



JUEGOS POPULARES

SERVICE MANUAL

ELECTRONIC DIVISION
DOCUMENTATION No. 035-670

MR. OPERATOR

We would advise you of the importance of reading this Manual, which will help you to obtain the very best efficiency in our electronic Pin-Ball.

INTRODUCTION

This manual has the necessary technical information for the maintenance through diagrams of components and electronic diagrams.

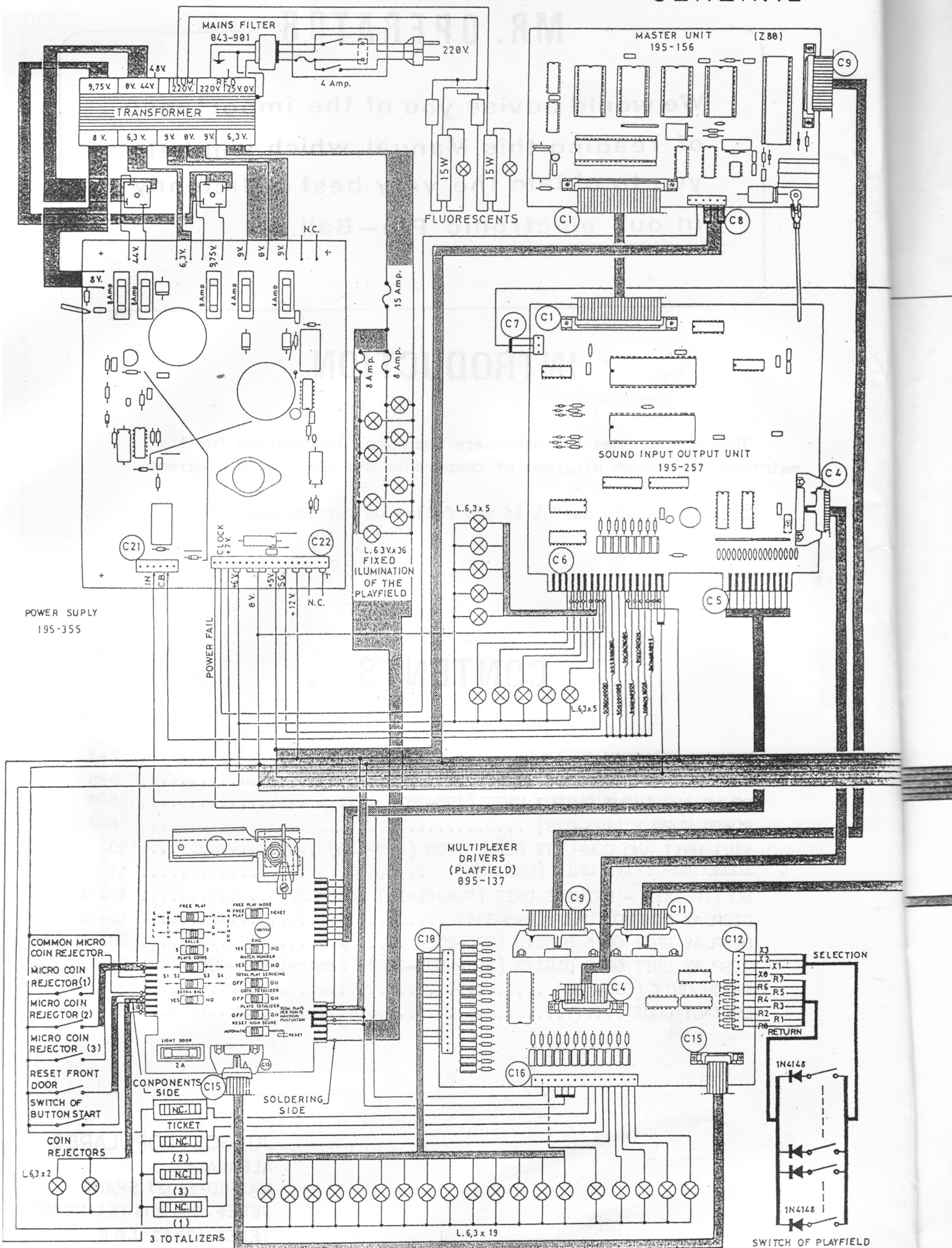
It will be very useful if you follow up our instructions.

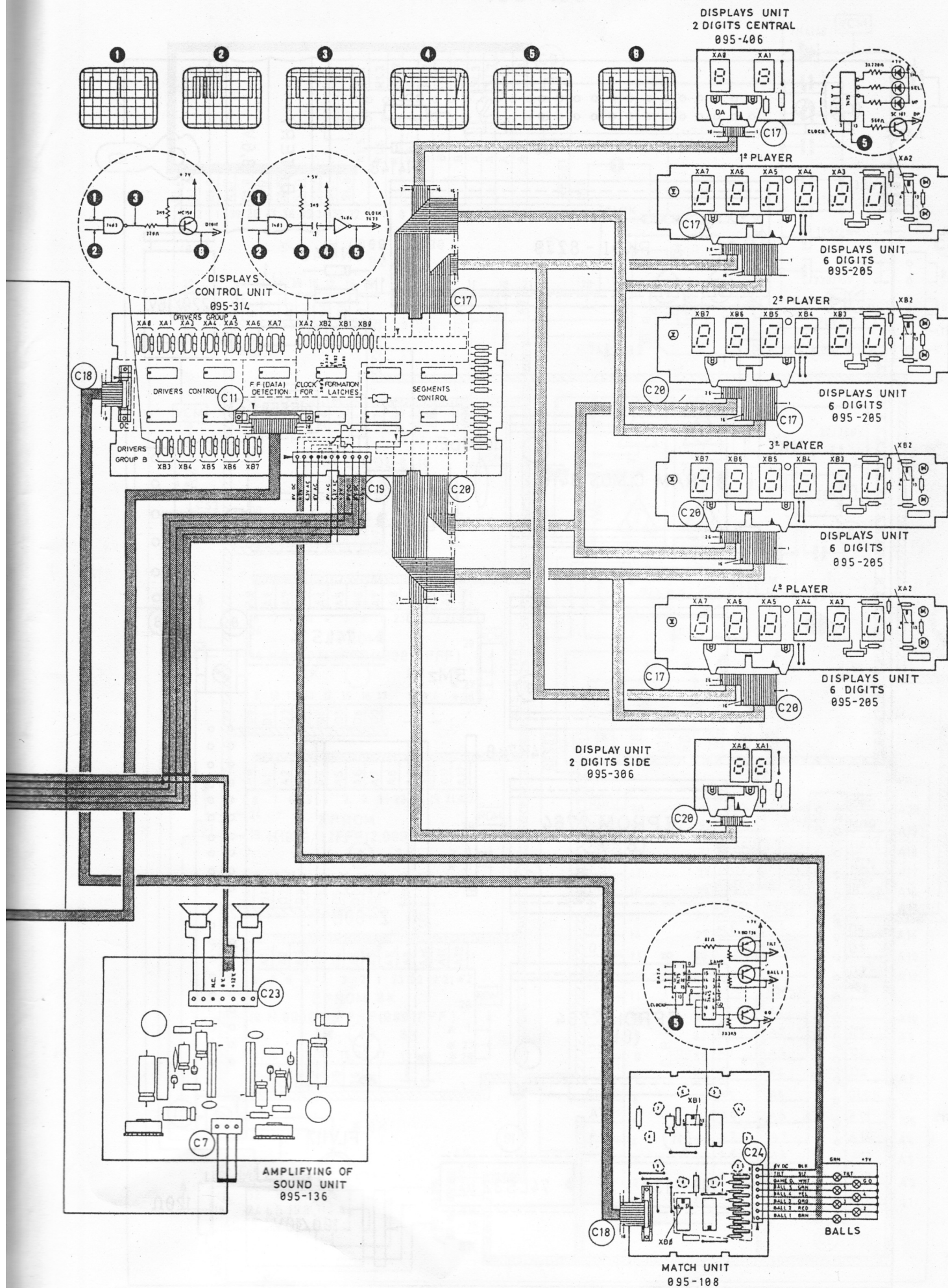
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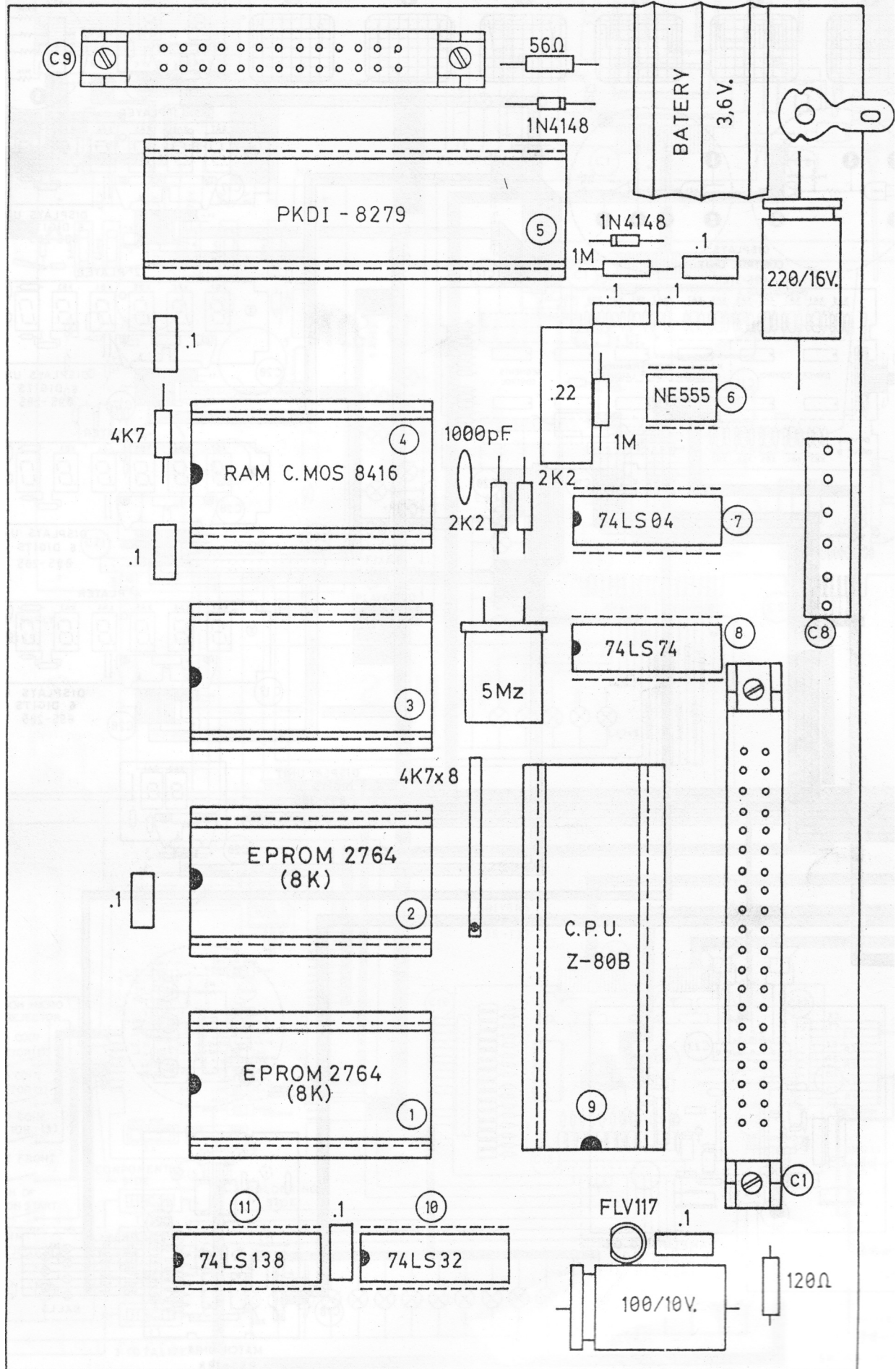
JUEGOS POPULARES
ALBALA, 5
MADRID-28037 SPAIN
TELEF. 754 3415 (5 LINEAS)
TELEX 423 27 J.P.E.

GENERAL

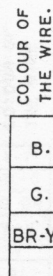




MASTER UNIT (Z-80) 195-156

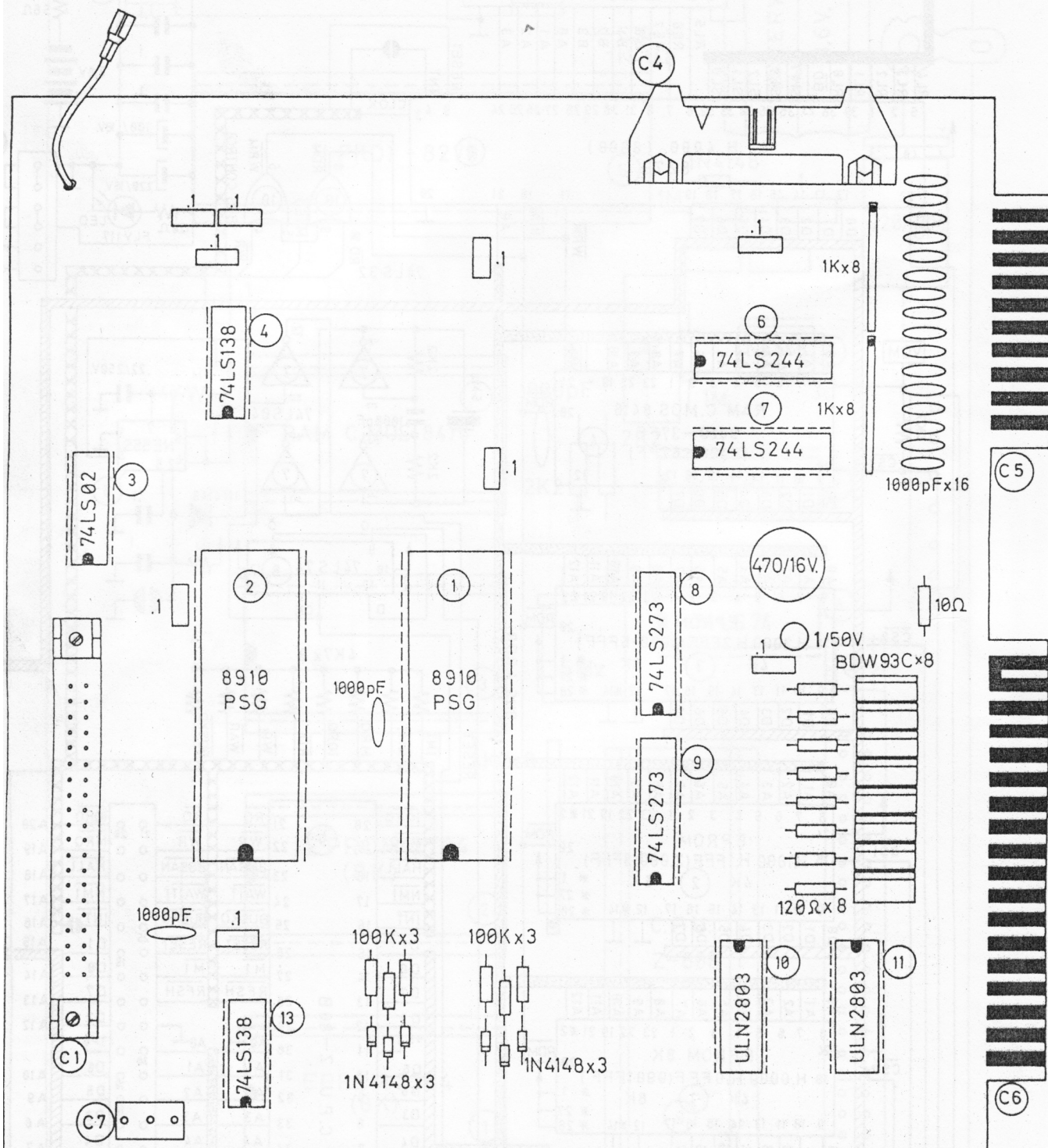


195 - 156

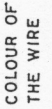


SOUND INPUT-OUTPUT UNIT

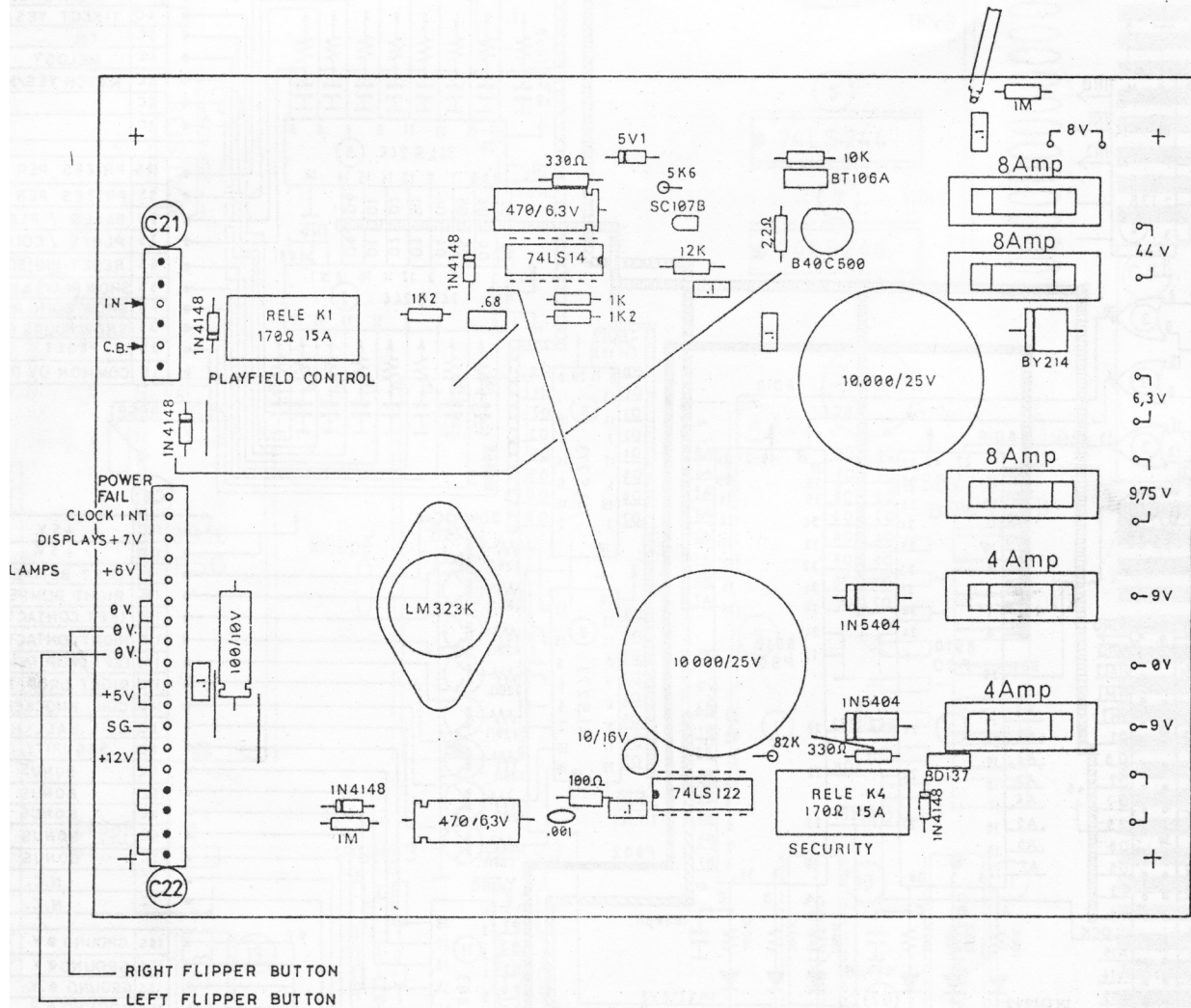
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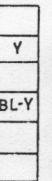
195-257



195 - 078

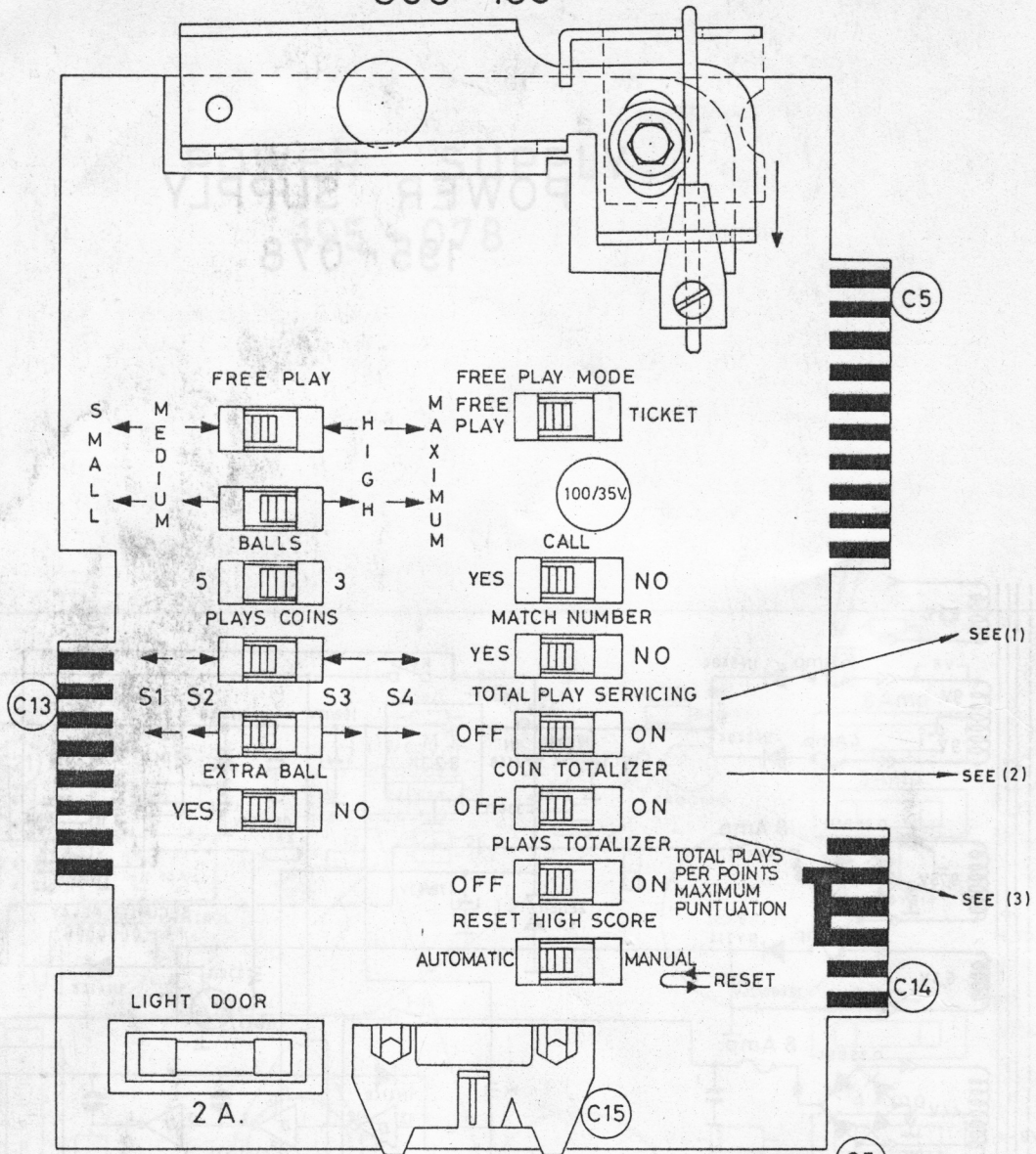


195 - 078

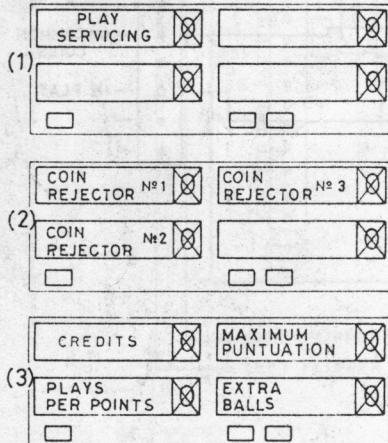


TILT UNIT AND COMPLETE REGULATION

098-135



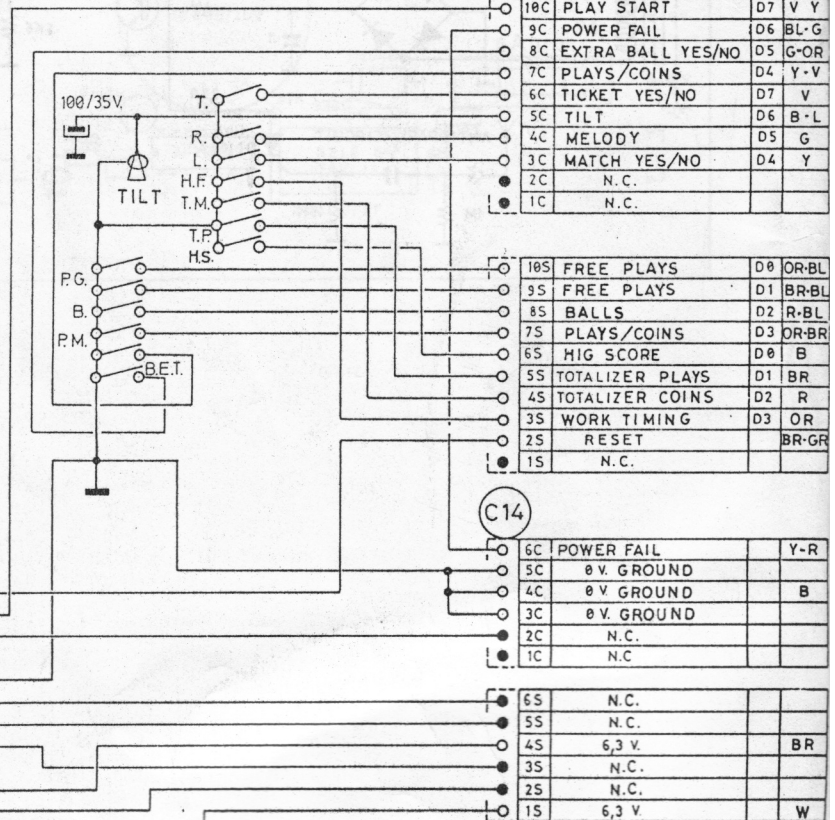
TOTALIZERS



COLOUR OF THE WIRE

BR	MICRO OF COIN REJECT (1)	8C
OR	MICRO OF COIN REJECT (3)	7C
B-BL	COMMON MICRO OF COIN R.	6C
R	MICRO OF COIN REJECT (2)	5C
	N.C.	4C
BR-GR	RESET FRONT DOOR	3C
OR-B	STARTING COUNTER	2C
	N.C.	1C

B	0 V. GROUND	8S
	N.C.	7S
	N.C.	6S
	N.C.	5S
	N.C.	4S
BR-OR	6,3 V.	3S
	N.C.	2S
W	6,3 V.	1S



10C	PLAY START	D7	V	Y
9C	POWER FAIL	D6	BL	G
8C	EXTRA BALL YES/NO	D5	G	OR
7C	PLAYS/COINS	D4	Y	V
6C	TICKET YES/NO	D7	V	
5C	TILT	D6	B	L
4C	MELODY	D5	G	
3C	MATCH YES/NO	D4	Y	
2C	N.C.			
1C	N.C.			

10S	FREE PLAYS	D8	OR	BL
9S	FREE PLAYS	D1	BR	BL
8S	BALLS	D2	R	BL
7S	PLAYS/COINS	D3	OR	BR
6S	HIG SCORE	D6	B	
5S	TOTALIZER PLAYS	D1	BR	
4S	TOTALIZER COINS	D2	R	
3S	WORK TIMING	D3	OR	
2S	RESET		BR	GR
1S	N.C.			

6C	POWER FAIL		Y	R
5C	0 V. GROUND			
4C	0 V. GROUND		B	
3C	0 V. GROUND			
2C	N.C.			
1C	N.C.			

6S	N.C.			
5S	N.C.			
4S	6,3 V.		BR	
3S	N.C.			
2S	N.C.			
1S	6,3 V.		W	

ADJUSTMENT OF SOUND

10K

100/25V

150 K

100pF

5K6

4,7/63V

.1

330 K

10/25V

4,7Ω

1K8

TDA 1011

C7

10K

100/25V

330 K

4,7/63V

5K6

100pF

150 K

100/25V

1/63V

4,7Ω

C23

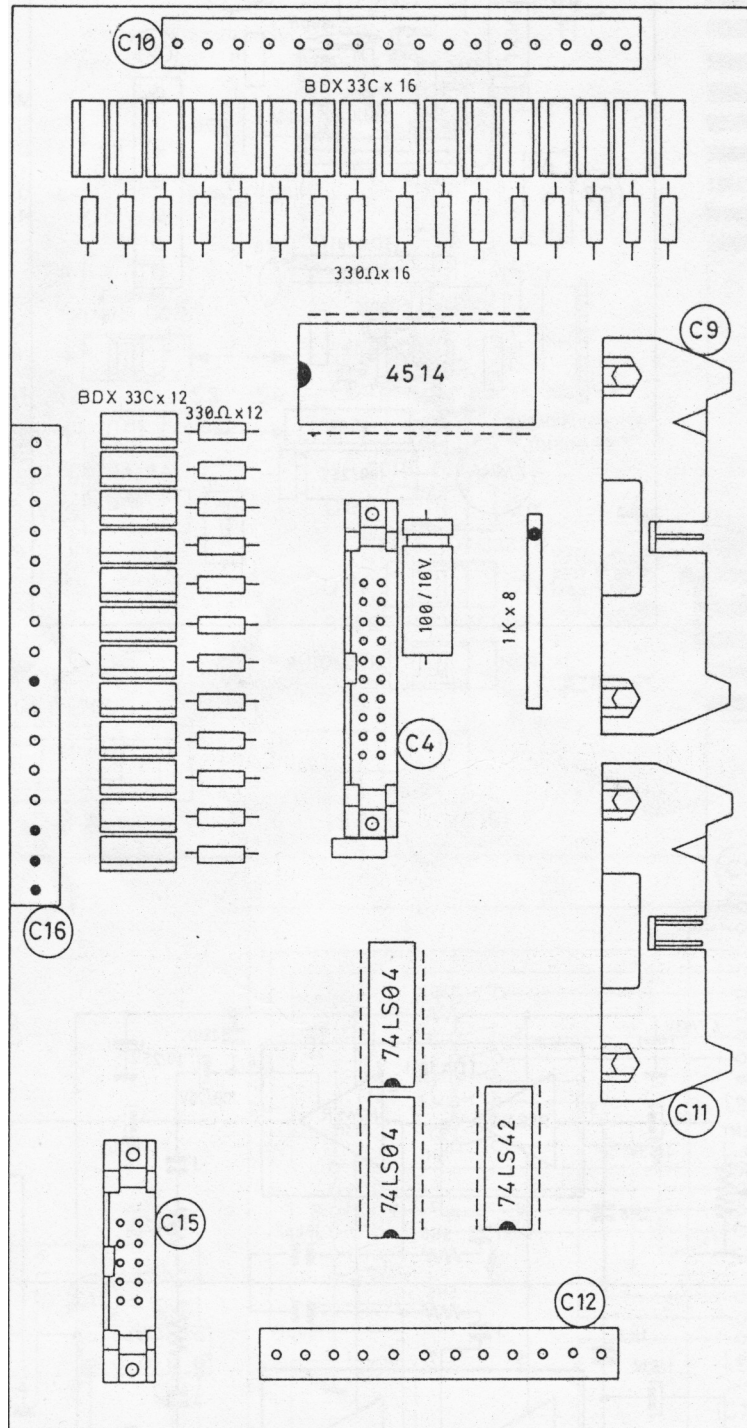
N.C.

0 V.

+12V.

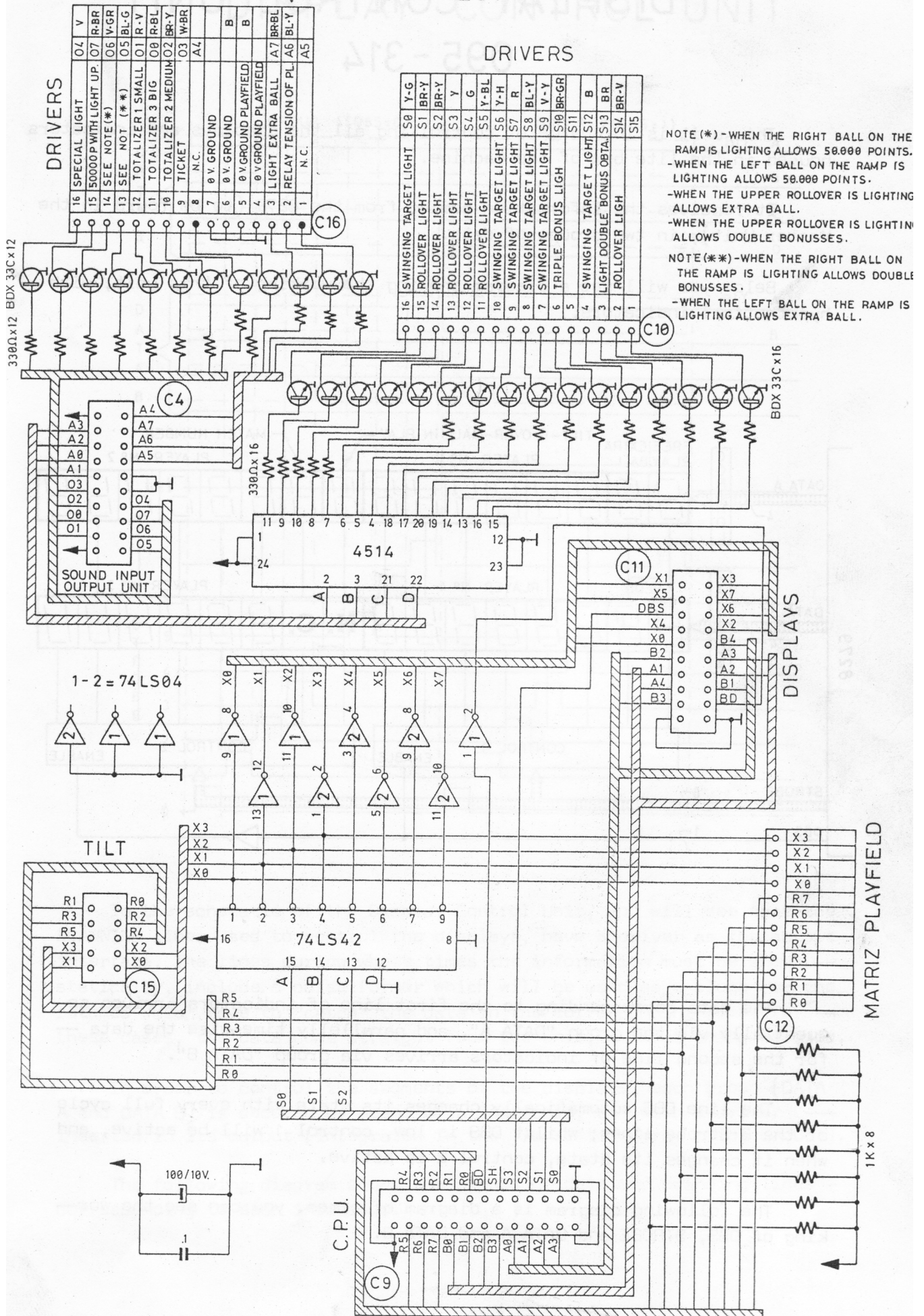


MULTIPLEXER-DRIVERS UNIT (PLAYFIELD) 095-237



MULTIPLEXER DRIVERS UNIT (PLAYFIELD)

095-237



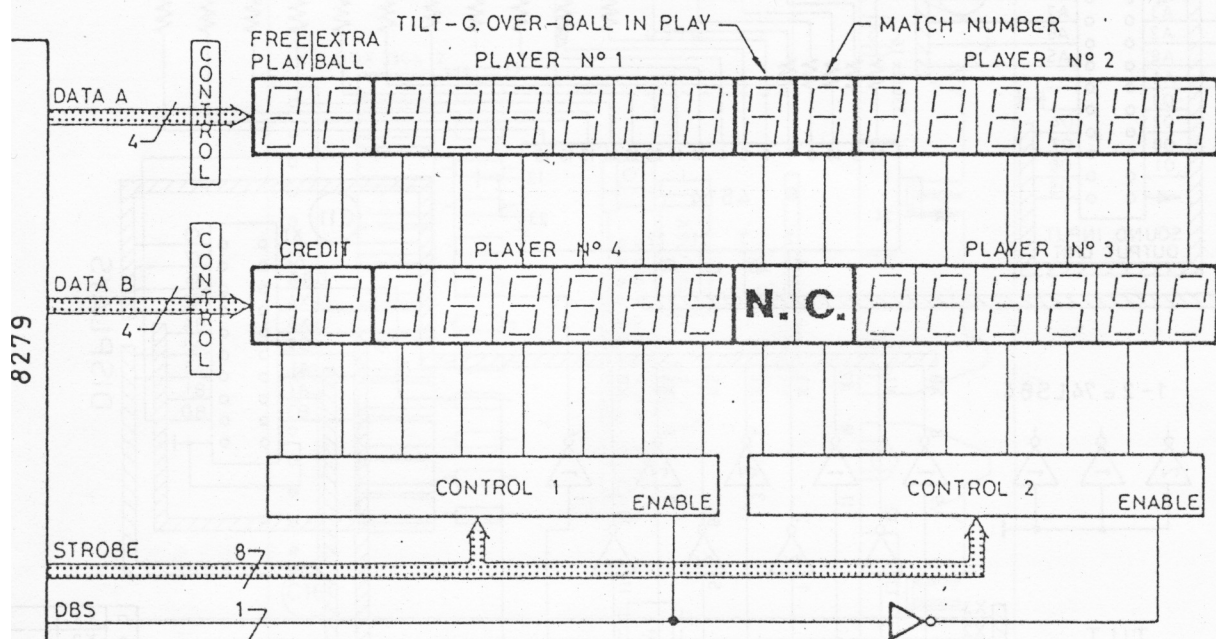
DISPLAY CONTROL UNIT

095 - 314

This unit is in charge of controlling all the displays and indicator housed in the lite box of the machine.

It receives the information coming from the 8279 (to be found in the Master Unit), in two groups of data.

Below you will see a diagram showing the working of this unit, with hypothetical indicators.

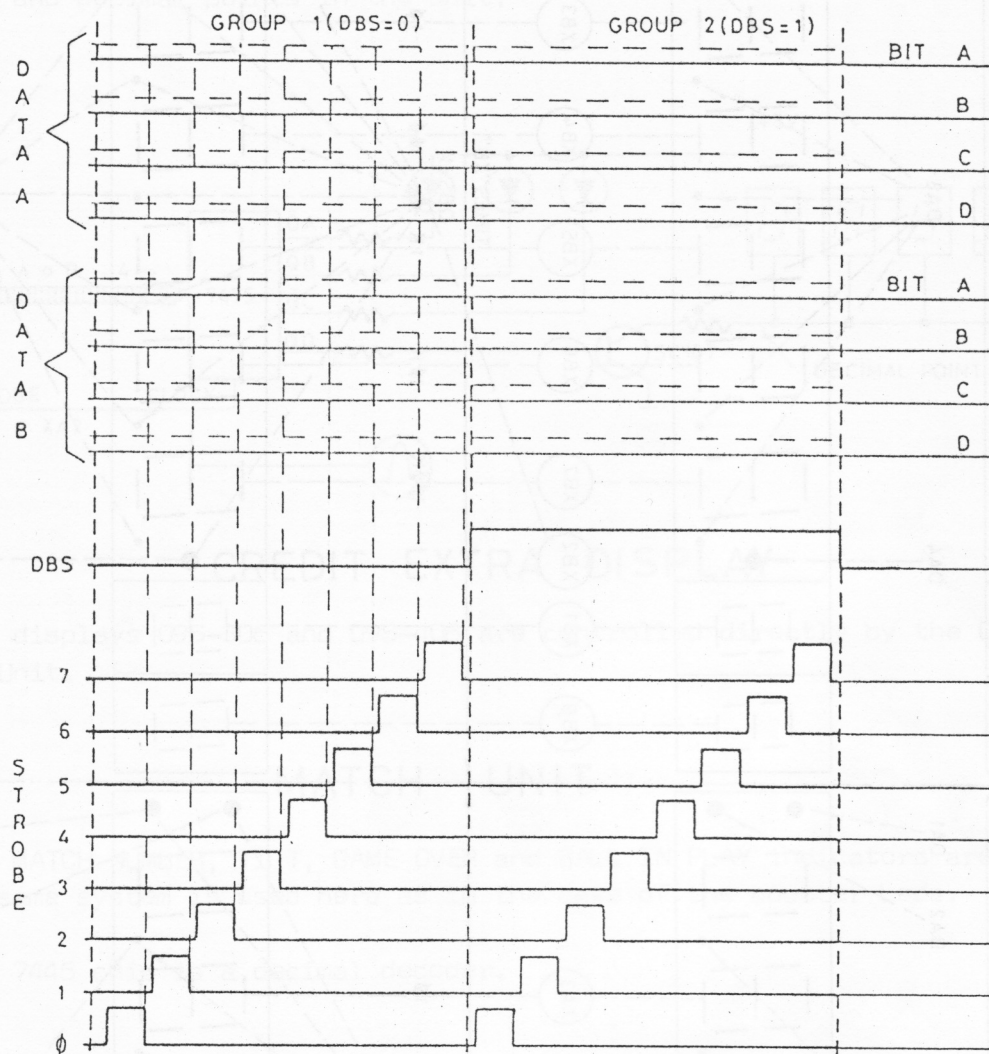


The data corresponding to the first line of indicators arrives sequentially via the group "DATA A", and parallelly time-wise the data — for the second line of indicators arrives via group "DATA B".

The line DBS automatically changes its state with every full cycle of the 8 Strobe lines; whilst DBS is low, control 1 will be active, and when it changes its state, control 2 is active.

The following diagram is a diagram of times, you can see the working of DBS, STROBE and DATA A and DATA B.

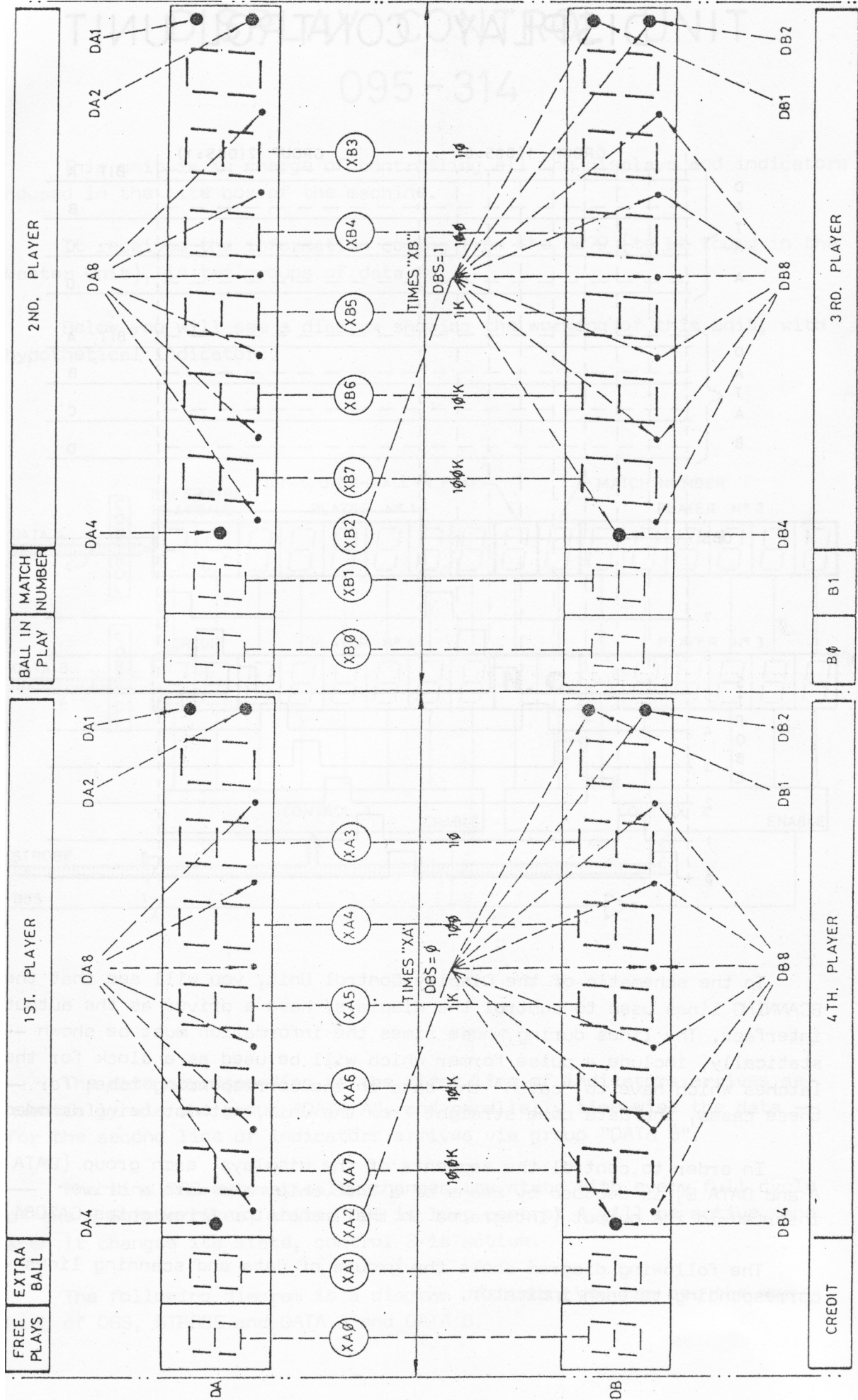
DISPLAY CONTROL UNIT



In the schematic of the Display Control Unit, you will see that the SCANNING lines used to control the displays, have a driver as the output interface. The lines during whose times the information must be shown -- statically, include a pulse former which will be used as a clock for the latches which have to "catch" the data in the corresponding time; for these cases, the data come straight from the unit, without being decoded

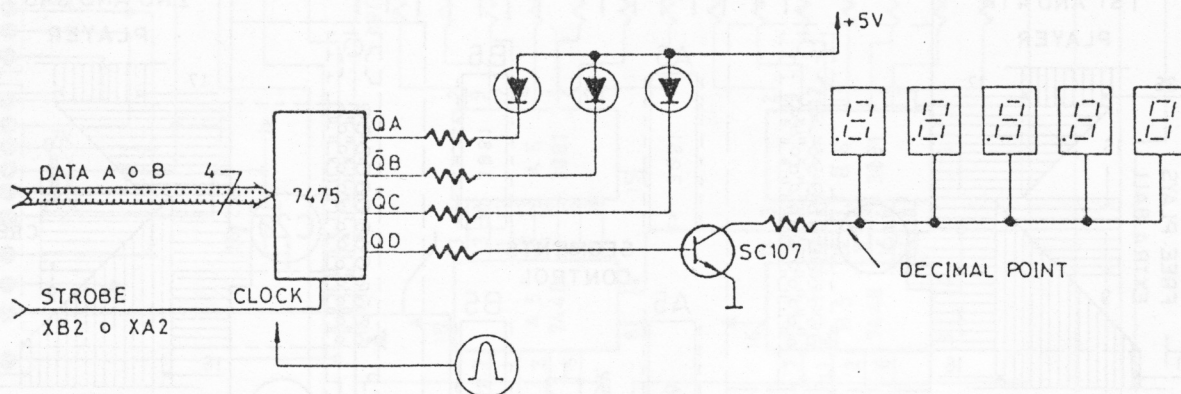
In order to control the segments of the displays, each group (DATA A and DATA B) is decoded by means of a 7448 chip, and with a driver inserted in its output (integrated in the Transistor Array chips CA3081)

The following diagram shows the groups of data and scanning lines - corresponding to each indicator.



PLAYER DISPLAYS

The Display Unit 095-205 is activated by the Display Control Unit and it only remains to mention that each unit incorporates a latch 7475 which memorizes the data when it receives a clock in order to control statically the Leds and decimal points in the unit.



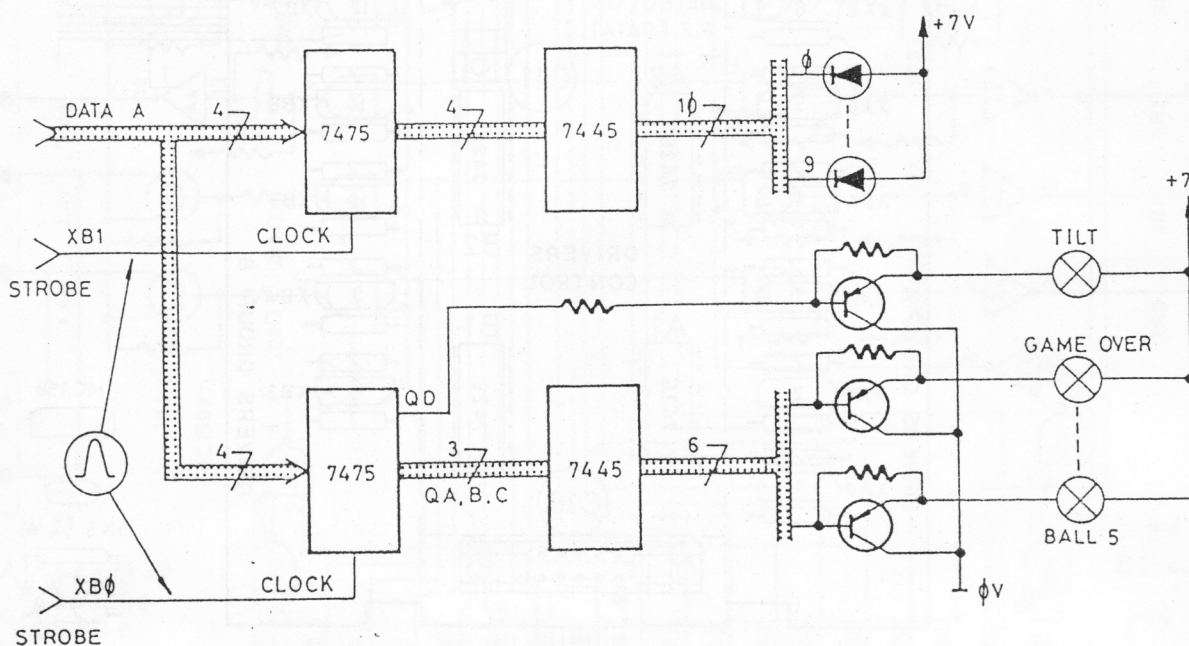
CREDIT-EXTRA DISPLAY

The displays 095-306 and 095-406 are controlled directly by the Display Control Unit.

MATCH UNIT

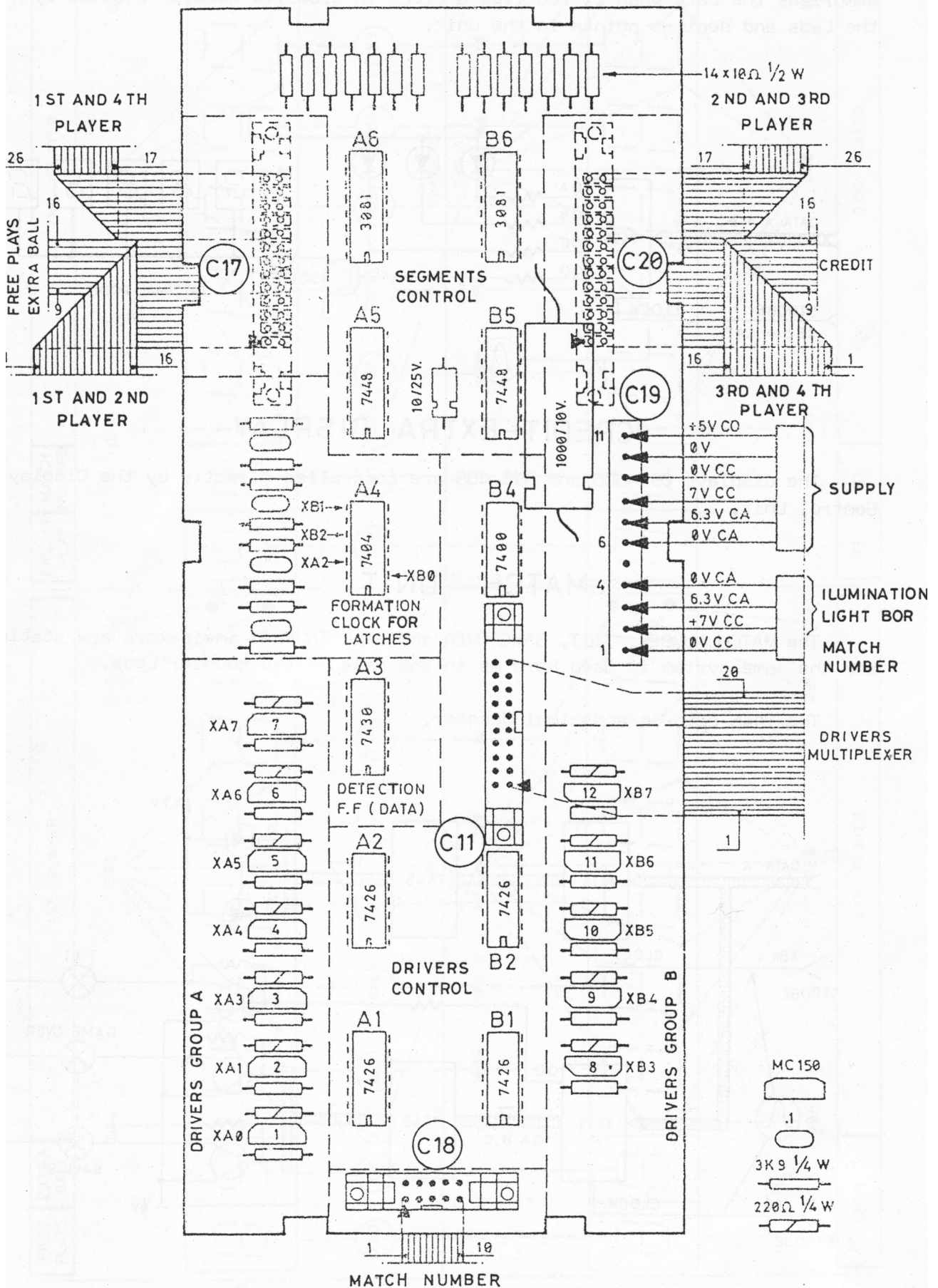
The MATCH NUMBER, TILT, GAME OVER and BALL IN PLAY indicators are static and the same system is used here as in the case of the counter Leds.

The 7445 chip is a decimal decoder.



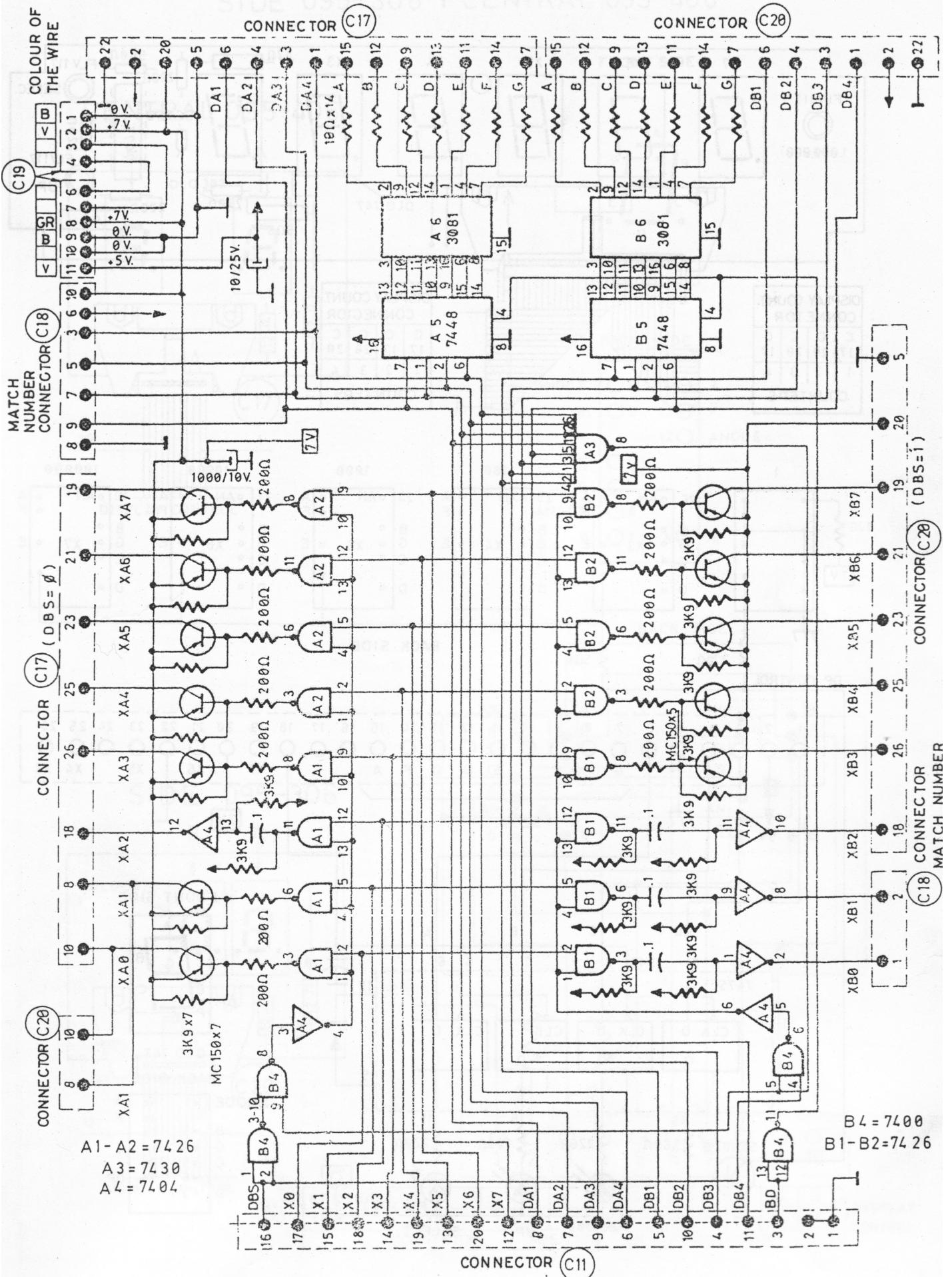
DISPLAY CONTROL UNIT

095-314



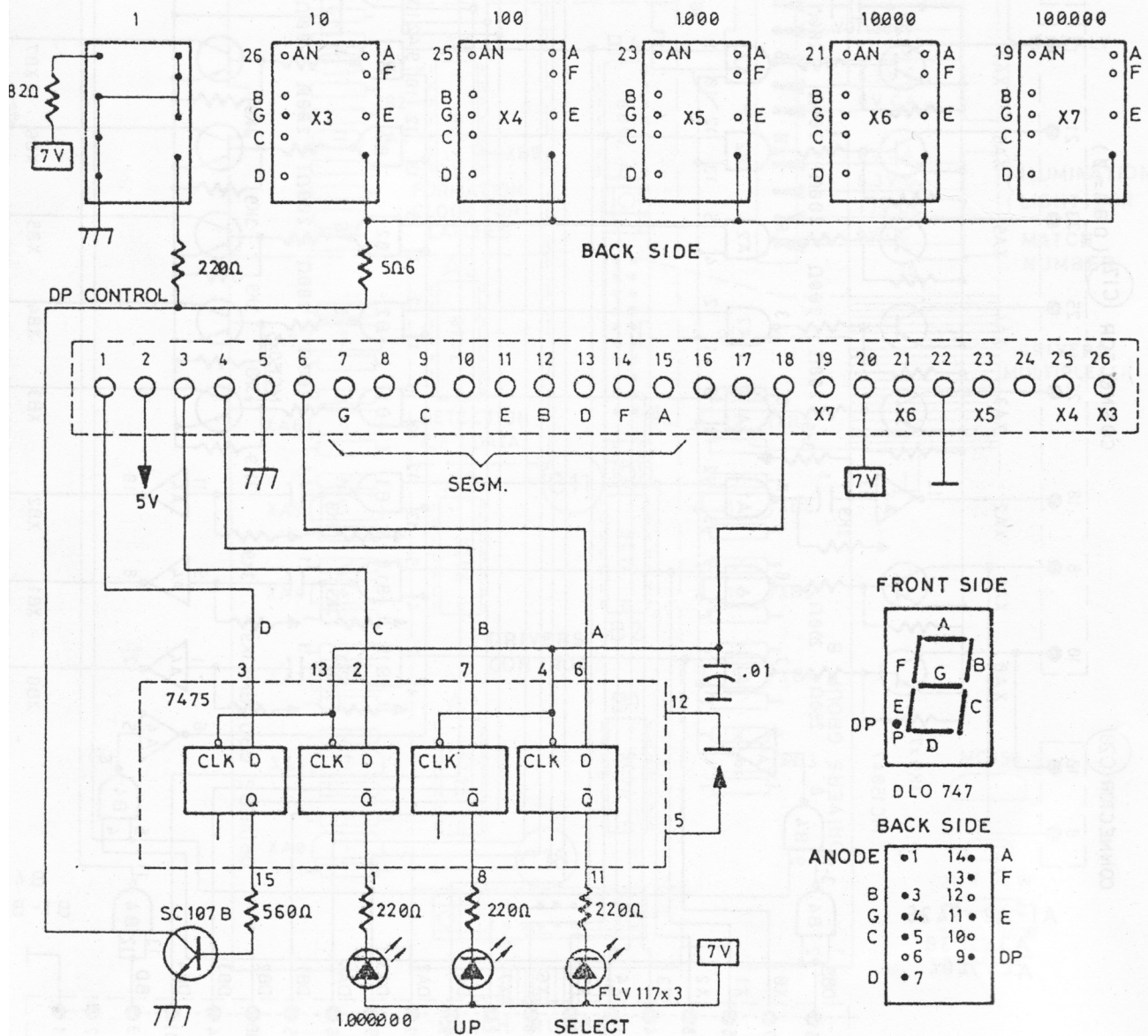
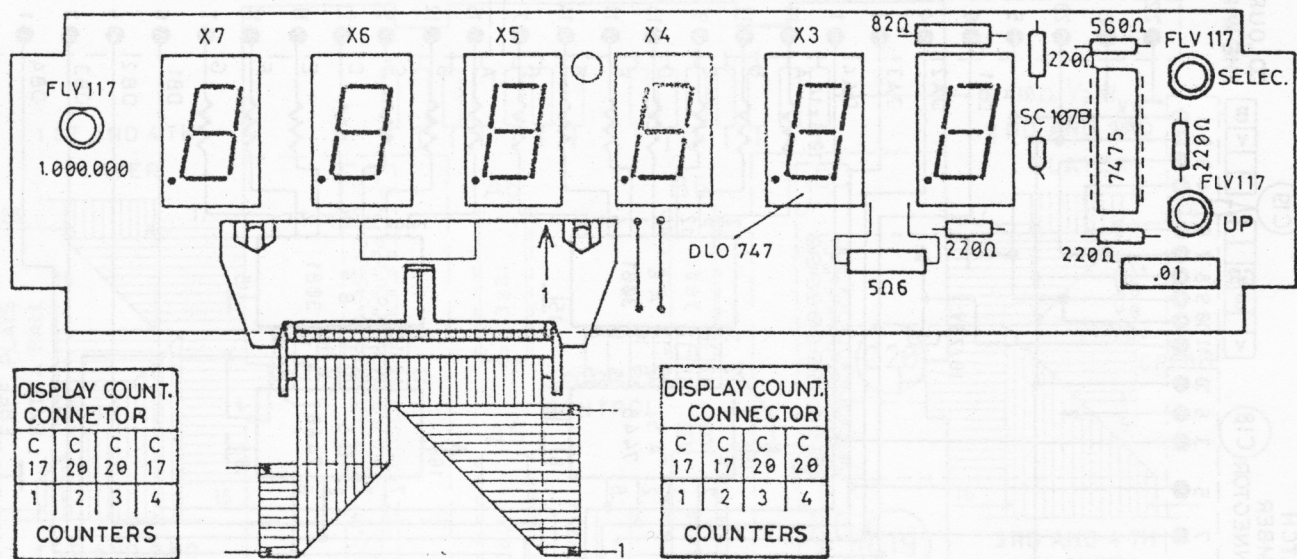
DISPLAY CONTROL DIAGRAM

095-314



6 DIGITS DISPLAY UNITS

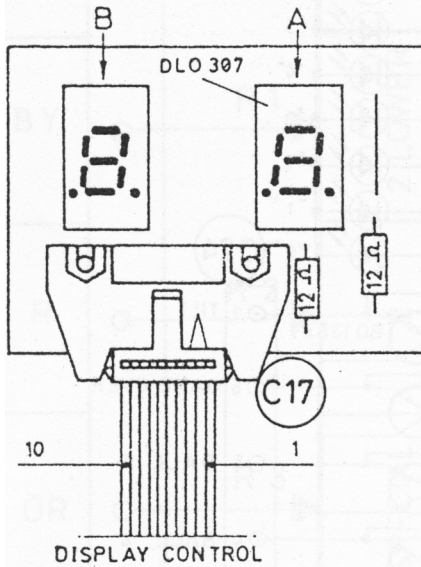
095-205



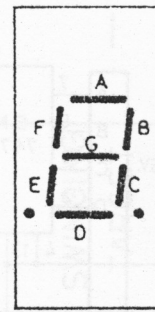
2 DIGITS DISPLAY UNITS

SIDE 095-306 Y CENTRAL 095-406

CENTRAL 095-406

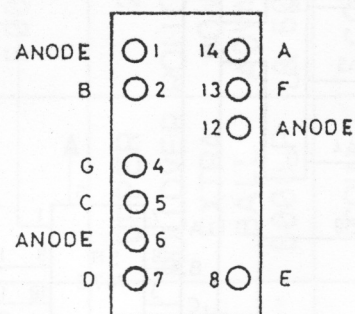


FRONT SIDE

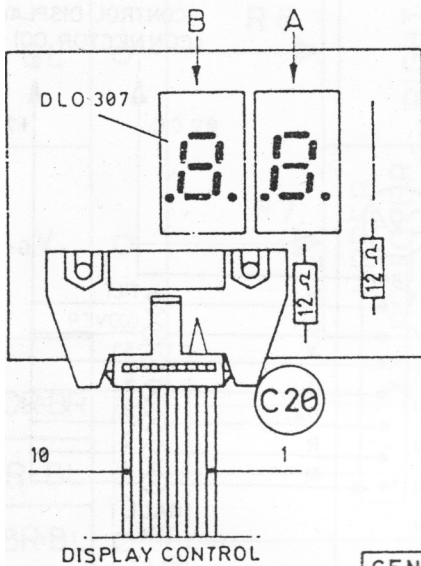


DLO 307

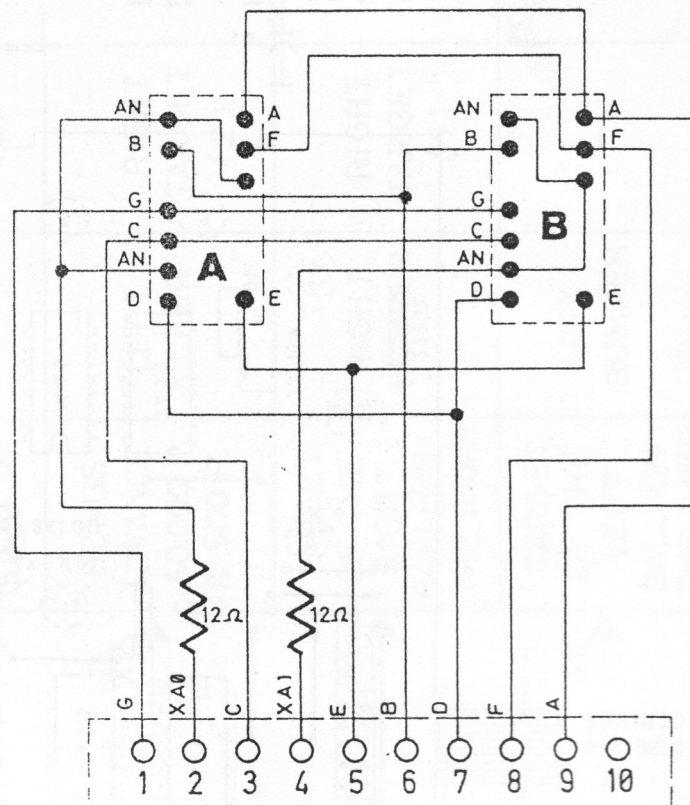
BACK SIDE



SIDE 095-306



BACK SIDE

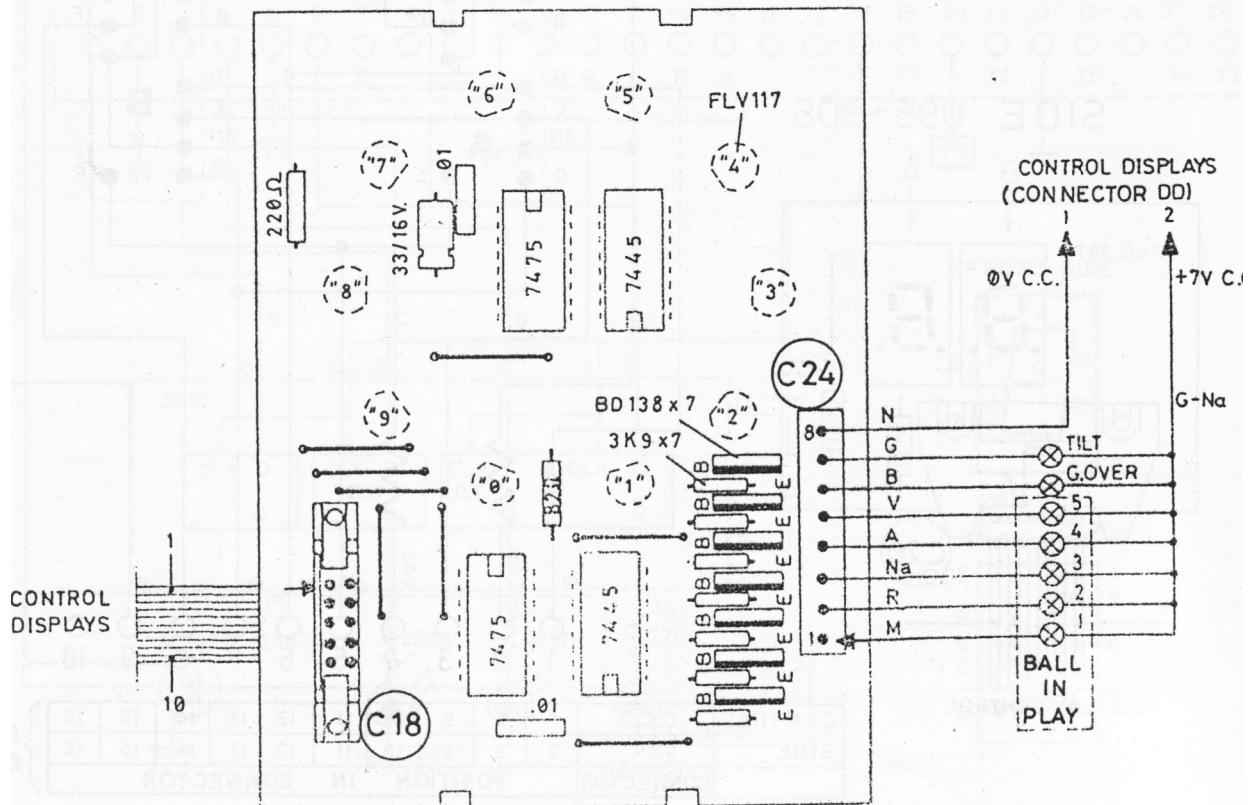
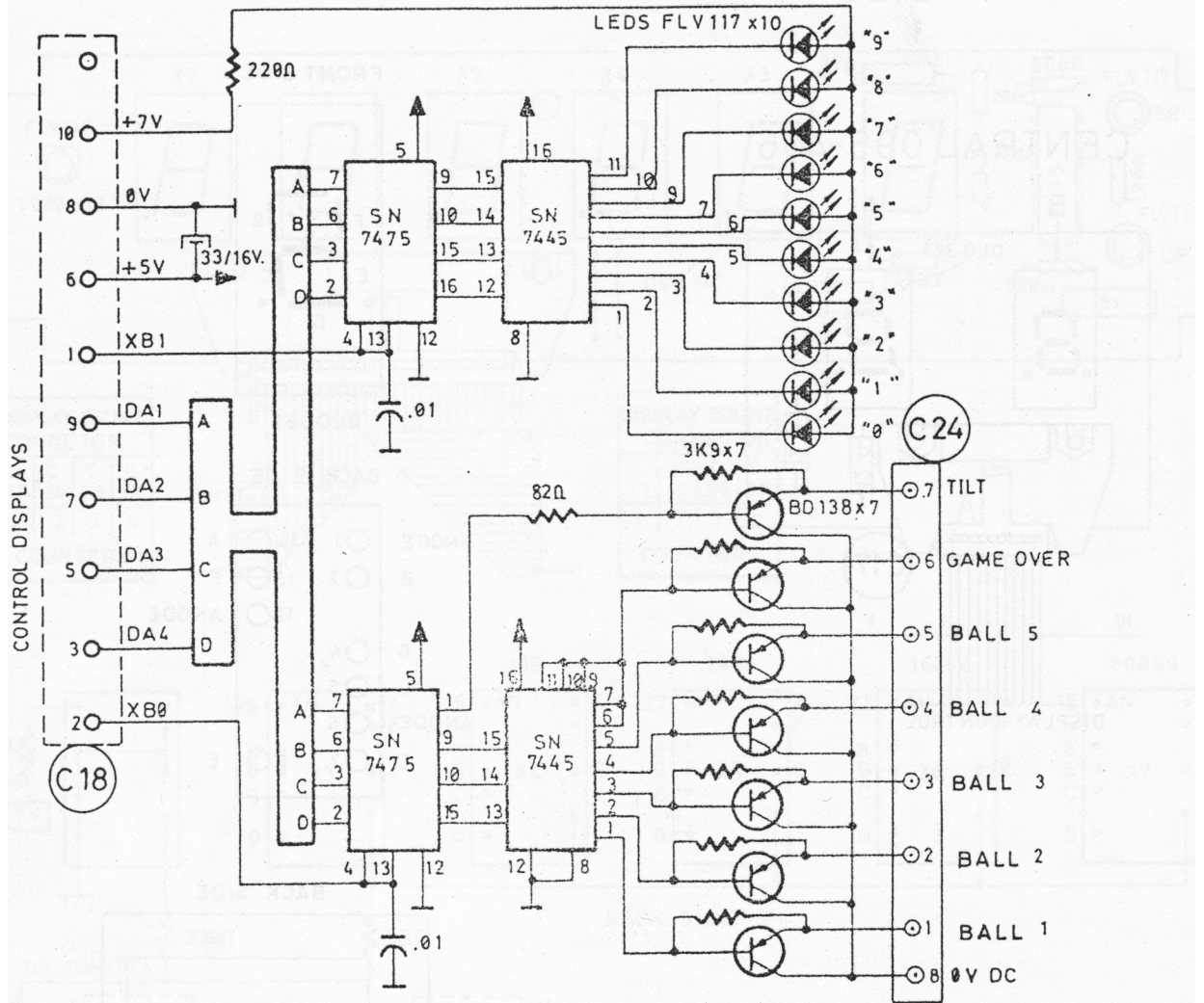


CENTRAL	C 17	7	8	9	10	11	12	13	14	15	16
SIDE	C 20	7	8	9	10	11	12	13	14	15	16
	CONNECTOR	POSITION IN CONNECTOR									

DISPLAY CONTROL

MATCH UNIT

095-108



CONTACTS CODE

1.101

