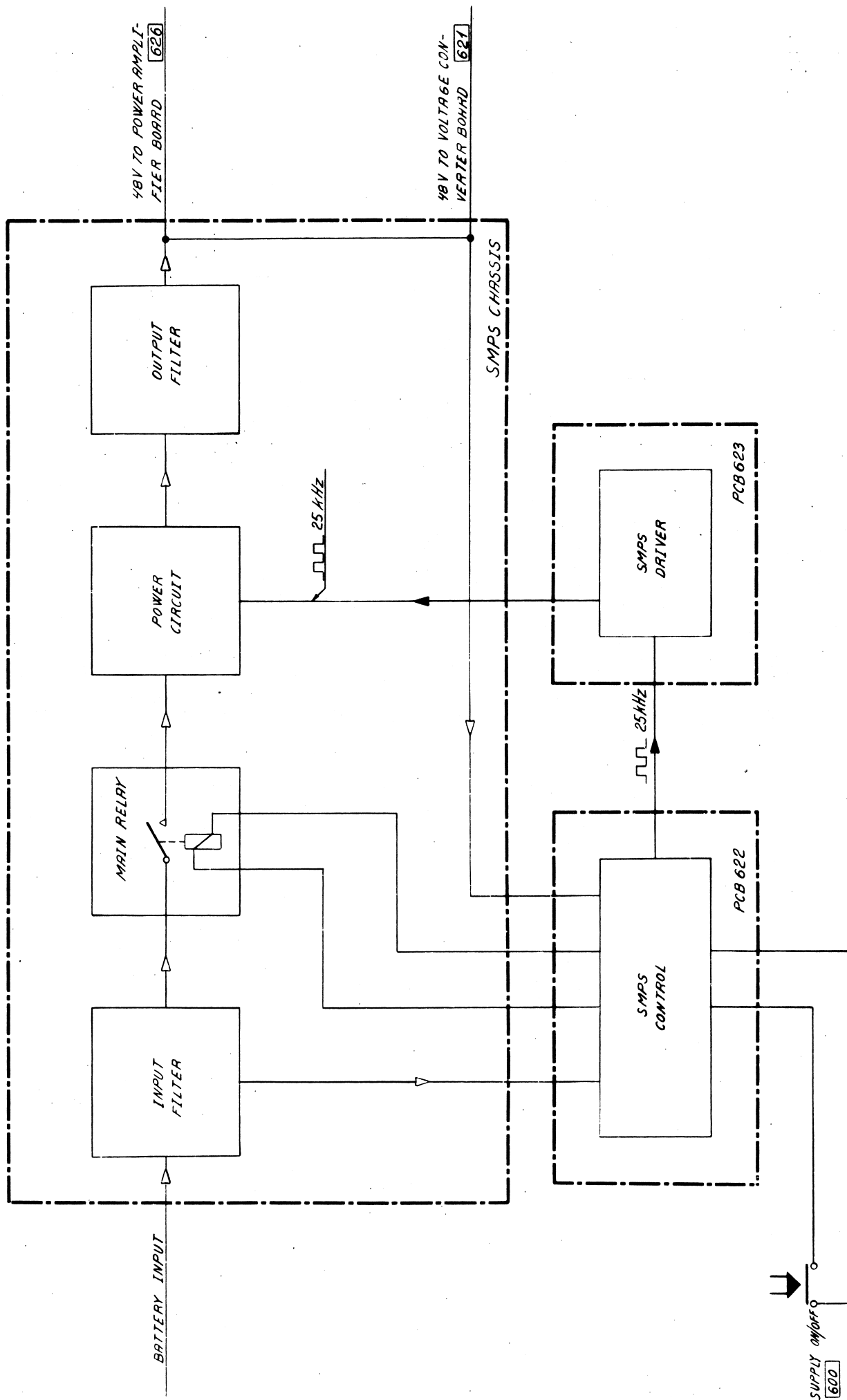


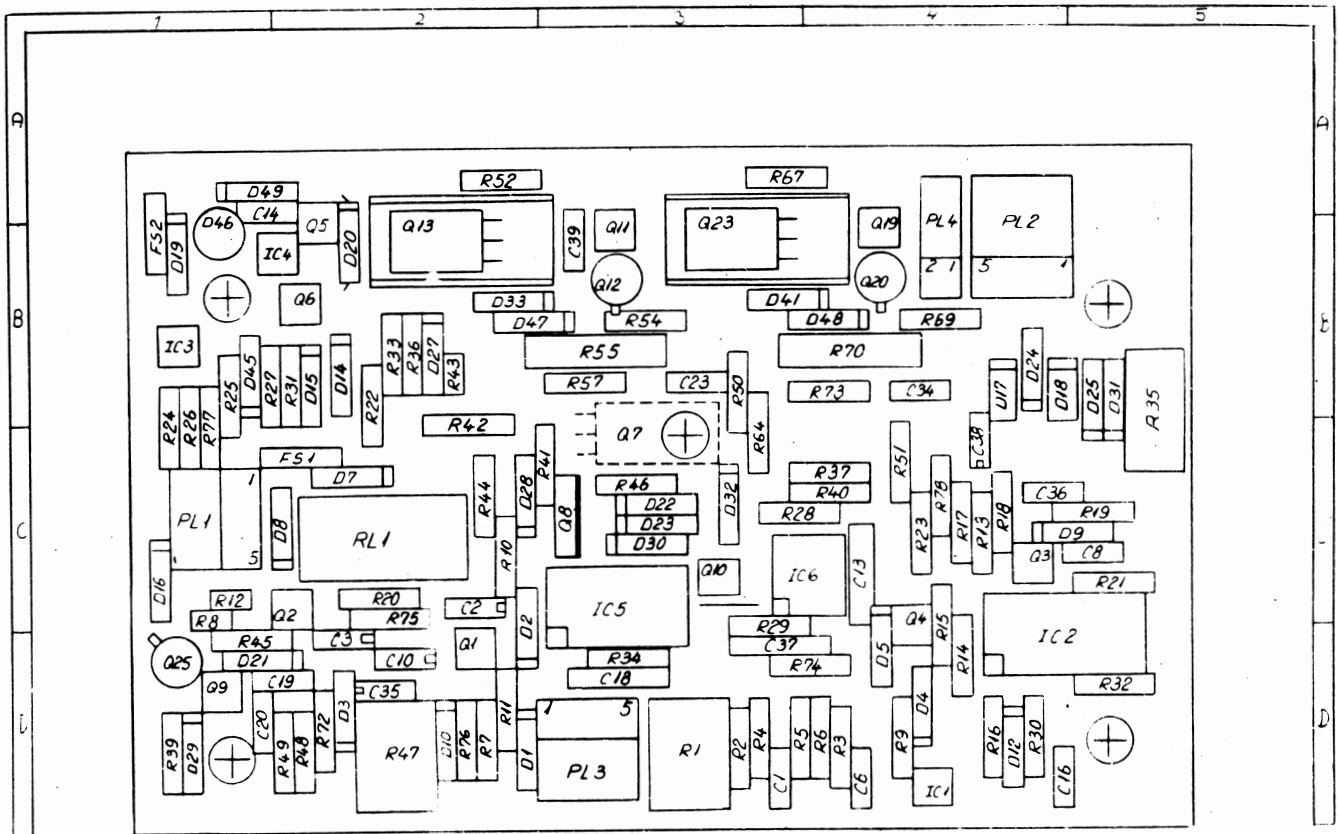
TECHNICAL DESCRIPTION

SWITCHED MODE POWER SUPPLY

The DC-power, deriving from the battery, first has to pass an input filter and then a relay switch controlled by the overvoltage and reverse polarity protection circuit, before it is allowed to flow to the converter circuit. The converter is a boost-converter combined with a push-pull converter allowing the converter to handle duty cycles higher than fifty percent. The converter does not provide galvanic isolation. The regulating loop has been designed in order to keep the output voltage from the converter fairly stable independent of battery voltage variations and different loading conditions on the output. This is done by regulating the duty cycles of the pulses, deriving from a 25 kHz oscillator, IC6 before they are forming the driving signal for the converter driver. The duty cycle regulation is located on board [622] and consists of IC1, IC2, IC6, Q3 and Q4. D12 ensures that the duty cycle does not rise to more than ninety percent. The total current in the converter is measured by means of T2, T3 and is used for the current limiting circuit located on board [622]. The output is also equipped with an overvoltage protection circuit Q9 and Q25 on board [622]. The mains relay switch is activated by a bistable circuit Q1, Q2, RL1 and is protected from "Welding" by IC3. IC4 prevents the main relay from being closed when the input voltage rises to more than 42 V. These components are located on board [622].

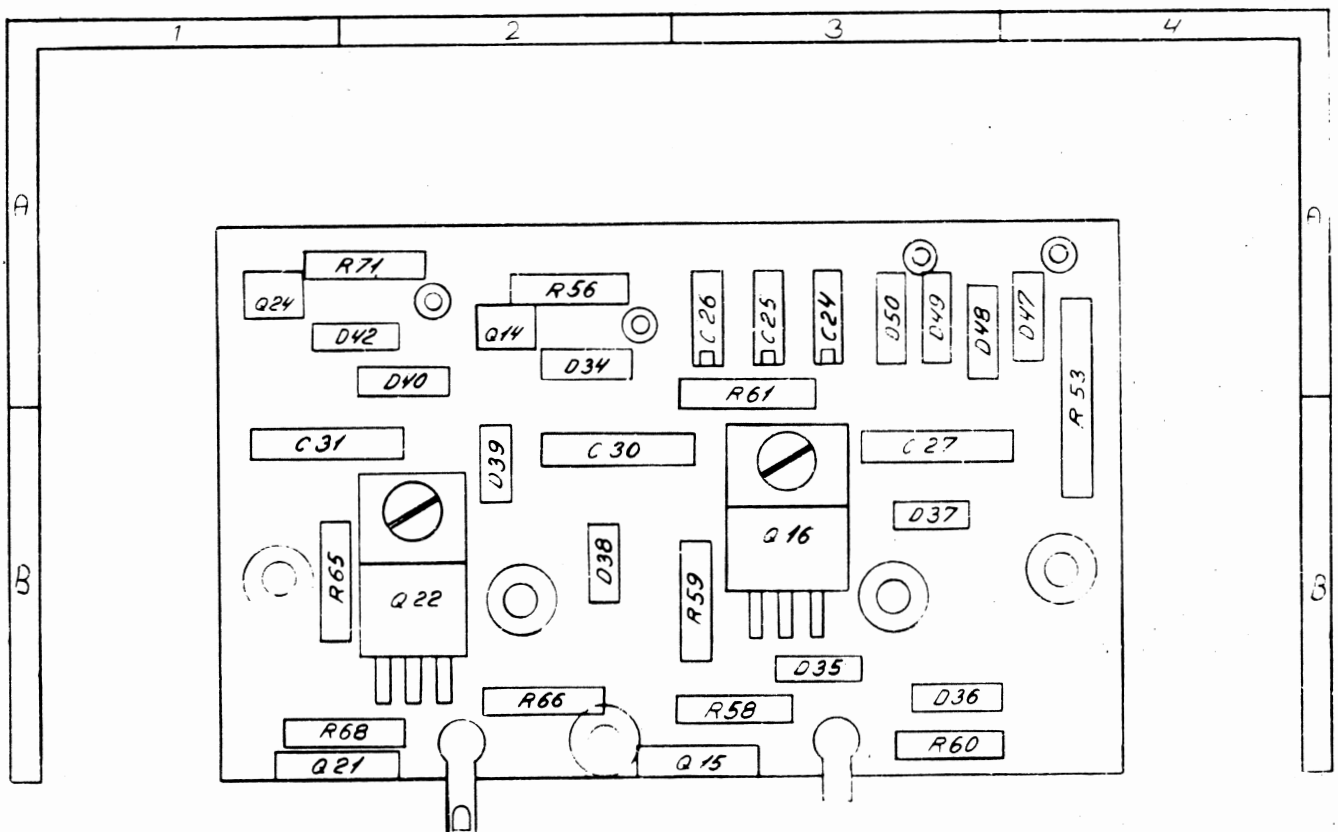


BLOCK DIAGRAM, SWITCHED MODE POWER SUPPLY

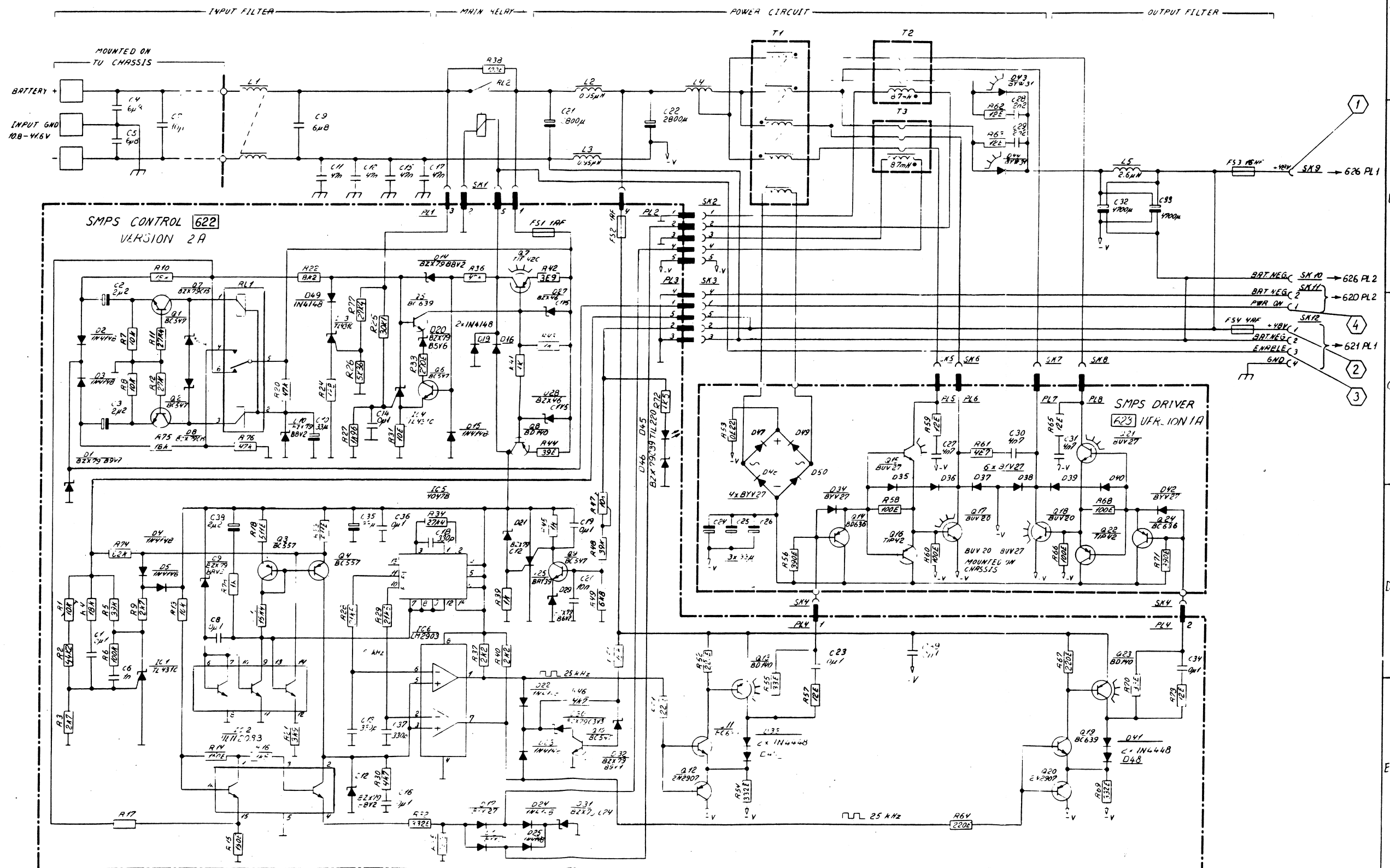


PCB 622 VERSION 2A
SMPS CONTROL BOARD
VIEWED FROM COMPONENT SIDE

493 562 2X COMP



PCB 623 VERSION 1A
SMPS DRIVER BOARD
VIEWED FROM COMPONENT SIDE



SWITCHED MODE POWER SUPPLY
VERSION 2A MAIN DIAGRAM

TEST POINTS FOR SMPS 8250.

All measurements are performed relative to BAT.NEG. e.g. 626 SK10.

- ① +48V (626 SK9 , red socket).
- ② +48V (SMPS-SK12-1 , Din-socket).
- ③ ENABLE +12V (SMPS-SK12-3).
- ④ PWR ON Measured on 620 SK11
 (Interconnection Board).
 9V normally.
 0.5V when activated.

PARTS LIST FOR SMPS CONTROL BOARD 622 VERSION 2A

PARTS LIST FOR SMPS DRIVER BOARD 623 VERSION 1A

Printed Circuit Board Complete 623		Printed Circuit Board Complete 623	
R18,23	511 ohm	1/4W	MF
R19	15.4kohm	1/4W	MF
R20,36,76	47 kohm	1/4W	Car.
R21	3.9 kohm	1/4W	Car.
R22	8.2 kohm	1/4W	Car.
R25	30.1kohm	1/4W	MF
R26	5.36 kohm	1/4W	MF
R27	1.96kohm	1/4W	MF
R28,29	21.5kohm	1/4W	MF
R30,46	4.7 kohm	1/4W	Car.
R31	10 ohm	1/4W	Car.
R32	332 ohm	1/4W	MF
R33	270 ohm	1/4W	Car.
R34,77	27.4kohm	1/4W	MF
R35	0.18 ohm	3W	ww
R37,40	2.2 kohm	1/4W	Car.
R39,41,45,78	1 kohm	1/4W	Car.
R42	3.9 ohm	1/2W	MF
R43	1 kohm	1/8W	MF
R44	39 ohm	1/4W	Car.
R49	6.8 kohm	1/4W	Car.
R50	15 kohm	1/4W	Car.
R51,52,64,67	220 ohm	1/4W	Car.
R54,69	330 ohm	1/4W	Car.
R55,70	33 ohm	4W	ww
R57,73	12 ohm	1/4W	Car.
R72	1.5 kohm	1/4W	Car.
R74	82 kohm	1/4W	Car.
C1,8,16,36,14,19,23,34,39	0.1 uF	63V	Polyes.
C6	1 nF	63V	Cer.
C13,18,37	330 pF	63V	MicroP.
C10,35	33 uF	10V	Sol.al.
C20	10 nF	+50/-20%	Cer.
C2,3	2.2 uF	25V	Sol.al.
C38	2.2 uF	35V	Tan.
FS1,2	1A	SUPER FAST	
PL1-3			
PL4			
Q14,24	8C636		
Q16,22	TIP42A		
D27,35-40,42,47-50	8YV27-150		
R53	0.22 ohm	1W	ww
R56,71	390 ohm	1/4W	Car.
R59,65	12 ohm	1/4W	Car.
R58,60,66,68	100 ohm	1/4W	Car.
R61	4.7 ohm	1W	MF
C24-26	33 uF	10V	Sol.al.
C27,30,31	4.7 nF	400V	Polycar.

107 562 31

840 063 60

842 004 20

831 271 50

523 002 20

501 239 00

501 112 00

501 210 00

544 047 00

651 733 01

625 347 00