

CERBERUS

operation. & maintenance.

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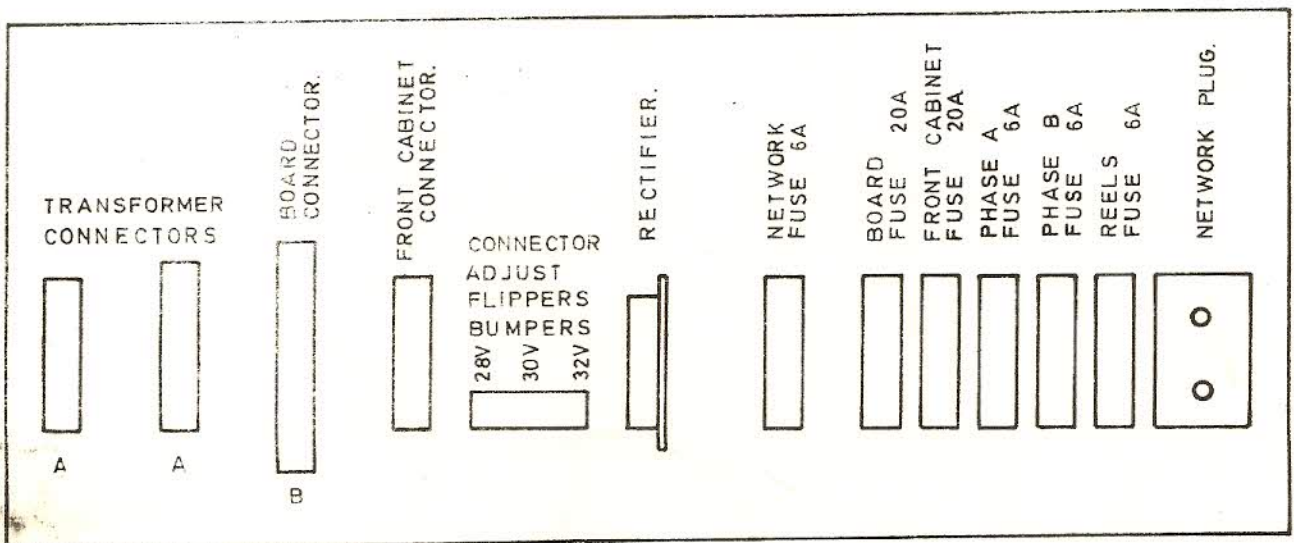
— INSTALLATION —

INTRODUCTION

- Assemble the machine.
- Connect the harnesses (see section on connection of harnesses)
- Check the network voltage (the machine leaves the factory with 220V A.C., 150 W; to vary the input voltage see section on voltage change).
- Check fuses.
- Locate possible errors in connection (connectors displaced or wrongly connected).

HARNESSES CONNECTED

- Connect harness from the transformer to the lateral platform of the cabinet (A) figure 2.
- Connect harnesses from the board to:
 - a) lateral platform (B) figure 2.
 - b) Thyristors board (12) figure 2. Connectors 8, 9, 10 & 11.
 - c) IOS board (16) figure 2. Connector 3.
 - d) RELES board (15) figure 2. Connector 6.
- Connect harness from the cabinet to the IOS board. Connector 3.
- Connect harness from lateral platform to:
 - a) RELES board (15) figure 2. Connector 7.
 - b) THYRISTORS board (12) figure 2. Connector 9.
 - c) PSU board (13) figure 2. Connector 1.
 - d) frontal connector (8 ways).
- Connect faston terminals on frontal.



VOLTAGE CHANGE

This is effected by way of the selector situated on the transformer (figure 1).

The voltages are printed for better localization:

- Lift the board.
- Place the mobile terminal (red-green) in the position corresponding to the voltage available (figure 1).

The interior plug (5) situated on the lateral platform (figure 1) is 220V and is not affected by the network switch.

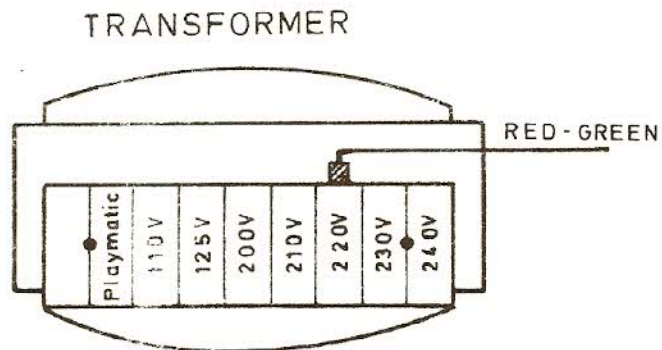
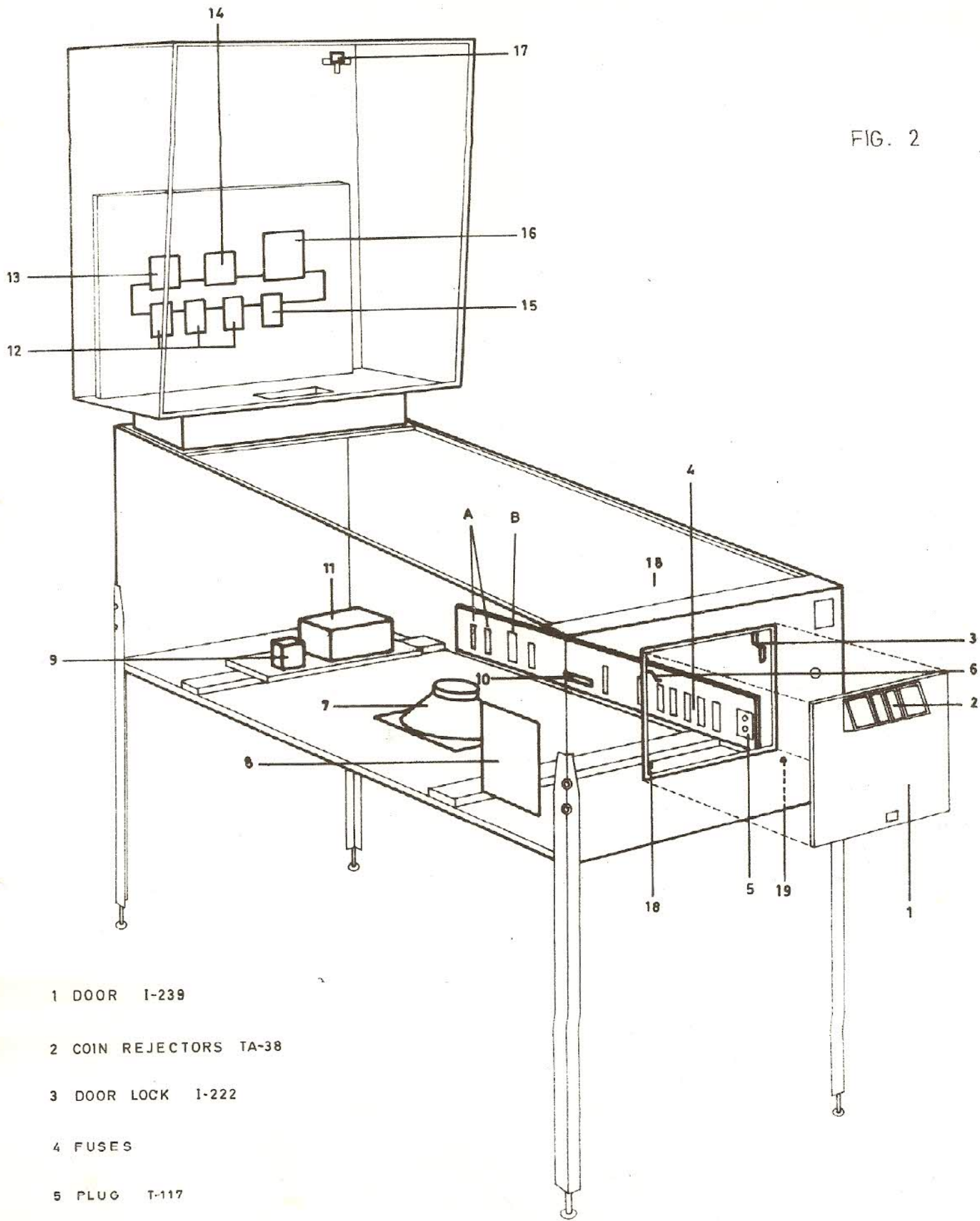


FIG. 1

FIG. 2



1 DOOR I-239

2 COIN REJECTORS TA-38

3 DOOR LOCK I-222

4 FUSES

5 PLUG T-117

6 ALARM CONTACT R-144AB

7 LOUDSPEAKER T-133

8 SYNTHETIZER EF-86

9 BALLAST T-156

10 Flippers & bumpers regulator.

11 TRANSFORMER RT-1020

12 THYRISTORS EF-39

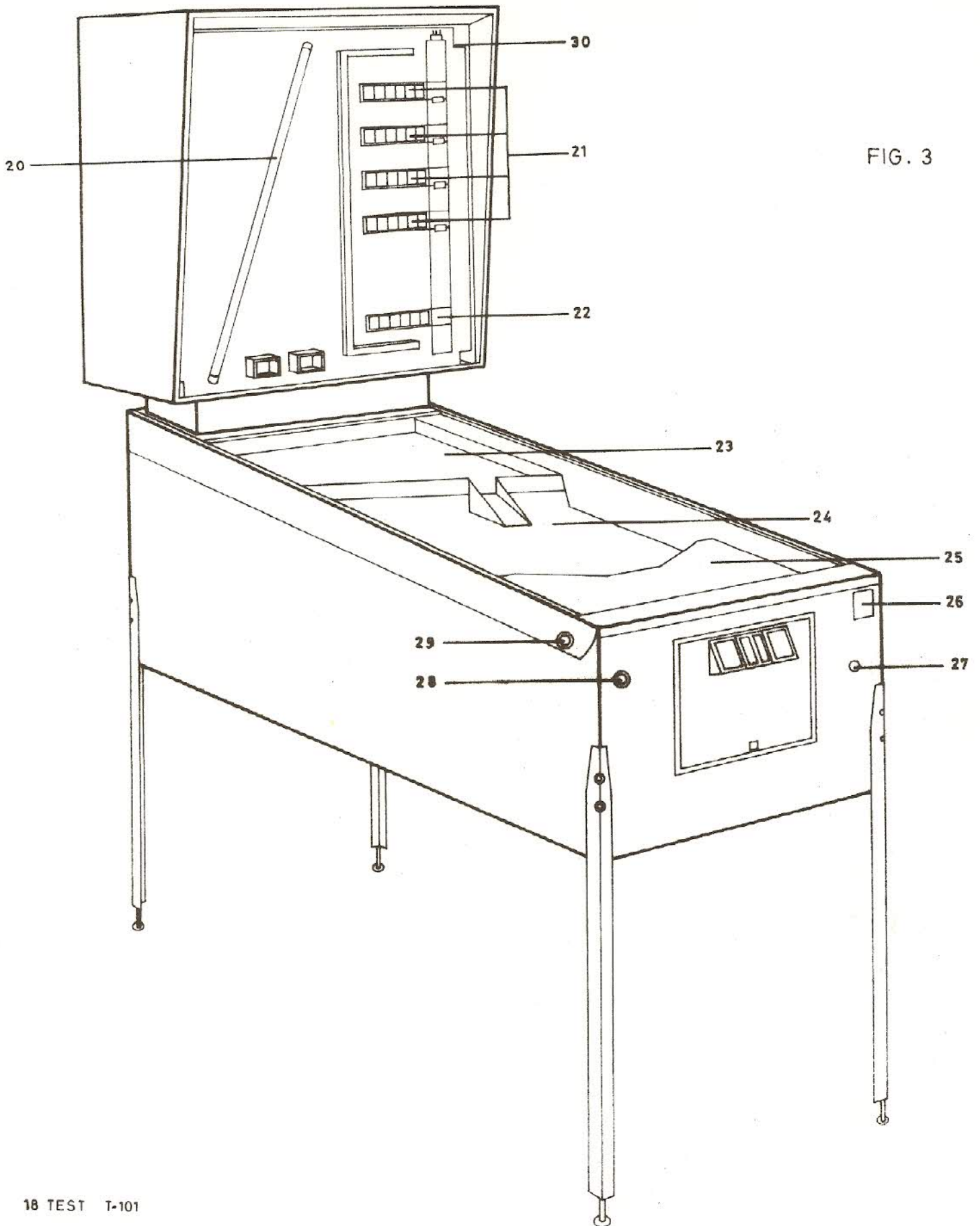
13 POWER SUPPLY EF-51

14 MPU EF-44

15 RELAYS EF-55

16 TOS EF-52

17 TACA ER-359



18 TEST T-101

19 SWITCH T-80

20 FLUORESCENT T 155

21 PLAYER DISPLAYS EF-46

22 GAME DISPLAYS EF-45

23 Upper playfield

24 Lower playfield

25 CARD HOLDER I-681

26 PLUNGER I-499

27 Push-select button T-101

28 GAME BUTTON I-182

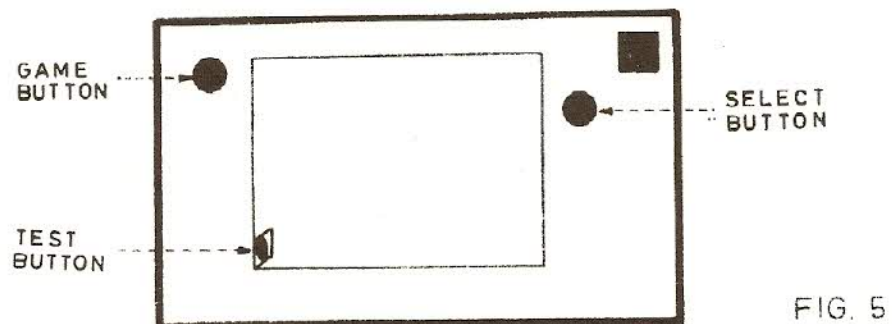
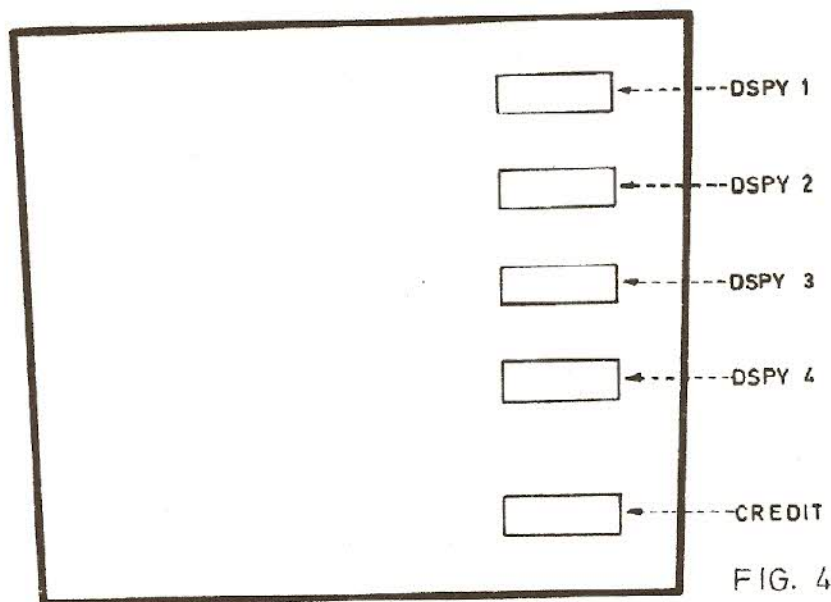
29 FLIPPERS BUTTON I-182

30 Hinges with strap I-483 I-484

— OPERATION —

TEST

- Disconnect and connect the machine with the test button pressed (figure 5).
- Release this when the machine enters test state.
- The counters advance from 000.000 to 999.999 repeating the cycle (test state).
- On the CREDIT counter (see figure 4) 00, will appear, this indicates that there is no contact closed.
- On closing any contact, the number corresponding to said contact will appear on the CREDIT counter (see figure 7)



DESCRIPTION OF GAME

- Each dropped target lights a segment on the central display.
- On forming a number, the "SUPER BONUS" is reflected in that number.
- When the ball enters the righthand kickout hole a bonus is discharged and when an "O" is formed on the central display a left "SPECIAL" is prepared.
- Putting the light out in the three "30.000" corridors twice lights the "SPECIAL".
- The MULTIBALL kickouts lights in the "30.000" corridors. When the balls enters the lighted kickouts they are kept back and a new ball comes out of the channel.
- If one or two balls are kept back and the one in play is lost, the FLIPPERS are cancelled till the balls which have been kept back enter the channel.
- With the three balls kept back the game "MULTIBALL" is reached (for 15 seconds the balls which enter the channel do not count).
- The X3, X4, X5 and lit when the ball passes along the central corridor.
- the central corridor also lights the "100.000", the "EXTRA BALL" of same and the superior "SPECIAL".

ADJUST & BOOKKEEPING

- READING COIN & GAME TOTALS (BOOKKEEPING)

- Machine in GAME OVER.
- Press test button once and the following will appear:
 - a) 1st player display - - n° of coins accepted by 1st rejector.
 - b) 2nd player display - - n° of coins accepted by 2nd rejector.
 - c) 3rd player display - - n° of coin accepted by 3rd rejector.
 - d) 4th player display - - Number of games played (free & paid)
 - e) CREDIT display - - A "C" appears (it means "coins").
- If we press the button of the IOS board, the 4 totals (a, b, c, d) return to zero.

- READING PRIZE TOTALS

- Machine in GAME OVER (disconnect and connect).
- Press test button twice or once if this is at the previously mentioned stage and the following will appear:
 - a) 1st player display - - total prizes for "SPECIAL"
 - b) 2nd player display - - total "EXTRA BALL" given
 - c) 3rd player display - - total prizes by scoring
 - d) 4th player display - - total FREE GAMES gived
 - e) CREDIT display - - A "T" appears (it means "totals")

- STANDARD ADJUSTMENT

- Machine in GAME OVER.
- Press test button three times, the following will appear:
 - a) 1st, 2nd, 3rd & 4th player displays - - blank
 - b) CREDIT counter display - - - - - "ST"
- On pressing the game button all adjustments are modified to STANDARD value (see table of adjustments) figure 6; on the 1st player display "ST" will appear

- INDEPENDIENT ADJUSTMENT

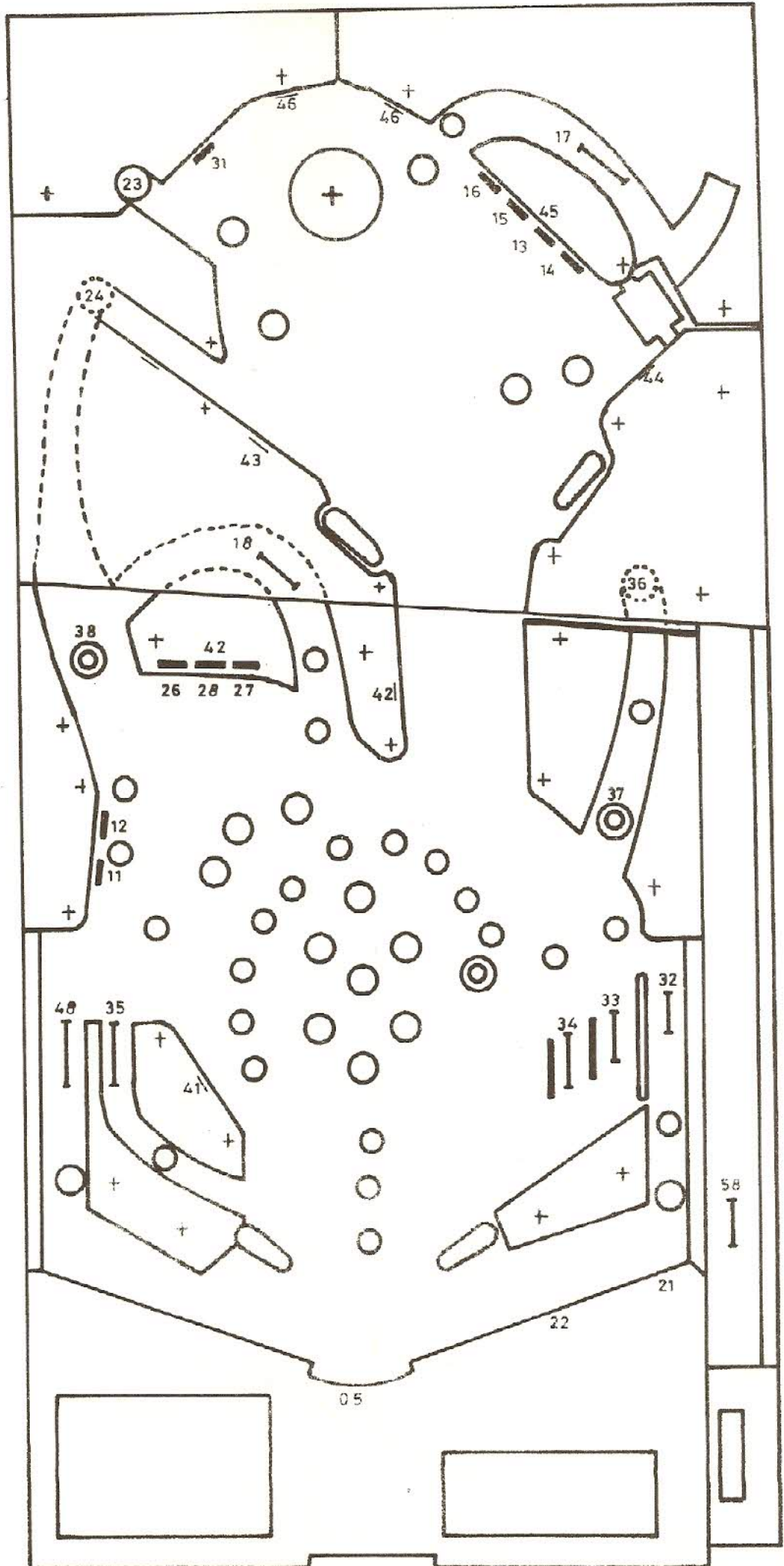
- Starting from the previously mentioned stage, "ST", each time the test button is pressed the next adjustment zone is reached.
- The zone number will appear on the CREDIT counter.
- The value to which it is adjusted will appear on the 1st player display.
- To modify said value the GAME BUTTON is pressed.

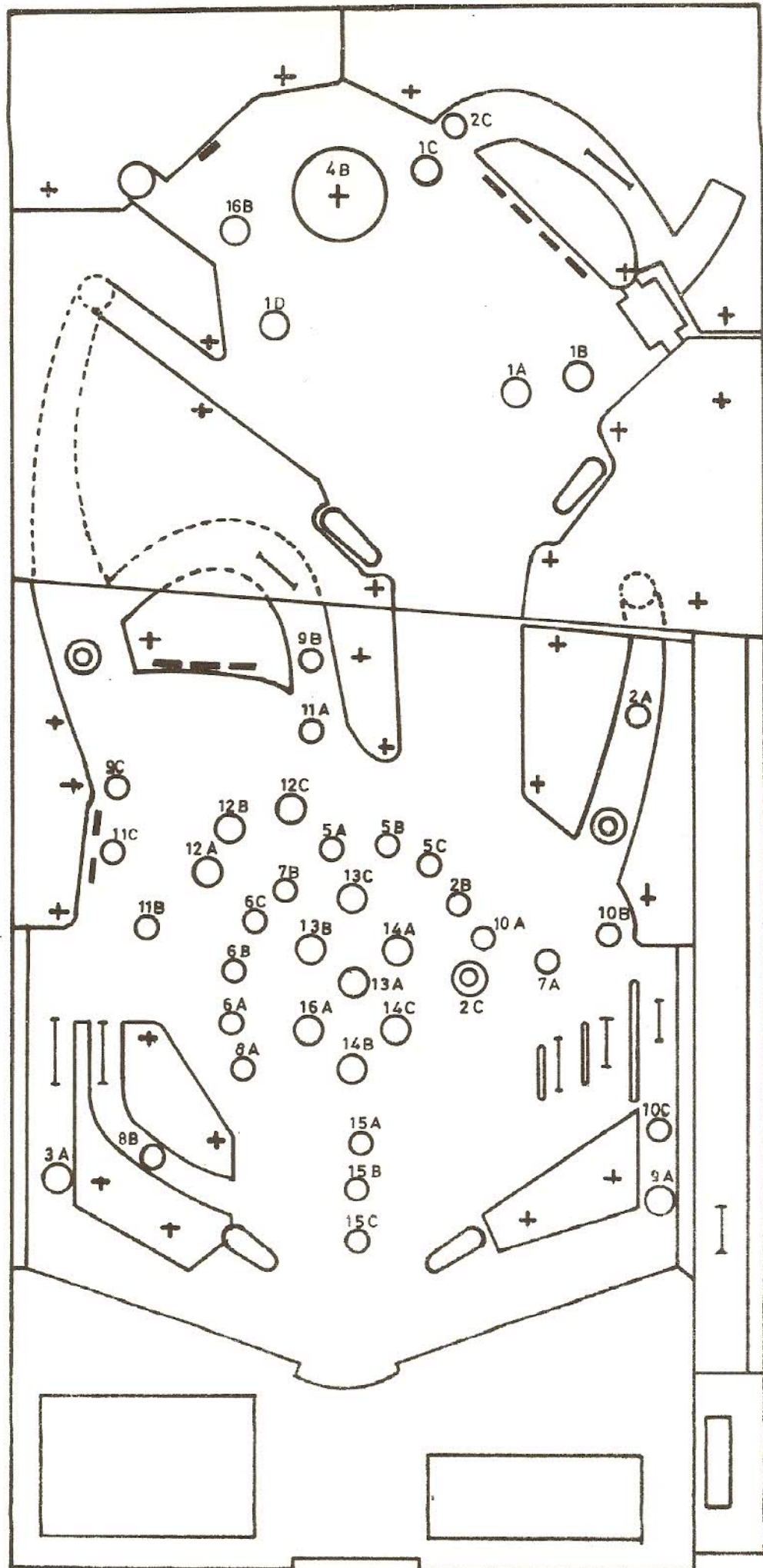
OBJECT OF ADJUSMENT	AREA	READING	STANDARD
MAXIMUM NUMBER OF CREDITS	01	00 to 99	15
"HIGH SCORE" SCORING	02	000 to 990	700.000
FREE GAME FIRST SCORE	03	000 to 990	500.000
FREE GAME SECOND SCORE	04	000 to 990	650.000
FREE GAME THIRD SCORE	05	000 to 990	000.000
Games per coin first coin rejector.	06	0'3-0'5-1-1'5 up to 39	0'3
Games per coin second coin rejector.	07	0'3-0'5-1-1'5 up to 39	2
Games per coin third coin rejector.	08	0'3-0'5-1-1'5 up to 39	5
MAXIMUM NUMBER OF EXTRA BALL	09	0-1-2-3 extra ball	3
Free games given for HIGH SCORE	10	0-1-2-3 free game	1
Games for each player	11	0=several 1=1 only	0
PRIZES FOR SPECIAL	12	0=game 1=ball	0
PRIZES FOR SCORING	13	0=game 1=ball	0
MATCH FEATURE	14	active non active	0
MULTIBALL <i>accounted baller</i>	15	memorize non memori.	0
GAME OVER	16	sound non sound	0
LOWER TARGETS	17	1K 10K	0
BUMPERS	18	100/1K 1K/10K	0
CORRIDOR 18	19	100ptos. 1K pts.	0

- There is a connector on the lateral platform to this effect (10) (see figure 2), indicating to the voltage that it can be regulated.
- Depending on the strength required, the following voltages are available: 28V, 30V & 32V.

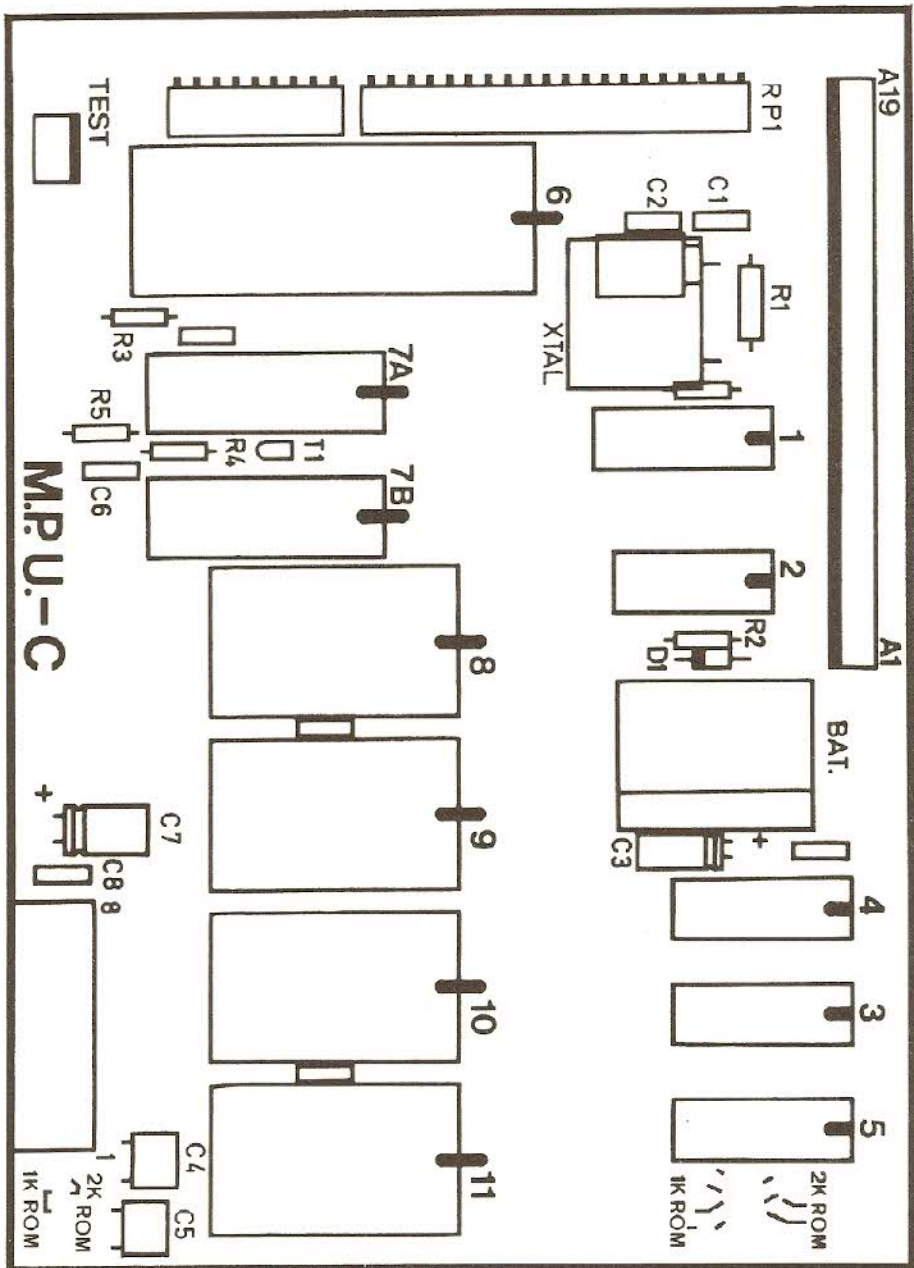
SWITCHES

FIG. 9

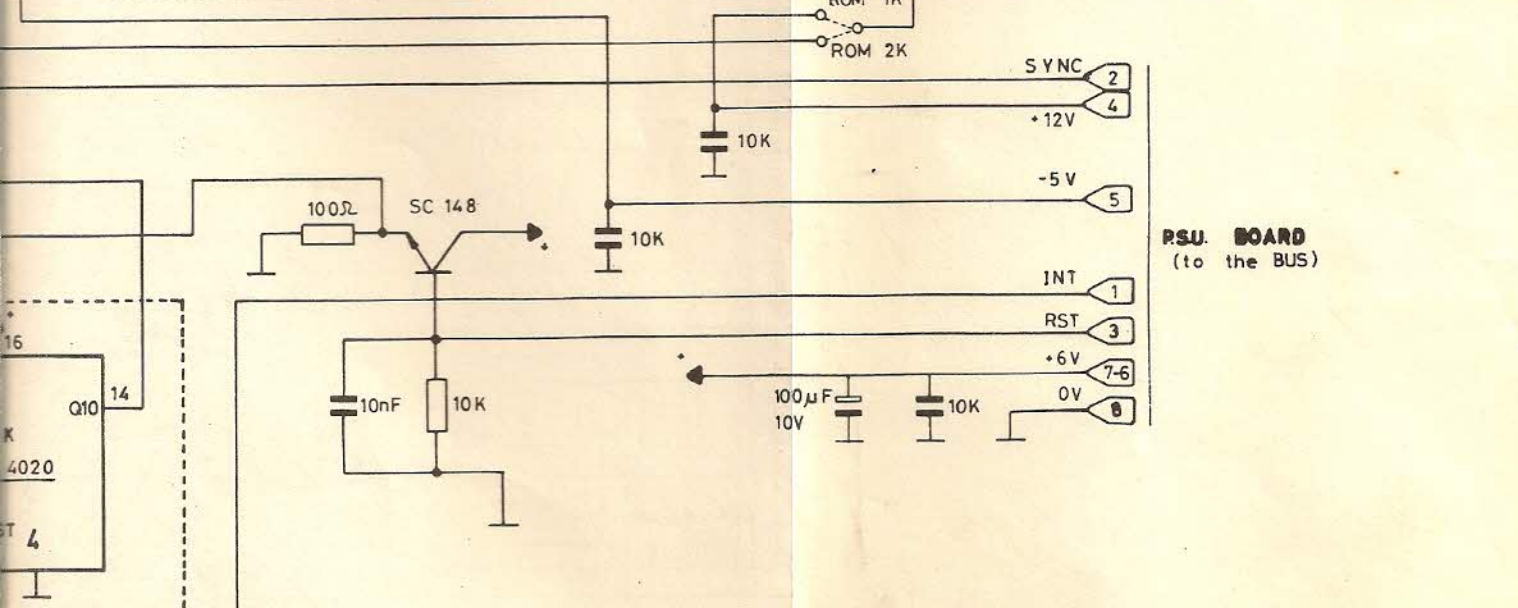
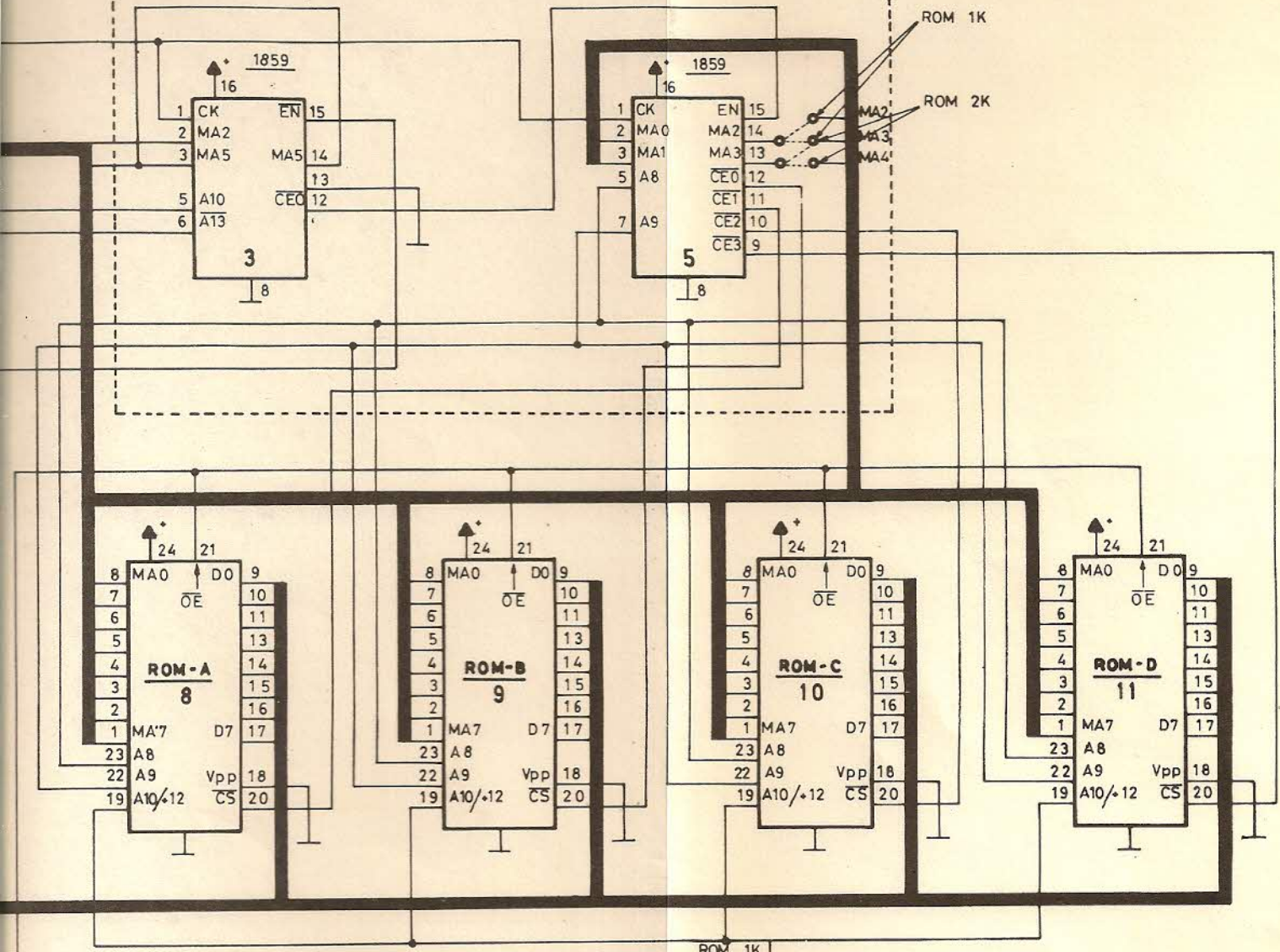




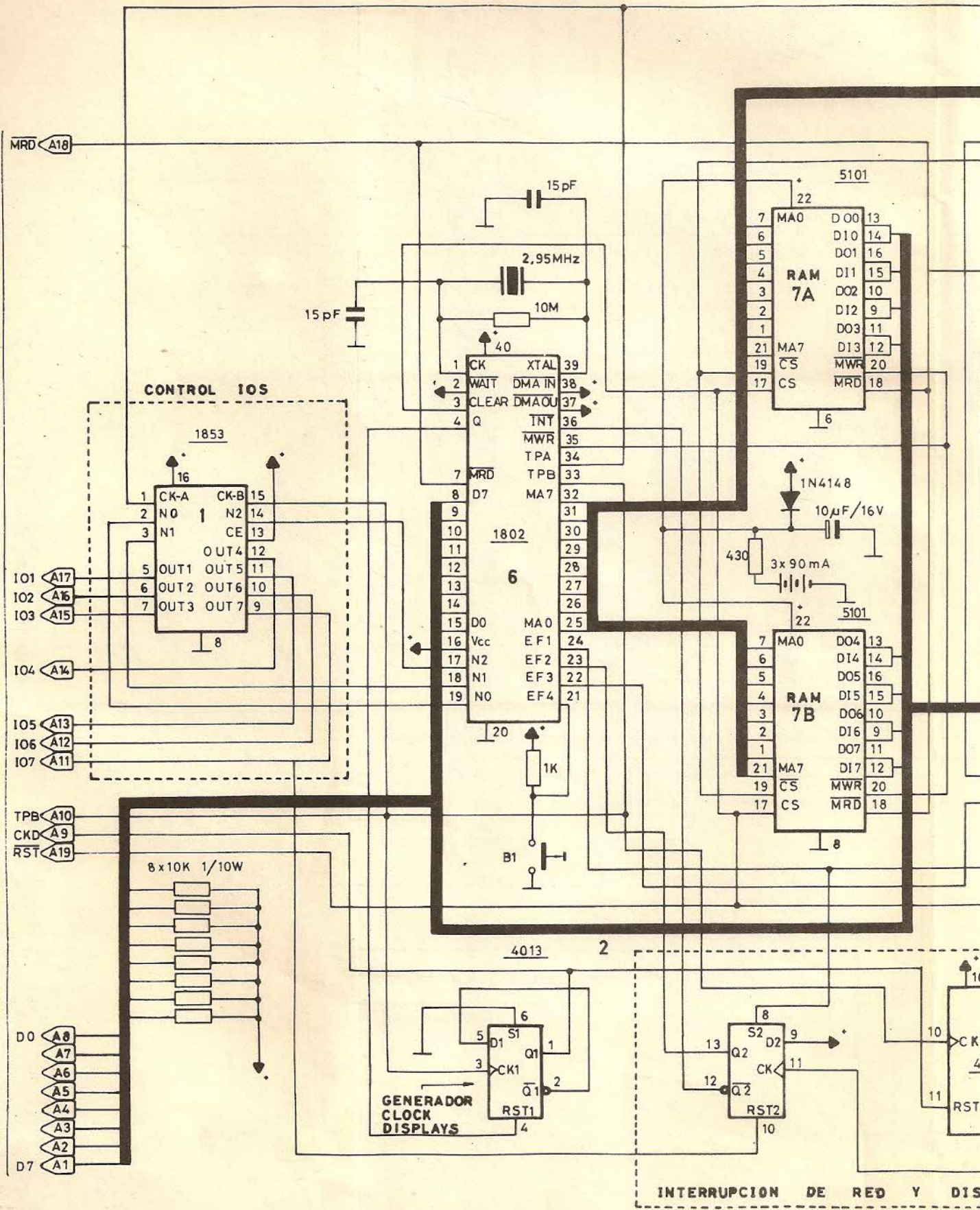
SCHEMES



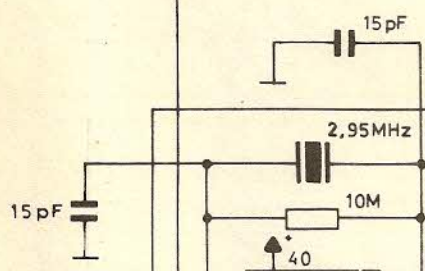
SELECTORES DE ROM Y RAM.



SPLAYS.



MRD A18



CONTROL IOS

1853

IO1 A17

IO2 A16

IO3 A15

IO4 A14

IO5 A13

IO6 A12

IO7 A11

TPB A10

CKD A9

RST A19

8x10K 1/10W

D0 A8

A7

A6

A5

A4

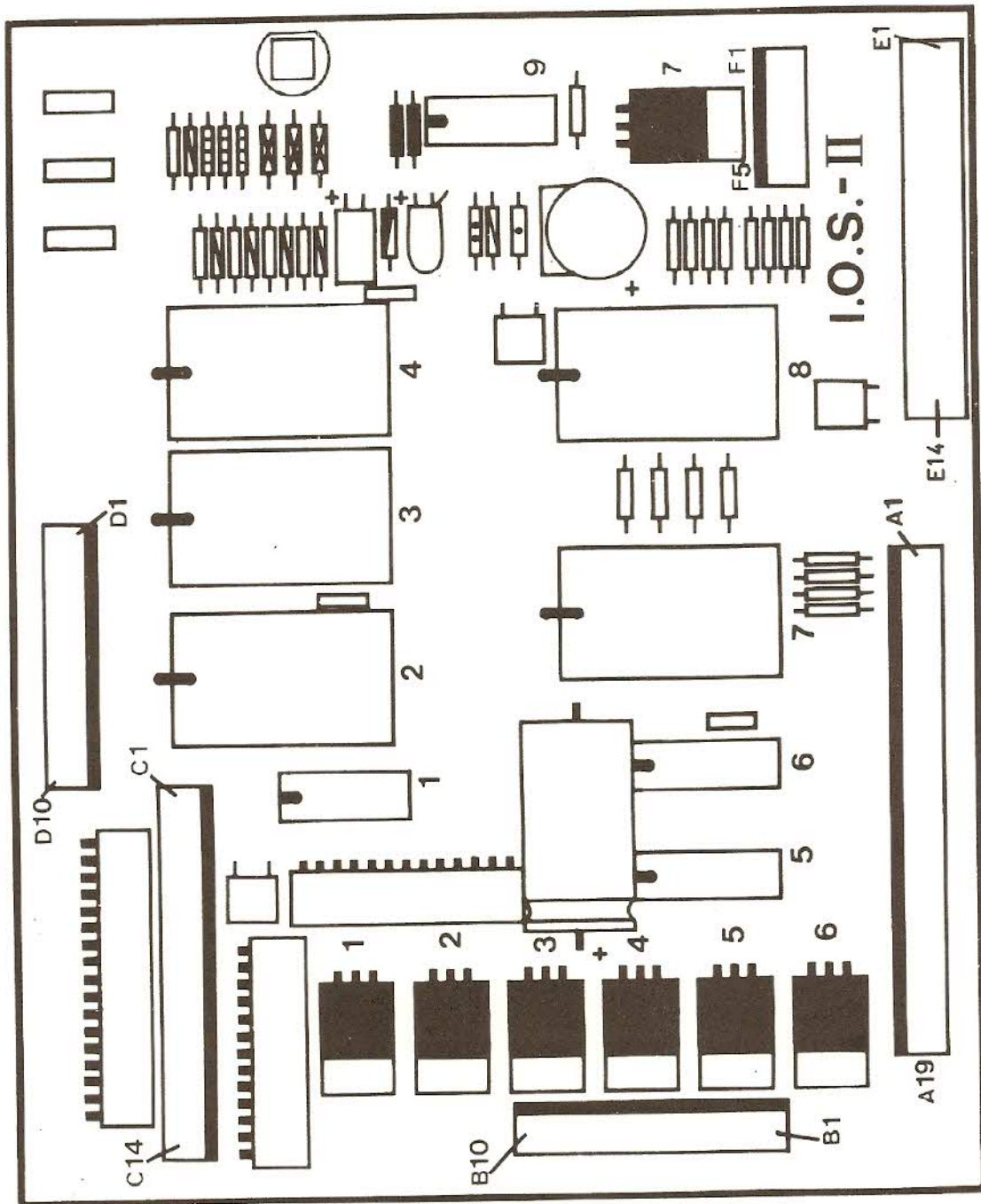
A3

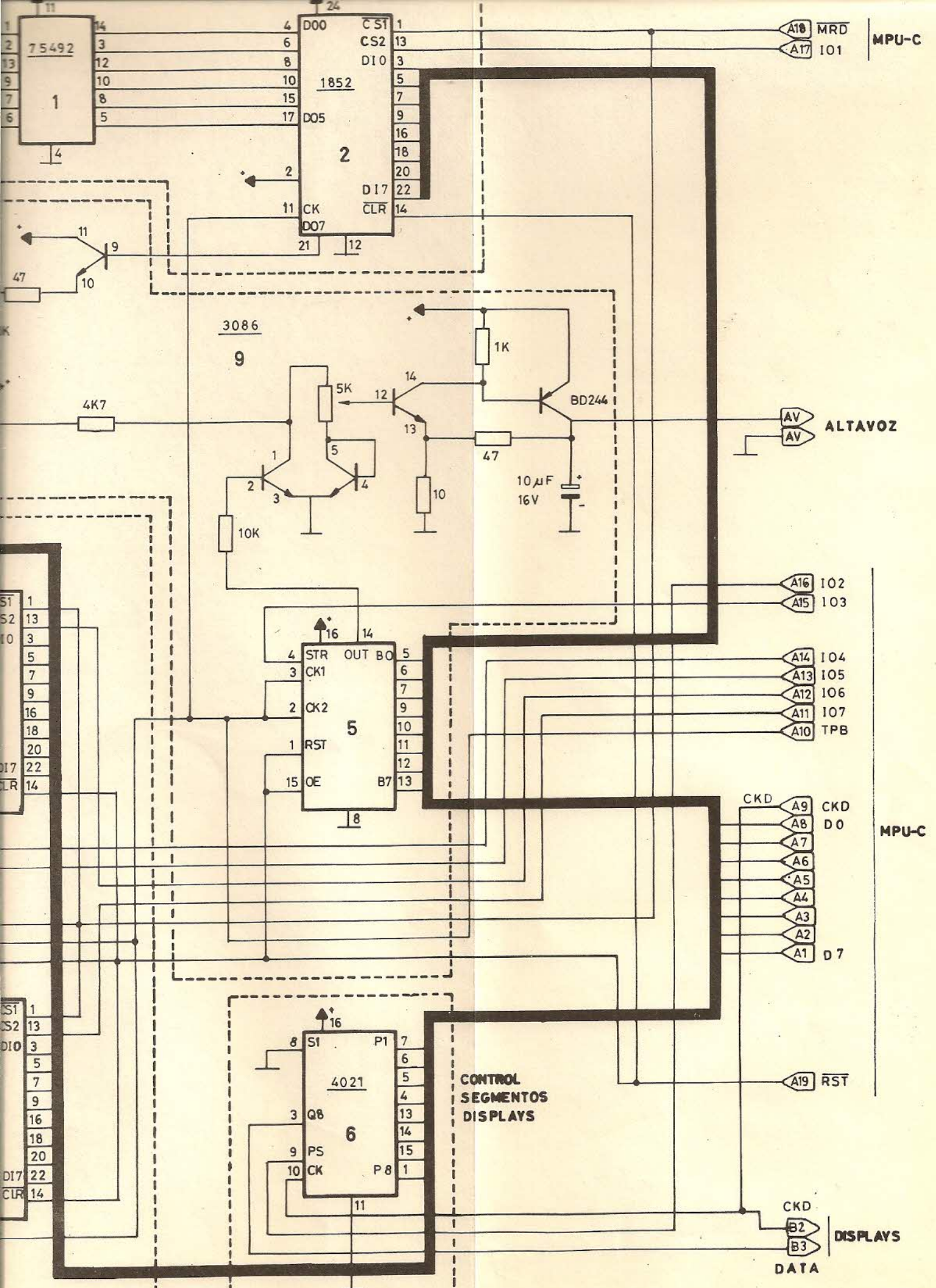
A2

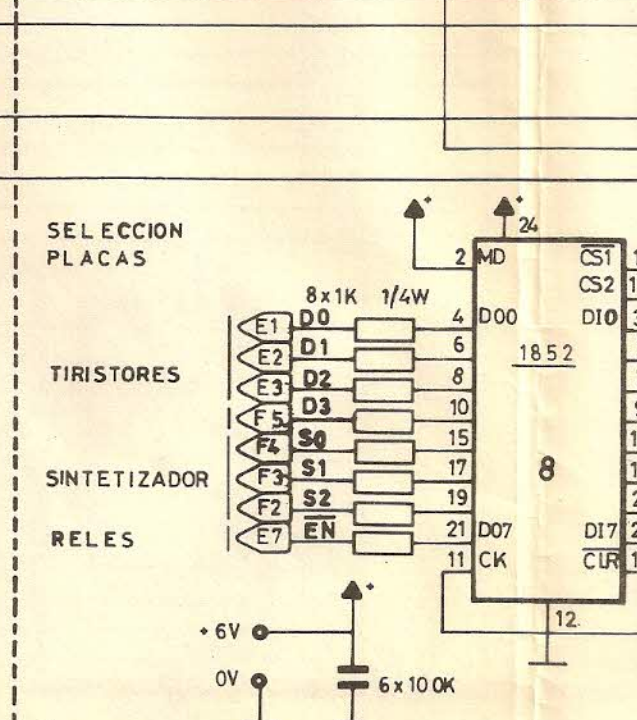
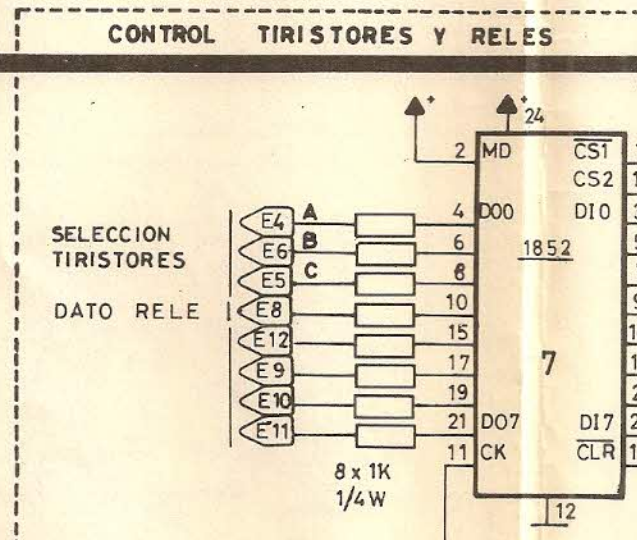
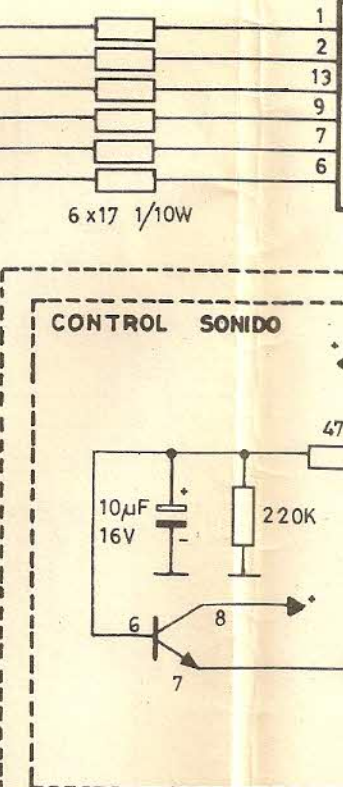
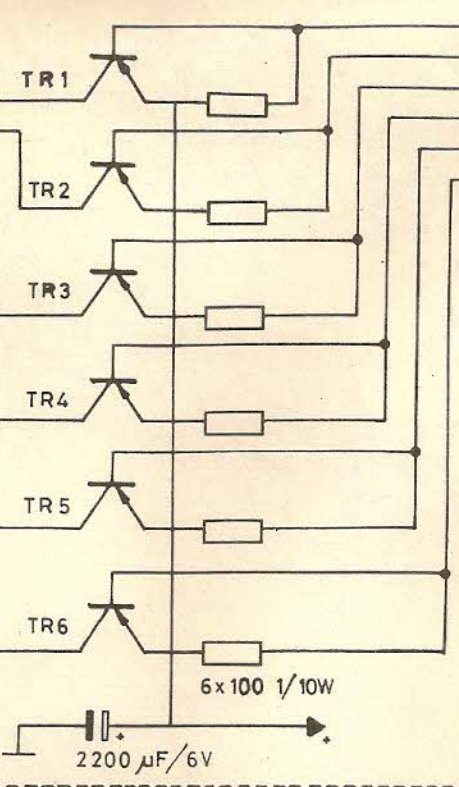
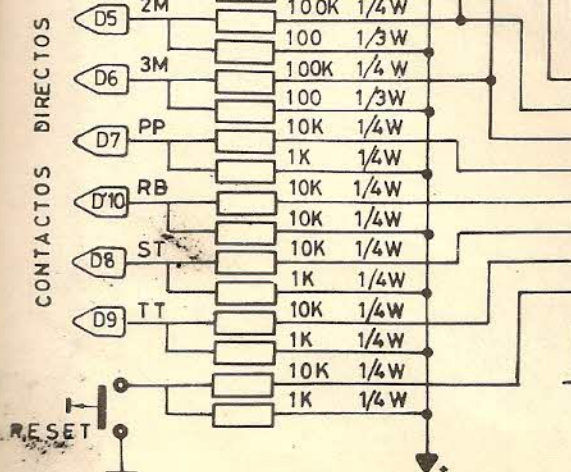
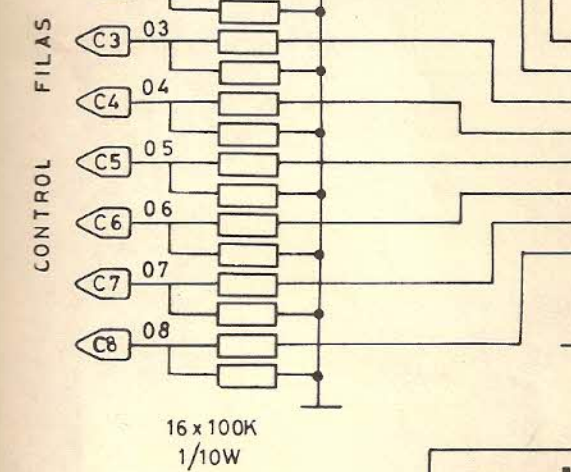
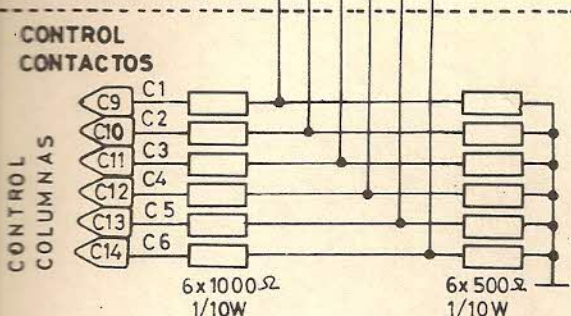
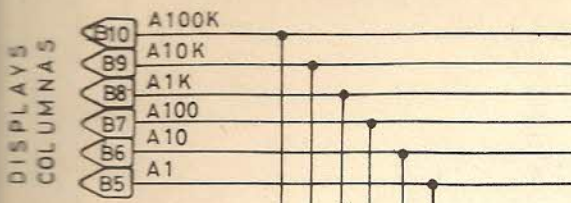
D7 A1

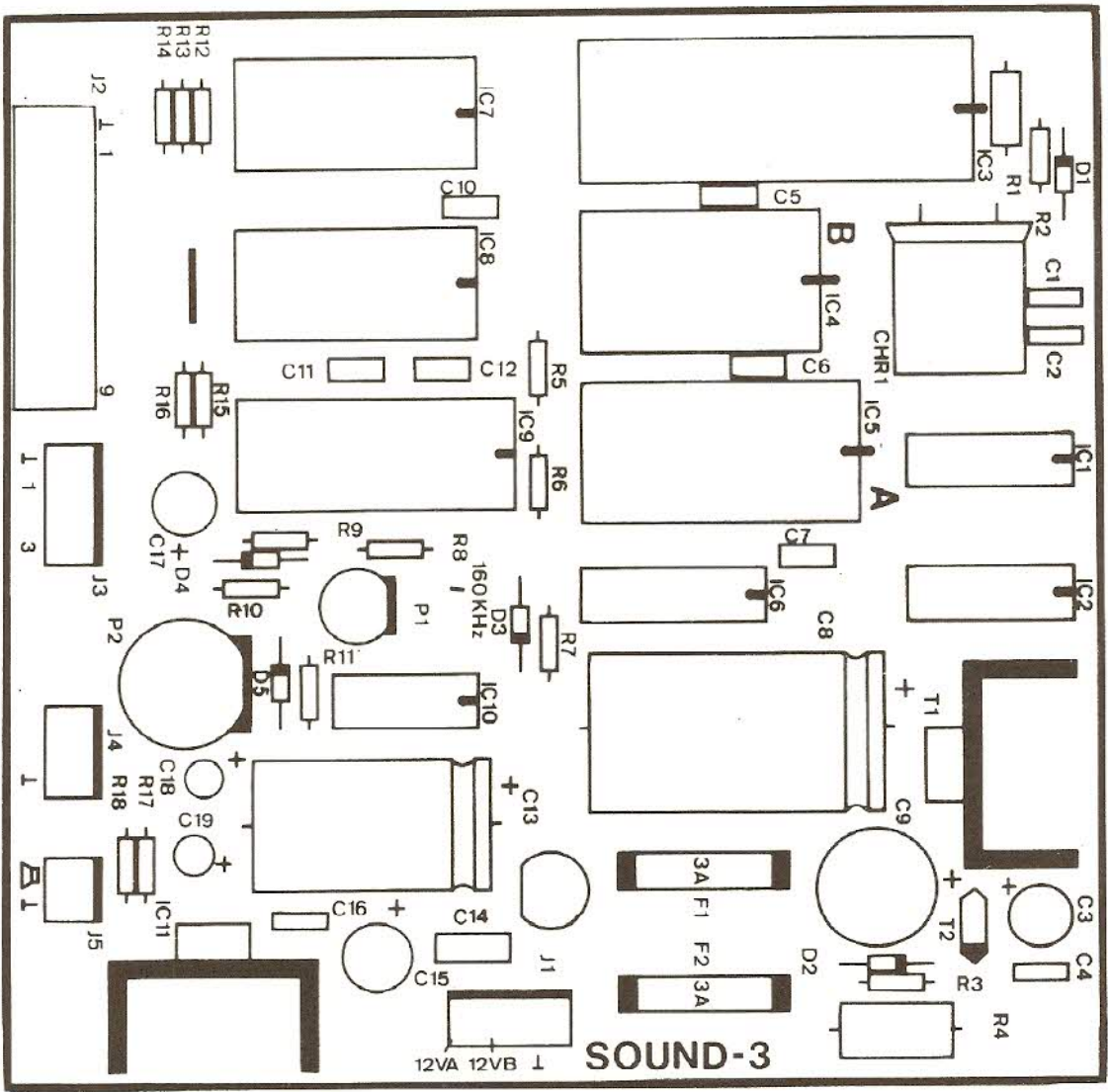
GENERADOR
CLOCK
DISPLAYS

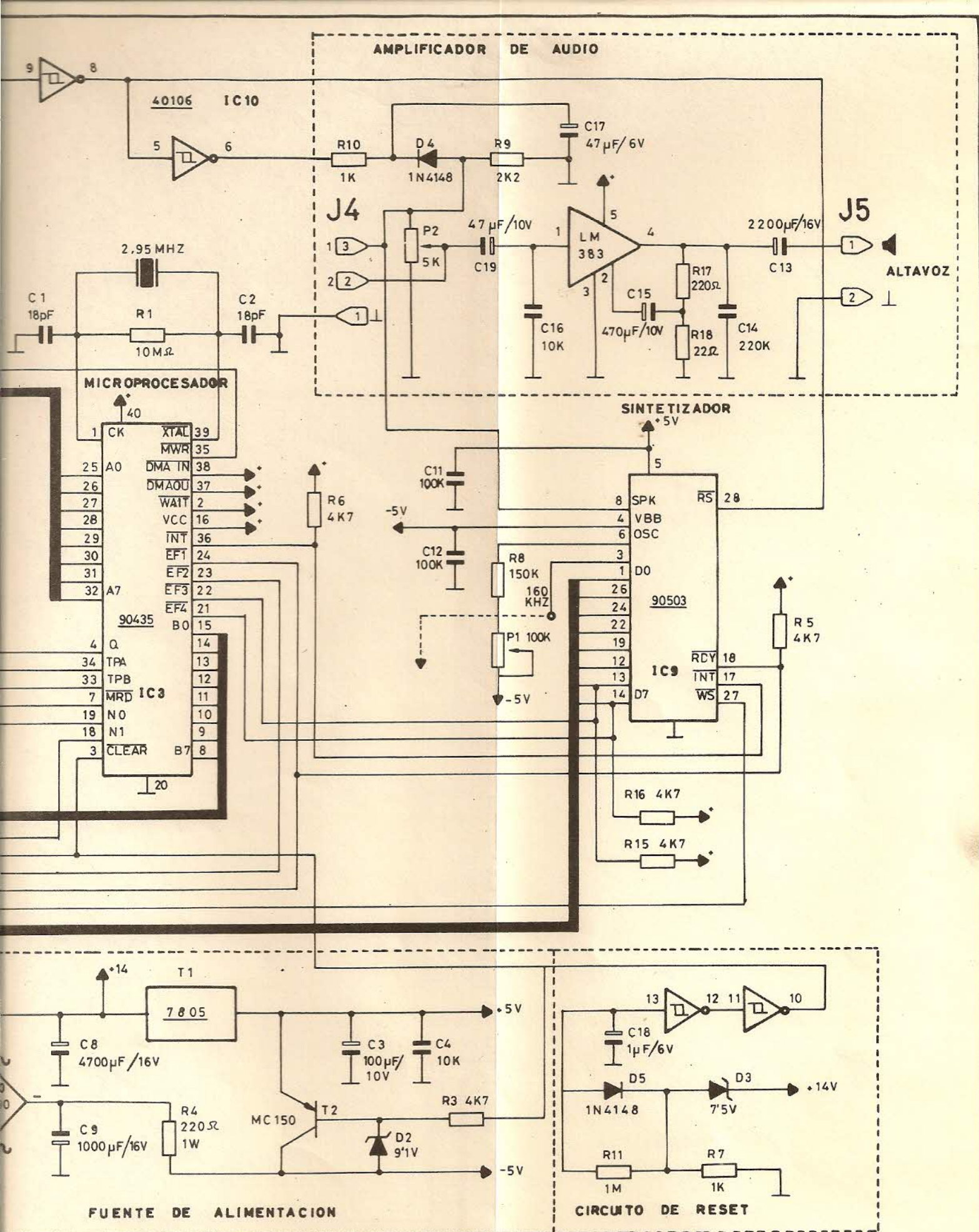
INTERRUPCION DE RED Y DIS



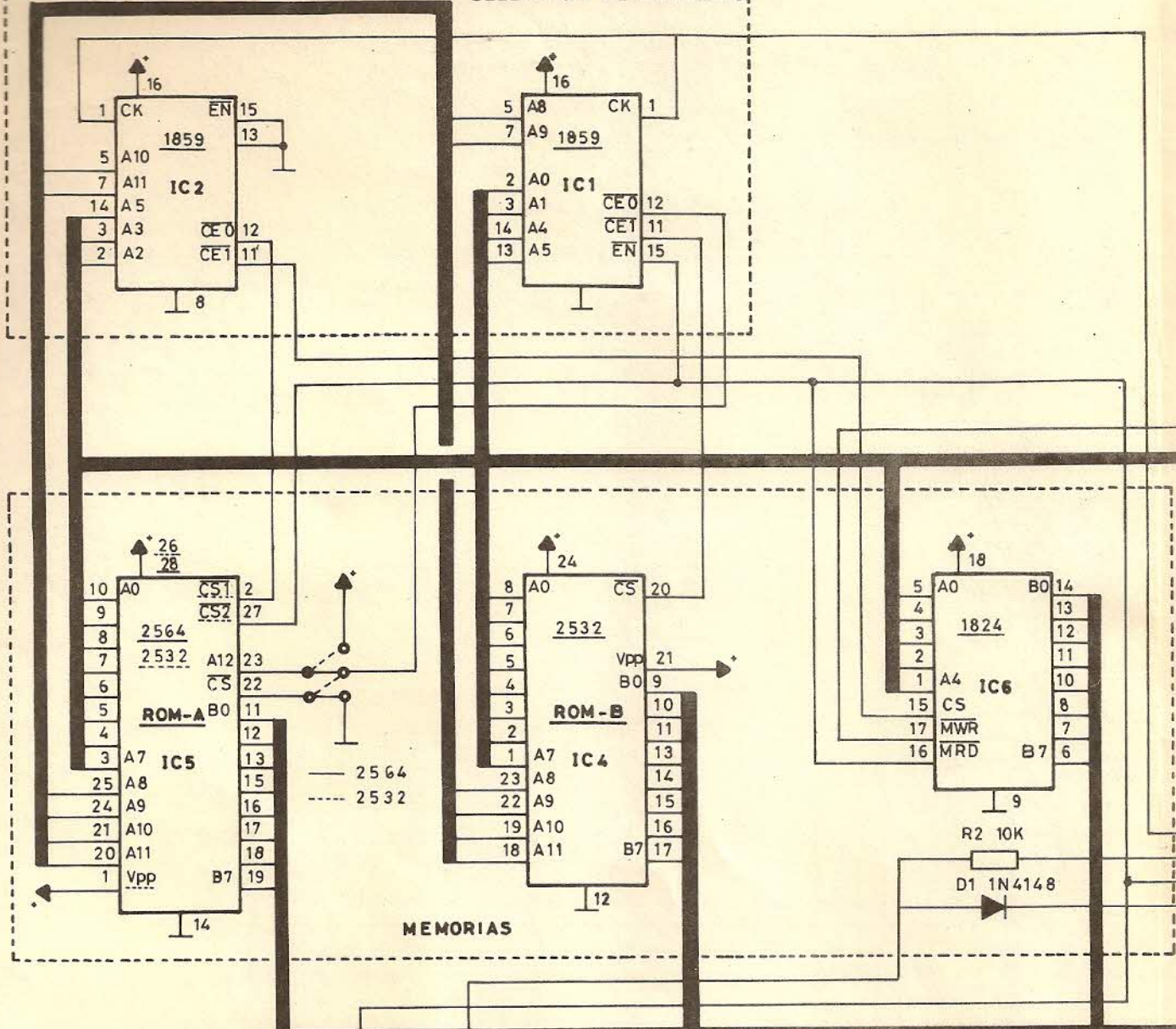






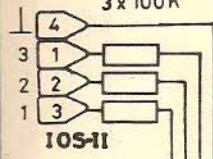


SELECCION DE MEMORIAS



J3 3x100K

ENTRADAS



J2

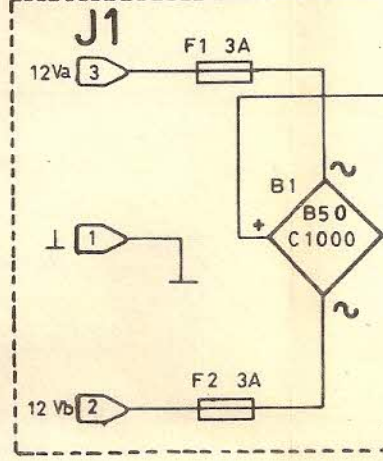
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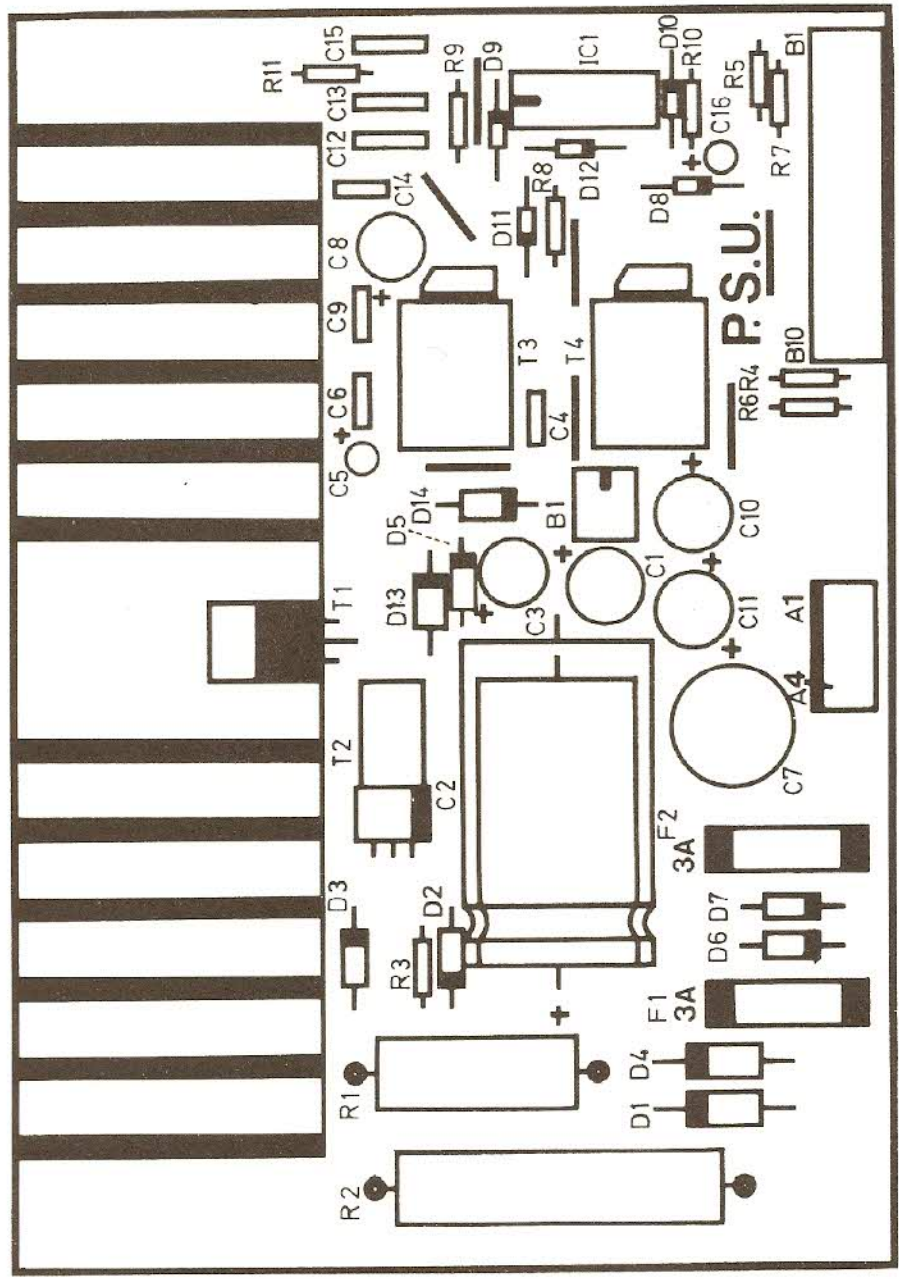


INTERFACE SINTETIZADOR



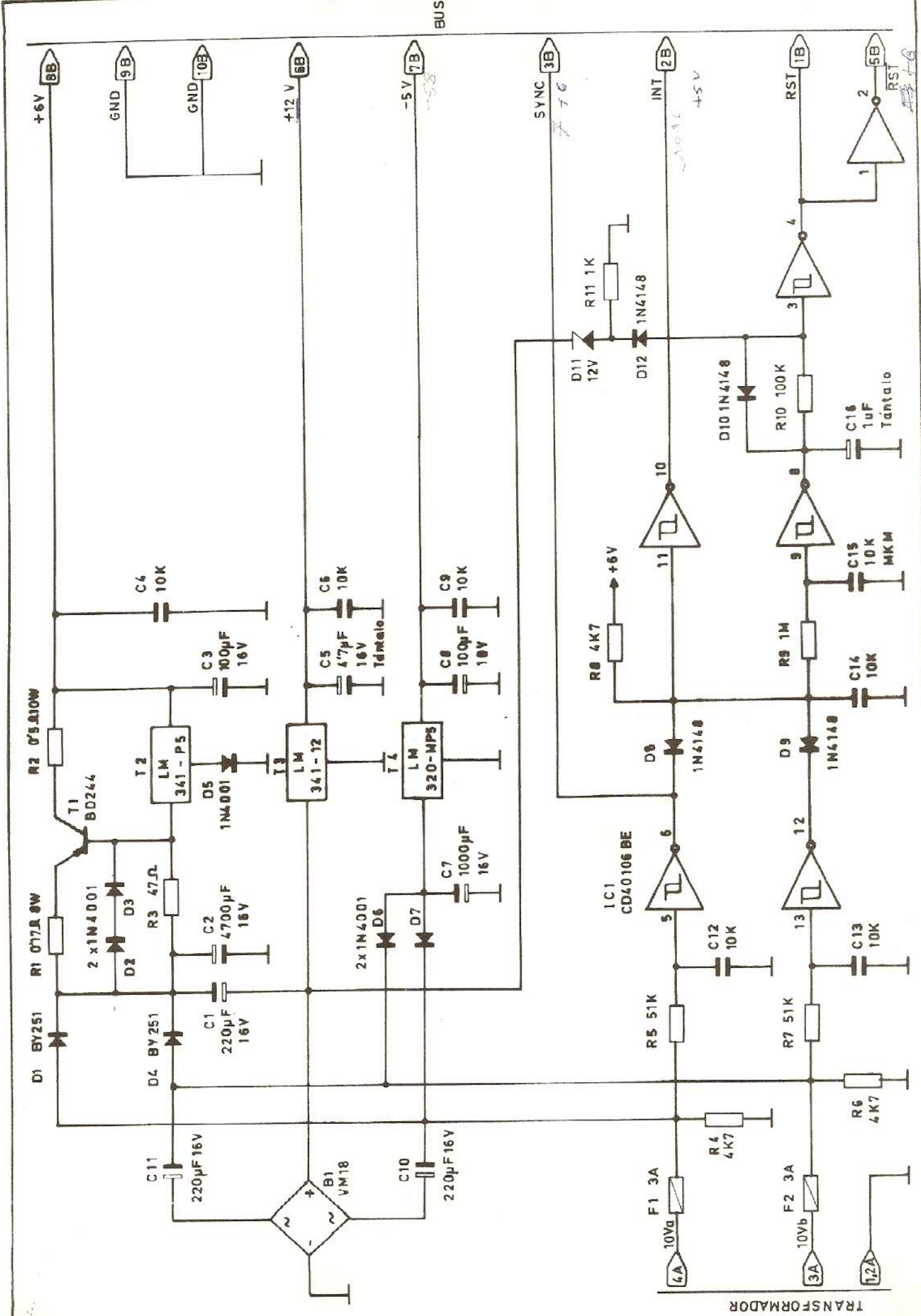
J1





PSU

PROYECTADO : F. YAGO
DIBUJADO : I. MAESTRO

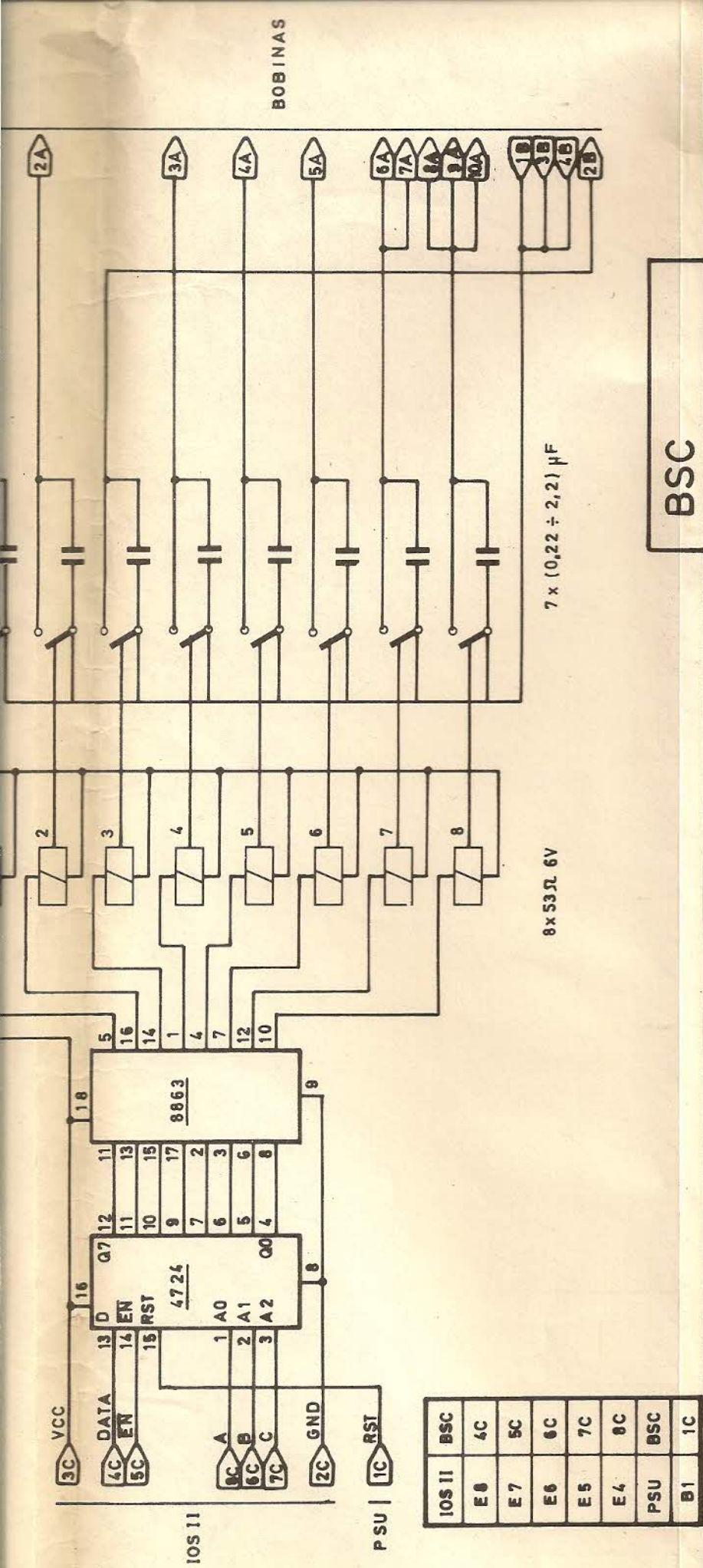


+6V 8B
GND 9B
GND 10B
+12V 6B
-5V 7B

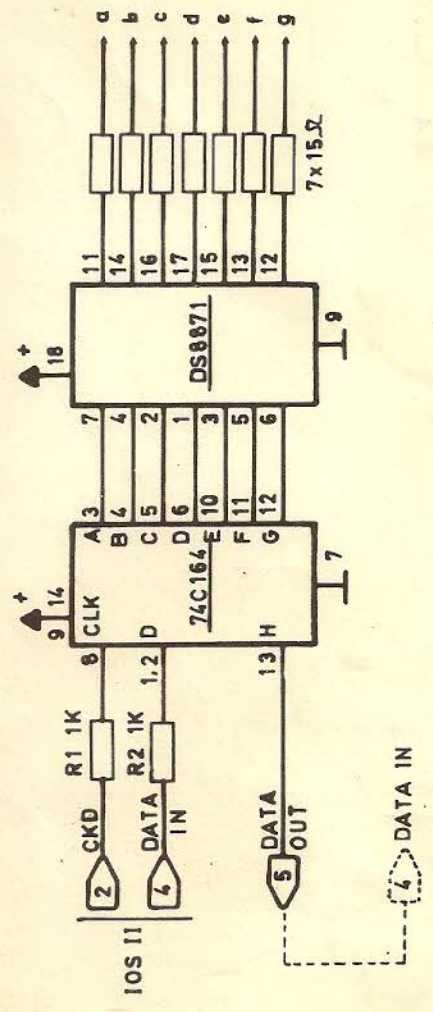
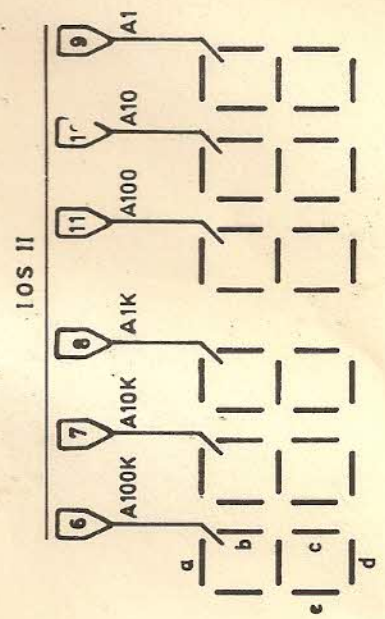
BUS

TRANSFORMADOR

PROYECTADO : F. YAGO
DIBUJADO : I. MAESTRO

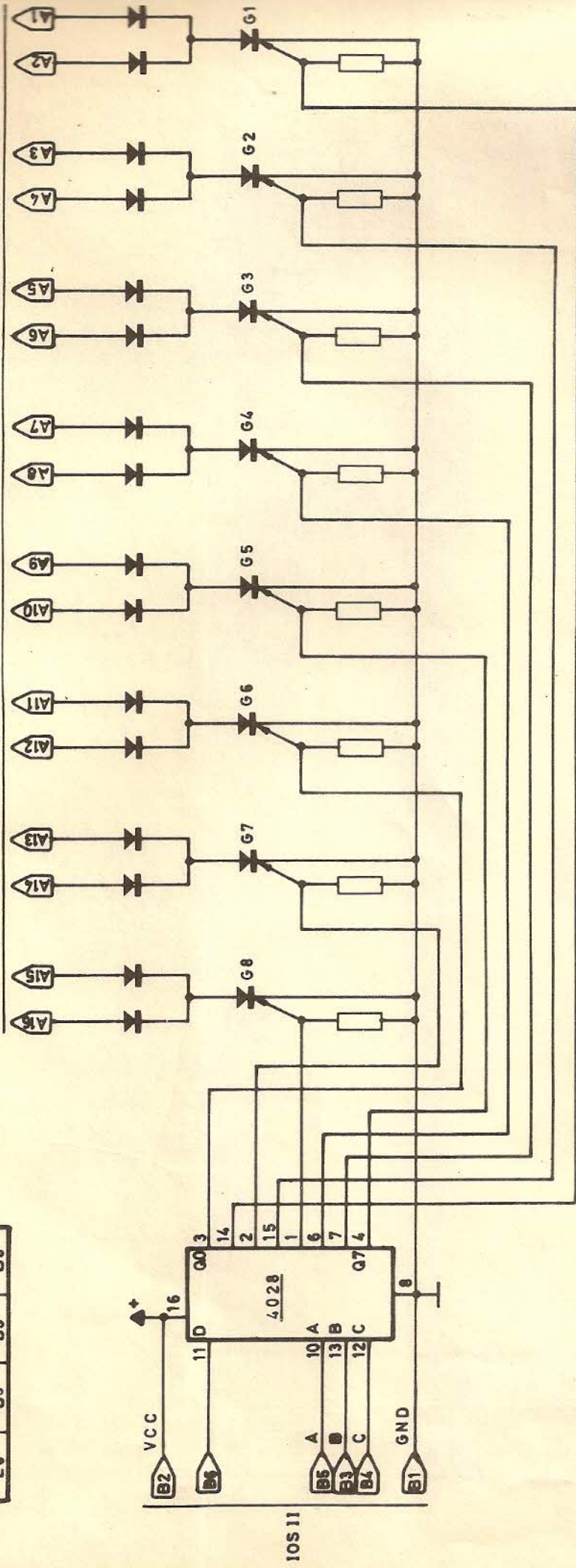


IO S II	DPY
B 10	6
B 9	7
B 8	8
B 7	11
B 6	10
B 5	9
B 3	4
B 2	2



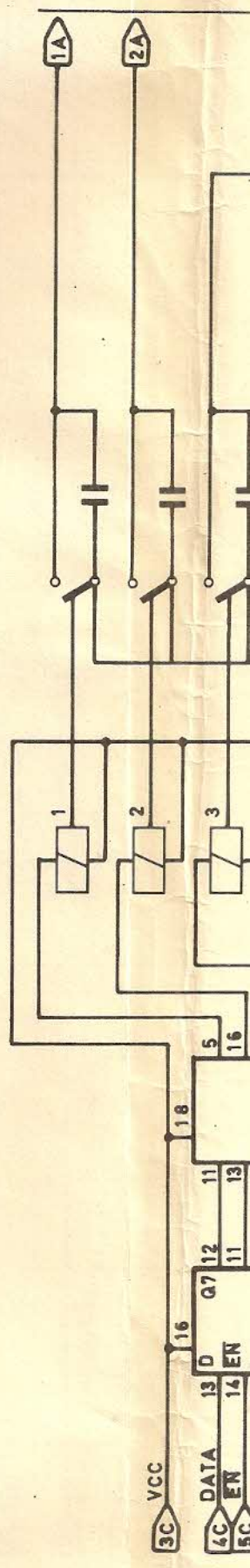
IOS II	BCL A	BCL B	BCL C
E1	B6	—	—
E2	—	B6	—
E3	—	—	B6
E4	B5	B5	B5
E5	B4	B4	B4
E6	B3	B3	B3

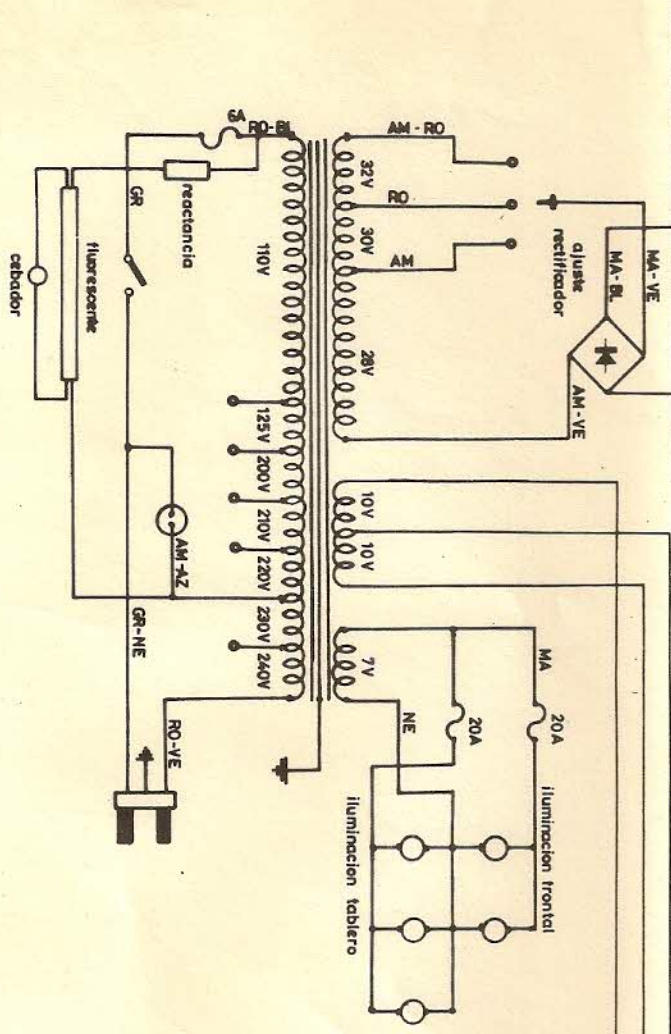
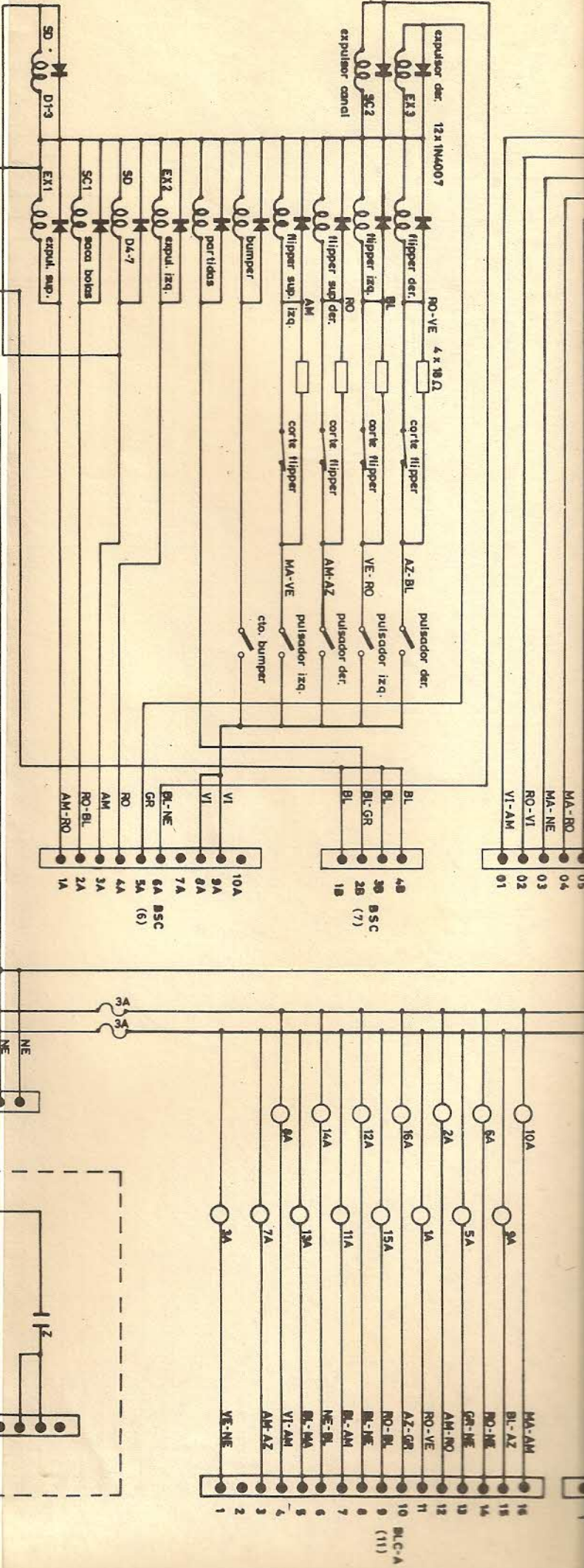
BOMBILLAS



16 x 1N4001 8 x C106F 8 x 430 Ω

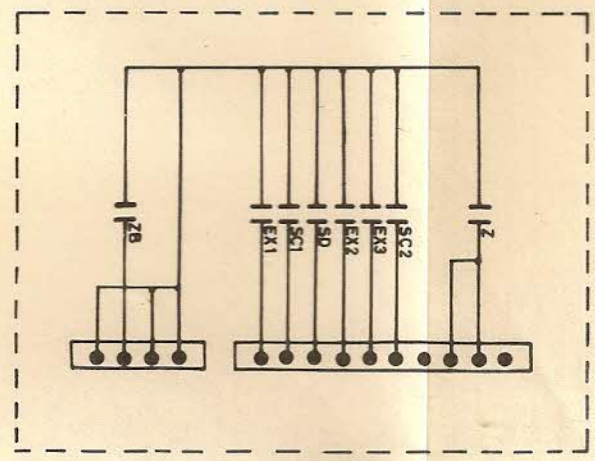
BCL



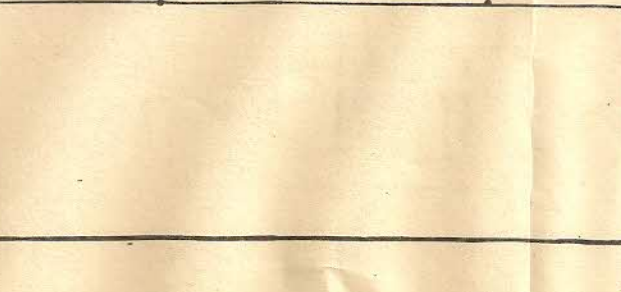
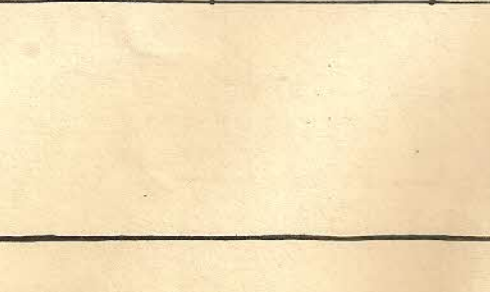
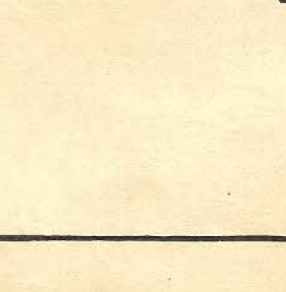
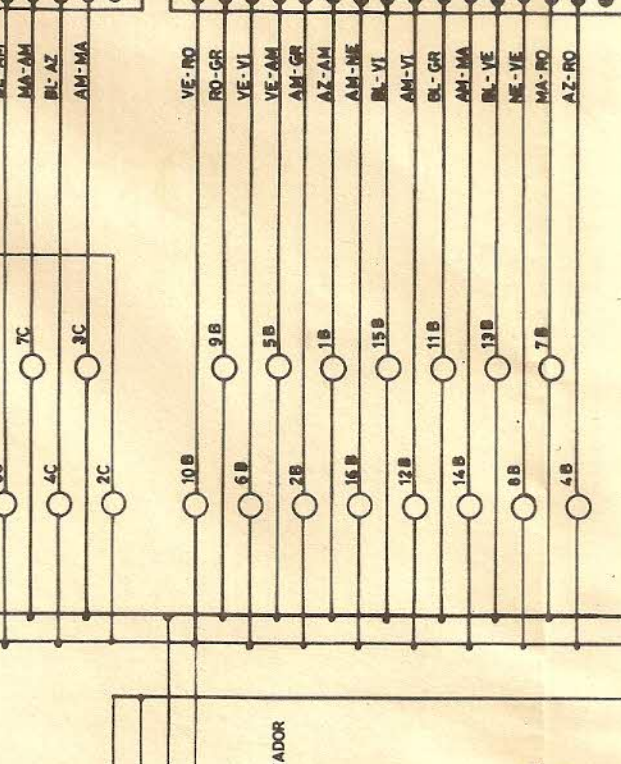
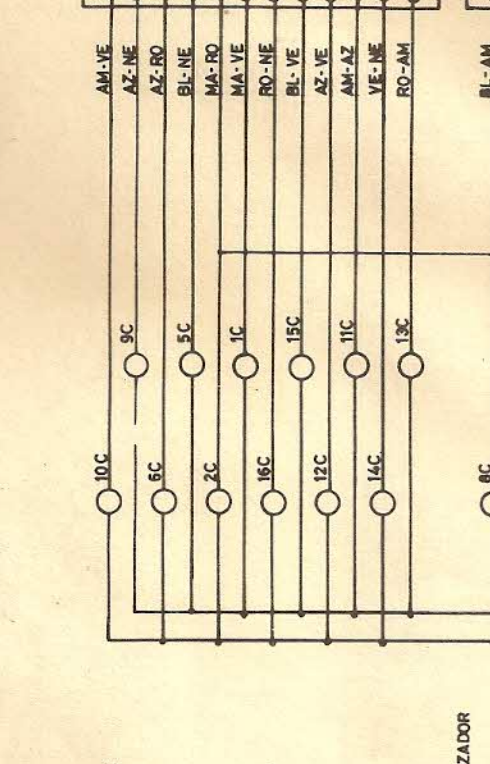
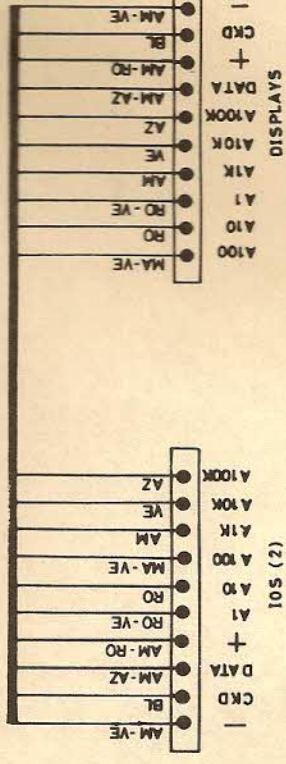
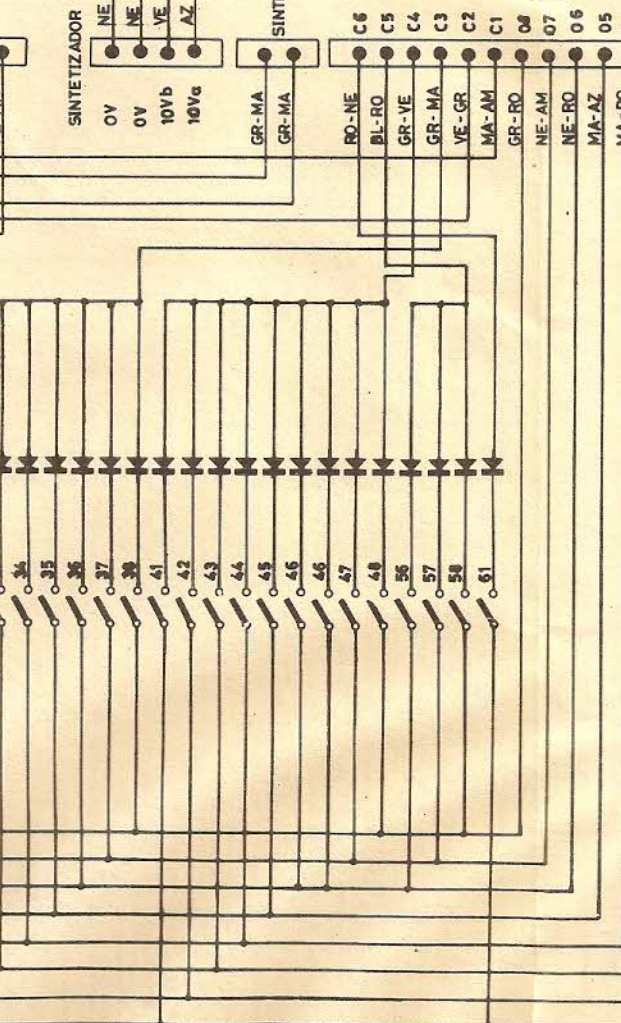
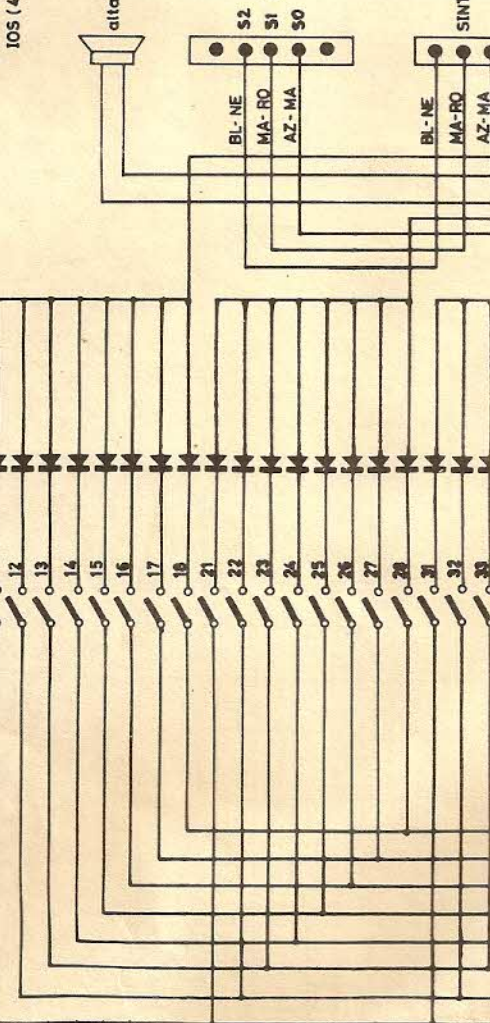
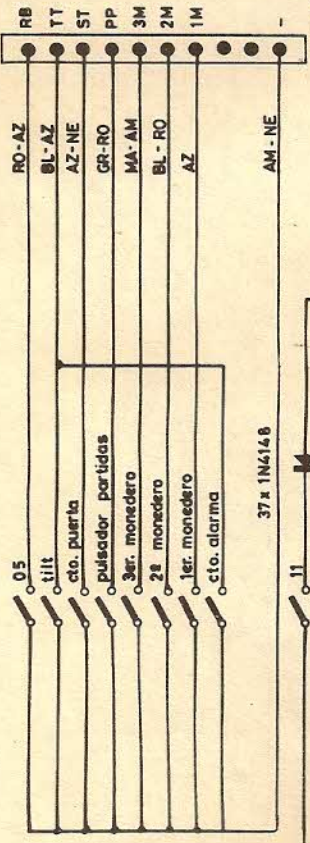


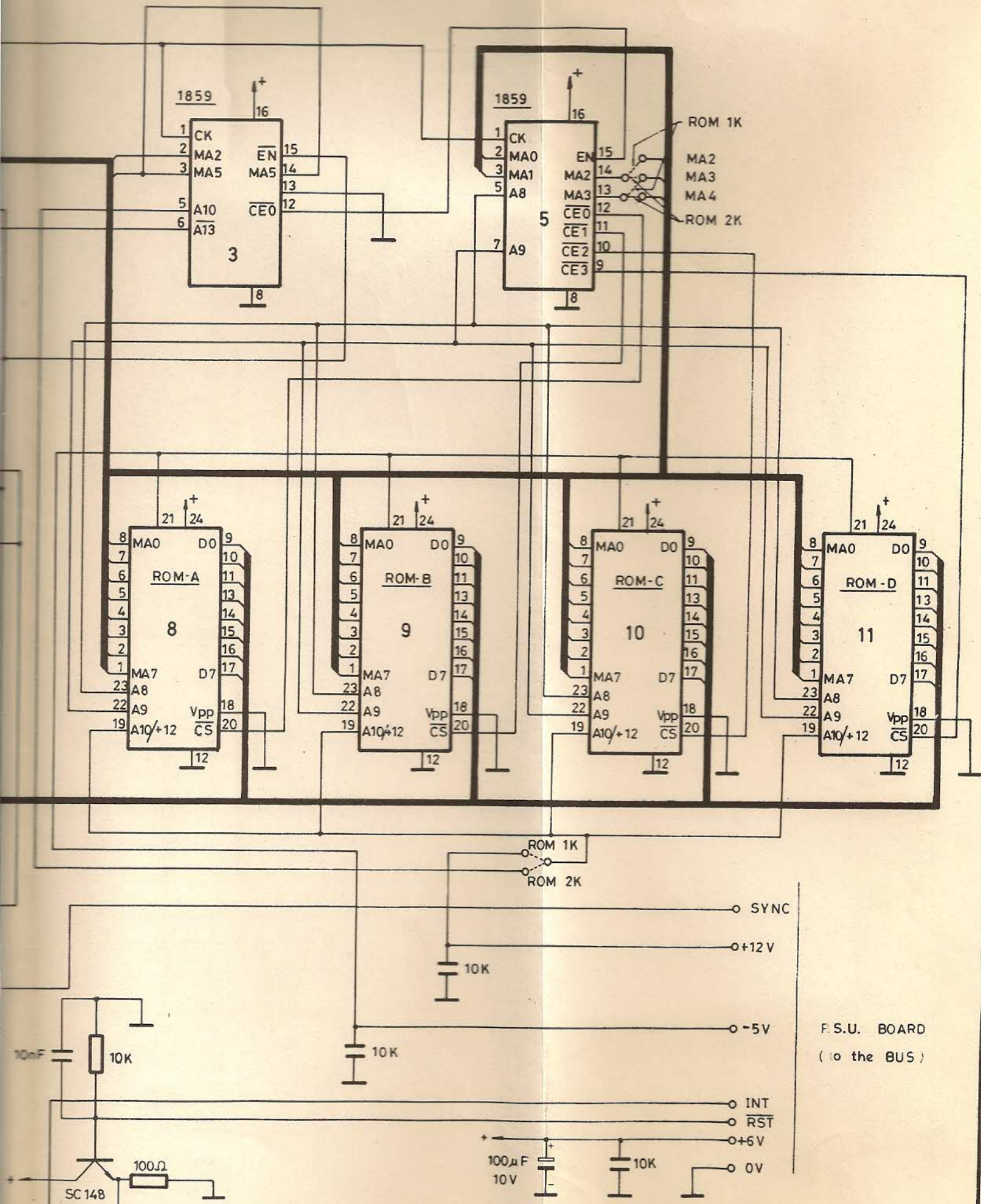
CERBERUS
 solid state system
 P.L.AVMATIC S.A.
 c/ Tucumán 26-28
 telf: 345 85 04.
 tel: 53912 P.L.AV E
 BARCELONA (ESPAÑA)

BOBINAS	
saca bolas	AC-1484
partidas	AC-763
expulsor canal	AC-1005
D1-3	AC-1405
D4-7	AC-1405
bumpers	AC-2057
flippers	AC-2060
expulsor	AC-2061
expulsor vertical	AC-2068



BL-C-A
 9 (11)

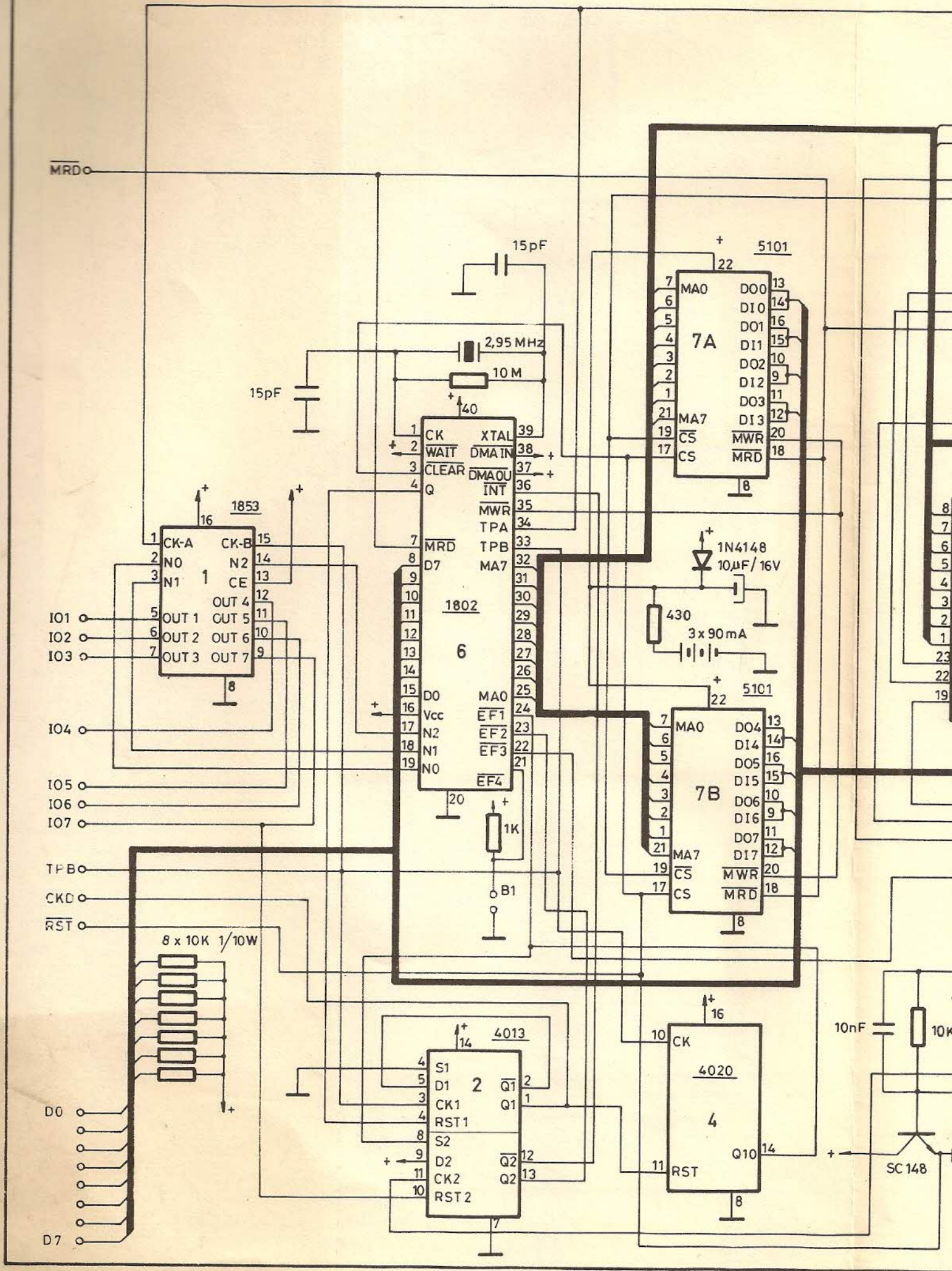




playmatic s.a.

PIN-BALL MACHINE
MPU-C board

DIBUJADO *Raynaud*
COMPROBADO



MRDO

15pF

2,95 MHz

10 M

15pF

5101

7A

MA0

MA7

CS

CS

DO0

DI0

DO1

DI1

DO2

DI2

DO3

DI3

MWR

MRD

8

1N4148

10µF/16V

430

3 x 90mA

5101

7B

MA0

MA7

CS

CS

DO4

DI4

DO5

DI5

DO6

DI6

DO7

DI7

MWR

MRD

8

I01

I02

I03

I04

I05

I06

I07

TPBO

CKD

RST

1853

CK-A

NO

N1

OUT 1

OUT 2

OUT 3

CK-B

N2

CE

OUT 4

OUT 5

OUT 6

OUT 7

1802

D7

MA7

DO

Vcc

N2

N1

NO

MA0

EF1

EF2

EF3

EF4

20

1K

B1

4013

S1

D1

CK1

RST1

S2

D2

CK2

RST2

4020

CK

RST

Q10

8

10nF

10K

SC148

8 x 10K 1/10W

D0

D1

D2

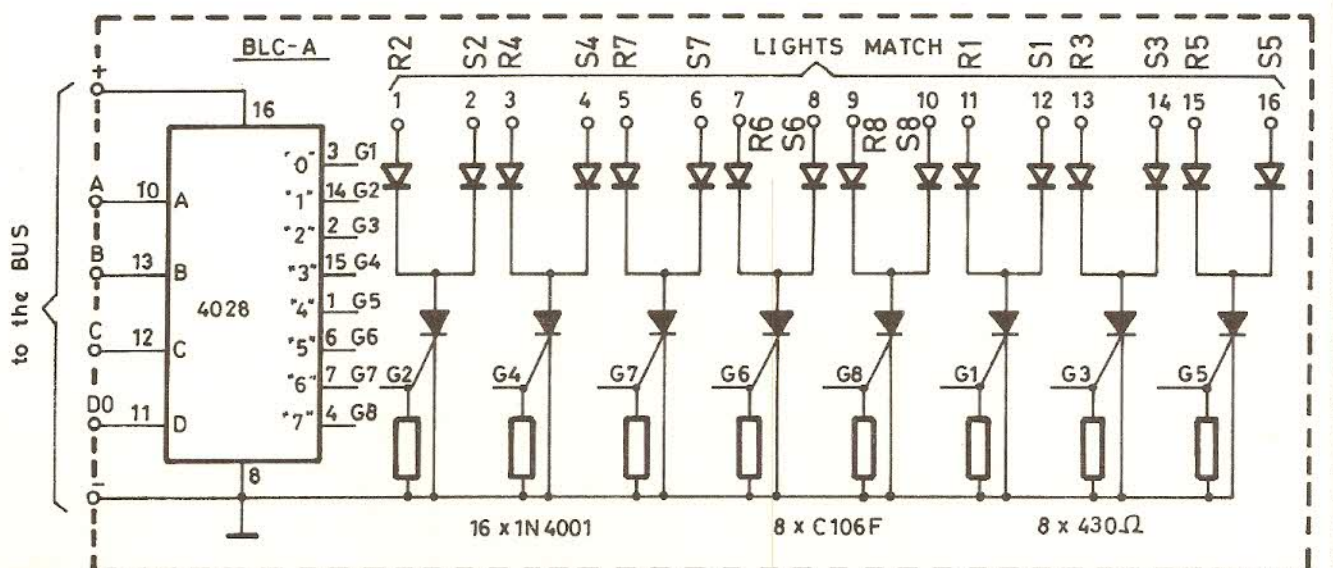
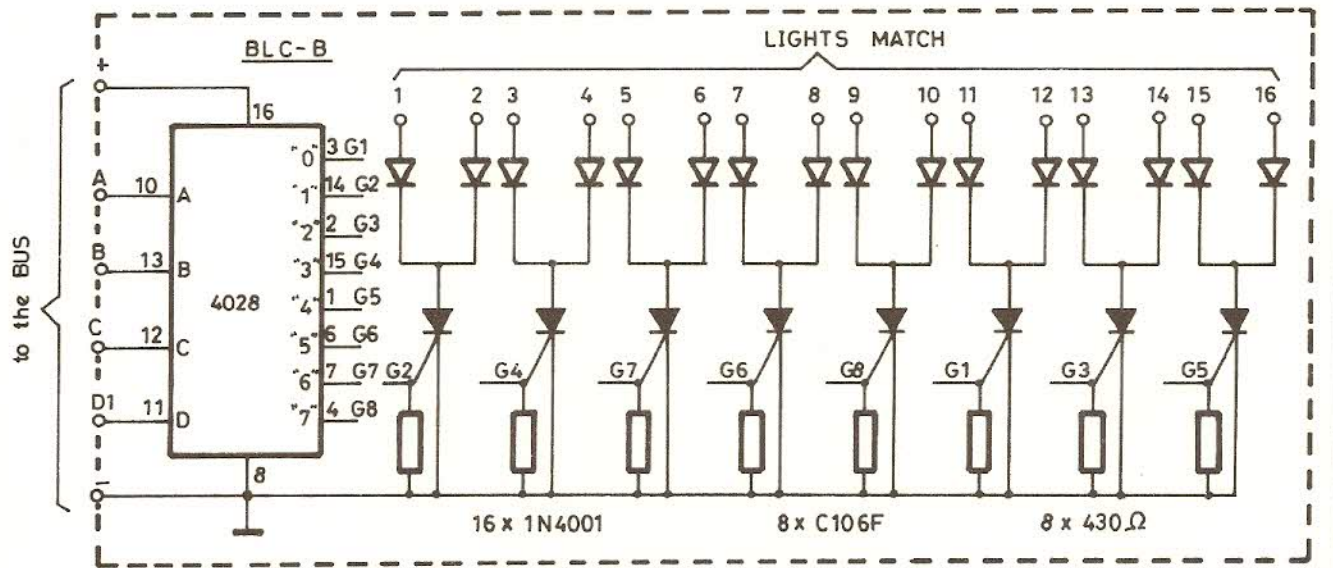
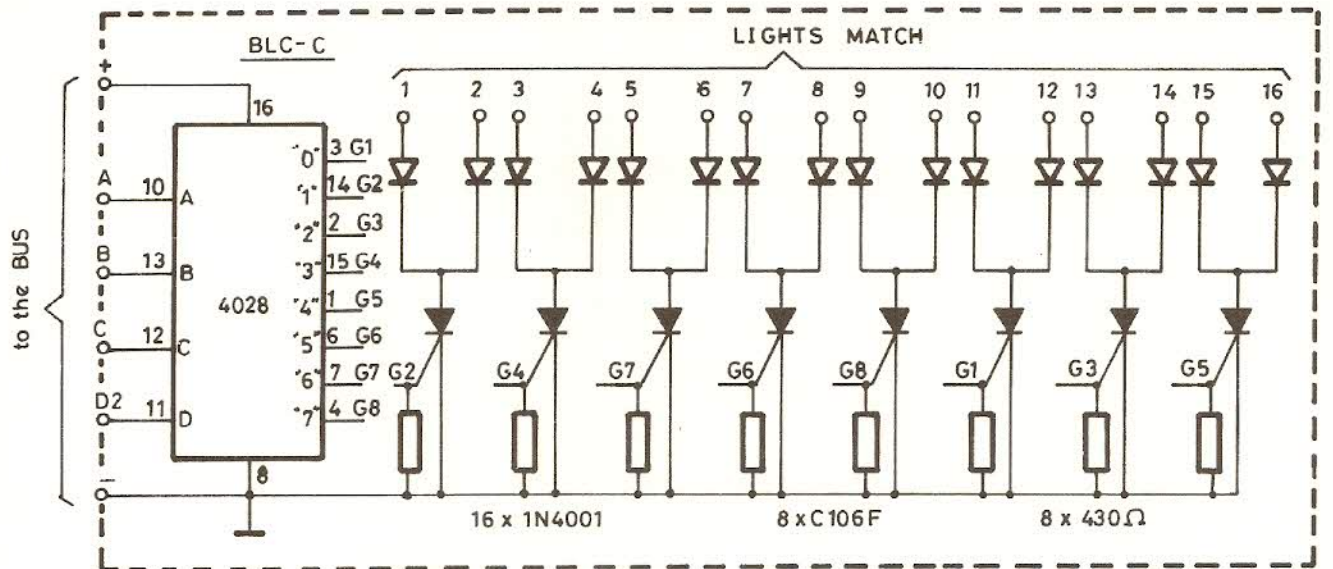
D3

D4

D5

D6

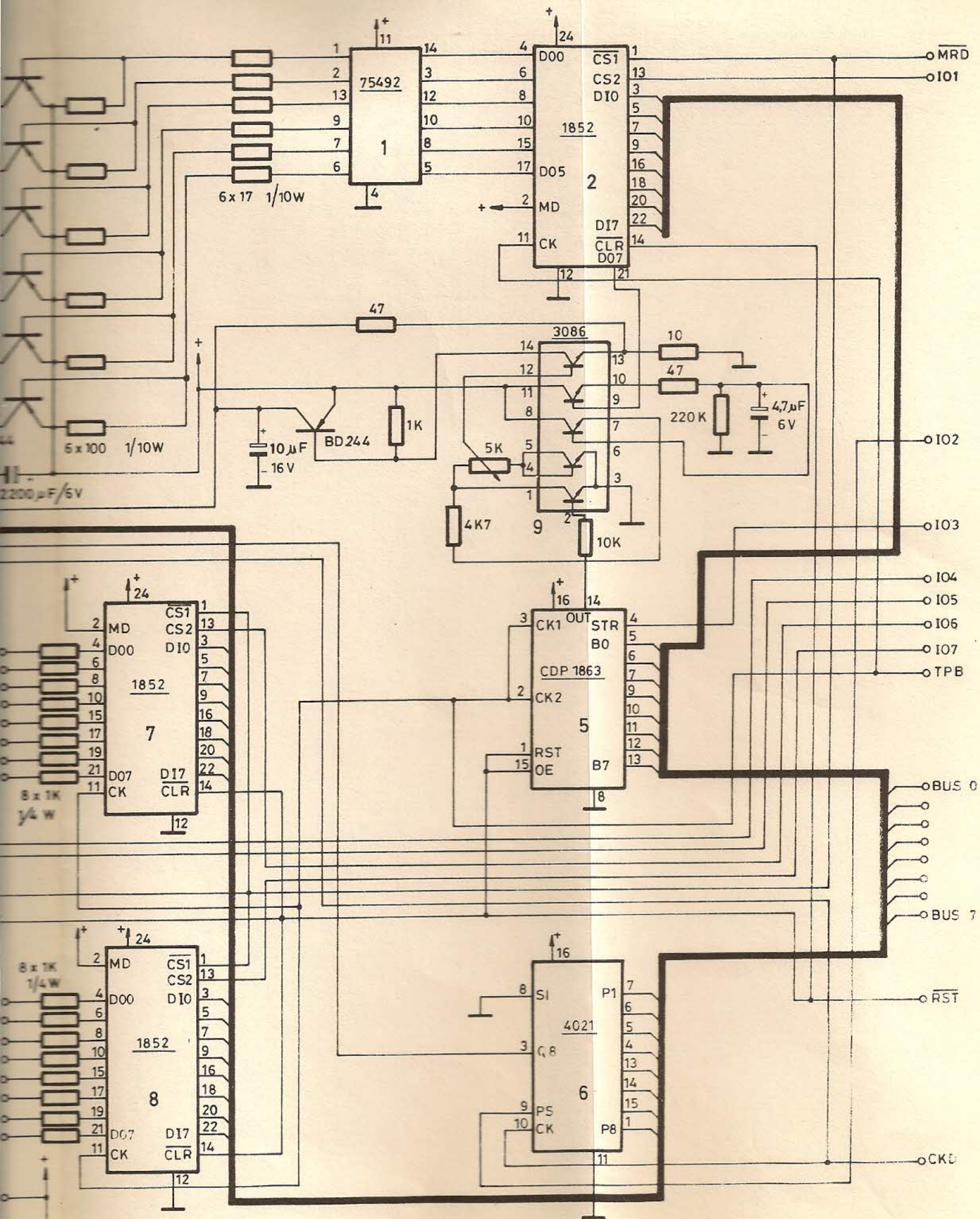
D7



playmatic s.a.

PIN-BALL MACHINE
B.L.C. board (A,B,C)

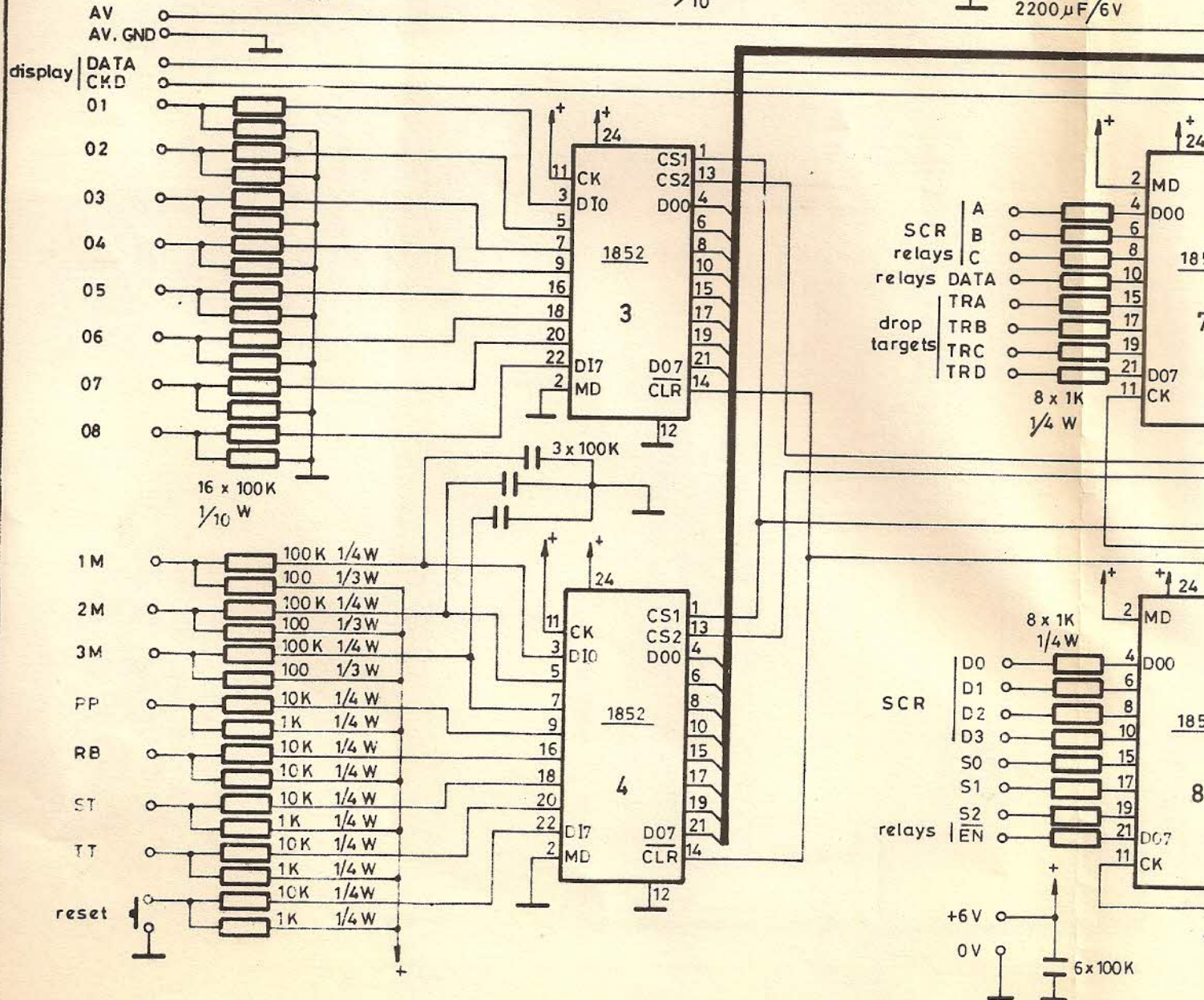
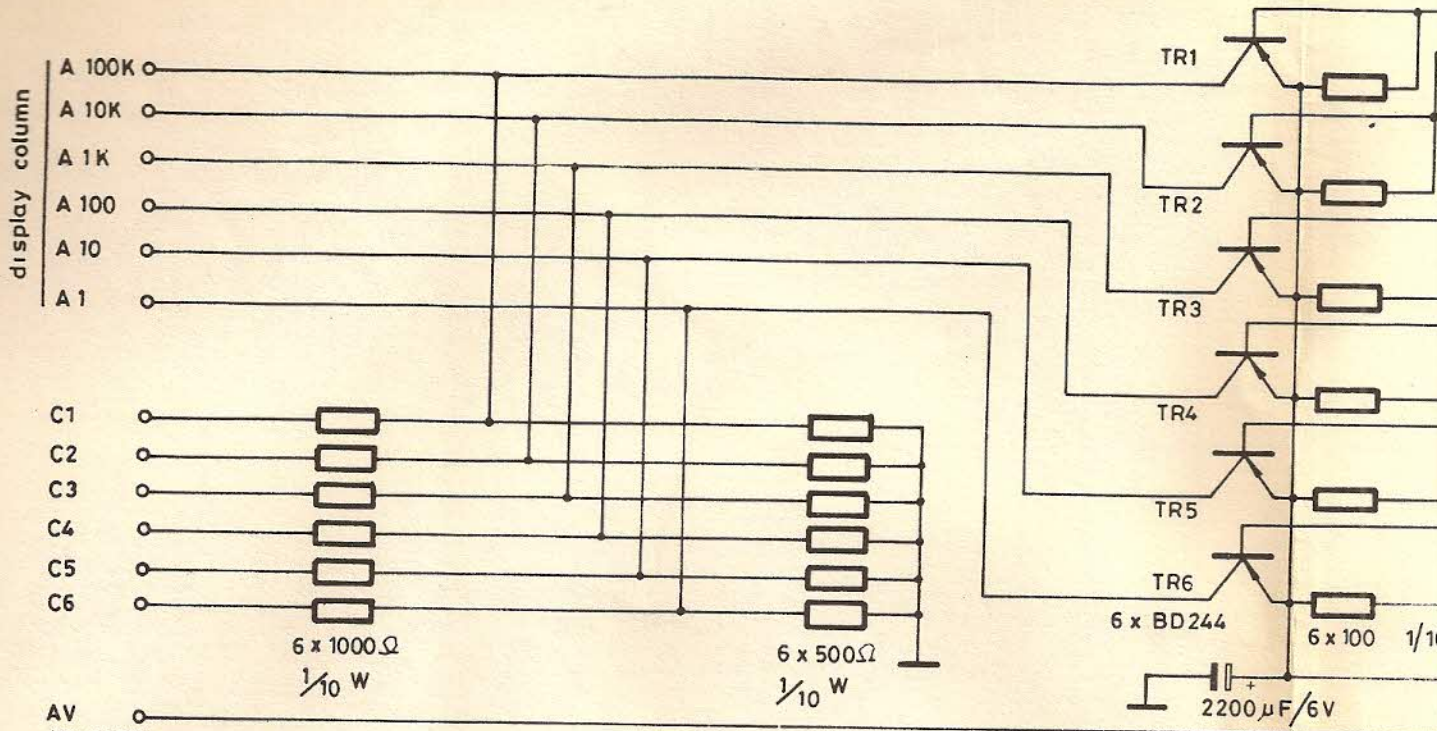
DIBUJADO *Ferrando*
COMPROBADO



playmatic s.a.

PIN-BALL MACHINE
IOS - II

DIBUJADO *Treva*
COMPROBADO



playmatic sa
TUCUMAN, 26 - 28
TELEF. 345 85 04
Dir. Teleg. PLAYMATIC
BARCELONA - 30

