

PITCHER #	RUNNERS + OUTS	TEAM NAME	SCORE	INNING
①	7 7	⑤	7 7	⑦
②	7 7	⑥	7 7	⑧
③	7 7	⑦	7 7	⑨
④	7 7	⑧	7 7	⑩
⑤	7 7	⑨	7 7	⑪
⑥	7 7	⑩	7 7	⑫
⑦	7 7	⑪	7 7	⑬
⑧	7 7	⑫	7 7	⑭
⑨	7 7	⑬	7 7	⑮
⑩	7 7	⑭	7 7	⑯
⑪	7 7	⑮	7 7	⑰
⑫	7 7	⑯	7 7	⑱
⑬	7 7	⑰	7 7	⑲
⑭	7 7	⑱	7 7	⑳
⑮	7 7	⑲	7 7	㉑
⑯	7 7	⑳	7 7	㉒

REGISTER #	FUNCTION	PINS
1	DATA: PITCHERS DIGIT: AWAY TEAM	
2	DATA: PITCHERS DIGIT: AWAY TEAM	
3	DATA: AWAY TEAM RUNNERS + OUTS	
4,5	DATA: HOME TEAM DIGIT: HOME TEAM	
6	DATA: HOME TEAM DIGIT: HOME TEAM	
7	DATA: SCORE DIGIT: SCORE	
8	DATA: INNING DIGIT: INNING	
9	DATA: INNING DIGIT: INNING	
10	TOP/BOT INV.	

23 ADDRESSES TO DRIVE, 3 REGISTERS FOR POWER
 - PITCHERS & SCORES
 - TEAM NAMES & INNING
 - INDIVIDUAL LEDS, RUNNERS, ETC.)

YOU CAN SHARE THE CLOCK!
 ONE PIN FOR EACH LATCH: 85 (SHARE 405)
 SHARE A DATA BUS?

CAN'T USE A SINGLE REGISTER BECAUSE
 IF WANT RUNNERS TO STAY ON & I HAVE
 NO OTHER MEMORY (FLIP FLOPS?)

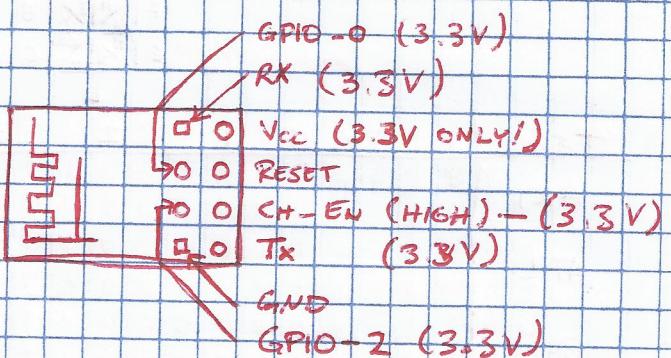
ONE BUS FOR POWER, DUE FOR DATA.

SN74HC595N

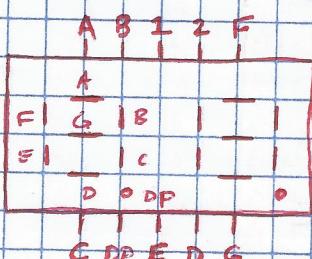
Q_1	1	16	Vcc (5V)
Q_2	2	15	Q_o
Q_3	3	14	SERIAL IN
Q_7	4	13	OUT-Elab (low)
Q_5	5	12	STORE CLOCK (LATCH)
Q_6	6	11	REG. (OVER CLOCK)
Q_7	7	10	RESET (high)
EEND	8	9	SER. OUT

ESP 826i-01

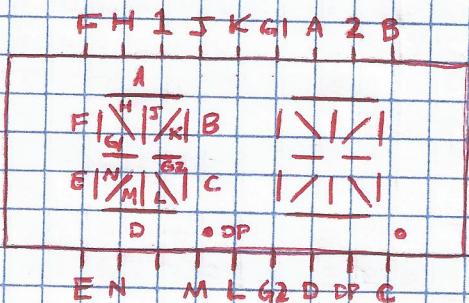
23



7-SEG x2 (ANODE)



14-SEG x2 (ANODE)



14 - SEGMENT ADDRESSES

DIGIT #	DP	A	B	C	D	E	F	G	I	6	2	H	J	K	L	M	N	HEX	OCT: 1 8 2
A	7	0	1	1	1	0	1	1	1	1	0	0	0	0	0	0	0	3B C0	
B	7	0	1	1	1	1	0	0	1	0	1	0	0	1	0	0	0	3C 52	
C	4	0	1	0	0	1	1	0	0	0	0	0	0	0	0	0	0	27 00	
D	6	0	1	1	1	1	0	0	0	0	0	1	0	0	1	0	0	3C 12	
E	6	0	1	0	0	1	1	1	1	0	0	0	0	0	0	0	0	27 00	
F	5	0	1	0	0	1	1	1	1	0	0	0	0	0	0	0	0	23 00	
G	6	0	1	0	1	1	1	1	0	1	0	0	0	0	0	0	0	2F 40	
H	6	0	0	1	1	0	1	1	1	0	0	0	0	0	0	0	0	1B C0	
I	4	0	1	0	0	1	0	0	0	0	1	0	0	1	0	0	0	24 12	
J	4	0	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	1E 00	
K	5	0	0	0	0	0	1	1	0	0	1	1	0	0	0	0	0	03 8C	
L	3	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	07 00	
M	6	0	0	1	1	0	1	1	0	0	1	0	1	0	0	0	0	1B 28	
N	6	0	0	1	1	0	1	1	0	0	1	0	0	1	0	0	0	1B 24	
O	6	0	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	3F 00	
P	6	0	1	1	0	0	1	1	1	0	0	0	0	0	0	0	0	33 C0	
Q	7	0	1	1	1	1	1	1	0	0	0	0	0	1	0	0	0	3F 04	
R	7	0	1	1	0	0	1	1	1	1	0	0	0	1	0	0	0	33 C4	
S	6	0	1	0	1	1	0	1	1	1	0	0	0	0	0	0	0	2D C0	
T	3	0	1	0	0	0	0	0	0	0	0	0	1	0	0	1	0	20 12	
U	5	0	0	1	1	1	1	1	0	0	0	0	0	0	0	0	0	1F 00	
V	4	0	0	0	0	0	1	1	0	0	0	0	1	0	0	1	0	03 07	
W	6	0	0	1	1	0	1	1	0	0	0	0	0	0	1	0	1	1B 05	
X	4	0	0	0	0	0	0	0	0	0	0	1	0	1	1	0	1	00 2D	
Y	3	0	0	0	0	0	0	0	0	0	1	0	1	0	1	0	0	00 2A	
Z	4	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	24 09	
•		2	3	4	5	6	7	0	1	2	3	4	5	6	7				

2 3 4 5 6 7 0 1 2 3 4 5 6 7

1	2	3	4
5	6	7	8

REGISTER: 0 1 2 3 4 5 6 7
DIGIT

1	0 0 0 0 1 0 0 0	8
2	0 0 0 0 0 1 0 0	4
3	0 0 0 0 0 0 1 0	2
4	0 0 0 0 0 0 0 1	1
5	1 0 0 0 0 0 0 0	80
6	0 1 0 0 0 0 0 0	40
7	0 0 1 0 0 0 0 0	20
8	0 0 0 1 0 0 0 0	10

- **abstract** DE USES **~250** **THEY PROCESSES**, USE **RETIWIS** **OPERATES** TO **SIMPILIFY** (**WITH #define**)

(Individual level (outward))

DLLIST	SELECTBITS	DATA	HEX VAL
0	0	01111110	00007E
1	1	00111100	000030
2	2	10111010	00006D
3	3	10011110	000079
4	4	11001100	003300
5	5	11011100	003400
6	6	11101100	005800
7	7	11111100	005F00
8	8	11111110	007000
9	9	111111110	007F00
10	10	1111111110	007FFF00
11	11	0000000000	00000000

7 - SEQUENTIAL PROCESSSES

$$\begin{array}{r} \text{d} \\ \text{c} \\ \text{b} \\ \text{a} \\ \hline \end{array}$$

P	2	P	2
D	1	D	1
I	1	I	2

D3
O

P	6	P	6	P	6
D	4/5	D	4/5	D	4/5
I	1	I	2	I	3

P	2	P	2
D	1	D	1
I	5	I	6

D3
O

P	6	P	6
D	5	D	5
I	7	F	8

O
D3

P	2	P	2
D	1	D	1
I	3	I	4

O O

P	6	P	6	P	6
D	4/5	D	4/5	D	4/5
I	4	F	5	I	6

P	2	P	2
D	1	D	1
I	7	F	8