

US 150

*Alimentatore a Commutazione
Switched Mode Power Supply*

 **HANTAREX**
ELECTRONIC SYSTEMS

US 150

INPUT CHARACTERISTICS

V a.c. VOLTAGE	187 ÷ 264	85 ÷ 135 (USA)
FREQUENCY	50 ÷ 60 Hz	
SWITCH-ON INRUSH CURRENT	30 A PEAK	

OUTPUT CHARACTERISTICS

LOGIC CIRCUIT SUPPLY	+ 5 V d.c. + 3%/-5%	1.5 A min. - 10 A max. ripple < 50 mVpp adjustable between 4.7 a 5.6 V max. overvolts 6.5 V d.c. electronically protected from short-circuit
	+ 12 V d.c. + 15%/-4%	0 A min. - 3 A max. ripple < 100 mVpp protected from short-circuit
	-12 V d.c. ± 6%	0 A min. - 0.5 A max. ripple < 100 mVpp electronically protected from short-circuit
	-5 V d.c. ± 6%	0 A min - 0.5 A max ripple < 100 mVpp electronically protected from short-circuit
LAMPS SUPPLY	+ 5 V d.c.	1 A max. protected by fuse
TIME OUTPUT VOLTAGE ARE MAINTAINED AFTER REMOVAL OF MAINS INPUT VOLTAGE > 20 ms		

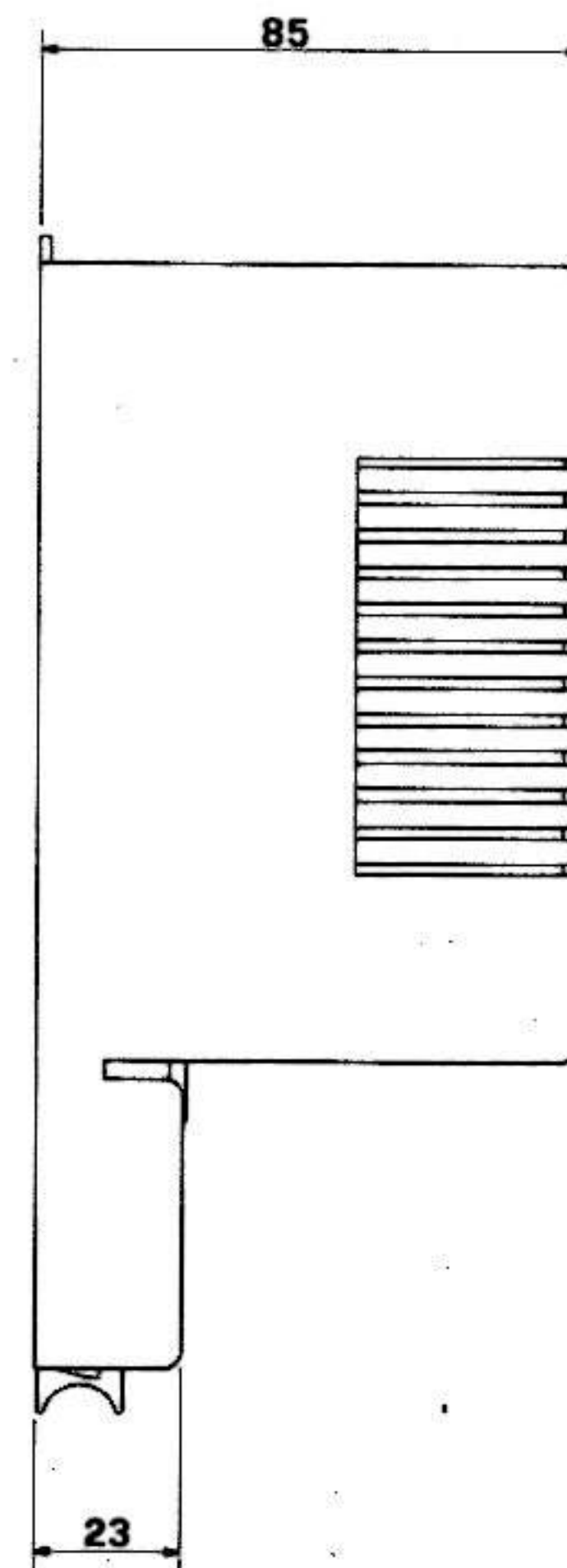
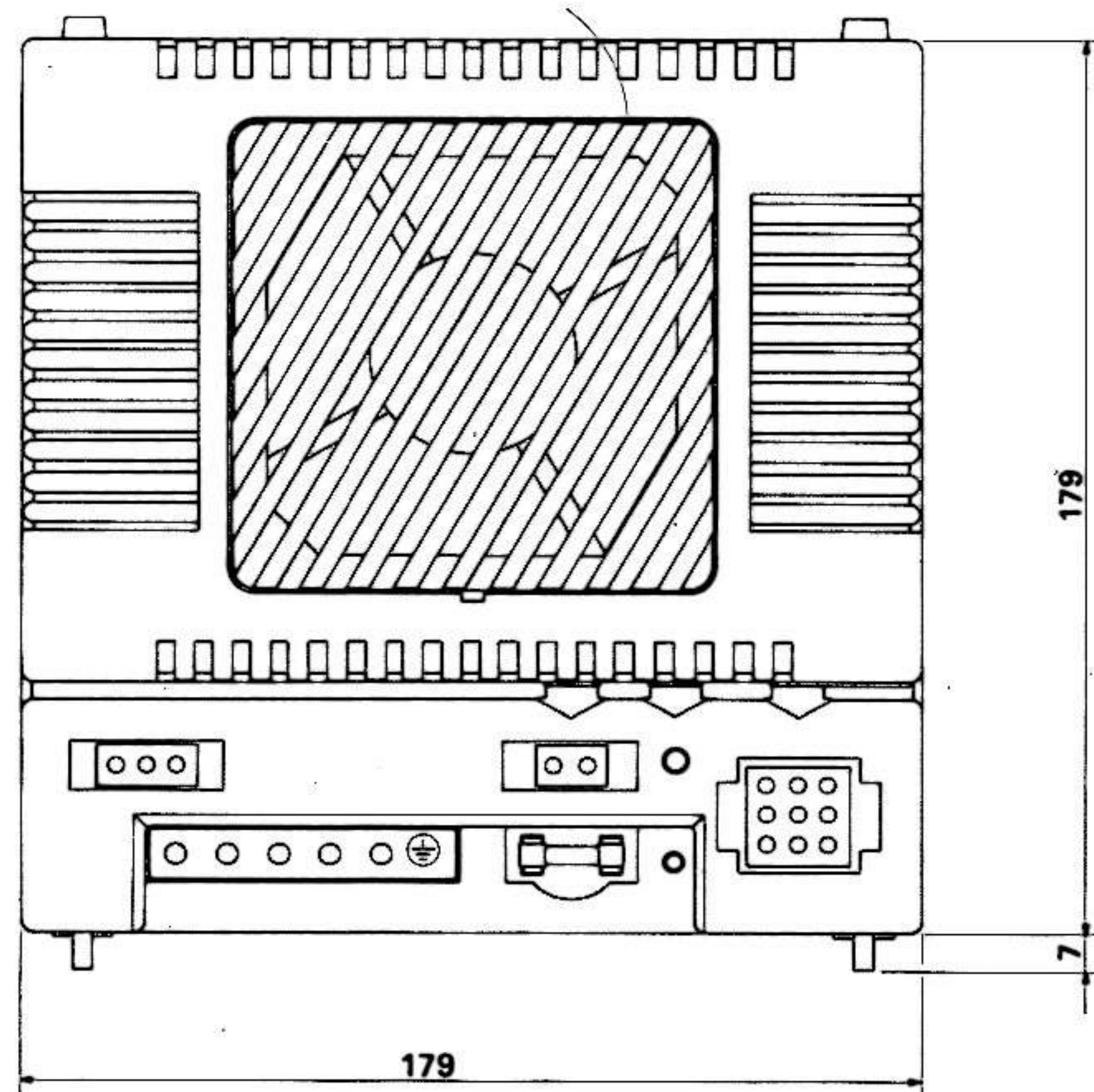
OTHER CHARACTERISTICS

INSULATION (mains input to D.C. outputs)	1500 Va.c. (class 1-IEC 950)
AMBIENT WORKING TEMPERATURE	0°C to + 50°C
AMBIENT STORAGE TEMPERATURE	-20°C to + 85°C
NET WEIGHT	Kg. 1.200

ATTENTION!

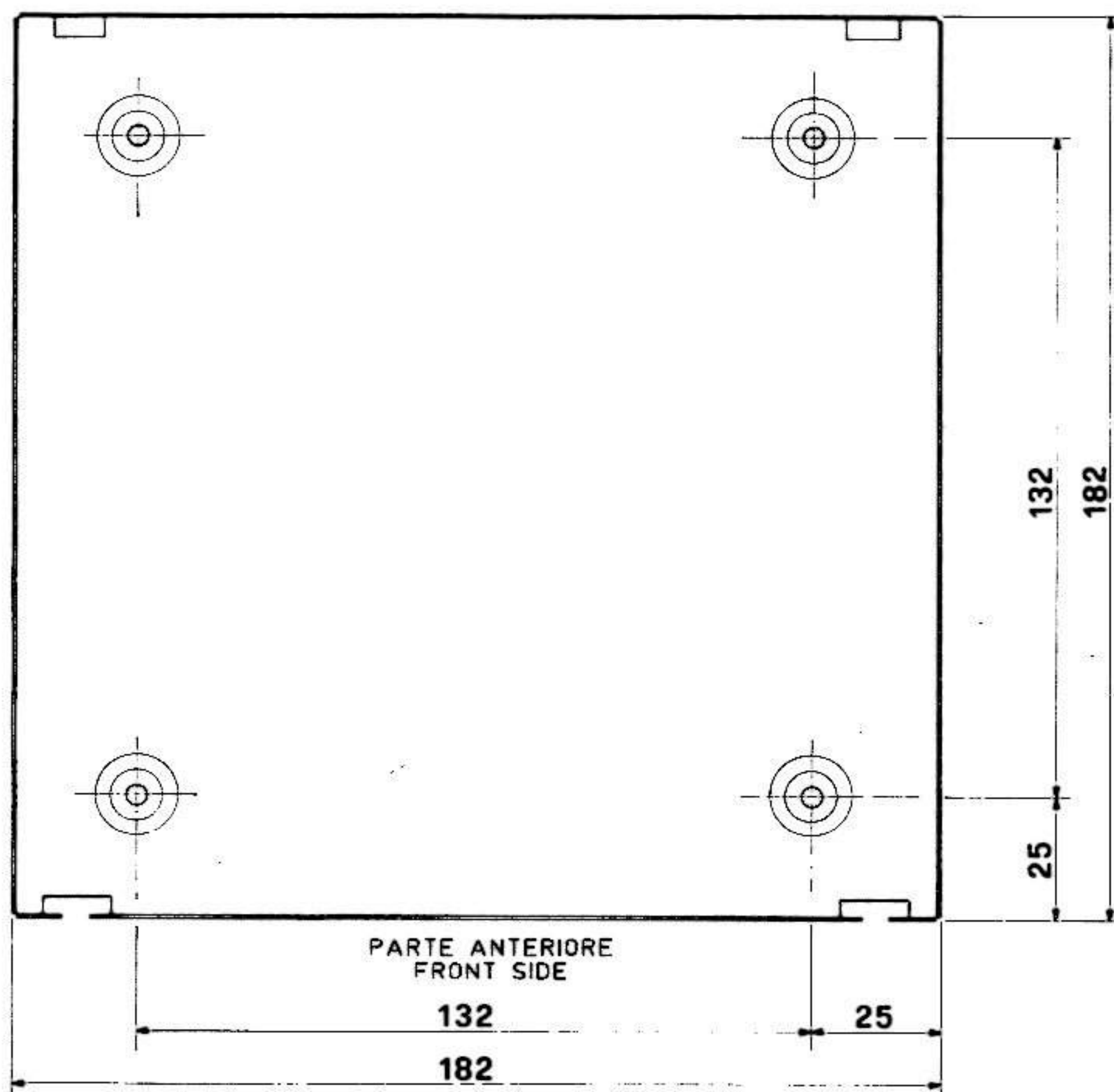
FOR APPLICATIONS WHERE THE POWER UNIT IS TO SUPPLY IN EXCESS OF 45 W AT 50°C AMBIENT, THE INTERNAL VENTILATOR SHOULD BE INSTALLED. IN ANY EVENT, A PROTECTION DEVICE BLOCKS THE FUNCTIONING OF THE UNIT UNTIL IT AUTOMATICALLY RESETS WHEN THE TEMPERATURE FALLS TO THE CORRECT LEVEL.

DATI MECCANICI / MECHANICAL DATA



SUPPORTO / SUPPORT BRACKET

PARTE POSTERIORE
REAR SIDE



① ISTRUZIONI RELATIVE AL MONTAGGIO DEL SUPPORTO

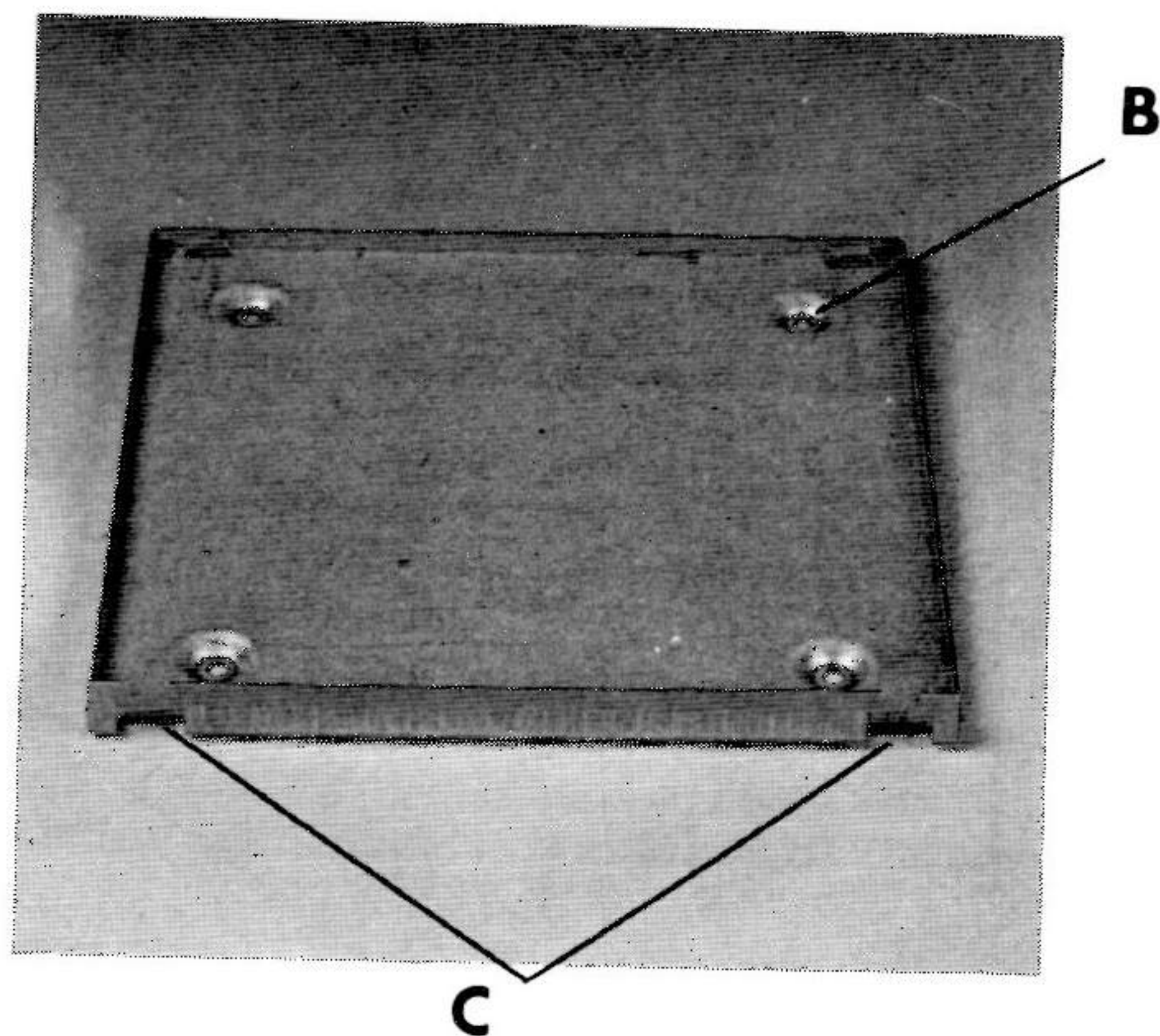
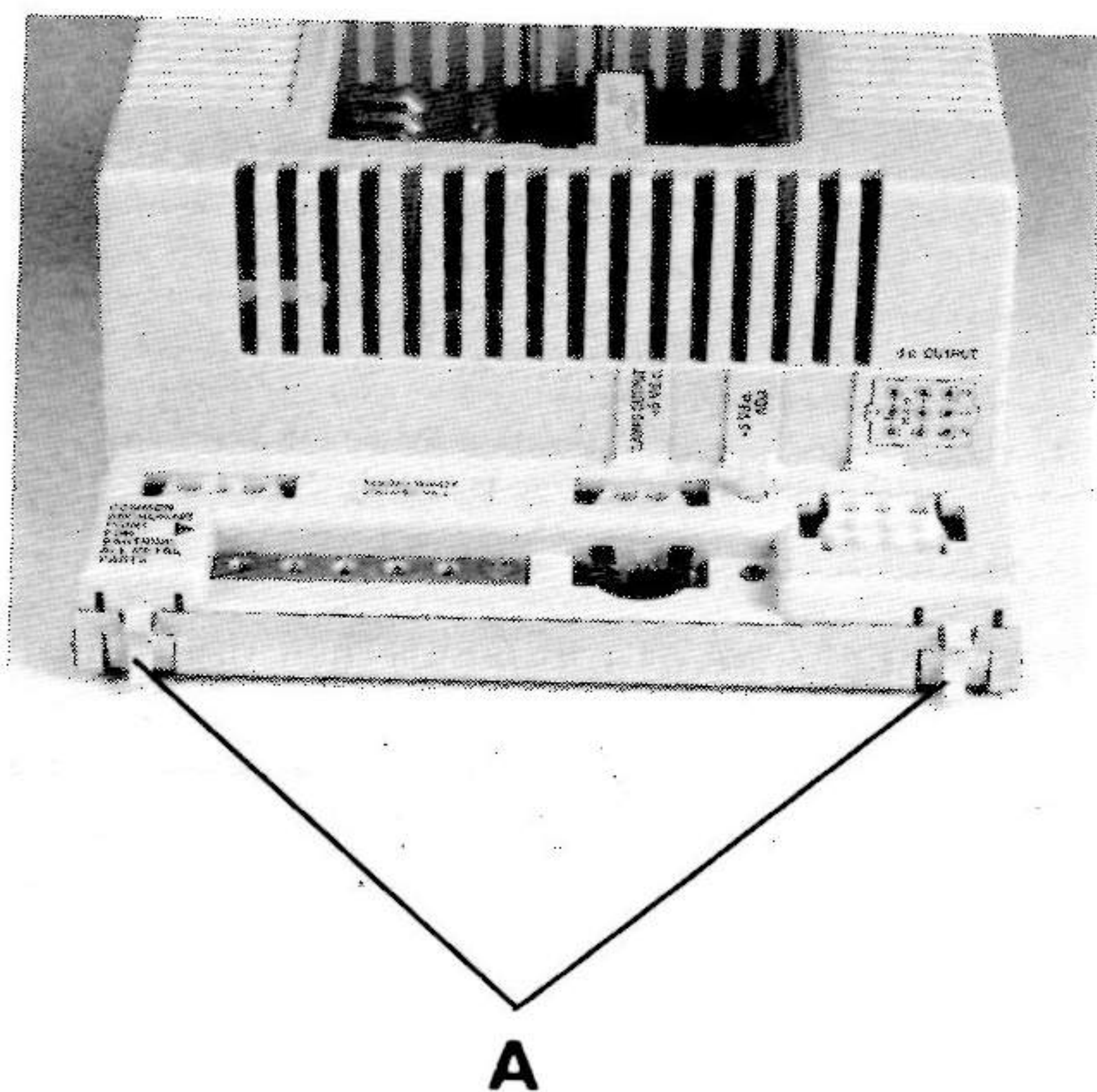
N.B. L'alimentatore viene fornito con il supporto metallico già applicato; di conseguenza agire come segue:

1. - premere, spingendo verso l'alto, sui due fermi (A) in modo da separare l'alimentatore dal supporto metallico.
2. - Posizionare il supporto nel punto desiderato e fissarlo con 4 viti nei fori predisposti (B); in questa operazione, fare attenzione che il supporto sia rivolto verso l'operatore con il lato indicato dalla lettera C onde facilitare il montaggio e lo smontaggio dell'alimentatore.

② ISTRUCTIONS FOR MOUNTING SUPPORT PLATE

N.B. For despatch, the power unit is packed mounted onto the support plate; the following instructions are for fixing into the games cabinet:

1. - Press upwards on the two catches (A) so as to separate the power supply unit from the mounting plate.
2. - Position the mounting plate in the desired position in the cabinet, and fix it with four screws through the holes provided (B); make sure that the side of the mounting plate marked C is nearest to the operator so as to facilitate subsequent removal of the unit from the plate.

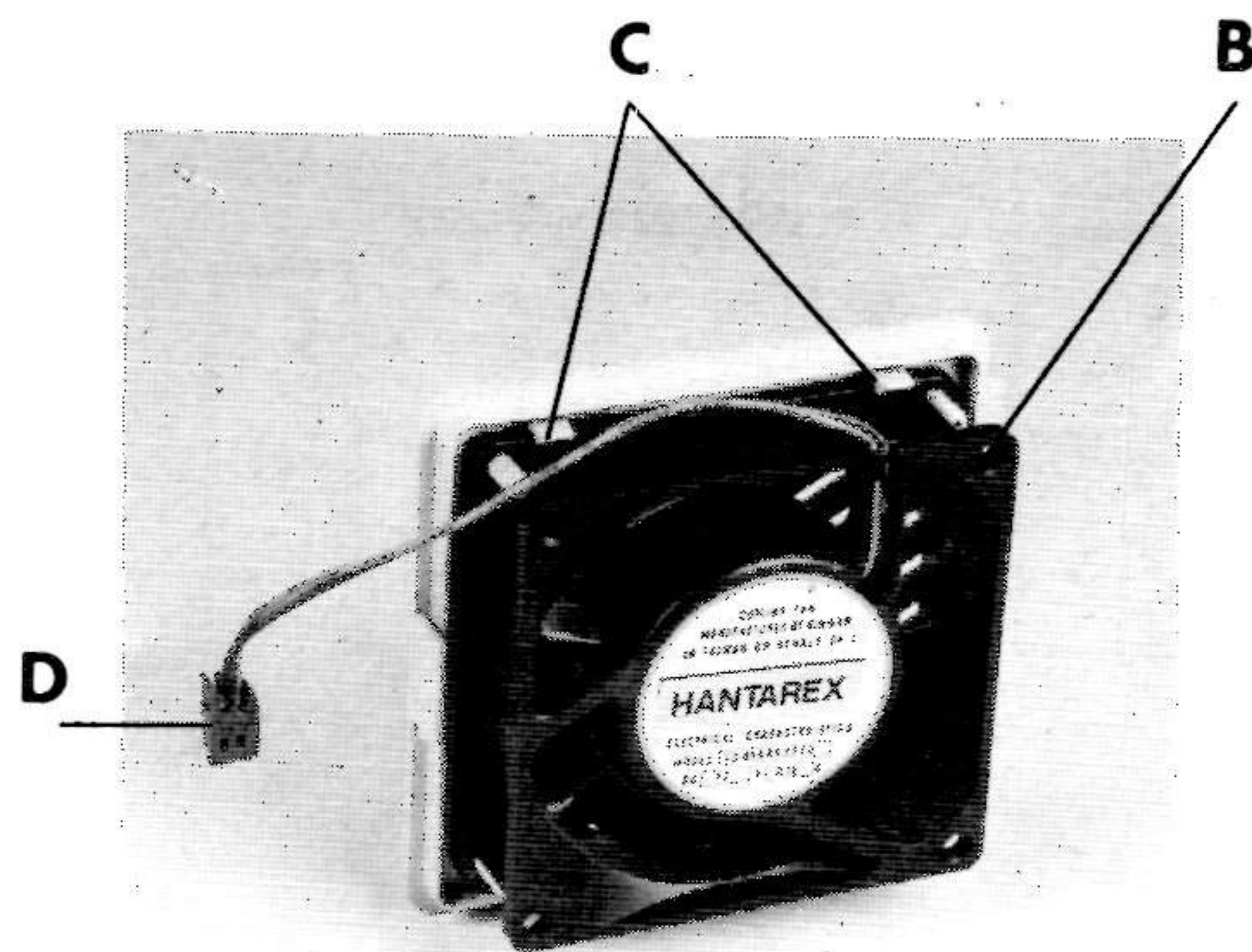
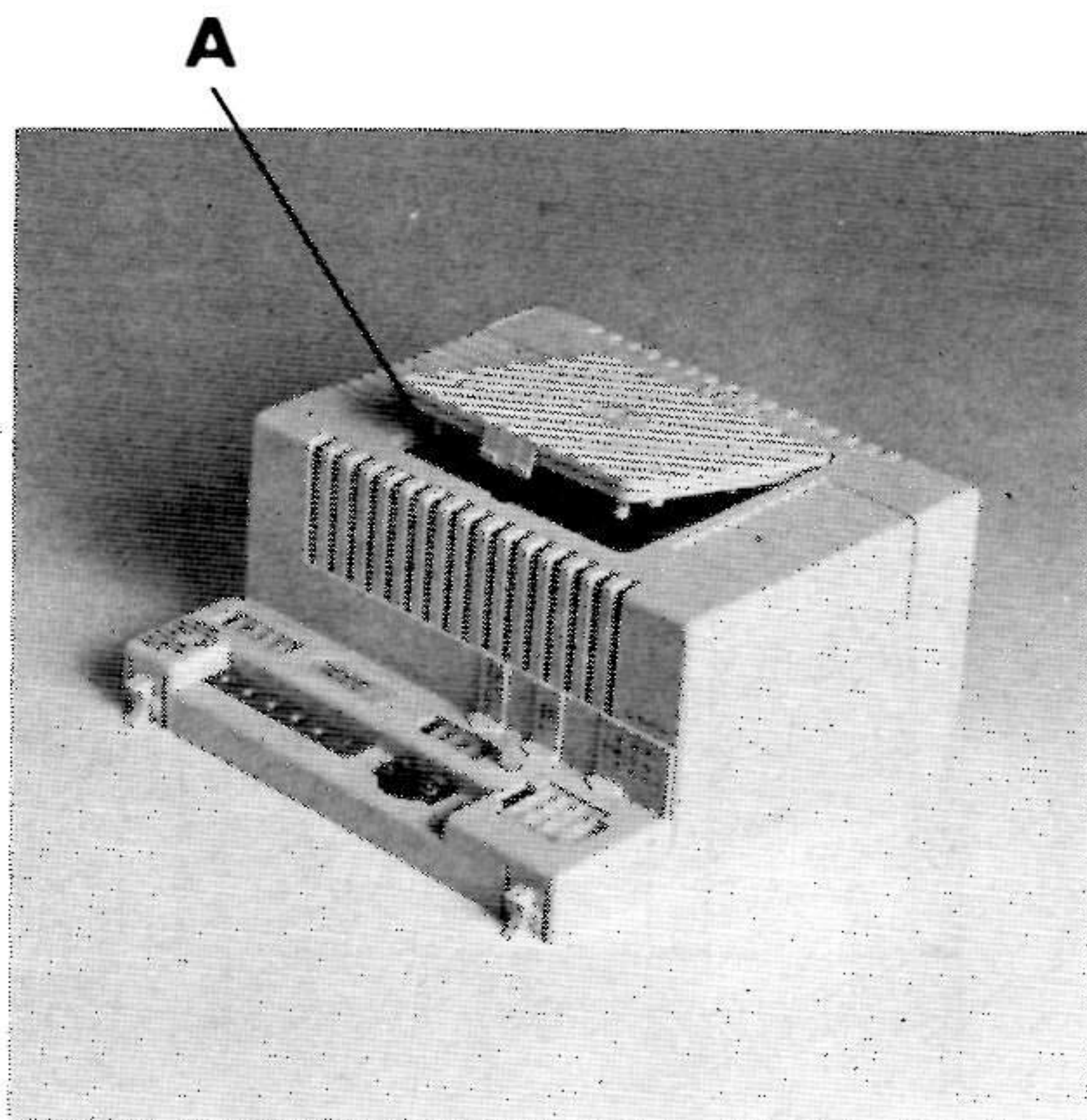


① ISTRUZIONI RELATIVE AL MONTAGGIO DEL VENTILATORE

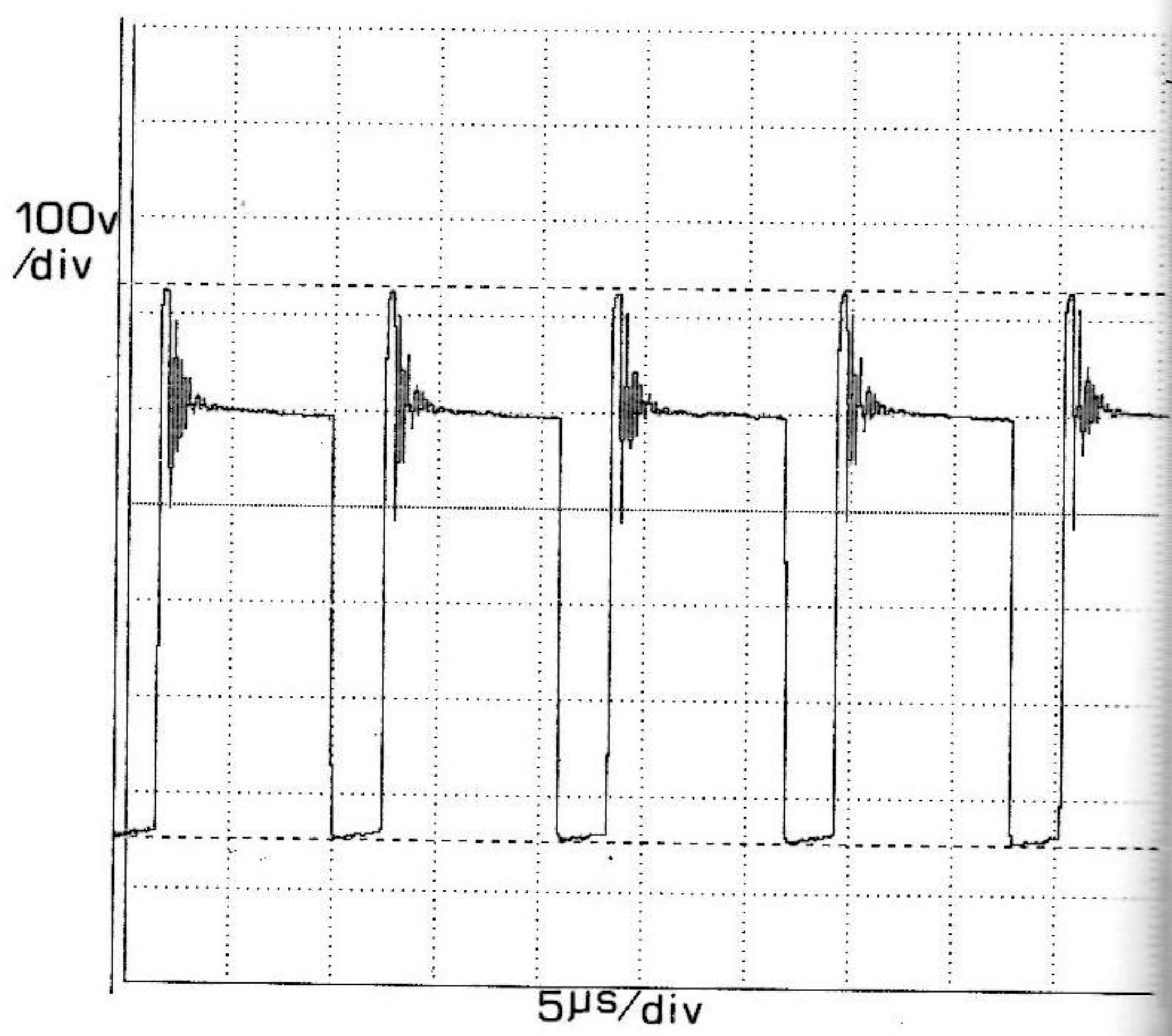
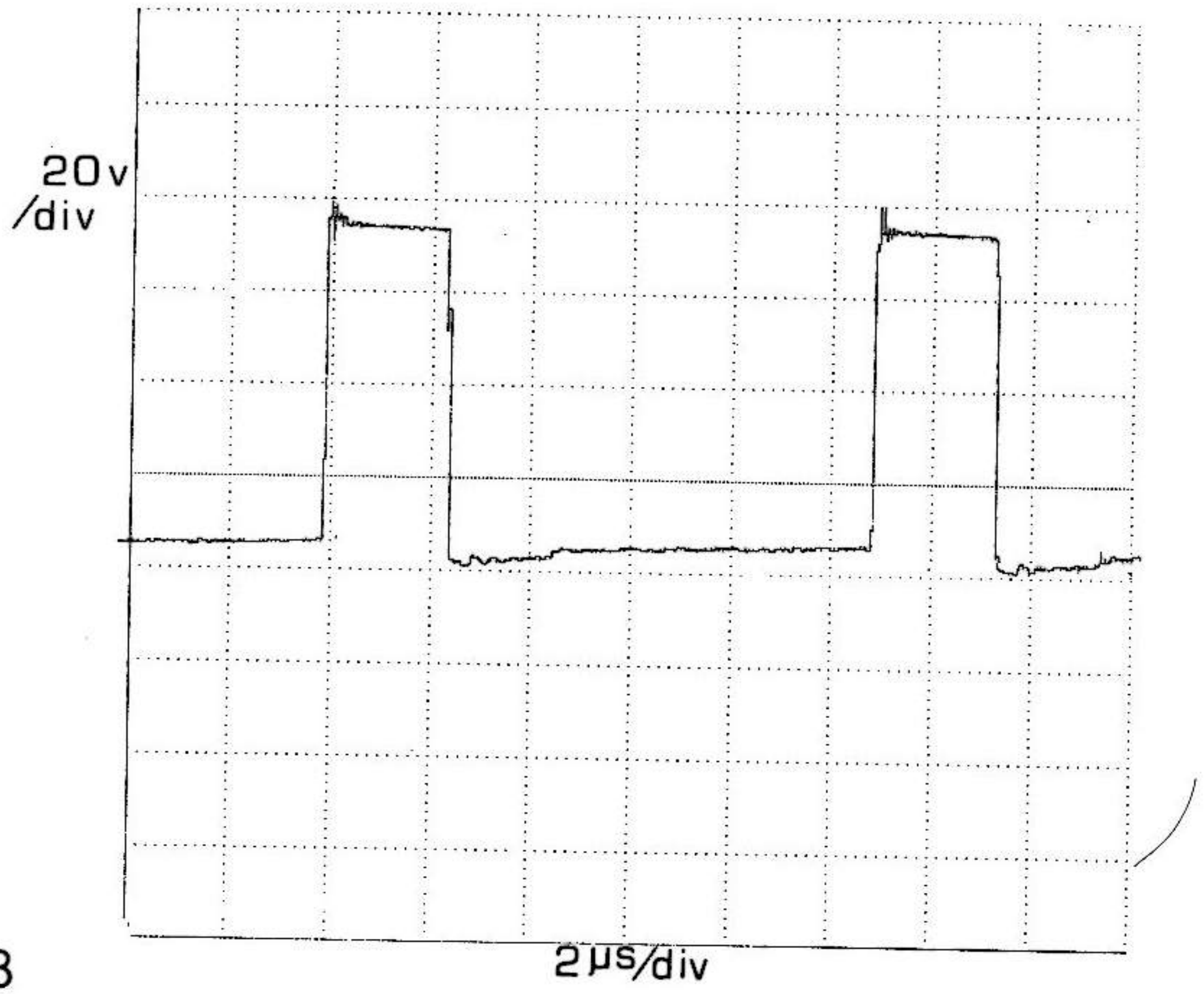
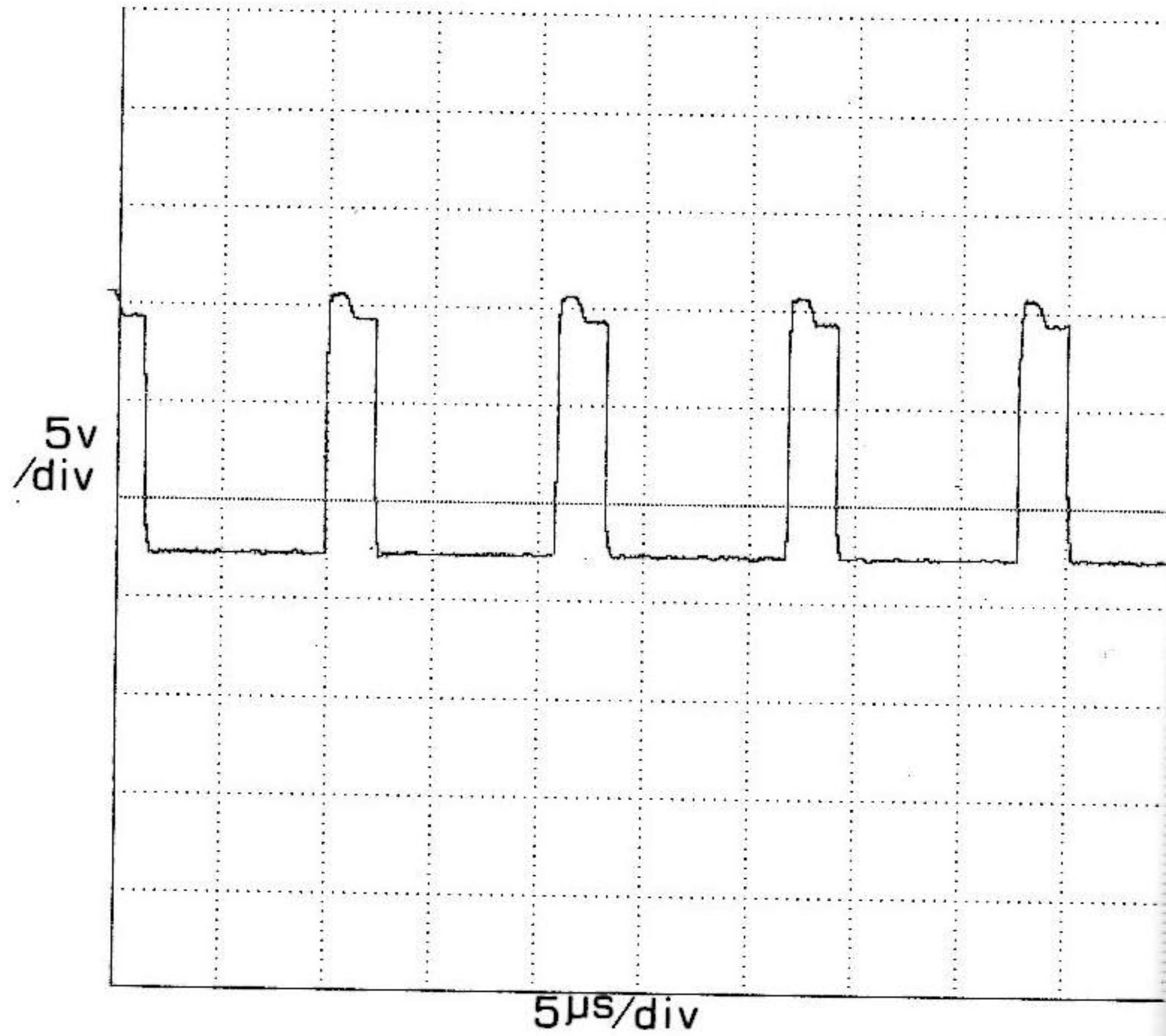
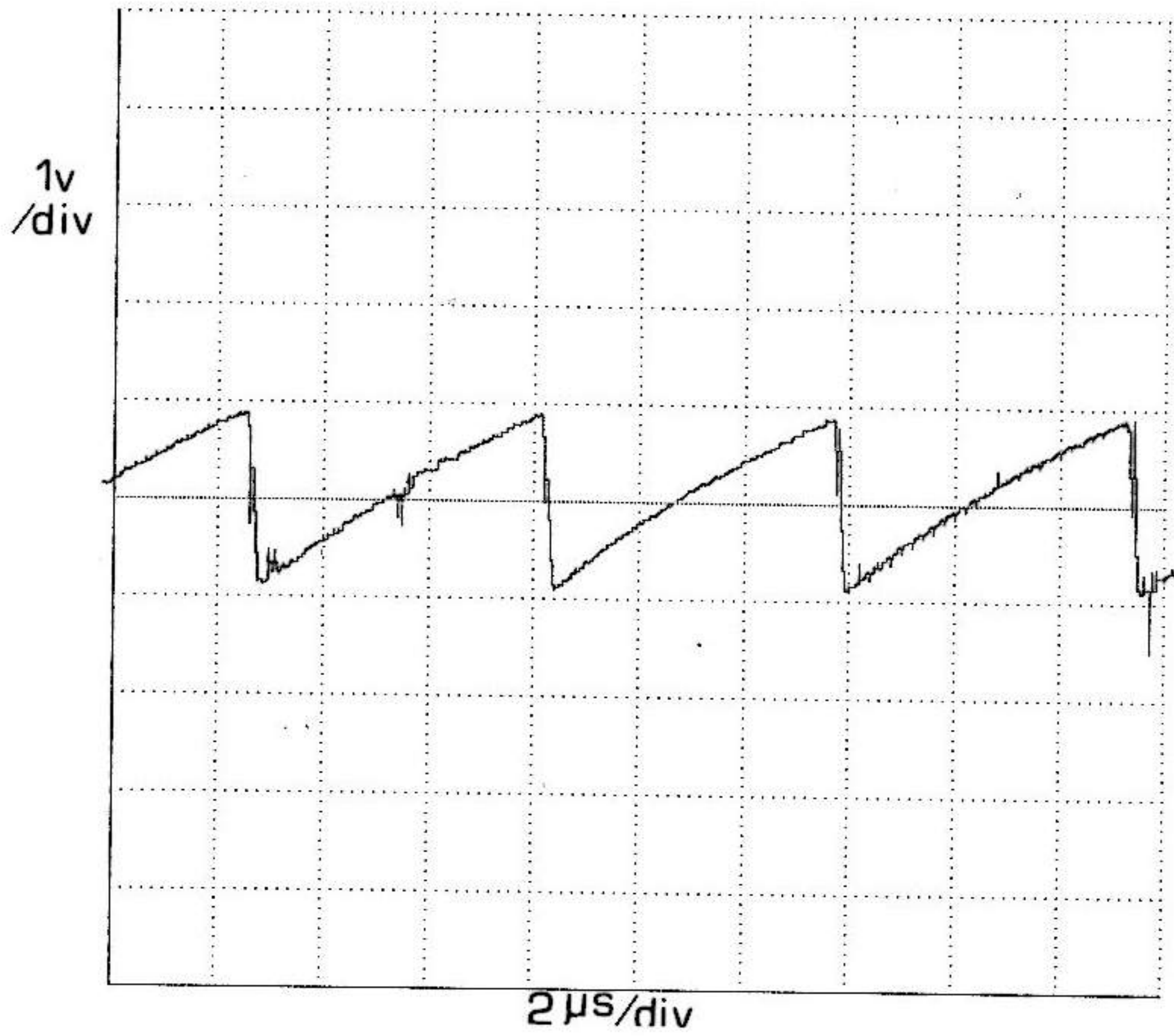
1. - Togliere il coperchio che funge da supporto del ventilatore (A).
2. - Inserire il ventilatore nei perni guida del supporto corrispondenti ai 4 fori dello stesso (B); effettuare una pressione tale da far scattare i 4 ancoraggi di tenuta (C.).
3. - Inserire il connettore femmina, (D) nel connettore maschio saldato sul circuito stampato indicato come J4.
4. - Riposizionare il coperchio così assiemato nella posizione originale.

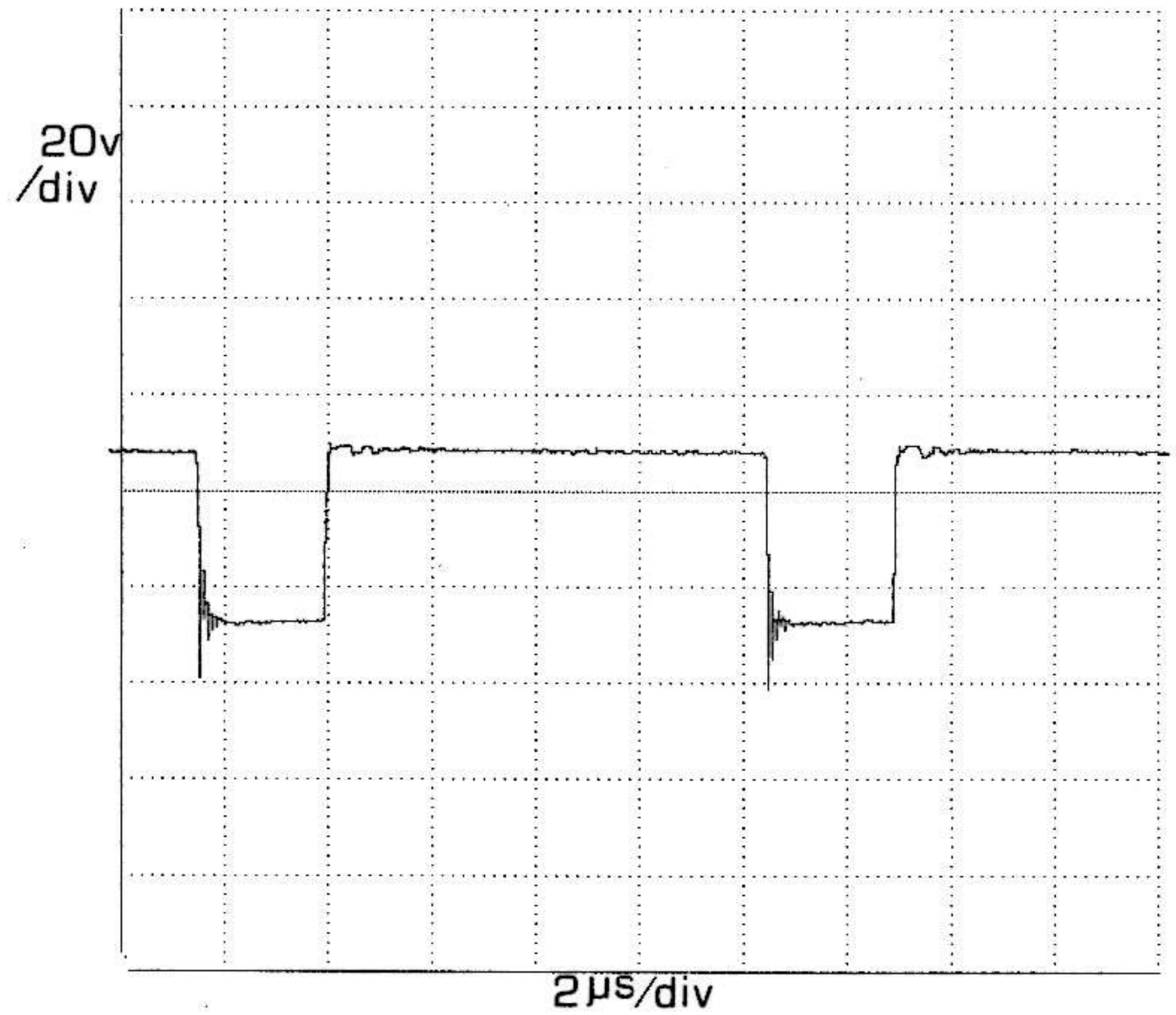
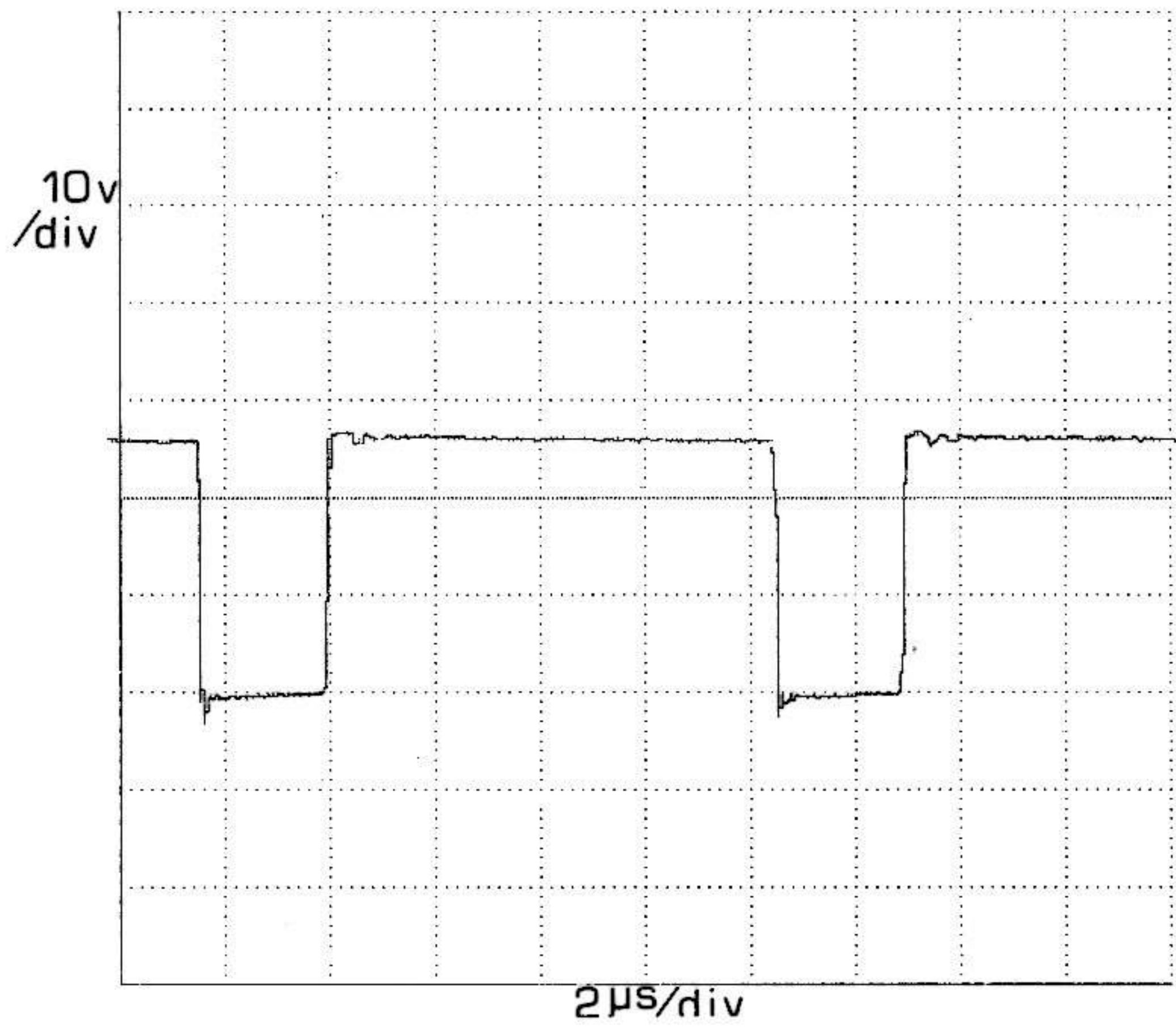
Ⓞ ISTRUCTIONS FOR MOUNTING THE VENTILATOR

1. - Remove the cover which will now be used as the ventilator support.
2. - Locate the four holes (B) in the ventilator onto the four guide pins; apply sufficient pressure to operate the locking catches (C).
3. - Push the free socket connector (D) onto the plug connector soldered to the p.c.b.
4. - Replace the assembled cover into its original position.

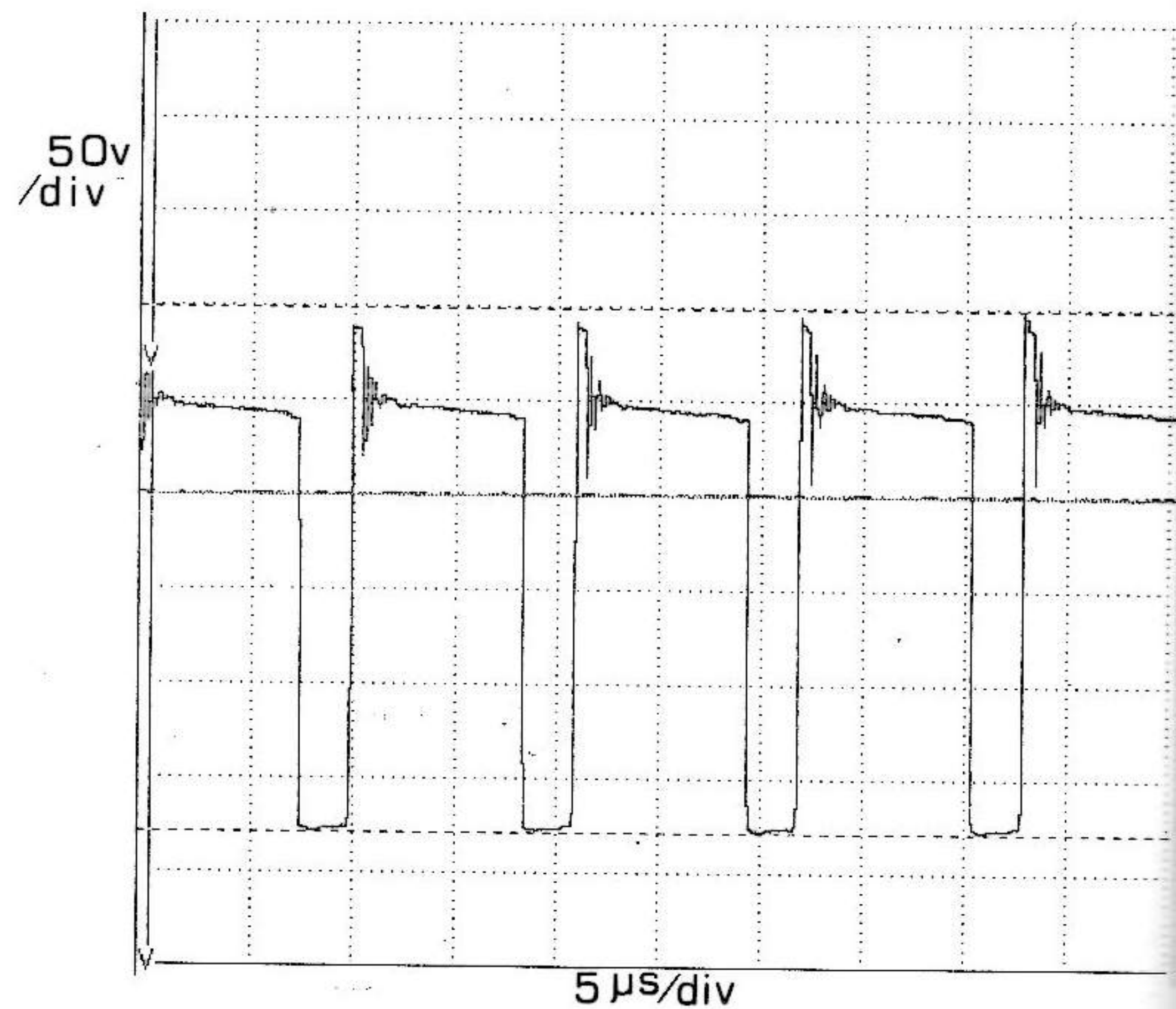
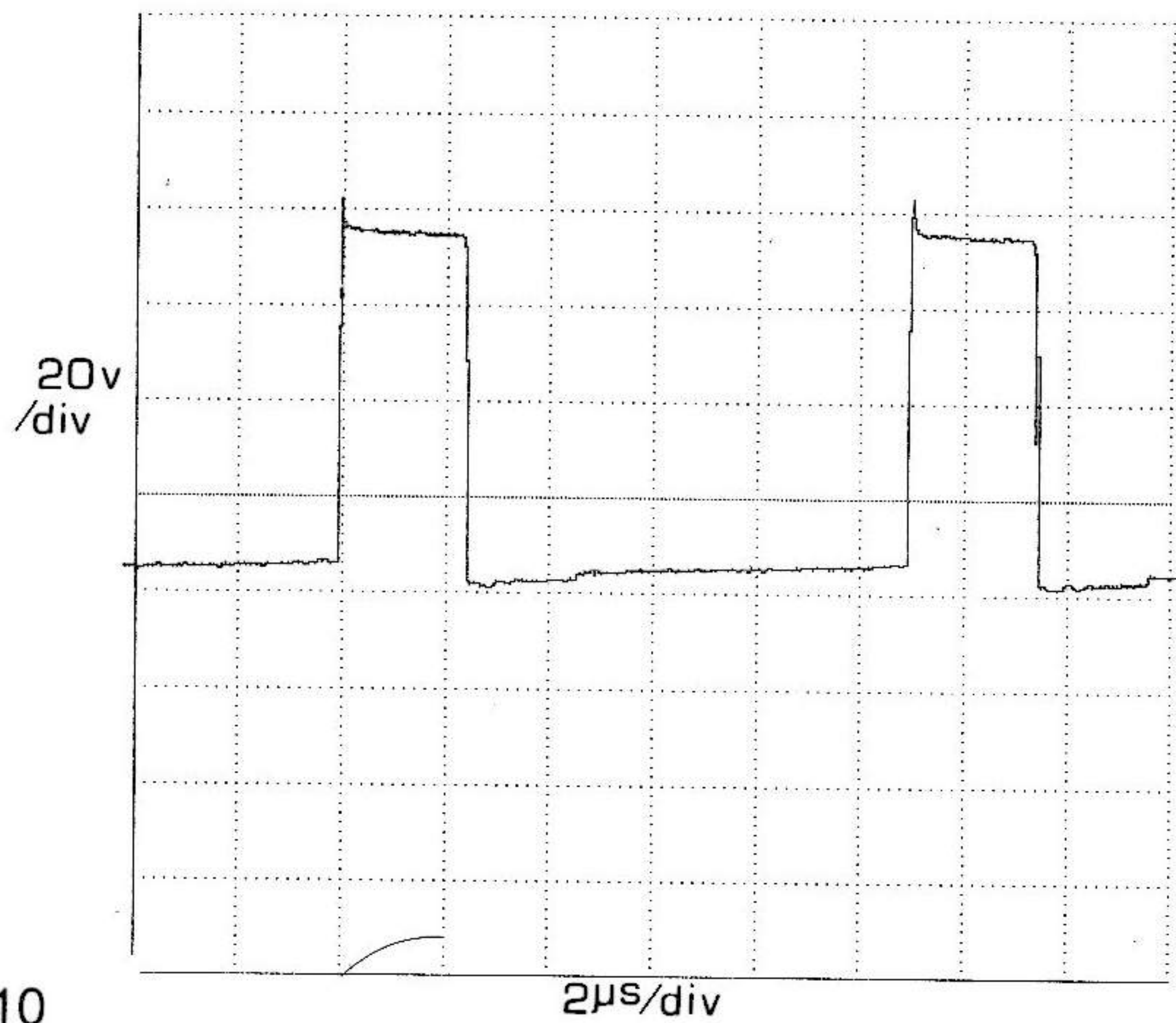
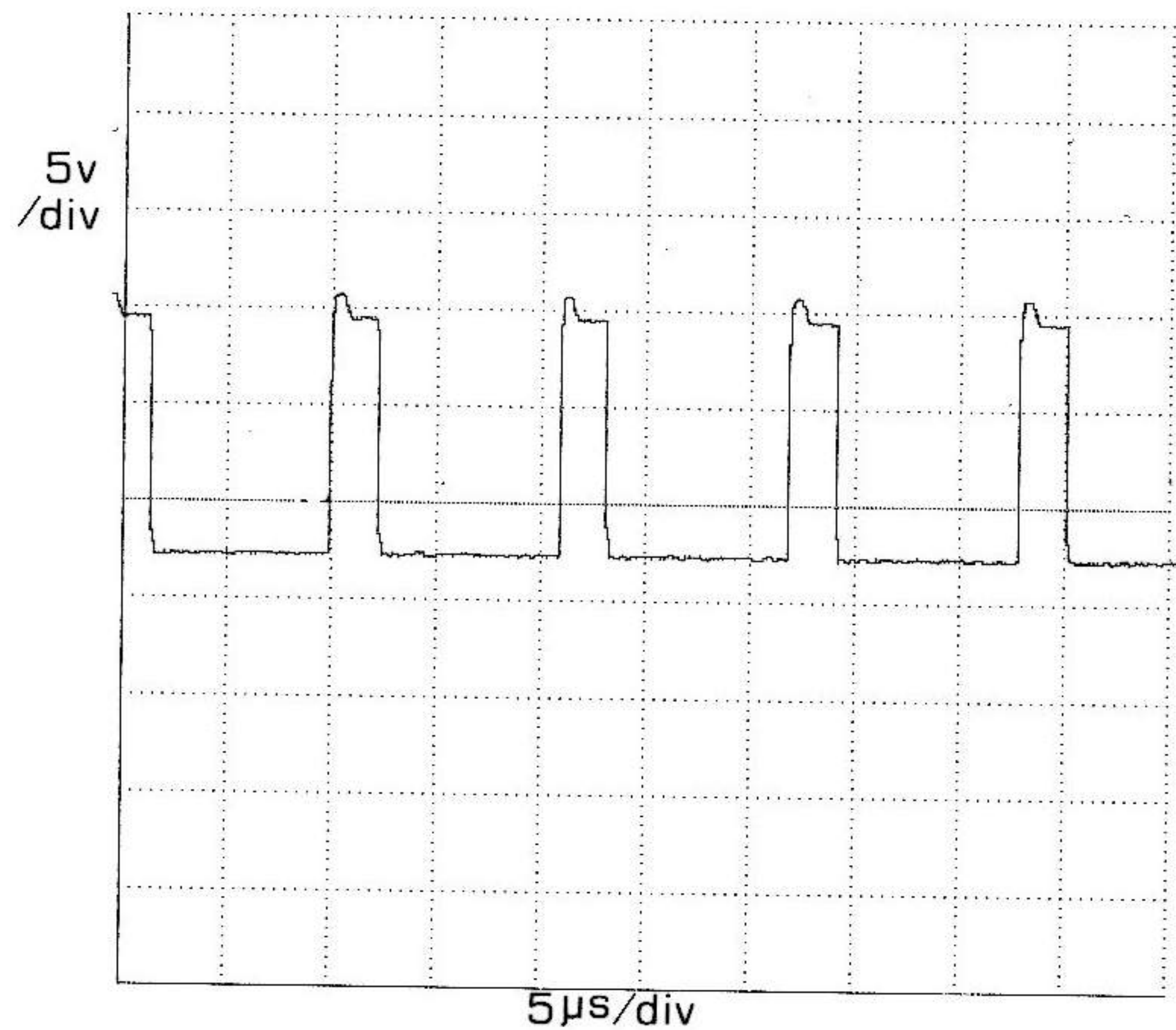
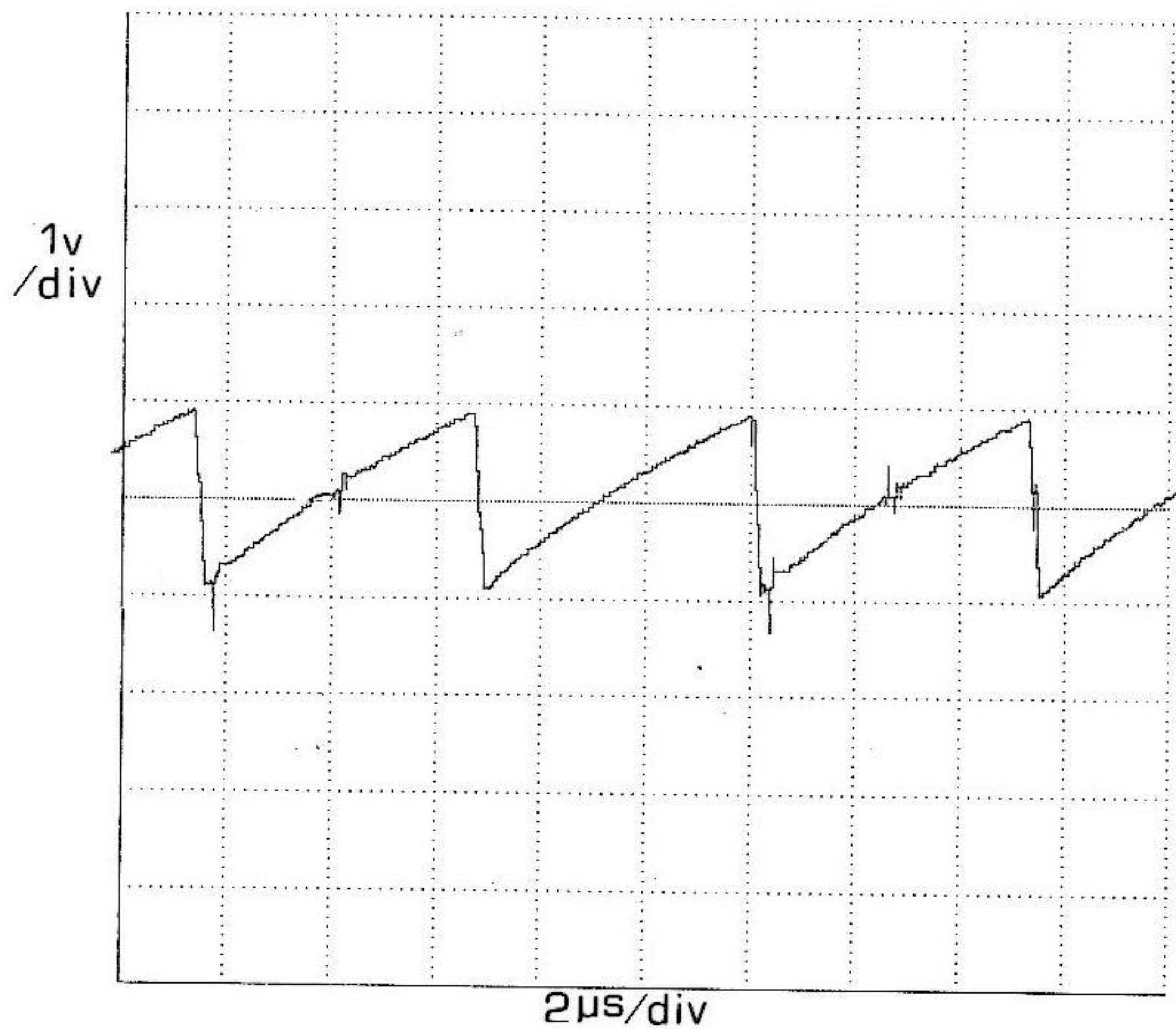


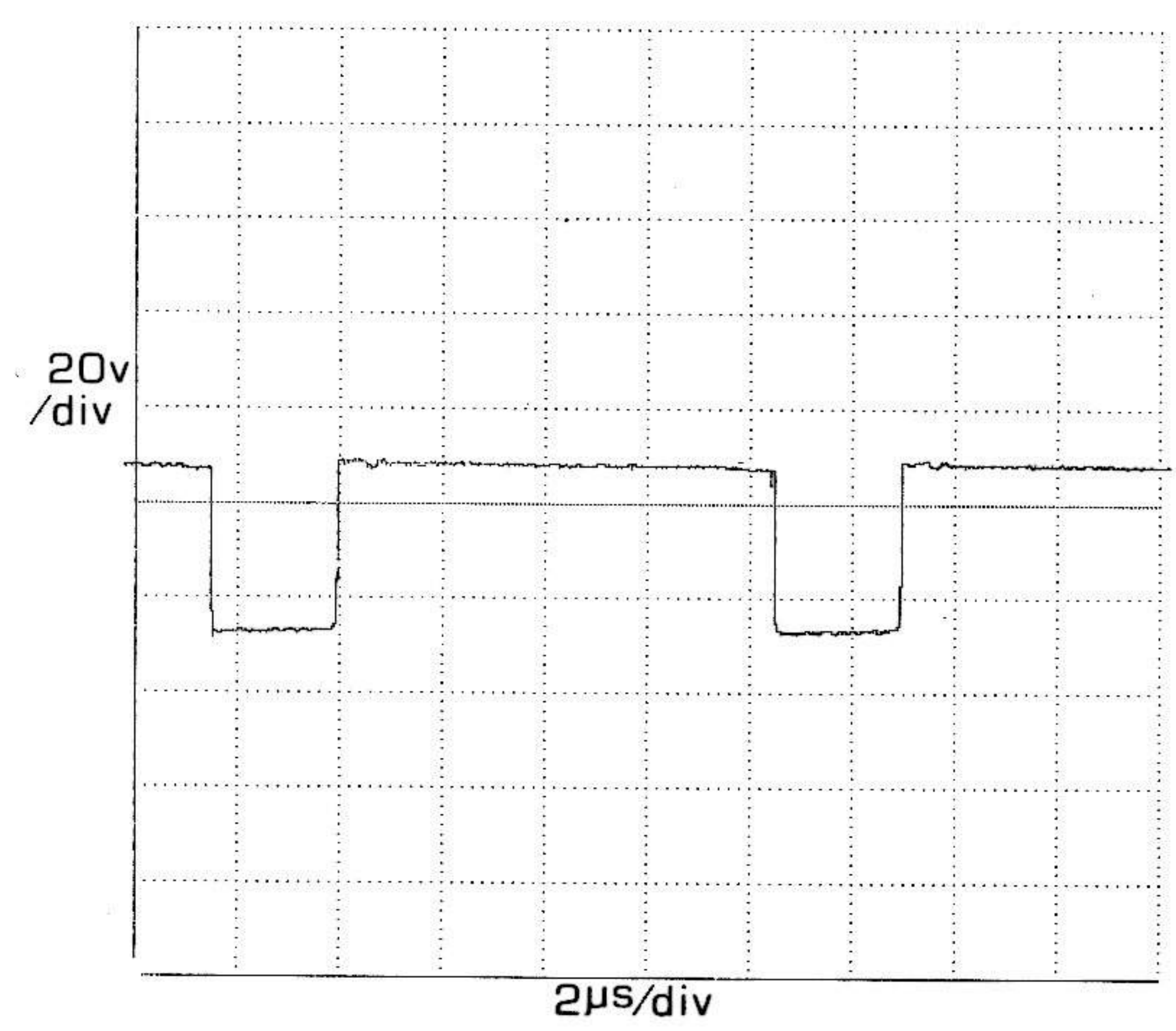
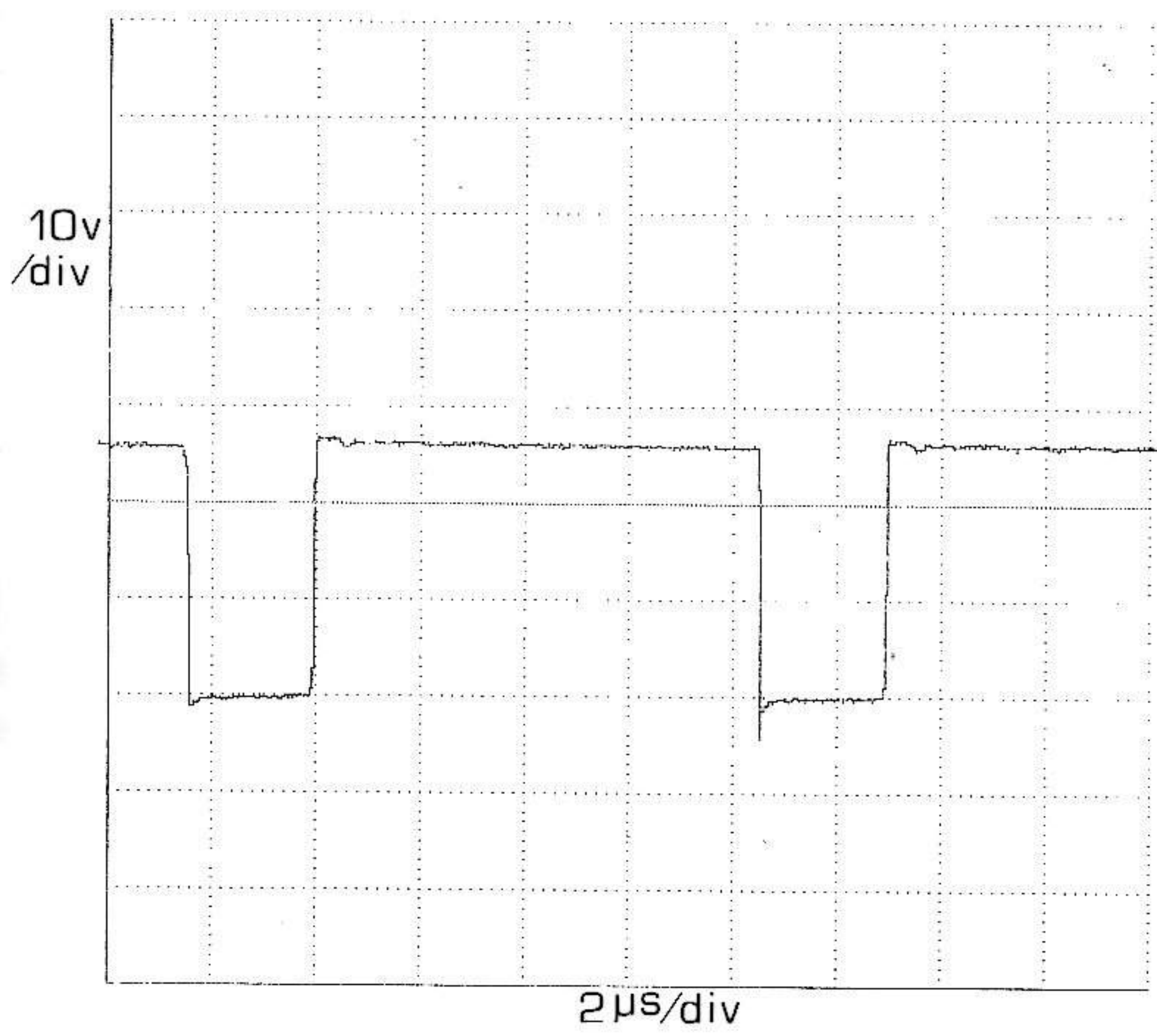
FORME D'ONDA / WAVE FORMS 220 Va.c.





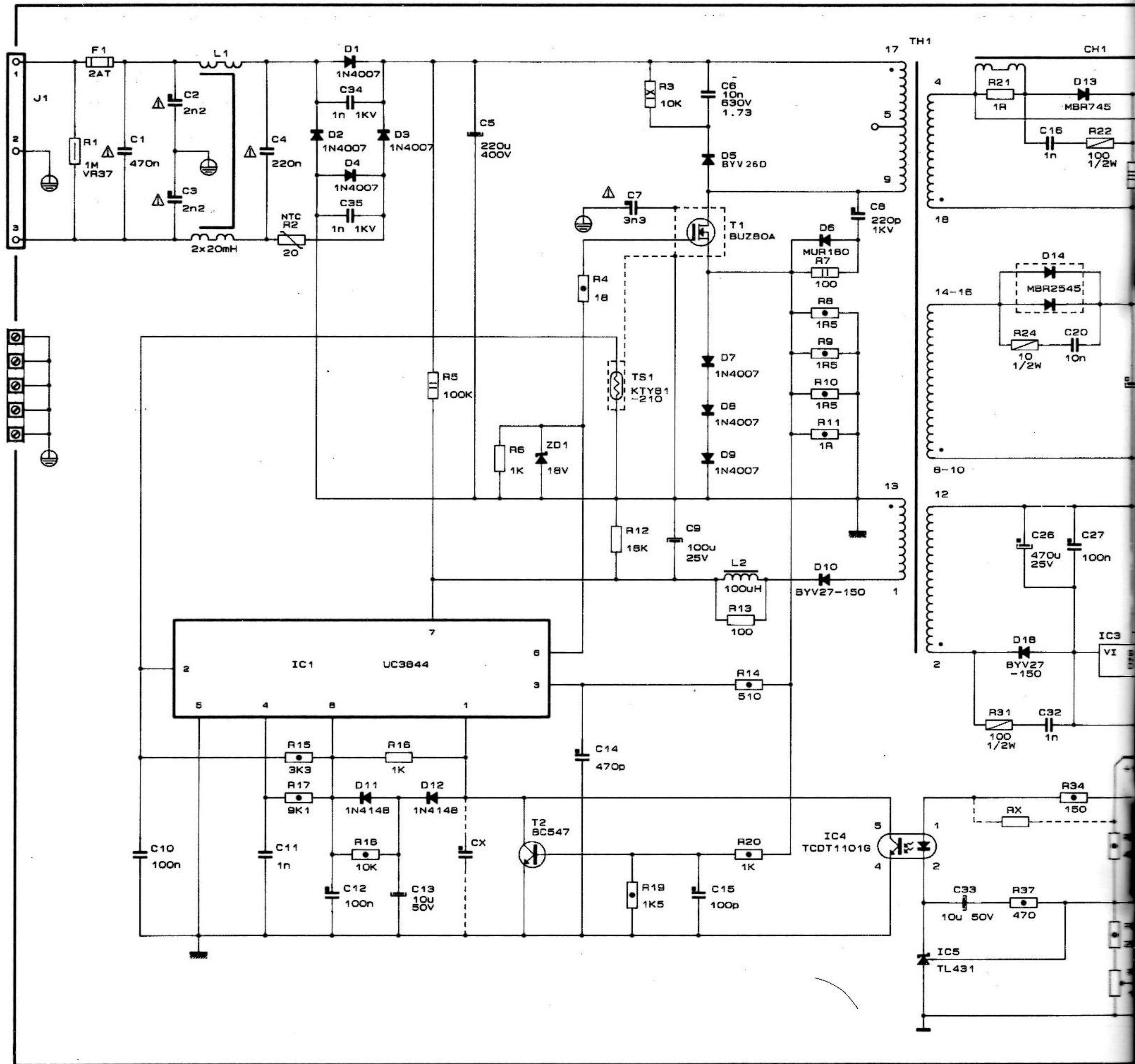
FORME D'ONDA / WAVE FORMS 110 Va.c.





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MAIN P.C.B. ASSEMBLY

CODE	DESCRIPTION	REF. No.	Q.TY
62014420	P.C.B. ASSEMBLY POWER SUPPLY US 150 220/110 V.a.c.		1
20140042	PHOTO COUPLING DIODE TCDT 1101G	IC4	1
20150420	DIODE BYV 28/150	D15	1
20151230	DOUBLE SCHOCTKY DIODE MBR2545	D14	1
20151440	SCHOCTKY DIODE MBR745	D13	1
20180280	GREEN LED DIODE 5 M.M.	DL1	1
20430502	TRANSISTOR BUZ 80 A	T1	1
20440030	THYRISTOR TYP212	SCR1	1
20620071	INTEGRATED CIRCUIT MA7905	IC2	1
20620086	INTEGRATED CIRCUIT MA7912	IC3	1
20671470	INTEGRATED CIRCUIT UC3844	IC1	1
21000230	NTC 20E 2322.644.90026	R2	1
21531000	METAL OXIDE RESISTOR 100E 5% 2W	R7	1
21561001	METAL OXIDE RESISTOR 100K 5% 2W	R5	1
21623300	METAL OXIDE RESISTOR 33E 5% 3W	R23	1
22451000	VERT. WIREWOUND RESISTOR 10K 10% 9W	R3	1
23031006	SEALED CARBON TRIMMER, HORIZ. PT10NV 100E	RV1	1
23341006	RADIAL ELECT. CAPACITOR 1000MF 16V 105°	C18-24	2
24342202	RADIAL ELECT. CAPACITOR 2200MF 16V 105°	C17-21-22	3
24434707	RADIAL ELECT. CAPACITOR 470MF 25V 105°	C26	1
24932203	RADIAL ELECT. CAPACITOR 220MF 400V 85°	C5	1
25651002	CAPACITOR, POLYPROP. 1.73 10NF 630V	C6	1
25762201	CAPACITOR, POLYESTER 1.58 220NF 250VAC 10%	C4	1
25764700	CAPACITOR, POLYESTER 1.58 470NF 250VAC 10%	C1	1
26410600	CERAMIC CAPACITOR 1NF 1KV	C34-35	2
26422621	RADIAL CERAMIC CAPACITOR 2.2NF 250V 20%	C2-3	2
26433601	RADIAL CERAMIC CAPACITOR 3.3NF 400V 20%	C7	1
28020640	HORIZ. COIL 100MH	L2	1
28020110	SECONDARY COIL +5	L4	1
28028900	SECONDARY COIL +12	L3	1
28028510	SWITCH TRANSFORMER UTF408	TH1	1
28028530	MAIN FILTER	L1	1
29100001	TIME-DELAY FUSE 1A 250V 5X20 "IMQ"	F2	1
29100018	TIME-DELAY FUSE 2A 250V 5X20 "IMQ"	F1	1
29100080	FUSE HOLDER CLIPS	(F1-2)	4
29500140	FT 10x6x4 N30 TOROIDAL COIL	CH1	1
30000751	TEMPERATURE SENSOR KTY 81-210	TS1	1
34074232	2 WAY PRESSACO CONNECTOR RED M.2S3562	J4	1
34074610	9 WAY BURNDY CONNECTOR UHR950T	J2	1
34074630	3 WAY BURNDY CONNECTOR UHR350T	J1	1
34074640	2 WAY BURNDY CONNECTOR UHR250T	J3	1
43000011	SPRING FOR TO220 UTH38	(D13-14-T1)	3
43000550	RETAINING SPRING FOR TEMPERATURE SENSOR UTH5074	(TS1)	1

Parts List

Power Supply US 150

CODE	DESCRIPTION	REF. No.	Q.TY
50110140	RESISTOR BRACKET UTH601	(R3)	1
50428550	INSULATOR 2KV	(D13-T1)	2
50430750	TRIMMER ADJUSTMENT SHAFT (GREEN) UTH3325	(RV1)	1
20100001	DIODE 1N 4148	D11-12	2
20110091	ZENER DIODE 18V 1/2W 5%	ZD1	1
20110720	ZENER DIODE 5.6V 1/2W 5%	ZD2	1
20150008	DIODE 1N4007	D1-2-3-4-7-8-9-17-19	9
20150433	DIODE BYV 27/150	D10-18	2
20180170	DIODE MUR180	D5-6	2
21211000	CARBON RESISTOR 1E 5% 1/4W	R21	1
21211002	METAL LAYER RESISTOR 1E 1% 1/4W	R11	1
21211501	METAL LAYER RESISTOR 1.5E 1% 1/4W	R8-9-10	3
21221802	METAL LAYER RESISTOR 18E 2% 1/4W	R4	1
21222200	CARBON RESISTOR 22E 5% 1/4W	R26	1
21231000	CARBON RESISTOR 100E 5% 1/4W	R13-27	2
21231501	METAL LAYER RESISTOR 150E 1% 1/4W	R34	1
21232001	METAL LAYER RESISTOR 200E 1% 1/4W	R38	1
21233571	METAL LAYER RESISTOR 357E 1% 1/4W	R36	1
21234700	CARBON RESISTOR 470E 5% 1/4W	R28	1
21234702	METAL LAYER RESISTOR 470E 1% 1/4W	R37	1
21235101	METAL LAYER RESISTOR 510E 1% 1/4W	R14	1
21241000	CARBON RESISTOR 1K 5% 1/4W	R6-16-29	3
21241002	METAL LAYER RESISTOR 1K 1% 1/4W	R20	1
21241502	METAL LAYER RESISTOR 1.5K 1% 1/4W	R19	1
21243302	METAL LAYER RESISTOR 3.3K 1% 1/4W	R15	1
21244221	METAL LAYER RESISTOR 4.22K 1% 1/4W	R35	1
21249101	METAL LAYER RESISTOR 9.1K 1% 1/4W	R17	1
21251000	CARBON RESISTOR 10K 5% 1/4W	R25	1
21251002	METAL LAYER RESISTOR 10K 1% 1/4W	R18	1
21251800	CARBON RESISTOR 18K 5% 1/4W	R12	1
21321001	RESISTOR, NON-FLAMMABLE, 10E 5% 1/2W	R24	1
21324700	CARBON RESISTOR 47E 5% 1/2W	R32-33	2
21331002	RESISTOR, NON-FLAMMABLE, 100E 5% 1/2W	R22-31	2
21371004	METAL LAYER RESISTOR 1M 5% 1/2W VR37	R1	1
20400429	TRANSISTOR BC547B	T2	1
20620679	INTEGRATED CIRCUIT TL431CLP	IC5	1
24431059	RADIAL ELECT. CAPACITOR 100MF 25V 85°	C9	1
24521019	RADIAL ELECT. CAPACITOR 10MF 50V 85°	C13-28-31-33	4
25161029	CAPACITOR, POLYESTER 1.85 100NF 63V	C10	1
25241029	CAPACITOR, POLYESTER 1.85 1NF 100V	C11-16-32	3
25251049	CAPACITOR, POLYESTER 1.85 10NF 100V	C20	1
26310109	CERAMIC CAPACITOR 100PF 50V NPØ	C15	1
26322129	RADIAL CERAMIC CAPACITOR 220PF 1KV	C8	1
26347119	CERAMIC CAPACITOR N750 470PF 50V	C14	1
26610619	RADIAL CERAMIC CAPACITOR 100NF 50V	C12-19-23-25-27-29-30	7

CONTAINER ASSEMBLY

CODE	DESCRIPTION	REF. No.	Q.TY
50121770	METAL SUPPORT UTH5075		1
50123170	BASE PLATE US150 UTH5072		1
50430370	PVC PROTECTION UTH5144		1
50430380	PLASTIC CONTAINER UTH5070		1
50430390	VENTILATOR SUPPORT COVER		1

PACKING ASSEMBLY

CODE	DESCRIPTION	REF. No.	Q.TY
52828840	POLYSTYRENE PACKING PIECES US 150 220V/110V		2
53885450	US 150 USER'S MANUAL		1

ACCESSORIES AS SUPPLIED

CODE	DESCRIPTION	REF. No.	Q.TY
34074650	9 WAY BURNDY CONNECTOR UHP901*G		1
34074670	3 WAY BURNDY CONNECTOR UHP301*G		1
34074680	2 WAY BURNDY CONNECTOR UHP201*G		1
34076400	BURNDY MALE LUGS UHM1200G		16
40114007	M 4x6 CAP-SCREWS Tcc PH UNI7687		5
42000540	TOOTHED WASHER DIN6798A 4.3x8x0.5		5

DIFFERENT COMPONENTS MOUNTED ON 110 V a.c. VERSION

Differenze di componentistica per la versione 110 Va.c.

CODE	DESCRIPTION	REF. No.	Q.TY
21364700	RESISTOR 470K 1/2W 5% VR 37	R1	1
21000330	NTC 5 OHM PHILIPS P/N 2322.644.90018	R2	1
22442200	RESISTOR 2.2K 9W 5%	R3	1
21554700	RESISTOR 47K 2W 5%	R5	1
21622700	RESISTOR 27 OHM 3W 5%	R7	1
21306300	RESISTOR 0.68 OHM 1/2W 5%	R8-9-10	3
21305600	RESISTOR 0.56 OHM 1/2W 5%	R11	1
21213300	RESISTOR 3.3 OHM 1/4W 5%	R30	1
29100392	FUSE 3.15 AT 5x20 UL-CSA	F1	1
25561002	CAPACITOR, POLIEST. 1.60 100NF 400V	C6	1
26433601	CERAMIC CAPACITOR 3.3NF 400V	C36	1
25641002	CAPACITOR, POLIEST. 1.73 1NF 630V	C8	1
20432320	IRF 740 TRANSISTOR	T1	1
20150131	DIODE BY 255	D1-2-3-4	4
24941000	ELECT. CAPACITOR 1000MF 200V	C5	1
28028540	MAINS FILTER 2x6MM	C1	1
28028520	SWITCH TRANSFORMER	TH1	1
20151160	DIODE MUR 140	D5	1

cod. 53885450



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