

**ELECTRICAL DIAGRAMS**

**TIME  
MACHINE**



**ZACCARIA®**

## LIST OF ILLUSTRATIONS

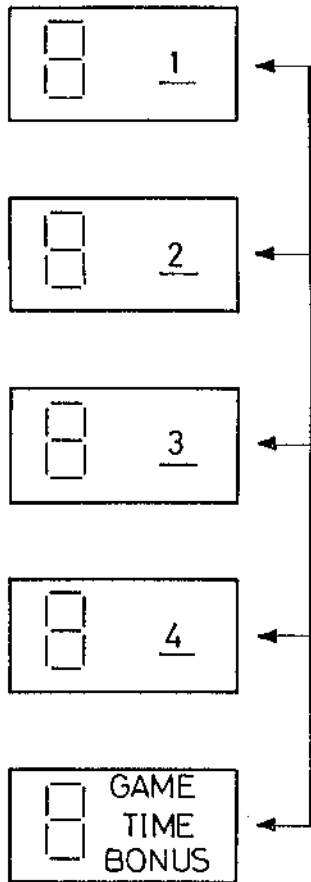
Block diagram	
Assembly drawing	
Power wiring	
Layout Diagram	} C.P.U.
Diagram	
Layout Diagram	} Interface
Diagram	
Layout Diagram	} Power
Diagram	
Layout Diagram	} Display driver
Diagram	
Layout Diagram	} Sound & Speech
Diagram	
Playfield contacts wiring	
Coils wiring	
Playfield & head lamps wiring	
Cabinet & front door wiring	
Power supply	

### COLOR CODE

### WIRES CUTAWAY VIEW LIST

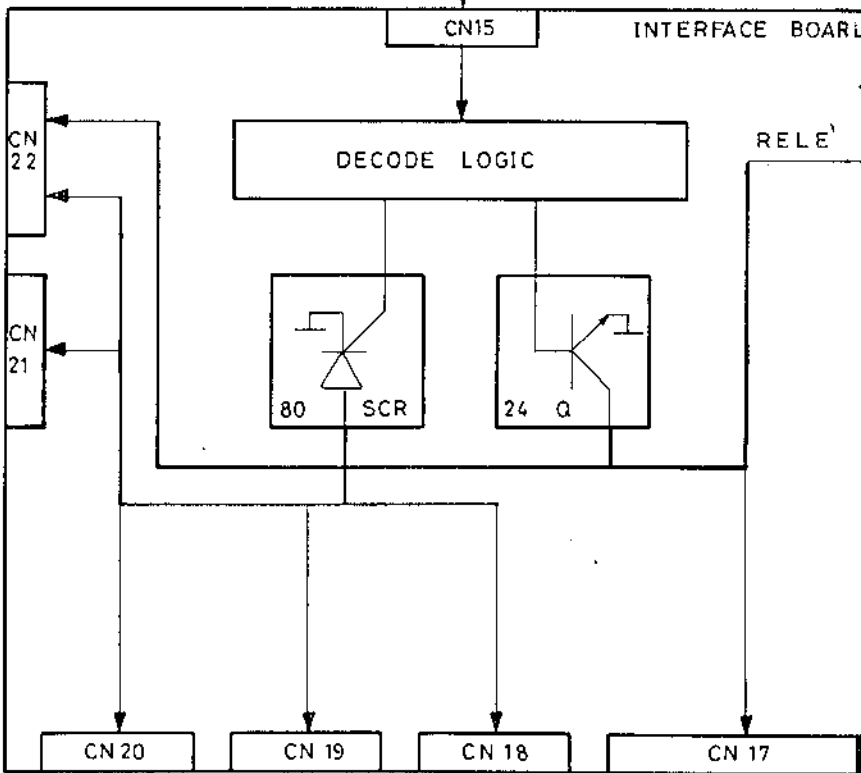
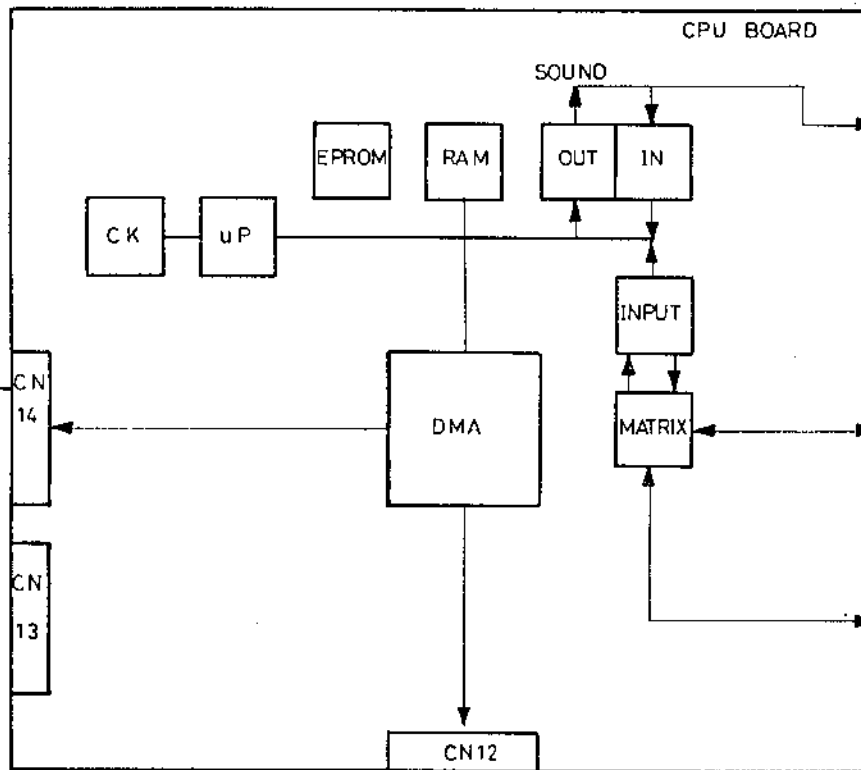
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Brown	1	mm <sup>2</sup> 0,22	/1
Red	2		
Orange	3	mm <sup>2</sup> 0,35	/2
Yellow	4		
Green	5	mm <sup>2</sup> 0,5	/3
Blue	6		
Violet	7	mm <sup>2</sup> 0,9	/4
Grey	8		
White	9	mm <sup>2</sup> 1,5	/5
Pink	11		
Light blue	12		

DRIVER DISPLAY BOARDS

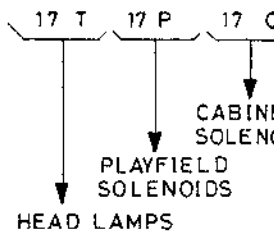


( HEAD SOLENOIDS )

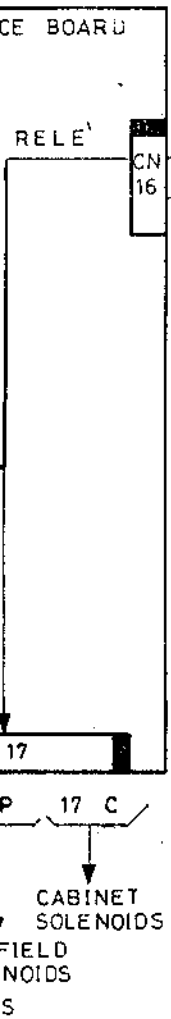
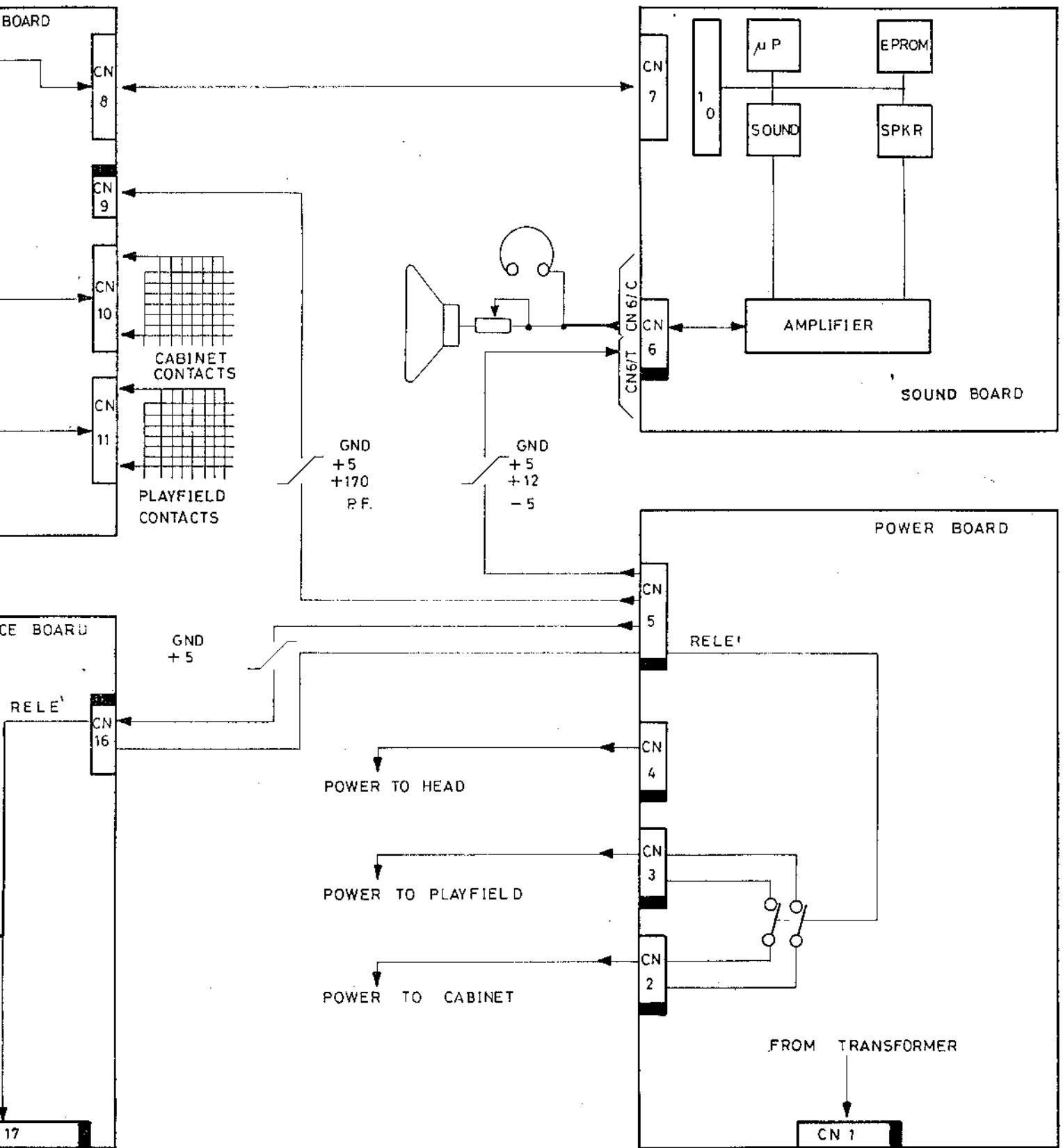
HEAD LAMPS




RELE

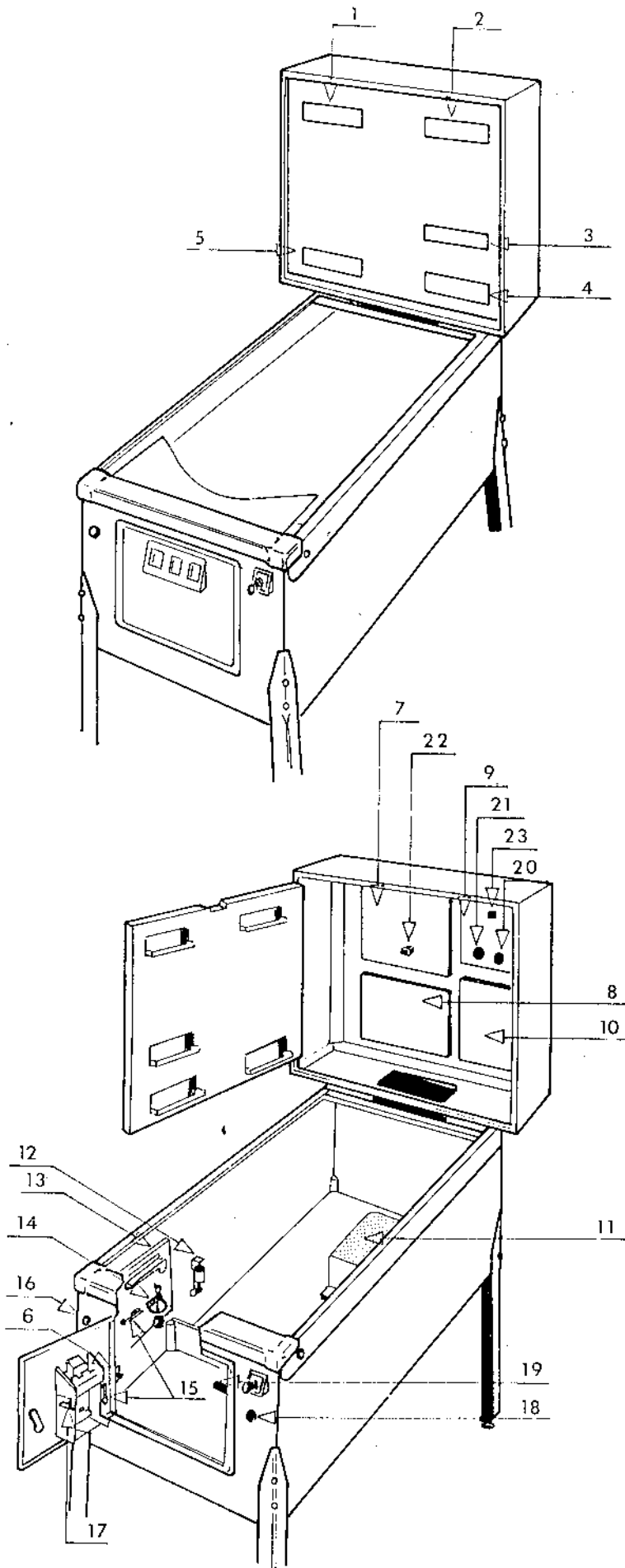


PLAYFIELD LAMPS



 <b>F.LLI ZACCARIA s.n.c.</b> Via Armaroli, 15 - 40012 CALDERARA DI RENO (Bo) Italy			
PART NAME		PART NO.	
BLOCK DIAGRAM "TIME MACHINE"			
DWN.	DATE	REV.	DATE REV.
lorone	5.1.83		25. II '83
NOTES - UNLESS OTHERWISE SPECIFIED			
1) ALL RESISTORS VALUES IN _____			
2) ALL CAPACITORS VALUES IN _____			

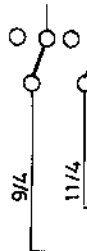
ASSEMBLY DRAWING



- 1 - 1st player display  
Highest score display
- 2 - 2nd player display
- 3 - Credit display  
Display ball to play  
Match  
Game time bonus
- 4 - 4th player display
- 5 - 3rd player display

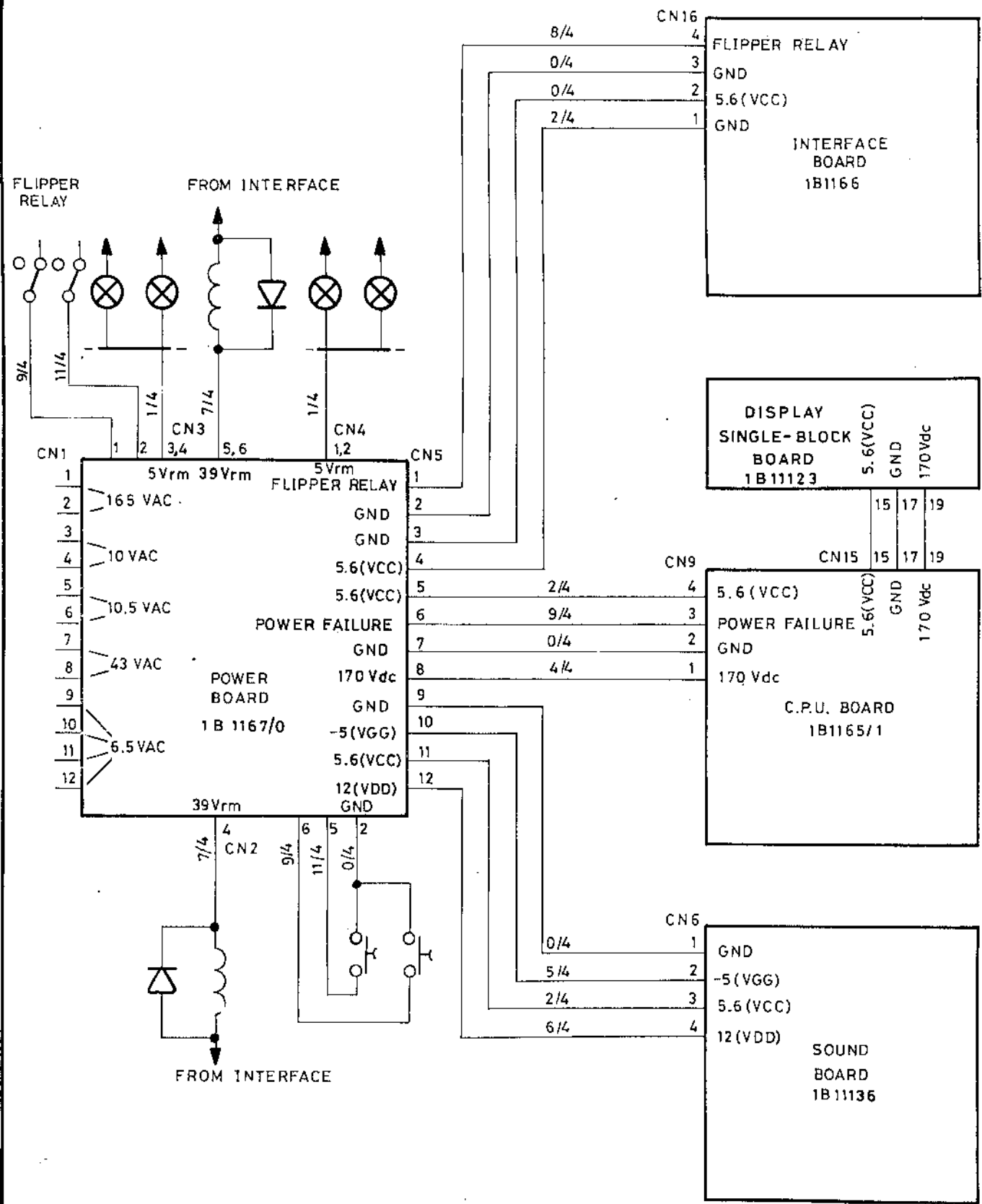
- 6 - Service button
- 7 - C.P.U. board
- 8 - Interface board
- 9 - Sound board
- 10 - Power board
- 11 - Transformer
- 12 - Knocker
- 13 - Roll ball tilt
- 14 - Bob tilt
- 15 - Antichoc tilt
- 16 - Credit button
- 17 - Advance & Return test
- 18 - Head phone jack
- 19 - General vol.
- 20 - Maximum speech vol.
- 21 - Maximum sound vol.
- 22 - Dip SWS
- 23 - Sound self-test button

FLIPPER  
RELAY



CN1

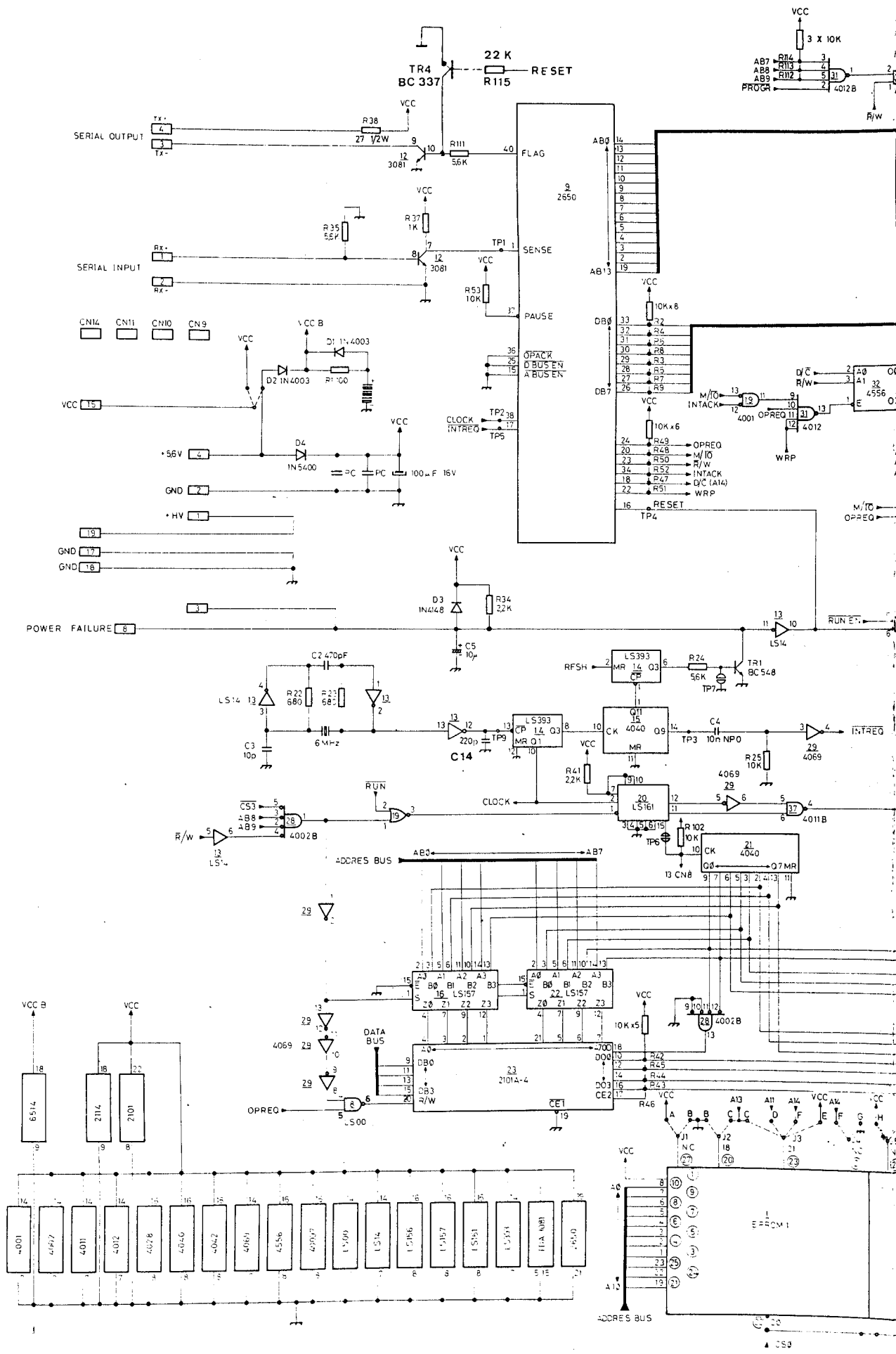
1
2
3
4
5
6
7
8
9
10
11
12



**F.LLI ZACCARIA s.n.c.**  
Via Armeroli, 15 - 40012 CALDERARA DI RENO (Bo) Italy

PART NAME		PART NO.	
Electrical digram power wiring			
DWN. <i>[Signature]</i>	DATE 3/9/82	REV. <i>[Signature]</i>	DATE REV. 12/1/82
SHEET		SHEET	

NOTES: UNLESS OTHERWISE SPECIFIED  
1) ALL RESISTORS VALUES IN  
2) ALL CAPACITORS VALUES IN





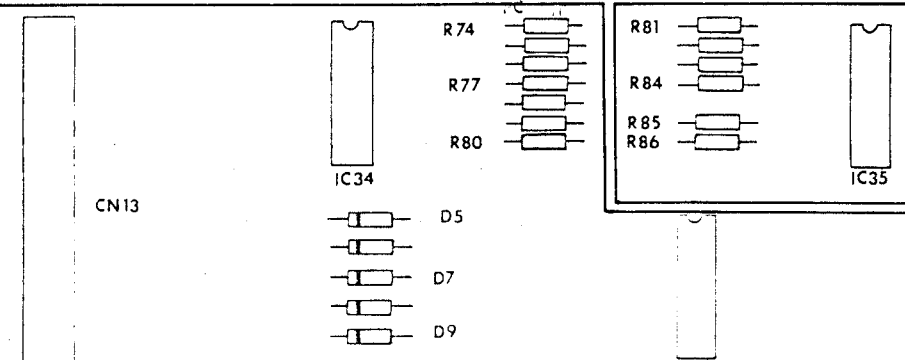
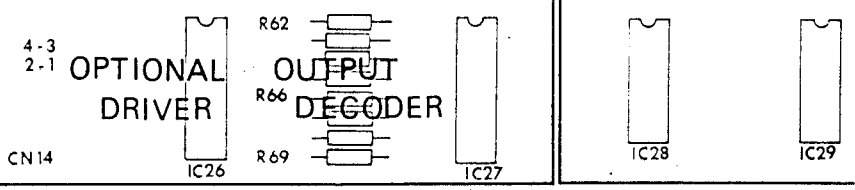
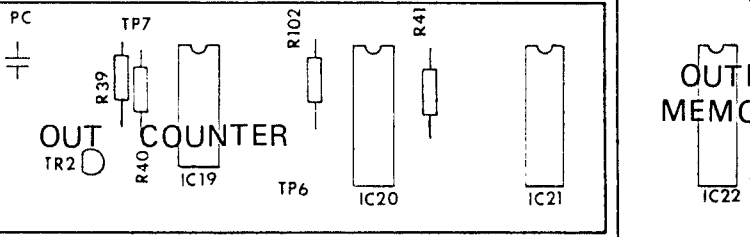
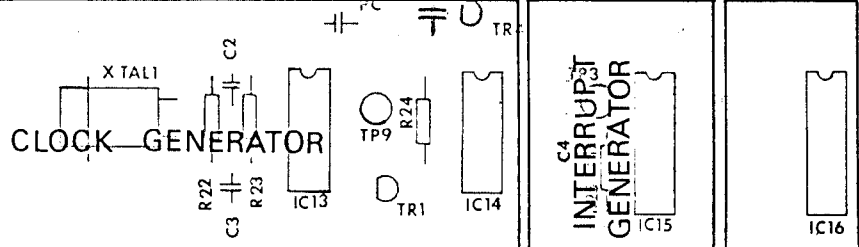
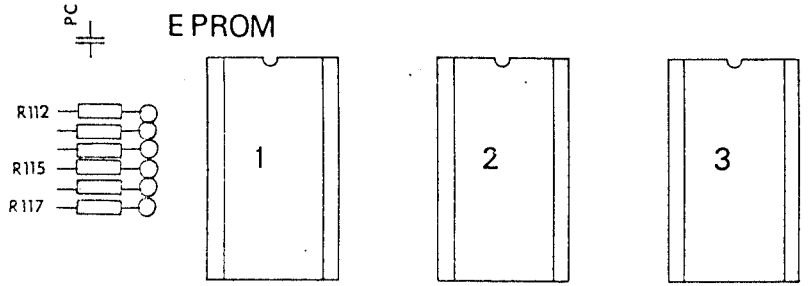


# C.P.U. board

P.C.1 B 1165/1

a b c d e f g h y k l m n p r s t u v z  
 EPROM JUMPERS

J1 J2 J3 J4 J5 J6 J7 J8 J9 J10 J11 J12



1B1165/1

DISPLAY BOARD

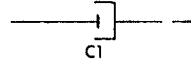
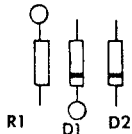
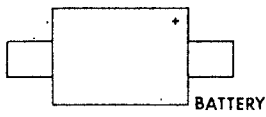
C M RAM

USE DE

R8  
R9C  
R9

n.c.  
IO (Bo) Italy  
NO.

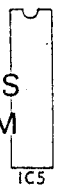
BATTERY CIRCUIT



C MOS RAM



MOS RAM



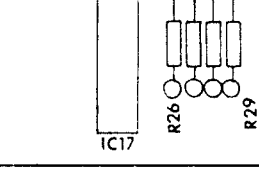
R2

R5

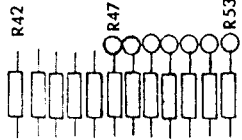
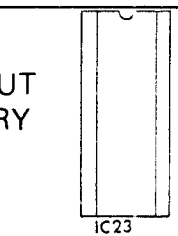
R9

R11

USER MEMORY DECODER



C.P.U.



SOUND OUTPUT LOGIC

PC



IC10



INPUT LOGIC SOUND CONTACTS



DIP 1



R70

R73

SW 1



ROW LOGIC

TR3



PC

IC33

ROW DRIVER



ROW DECODER



R103

R106

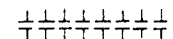
R110



C6

C9

C13



1-2  
3-4

SOUND OUTPUT DRIVER

CN8

SOUND BOARD

POWER BOARD

CN9

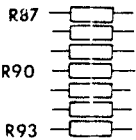
CONTACTS

OUTPUT SELECTOR



IC31

IC32



IC36

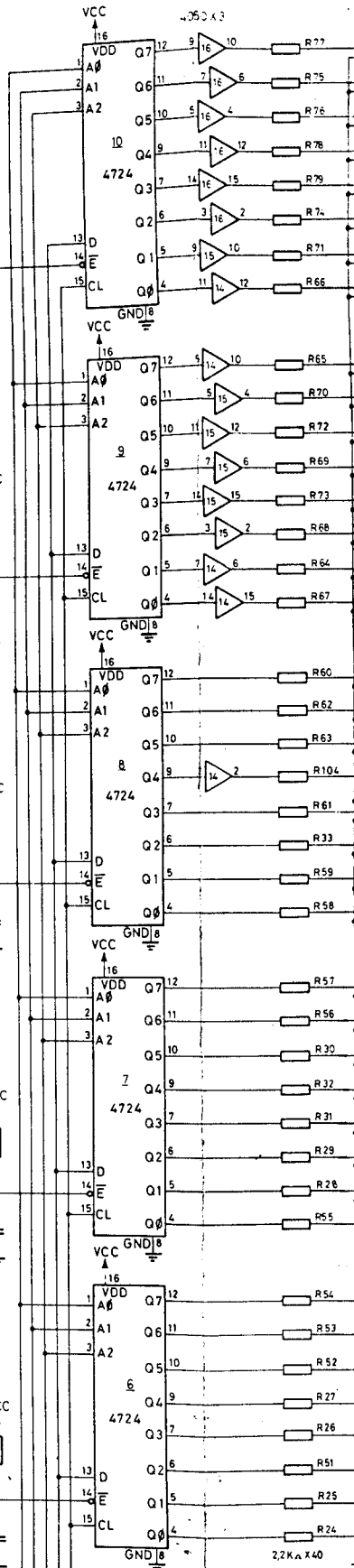
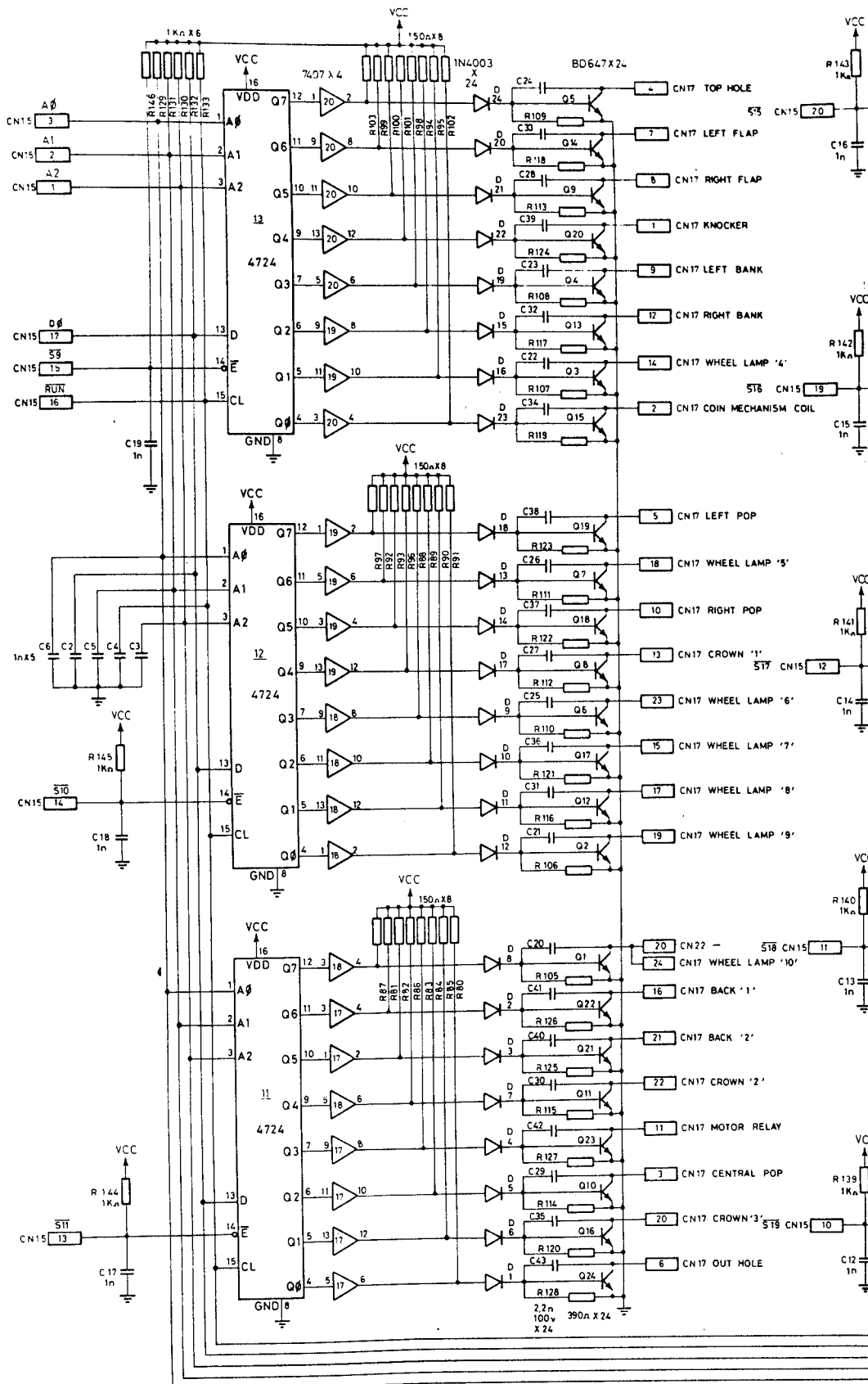
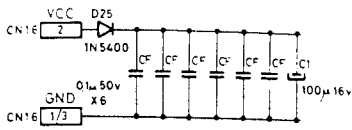
IC37

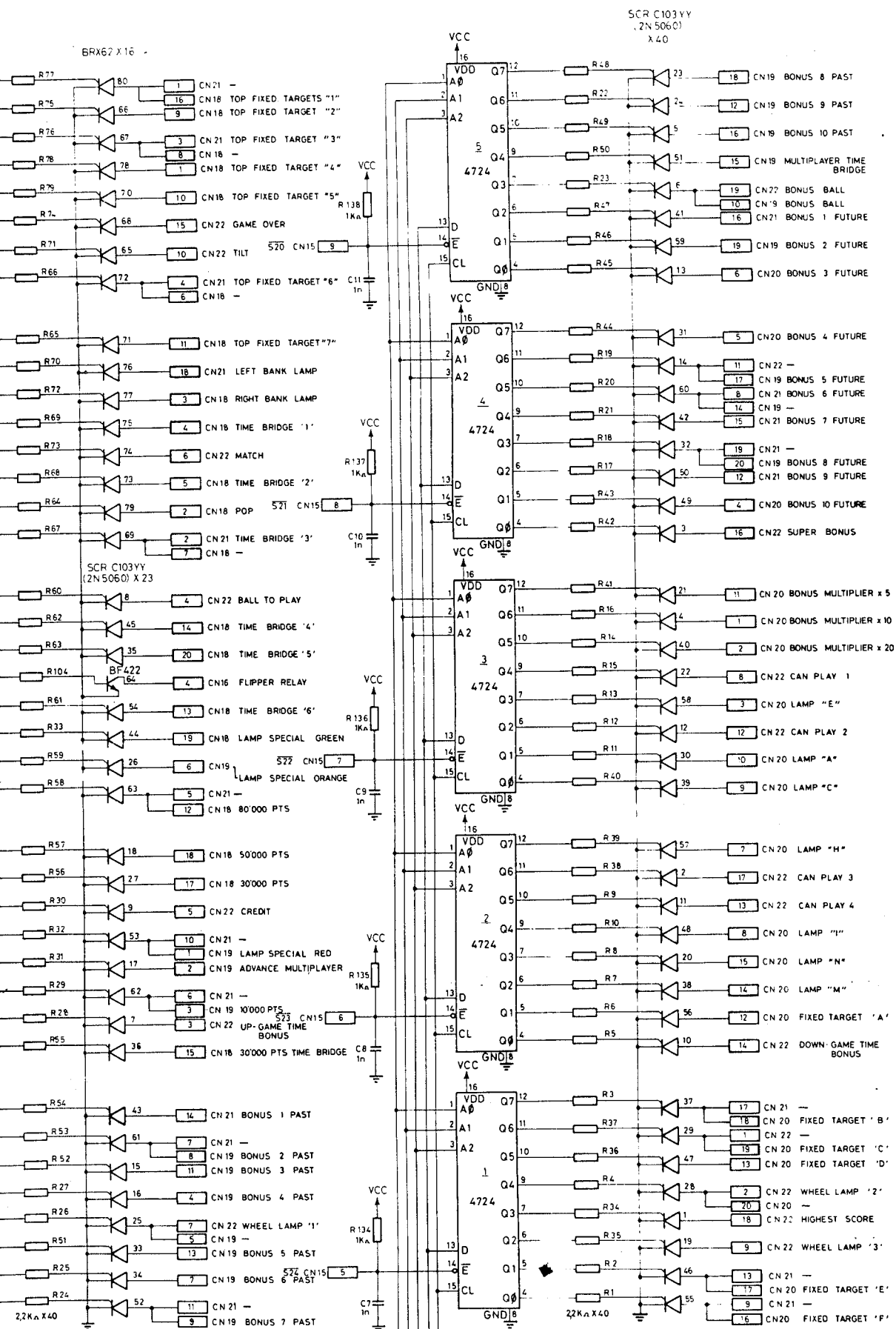
IC40

TP8

CN12

INTERFACE BOARD





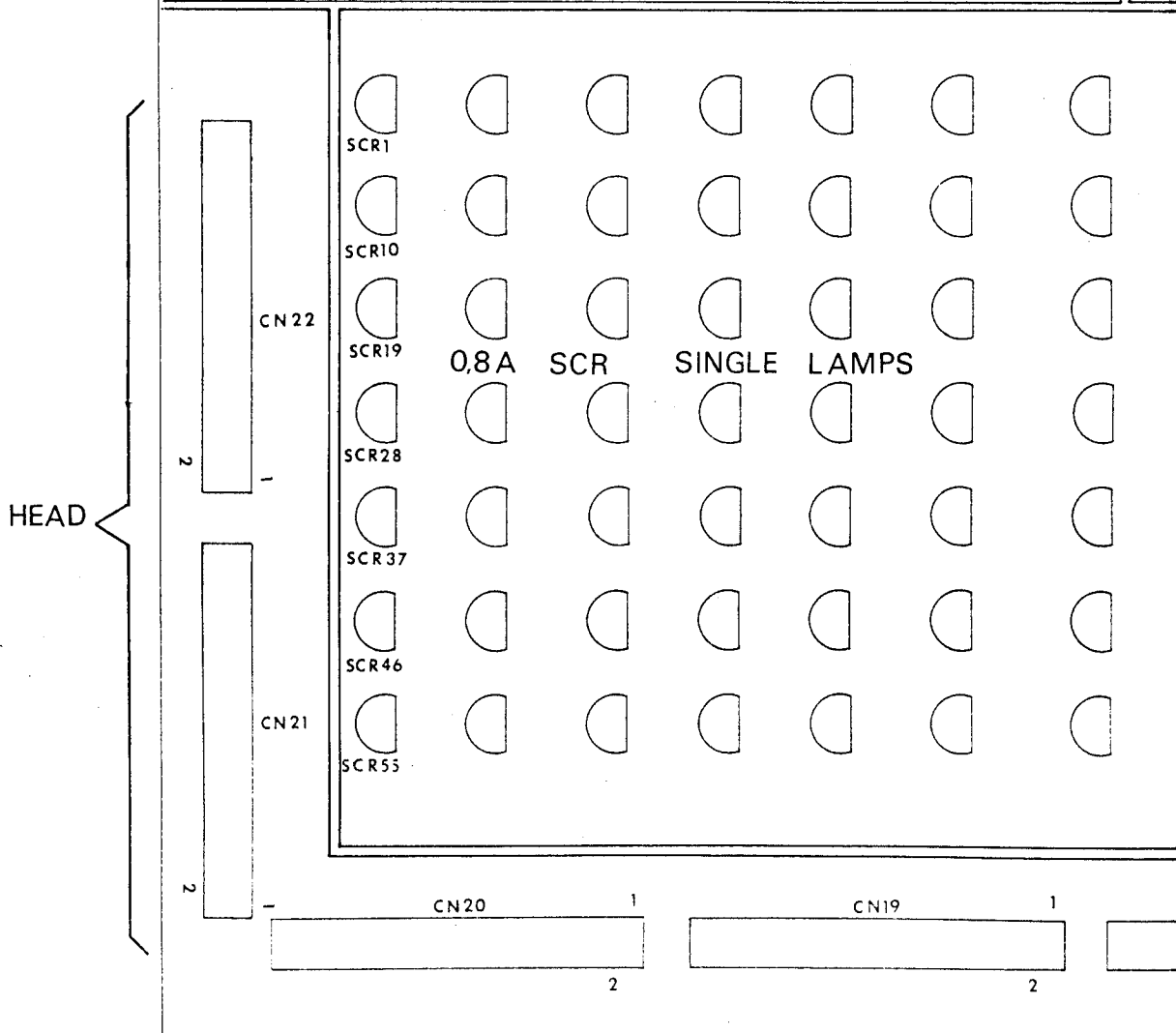
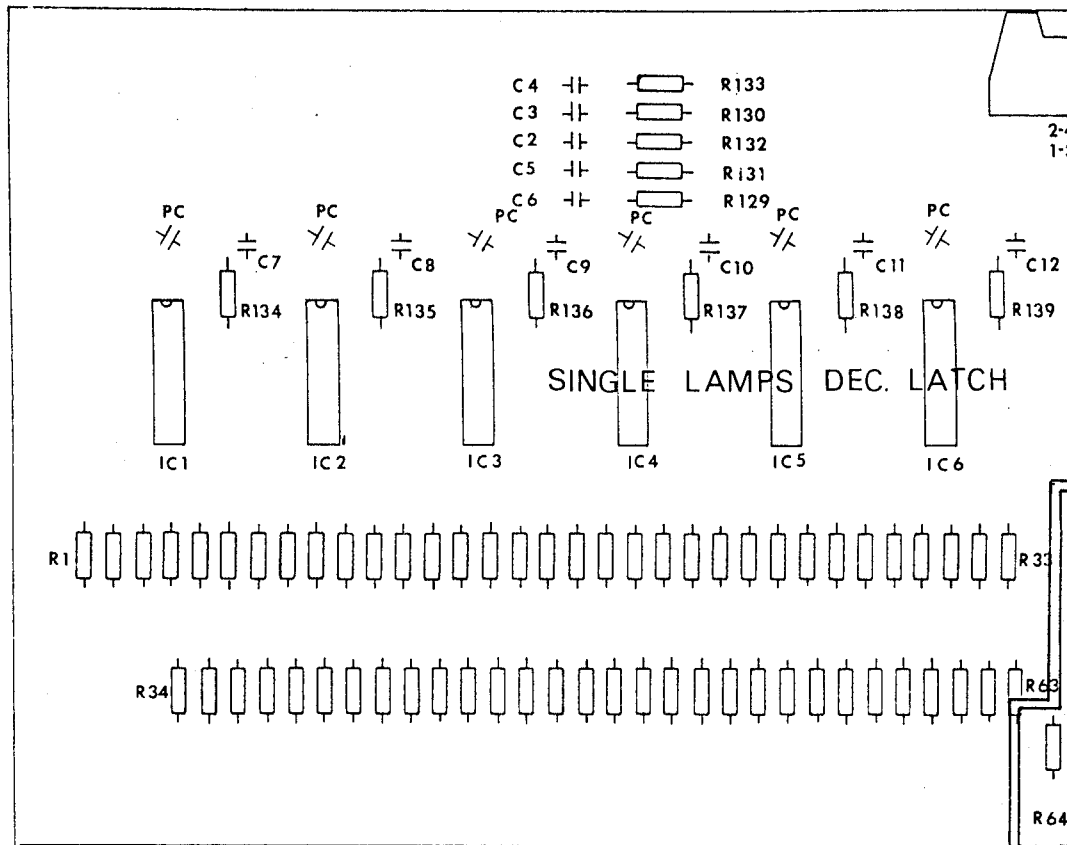
**F.LLI ZACCARIA s.n.c.**  
Via Armaroli, 15 - 40012 CALDERARA DI RENO (Bo) Italy

PART NAME		PART NO.	
Interface "TIME MACHINE"		1 B 1366	
DWN. <i>Ricci</i>	DATE 25-11-88	REV. 1	DATE REV.
SHEET			

NOTES: UNLESS OTHERWISE SPECIFIED  
1) ALL RESISTORS VALUES IN \_\_\_\_\_  
2) ALL CAPACITORS VALUES IN \_\_\_\_\_

# INTERFACE board

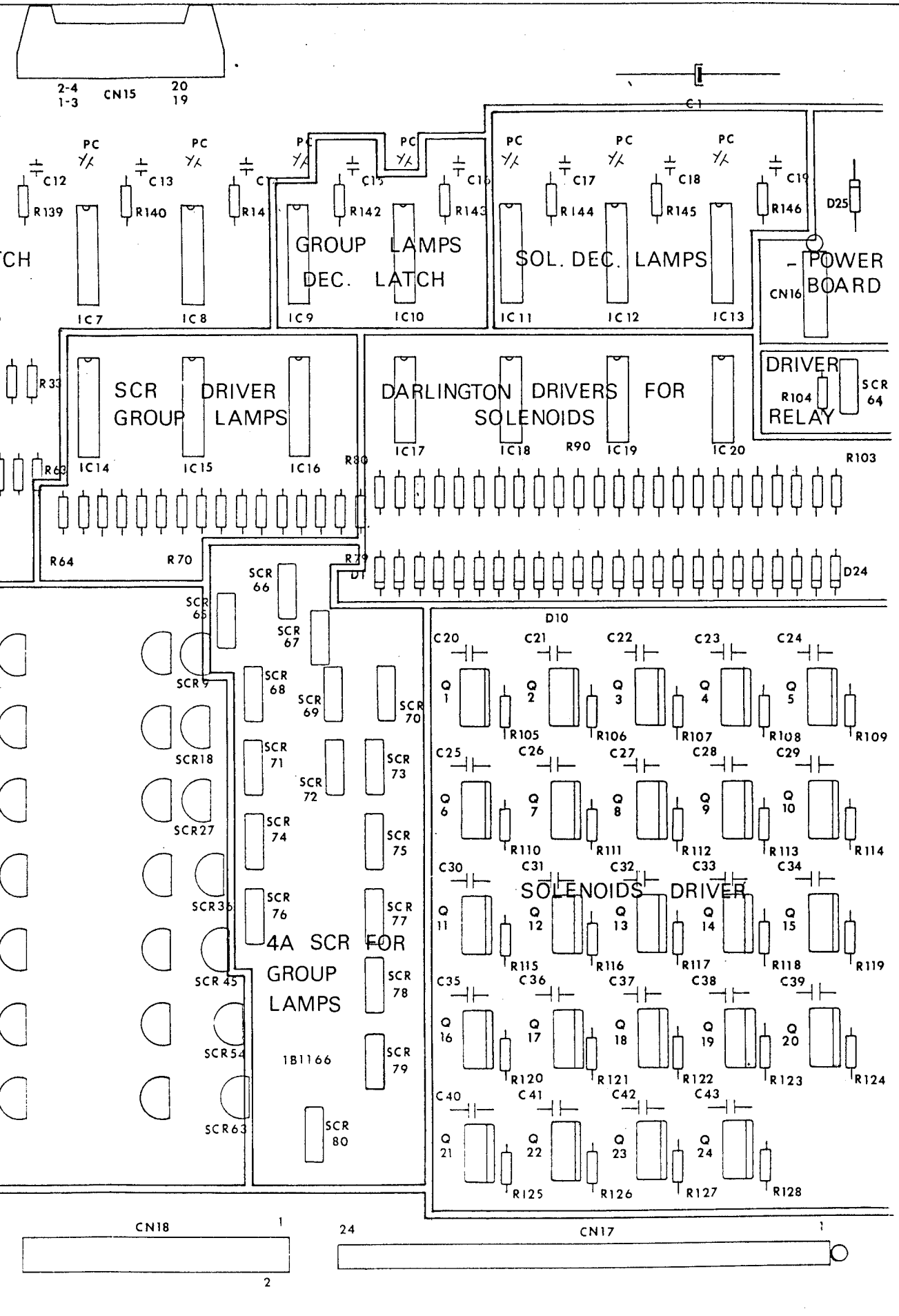
P.C. 1B1166



**s.n.c.**  
 NO (Boi Italy)  
 T. NO.  
 3 13 65/1  
 ET

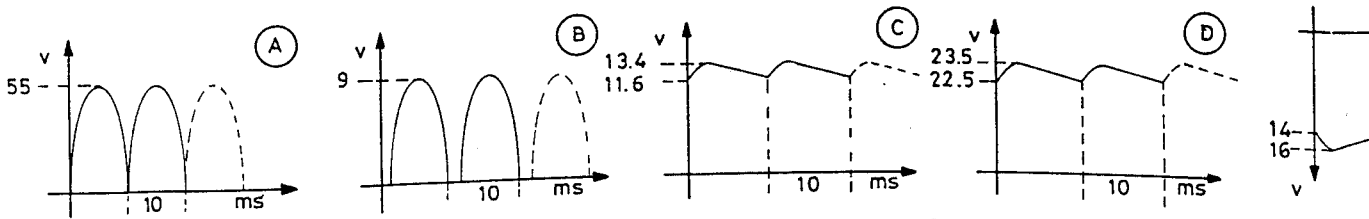
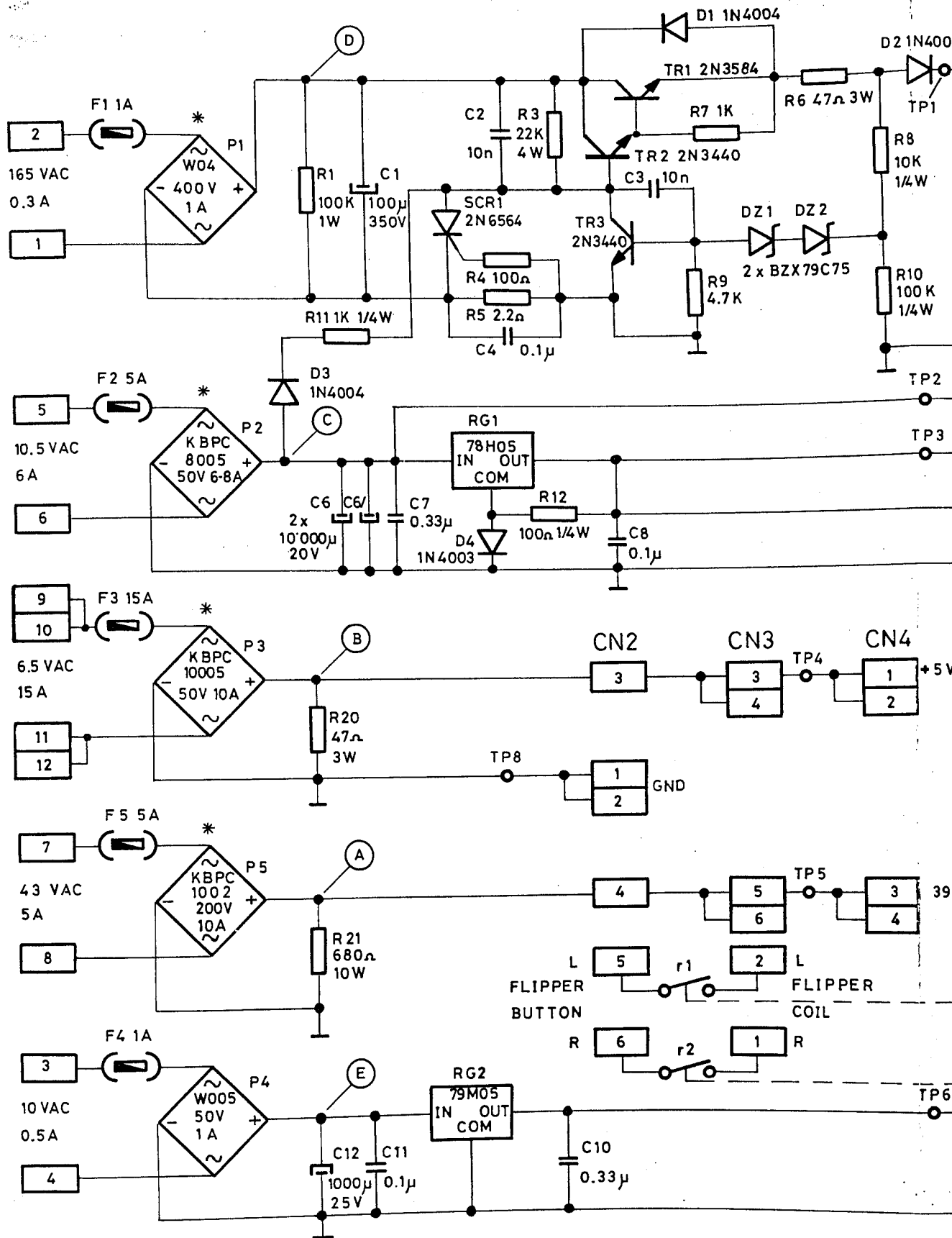
PLAYF

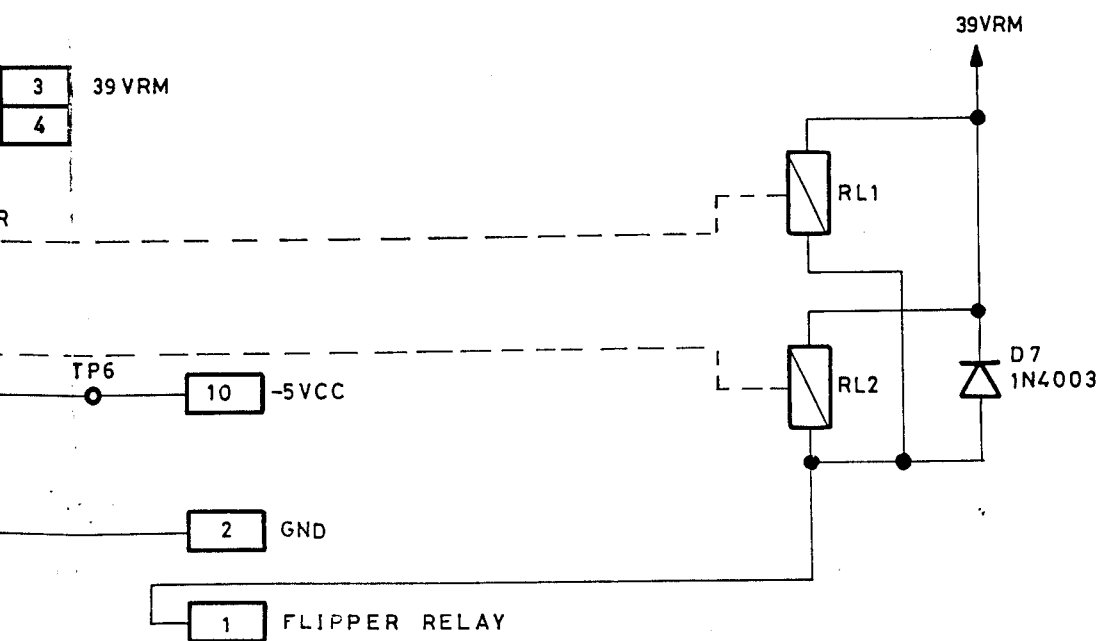
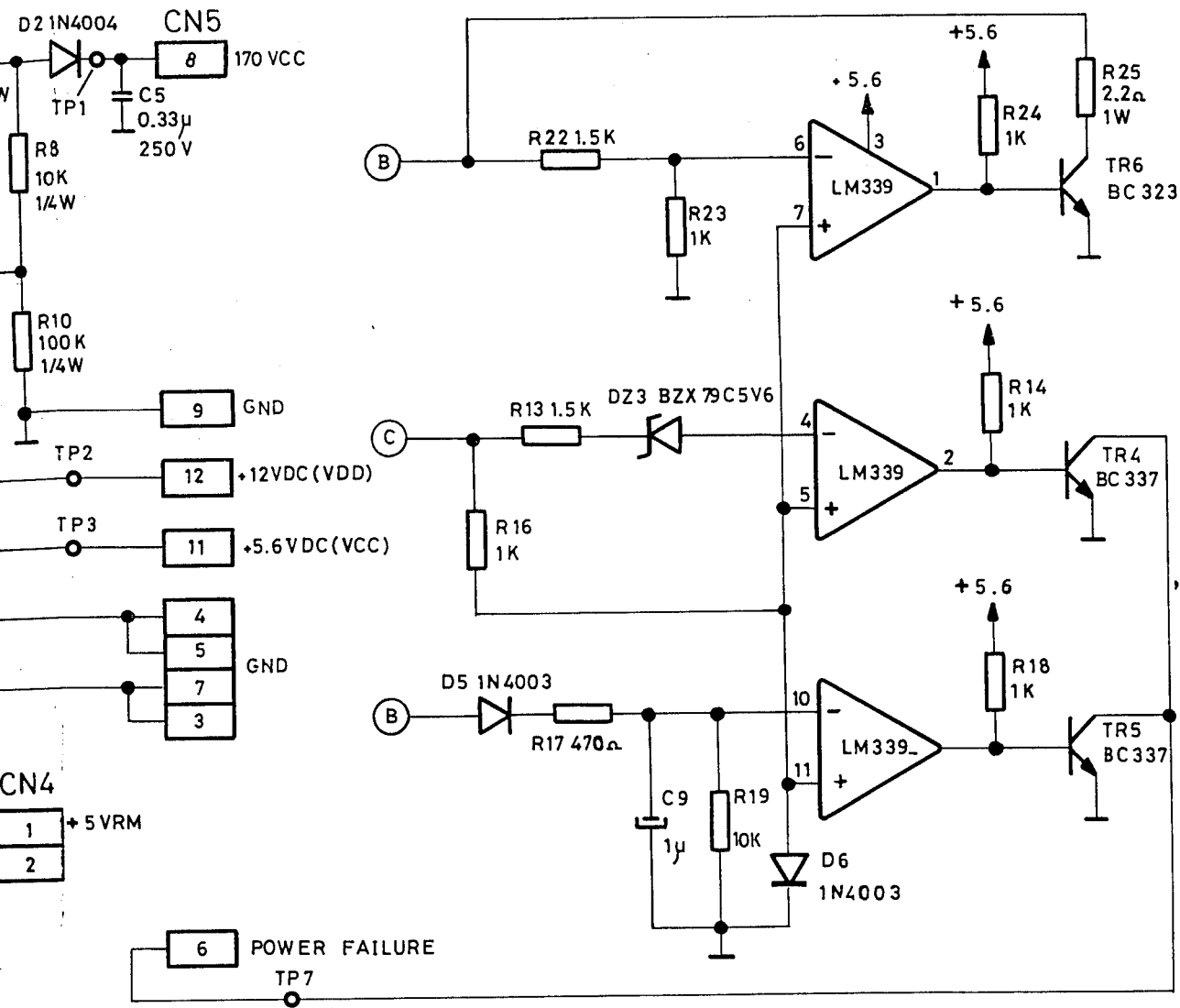
C.P.U. BOARD





PLAYFIELD

CABINET





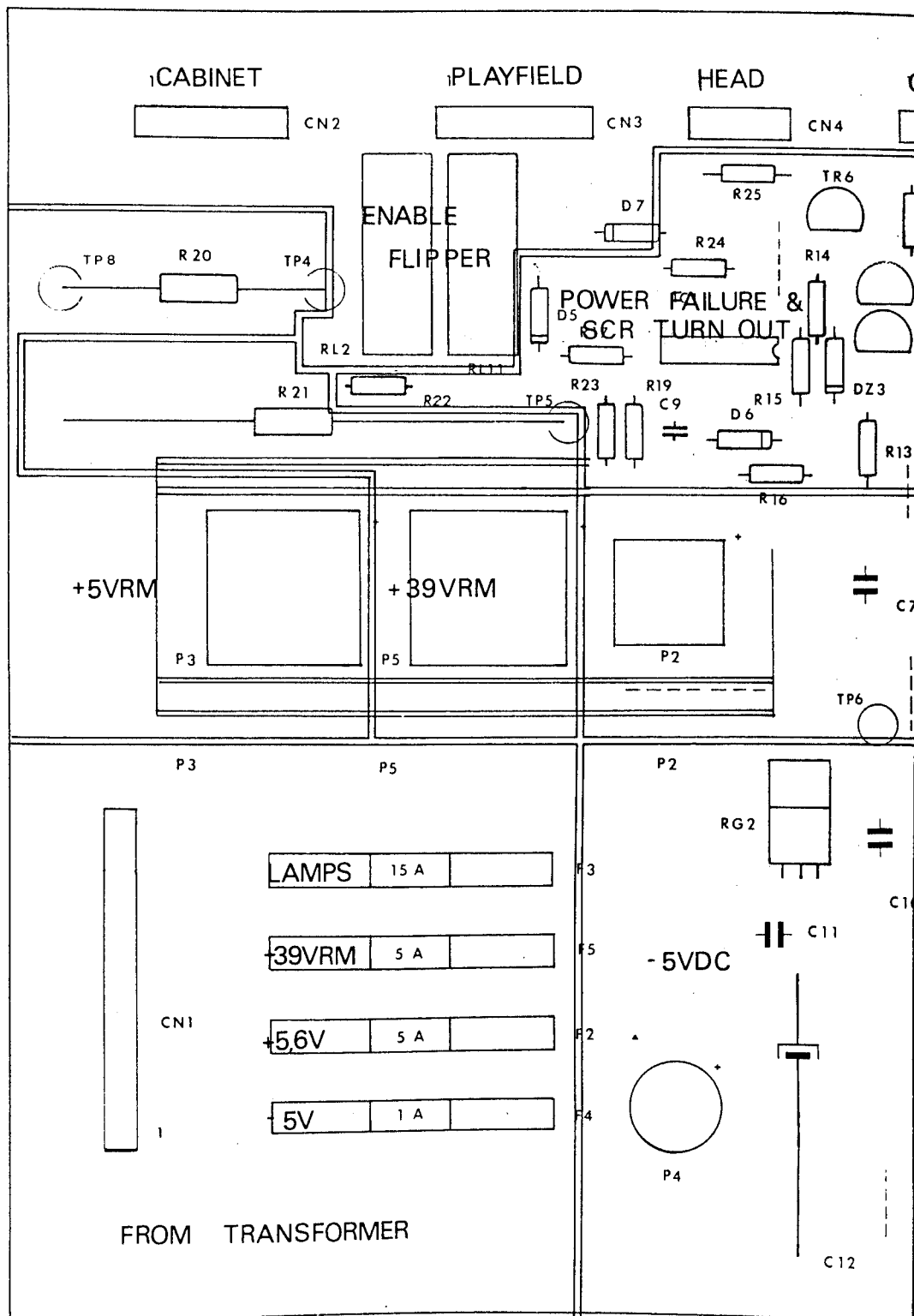
\* WITH HEAT SINK

 <b>F.LLI ZACCARIA s.n.c.</b> Via Armadori, 15 - 40012 CALDERARA DI RENO (Bo) Italy		PART NAME Electrical diagram for		PART NO.
		POWER BOARD		1B1367/0
DW. 	DATE 26/7/82	REV. 1	DATE REV.	SHEET
NOTES UNLESS OTHERWISE SPECIFIED				
1) ALL RESISTORS VALUES IN				
2) ALL CAPACITORS VALUES IN				



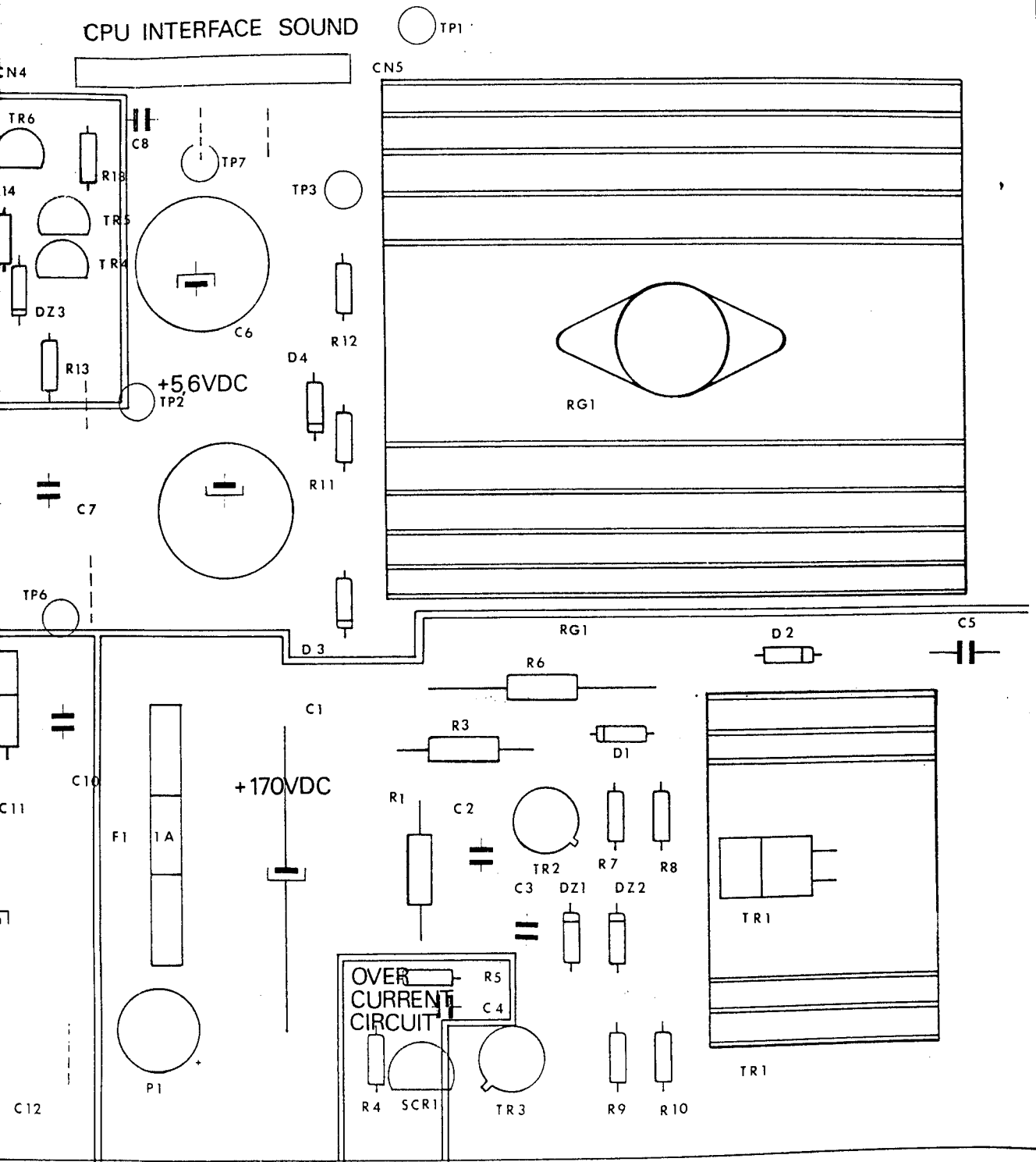
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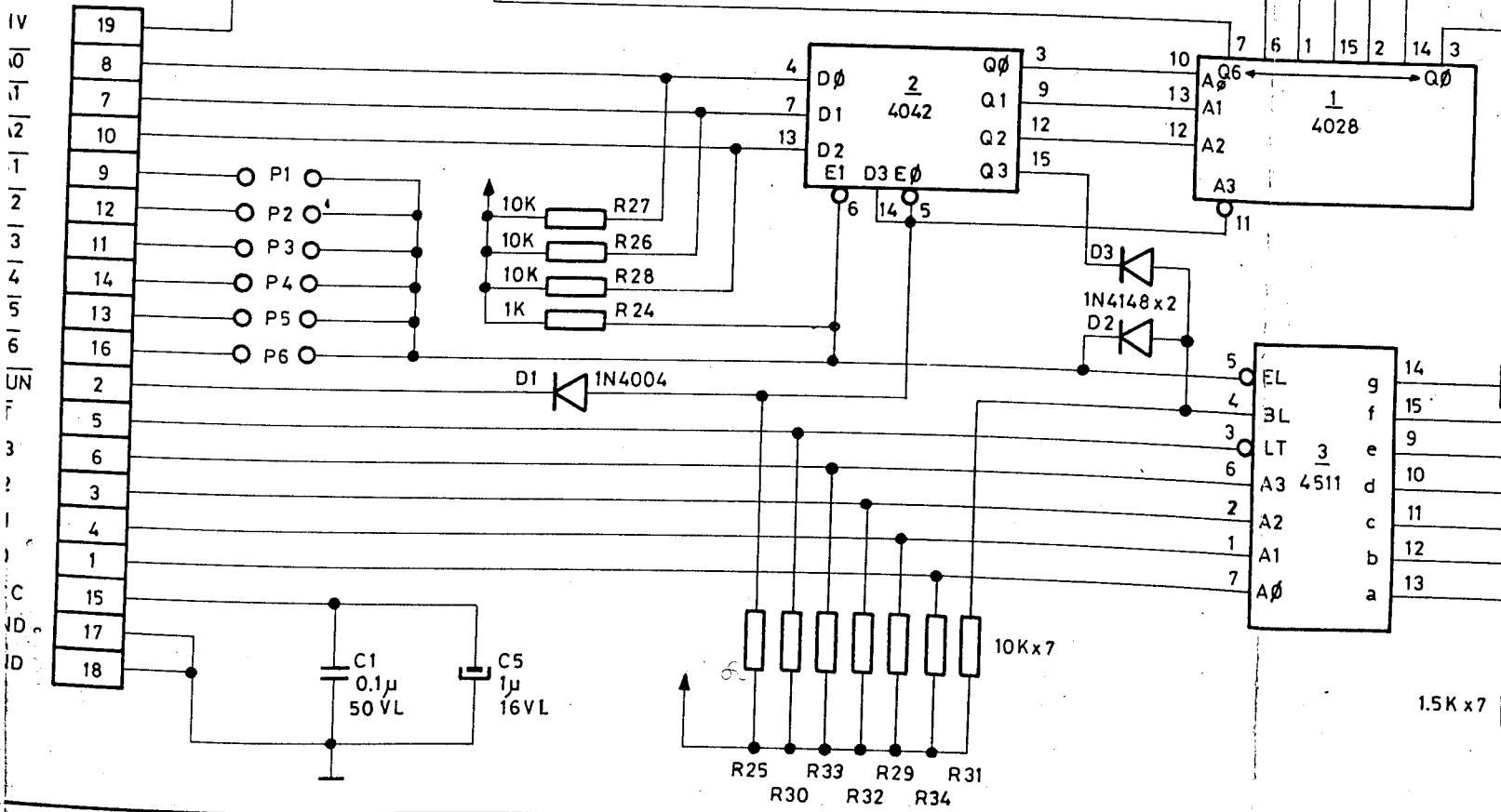
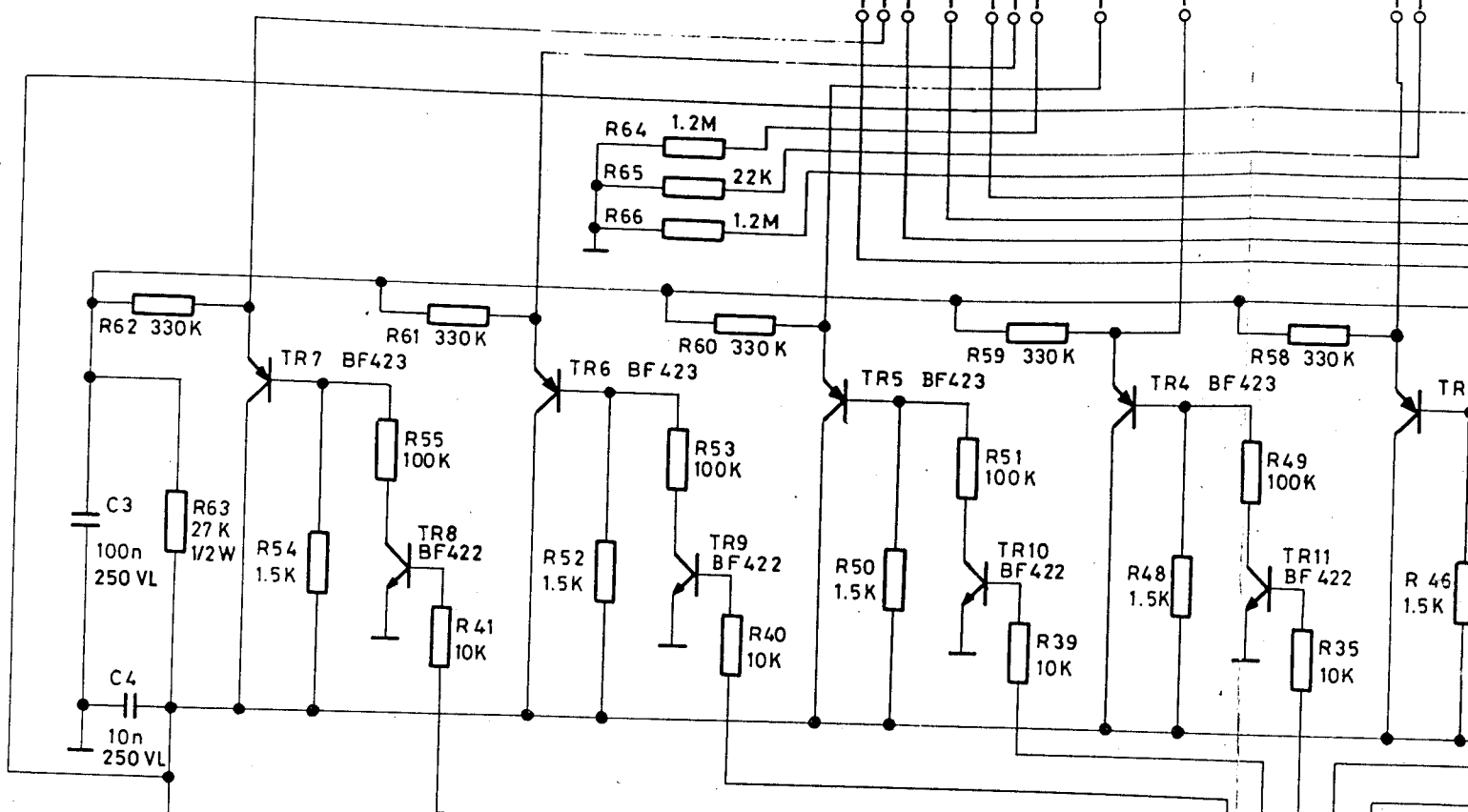
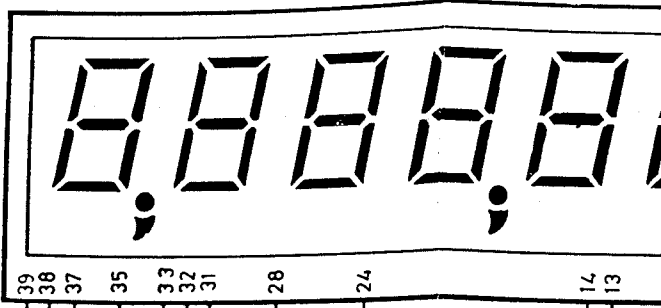
P.C. 1B1167/0

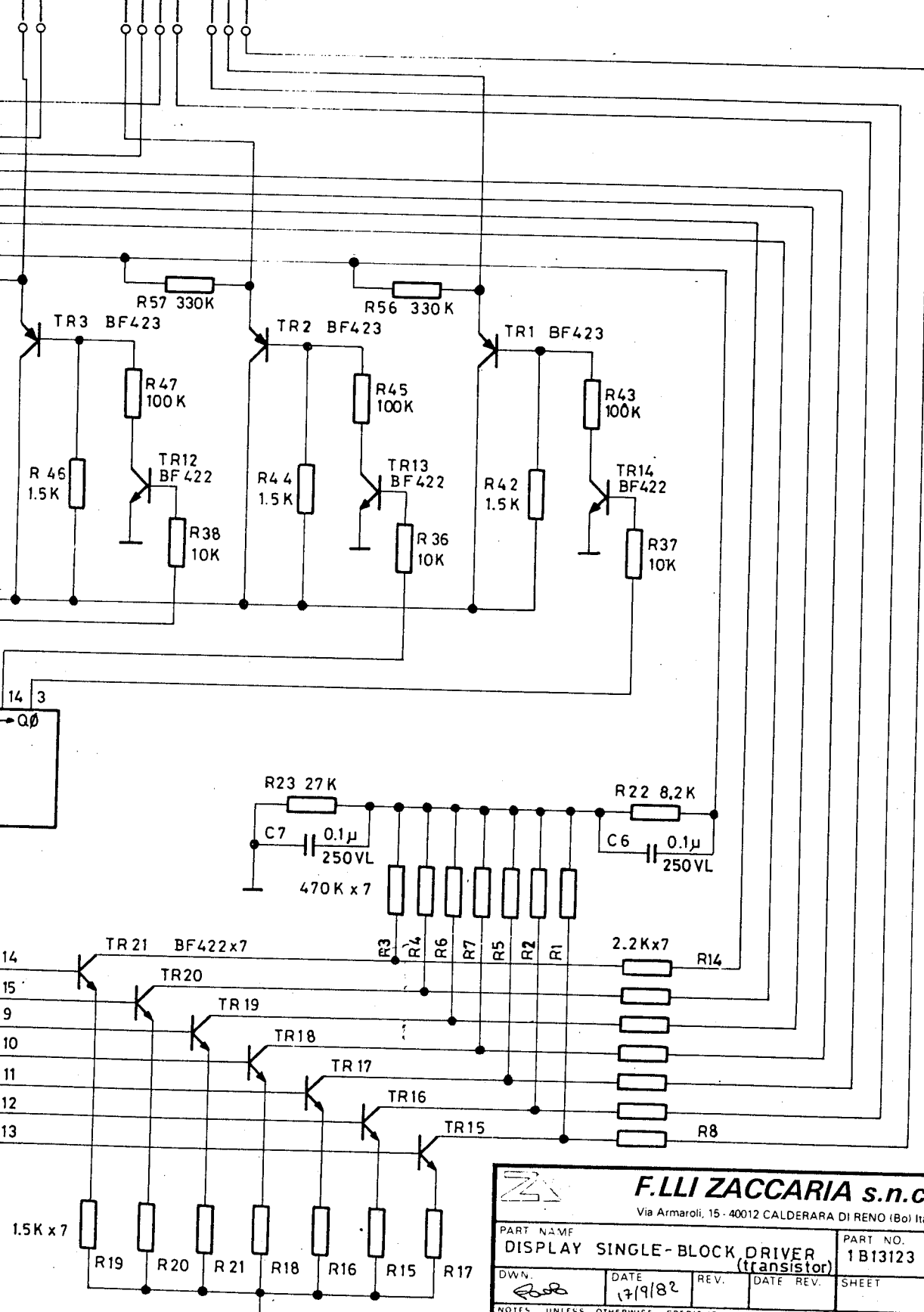
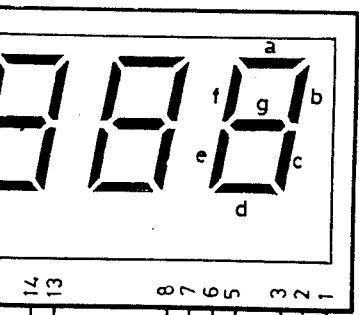


**s.n.c.**  
 NO (Bo) Italy  
 T NO.  
 B 1366  
 ET

# CPU INTERFACE SOUND

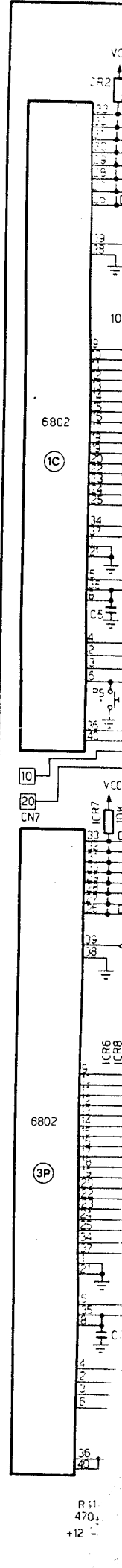






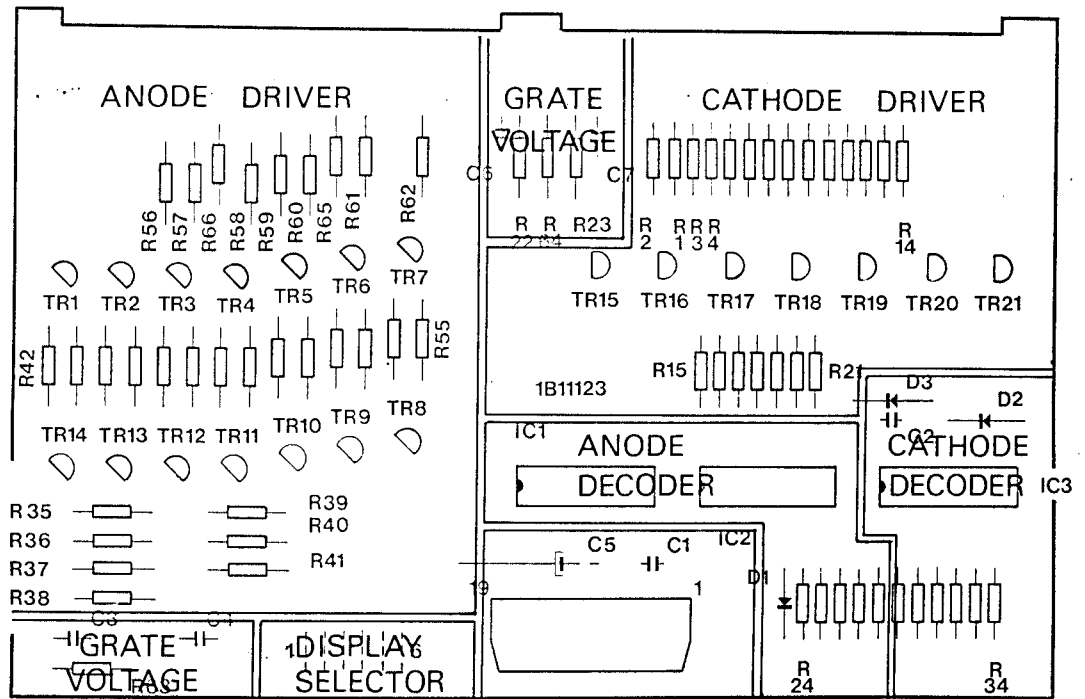
**F.LI ZACCARIA s.n.c.**  
Via Armadori, 15 - 40012 CALDERARA DI RENO (Bo) Italy

PART NAME		PART NO.	
DISPLAY SINGLE-BLOCK DRIVER (transistor)		1B13123	
DWN.	DATE	REV.	DATE REV.
<i>[Signature]</i>	17/9/82		
NOTES UNLESS OTHERWISE SPECIFIED		SHEET	
1) ALL RESISTORS VALUES IN			
2) ALL CAPACITORS VALUES IN			



# DRIVER DISPLAY board

P.C. 1B11123



C.P.U. BOARD

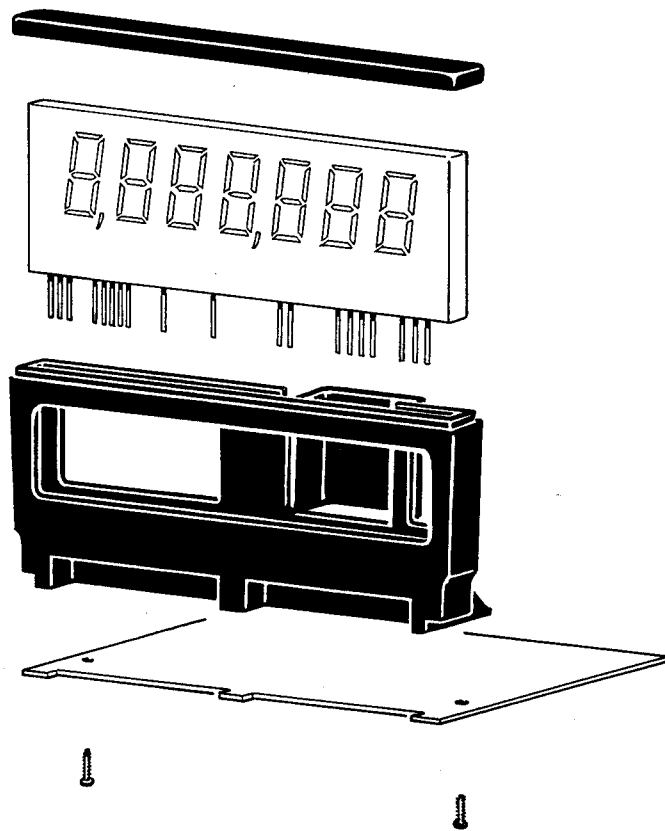
S.n.c.

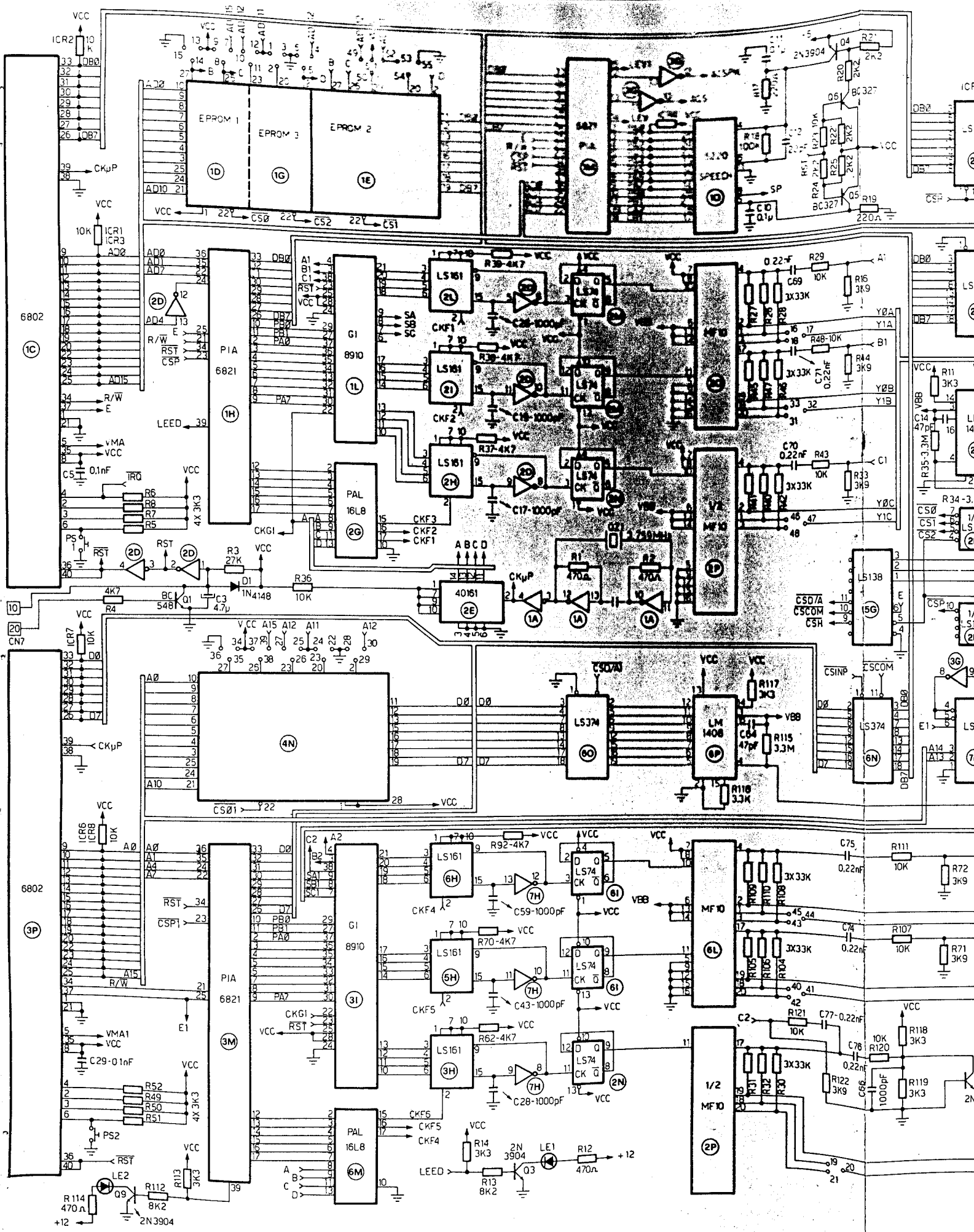
RENO (Boi Italy)

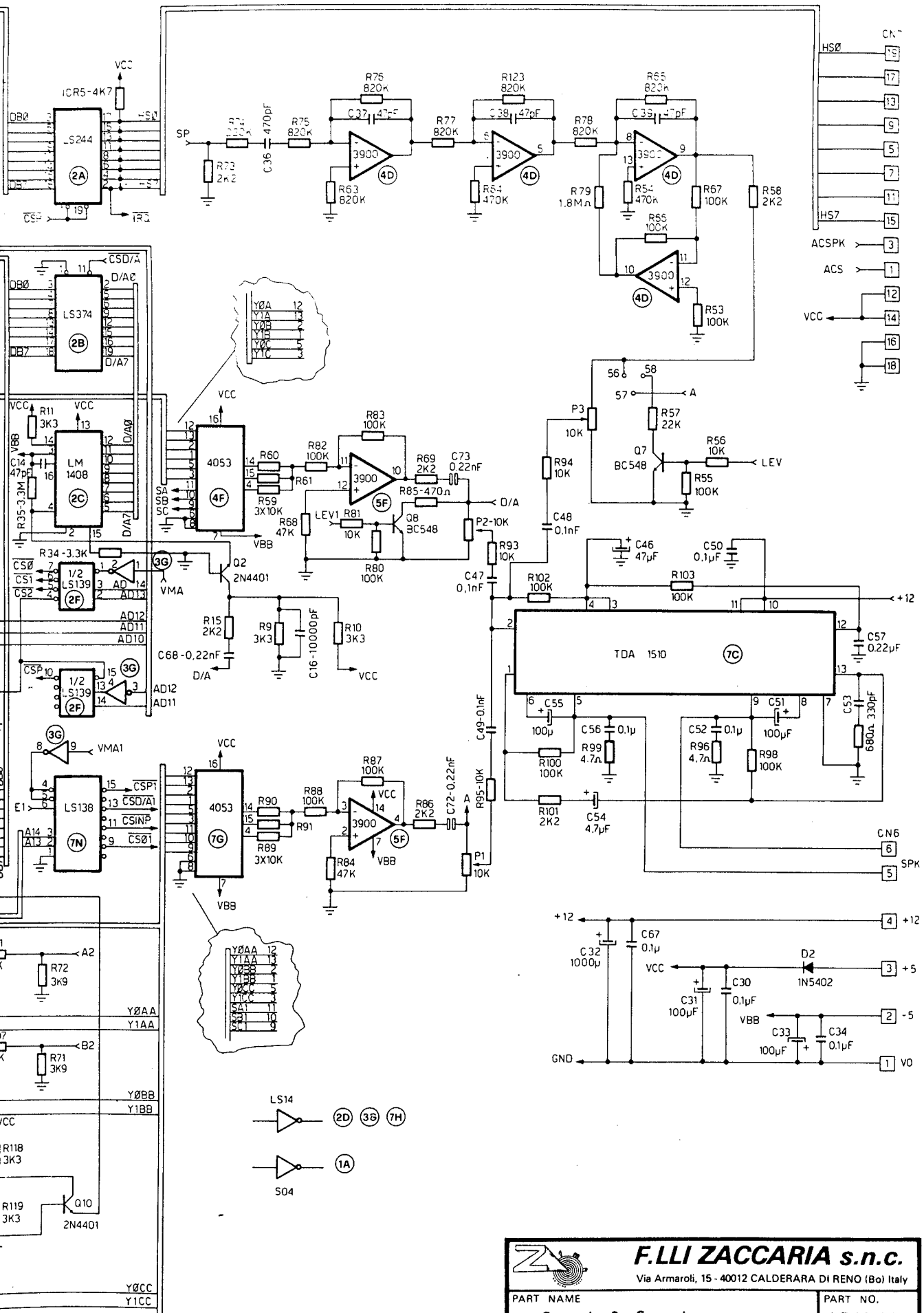
RT. NO.  
B1367/0

EET


IC3





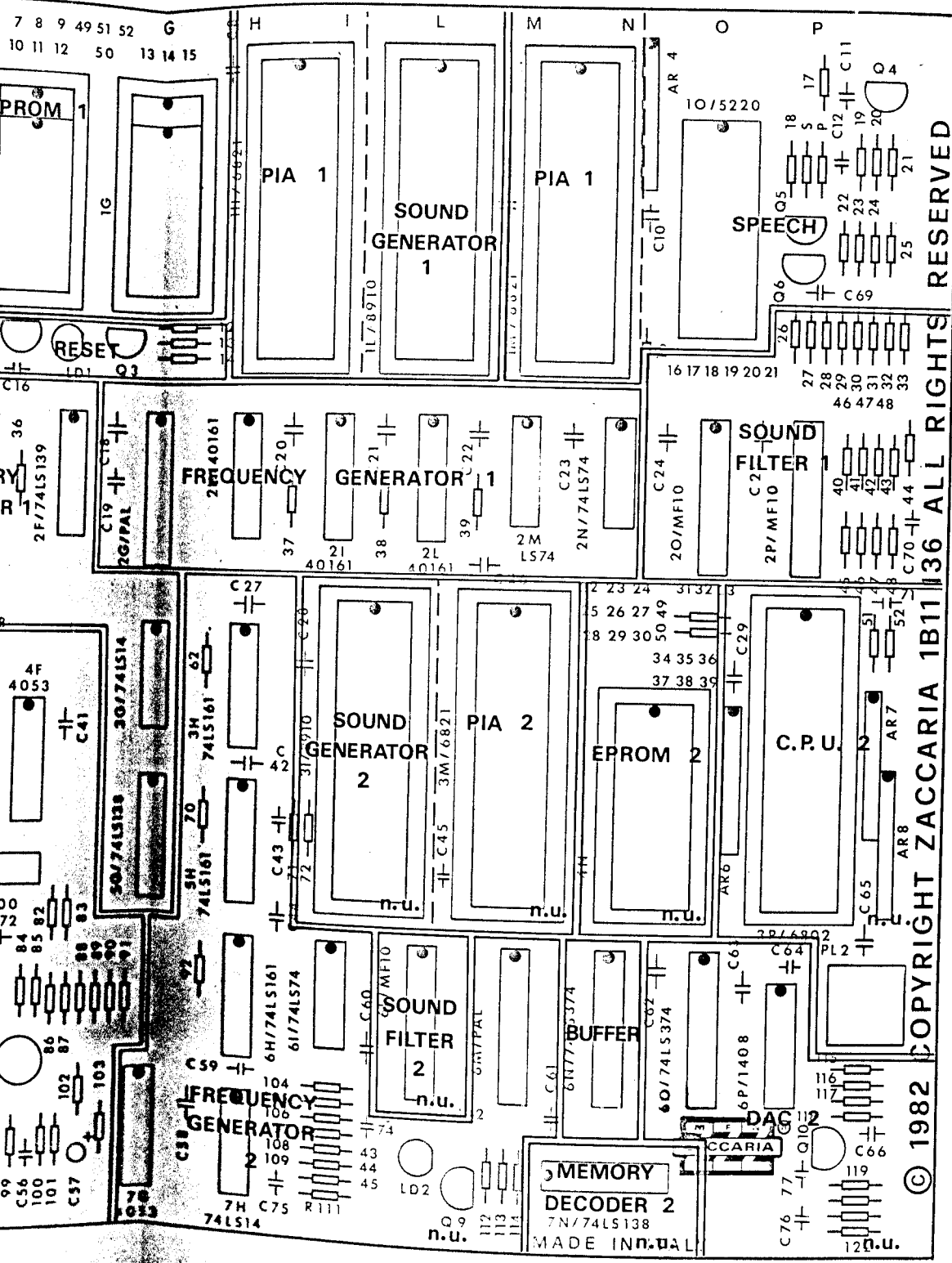


CN16

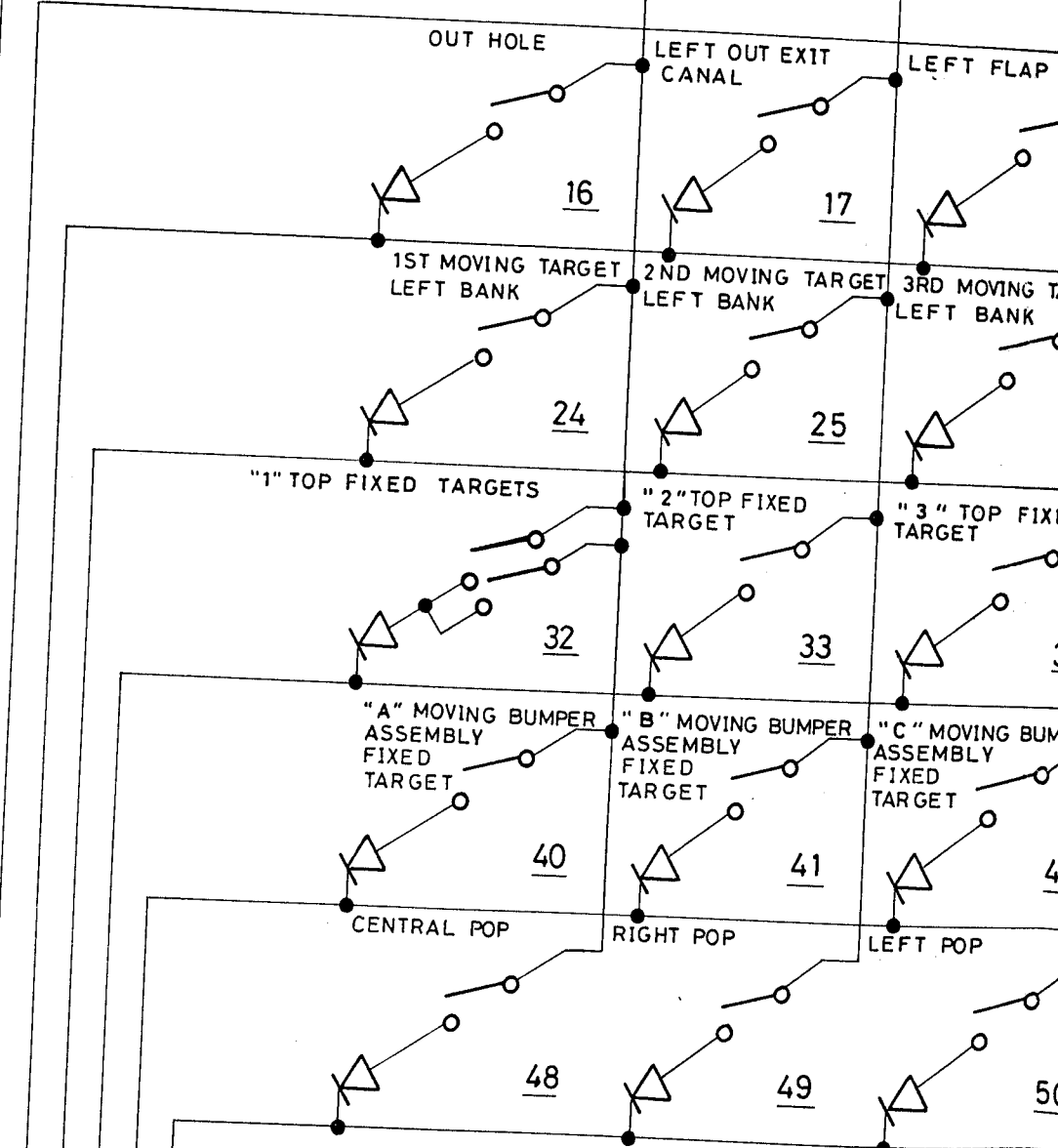
 <b>F.LI ZACCARIA s.n.c.</b> Via Armadori, 15 - 40012 CALDERARA DI RENO (Bo) Italy			
PART NAME		PART NO.	
<b>Sound &amp; Speech</b>		<b>1B13136</b>	
DWN	DATE	REV	DATE REV.
Z.C.	28.1.88	P	21.7.88
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2) ALL CAPACITORS VALUES IN		-----	







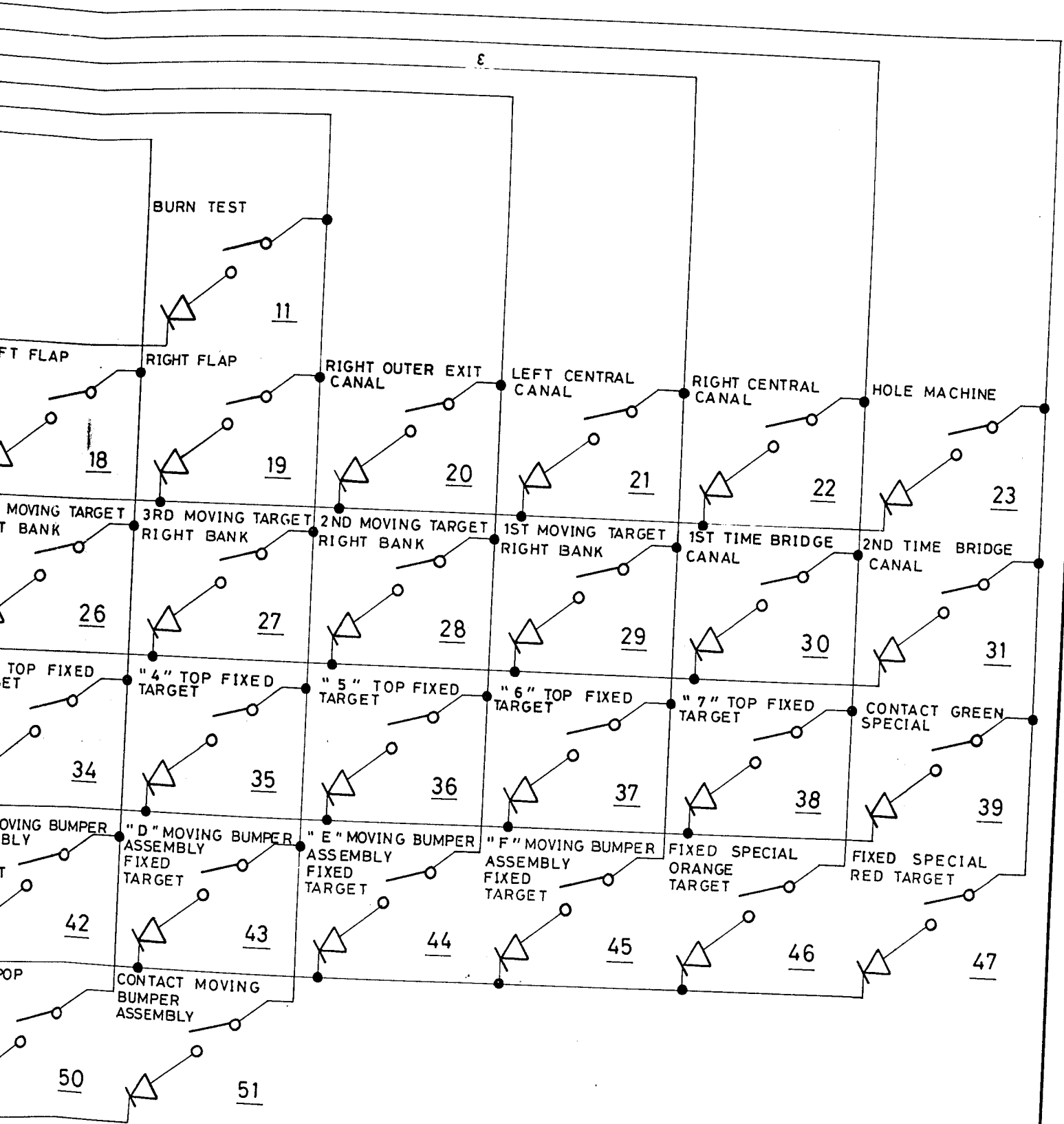
© 1982 ZACCARIA 1B1136 ALL RIGHTS RESERVED



4-7/1	1-7/1	2-4/1	0-3/1	0-4/1	2-5/1	0-9/1	8-9/1	8/1	2/1	4/1	0/1	5/1	6/1
17	16	15	14	13	12	11	10	2	3	4	5	6	7

CN 11

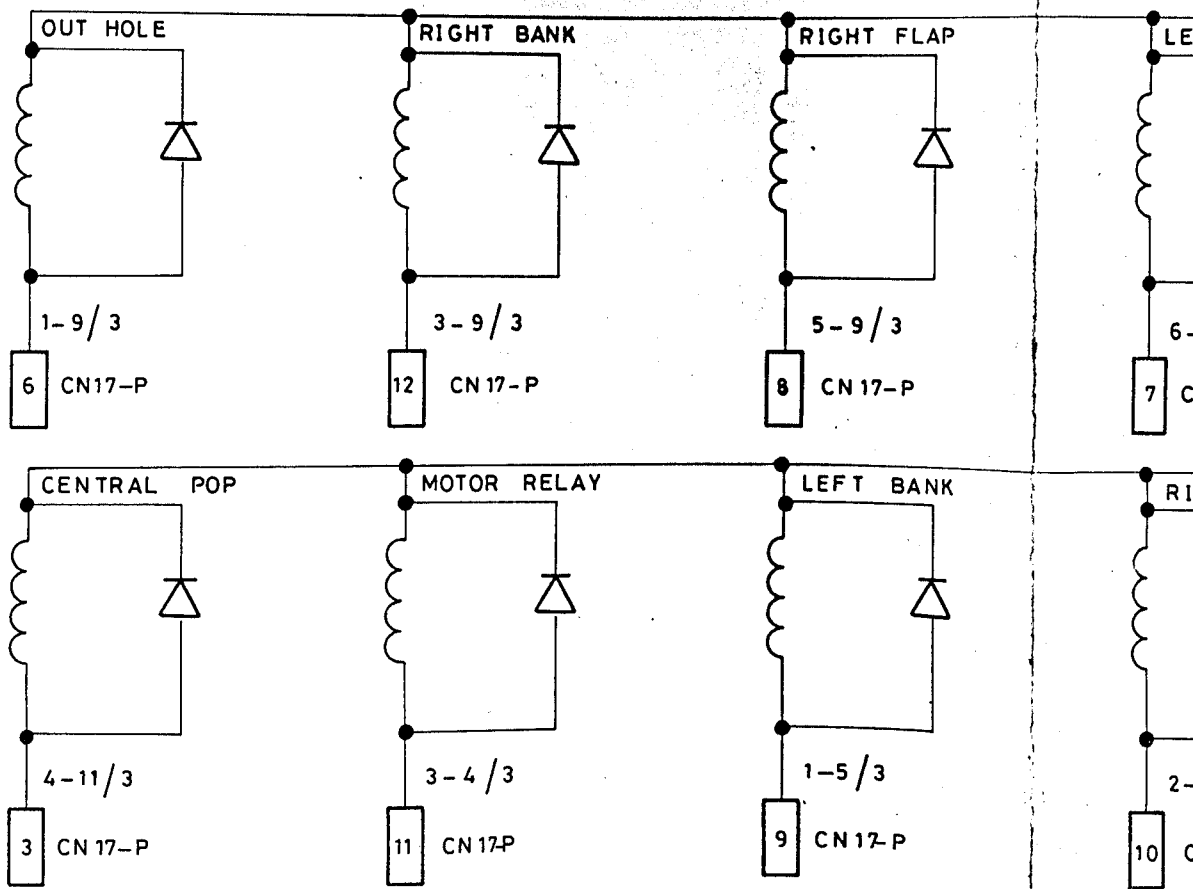
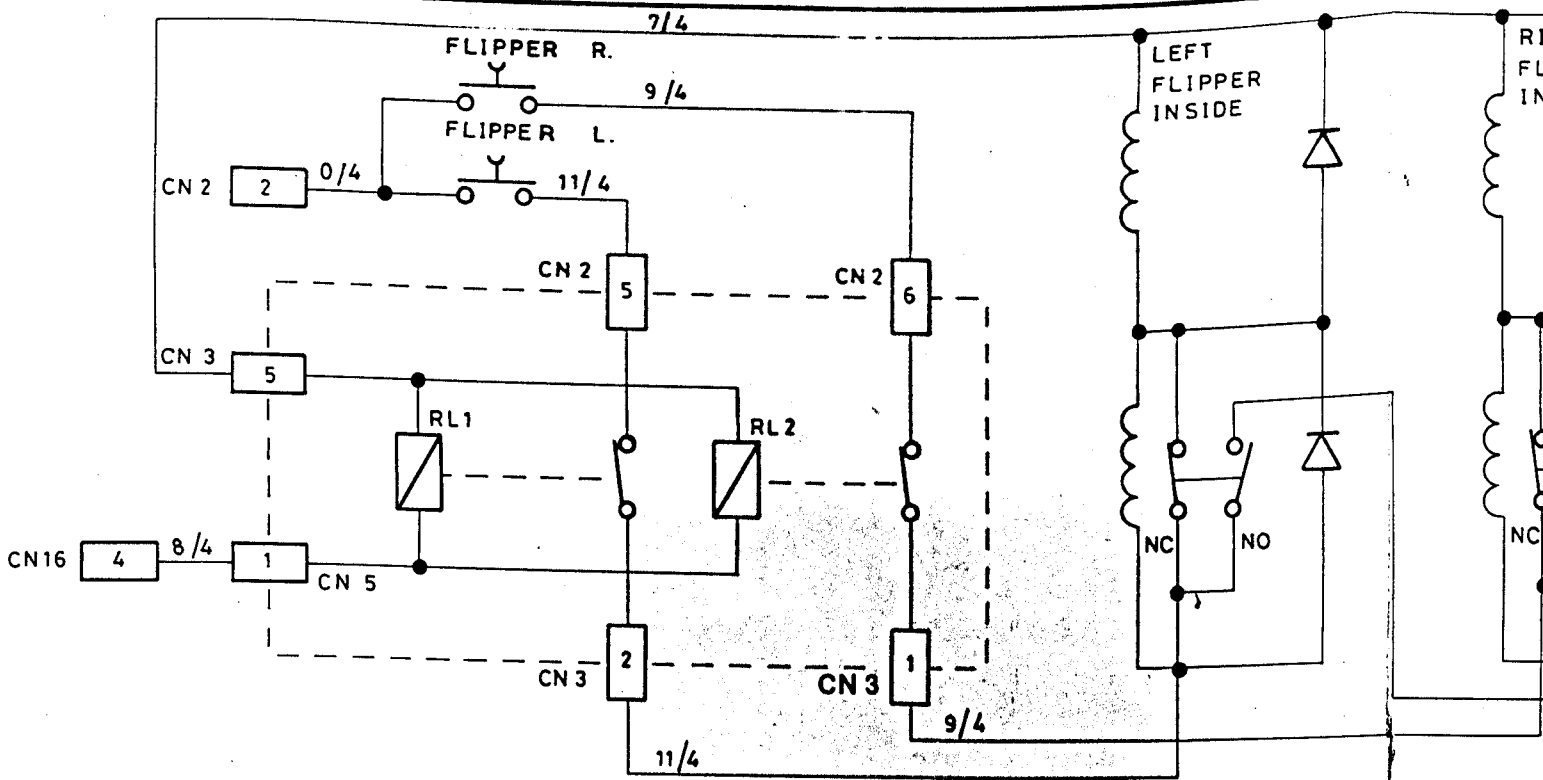
ALL DIODES AR



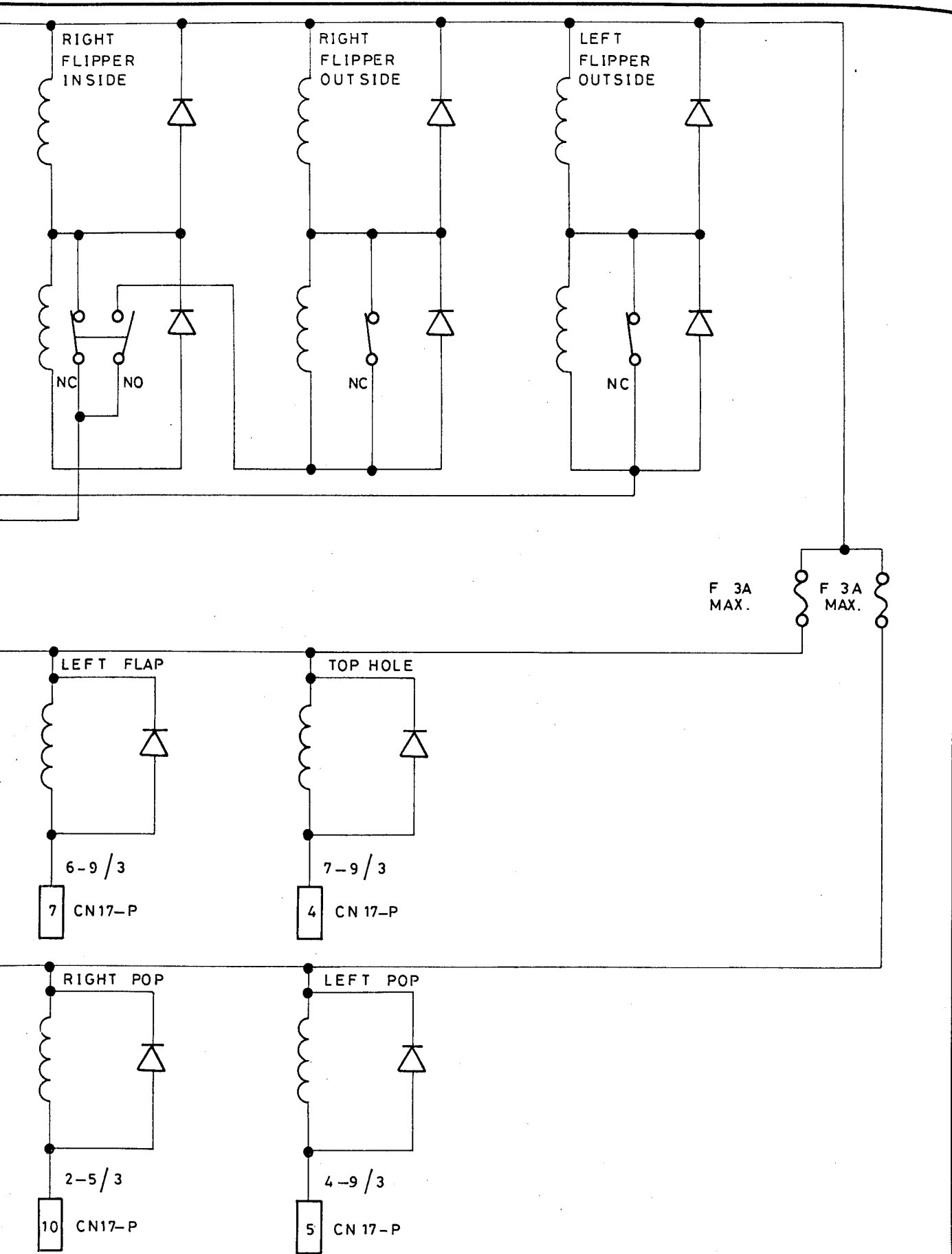
**F.LLI ZACCARIA s.n.c.**  
 Via Armaroli, 15 - 40012 CALDERARA DI RENO (Bo) Italy

PART NAME		PART NO.	
DIAGRAM FOR PLAYFIELD CONTACTS WIRING "TIME MACHINE"			
DOWN.	DATE	REV.	DATE REV.

DES ARE IN 4148



ALL DIODES ARE 1N4004

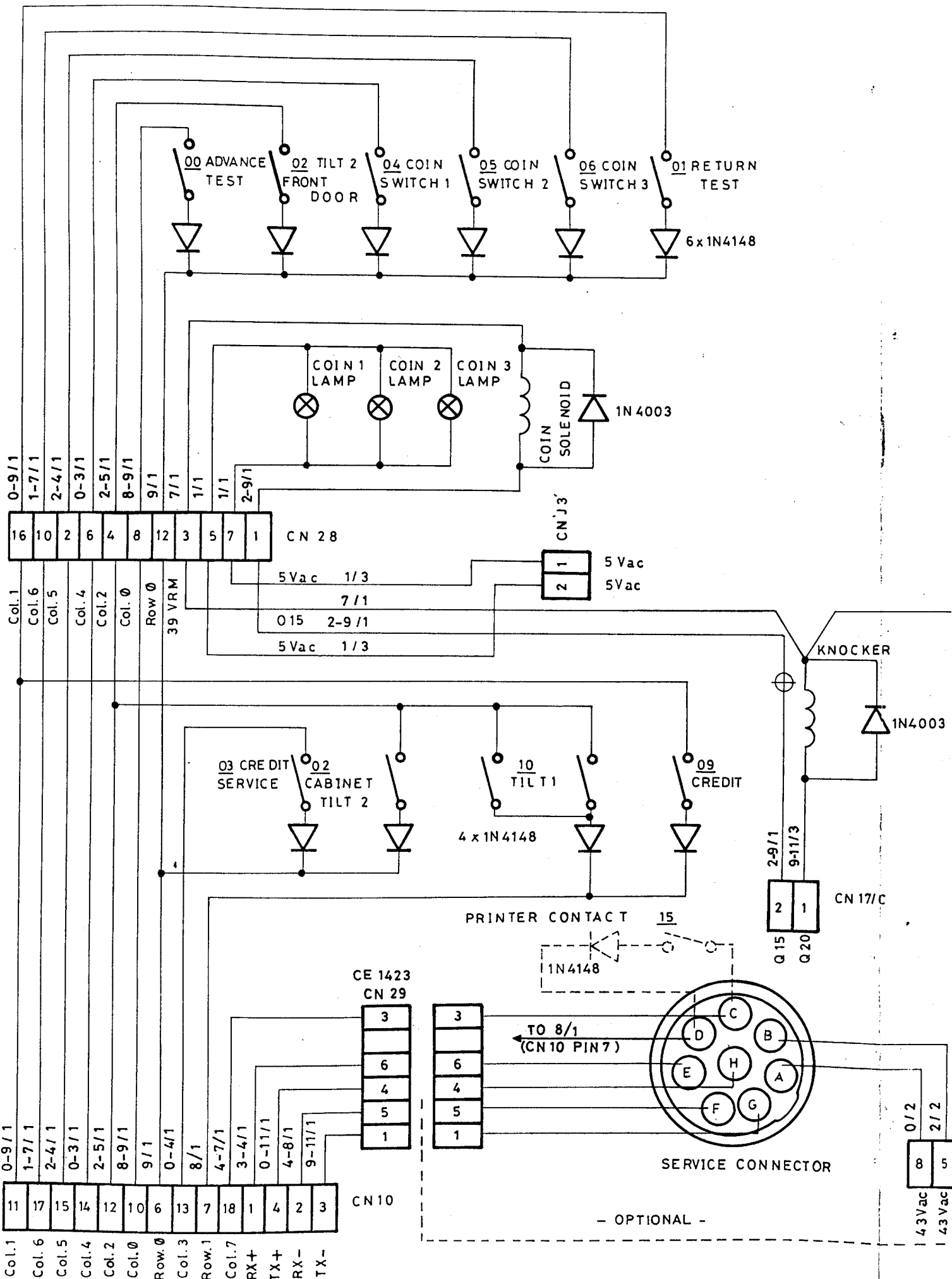


14004

**F.LLI ZACCARIA s.n.c.**  
Via Armadori, 15 - 40012 CALDERARA DI RENO (Bo) Italy

PART NAME				PART NO.	
COIL WIRING "TIME MACHINE"					
DWN.	DATE	REV.	DATE REV.	SHEET	
LOWE	5.1.83	P	73.11.83		
NOTES: UNLESS OTHERWISE SPECIFIED					
1) ALL RESISTORS VALUES IN _____					
2) ALL CAPACITORS VALUES IN _____					

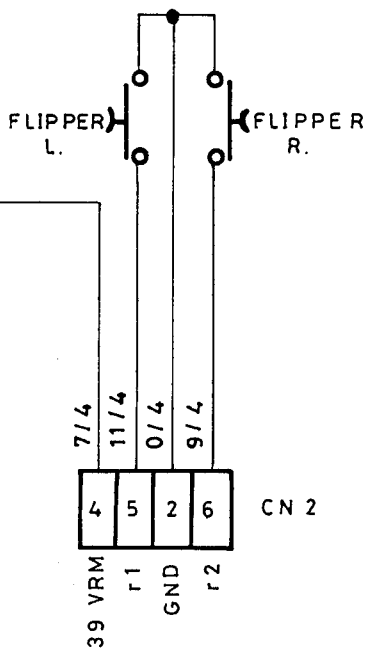
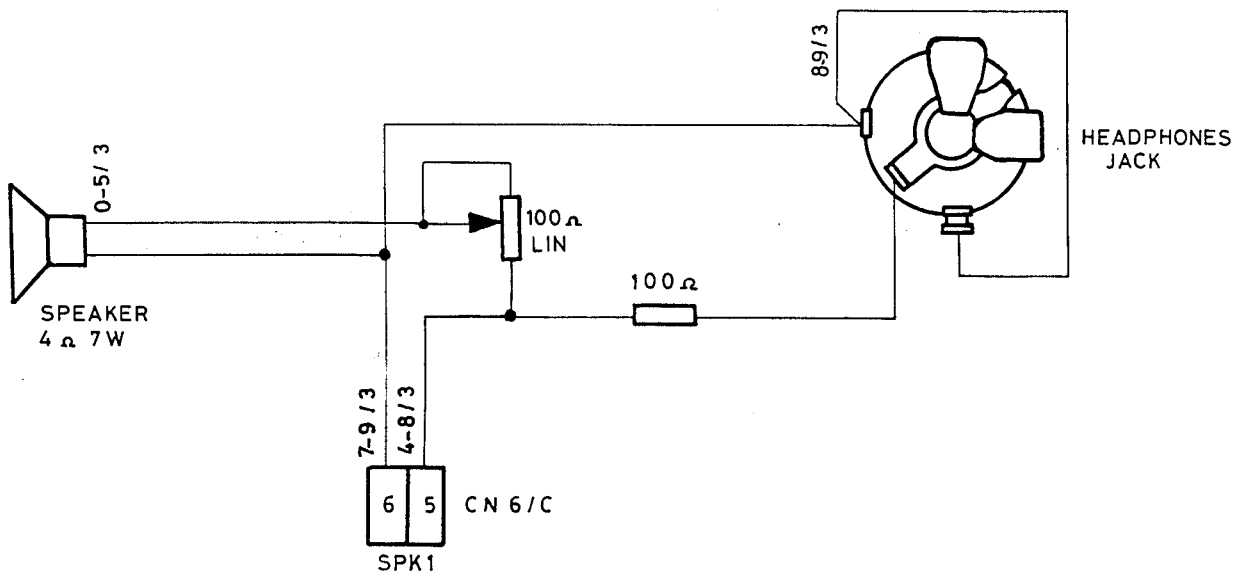
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16  
Col.1  
0-9/1  
17  
Col.6



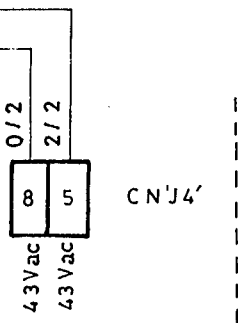
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16	10	2	6	4	8	12	3	5	7	1
Col. 1	Col. 6	Col. 5	Col. 4	Col. 2	Col. 0	Row 0	39 VRM			


0-9/1	1-7/1	2-4/1	0-3/1	2-5/1	8-9/1	9/1	0-4/1	8/1	4-7/1	3-4/1	0-11/1	4-8/1	9-11/1
11	17	15	14	12	10	6	13	7	18	1	4	2	3
Col. 1	Col. 6	Col. 5	Col. 4	Col. 2	Col. 0	Row 0	Col. 3	Row. 1	Col. 7	RX+	TX+	RX-	TX-

- OPTIONAL -



N4003

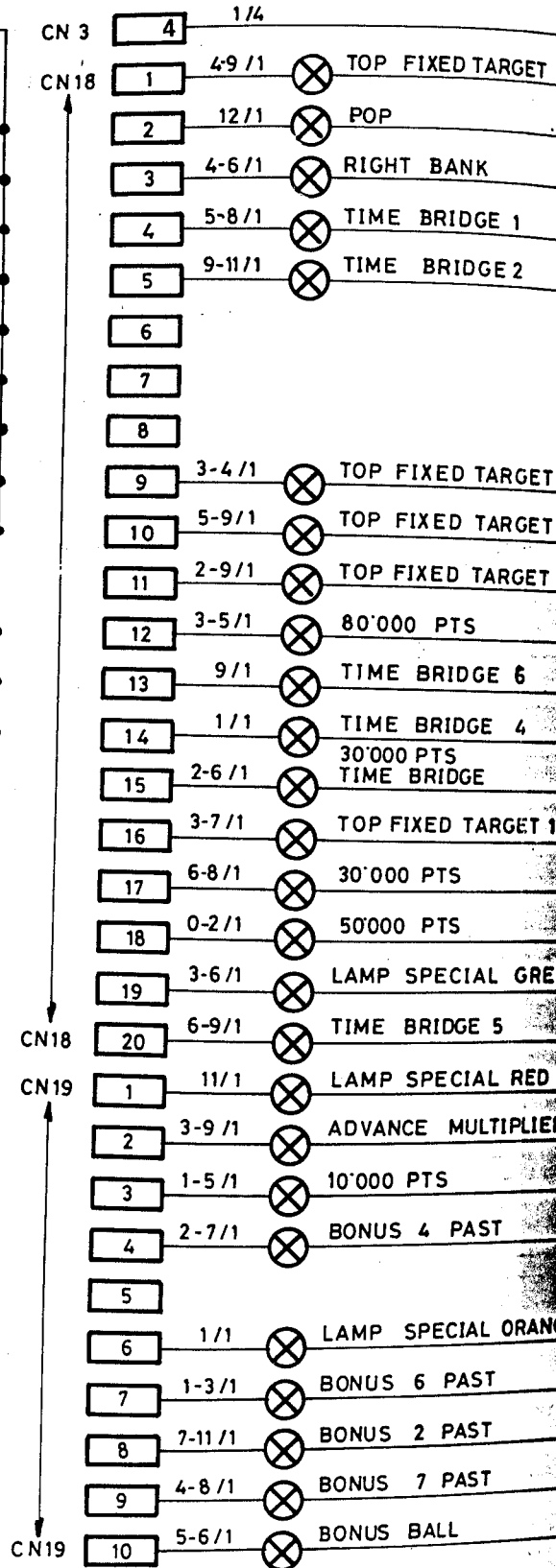
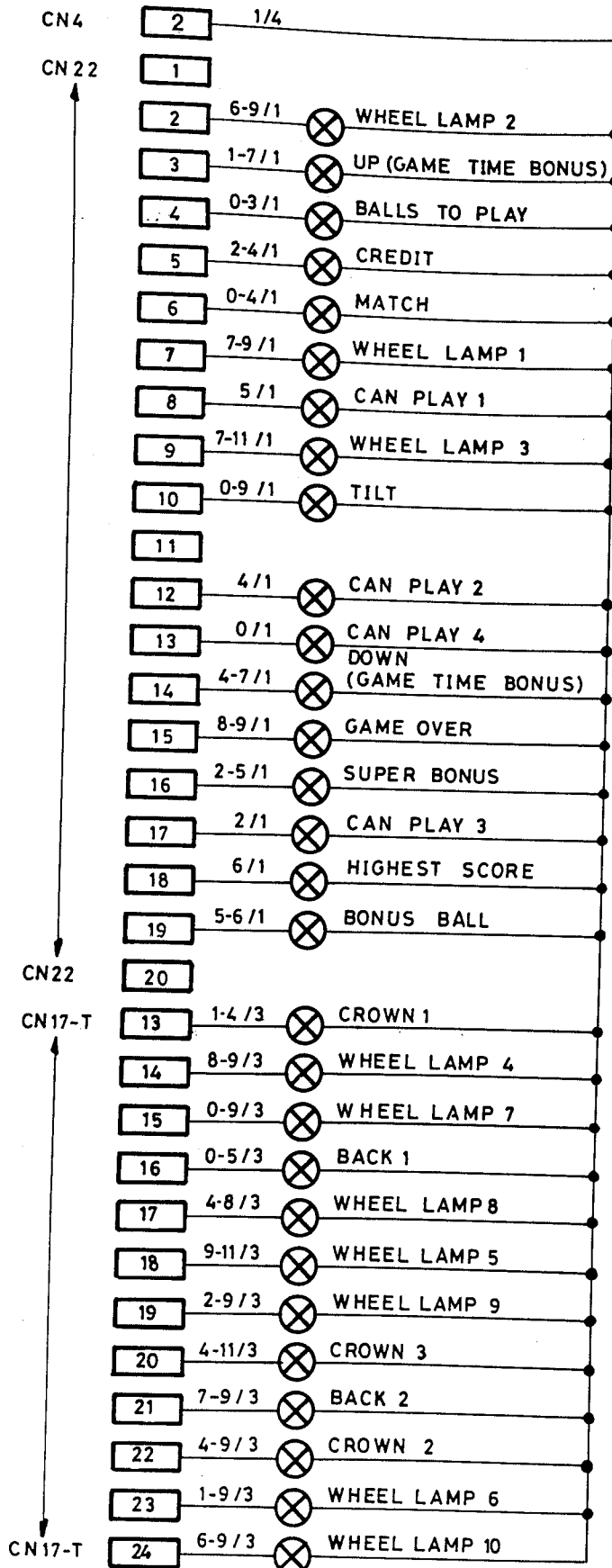


 <b>F.LLI ZACCARIA s.n.c.</b> Via Armadori, 15 - 40012 CALDERARA DI RENO (Bo) Italy		PART NAME		PART NO.	
		Elettrical diagram for cabinet & front door wiring			
DWN.	DATE	REV.	DATE REV.	SHEET	
lovena	2.3.1982	02	3-9-82		
NOTES: UNLESS OTHERWISE SPECIFIED 1) ALL RESISTORS VALUES IN _____ 2) ALL CAPACITORS VALUES IN _____					



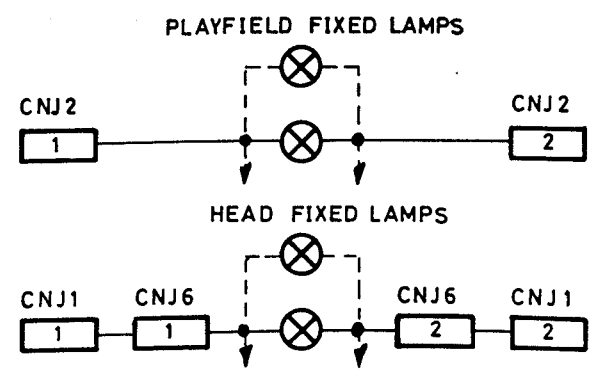
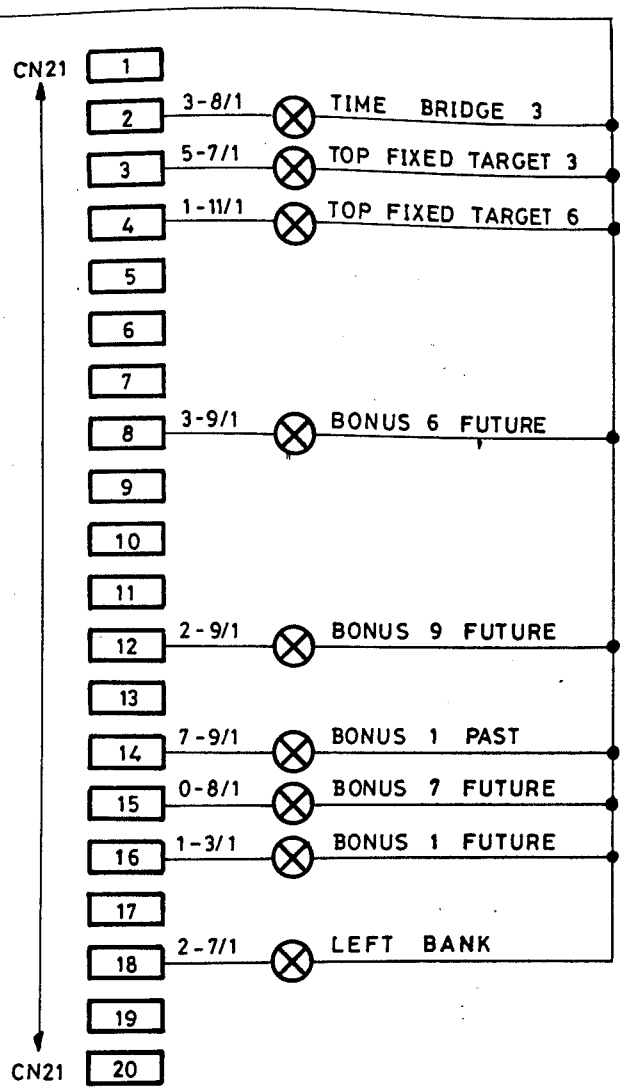
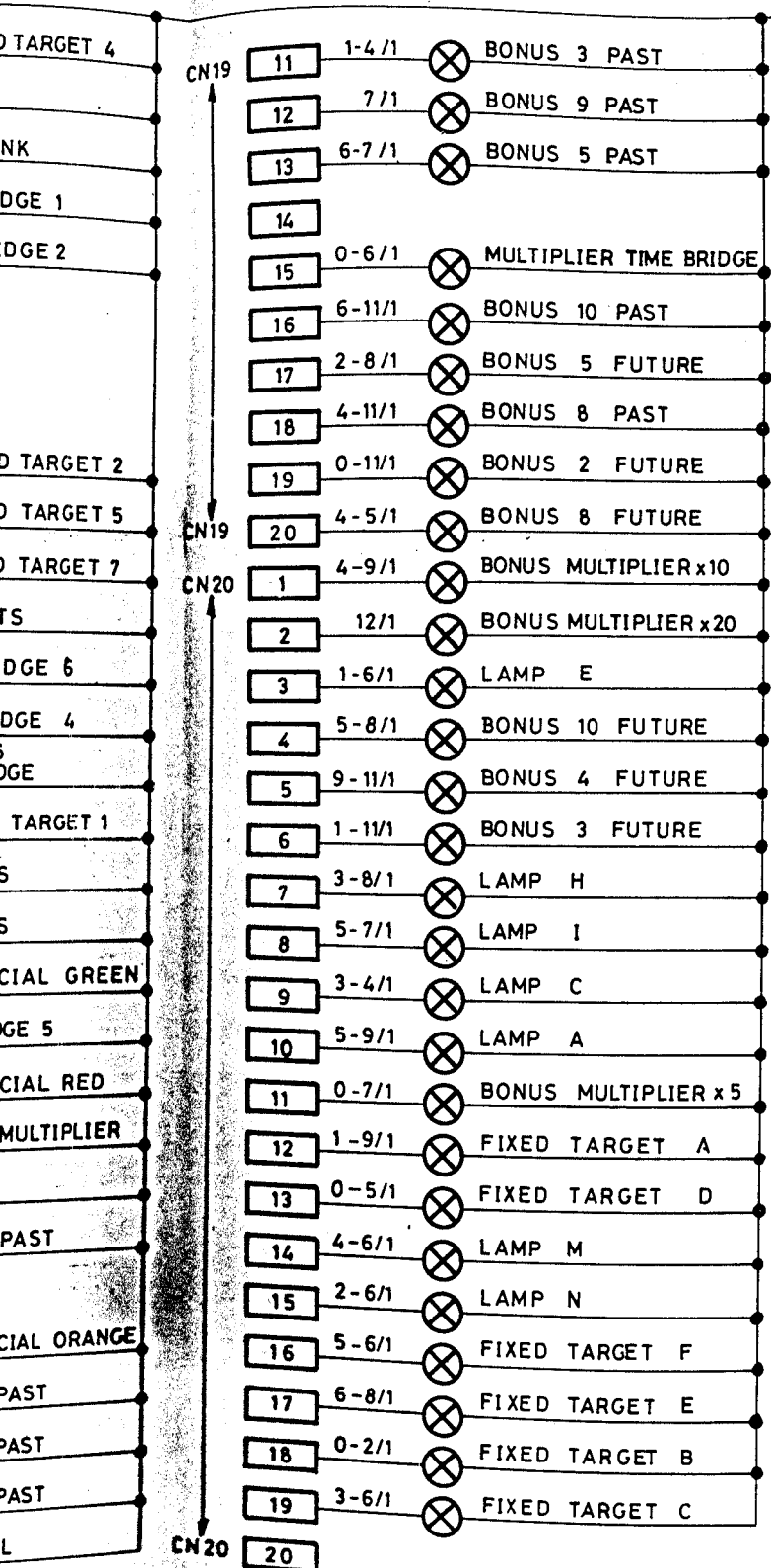


# HEAD LAMPS



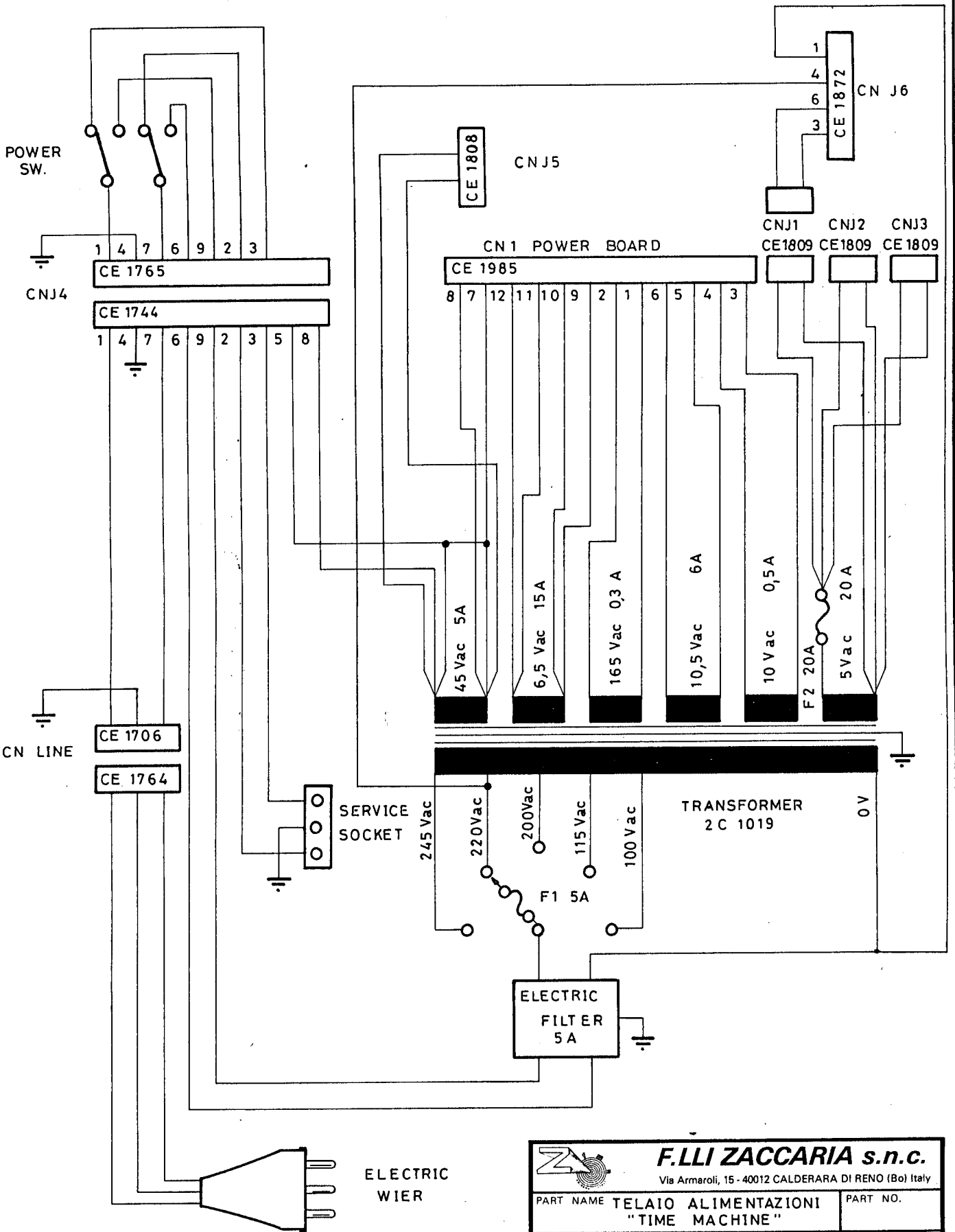
**S.n.c.**  
 RENO (Bo) Italy  
 PART NO.  
 SHEET


# PLAYFIELD LAMPS



**F.LLI ZACCARIA s.n.c.**  
Via Armadori, 15 - 40012 CALDERARA DI RENO (Bo) Italy

PART NAME <b>Electrical diagram for PLAYFIELD &amp; HEAD LAMPS</b>		PART NO.	
DWN. <i>2006</i>	DATE <b>23/2/83</b>	REV.	DATE REV.
NOTES: UNLESS OTHERWISE SPECIFIED		SHEET	
1) ALL RESISTORS VALUES IN		-----	
2) ALL CAPACITORS VALUES IN		-----	



 <b>F.LLI ZACCARIA s.n.c.</b> Via Armaroli, 15 - 40012 CALDERARA DI RENO (Bo) Italy			
PART NAME		PART NO.	
TELAIO ALIMENTAZIONI "TIME MACHINE"			
DWN.	DATE	REV.	DATE REV SHEET
Lorena	4. 1. 83		23. 7. 83
NOTES: UNLESS OTHERWISE SPECIFIED			
1) ALL RESISTORS VALUES IN _____			
2) ALL CAPACITORS VALUES IN _____			