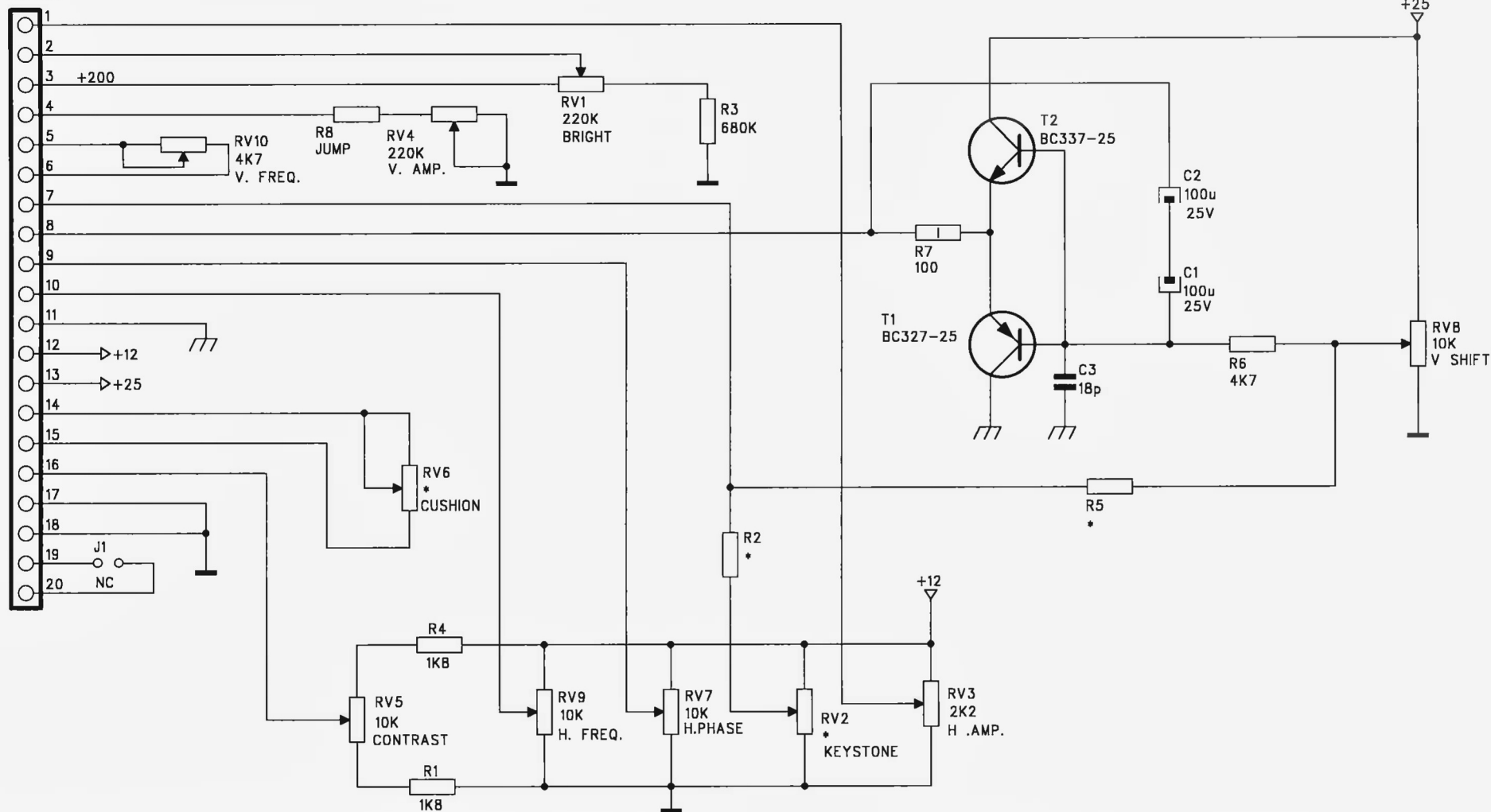


Monitor POLO/3

- I** **ATTENZIONE!** Per effettuare qualsiasi misura di controllo nella sezione primaria alimentatore, usando voltmetro digitale o oscilloscopio, occorre separare il monitor dalla rete tramite un TRASFORMATORE DI ISOLAMENTO, facendo comunque attenzione che la terra degli strumenti sia scollegata.
Questa precauzione non è necessaria quando si effettuano le misure di controllo nella sezione monitor (deflessione e video), e sulle uscite secondarie dell'alimentatore.
Il trasformatore di isolamento deve avere queste caratteristiche:
Ingresso 230 V~; Uscita 230 V~; 200 W minimo
- GB** **WARNING!** Whenever voltage check are to be made in the primary circuits of the power supply, using a digital voltmeter or an oscilloscope, it is necessary to isolate the monitor from the mains supply by means of an ISOLATING TRANSFORMER also taking care that the instruments are disconnected from earth.
This precaution is not necessary when making measurements in the monitor section (deflexion and video), nor in the secondary circuits of the power supply.
The isolating transformer for the above purpose should have following characteristics:
Input 230 V~; Output 230 V~; 200 W minimum
- E** **ATENCION!** Para efectuar medidas de control en la sección primaria del alimentador, usando voltímetro digital, o bien osciloscopio, es necesario separar el monitor de la red con un TRANSFORMADOR DE AISLAMIENTO, debiendo estar la tierra del instrumento conectada. De esta manera se evita que haya conexión directa a la red entre el instrumento y la sección primaria del alimentador, al estar el instrumento a la tierra se evita dañar cualquier componente y tener la máxima seguridad para el operador. Estas precauciones no son necesarias cuando se efectúan las medidas en la sección del monitor (deflexión video), y sobre la salida secundaria del alimentador.
El transformador debe tener estas características:
Entrada 230 V~; Salida 230 V~; 200 W minimo
- F** **ATTENTION!** Pour effectuer n'importe quelle mesure de contrôle dans la section primaire d'alimentation, en utilisant un voltmètre digital ou un oscilloscope, il faut séparer le moniteur du réseau au moyen d'un TRANSFORMATEUR D'ISOLEMENT, en faisant de toute façon attention à ce que la prise de terre des instruments soit débranchée.
Cette précaution n'est pas nécessaire quand on effectue les mesures de contrôle dans la section moniteur (déflexions et vidéo), et sur les sorties secondaires de l'alimentateur.
Le transformateur d'isolement doit avoir les caractéristiques suivantes:
Entrée 230 V~; Sortie 230 V~; 200 W minimum
- D** **VORSICHTSMAßNAHMEN!** Wenn im Primärnetzteil Messungen mit Hilfe von digitalen Voltmetern und Oszilloskopen vorgenommen werden, ist es notwendig, den Monitor von der Hauptstromversorgung zu trennen. Dies sollte über einen TRENNTRANSFORMATOR erfolgen. Es ist unbedingt darauf zu achten, daß dann alle Instrumente vom Erdpotential getrennt sind.
Diese Vorkehrungen sind nicht notwendig, wenn Messungen auf der Monitorgrundplatine im Bereich der Ableitung und Videoaufbereitung vorgenommen werden. Außerdem sind obengenannte Vorkehrungen nicht notwendig im Secundärbereich des Netzteils. Der Trenntransformator sollte folgende Eigenschaften haben:
Eingang 230 V~; Ausgang 230 V~; 200 W

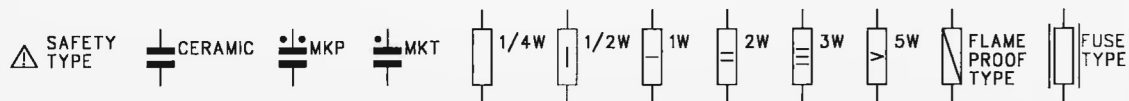
CIRCUIT DIAGRAM / SPARE PARTS
SCHEMA ELETTRICO / PARTI DI RICAMBIO

CN2
MBPH20



	14"	14"MN	17"MN	20"	21"	25"	28"	34"	37"
R2	NC	NC	NC	47K	NC	47K	47K	47K	47K
R5	NC	NC	NC	100K	NC	100K	100K	100K	100K
RV2	NC	NC	NC	10K	NC	10K	10K	10K	10K
RV6	NC	NC	NC	4K7	NC	4K7	4K7	4K7	4K7

SCHEMATIC NOTES

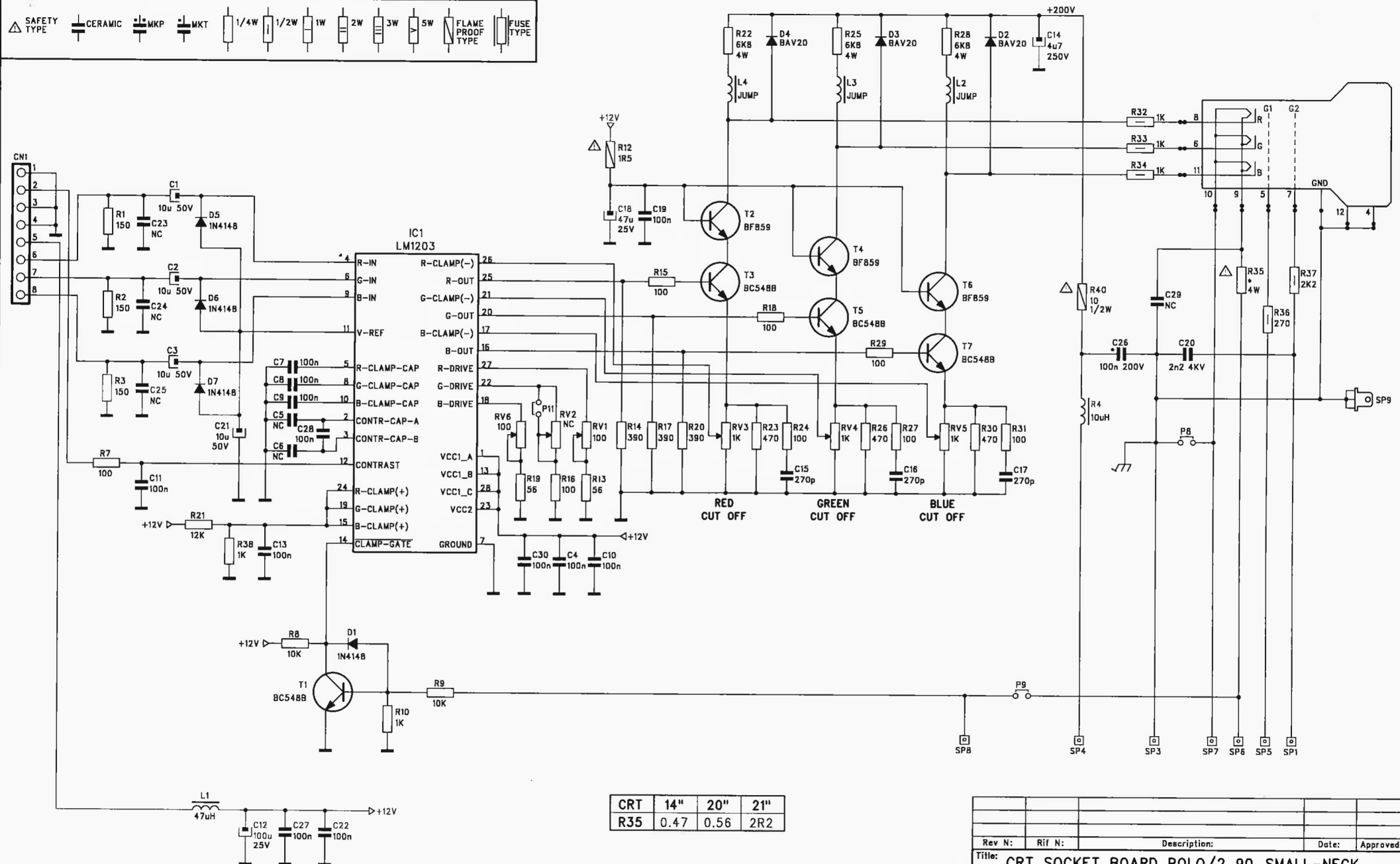
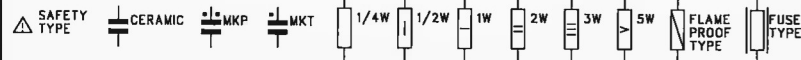


Rev N:	Rif N:	Description:	Date:	Approved:
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File name:		Document number:		
HN02-1.sch		53892323		
PCB code:		Date:		
50140720		13/12/99		
PCB file:		Designed:		
HN02.pcb		V.G.		
Sheet 1 Of 1		Approved:		
		-		

HANTAREX
ELECTRONIC SYSTEMS
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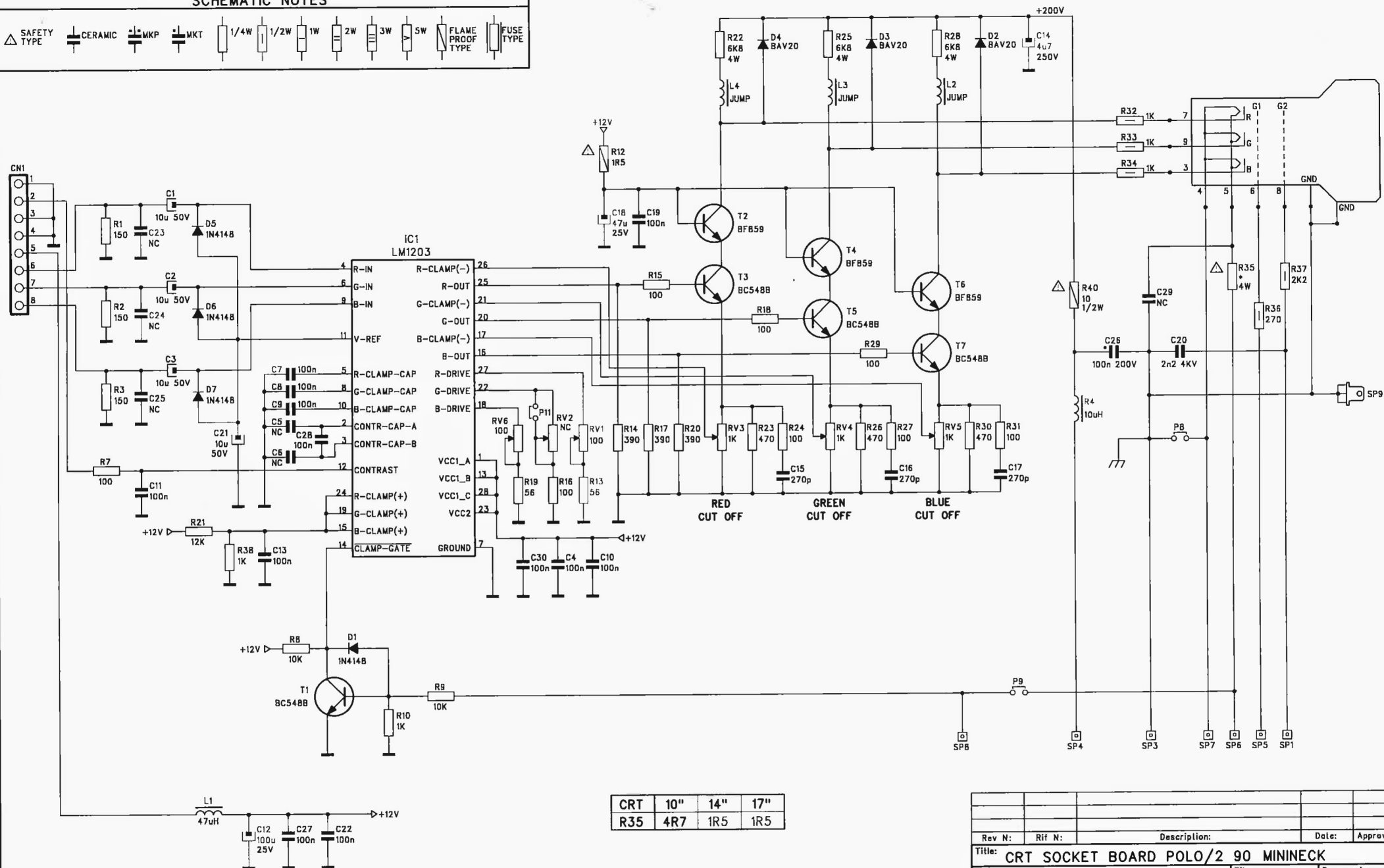
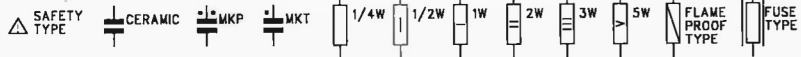
SCHEMATIC NOTES



Rev N:	Rif N:	Description:	Date:	Approved:
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File name: JF02-1.sch		Document number: 53892321		
PCB code: 50140890		Date: 29/10/98		
PCB file: JF02.drw		Designed: V.G.		
Sheet 1 of 1		Approved: -		

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ELECTRONIC SYSTEMS
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SCHEMATIC NOTES

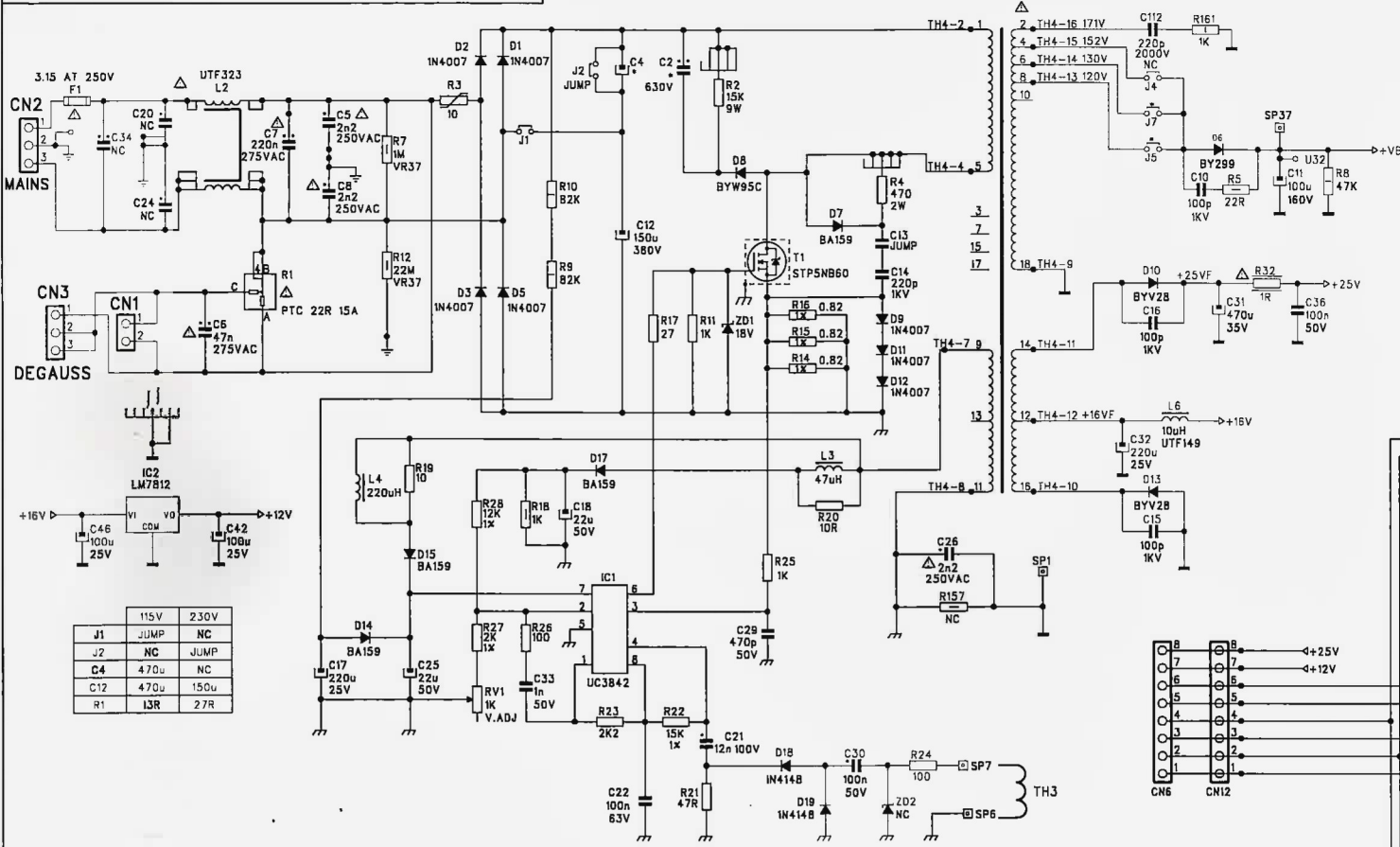


CRT	10"	14"	17"
R35	4R7	1R5	1R5

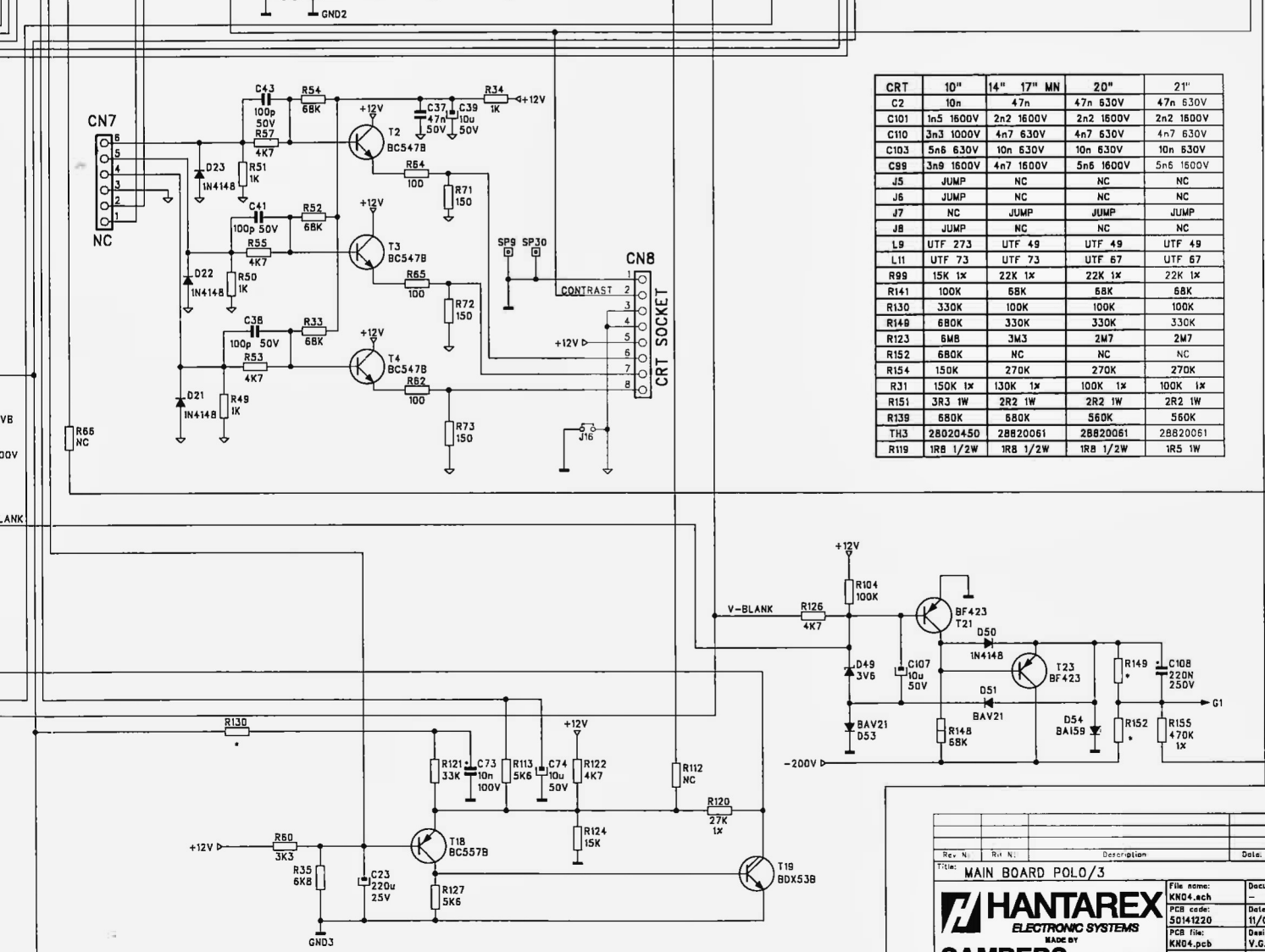
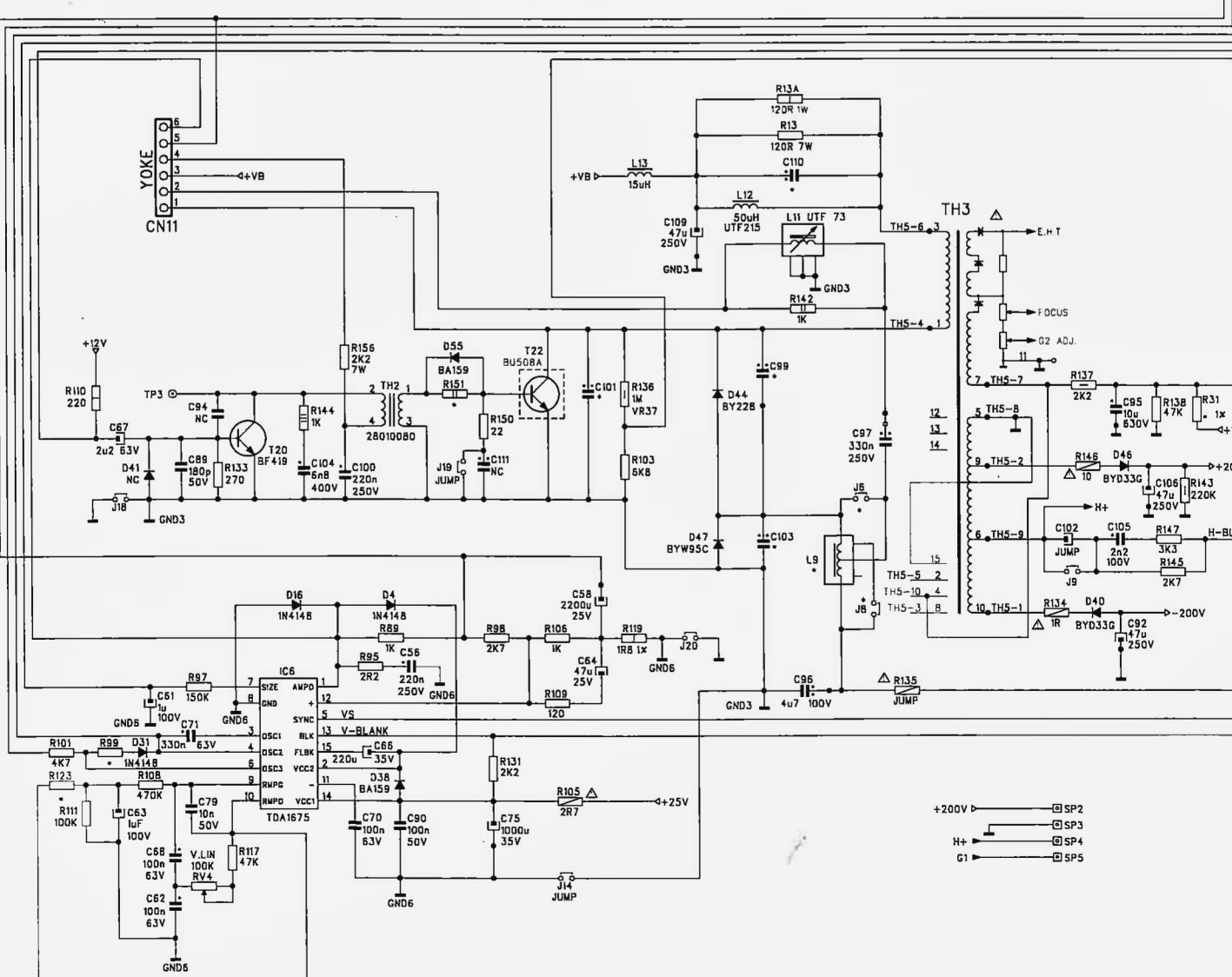
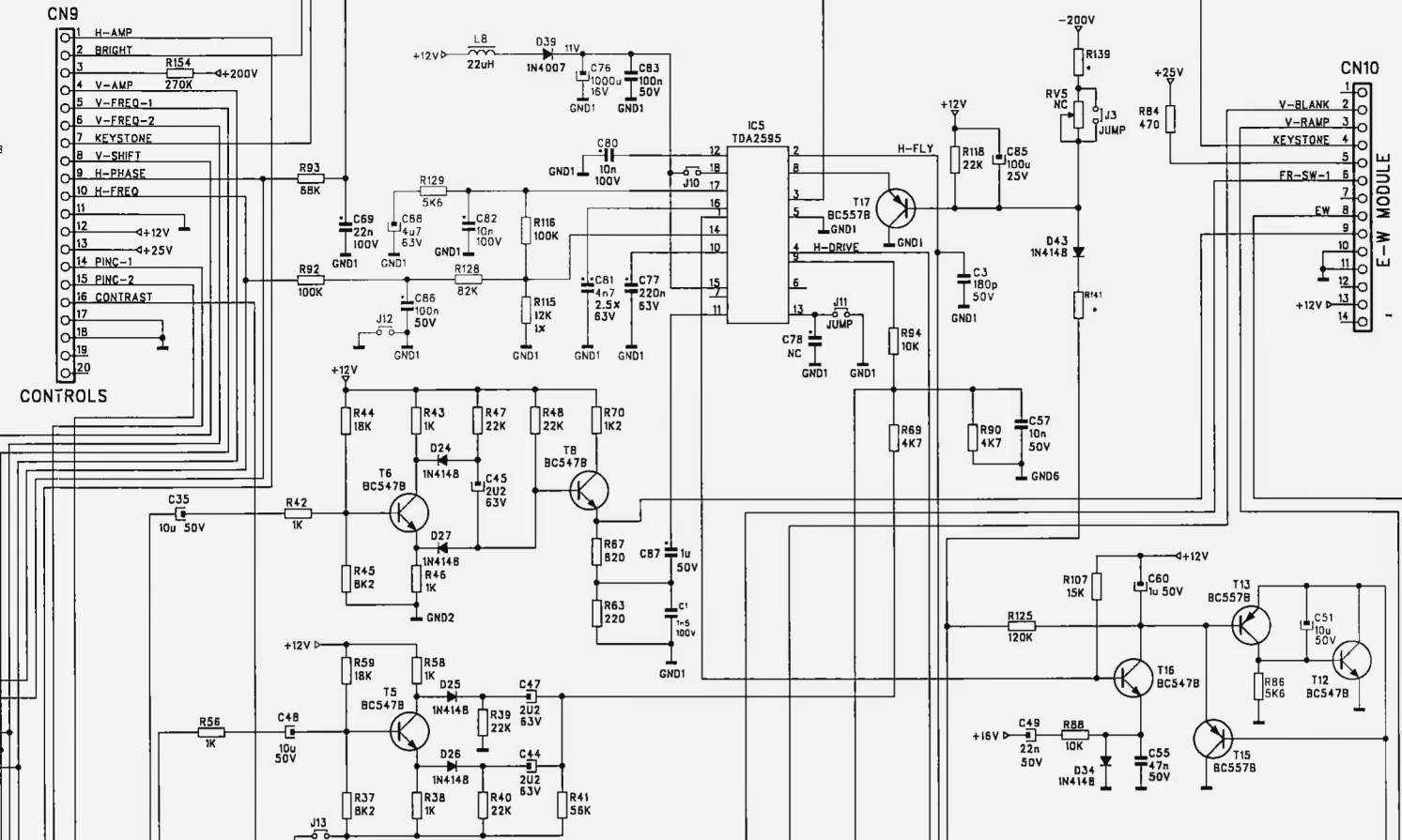
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File name:		Document number:		
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PCB code:		Date:		
50140940		29/10/98		
PCB file:		Designed:		
J102.drw		V.G.		
MADE BY		Approved:		
SAMBERS ITALIA S.p.A.		-		
Sheet 1		Of 1		

Schematic Notes

SAFETY TYPE CERAMIC MWD MCT 1/4W 1/2W 1W 2W 3W 5W FLAME PROOF TYPE USE TYPE



J1	115V	230V
J2	JUMP	JUMP
J3	NC	NC
J4	470u	NC
J5	470u	150u
J6	13R	27R



CRT	10"	14"	17" MN	20"	21"
C2	10n	47n	47n	630V	47n 630V
C101	1n5 1600V	2n2 1600V	2n2 1600V	2n2 1600V	2n2 1600V
C110	3n3 1000V	4n7 630V	4n7 630V	4n7 630V	4n7 630V
C103	5n6 630V	10n 630V	10n 630V	10n 630V	10n 630V
C89	3n9 1600V	4n7 1600V	5n6 1600V	5n6 1600V	5n6 1600V
J5	JUMP	NC	NC	NC	NC
J6	JUMP	NC	NC	NC	NC
J7	NC	JUMP	JUMP	JUMP	JUMP
J8	JUMP	NC	NC	NC	NC
L9	UTF 273	UTF 49	UTF 49	UTF 49	UTF 49
L11	UTF 73	UTF 73	UTF 67	UTF 67	UTF 67
R99	15K 1x	22K 1x	22K 1x	22K 1x	22K 1x
R141	100K	68K	68K	68K	68K
R130	330K	100K	100K	100K	100K
R148	680K	330K	330K	330K	330K
R123	68K	3M3	2M7	2M7	2M7
R152	680K	NC	NC	NC	NC
R154	150K	270K	270K	270K	270K
R31	150K 1x	130K 1x	100K 1x	100K 1x	100K 1x
R151	3R3 1W	2R2 1W	2R2 1W	2R2 1W	2R2 1W
R139	680K	680K	560K	560K	560K
TH3	28020450	28820061	28820061	28820061	28820061
R119	1R8 1/2W	1R8 1/2W	1R8 1/2W	1R8 1/2W	1R8 1/2W

PARTI DI RICAMBIO

SPARE PARTS

MAIN BOARD

CODICE	DENOMINAZIONE	RIF. SCHEMA
28027760	BOBINA 15uH	L13
28021210	BOBINA BRIDGE	L9
28021290	BOBINA CHOCKE 10uH 10%	L6
28027781	BOBINA CHOCKE 220uH 10%	L4
28027360	BOBINA CHOCKE 22uH 10%	L8
28020720	BOBINA CHOCKE 47uH 10%	L3
28025460	BOBINA LINEARITA'	L11
28021190	CHOCKE 50UH	L12
20620080	CIRC.INT.L 7812 CV	IC2
20670950	CIRC.INT.TDA 1675 A	IC6
20670271	CIRC.INT.TDA 2595/V9	IC5
20672920	CIRC.INT.UC 3842 N	IC1
34077860	CONN.20vie M.VERT.	CN9
34074640	CONN.2vie MATE-N-LOK	CN1
34074630	CONN.3vie MATE-N-LOK	CN2
34023356	CONN.AMP 6VIE	CN7-11
34076580	CONN.BURNDY 8VIE	CN8-CN6-CN12
20150008	DIODO 1N 4007	D9-11-12-39-1-2-3-5
20100001	DIODO 1N 4148	D24-25-34-43-50-21-22-23-26-27-31-18-19
20100012	DIODO BA 159	D7-14-15-17-38-55-54
20100040	DIODO BAV 21	D51-53
20150210	DIODO BY 228	D44
20150401	DIODO BY 299	D6
20150460	DIODO BYD 33 G/M	D40-46
20150421	DIODO BYV 28-200	D10-D13
20150230	DIODO BYW 95C/A52R-600	D8-47
20110091	DIODO ZENER 18V 1/2W 5%	ZD1
20110030	DIODO ZENER 3V6 0,5W	D49
28020470	FILTRO RETE 2x40 mH	L2
29100019	FUSIBILE 3,15A RIT. 5x20 mm	F1
21000140	PTC 22R 15A	R1
21321001	RES ANTIFIA 1/2W 5% 10R	R146
21311003	RES ANTIFIA 1/2W 5% 1R	R134
21312702	RES ANTIFIA 1/2W 5% 2R7	R105
22342203	RES FILO OR 7W 5% 2K2	R156
22351500	RES FILO VE 9W 5% 15K	R2
21211003	RES FUS 0.33W 5% 1R	R32
20400429	TRANS.BC 547 B	T2-4-5-6-8-12-16-3
20400409	TRANS.BC 557 B	T13-15-17-18
20410100	TRANS.BDX 53 B	T19
20420140	TRANS.BF 419	T20
20420159	TRANS.BF 423/BF 421	T21-23
20430322	TRANS.BU 508 AF	T22
20400020	TRANS.STP 5NB60	T1
28010080	TRASF DRIVER UTF 116	TH2
28820061	TRASF EHT POLO 900	TH3
28020490	TRASF. SWITCH POLO/3 14" UTF	TH4
23061005	TRIMM CARB 100K ORIZZ 10	RV4
23041002	TRIMM CARB 1K ORIZZ 10	RV1

MAIN BOARD

CODE	DESCRIPTION	LOCATION
28027760	Coil 15uH	L13
28021210	Bridge Coil BRIDGE	L9
28021290	Chocke coil 10uH 10%	L6
28027781	Chocke coil 220uH 10%	L4
28027360	Chocke coil 22uH 10%	L8
28020720	Chocke coil 47uH 10%	L3
28025460	Linearity coil	L11
28021190	Chocke 50UH	L12
20620080	I.C. L 7812 CV	IC2
20670950	I.C. TDA 1675 A	IC6
20670271	I.C. TDA 2595/V9	IC5
20672920	I.C. UC 3842 N	IC1
34077860	20 ways connector male vertical	CN9
34074640	2 ways connector	CN1
34074630	3 ways connector	CN2
34023356	6 ways connector	CN7-11
34076580	8 ways connector	CN8-CN6-CN12
20150008	1N 4007 diode	D9-11-12-39-1-2-3-5
20100001	1N 4148 diode	D24-25-34-43-50-21-22-23-26-27-31-18-19
20100012	BA 159 diode	D7-14-15-17-38-55-54
20100040	BAV 21 diode	D51-53
20150210	BY 228 diode	D44
20150401	BY 299 diode	D6
20150460	BYD 33 G/M diode	D40-46
20150421	BYV 28-200 diode	D10-D13
20150230	BYW 95C diode	D8-47
20110091	Zener diode 18V 1/2W 5%	ZD1
20110030	Zener diode 3V6 0,5W	D49
28020470	Mains filter 2x40 mH	L2
29100019	Fuse 3,15A	F1
21000140	PTC 22R 15A	R1
21321001	Non flammable resistor 1/2W 5% 10R	R146
21311003	Non flammable resistor 1/2W 5% 1R	R134
21312702	Non flammable resistor 1/2W 5% 2R7	R105
22342203	Wire resistor hor. 7W 5% 2K2	R156
22351500	Wire resistor vert. 9W 5% 15K	R2
21211003	Fuse resistor 0.33W 5% 1R	R32
20400429	Transistor BC 547 B	T2-4-5-6-8-12-16-3
20400409	Transistor BC 557 B	T13-15-17-18
20410100	Transistor BDX 53 B	T19
20420140	Transistor BF 419	T20
20420159	Transistor BF 423/BF 421	T21-23
20430322	Transistor BU 508 AF	T22
20400020	Transistor STP 5NB60	T1
28010080	Driver transformer	TH2
28820061	EHT POLO 900 Transformer	TH3
28020490	Switch transformer POLO/3 14" UTF	TH4
23061005	Carbon trimmer 100K	RV4
23041002	Carbon trimmer 1K h	RV1

MODULO CONTROL BOARD

CODICE	DENOMINAZIONE	RIF. SCHEMA
34070000	Connettore 20vie	CN2
20400030	TRANS.BC 327	T1
20401069	TRANS.BC 337	T2
23051003	TRIMM CARB 10K ORIZZ	RV5-7-8-9
23062204	TRIMM CARB 220K ORIZZ	RV1-4
23044705	TRIMM CARB 4K7 ORIZZ	RV10-3

CONTROL BOARD MODULE

CODE	DESCRIPTION	LOCATION
34070000	20 ways connector	CN2
20400030	Transistor BC 327	T1
20401069	Transistor BC 337	T2
23051003	Carbon trimmer 10K hor.	RV5-7-8-9
23062204	Carbon trimmer 220K hor.	RV1-4
23044705	Carbon trimmer 47K hor.	RV10-3

MODULO CRT SOCKET

CODICE	DENOMINAZIONE	RIF. SCHEMA
28021290	BOBINA CHOCKE 10uH 10%	R4
28020720	BOBINA CHOCKE 47uH 10%	L1
20673970	CIRC.INT.LM 1203 N	IC1
34076580	CONN. 8VIE	CN1
20100001	DIODO 1N 4148	D1-5-6-7
20130060	DIODO BAV 20	D2-3-4
21321001	RES ANTIFIA 1/2W 5% 10R	R40
21211503	RES ANTIFIA 1/4W 5% 1R5	R12
20401029	TRANS.BC 548 B	T1-3-5-7
20431070	TRANS.BF 859	T2-4-6
23031007	TRIMM CARB 100R VERT	RV1-6
23041013	TRIMM CARB 1K VERT	RV3-4-5

CRT SOCKET MODULE

CODE	DESCRIPTION	LOCATION
28021290	Chocke Coil 10uH 10%	R4
28020720	Chocke Coil 47uH 10%	L1
20673970	I.C. LM 1203 N	IC1
34076580	8ways connector	CN1
20100001	1N 4148 diode	D1-5-6-7
20130060	BAV 20 diode	D2-3-4
21321001	Non flammable resistor 1/2W 5% 10R	R40
21211503	Non flammable resistor 1/4W 5% 1R5	R12
20401029	Transistor BC 548 B	T1-3-5-7
20431070	Transistor BF 859	T2-4-6
23031007	Carbon trimmer 100R VERT	RV1-6
23041013	Carbon trimmer 1K VERT	RV3-4-5

SAMBERS

I T A L I A

SPARE PARTS / PARTI DI RICAMBIO