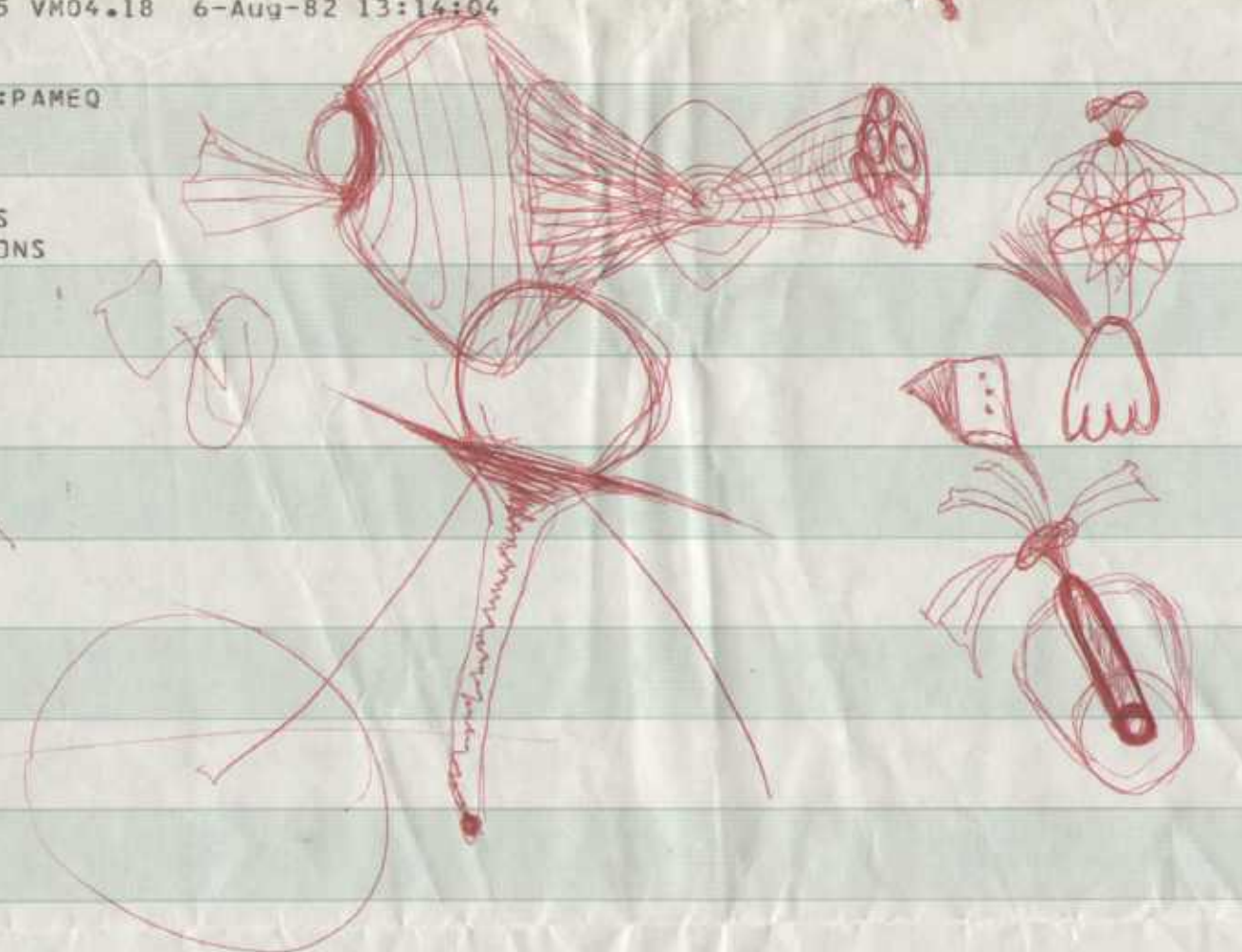


1-	6	SY:PAMEQ
2-	1	EQUATES
4-	1	RAM
5-	1	INITIALIZATION
9-	1	INTERRUPT HANDLERS
10-	1	GAME STATE FUNCTIONS
19-	1	SUBROUTINES
23-	1	SCRIPTS
34-	1	TABLES
39-	1	DISPLAY LIST



Read
White
Draw
Interview
Tutorial

1		.TITLE PAM FOOTBALL
2	0001	TEST=1 ;TEST CODE ALSO *DAVE*
3		:ZZZROM=1 ;FOR ROM VERSION!
222	0010	.RADIX 16
223		.ENABLE AMA
224	021C	.ASECT

1		.SBTTL EQUATES
2		: EQUATES
3	2000	GXPM=2000 :8K
4	0830	BUFFR1=830
5	1FF0	B1END=BUFFR1+17C0
6	2830	BUFFR2=2830
7	3FF0	B2END=BUFFR2+17C0
8	0030	MAXFLD=48.
9		
10		: STATES
11	0000	PAWS=0
12	0001	SCRUPD=1
13	0082	ASMHUD=82
14	0003	ACCIDR=3
15	0084	SLCTPL=84
16	0085	PLAYON=85
17	0086	EDELAY=86
18	0007	SLCT=7
19		
20	000C	BALL=12.
21		
22		: POSITIONS
23	0000	OLN1=0
24	0002	OLN2=2
25	0004	OLN3=4
26	0006	OLN4=6
27	0008	OBK=8
28	000A	OQB=10.
29		
30	0000	DLN1=0
31	0002	DLN2=2
32	0004	DLN3=4
33	0006	DRDB=6
34	0008	DLDB=8
35	000A	DLB=10.
36		
37		: PLYRFG BITS
38	0080	THERE=80
39	0040	OUTBND=40
40	0020	COLIDE=20
41	0010	ANMON=10
42	0008	YMAJOR=8
43	0004	BUMPST=4
44	0002	LINKED=2
45	0001	INPTRN=1
46		
47	000F	LENGTH=15.
48		:
49		: BOUNDS
50	0003	YTOPPL=3
51	0010	YTOPBL=YTOPPL+LENGTH-2
52	0094	YBOTBL=148.
53	0089	YBOTPL=137.
54	03C0	XRITBL=960. :2 BYTE!!!!!!!!!!
55	0380	XRITPL=957.
56		: ADDED BY DAVE
57		:


```
58      001E      FRPSC = 30.          :FRAMES/SECOND (SET FOR NTSC)
59      ;
60      ; *****
61      ;
62      ; END-PLAY STATUS CHANGES ADDED BY DAVE:
63      ;
64      ; THESE EQUATES ESTABLISH THE ORDER OF ENTRIES IN A JUMP TABLE (SCRTBL/SCRTBH)
65      ;
66      0000      BLDED = 0              :BALL DEAD
67      0001      BALOUT = 1             :BALL OUT-OF-BOUNDS
68      0002      BCRDUT = 2             :BALL CARRIER OUT-OF-BOUNDS
69      0003      BCRTD = 3              :TOUCH DOWN
70      0004      BCTKL = 4              :BALL CARRIER TACKLED
71      0005      SAFETY = 5             :SAFETY
72      0006      FGGOOD = 6             :FIELD GOAL GOOD
73      0007      FGNOGD = 7            :FILED GOAL NO GOOD
74      0008      TOUCHB = 8            :TOUCHBACK
75      ; MESSAGE TYPES
76      0009      HALFTM = 9
77      000A      ENDGAM = 10.
78      000B      BLANK = 11.
79      ;
80      ; *****
81      ;
82      ; EQUATES ADDED BY DAVE
83      ;
84      0001      PMRES = 1              :PLAYER/MISSILE RESOLUTION (1 OR 2)
85      0100      PMBLOK = <3-PMRES>*128. :PLAYER/MISSILE BLOCK SIZE
86      0300      MOFF = 3*PMBLOK       :MISSILE BLOCK OFFSET
87      0400      POFF = 4*PMBLOK       :PLAYER 0 BLOCK OFFSET
88      0500      P1OFF = 5*PMBLOK      :PLAYER 1 BLOCK OFFSET
89      0600      P2OFF = 6*PMBLOK      :PLAYER 2 BLOCK OFFSET
90      0700      P3OFF = 7*PMBLOK      :PLAYER 3 BLOCK OFFSET
91      ;
92      ;
93      ; COLOR SCHEME:
94      ;
95      004A      CTEAM0 = 4A            :(RED)          TEAM #0 BIT-MAP PLAYER COLOR
96      001E      CTMOC = 1E             :(YELLOW)       TEAM #0 CONTROL PLYR COLOR
97      007A      CTEAM1 = 7A            :(LITE BLUE)     TEAM #1 BIT-MAP PLYR COLOR
98      0082      CTM1C = 82             :(DARK BLUE)     TEAM #1 CONTROL PLYR COLOR
99      0022      CBALL = 22             :(DARK BROWN)    BALL COLOR
100     008A      CBBAK = 8A             :(SKY BLUE)     BACKGROUND ABOVE/BELOW PLYFIELD
101     00D6      CPBAK = 0D6            :(GREEN)       PLAYFIELD BACKGROUND COLOR
102     000F      CHMYDN = 0F            :(WHITE)       HASH MARKS/YARD #'S COLOR
103     000A      CS1OYD = 0A            :(PALE WHITE)    5 & 10 YARD LONG MARKS COLOR
104     000F      CGOAL = 0F            :(WHITE)       GOAL POST COLOR
105     000A      CSBLET = 0A            :(PALE WHITE)    SCOREBOARD LETTERS COLOR
106     0000      CSBBAK = 0             :(BLACK)       SCOREBOARD BACKGROUND COLOR
107     ;
108     ;
109     ; MESSAGE ROUTINE STATUS:
110     ;
111     0080      FLASHD = 80             :MESSAGE IS TO BE FLASHED
112     0040      NOTIMD = 40            :MESSAGE IS NOT TO BE TIMED (INDEFINITE)
```


1		
2	: MEMORY	
3		
4	:0-18	O.S.Z.P.
5	:19-FF	USER Z.P.
6	:100-1FF	STACK
7	:200-21F	O.S.PG2
8	:220-82F	USER
9	:830-1FEF	SCREEN1
10	:1FF0-1FFF	USER
11	:2000-22FF	DLIST AND USER
12	:2300-27FF	P/M
13	:2800-282F	USER
14	:2830-3FEF	SCREEN2
15	:3FF0-3FFF	USER
16		

1			.SBTTL RAM	
2			: ZERO PAGE RAM	
3		0019	.=19	
4	0019	001A	CURPLR: .=.+1	
5	001A	001B	FRAME: .=.+1	
6	001B	001C	OFFSET: .=.+1	
7	001C	001D	LINCNT: .=.+1	
8	001D	001E	SCNSTT: .=.+1	
9	001E	001F	GRFNDX: .=.+1	
10	001F	0020	DATA: .=.+1	
11	0020	0021	CLRMSK: .=.+1	
12	0021	0022	TEMPB: .=.+1	
13	0022	0023	TEMPA: .=.+1	
14	0023	0030	ANMSEQ: .=.+<BALL+1*2>	
15	0030	0045	SNDFRQ: .=.+8	
16	0045	0040	SNDCTL: .=.+8	
17	0040		PTAB:	
18	0040	004F	PTRA: .=.+2	
19	004F	0051	PTRB: .=.+2	
20	0051	0053	PTRC: .=.+2	
21	0053	0055	PTRD: .=.+2	
22	0055	0057	PTRE: .=.+2	
23			:	
24	0057	0059	CYCLPT: .=.+2	
25	0059	0058	SCRNPT: .=.+2	
26	0058	0050	OLDXPT: .=.+2	
27	0050	005F	OLDYPT: .=.+2	
28	005F	0061	UPDTPT: .=.+2	
29	0061	006E	MAJORL: .=.+BALL+1	
30	006E	007B	MAJORH: .=.+BALL+1	
31	007B	0088	MINOR: .=.+BALL+1	
32	0088	0095	MINDXL: .=.+BALL+1	
33	0095	00A2	MINDXH: .=.+BALL+1	
34	00A2	00AF	MVCNT: .=.+BALL+1	
35	00AF	00BC	MVCNTL: .=.+BALL+1	
36	00BC	00C9	MSUML: .=.+BALL+1	
37	00C9	00D6	MSUMH: .=.+BALL+1	
38	00D6	00D7	T0: .=.+1	
39	00D7	00D8	T1: .=.+1	
40	00D8	00D9	T2: .=.+1	
41	00D9	00DA	T3: .=.+1	
42	00DA	00DB	T4: .=.+1	
43	00DB	00DC	T5: .=.+1	
44	00DC	00DD	T6: .=.+1	
45	00DD	00DE	OFFENS: .=.+1 :0=PLYR 1 1=PLYR2	
46	00DE	00DF	OFFDIR: .=.+1 :1=RIGHT OFF=LEFT	
47				
48			: ADDED BY DAVE	
49			:	
50			: COLOR SCHEME NOT COVERED BY VBLANK IMMEDIATE	
51			: (FOR ATTRACT MODE DARK MASKING)	
52			:	
53	00DF		ZPLYBK: .BLKB 1 :PLAYFIELD BACKGROUND	
54	00E0		ZTMO: .BLKB 1 :TEAM 0 COLOR	
55	00E1		ZTM1: .BLKB 1 :TEAM 1 COLOR	
56	00E2		ZHASH: .BLKB 1 :HASH MARKS, SIDE LINES	
57	00E3		ZLET: .BLKB 1 :SCOREBOARD LETTERS	

58	00E4	ZSCRBD: .BLKB	1	;SCOREBOARD BACKGROUND
59	00E5	ZGOAL: .BLKB	1	;GOAL COLOR
60	00E6	Z5Y10: .BLKB	1	;5 & 10 YRD LINES COLOR
61	00E7	ZBBAK: .BLKB	1	;BACKGROUND, ABOVE & BELOW PLAYFIELD
62		:		
63	00E8	ESTTUS: .BLKB	1	
64	00E9	KEY: .BLKB	2	
65	00E8	LFTEDG: .BLKB	2	
66	00ED	QTIMST: .BLKB	1	;QUARTER TIMER STATUS (SEE COMMENTED OUT LINE)
67	00EE	SCRIMX: .BLKB	2	
68	00F0	STATE: .BLKB	1	
69	00F1	PLYRFG: .BLKB	13.	
70		:		
71	00FE	ZEND =.		
72		:		
73	0002	ZAVAIL =100-ZEND		
74		:		
75		; PAGE TWO		
76	0220	=220		
77		:		
78	0220 0220	OLDX1: .=.+BALL+1		;OBJ# 13 = DOWN #, #14 & #15 ARE ORDINARY DOWN MARKERS
79	0220 023A	OLDY1: .=.+BALL+1		
80	023A 0247	OLDX2: .=.+BALL+1		
81	0247 0254	OLDY2: .=.+BALL+1		
82	0254 0261	NEWX: .=.+BALL+1		
83		:		
84		; END DAVE'S ALLOCATION CHANGE		
85		:		
86		;PLYRFG: .=.+BALL+1		;BIT 7 = THERE
87	0261 026E	LINK: .=.+BALL+1		
88	026E 027B	FCNNDX: .=.+BALL+1		
89	027B 0295	PTRNPT: .=.+<BALL+1*2>		
90	0295 02A2	PTRNDX: .=.+BALL+1		
91	02A2 02AF	REVERS: .=.+BALL+1		
92		:		
93		; *****		
94		:		
95		; ADDED BY *DAVE*		
96		:		
97	02AF 02B0	JORT: .=.+1		;JOYSTICK (IF RESET)/TRACKBALL (IF SET)
98				;BIT7--PLYR1 BIT6--PLYR2 *DAVE*
99		:		
100		;QTIMST: .=.+1		;QUARTER TIMER STATUS--BIT7 SET IF TIMED OUT
101				--BIT6 SET IF TIMER ON
102	02B0 02B1	QFRCT: .=.+1		;FRAME COUNT TIL NEXT SECOND DECREMENT
103				; (INIT TO 60 FOR NTSC, 50 FOR PAL/SECAM)
104		:		
105		; RAM FOR CONTROL PLAYER AS HARDWARE PLAYER STUFF:		
106		:		
107	02B1	OLDYP1: .BLKB	1	;PREVIOUS VERTICAL POSITION, PLYR 1
108	02B2	OLDYP2: .BLKB	1	;PREVIOUS VERTICAL POSITION, PLYR 2
109	02B3	P1GRX: .BLKB	2	;PTR FOR CURRENT PLYR 1 ROM GRAFIX DATA
110	02B5	P2GRX: .BLKB	2	;PTR FOR CURRENT PLYR 2 ROM GRAFIX DATA
111		:		
112	02B7	HZMIS: .BLKB	2	;HORZ POSITION MISSILE SHADOWS FOR FIELD LINES #0, 1
113	02B9	HZGOAL: .BLKB	1	;HORZ POSITION (HPOSP3) FOR GOAL POST
114	02BA	XOPOS: .BLKB	3	;ABS HORZ POSITION, DOWN MARKERS (LSB)

115	028D		XDPOSH: .BLKB	3	:ABS HORZ POSITION, DOWN MARKERS (MSB)
116	02C0		XDSP0S: .BLKB	3	:SCREEN HORZ POSITION, DOWN MARKERS
117			:		
118	02C3		DMFUDG: .BLKB	1	:NUMERIC DOWN MARKER HORZ POSITION FUDGE *DAVE* 7/16
119	02C4		FGSTAT: .BLKB	1	:FIELD GOAL STATUS: GOOD/NO GOOD
120			:		
121			:		MESSAGE ROUTINE RAM:
122			:		
123	02C5		MSTAT: .BLKB	1	:BIT7 SET FOR FLASH, BIT6 SET IF NOT TIMED
124	02C6		MTIMER: .BLKB	1	:MESSAGE TIMER (DECREMENTED)
125	02C7		MNBR: .BLKB	1	:CURRENT MESSAGE # TIMES 2 (0 IF NO MESSAGE CURRENT)
126			:		
127	02C8		FMNBR: .BLKB	1	:ROLLED OUT FLASHING MESSAGE # (TO BE RESTORED)
128			:		
129	02C9		YTOGO: .BLKB	1	:10'S PLACE, YARDS TO GO
130	02CA		YTOG1: .BLKB	1	:UNITS PLACE, YARDS TO GO
131			:		
132			:		
133	02CB	02D8	XPOS: .+.BALL+1		
134	02D8	02E5	YPOS: .+.BALL+1		:THIS POSITIONING IS IMPORTANT!!!!!!!!!!!!!!
135	02E5	02F2	XPOSH1: .+.BALL+1		
136	02F2	02FF	LSTXDR: .+.BALL+1		
137	02FF	030C	LSTYDR: .+.BALL+1		
138	030C	0319	XGOTO: .+.BALL+1		
139	0319	0326	XHGOTO: .+.BALL+1		
140	0326	0333	YGOTO: .+.BALL+1		
141	0333	0340	ANMNDX: .+.BALL+1		
142	0340	0340	ANMOD: .+.BALL+1		
143	0340	035A	ANMRPT: .+.BALL+1		:0=DONT REPEAT
144	035A	0367	MXSPD: .+.BALL+1		
145	0367	0374	MXSPDL: .+.BALL+1		
146	0374	0381	XBMPDR: .+.BALL+1		
147	0381	038E	YBMPDR: .+.BALL+1		
148	038E	039B	RAND: .+.BALL+1		
149	039B	03A8	BMPCTR: .+.BALL+1		
150	03A8	03A9	KBLOCK: .+.1		
151	03A9	03AA	YTXDR: .+.1		
152	03AA	03AB	YTXYDR: .+.1		
153	03AB	03AC	OLDBLY: .+.1		
154	03AC	03AD	CTIMER: .+.1		
155	03AD	03AE	VBCNTR: .+.1		
156	03AE	03B2	SND CNT: .+.4		:FOR 4 CHANNELS
157	03B2	03B6	SMPLRT: .+.4		
158	03B6	03B7	CYCLCT: .+.1		
159	03B7	03B8	QLDCYC: .+.1		
160	03B8	03B9	VRTBNK: .+.1		:CONSOL SHADOW *DAVE*
161	03B9	03BA	THRCNT: .+.1		
162	03BA	03BB	OTHERE: .+.1		
163	03BB	03BC	DTHERE: .+.1		
164	03BC	03BD	OFORM: .+.1		
165	03BD	03BE	DFORM: .+.1		
166	03BE	03BF	OPLAY: .+.1		
167	03BF	03C0	DPLAY: .+.1		
168	03C0	03C1	OSLCT: .+.1		
169	03C1	03C2	DSLCT: .+.1		
170	03C2	03C3	DCTLEN: .+.1		
171	03C3	03C4	ALOWEN: .+.1		

172	03C4	03C5	DCTLTH: .=.+1	
173				
174	03C5	03C6	LSTRGT: .=.+1	
175	03C6	03C7	RSTRGT: .=.+1	
176	03C7	03C8	SCLSPD: .=.+1	
177	03C8	03C9	FHBND: .=.+1	
178			; SPECIAL PLAY VARIABLES	
179	03C9	03CA	DPLTYP: .=.+1	;BIT 7= PASS, BIT 6= PUNT, BIT 5=FIELD GOAL, BIT 4=KICK-OFF
180	03CA	03CB	GAMTYP: .=.+1	;BIT 7 = 1, => 1PLYR, BIT6 = 1, => SHORT GAME
181			;ZERO AT PLAY INIT	
182	03CB	03CC	PSDSBL: .=.+1	
183	03CC	03CD	KKDSBL: .=.+1	
184	03CD	03CE	SFENBL: .=.+1	
185	03CE	03CF	KIKING: .=.+1	
186	03CF	03D0	PASING: .=.+1	
187	03D0	03D1	PASSON: .=.+1	
188	03D1	03D2	OCTLCH: .=.+1	;1=DISABLED
189	03D2	03D3	DCTLCH: .=.+1	;0=DISABLED
190	03D3	03D4	PASCMP: .=.+1	
191	03D4	03D5	PASINT: .=.+1	
192	03D5	03D6	KICKON: .=.+1	
193	03D6	03D7	TIPON: .=.+1	
194	03D7	03D8	KIKRCP: .=.+1	
195	03D8	03D9	DFSWCH: .=.+1	
196	03D9	03DA	PNTDON: .=.+1	
197	03DA	03DB	HIKDON: .=.+1	
198			;SET TO FF AT PLAY INIT	
199	03DB	03DC	BLCRYR: .=.+1	
200	03DC	03DD	CHOSNR: .=.+1	
201	03DD	03DE	PBLK: .=.+1	
202	03DE	03DF	KICKER: .=.+1	
203	03DF	03E0	RDBACK: .=.+1	
204	03E0	03E1	LDBACK: .=.+1	
205	03E1	03E2	LNBACK: .=.+1	
206	03E2	03E3	RX1: .=.+1	
207	03E3	03E4	RX2: .=.+1	
208				
209	03E4	03E6	DIST: .=.+2	
210	03E6	03E8	LARGE: .=.+2	
211	03E8	03E9	SMALL: .=.+1	
212			;ESTTUS: .=.+1	
213	03E9	03EA	QUARTR: .=.+1	
214	03EA	03EB	DOWNND: .=.+1	
215	03EB	03ED	FRSTDN: .=.+2	
216			;	
217			; ADDED BY DAVE	
218			;	
219	03ED		SCORE0: .BLKB 1	;BCD SCORE, TEAM 0
220	03EE		SCORE1: .BLKB 1	;BCD SCORE, TEAM 1
221			;	
222	03EF		SCORH0: .BLKB 1	;HI NIBBLE, BCD SCORE TEAM 0 (FOR > 99)
223	03F0		SCORH1: .BLKB 1	;DAVE# 7/27
224			;	
225			;STATE: .=.+1	
226	03F1	03F2	OLDSTT: .=.+1	
227	03F2	03F3	SAVSTT: .=.+1	
228	03F3	03F5	STRGFG: .=.+2	

229	03F5	03F7	DSTRG:	.=.+2	
230	03F7	03F9	TRGFG:	.=.+2	
231	03F9	03FB	OTRGFG:	.=.+2	
232			:KEY:	.=.+2	
233	03FB	03FC	TMPKEY:	.=.+1	
234	03FC	03FE	KTIMER:	.=.+2	
235	03FE	0400	OLDKEY:	.=.+2	
236	0400	0401	LFTRIT:	.=.+1	:+=RIGHT, -=LEFT
237	0401	0402	TMOCLR:	.=.+1	
238	0402	0403	TMICLR:	.=.+1	
239	0403	0404	BALCLR:	.=.+1	:TM1 OR TMO COLOR
240	0404	040A	TEMP:	.=.+6	
241	040A	040B	OCTL:	.=.+1	:ABSOLUTE NUMBER
242	040B	040C	DCTL:	.=.+1	
243	040C	040D	TMOCTL:	.=.+1	
244	040D	040E	TM1CTL:	.=.+1	
245	040E	040F	VBFLAG:	.=.+1	
246	040F	0410	CYCLE:	.=.+1	
247	0410	0411	SCROLH:	.=.+1	
248			:SCRIMX:	.=.+2	
249	0411	0412	SCRIMY:	.=.+1	
250	0412	0413	DOSCL2:	.=.+1	
251	0413	0414	TIMR30:	.=.+1	
252	0414	0415	OQTIME:	.=.+1	
253	0415		DTAB:		
254			:LFTEDG:	.=.+2	
255	0415	0417	YRDAOR:	.=.+2	
256	0417	041B	PADMIN:	.=.+4	
257	041B	041F	PADMAX:	.=.+4	
258	041F	0423	PADMID:	.=.+4	
259	0423	0425	MSGTB:	.=.+2	
260	0425	0431	FBEG:	.=.+12.	
261	0431	043F	FEND:	.=.+14.	
262	043F	0487	SBOARD:	.=.+120.	
263	0487	0505	CLNRAM:	.=.+78.	
264	0505	052D	BUFFER:	.=.+40.	:FOR HASH MARKS
265			:		
266	052D		BOTLIN:	BLKB 40.	:BOTTOM SCOREBOARD LINE SHADOW *DAVE* 7/22
267			:		
268		2000	.=2000		
269	2000		DLRAM:		


```
1      .SBTTL INITIALIZATION
2      8000      .=8000
3      01      .IF DF,ZZZROM
4      .=6000
5      01      .ENDC
6      8000      58      PWRUP: CLI
7      : SET VECTORS
8      :TURN OFF NMI AND IRQ, SET DL,KB, AND VB VECTORS
9      :THEN ENABLE NMI AND IRQ
10
11      8001      A9      00      LDA      #0
12      8003      8D      D40E      STA      NMIEEN
13      8006      8D      D20E      STA      IRQEN
14      8009      85      00      STA      POKMSK
15      :CLEAR RAM FROM 220 TO 3FFF
16      800B      20      A63E      JSR      CLRMM
17      :BUILD DLIST AT 2000
18      800E      20      9877      JSR      LOADDL
19      : DO CHIP INITIS
20      :SET PRIORITY PLR/PF ETC.
21
22      8011      A9      11      LDA      #11      :FIFTH PLAYER ENABLE
23      8013      8D      D01B      STA      PRIOR
24      8016      A9      02      LDA      #2
25      8018      8D      D20F      STA      SKCTL
26
27      801B      A9      3E      LDA      #3E      :1 LINE RESOLUTION ON PM GRAFIX
28      801D      85      07      STA      SDMCTL
29      801F      A9      20      LDA      #GXPME0FF00/100
30      8021      8D      D407      STA      PMBASE
31
32      8024      A9      03      LDA      #3
33      8026      8D      D01D      STA      GRCTL
34
35      : SET AUDCTL
36      8029      A9      00      LDA      #0
37      802B      8D      D208      STA      AUDCTL
38      :SET INTERRUPT LOCK
39      802E      A9      FF      LDA      #OFF
40      8030      8D      03A8      STA      KBLOCK
41      ;
42      8033      A9      97      LDA      #VBLANK0FF
43      8035      8D      0204      STA      VVBLKD
44      8038      A9      85      LDA      #VBLANK0FF00/100
45      803A      8D      0205      STA      VVBLKD+1
46      803D      A9      68      LDA      #DLI0FF
47      803F      8D      0206      STA      VDSLST
48      8042      A9      86      LDA      #DLI0FF00/100
49      8044      8D      0207      STA      VDSLST+1
50      8047      A9      F7      LDA      #KEYBRD0FF
51      8049      8D      020A      STA      VKYBDF
52      804C      A9      86      LDA      #KEYBRD0FF00/100
53      804E      8D      0208      STA      VKYBDF+1
54      8051      A9      1F      LDA      #SOFT0FF
55      8053      8D      020C      STA      VTRIGR
56      8056      A9      87      LDA      #SOFT0FF00/100
57      8058      8D      020D      STA      VTRIGR+1
```


58	8058	A9	C0	LDA	#0C0	;VB AND DLI
59	805D	8D	D40E	STA	NMIEN	
60	8060	A9	C0	LDA	#0C0	;SOFT AND KEY ENABLE
61	8062	8D	D20E	STA	IRQEN	
62	8065	85	00	STA	POKMSK	
63						
64						
65						
66						; INIT STATE, ETC.
67	8067	A9	00	LDA	#0	
68	8069	8D	03AD	STA	VBCNTR	
69	806C	A9	07	LDA	#SLCT	
70	806E	85	F0	STA	STATE	
71	8070	A9	FF	LDA	#OFF	
72	8072	8D	03F1	STA	OLDSTT	
73						;INIT SET SNDCNTS TO OFF
74	8075	A2	02	LDX	#2	
75	8077	9D	03AE	10\$: STA	SNDCNT(X)	
76	807A	CA		DEX		
77	807B	10	FA	BPL	10\$	
78						;SETUP TMCTLS
79	807D	A9	0A	LDA	#BALL-2	
80	807F	8D	040C	STA	TMOCTL	
81	8082	A9	0B	LDA	#BALL-1	
82	8084	8D	040D	STA	TM1CTL	
83						
84	8087	20	A66E	JSR	START	
85	808A	A9	00	LDA	#0	
86	808C	8D	03CA	STA	GAMTYP	;POWER UP IN 2 PLAYER, NORMAL GAME!
87	808F	4C	842B	JMP	VBWAIT	


```
1      ;
2      ; ENTER TRACKBALL CALIBRATE/DETECT MODE
3      ;
4      8092      ENCALB:
5      8092      AD 03B8      LDA      VRTBNK      ;GET CONSOL SHADOW BYTE
6      8095      29 FB      AND      #^C4      ;TURN OFF BIT2
7      8097      8D 03B8      STA      VRTBNK      ;REPLACE SHADOW
8      809A      8D D01F      STA      CONSOL      ;TO CONSOL TOO
9      ;
10     ; ASSUME JOYSTICK CONTROLLER, SO RELOAD IDEAL MIN, MID, MAX VALUES
11     ;
12     809D      A9 00      LDA      #0      ;ASSUME JOYSTICK, PLYR1/PLYR2
13     809F      8D 02AF      STA      JORT      ;TO T-BALL/JOYSTICK FLAGS
14     ;
15     80A2      A2 03      LDX      #3      ;INDEX FOR 4 POTS
16     80A4      1$:
17     80A4      A9 30      LDA      #30      ;LOAD IDEAL STARTING MINIMUM VALUE
18     80A6      9D 0417      STA      PADMIN(X) ;STORE IN THIS POT'S MIN
19     80A9      A9 70      LDA      #70      ;STARTING MIDDLE VALUE
20     80AB      9D 041F      STA      PADMID(X) ;TO MID
21     80AE      A9 80      LDA      #080     ;IDEAL MAX
22     80B0      9D 041B      STA      PADMAX(X) ;TO SAVE AREA
23     80B3      CA
24     80B4      10 EE      BPL      1$      ;LOOP FOR ALL 4 CHANNELS
25     ;
26     80B6      60      RTS
27     ;
28     ;
29     ; EXIT CALIBRATE MODE ROUTINE
30     ;
31     ; USES TO AS A TEMP
32     ;
33     80B7      EXCALB:
34     80B7      AD 03B8      LDA      VRTBNK      ;GET CONSOL SHADOW BYTE
35     80BA      29 04      AND      #4      ;HAVE WE EXITED ALREADY?
36     80BC      D0 2D      BNE      3$      ;YES, SKIP EXIT CALIBRATE
37     80BE      A9 40      LDA      #40      ;ELSE, T-BALL INDICATE FOR PLYR2 BIT
38     80C0      85 D6      STA      TO      ;USE TEMP PROVIDED
39     80C2      A2 03      LDX      #3      ;4 SHADOWS TO READ
40     80C4      1$:
41     80C4      B5 11      LDA      PADDLO(X) ;GET CALIBRATE (PLYR1, THEN PLYR2)
42     80C6      C9 E4      CMP      #0E4     ;ANYBODY HOME?
43     80C8      F0 10      BEQ      2$      ;NO TRACKBALL HERE, CHECK NEXT
44     80CA      9D 041F      STA      PADMID(X) ;ELSE, SAVE TRACKBALL REST VALUE
45     80CD      AD 02AF      LDA      JORT      ;GET T-BALL FLAGS
46     80D0      05 D6      ORA      TO      ;SET PLYR1/PLYR2 BIT
47     80D2      8D 02AF      STA      JORT      ;SAVE
48     80D5      B5 10      LDA      PADDLO-1(X) ;DO SAME FOR HORZ ALSO
49     80D7      9D 041E      STA      PADMID-1(X) ;IT'S ASSUMED VALID (SINCE VERT WAS)
50     80DA      2$:
51     80DA      CA      DEX      ;TO NEXT PLAYER
52     80DB      CA      DEX
53     80DC      06 D6      ASL      TO      ;PLYR2-->PLYR1--> CY=1
54     80DE      90 E4      BCC      1$      ;GO FOR ANY LEFT
55     ;
56     80E0      AD 03B8      LDA      VRTBNK      ;FETCH CONSOL SHADOW
57     80E3      09 04      ORA      #4      ;TURN ON BIT2 (ENABLE CONTROLLERS)
```


INITIALIZATION

58	80E5	8D	03B8	STA	VRTBNK	:SAVE
59	80E8	8D	D01F	STA	CONSOL	:TELL HARDWARE ALSO
60	80EB		3\$:			
61	80EB	60		RTS		:CALIBRATE OFF, RETURN


```
1
2 80EC          PROCES:
3              :ENDQTR PROCESSING
4 80EC          A5    F0          LDA    STATE
5 80EE          C9    85          CMP    #PLAYON
6 80F0          F0    13          BEQ    CHKRST
7 80F2          C9    86          CMP    #EDELAY
8 80F4          F0    0F          BEQ    CHKRST
9 80F6          C9    01          CMP    #SCRUPD
10 80F8         F0    08          BEQ    CHKRST
11 80FA         A5    ED          LDA    QTIMST
12 80FC         10    07          BPL    CHKRST
13              :TIMED OUT. TURN OFF TIMER AND CLEAR TIMED OUT.
14 80FE         A9    00          LDA    #0
15 8100         85    ED          STA    QTIMST
16 8102         20    921F        JSR    ENDQTR  :????????????????????
17
18              :INTO RESET SAFETY STATE
19 8105         A5    F0          CHKRST: LDA    STATE
20 8107         C9    82          CMP    #ASHUD
21 8109         F0    0A          BEQ    10$
22 810B         C9    84          CMP    #SLCTPL
23 810D         F0    06          BEQ    10$
24 810F         C9    86          CMP    #EDELAY
25 8111         F0    02          BEQ    10$
26 8113         D0    2C          BNE    20$
27 8115         A2    00          10$: LDX    #0
28 8117         B5    E9          LDA    KEY(X)
29 8119         C9    0E          CMP    #0E      :RESET
30 811B         D0    24          BNE    20$
31 811D         A9    FF          LDA    #OFF
32 811F         95    E9          STA    KEY(X)
33 8121         20    9CC6        JSR    VALID  :REQUIRES X=0,1
34 8124         A5    F0          LDA    STATE
35 8126         8D    03F2        STA    SAVSTT
36 8129         A9    03          LDA    #ACCIDR
37 812B         85    F0          STA    STATE
38 812D         A5    ED          LDA    QTIMST
39 812F         8D    0414        STA    OQTIME
40 8132         29    BF          AND    #0BF    :TURN OFF
41 8134         85    ED          STA    QTIMST
42
43              :
44              : --ENTER RESET MODE--
45              :
45 8136         20    8F58        JSR    SAVBOT      :SAVE BOTTOM LINE
46 8139         20    AA AF        JSR    CLR1       :ERASE MID & BOT LINES
47 813C         A9    0D          LDA    #13.       : "HIT RESET AGAIN TO SELECT GAME..."
48 813E         20    8E88        JSR    MFLASH
49 8141         EA              20$: NOP
50
51              :INTO PAUSE?
52 8142         A5    F0          CHKPAW: LDA    STATE
53 8144         C9    82          CMP    #ASHUD
54 8146         F0    12          BEQ    10$
55 8148         C9    84          CMP    #SLCTPL
56 814A         F0    0E          BEQ    10$
57 814C         C9    86          CMP    #EDELAY
```



```
58 814E F0 0A BEQ 10$
59 8150 C9 07 CMP #SLCT ;?????????????/
60 8152 F0 06 BEQ 10$
61 01 .IF DF,TEST
62 8154 C9 85 CMP #PLAYON
63 8156 F0 02 BEQ 10$
64 01 .ENDC
65 8158 D0 36 BNE 30$
66 815A A2 00 10$: LDX #0
67 815C B5 E9 LDA KEY(X)
68 815E C9 0D CMP #0D ;PAUSE
69 8160 D0 2E BNE 30$
70 8162 A9 FF LDA #OFF
71 8164 95 E9 STA KEY(X)
72 8166 20 9CC6 JSR VALID ;REQUIRES X=0,1
73 8169 A5 F0 LDA STATE
74 816B 8D 03F2 STA SAVSTT
75 816E A9 00 LDA #PAWS
76 8170 85 F0 STA STATE
77 8172 A5 ED LDA QTIMST
78 8174 8D 0414 STA QOTIME
79 8177 29 BF AND #0BF ;TURN OFF
80 8179 85 ED STA QTIMST
81 ;
82 ; --ENTER PAUSE MODE-- ;DAVE 7/22
83 ;
84 817B AD 03F2 LDA SAVSTT
85 817E C9 07 CMP #SLCT
86 8180 D0 06 BNE 29$
87 8182 20 AA AF JSR CLR1 ;CLEAR BOTH LINES????
88 8185 4C 818B JMP 28$
89 8188 20 8F58 29$: JSR SAVBOT
90 818B A9 07 28$: LDA #7 ;"GAME PAUSED"
91 818D 20 8E88 JSR MFLASH
92 8190 EA 30$: NOP
93
94
95 ; GAME STATE PROCESSING
96
97 8191 20 AAA0 STSTPT: JSR GOSTAT ;STATE!
98 ; CLEAR OUTBND, THERE BITS
99 8194 A2 0C LDX #BALL
100 8196 B5 F1 10$: LDA PLYRFG(X)
101 8198 29 3F AND #3F
102 819A 95 F1 STA PLYRFG(X)
103 819C CA DEX
104 819D 10 F7 BPL 10$
105
106 ; SAVE TRIGGER INFO TO OLD VALUES
107 819F A2 01 LDX #1
108 81A1 8D 03F7 TRGLP: LDA TRGFG(X)
109 81A4 9D 03F9 STA OTRGFG(X)
110 81A7 8D 03F3 LDA STRGFG(X)
111 81AA 9D 03F5 STA OSTRG(X)
112 81AD A9 01 LDA #1
113 81AF 9D 03F3 STA STRGFG(X)
114 81B2 CA DEX
```



```

115 81B3 10 EC BPL TRGLP
116 81B5 A5 F0 LDA STATE ;IF BIT 7 SET, DONT DO PLPROC OR SCROLL UPDATE!
117 81B7 30 03 BMI 1$
118 81B9 4C 81F9 JMP SCRNP
119
120 ; DD PLAYER PROCESSING!!!!!!!!!!!!!!
121 ; OFFENSE
122 81BC A9 0A 1$: LDA #BALL-2
123 81BE 18 CLC
124 81BF 65 DD ADC OFFENS
125 81C1 AA TAX
126 81C2 86 19 STX CURPLR
127
128 81C4 20 A5FA 200$: JSR PLPROC
129
130 81C7 C6 19 DEC CURPLR
131 81C9 C6 19 DEC CURPLR
132 81CB A6 19 LDX CURPLR
133 81CD 10 F5 BPL 200$
134 ; BALL
135 81CF A2 0C LDX #BALL
136 81D1 86 19 STX CURPLR
137
138 81D3 20 A5FA JSR PLPROC
139 ; DEFENSE
140 81D6 A5 DD LDA OFFENS
141 81D8 49 01 EOR #1
142 81DA 18 CLC
143 81DB 69 0A ADC #BALL-2
144 81DD AA TAX
145 81DE 86 19 STX CURPLR
146
147 81E0 20 A5FA 210$: JSR PLPROC
148
149 81E3 C6 19 DEC CURPLR
150 81E5 C6 19 DEC CURPLR
151 81E7 A6 19 LDX CURPLR
152 81E9 10 F5 BPL 210$
153 ; CLEAR COLLIDE BITS
154 81EB A2 0C LDX #BALL
155 81ED B5 F1 220$: LDA PLYRFG(X)
156 81EF 29 DF AND #0DF
157 81F1 95 F1 STA PLYRFG(X)
158 81F3 CA DEX
159 81F4 10 F7 BPL 220$
160
161 ; SCROLL SET
162 81F6 20 A3BA JSR DOSCRL
163 ; GEN NEWX AND NEWY
164 81F9 20 A983 SCRNP: JSR SCNPDS ;FORM NEWX (SCREEN) FROM XPOS,XPOSHI (WORLD)
165 ;
166 ; ERASE OLD PLAYERS IN CURRENT UPDATE BUFFER
167 ;
168 81FC A0 0B LDY #BALL-1
169 ;*DAVE* LDY #BALL+3 ;CODE ADDED TO ERASEP TO SKIP BALL
170 81FE 84 19 STY CURPLR ;NEED TO ERASE DOWN MARKERS WITH OTHER BITMAP
171 8200 20 AA3F JSR ERASEP ;*DAVE*

```



```
172      ;
173      ; STAMP SIDELINES
174      8203      A2      02      LDX      #PTRB-PTAB&OFF
175      8205      A0      0F      LDY      #15.
176      8207      20      AA2F      JSR      SETPTB
177
178      ;
179      820A      A0      4F      LDY      #79.
180      820C      A9      FF      LDA      #OFF
181      820E      20      AA9A      JSR      WBLOCK
182      8211      A2      02      LDX      #PTRB-PTAB&OFF
183
184      8213      A0      96      LDY      #150.
185      8215      20      AA2F      JSR      SETPTB
186
187      8218      A0      4F      LDY      #79.
188      821A      A9      FF      LDA      #OFF
189      821C      20      AA9A      JSR      WBLOCK
190      ; WRITE NEW HASH BYTES HERE BASED ON SCROLL VALUE
191      ; T2 WILL HAVE (LFTEDG+7) MOD 8 TIMES 2
192      ; T0 WILL HAVE LFTEDG+7/8
193      821F      A5      EC      LDA      LFTEDG+1
194      8221      85      D7      STA      T1
195      8223      A5      EB      LDA      LFTEDG
196      8225      18
197      8226      69      07      CLC
198      8228      85      D6      ADC      #7
199      822A      90      02      STA      T0
200      822C      E6      D7      BCC      400$
201      822E      A5      D6      INC      T1
202      8230      29      07      400$: LDA      T0
203      8232      0A      ASL      AND      #7
204      8233      85      D8      STA      T2      ; (LFTEDG+7) MOD 8 TIMES 2 (INDEX TO EXPTBL)
205      8235      46      D7      LSR      T1
206      8237      66      D6      ROR      T0
207      8239      46      D7      LSR      T1
208      823B      66      D6      ROR      T0
209      823D      46      D7      LSR      T1
210      823F      66      D6      ROR      T0      ; LFTEDG+7 / 8
211
212      8241      A5      D6      LDA      T0
213      ;
214      ; *****
215      ; CHANGED BY DAVE (FOR HASH MARK BUG)
216      ;
217      8243      C9      0B      CMP      #11.
218      ;
219      ; *DAVE* CMP      #10.
220      ;
221      ; END CHANGE
222      ; *****
223      ;
224      8245      B0      17      BCS      410$      ; BRANCH IF GE. 10.
225      8247      A6      D8      LDX      T2
226      ; 18. - 2T0
227      8249      0A      ASL
228      824A      49      FF      EOR      #OFF
```


229	824C	18		CLC	
230	824D	69	01	ADC	#1
231	824F	18		CLC	
232				:	
233				:	*****
234				:	CHANGED BY DAVE (FOR HASH MARK BUG)
235				:	
236	8250	69	14	ADC	#20.
237				:	
238				;*DAVE*	ADC #18.
239				:	
240	8252	A0	26	LDY	#38.
241	8254	20	AA0A	JSR	HSHVAL
242	8257	A2	10	LDX	#16.
243	8259	A9	FE	LDA	#0FE
244	825B	4C	8281	JMP	SCNWRT
245	825E	A5	D6	410\$: LDA	T0
246	8260	C9	5C	CMP	#92.
247	8262	80	09	BCS	420\$;BRANCH IF GE. 92.
248	8264	A6	D8	LDX	T2
249	8266	A0	26	LDY	#38.
250	8268	A9	FE	LDA	#0FE
251	826A	4C	8281	JMP	SCNWRT
252					
253	826D	A0	26	420\$: LDY	#38.
254				; 38.-2(T0-91.)	
255	826F	0A		ASL	
256	8270	49	FF	EDR	#OFF
257	8272	18		CLC	
258	8273	69	01	ADC	#1
259	8275	18		CLC	
260	8276	69	DC	ADC	#220.
261	8278	A2	10	LDX	#16. ;ZERO HASH CODE
262	827A	20	AA0A	JSR	HSHVAL
263	827D	A6	D8	LDX	T2
264	827F	A9	FE	LDA	#0FE
265	8281	20	AA0A	SCNWRT: JSR	HSHVAL
266					
267	8284	A2	02	LDX	#PTRB-PTAB&OFF
268	8286	A0	4B	LDY	#75.
269	8288	20	AA2F	JSR	SETPTB
270	828B	A2	04	LDX	#PTRC-PTAB&OFF
271	828D	C8		INY	
272	828E	20	AA2F	JSR	SETPTB
273	8291	A2	06	LDX	#PTRD-PTAB&OFF
274	8293	C8		INY	
275	8294	20	AA2F	JSR	SETPTB
276	8297	A2	08	LDX	#PTRE-PTAB&OFF
277	8299	C8		INY	
278	829A	20	AA2F	JSR	SETPTB
279	829D	A9	27	LDA	#39.
280	829F	AA		TAX	
281	82A0	A8		TAY	
282	82A1	20	AA1F	JSR	BLKMOV
283	82A4	A2	02	LDX	#PTRB-PTAB&OFF
284	82A6	A0	5B	LDY	#91.
285	82A8	20	AA2F	JSR	SETPTB


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286 82AB A2 04 LDX #PTRC-PTAB&OFF
287 82AD C8 INY
288 82AE 20 AA2F JSR SETPT8
289 82B1 A2 06 LDX #PTRD-PTAB&OFF
290 82B3 C8 INY
291 82B4 20 AA2F JSR SETPT8
292 82B7 A2 08 LDX #PTRE-PTAB&OFF
293 82B9 C8 INY
294 82BA 20 AA2F JSR SETPT8
295 82BD A9 27 LDA #39.
296 82BF AA TAX
297 82C0 A8 TAY
298 82C1 20 AA1F JSR BLKMOV
299
300 ; DO GOALS AND DOWN MARKERS HERE!!!!!!!!!!!!!!
301 ;
302 ; *****
303 ;
304 ; ADDED BY DAVE:
305 ;
306 ; GOAL HORZ POSITION UPDATE
307 ;
308 82C4 A5 EC LDA LFTEDG+1 ;MSB (LOOKING FOR DISPLAY OF LEFT GOAL POSTS)
309 82C6 D0 12 BNE Z$ ;BRANCH IF LEFT NOT SHOWING
310 82C8 A9 0A LDA #10. ;MAX LFTEDG IF JUST RIGHT-MOST PART
311 82CA 38 SEC ; OF GOAL POSTS IS SHOWING
312 82CB E5 EB SBC LFTEDG ;SUBTRACT LSB OF LEFT EDGE
313 82CD B0 02 BCS 1$ ;BRANCH IF ANY IS SHOWING
314 82CF A9 AF LDA #008-<30-7> ;ELSE, SET-UP FOR OFF-SCREEN
315 82D1 1$:
316 82D1 18 CLC
317 82D2 69 29 ADC #30-7 ;ADD IN STANDARD HPOS OFFSET
318 82D4 80 02B9 STA HZGOAL
319 82D7 4C 82F6 JMP 5$ ;WE'RE DONE
320 82DA 2$:
321 82DA C9 03 CMP #<<961.-<4+7>>-159.>&OFF00/100
322 82DC F0 08 BEQ 4$ ;BR IF MAYBE SHOWING RIGHT GOAL POSTS
323 82DE 3$:
324 82DE A9 D8 LDA #008 ;ELSE, SET IT FOR OFF SCREEN
325 82E0 80 02B9 STA HZGOAL
326 82E3 4C 82F6 JMP 5$ ;WE'RE DONE
327 82E6 4$:
328 82E6 A5 EB LDA LFTEDG ;FETCH LSB, LEFT EDGE
329 82E8 38 SEC ;THRESHOLD FOR LEFT-MOST PART OF RIGHT POSTS
330 82E9 E9 1A SBC #<<961.-<8>>-159.>&OFF
331 82EB 90 F1 BCC 3$ ;BRANCH IF NOT VISIBLE
332 82ED 85 D6 STA T0 ;ELSE, SAVE POSITIVE DIFFERENCE
333 82EF A9 CF LDA #30+159. ;MAX HPOS FOR GOAL POSTS (TO BE VISIBLE)
334 82F1 E5 D6 SBC T0 ;CY=1
335 82F3 80 02B9 STA HZGOAL ;SET HPOS FOR GOAL
336 82F6 5$:
337 82F6 20 879E JSR PDSLCT ;SWITCH KEYPAD READ!!!
338 ;
339 ; STAMP ALL PLAYERS INTO BITMAP
340 ;
341 82F9 A2 0B LDX #BALL-1
342 82FB 86 19 STX CURPLR
```



```
343 82FD DRBTMP:
344 ;
345 82FD 20$:
346 82FD 8A TXA
347 82FE 29 01 AND #1
348 8300 A8 TAY
349 8301 B9 0401 LDA TMOCLR(Y)
350 8304 85 20 STA CLRMSK ;8 BIT COLOR MASK FOR WHOLE PLAYER
351
352 8306 A9 0E LDA #LENGTH-1 ;LENGTH OF BITMAP PLAYERS
353 8308 85 1E STA GRFNDX
354 ; SET UP GRAPHICS POINTER
355 ;
356 830A 8A TXA
357 8308 0A ASL
358 830C A8 TAY
359 830D B9 0023 LDA ANMSEQ(Y)
360 8310 18 CLC
361 8311 7D 0333 ADC ANMNDX(X)
362 8314 85 4D STA PTR
363 8316 B9 0024 LDA ANMSEQ+1(Y)
364 8319 69 00 ADC #0
365 831B 85 4E STA PTR+1
366 831D A5 4D LDA PTR
367 831F 18 CLC
368 8320 69 01 ADC #1 ;OFFSET TO FIRST DATA BYTE IN ANMSEQ
369 8322 85 4D STA PTR
370 8324 90 02 BCC 10$
371 8326 E6 4E INC PTR+1
372 ; CALC PIXEL OFFSET
373 8328 10$:
374 ; *****
375 ; ADDED BY DAVE:
376 ;
377 ; TEST FOR SPECIAL CONTROL PLAYER TO SET-UP DATA FOR PLR 0 OR PLR 1
378 ;
379 8328 EC 040C CPX TMOCTL ;TEAM 0 CONTROL PLAYER?
380 8328 D0 0D BNE 50$ ;NO, CHECK TEAM 1 CONTROL PLAYER
381 832D A5 4D LDA PTR ;COPY GRAFIX ROM PTR
382 832F 8D 02B3 STA P1GRX ;TO TEAM 0 SAVE AREA
383 8332 A5 4E LDA PTR+1 ;MSB TOO
384 8334 8D 02B4 STA P1GRX+1 ;SO WE DON'T HAVE TO RE-COMPUTE
385 8337 4C 8412 JMP DECCUR ;SKIP BITMAP FOR THIS GUY
386 833A 50$:
387 833A EC 040D CPX TM1CTL ;TEAM 1 CONTROL PLAYER?
388 833D D0 0D BNE 60$ ;NO, CONTINUE NORMAL BITMAP PROCESSING
389 833F A5 4D LDA PTR ;COPY GRAFIX ROM PTR
390 8341 8D 02B5 STA P2GRX ;TO TEAM 1 SAVE AREA
391 8344 A5 4E LDA PTR+1 ;MSB TOO
392 8346 8D 02B6 STA P2GRX+1 ;SO WE DON'T HAVE TO RE-COMPUTE
393 8349 4C 8412 JMP DECCUR ;SKIP BITMAP FOR THIS GUY
394 834C 60$:
395 ;
396 ;
397 ; END ADDITIONS
398 ;
399 ; *****
```



```
400      ;
401      834C      8D      0254      LDA      NEWX(X)
402      834F      C9      D4      CMP      #004
403      8351      D0      03      BNE      140$
404      8353      4C      8412      JMP      DECCUR
405      8356      29      03      140$: AND      #3
406      8358      85      1B      STA      OFFSET
407      ; CALC HORIZONTAL BYTE NUMBER
408      835A      8D      0254      LDA      NEWX(X)
409      835D      C9      A0      CMP      #160.
410      835F      80      05      BCS      150$
411      8361      4A      LSR
412      8362      4A      LSR
413      8363      4C      836A      JMP      160$
414      8366      38      150$: SEC
415      8367      6A      ROR
416      8368      38      SEC
417      8369      6A      ROR
418      836A      85      1D      160$: STA      SCNSTT      :-2 TO 39.
419
420      ; SET UP SCREEN POINTER FOR START OF PLAYER LINE IN BITMAP
421
422      836C      BC      02D8      LDY      YPOS(X)
423      836F      B9      BCD7      LDA      LQFRTY(Y)
424      8372      18      CLC
425      8373      65      5F      ADC      UPDTPT
426      8375      85      4F      STA      PTRB
427      8377      B9      BD6F      LDA      HIFRTY(Y)
428      837A      65      60      ADC      UPDTPT+1
429      837C      85      50      STA      PTRB+1
430      ; GET GRAPHICS BYTE AND SHIFT INTO TEMP A, TEMP B
431      837E      A9      00      SETSCN: LDA      #0
432      8380      85      22      STA      TEMP A
433      8382      A6      19      LDX      CURPLR
434      8384      A4      1E      LDY      GRFNDX
435      8386      B1      4D      LDA      @PTR A(Y)
436      ;
437      ; DO REVERSE TEST AND REVERSAL HERE!!!!!!!!!!!!!!
438      ;
439      8388      BC      02A2      LDY      REVERS(X)
440      838B      10      04      BPL      100$
441      838D      A8      TAY
442      838E      B9      BBD7      LDA      REVTBL(Y)
443      8391      A6      1B      100$: LDX      OFFSET
444      8393      F0      08      BEQ      L4
445      8395      E0      02      CPX      #2
446      8397      F0      0A      BEQ      L2
447      8399      90      05      BCC      L3
448      839B      80      09      BCS      L1
449      839D      0A      L4: ASL
450      839E      26      22      ROL      TEMP A
451      83A0      0A      L3: ASL
452      83A1      26      22      ROL      TEMP A
453      83A3      0A      L2: ASL
454      83A4      26      22      ROL      TEMP A
455      83A6      0A      L1: ASL
456      83A7      26      22      ROL      TEMP A
```



```
457      ; USE TEMPB LOW 4 BITS,TEMPB/16,TEMPB LOW 4 BITS
458      ; GET HIGH NIBBLE
459      83A9      85      21      STA      TEMPB
460      83AB      A4      10      LDY      SCNSTT
461      83AD      30      17      BMI      100$
462      83AF      A5      22      LDA      TEMPB
463      83B1      29      0F      AND      #0F
464      83B3      F0      11      BEQ      100$
465      ;MASKING
466      83B5      AA      TAX
467      83B6      BD      B2B1    LDA      MSKTBL(X)      ;EXPAND INTO 8 BIT MASK
468      83B9      25      20      AND      CLRMSK
469      83BB      85      1F      STA      DATA      ;OR MASK
470      83BD      BD      B2C1    LDA      NMSKTBL(X)      ;AND MASK -- ZERO SCREEN DATA FOR NEW BITS
471      83C0      31      4F      AND      @PTRB(Y)
472      83C2      05      1F      ORA      DATA
473      83C4      91      4F      STA      @PTRB(Y)
474      83C6      C8      100$:   INY
475      83C7      C0      28      CPY      #40.
476      83C9      80      19      BCS      200$
477      ; GET NEXT NIBBLE
478      83CB      A5      21      LDA      TEMPB
479      83CD      4A      LSR
480      83CE      4A      LSR
481      83CF      4A      LSR
482      83D0      4A      LSR
483      83D1      F0      11      BEQ      200$
484      ;MASKING
485      83D3      AA      TAX
486      83D4      BD      B2B1    LDA      MSKTBL(X)
487      83D7      25      20      AND      CLRMSK
488      83D9      85      1F      STA      DATA      ;OR MASK
489      83DB      BD      B2C1    LDA      NMSKTBL(X)      ;AND MASK
490      83DE      31      4F      AND      @PTRB(Y)
491      83E0      05      1F      ORA      DATA
492      83E2      91      4F      STA      @PTRB(Y)
493      83E4      C8      200$:   INY
494      83E5      C0      28      CPY      #40.
495      83E7      80      17      BCS      300$
496      ; GET NEXT NIBBLE
497      83E9      A5      21      LDA      TEMPB
498      83EB      29      0F      AND      #0F
499      83ED      F0      11      BEQ      300$
500      ;MASKING
501      83EF      AA      TAX
502      83F0      BD      B2B1    LDA      MSKTBL(X)
503      83F3      25      20      AND      CLRMSK
504      83F5      85      1F      STA      DATA      ;OR MASK
505      83F7      BD      B2C1    LDA      NMSKTBL(X)      ;AND MASK
506      83FA      31      4F      AND      @PTRB(Y)
507      83FC      05      1F      ORA      DATA
508      83FE      91      4F      STA      @PTRB(Y)
509      8400      A5      4F      300$:   LDA      PTRB
510      8402      18      CLC
511      8403      69      28      ADC      #40.
512      8405      85      4F      STA      PTRB
513      8407      90      02      BCC      310$
```


514	8409	E6	50		INC	PTRB+1	
515	840B	C6	1E	310\$:	DEC	GRFNDX	
516	840D	30	03		BMI	DECCUR	
517	840F	4C	837E		JMP	SETSCN	
518	8412	C6	19	DECCUR:	DEC	CURPLR	
519	8414	A6	19		LDX	CURPLR	
520	8416	30	03		BMI	95\$	
521	8418	4C	82FD		JMP	DR8TMP	
522				:			
523				:			
524				:			
525				:	GENERATE NEW -> OLD		
526	841B	20	A973	95\$:	JSR	NEWOLD	
527							
528	841E	20	879E		JSR	PDSLCT	:SWITCH KEYPAD
529							
530	8421	AD	03AD		LDA	VBCNTR	:IN CASE IT TOOK LONGER
531	8424	10	05		BPL	VBWAIT	:THAN ALLOTTED # OF FRAMES
532	8426	A9	00		LDA	#0	:DON'T FORCE BUFFER SWITCH
533	8428	8D	03AD		STA	VBCNTR	

1	8428	AD	03AD	VBWAIT: LDA	VBCNTR
2	842E	10	FB	BPL	VBWAIT
3					
4				; SWITCH POINTERS	
5	8430	AD	040F	SETPTS: LDA	CYCLE
6	8433	30	07	BMI	30%
7	8435	A2	07	LDX	#CYCLE1&OFF
8	8437	A9	BE	LDA	#CYCLE1&OFF00/100
9	8439	4C	8440	JMP	40%
10	843C	A2	0F	30%: LDX	#CYCLE2&OFF
11	843E	A9	BE	LDA	#CYCLE2&OFF00/100
12	8440	86	57	40%: STX	CYCLPT
13	8442	85	58	STA	CYCLPT+1
14	8444	A0	07	LDY	#7
15	8446	B1	57	66%: LDA	@CYCLPT(Y)
16	8448	99	0059	STA	SCRNPT(Y)
17	8448	88		DEY	
18	844C	10	FB	BPL	66%
19					
20					
21	844E	A5	59	SETBUF: LDA	SCRNPT
22	8450	8D	200A	STA	DLRAM+10.
23	8453	A5	5A	LDA	SCRNPT+1
24	8455	8D	200B	STA	DLRAM+11.
25					
26	8458	A5	59	LDA	SCRNPT
27	845A	18		CLC	
28	845B	69	00	ADC	#000
29	845D	8D	203E	STA	DLRAM+62.
30	8460	A5	5A	LDA	SCRNPT+1
31	8462	69	07	ADC	#7
32	8464	8D	203F	STA	DLRAM+63.
33					
34				; SET VBCNTR	
35	8467	A9	03	LDA	#3
36	8469	8D	03AD	STA	VBCNTR
37					
38	846C	AD	040F	LDA	CYCLE
39	846F	49	FF	EOR	#OFF
40	8471	8D	040F	STA	CYCLE
41				:	
42				:	*****
43				:	
44				:	ADDED BY DAVE:
45				:	
46	8474	20	8EEE	JSR	SFLASH ;SERVICE MESSAGE FLASH *DAVE* 7/16
47				:	
48				:	UPDATE CONTROL PLAYERS IN P/M GRAFIX
49				:	
50	8477	A9	00	LDA	#0 ;CLEAR PREVIOUS PLAYER 1
51	8479	A0	0E	LDY	#LENGTH-1 ;USE Y FOR PLAYER HEIGHT COUNTER
52	847B	AE	02B1	LDX	OLDYP1 ;STARTING @ PREVIOUS VERT POSITION
53	847E			50%:	
54	847E	9D	2500	STA	GXPM+P1OFF(X) ;CLEAR OLD PLAYER 1
55	8481	E8		INX	
56	8482	88		DEY	;DEC LENGTH COUNT
57	8483	10	F9	BPL	50% ;LOOP TIL CLEARED


```
58      ;
59      8485  A0  0E      LDY      #LENGTH-1      ;DO SAME FOR PLAYER 2
60      8487  AE  0282      LDX      OLDYP2
61      848A      60$:
62      848A  9D  2600      STA      GXPM+P2OFF(X)
63      848D  E8          INX
64      848E  88          DEY
65      848F  10  F9      BPL      60$
66      ;
67      8491  A2  03      LDX      #3      ;MOVE 4 BYTES OF GRAFIX PTR
68      8493      61$:
69      8493  BD  0283      LDA      PIGRX(X)      ;TO PAGE 0
70      8496  95  4D      STA      PTRAX(X)      ;INDIRECT PTR SPACE
71      8498  CA          DEX
72      8499  10  F8      BPL      61$
73      ;
74      849B  AE  040C      LDX      TMOCTL      ;GET PLAYER #, TEAM 0 CONTROL
75      849E  BD  0254      LDA      NEWX(X)      ;GET SCREEN HORZ COOR
76      84A1  C9  D4      CMP      #0D4      ;OFF SCREEN?
77      84A3  F0  36      BEQ      70$      ;YES, SKIP WRITING PLAYER 1
78      84A5  18          CLC
79      84A6  69  30      ADC      #30      ;ADD IN OFFSET
80      84A8  BD  D001      STA      HPOSP1      ;STUFF IN HARDWARE HORZ POSITION
81      84AB  BD  02D8      LDA      YPOS(X)      ;GET VERTICAL POSITION
82      84AE  18          CLC
83      84AF  69  38      ADC      #38      ;ADD SOME OFFSET
84      84B1  BD  02B1      STA      OLDYP1      ;SAVE AS OLD
85      84B4  BC  02A2      LDY      REVERS(X)      ;USE REVERSE TABLE?
86      84B7  10  16      BPL      66$      ;NO
87      84B9  A0  0E      LDY      #LENGTH-1
88      84BB  AA          TAX      ;YES, USE REVERSE
89      84BC      67$:
90      84BC  86  D6      STX      T0
91      84BE  B1  4D      LDA      @PTRAX(Y)      ;FETCH ROM GRAFIX DATA
92      84C0  AA          TAX
93      84C1  BD  BBD7      LDA      REVTBL(X)
94      84C4  A6  D6      LDX      T0
95      84C6  9D  2500      STA      GXPM+P1OFF(X)
96      84C9  E8          INX      ;ADVANCE P/M STRIP INDEX
97      84CA  88          DEY
98      84CB  10  EF      BPL      67$
99      84CD  30  0C      BMI      70$      ;BR ALWAYS OVER NON-REVERSING
100     84CF      66$:
101     ;
102     ; LOAD PLAYER 2 STRIP W/O REVERSE
103     ;
104     84CF  A0  0E      LDY      #LENGTH-1
105     84D1  AA          TAX      ;2-LINE RES VERT POSITION IN X
106     84D2      62$:
107     84D2  B1  4D      LDA      @PTRAX(Y)      ;FETCH ROM GRAFIX DATA
108     84D4  9D  2500      STA      GXPM+P1OFF(X)
109     84D7  E8          INX      ;ADVANCE P/M STRIP INDEX
110     84D8  88          DEY
111     84D9  10  F7      BPL      62$
112     ;
113     ; DO DEFENSIVE PLAYER PROCESSING
114     ;
```



```
115 84DB      70$:
116 84DB      AE 040D      LDX      TM1CTL      ;GET PLAYER #, TEAM 1 CONTROL
117 84DE      BD 0254      LDA      NEWX(X)      ;GET SCREEN HORZ COOR
118 84E1      C9 04        CMP      #004        ;OFF SCREEN?
119 84E3      F0 36        BEQ      80$          ;YES, SKIP WRITING PLAYER 0
120 84E5      18          CLC
121 84E6      69 30        ADC      #30
122 84E8      BD 0002      STA      HPOSP2      ;ELSE, STUFF IN HARDWARE HORZ POSITION
123 84EB      BD 02D8      LDA      YPOS(X)      ;GET VERTICAL POSITION
124 84EE      18          CLC
125 84EF      69 38        ADC      #38          ;ADD SOME OFFSET
126 84F1      BD 02B2      STA      OLDYP2      ;SAVE AS OLD
127 84F4      BC 02A2      LDY      REVERS(X)    ;CHECK ON REVERSE
128 84F7      10 16        BPL      76$          ;NO
129 84F9      A0 0E        LDY      #LENGTH-1
130 84FB      AA          TAX                  ;YES, USE REVERSE
131 84FC      77$:
132 84FC      86 06        STX      T0
133 84FE      B1 4F        LDA      @PTRB(Y)      ;FETCH ROM GRAFIX DATA
134 8500      AA          TAX
135 8501      BD 88D7      LDA      REVTBL(X)
136 8504      A6 06        LDX      T0
137 8506      9D 2600      STA      GXPM+P2OFF(X)
138 8509      E8          INX                  ;ADVANCE P/M STRIP INDEX
139 850A      88          DEY
140 850B      10 EF        BPL      77$
141 850D      30 0C        BMI      80$          ;BR ALWAYS OVER NON-REVERSING
142 850F      76$:
143      ;
144      ; LOAD PLAYER 0 STRIP W/O REVERSE
145      ;
146 850F      A0 0E        LDY      #LENGTH-1
147 8511      AA          TAX
148 8512      63$:
149 8512      B1 4F        LDA      @PTRB(Y)      ;FETCH ROM GRAFIX DATA
150 8514      9D 2600      STA      GXPM+P2OFF(X)
151 8517      E8          INX                  ;ADVANCE P/M STRIP INDEX
152 8518      88          DEY
153 8519      10 F7        BPL      63$
154      ;
155 851B      80$:
156      ;
157      ; END DAVE'S ADDITION
158      ;
159      ; *****
160      ;
161      ; BALL=PO
162
163      ; OUTPUT BALL
164
165      ; ERASE OLD BALL
166 851B      AD 03AB      LDA      OLOBLY
167 851E      AA          TAX
168 851F      BD 2438      LDA      GXPM+POOFF+<<3-PMRES>>28.>(X)
169 8522      29 3F        AND      #3F
170 8524      9D 2438      STA      GXPM+POOFF+<<3-PMRES>>28.>(X)
171 8527      BD 2439      LDA      GXPM+POOFF+<<3-PMRES>>28.>+1(X)
```


PAM FOOTBALL
INITIALIZATION

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172	852A	29	3F	AND	#3F
173	852C	9D	2439	STA	GXPM+POOFF+<<3-PMRES>*28.>+1(X)
174					
175				:SET HPOS	
176	852F	AD	0260	LDA	NEWX+BALL
177	8532	18		CLC	
178	8533	69	30	ADC	#30
179	8535	8D	D000	STA	HPOSPO
180				: *****	
181				: DRAW NEW BALL AND SET VDELAY BIT 0 IF NECESSARY	
182	8538	AD	02E4	LDA	YPOS+BALL
183				: AND SAVE OLD BALL Y POSN	
184	8538	8D	03A8	STA	OLDBLY
185	853E	AA		TAX	
186	853F	BD	2438	LDA	GXPM+POOFF+<<3-PMRES>*28.>(X)
187	8542	09	C0	ORA	#0C0
188	8544	9D	2438	STA	GXPM+POOFF+<<3-PMRES>*28.>(X)
189	8547	BD	2439	LDA	GXPM+POOFF+<<3-PMRES>*28.>+1(X)
190	854A	09	C0	ORA	#0C0
191	854C	9D	2439	STA	GXPM+POOFF+<<3-PMRES>*28.>+1(X)
192	854F	AD	0386	LDA	CYCLCT
193	8552	8D	03B7	STA	OLDCYC
194	8555	18		CLC	
195	8556	69	01	ADC	#1
196	8558	8D	0386	STA	CYCLCT
197				: MODIFY RANDS DURING PLAYON ONLY	
198	855B	A4	F0	LDY	STATE
199	855D	C0	85	CPY	#PLAYON
200	855F	D0	19	BNE	ABCDEF
201	8561	AD	03DA	LDA	HIKDON
202	8564	F0	14	BEQ	ABCDEF
203	8566	AD	0386	LDA	CYCLCT
204	8569	29	7F	AND	#7F
205	856B	D0	0D	BNE	ABCDEF
206	856D	A2	0B	LDX	#BALL-1
207	856F	AD	D20A	10\$: LDA	RANDOM
208	8572	29	0F	AND	#0F
209	8574	9D	038E	STA	RAND(X)
210	8577	CA		DEX	
211	8578	10	F5	BPL	10\$
212	857A	EA		ABCDEF: NOP	
213				: SCROLLING CODE	
214	857B	AD	0410	LDA	SCROLH
215	857E	8D	D404	STA	HSCROL
216	8581	AE	0415	LDX	YRDADR
217	8584	AC	0416	LDY	YRDADR+1
218	8587	8E	20A6	STX	DLRAM+166.
219	858A	8C	20A7	STY	DLRAM+167.
220	858D	A0	03	LDY	#3
221	858F	A2	30	LOX	#MAXFLD
222	8591	20	A9D8	JSR	SCLFLD
223	8594	4C	80EC	JMP	PROCES




```

1      ; SBTTL INTERRUPT HANDLERS
2      ; DEFERRED
3      8597 VBLANK:
4      ; INCR KTIMER EACH FRAME UNTIL 80 HEX
5      8597 AD 0388 LDA VRTBNK
6      859A 29 01 AND #1
7      859C AA TAX
8      859D BD 03FC LDA KTIMER(X)
9      85A0 30 03 BMI 10$
10     85A2 FE 03FC INC KTIMER(X)
11     85A5 E6 1A 10$: INC FRAME
12     85A7 CE 03AD DEC VBCNTR
13
14     ; *DAVE* NO, DON'T DISABLE !!!
15
16     ; DISABLE ATTRACT FOR NOW
17     ; *DAVE* LDA #0
18     ; *DAVE* STA ATTRACT
19
20     ; NEED TO DO ATTRACT STUFF TO NON-VBLANK COLORS
21     ; IF IN ATTRACT MODE:
22
23     85AA A5 04 LDA ATTRACT ; IN ATTRACT MODE?
24     85AC 10 0E BPL 30$ ; NO, SKIP COLOR MASKING
25     85AE A2 08 LDX #ZBBAK-ZPLYBK ; ELSE, GET # OF DLI COLORS TO MASK
26     85B0 40$:
27     85B0 BD B980 LDA CSCHM(X) ; GET ORIGINAL COLOR SCHEME FROM ROM
28     85B3 45 01 EOR RTCLOK ; DO WHAT PAM O.S. DOES W/ VBLANK COLORS
29     85B5 29 F6 AND #0F6 ; DARK MASK
30     85B7 95 DF STA ZPLYBK(X) ; TO ZPAGE DLI COLOR SAVE AREA
31     85B9 CA DEX
32     85BA 10 F4 BPL 40$
33     85BC 30$:
34
35     ; END DAVE'S ADDITION
36
37     85BC A9 04 LDA #4 ; NEED TO TEST BIT2 (CALIBRATE MODE IF CLEAR)
38     85BE 2D 0388 AND VRTBNK ; FROM CONSOL SHADOW
39     85C1 F0 36 BEQ NDAVRG ; IF IN CALIBRATE, SKIP JOYSTICK AVERAGING
40
41     ; COMPUTE CENTER, MAX, AND MIN FOR EACH POT
42     ; LATER, BRING IN BOUNDS IF NO BOUND UPDATE FOR N FRAMES!!!!
43     85C3 A2 03 LDX #3
44     85C5 PTCNTR:
45
46     85C5 E0 02 CPX #2 ; X=0,1 FOR PLYR1 --- X=2,3 FOR PLYR2
47     85C7 B0 07 BCS 2$ ; IF PLYR2, GO TEST PLYR2 T-BALL FLAG
48     85C9 2C 02AF BIT JORT ; ELSE, CHECK PLYR1 TRACKBALL
49     85CC 30 28 BMI NXTPOT ; IF TRACKBALL, SKIP AVERAGING STUFF
50     85CE 10 07 BPL 1$ ; ALWAYS BRANCH TO AVERAGING STUFF
51     85D0 2$:
52     85D0 2C 02AF BIT JORT ; CHECK PLYR2 T-BALL FLAG
53     85D3 50 02 BVC 1$ ; IT'S JOYSTICK, GET ON WITH IT
54     85D5 70 1F BVS NXTPOT ; ELSE, T-BALL--SKIP JOYSTICK AVERAGING
55     85D7 1$:
56
57     85D7 B5 11 LDA PADDLO(X)

```



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58      ;
59      ; WE USED TO THINK E4 MEANT OPEN PORT *DAVE* 7/16
60      ;
61      ;*DAVE* CMP      #OE4      ;BUT WE WERE WRONG!! *DAVE* 7/16
62      ;*DAVE* BEQ      NXTPOT      ; *DAVE* 7/16
63      ;
64      85D9      DD      0418      CMP      PADMAX(X)
65      85DC      90      05      BCC      SKPMAX
66      85DE      9D      0418      STA      PADMAX(X)
67      85E1      80      08      BCS      CMPMID ;BRANCH ALWAYS
68      85E3      DD      0417      SKPMAX: CMP      PADMIN(X)
69      85E6      80      0E      BCS      NXTPOT
70      85E8      9D      0417      STA      PADMIN(X)
71      85EB      8D      0418      CMPMID: LDA      PADMAX(X)
72      85EE      18      CLC
73      85EF      7D      0417      ADC      PADMIN(X)
74      85F2      6A      ROR
75      85F3      9D      041F      STA      PADMID(X)
76      85F6      CA      NXTPOT: DEX
77      85F7      10      CC      BPL      PTCNTR
78      ;
79      85F9      NOAVRG:
80      ;
81      ; SET TRIGGER FLAGS
82      85F9      A2      01      LDX      #1
83      85FB      8D      D010      20$: LDA      TRIG0(X)      ;0 OR 1
84      85FE      9D      03F7      STA      TRGFG(X)
85      8601      CA      25$: DEX
86      8602      10      F7      BPL      20$
87      ;
88      8604      20      8730      JSR      QTIME
89      ;
90      ;
91      ; SOUNDS
92      8607      A2      03      LDX      #3
93      8609      8D      03AE      CHKSND: LDA      SNDCNT(X)
94      860C      30      49      BMI      NOSND1
95      860E      A8      TAY
96      860F      A5      1A      LDA      FRAME
97      8611      3D      03B2      AND      SMPLRT(X)
98      8614      D0      49      BNE      NOSND
99      8616      DE      03AE      DEC      SNDCNT(X)
100     8619      E0      02      CPX      #2
101     861B      F0      20      BEQ      20$
102     861D      80      28      BCS      30$
103     861F      E0      01      CPX      #1
104     8621      F0      0D      BEQ      10$
105     8623      B1      3D      LDA      @SNDFRQ(Y)
106     8625      8D      D200      STA      AUDF1
107     8628      B1      45      LDA      @SNDCTL(Y)
108     862A      8D      D201      STA      AUDC1
109     862D      4C      865F      JMP      NOSND
110     8630      B1      3F      10$: LDA      @SNDFRQ+2(Y)
111     8632      8D      D202      STA      AUDF2
112     8635      B1      47      LDA      @SNDCTL+2(Y)
113     8637      8D      D203      STA      AUDC2
114     863A      4C      865F      JMP      NOSND

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115	863D	B1	41	20\$:	LDA	@SNDFRQ+4(Y)	
116	863F	8D	D204		STA	AUDF3	
117	8642	B1	49		LDA	@SNDCTL+4(Y)	
118	8644	8D	D205		STA	AUDC3	
119	8647	4C	865F		JMP	NOSND	
120	864A	B1	43	30\$:	LDA	@SNDFRQ+6(Y)	
121	864C	8D	D206		STA	AUDF4	
122	864F	B1	4B		LDA	@SNDCTL+6(Y)	
123	8651	8D	D207		STA	AUDC4	
124	8654	4C	865F		JMP	NOSND	
125	8657	8A		NOSND1:	TXA		
126	8658	0A			ASL		
127	8659	A8			TAY		
128	865A	A9	00		LDA	#0	
129	865C	99	D201		STA	AUDC1(Y)	
130	865F	CA		NOSND:	DEX		
131	8660	10	A7		BPL	CHKSND	
132	8662			PULALL:			
133	8662	68			PLA		
134	8663	A8			TAY		
135	8664	68			PLA		
136	8665	AA			TAX		
137	8666	68			PLA		
138	8667	40			RTI		
139							
140							
141							
142							
143	8668	48		DLI:	PHA		;STACK ANY REGISTERS USED
144	8669	8A			TXA		
145	866A	48			PHA		
146	866B	AD	D40B		LDA	VCOUNT	;?????????????OFFSET?????????
147	866E	C9	07		CMP	#7	;14.
148	8670	F0	2D		BEQ	100\$	
149	8672	C9	0F		CMP	#0F	;30.
150	8674	F0	34		BEQ	SCRSET	
151	8676	C9	1B		CMP	#1B	;?????????????????????????
152	8678	F0	40		BEQ	FLDSET	
153							
154							
155							
156	867A	C9	22		CMP	#22	;????
157	867C	F0	56		BEQ	OWNSET	;SET FIELD LINES
158							
159							
160							
161	867E	C9	70	50\$:	CMP	#70	;224.?????????????????????
162	8680	D0	71		BNE	EXTDLI	
163							
164							
165							
166							
167							
168	8682	8D	D40A		STA	WSYNC	
169	8685	A5	E7		LDA	ZBBAK	
170	8687	8D	D01A		STA	COLBK	
171	868A	AD	02C1		LDA	XDSP05+1	;GET DOWN MARKER #0 SCREEN HORZ POSITION

172	868D	8D	D004	STA	HPOSMD	:RESTORE SINCE FIELD LINE IS DONE
173	8690	AD	02C2	LDA	XDSPDS+2	:OTHER DOWN MARKER TOO
174	8693	8D	D005	STA	HPOSMD	
175	8696	AD	02C0	LDA	XDSPDS+0	
176	8699	8D	D003	STA	HPOSP3	:SET HPOS OF NUMERIC DOWN MARK (PLYR 3)
177	869C	4C	86F3	JMP	EXTDLI	
178				:		
179				:	END DAVE'S ADDITION	
180				:		
181	869F	8D	D40A	1005: STA	WSYNC	
182	86A2	A5	E7	LDA	ZBBAK	:COLOR ABOVE & BELOW PLAYFIELD
183	86A4	8D	D01A	STA	COLBK	:BACKGROUND
184	86A7	4C	86F3	JMP	EXTDLI	
185						
186	86AA	8D	D40A	SCRSET: STA	WSYNC	
187	86AD	A5	E3	LDA	ZLET	:CODE 1 --- LETTERS
188	86AF	8D	D017	STA	COLPF1	
189	86B2	A5	E4	LDA	ZSCRBD	:CODE 0 --- SCORE BOARD
190	86B4	8D	D018	STA	COLPF2	
191	86B7	4C	86F3	JMP	EXTDLI	
192						
193	86BA	8D	D40A	FLDSET: STA	WSYNC	
194	86BD	A5	DF	LDA	ZPLYBK	:GREEN CODE 00
195	86BF	8D	D01A	STA	COLBK	
196	86C2	A5	E2	LDA	ZHASH	:WHITE CODE 11 --- STRIPES AND YD NOS
197	86C4	8D	D018	STA	COLPF2	
198	86C7	A5	E1	LDA	ZTM1	:BLUE CODE 10
199	86C9	8D	D017	STA	COLPF1	
200	86CC	A5	E0	LDA	ZTMO	:RED CODE 01
201	86CE	8D	D016	STA	COLPF0	
202	86D1	4C	86F3	JMP	EXTDLI	
203				:		
204				:	DAVE'S ADDITION:	
205				:		
206	86D4			DWNSET:		
207	86D4	8D	D40A	STA	WSYNC	
208	86D7	A5	E6	LDA	Z5Y10	:WHITE 5 & 10 YARD FIELD LINES
209	86D9	8D	D019	STA	COLPF3	:FOR PLAYER 5
210	86DC	A5	E5	LDA	ZGOAL	:SET-UP GOAL COLOR
211	86DE	8D	D015	STA	COLPM3	
212	86E1	AD	02B7	LDA	HZMIS+0	:GET MISSILE 0 SHADOW
213	86E4	8D	D004	STA	HPOSMD	
214	86E7	AD	02B8	LDA	HZMIS+1	
215	86EA	8D	D005	STA	HPOSMD	
216	86ED	AD	02B9	LDA	HZGOAL	:HORZ POSITION OF GOAL
217	86F0	8D	D003	STA	HPOSP3	
218				:		
219	86F3	68		EXTDLI: PLA		:UNSTACK ANY USED
220	86F4	AA		TAX		
221	86F5	68		PLA		
222	86F6	40		RTI		
223						
224	86F7	EE	03A8	KEYBRD: INC	KBLOCK	
225	86FA	D0	1D	BNE	105	
226	86FC	8D	03FB	STA	TMPKEY	
227	86FF	AD	03B8	LDA	VRTBNK	
228	8702	29	01	AND	#1	

229	8704	AA		TAX		
230	8705	BC	03FC	LDY	KTIMER(X)	
231	8708	A9	00	LDA	#0	;KEY DEPRESSED, ZERO KTIMER (LOCK OUT KB)
232	870A	9D	03FC	STA	KTIMER(X)	
233				CPY	#0A	
234	870D	C0	03	CPY	#3	;6 FRAMES NO SWITCH IS BETTER *DAVE* 8/3
235						
236	870F	90	08	BCC	10\$	
237	8711	AD	03FB	LDA	TMPKEY	
238	8714	95	E9	STA	KEY(X)	
239						
240						
241						
242	8716	20	A65A	JSR	NOATR	;EXIT ATTRACT MODE IF IN IT *DAVE*
243						
244	8719	CE	03AB	10\$:	DEC	KBLOCK
245	871C	4C	8662	JMP	PULALL	
246						
247	871F	8A		SOFT:	TXA	
248	8720	48			PHA	
249	8721	AD	0388		LDA	VRTBNK
250	8724	29	01		AND	#1
251	8726	AA			TAX	
252	8727	A9	00		LDA	#0
253	8729	9D	03F3		STA	STRGFG(X)
254	872C	68			PLA	
255	872D	AA			TAX	
256	872E	68			PLA	
257	872F	40			RTI	
258						
259						
260						
261	8730					
262	8730	24	ED	BIT	QTIMST	;CHECK TIMER STATUS
263	8732	30	69	BMI	2\$;TIMED-OUT, SKIP UPDATE
264	8734	50	67	BVC	2\$;TURNED-OFF, SKIP UPDATE
265	8736	CE	0280	DEC	QFRCT	;DEC FRAMES TIL NEXT SECOND TICK
266	8739	D0	62	BNE	2\$;SKIP SECOND TICK IF NON-ZERO
267	873B	A9	1E	LDA	#FRPSC	;ELSE, RELOAD FRAMES PER SECOND
268	873D	8D	0280	STA	QFRCT	;IN COUNTER
269						
270	8740	A5	F0			
271	8742	C9	85	LDA	STATE	
272	8744	F0	08	CMP	#PLAYON	
273	8746	CE	0413	BEQ	1\$	
274	8749	10	06	DEC	TIMR30	
275	874B	A5	ED	BPL	1\$	
276	874D	29	8F	LDA	QTIMST	
277	874F	85	ED	AND	#08F	;TURN OFF
278				STA	QTIMST	
279						
280	8751	A2	8F			
281	8753	CE	0454	1\$:	LDX	#90-1.
282	8756	EC	0454		DEC	SBOARD+21.
283	8759	D0	42		CPX	SBOARD+21.
284	875B	A9	99		BNE	2\$
285	875D	8D	0454		LDA	#90+9.
					STA	SBOARD+21.

QTIME:

; 30 SEC TIMER

;90 = '0'

1\$:

;X=DISPLAY CHAR IF UNDERFLOWED FOR COMPARE
 ;DEC 1\$ PLACE, SECONDS
 ;UNDERFLO?
 ;NO, WERE DONE
 ;ELSE, RELOAD 1\$ PLACE W/"9"

286	8760	CE	0453	DEC	SBOARD+20.	:DEC TENS PLACE, SECONDS
287	8763	EC	0453	CPX	SBOARD+20.	:UNDERFLO?
288	8766	DO	35	BNE	2\$	
289	8768	A9	95	LDA	#90+5.	:ELSE, RELOAD TENS PLACE W/"5"
290	876A	8D	0453	STA	SBOARD+20.	
291	876D	CE	0451	DEC	SBOARD+18.	:DEC ONES PLACE, MINUTES
292	8770	EC	0451	CPX	SBOARD+18.	:UNDERFLO?
293	8773	DO	28	BNE	2\$:NO, WERE THRU
294	8775	A9	99	LDA	#90+9.	:RELOAD 1S PLACE, MINUTES W/"9"
295	8777	8D	0451	STA	SBOARD+18.	
296	877A	AD	0450	LDA	SBOARD+17.	
297	877D	C9	91	CMP	#90+1	:CAN WE DEC TENS MINUTES?
298	877F	DO	08	BNE	3\$:NO, ZERO OTHERS
299	8781	A9	80	LDA	#80	:USE LEADING BLANK
300	8783	8D	0450	STA	SBOARD+17.	:IN TENS MINUTES PLACE
301	8786	4C	879D	JMP	2\$:EXIT
302	8789					
303	8789	A9	90	LDA	#90+0	:ELSE, TIMER IS EXHAUSTED
304	878B	8D	0451	STA	SBOARD+18.	:SET ALL BUT TENS MINUTES TO ZERO
305	878E	8D	0453	STA	SBOARD+20.	
306	8791	8D	0454	STA	SBOARD+21.	
307	8794	A5	ED	LDA	QTIMST	:GET TIMER STATUS
308	8796	09	80	ORA	#80	:TURN ON BIT 7
309	8798	85	ED	STA	QTIMST	:INDICATING TIMED OUT
310						
311	879A	20	9A2E	JSR	GUN	:DO GUN SOUND ON CHANNEL 2??????????????
312	879D					
313	879D	60		RTS		
314						
315						
316						
317	879E	EE	03A8			
318	87A1	DO	08	PDSLCT: INC	KBLOCK	
319	87A3	AD	0388	BNE	20\$	
320	87A6	49	01	LDA	VRT8NK	
321	87A8	8D	0388	EOR	#1	
322	87AB	8D	D01F	STA	VRT8NK	
323	87AE	CE	03A8	STA	CONSOL	:LOAD CONSOL FROM IT'S SHADOW
324	87B1	60		DEC	KBLOCK	
325				RTS		


```

1      .SBTTL GAME STATE FUNCTIONS
2      : GAME STATE FUNCTIONS
3
4      :ACCIDENTAL RESET STATE
5      ACCDST: LDX      #0
6      87B2      A2      00          LDA      KEY(X)
7      87B4      B5      E9          CMP      #0D      ;PAUSE
8      87B6      C9      0D          BNE      10$
9      87B8      D0      1D          LDA      #OFF
10     87BA      A9      FF
11     87BC      95      E9          STA      KEY(X)
12     87BE      20      9CC6        JSR      VALID    ;REQUIRES X=0,1
13     87C1      AD      03F2        LDA      SAVSTT
14     87C4      85      F0          STA      STATE
15     87C6      AD      0414        LDA      OQTIME
16     87C9      85      ED          STA      QTIMST
17
18     :
19     : --EXIT RESET MODE--
20     :
21     87CB      A9      00          LDA      #0
22     87CD      8D      02C7        STA      MNBR      ;TURN OFF FLASHING MSG #13
23     87D0      20      8E88        JSR      MFLASH    ;RE-WRITE ORIGINAL MID LINE
24     87D3      20      8F7B        JSR      RESBOT    ;RESTORE BOT LINE
25     87D6      60
26     87D7      A2      00          10$: LDX      #0
27     87D9      B5      E9          LDA      KEY(X)
28     87DB      C9      0E          CMP      #0E      ;RESET
29     87DD      D0      1D          BNE      40$
30     87DF      A9      FF          LDA      #OFF
31     87E1      95      E9          STA      KEY(X)
32     87E3      20      9CC6        JSR      VALID    ;REQUIRES X=0,1
33     87E6      A5      F0          LDA      STATE
34     87E8      8D      03F1        STA      OLDSTT
35     87EB      A9      07          LDA      #SLCT
36     87ED      85      F0          STA      STATE
37     87EF      60          40$: RTS
38
39     :PAUSE STATE
40     PAUSST: LDX      #0
41     87F0      A2      00          LDA      KEY(X)
42     87F2      B5      E9          CMP      #0D      ;PAUSE
43     87F4      C9      0D          BNE      10$
44     87F6      D0      49          LDA      #OFF
45     87F8      A9      FF          STA      KEY(X)
46     87FA      95      E9          JSR      VALID    ;REQUIRES X=0,1
47     87FC      20      9CC6        LDA      OQTIME
48     87FF      AD      0414        STA      QTIMST
49
50     8802      85      ED          LDA      SAVSTT    ;RETURN TO PREV STATE
51     8804      AD      03F2        STA      STATE
52     8807      85      F0          CMP      #SLCT    ;TEST IF RETURNING TO GAME SELECT
53     8809      C9      07          BNE      5$
54     880B      D0      29          :RETURN TO GAME SELECT
55     880D      20      AA AF        JSR      CLR1
56     8810      A9      08          LDA      #8
57     8812      20      8E88        JSR      MFLASH
58     8815      A9      00          LDA      #0
59     8817      8D      02C8        STA      FMNBR

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58      ;
59      ; --RE-ENTRY POINT FOR DISPLAY GAMTYP STATUS IN SELECT MODE--
60      ;
61      881A    A9    0A                LDA    #10.        :ASSUME "TWO PLAYER GAME"
62      881C    2C    03CA             BIT     GAMTYP      :TEST FLAG
63      881F    10    02                BPL     2$         :BR IF ASSUMPTION GOOD
64      8821    A9    09                LDA     #9          :ELSE, "PRACTICE GAME"
65      8823                2$:
66      8823    20    8E88             JSR     MFLASH
67      8826    A9    0B                LDA     #11.        :ASSUME "REGULATION TIME"
68      8828    2C    03CA             BIT     GAMTYP      :TEST FLAG
69      882B    50    02                BVC     3$         :BR IF ASSUMPTION CORRECT
70      882D    A9    0C                LDA     #12.        :ELSE, "SHORT GAME"
71      882F                3$:
72      882F    20    8E88             JSR     MFLASH
73      8832    EA
74
75      8833    4C    8841             JMP     10$
76      ; EXIT PAUSE MODE
77      8836    A9    00                5$: LDA     #0          ;????????????????
78      8838    8D    02C7             STA     MNBR
79      883B    20    8E88             JSR     MFLASH
80      883E    20    8F7B             JSR     RESBOT    :RESTORE BOTTOM LINE
81
82      8841    60                10$: RTS
83
84      ;GAME SELECT MODE
85      8842    A5    F0      GMSLCT: LDA     STATE
86      8844    CD    03F1             CMP     DLOSTT
87      8847    F0    23             BEQ     9$
88      8849    8D    03F1             STA     DLOSTT
89
90      ;
91      ; --ENTER SELECT MODE--
92      ;
93      884C    A9    BD                LDA     #ENDMSG&OFF
94      884E    8D    042F             STA     FBEG+10.
95      8851    A9    BA                LDA     #ENDMSG&OFF00/100
96      8853    8D    0430             STA     FBEG+11.
97      8856    20    AA AF             JSR     CLR1        :ERASE BOTH MID & BOT SCOREBOARD LINES
98      8859    A9    0B                LDA     #B          : "SELECT OPTIONS OR START GAME"
99      885B    20    8E88             JSR     MFLASH
100     885E    A9    00                LDA     #0          :CLEAR POSSIBLE ROLLED-OUT FLASHING MESSAGE
101     8860    8D    02C8             STA     FMNBR
102     8863    A9    FF                LDA     #OFF        :CLEAR ANY LEFTOVER KEYS
103     8865    85    E9                STA     KEY
104     8867    85    EA                STA     KEY+1
105     8869    4C    88B6             JMP     16$
106     886C    A2    00                9$: LDX     #0
107     886E    B5    E9                LDA     KEY(X)
108     8870    30    5D                BMI     22$
109     8872    C9    0C                CMP     #0C        :START????????????
110     8874    F0    0A                BEQ     11$
111     8876    C9    0A                CMP     #0A
112     8878    F0    22                BEQ     12$
113     887A    C9    0B                CMP     #0B
114     887C    F0    29                BEQ     13$

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115	887E	00	4F		BNE	22\$	
116				:CLEAR ANY LEFT			OVER KEYS!!!!!!
117	8880	A9	FF	11\$:	LDA	#OFF	
118	8882	95	E9		STA	KEY(X)	
119	8884	20	9CC6		JSR	VALID	:REQUIRES X=0,1
120	8887	A9	00		LDA	#0	
121	8889	8D	02C7		STA	MNBR	
122	888C	20	A66E		JSR	START	
123	888F	20	9D47		JSR	CROWD	
124	8892	A5	F0		LDA	STATE	
125	8894	8D	03F1		STA	OLDSTT	
126	8897	A9	82		LDA	#ASHUD	
127	8899	85	F0		STA	STATE	
128	889B	60			RTS		
129				:2PLYR/PRACTICE			OPTION SELECT
130	889C	AD	03CA	12\$:	LDA	GAMTYP	
131	889F	49	80		EOR	#80	
132	88A1	8D	03CA		STA	GAMTYP	
133	88A4	4C	88AF		JMP	15\$	
134				:NORMAL/SHORT			OPTION SELECT
135	88A7	AD	03CA	13\$:	LDA	GAMTYP	
136	88AA	49	40		EOR	#40	
137	88AC	8D	03CA		STA	GAMTYP	
138	88AF	A9	FF	15\$:	LDA	#OFF	
139	88B1	95	E9		STA	KEY(X)	
140	88B3	20	9CC6		JSR	VALID	:REQUIRES X=0,1
141				:			
142				: --RE-ENTRY POINT FOR DISPLAY GAMTYP STATUS IN SELECT MODE--			
143				:			
144	88B6	A9	0A	16\$:	LDA	#10.	:ASSUME "TWO PLAYER GAME"
145	88B8	2C	03CA		BIT	GAMTYP	:TEST FLAG
146	88BB	10	02		BPL	2\$:BR IF ASSUMPTION GOOD
147	88BD	A9	09		LDA	#9	:ELSE, "PRACTICE GAME"
148	88BF			2\$:			
149	88BF	20	8E88		JSR	MFLASH	
150	88C2	A9	0B		LDA	#11.	:ASSUME "REGULATION TIME"
151	88C4	2C	03CA		BIT	GAMTYP	:TEST FLAG
152	88C7	50	02		BVC	3\$:BR IF ASSUMPTION CORRECT
153	88C9	A9	0C		LDA	#12.	:ELSE, "SHORT GAME"
154	88CB			3\$:			
155	88CB	20	8E88		JSR	MFLASH	
156	88CE	EA			NOP		
157							
158	88CF	60		22\$:	RTS		
159							

1	88D0	A5	F0	SELECT:	LDA	STATE	
2	88D2	CD	03F1		CMP	OLDSTT	
3	88D5	F0	3A		BEQ	1\$	
4	88D7	A5	F0		LDA	STATE	
5	88D9	8D	03F1		STA	OLDSTT	
6	88DC	A2	01		LDX	#1	
7	88DE	A9	FF		LDA	#OFF	
8	88E0	95	E9	110\$:	STA	KEY(X)	
9	88E2	CA			DEX		
10	88E3	10	FB		BPL	110\$	
11				:CLEAR	MIDDLE OF MESSAGE LINE		
12	88E5	A0	0C		LDY	#12.	
13	88E7	A9	80		LDA	#80	
14	88E9	99	049C	112\$:	STA	SBOARD+93.(Y)	
15	88EC	88			DEY		
16	88ED	10	FA		BPL	112\$	
17							
18	88EF	A9	00		LDA	#0	
19	88F1	8D	03C0		STA	DSLCT	
20	88F4	8D	03C1		STA	DSLCT	
21	88F7	8D	038A		STA	OTHERE	
22	88FA	8D	038B		STA	OTHERE	
23	88FD	8D	03C2		STA	DCTLEN	
24	8900	8D	03C3		STA	ALOWEN	
25	8903	8D	03C4		STA	DCTLTH	
26				:			
27				: ADDED BY DAVE:			
28				:			
29	8906	A9	01		LDA	#01	;"OFF:PICK FORMATION"
30	8908	20	AAC8		JSR	PROMPT	
31	8908	A9	12		LDA	#12	;"DEF:PICK PLAY"
32	890D	20	AAC8		JSR	PROMPT	
33				:			
34	8910	60			RTS		
35				: FOR OFFENSE			
36	8911	AD	03CA	1\$:	LDA	GAMTYP	
37	8914	30	34		BMI	2\$	
38	8916	AD	03C2		LDA	DCTLEN	
39	8919	D0	2F		BNE	2\$	
40	8918	AD	03C3		LDA	ALOWEN	
41	891E	F0	2A		BEQ	2\$	
42				:CHECK FOR ENABLE DCTL HERE			
43	8920	A5	D0		LDA	OFFENS	
44	8922	49	01		EOR	#1	
45	8924	AA			TAX		
46	8925	BD	03F7		LDA	TRGFG(X)	
47	8928	D0	20		BNE	2\$	
48	892A	5D	03F9		EOR	OTRGFG(X)	
49	892D	F0	1B		BEQ	2\$	
50	892F	AD	03C4		LDA	DCTLTH	
51	8932	D0	03		BNE	888\$	
52	8934	EE	038B		INC	OTHERE	
53	8937	A9	01	888\$:	LDA	#1	
54	8939	8D	03C2		STA	DCTLEN	
55	893C	AE	03E1		LDX	LNBACK ;DEFINED IN DSLPLY!	
56	893F	B5	F1		LDA	PLYRFG(X)	
57	8941	09	10		ORA	#ANMON	

58	8943	95	F1	STA	PLYRFG(X)	
59	8945	A9	14	LDA	#20.	:DEFCTL
60	8947	9D	026E	STA	FCNNDX(X)	
61	894A	AD	03C0	2\$: LDA	OSLCT	
62	894D	D0	39	BNE	100\$	
63	894F	A6	0D	LDX	OFFENS	
64	8951	B5	E9	LDA	KEY(X)	
65	8953	30	30	BMI	19\$	
66	8955	C9	01	CMP	#1	
67	8957	90	25	BCC	9\$:BRANCH IF NOT VALID
68	8959	C9	04	CMP	#4	:MAX FORM +1!!!!!!!!!!
69	895B	B0	21	BCS	9\$	
70	895D	8D	03BC	STA	OFORM	
71				:		
72	8960	38		SEC		
73	8961	E9	01	SBC	#1	
74	8963	A8		TAY		
75	8964	B9	826C	LDA	BNDTBL(Y)	
76	8967	8D	03C8	STA	FHBND	
77	896A	A9	FF	LDA	#OFF	
78	896C	95	E9	STA	KEY(X)	
79	896E	20	9CC6	JSR	VALID	:REQUIRES X=0,1
80				:		
81	8971	A9	02	LDA	#02	: "OFF: PICK PLAY"
82	8973	20	AAC8	JSR	PROMPT	
83				:		
84	8976	A9	01	LDA	#1	
85	8978	8D	03C0	STA	OSLCT	
86	897B	4C	8B24	JMP	EXTOFF	
87				:		
88	897E	A9	FF	9\$: LDA	#OFF	
89	8980	95	E9	STA	KEY(X)	
90	8982	20	9CF9	JSR	NVALID	
91	8985	4C	8B24	19\$: JMP	EXTOFF	
92	8988	C9	01	100\$: CMP	#1	
93	898A	D0	30	BNE	200\$	
94	898C	A6	0D	LDX	OFFENS	
95	898E	B5	E9	LDA	KEY(X)	
96	8990	30	27	BMI	111\$	
97	8992	C9	01	CMP	#1	
98	8994	90	1C	BCC	11\$	
99	8996	CD	03C8	CMP	FHBND	
100	8999	B0	17	BCS	11\$	
101	899B	8D	03BE	STA	OPLAY	
102	899E	A9	FF	LDA	#OFF	
103	89A0	95	E9	STA	KEY(X)	
104	89A2	20	9CC6	JSR	VALID	:REQUIRES X=0,1
105				:		
106				:		
107	89A5	A9	00	LDA	#0	:BLANK OUT OFFENSE MESSAGE ZONE
108	89A7	20	AAC8	JSR	PROMPT	
109				:		
110	89AA	A9	02	LDA	#2	
111	89AC	8D	03C0	STA	OSLCT	
112	89AF	4C	8B24	JMP	EXTOFF	
113				:		
114	89B2	A9	FF	11\$: LDA	#OFF	

:SET NOT VALID SOUND FOR TEAM X

115	8984	95	E9	STA	KEY(X)
116	8986	20	9CF9	JSR	NVALID
117	8989	4C	8B24	111\$: JMP	EXTOFF
118				;LOAD OFF FORM. LAUNCH AND TASK TO UPDATE.	
119	898C	C9	02	200\$: CMP	#2
120	898E	D0	3A	BNE	300\$
121	89C0	AD	038C	LDA	OFORM
122	89C3	38		SEC	
123	89C4	E9	01	SBC	#1
124	89C6	0A		ASL	
125	89C7	0A		ASL	
126	89C8	85	D6	STA	T0 ;TIMES 4
127	89CA	0A		ASL	;TIMES 8
128	89CB	18		CLC	
129	89CC	65	D6	ADC	T0 ;TIMES 12.
130				; A HAS OFFORM INDEX. SET PTR A TO START OF CURRENT FORM.	
131	89CE	18		CLC	
132	89CF	69	07	ADC	#OFFFORM&OFF
133	89D1	85	4D	STA	PTRA
134	89D3	A9	83	LDA	#OFFFORM&OFF00/100
135	89D5	69	00	ADC	#0
136	89D7	85	4E	STA	PTRA+1
137	89D9	20	A7B1	JSR	LDOFRM
138	89DC	A5	DD	LDA	OFFENS
139	89DE	18		CLC	
140	89DF	69	0A	ADC	#BALL-2
141	89E1	AA		TAX	
142				; TURN ON OFFENSE PLAYERS	
143	89E2	85	F1	12\$: LDA	PLYRFG(X)
144	89E4	09	10	ORA	#ANMON
145	89E6	95	F1	STA	PLYRFG(X)
146	89E8	20	9E5E	JSR	SETUPD
147	89E8	20	AD8C	JSR	LAUNCH
148	89EE	CA		DEX	
149	89EF	CA		DEX	
150	89F0	10	F0	BPL	12\$
151	89F2	A9	03	LDA	#3
152	89F4	8D	03C0	STA	OSLCT
153	89F7	4C	8B24	JMP	EXTOFF
154				; WF "ALL THERE"	
155	89FA	C9	03	300\$: CMP	#3
156	89FC	D0	57	BNE	400\$
157	89FE	A5	DD	LDA	OFFENS
158	8A00	18		CLC	
159	8A01	69	0A	ADC	#BALL-2
160	8A03	AA		TAX	
161	8A04	85	19	STA	CURPLR
162	8A06	B5	F1	310\$: LDA	PLYRFG(X)
163	8A08	10	34	BPL	315\$
164				; THERE	
165				; CLEAR "THERE" BIT	
166	8A0A	29	7F	AND	#7F
167	8A0C	95	F1	STA	PLYRFG(X)
168					
169	8A0E	EE	03BA	INC	OTHER
170				; SET UP ANMSEQ AND ANMMOD FOR LINEUP	
171	8A11	A5	DE	LDA	OFFDIR

172	8A13	9D	02A2	STA	REVERS(X)
173	8A16	8A		TXA	
174	8A17	4A		LSR	
175	8A18	0A		ASL	
176	8A19	A8		TAY	
177					
178	8A1A	8A		TXA	
179	8A1B	0A		ASL	
180	8A1C	AA		TAX	
181					
182	8A1D	B9	B399	LDA	OFMANM(Y)
183	8A20	95	23	STA	ANMSEQ(X)
184	8A22	B9	B39A	LDA	OFMANM+1(Y)
185	8A25	95	24	STA	ANMSEQ+1(X)
186					
187	8A27	A1	23	LDA	ANMSEQ(X)
188	8A29	A6	19	LDX	CURPLR
189	8A2B	9D	0340	STA	ANMMOD(X)
190	8A2E	A9	00	LDA	#0
191	8A30	9D	0333	STA	ANMNDX(X)
192	8A33	A9	FF	LDA	#OFF
193	8A35	9D	0340	STA	ANMRPT(X)
194	8A38	B5	F1	LDA	PLYRFG(X)
195	8A3A	29	EF	AND	#0EF :ANM OFF
196	8A3C	95	F1	STA	PLYRFG(X)
197	8A3E	C6	19	DEC	CURPLR
198	8A40	C6	19	DEC	CURPLR
199	8A42	A6	19	LDX	CURPLR
200	8A44	10	C0	BPL	310\$
201					
202	8A46	AD	03BA	LDA	OTHER
203	8A49	C9	06	CMP	#6
204	8A4B	D0	05	BNE	320\$
205	8A4D	A9	04	LDA	#4
206	8A4F	8D	03C0	STA	OSLCT
207					
208	8A52	4C	8B24	320\$: JMP	EXTOFF
209					
210					: AUDIBLE? AND WHEN DLSCT DONE (=3), SET TIMER.
211	8A55	C9	04	400\$: CMP	#4
212	8A57	D0	22	BNE	500\$
213	8A59	AD	03C3	LDA	ALOWEN
214	8A5C	F0	1A	BEQ	13\$
215	8A5E	A9	FF	LDA	#OFF
216	8A60	85	E9	STA	KEY
217	8A62	85	EA	STA	KEY+1
218				:	
219	8A64	A9	03	LDA	#03 : "OFF: CHANGE PLAY?"
220	8A66	20	AAC8	JSR	PROMPT
221					
222	8A69	A9	13	LDA	#13 : "DEF: CHANGE PLAY?"
223	8A6B	20	AAC8	JSR	PROMPT
224				:	
225				:	SET HIKE TIMER
226	8A6E	A9	3C	410\$: LDA	#60.
227	8A70	8D	03AC	STA	CTIMER
228	8A73	A9	05	LDA	#5

229	8A75	8D	03C0		STA	OSLCT
230	8A78	4C	8B24	13\$:	JMP	EXTOFF
231	8A78	C9	05	500\$:	CMP	#5
232	8A7D	D0	4E		BNE	600\$
233						
234	8A7F	A6	DD		LDX	OFFENS
235	8A81	B5	E9		LDA	KEY(X)
236	8A83	30	27		BMI	14\$
237	8A85	C9	01		CMP	#1
238	8A87	90	1C		BCC	114\$
239	8A89	CD	03C8		CMP	FHBND
240	8A8C	B0	17		BCS	114\$
241	8A8E	8D	03BE		STA	OPLAY
242	8A91	A9	FF		LDA	#OFF
243	8A93	95	E9		STA	KEY(X)
244						
245	8A95	20	9CC6		JSR	VALID
246	8A98	A9	00		LDA	#0 ;BLANK OFF MESSAGE
247	8A9A	20	AAC8		JSR	PROMPT
248	8A9D	A9	06		LDA	#6
249	8A9F	8D	03C0		STA	OSLCT
250	8AA2	4C	8B24		JMP	EXTOFF
251						
252	8AA5	A9	FF			
253	8AA7	95	E9	114\$:	LDA	#OFF
254	8AA9	20	9CF9		STA	KEY(X)
255	8AAC	CE	03AC		JSR	NVALID
256	8AAF	D0	08	14\$:	DEC	CTIMER
257					BNE	15\$
258	8AB1	A9	07			
259	8AB3	8D	03C0		LDA	#7
260	8AB6	4C	8B24		STA	OSLCT
261					JMP	EXTOFF
262	8AB9	A6	DD			
263	8ABB	BD	03F7			
264	8ABE	D0	0A			
265	8AC0	5D	03F9			
266	8AC3	F0	05			
267	8AC5	A9	07			
268	8AC7	8D	03C0			
269	8ACA	4C	8B24			
270	8ACD	C9	06	10\$:	STA	OSLCT
271	8ACF	D0	19	600\$:	JMP	EXTOFF
272	8AD1	CE	03AC		CMP	#6
273	8AD4	F0	0C		BNE	700\$
274					DEC	CTIMER
275	8AD6	A6	DD		BEQ	21\$
276	8AD8	BD	03F7			
277	8ADB	D0	0A			
278	8ADD	5D	03F9			
279	8AE0	F0	05			
280	8AE2	A9	07			
281	8AE4	8D	03C0	21\$:	LDA	#7
282	8AE7	4C	8B24		STA	OSLCT
283				20\$:	JMP	EXTOFF
284	8AEA	20	8C5B			
285	8AED	20	8D61	700\$:	JSR	OSLPLY
					JSR	DSLPLY


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286      :
287      :
288      8AF0      20      AABA      JSR      BLMSG      :BLANK OUT BOTTOM SCOREBRD *DAVE* 7/16
289      :
290      : TURN ON PLAYERS
291      8AF3      A2      0C      LDX      #BALL
292      8AF5      B5      F1      16$: LDA      PLYRFG(X)
293      8AF7      09      10      ORA      #ANMON
294      8AF9      95      F1      STA      PLYRFG(X)
295      8AFB      A9      FF      LDA      #OFF      ;SET REPEAT TO INFINITE
296      8AFD      9D      034D      STA      ANMRPT(X)
297      :CLEAR LINKS
298      8800      A9      00      LDA      #0
299      8802      9D      0261      STA      LINK(X)
300      8805      CA
301      8806      10      ED      BPL      16$
302      : TURN TIMER ON (IF NOT ON ALREADY)
303      8808      A5      ED      LDA      QTIMST
304      880A      09      40      ORA      #40
305      880C      B5      ED      STA      QTIMST
306      : SET STATE TO PLAYON
307      880E      A5      F0      LDA      STATE
308      8810      8D      03F1      STA      OLDSTT
309      8813      A9      85      LDA      #PLAYON
310      8815      B5      F0      STA      STATE
311      : SET SCROLL BOUNDS FOR PLAY
312      8817      A2      1F      LDX      #31.
313      8819      A0      7F      LDY      #127.
314      881B      8E      03C5      STX      LSTRGT
315      881E      8C      03C6      STY      RSTRGT
316      8821      4C      8C5A      JMP      XTSLCT
317      8824      EXT0FF:
318
319      : FOR DEFENSE
320      8824      AD      03C1      LDA      DSLCT
321      8827      D0      4C      BNE      100$
322      8829      A5      DD      LDA      OFFENS
323      882B      49      01      EOR      #1
324      882D      AA
325      882E      B5      E9      LDA      KEY(X)
326      8830      30      40      BMI      117$
327      8832      C9      01      CMP      #1
328      8834      90      35      BCC      17$
329      8836      C9      07      CMP      #7
330      8838      B0      31      BCS      17$
331      883A      8D      038F      STA      DPLAY
332      883D      8D      038D      STA      DFORM
333      8840      A9      FF      LDA      #OFF
334      8842      95      E9      STA      KEY(X)
335      8844      20      9CC6      JSR      VALID      ;REQUIRES X=0,1
336      8847      20      80B7      JSR      EXCALB      ;!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
337      :
338      884A      A9      10      LDA      #10      :BLANK OUT DEFENSE MESSAGE ZONE
339      884C      20      AAC8      JSR      PROMPT
340      :
341      884F      A9      01      LDA      #1
342      8851      8D      03C1      STA      DSLCT
  
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343      ;HANDLE 30 SEC TIMER
344      8B54      A5      ED      LDA      QTIMST
345      8B56      29      40      AND      #40
346      8B58      D0      0E      BNE      1$      ;IF ON ALREADY, BRANCH AND LEAVE ON
347      8B5A      AD      0414      LDA      QQTIME
348      8B5D      29      40      AND      #40
349      8B5F      F0      07      BEQ      1$      ;IF PLAY STOPPED CLOCK, LEAVE OFF
350      8B61      85      ED      STA      QTIMST      ;ELSE,TURN ON FOR 30 SEC
351      8B63      A9      1D      LDA      #29.
352      8B65      8D      0413      STA      TIMR30
353      8B68      4C      8C5A      1$:      JMP      XTSLCT
354      ; SET NOT VALID SOUND FOR TEAM X
355      8B6B      A9      FF      17$:      LDA      #OFF
356      8B6D      95      E9      STA      KEY(X)
357      8B6F      20      9CF9      JSR      NVALID
358      8B72      4C      8C5A      117$:      JMP      XTSLCT
359      8B75      C9      01      100$:      CMP      #1
360      8B77      D0      49      BNE      200$
361      8B79      AD      03BD      LDA      DFORM
362      8B7C      38      SEC
363      8B7D      E9      01      SBC      #1
364      8B7F      0A      ASL
365      8B80      0A      ASL      ;TIMES 4
366      8B81      85      D6      STA      T0
367      8B83      0A      ASL      ;TIMES 8
368      8B84      18      CLC
369      8B85      65      D6      ADC      T0      ;TIMES 12.
370      ; A HAS DFFORM INDEX
371      8B87      18      CLC
372      8B88      69      28      ADC      #DFFORM&OFF
373      8B8A      85      4D      STA      PTR
374      8B8C      A9      B3      LDA      #DFFORM&OFF00/100
375      8B8E      69      00      ADC      #0
376      8B90      85      4E      STA      PTR+1
377      8B92      20      A7EE      JSR      LDDFRM
378      8B95      A5      D0      LDA      OFFENS
379      8B97      49      01      EOR      #1
380      8B99      18      CLC
381      8B9A      69      0A      ADC      #BALL-2
382      8B9C      AA      TAX
383      8B9D      AD      03C2      LDA      DCTLEN
384      8BA0      D0      14      BNE      28$
385      ; TURN ON DEFENSE PLAYERS
386      8BA2      85      F1      18$:      LDA      PLYRFG(X)
387      8BA4      09      10      ORA      #ANMON
388      8BA6      95      F1      STA      PLYRFG(X)
389      8BA8      A9      04      LDA      #4      ;UPDATE
390      8BAA      9D      026E      STA      FCNNDX(X)
391      8BAD      A9      00      LDA      #0
392      8BAF      95      BC      STA      MSUML(X)
393      8BB1      95      C9      STA      MSUMH(X)
394      8BB3      20      AD8C      JSR      LAUNCH
395      8BB6      CA      28$:      DEX
396      8BB7      CA      DEX
397      8BB8      10      E8      BPL      18$
398      8BBA      A9      02      LDA      #2
399      8BBC      8D      03C1      STA      DSLCT

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400	88BF	4C	8C5A	JMP	XTSLCT
401				; WF "ALL THERE"	
402	88C2	C9	02	200\$:	CMP #2
403	88C4	D0	7B		BNE 300\$
404	88C6	A5	DD		LDA OFFENS
405	88C8	49	01		EOR #1
406	88CA	18			CLC
407	88CB	69	0A		ADC #BALL-2
408	88CD	AA			TAX
409	88CE	85	19		STA CURPLR
410	88D0	85	D6		STA TO
411	88D2	AD	03C2		LDA DCTLEN
412	88D5	D0	43		BNE 115\$
413	88D7	85	F1	110\$:	LDA PLYRFG(X)
414	88D9	10	3F		BPL 115\$
415				; THERE	
416				; CLEAR "THERE" BIT	
417	88D8	29	7F		AND #7F
418	88DD	95	F1		STA PLYRFG(X)
419	88DF	E4	D6		CPX TO
420	88E1	D0	05		BNE 111\$
421	88E3	A9	01		LDA #1
422	88E5	8D	03C4		STA DCTLTH
423	88E8	EE	0388	111\$:	INC DTHRE
424				; SET UP ANMSEQ AND ANMMOD FOR LINEUP	
425	88EB	A5	DE		LDA OFFDIR
426	88ED	49	FF		EOR #OFF
427	88EF	9D	02A2		STA REVERS(X)
428	88F2	8A			TXA
429	88F3	4A			LSR
430	88F4	0A			ASL
431	88F5	A8			TAY
432					
433	88F6	8A			TXA
434	88F7	0A			ASL
435	88F8	AA			TAX
436					
437	88F9	B9	B3A5		LDA DFMANM(Y)
438	88FC	95	23		STA ANMSEQ(X)
439	88FE	B9	B3A6		LDA DFMANM+1(Y)
440	8C01	95	24		STA ANMSEQ+1(X)
441					
442	8C03	A1	23		LDA @ANMSEQ(X)
443	8C05	A6	19		LDX CURPLR
444	8C07	9D	0340		STA ANMMOD(X)
445	8C0A	A9	00		LDA #0
446	8C0C	9D	0333		STA ANMNDX(X)
447	8C0F	A9	FF		LDA #OFF
448	8C11	9D	0340		STA ANMRPT(X)
449	8C14	B5	F1		LDA PLYRFG(X)
450	8C16	29	EF		AND #0EF ;ANIM OFF
451	8C18	95	F1		STA PLYRFG(X)
452	8C1A	C6	19	115\$:	DEC CURPLR
453	8C1C	C6	19		DEC CURPLR
454	8C1E	A6	19		LDX CURPLR
455	8C20	10	B5		BPL 110\$
456					

457	8C22	AD	0388	LDA	DTHRE	
458	8C25	C9	06	CMP	#6	
459	8C27	D0	15	BNE	120\$	
460	8C29	A9	00	LDA	#0	
461	8C2B	8D	0388	STA	DTHRE	
462	8C2E	8D	03C4	STA	DCTLTH	
463	8C31	A9	01	LDA	#1	
464	8C33	8D	03C3	STA	ALOWEN	
465	8C36	A9	03	LDA	#3	
466	8C38	8D	03C1	STA	DSLCT	
467	8C38	20	8D61	JSR	DSLPLY	
468						
469	8C3E	4C	8C5A	120\$: JMP	XTSLCT	
470				: ALLOW CHANGES	TO DEF	
471	8C41	C9	03	300\$: CMP	#3	
472	8C43	D0	15	BNE	XTSLCT	
473				: NO DEF CHANGES	????????	
474	8C45	AD	038A	LDA	OTHER	
475	8C48	C9	06	CMP	#6	
476	8C4A	D0	0E	BNE	XTSLCT	
477	8C4C	A9	00	LDA	#0	: ?????????????????????
478	8C4E	8D	03C1	STA	DSLCT	
479	8C51	A5	DD	LDA	OFFENS	
480	8C53	49	01	EOR	#1	
481	8C55	AA		TAX		
482	8C56	A9	FF	LDA	#OFF	
483	8C58	95	E9	STA	KEY(X)	: CLEAR ANY KEY PRESSED TOO EARLY!!!!
484	8C5A	60		XTSLCT:	RTS	
485						

1				:OSLPLY	
2	8C58			OSLPLY:	
3				: CLEAR NEC. VARIABLES	
4	8C58	A2	0F	LDX	#HIKDON-PSDS8L&OFF
5	8C5D	A9	00	LDA	#0
6	8C5F	9D	03CB	6\$: STA	PSDS8L(X)
7	8C62	CA		DEX	
8	8C63	10	FA	BPL	6\$
9				: SET NEC. VARIABLES TO FF	
10	8C65	A2	08	LDX	#RX2-BLCRYR&OFF
11	8C67	A9	FF	LDA	#OFF
12	8C69	9D	03DB	7\$: STA	BLCRYR(X)
13	8C6C	CA		DEX	
14	8C6D	10	FA	BPL	7\$
15				: FOR OFFENSE	
16				: SET PTR A TO OFFENS PLAY	
17	8C6F	AD	03BC	LDA	OFORM
18	8C72	C9	03	CMP	#3 ;IF FAKE FG DR FG
19	8C74	D0	0F	BNE	8\$
20				:DEFINE KICKER FOR ALL FORM3 PLAYS!!!	
21	8C76	A5	DD	LDA	OFFENS
22	8C78	18		CLC	
23	8C79	69	08	ADC	#08K ;DEFINE KICKER
24	8C7B	8D	03DE	STA	KICKER
25	8C7E	AA		TAX	
26				:TURN KICKER ANIM OFF FOR FG PLAY	
27	8C7F	B5	F1	LDA	PLYRFG(X)
28	8C81	29	EF	AND	#0EF ;ANIM OFF
29	8C83	95	F1	STA	PLYRFG(X)
30	8C85	AD	03BC	8\$: LDA	OFORM
31	8C88	38		SEC	
32	8C89	E9	01	SBC	#1
33	8C8B	0A		ASL	
34	8C8C	AA		TAX	
35	8C8D	BD	B26F	LDA	OPLYTB(X)
36	8C90	85	4D	STA	PTRA
37	8C92	8D	B270	LDA	OPLYTB+1(X)
38	8C95	85	4E	STA	PTRA+1
39	8C97	AD	038E	LDA	OPLAY
40	8C9A	38		SEC	
41	8C9B	E9	01	SBC	#1
42	8C9D	0A		ASL	
43	8C9E	0A		ASL	
44	8C9F	85	D6	STA	TO ;TIMES 4
45	8CA1	0A		ASL	
46	8CA2	0A		ASL	;TIMES 16
47	8CA3	18		CLC	
48	8CA4	65	D6	ADC	TO
49	8CA6	85	D6	STA	TO ;TIMES 24.
50	8CA8	A5	4D	LDA	PTRA
51	8CAA	18		CLC	
52	8CAB	65	D6	ADC	TO
53	8CAD	85	4D	STA	PTRA
54	8CAF	A5	4E	LDA	PTRA+1
55	8CB1	69	00	ADC	#0
56	8CB3	85	4E	STA	PTRA+1
57				: SET X TO MAX OFF PLAYER # AND DEFINE OCTL!	

58	8CB5	A5	DD	LDA	OFFENS
59	8CB7	18		CLC	
60	8CB8	69	0A	ADC	#BALL-2
61	8CBA	8D	040A	STA	OCTL
62	8CBD	AA		TAX	
63	8CBE	A0	0C	LDY	#BALL
64	8CC0	99	0261	STA	LINK(Y) ;SET LINK FOR BALL (TO OCTL)
65	8CC3	A9	0A	LDA	#10. ;HIKEBL
66	8CC5	99	026E	STA	FCNNDX(Y)
67	8CC8	A0	05	LDY	#BALL-2/2
68				; LOAD SCRPTS	
69	8CCA	20	A4E5	JSR	LDSCR
70				; SET OFFENSE PLAY TYPE	
71	8CCD	A0	06	LDY	#BALL-2/2+1 ;6
72	8CCF	B1	4D	LDA	@PTR(Y)
73	8CD1	8D	03C9	STA	OPLTYP
74	8CD4	A0	07	PSPLAY: LDY	#BALL-2/2+2 ;RX1 MEMBER #
75	8CD6	B1	4D	LDA	@PTR(Y)
76	8CD8	30	09	BMI	10\$
77	8CDA	18		CLC	
78	8CDB	65	DD	ADC	OFFENS
79	8CDD	8D	03E2	STA	RX1
80				; SET ITS PATTERN POINTER	
81	8CE0	20	A4C6	JSR	STPTRN
82	8CE3	A0	0A	10\$: LDY	#BALL-2/2+5
83	8CE5	B1	4D	LDA	@PTR(Y)
84	8CE7	30	09	BMI	DFPBLK
85	8CE9	18		CLC	
86	8CEA	65	DD	ADC	OFFENS
87	8CEC	8D	03E3	STA	RX2
88				; SET ITS PATTERN POINTER	
89	8CEF	20	A4C6	JSR	STPTRN
90				; DEFINE PBLK AND ITS GOTO PT (IF ANY)	
91	8CF2	A0	0D	DFPBLK: LDY	#BALL-2/2+8
92	8CF4	B1	4D	LDA	@PTR(Y)
93	8CF6	30	29	BMI	30\$
94	8CF8	18		CLC	
95	8CF9	65	DD	ADC	OFFENS
96	8CFB	8D	030D	STA	PBLK
97	8CFE	C8		INY	
98	8CFF	B1	4D	LDA	@PTR(Y)
99	8D01	18		CLC	
100	8D02	65	DD	ADC	OFFENS
101	8D04	AA		TAX	
102	8D05	C8		INY	
103	8D06	B1	4D	LDA	@PTR(Y)
104	8D08	18		CLC	
105	8D09	65	DD	ADC	OFFENS
106	8D0B	A8		TAY	
107	8D0C	20	988B	JSR	BTWEEN
108	8D0F	AE	03DD	LDX	PBLK
109	8D12	A5	D6	LDA	T0
110	8D14	9D	030C	STA	XGOTO(X)
111	8D17	A5	D7	LDA	T1
112	8D19	9D	0319	STA	XHGOTO(X)
113	8D1C	A5	D8	LDA	T2
114	8D1E	9D	0326	STA	YGOTO(X)

115					; SET RANDS	
116	8D21	A5	DD	30\$:	LDA	OFFENS
117	8D23	18			CLC	
118	8D24	69	0A		ADC	#BALL-2
119	8D26	AA			TAX	
120	8D27	AD	D20A	45\$:	LDA	RANDOM
121	8D2A	29	0F		AND	#0F
122	8D2C	9D	038E		STA	RAND(X)
123	8D2F	CA			DEX	
124	8D30	CA			DEX	
125	8D31	10	F4		BPL	45\$
126						
127	8D33	A9	02		LDA	#2
128	8D35	85	D7		STA	T1
129	8D37	A0	12		LDY	#18. ;3RD RAND
130	8D39	B1	4D	46\$:	LDA	@PTR(Y)
131	8D3B	C9	FF		CMP	#OFF
132	8D3D	F0	11		BEQ	47\$
133	8D3F	85	D6		STA	T0
134	8D41	4A			LSR	
135	8D42	4A			LSR	
136	8D43	4A			LSR	
137	8D44	4A			LSR	
138	8D45	18			CLC	
139	8D46	65	DD		ADC	OFFENS
140	8D48	AA			TAX	
141	8D49	A5	D6		LDA	T0
142	8D4B	29	0F		AND	#0F
143	8D4D	9D	038E		STA	RAND(X)
144	8D50	88		47\$:	DEY	
145	8D51	C6	D7		DEC	T1
146	8D53	10	E4		BPL	46\$
147						
148	8D55	A2	0B		LDX	#BALL-1
149	8D57	B5	F1	48\$:	LDA	PLYRFG(X)
150	8D59	29	F9		AND	#0F9 ;CLEAR BUMPST AND LINKED BITS
151	8D5B	95	F1		STA	PLYRFG(X)
152	8D5D	CA			DEX	
153	8D5E	10	F7		BPL	48\$
154	8D60	60			RTS	
155						
156						

PLYR VAL


```

1      ; FOR DEFENSE
2      ; SET PTR A TO DEFENSE PLAY
3      8061    AD    03BF    DSLPLY: LDA    DPLAY
4      8064    38          SEC
5      8065    E9    01      SBC    #1
6      8067    0A          ASL
7      8068    0A          ASL
8      8069    0A          ASL          ;TIMES 8
9      806A    85    D6      STA    TO          ;TIMES 8
10     806C    A9    19      LDA    #DPLY1&OFF
11     806E    18          CLC
12     806F    65    D6      ADC    TO
13     8071    85    4D      STA    PTR A
14     8073    A9    85      LDA    #DPLY1&OFF00/100
15     8075    69    00      ADC    #0
16     8077    85    4E      STA    PTR A+1
17
18     ; SET X TO MAX DEFENSIVE PLYR #
19     8079    A5    DD      LDA    OFFENS
20     807B    49    01      EOR    #1
21     807D    18          CLC
22     807E    69    0A      ADC    #BALL-2
23     8080    8D    040B    STA    DCTL
24     8083    AA          TAX
25     8084    A0    05      LDY    #BALL-2/2
26
27     ; LOAD SCRPTS
28     8086    20    A4E5    JSR    LDSCR P
29
30     ;TEST FOR PRACTICE GAME TO TASK DLB
31     8089    AD    03CA    LDA    GAMTYP
32     808C    10    45      BPL    TWOPLR ;BRANCH IF 2 PLAYER GAME
33     808E    A5    DD      LDA    OFFENS
34     8090    49    01      EOR    #1
35     8092    18          CLC
36     8093    69    0A      ADC    #BALL-2
37     8095    AA          TAX
38     8096    A0    06      LDY    #6
39     8098    B1    4D      LDA    @PTR A(Y) ;CHECK BLITZ OR COVER
40     809A    10    14      BPL    COVER
41
42     ;BLITZ TASKED
43     809C    A0    07      BLITZ: LDY    #7
44     809E    AD    D20A    LDA    RANDOM
45     8DA1    31    4D      AND    @PTR A(Y)
46     8DA3    F0    14      BEQ    COVER1
47
48     ;TRACK BALL!
49     8DA5    A9    0C      BLITZ1: LDA    #BALL
50     8DA7    9D    0261    STA    LINK(X)
51     8DAA    20    9C21    JSR    SETRAK
52     8DAD    4C    8DD3    JMP    TWOPLR
53
54     ;COVER
55     8DB0    A0    07      COVER: LDY    #7
56     8DB2    AD    D20A    LDA    RANDOM
57     8DB5    31    4D      AND    @PTR A(Y) ;PERCENTAGE MASK
58     8DB7    F0    EC      BEQ    BLITZ1
59     8DB9    AD    D20A    COVER1: LDA    RANDOM
60     8DBC    29    01      AND    #1
61     8DBE    D0    08      BNE    10$
62     8DC0    AD    03E2    LDA    RX1

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58	8DC3	30	03		BMI	10\$
59	8DC5	4C	8DCD		JMP	20\$
60	8DC8	AD	03E3	10\$:	LDA	RX2
61	8DCB	30	08		BMI	BLITZ1
62	8DCD	9D	0261	20\$:	STA	LINK(X)
63	8DD0	20	9C21		JSR	SETRAK
64				:DEFINE	DEEP	BACKS
65	8DD3	A5	DD	TWOPLR:	LDA	OFFENS
66	8DD5	49	01		EOR	#1
67	8DD7	AA			TAX	
68	8DD8	18			CLC	
69	8DD9	69	06		ADC	#DRDB
70	8DDB	8D	03DF		STA	RDBACK
71	8DDE	8A			TXA	
72	8DDF	18			CLC	
73	8DE0	69	08		ADC	#DLDB
74	8DE2	8D	03E0		STA	LDBACK
75	8DE5	8A			TXA	
76	8DE6	18			CLC	
77	8DE7	69	0A		ADC	#DLB
78	8DE9	8D	03E1		STA	LNBACK
79	8DEC	A2	0B		LDX	#BALL-1
80	8DEE	B5	F1	SBMPLP:	LDA	PLYRFG(X)
81	8DF0	29	F9		AND	#0F9 :CLEAR BUMPST AND LINKED BITS
82	8DF2	95	F1		STA	PLYRFG(X)
83	8DF4	CA			DEX	
84	8DF5	10	F7		BPL	SBMPLP
85	8DF7	60			RTS	

*File
 2/9/82
 J. J.*

1				: ENDDLY		
2	8DF8	A5	F0	ENDDLY:	LDA	STATE
3	8DFA	CD	03F1		CMP	OLDSTT
4	8DFD	F0	3F		BEQ	333\$
5	8DFF	A5	F0		LDA	STATE
6	8E01	8D	03F1		STA	OLDSTT
7				:TIMER		
8	8E04	A5	ED		LDA	QTIMST
9	8E06	8D	0414		STA	QOTIME ;SAVE QTIMST AS ON
10	8E09	29	BF		AND	#0BF
11	8E0B	85	ED		STA	QTIMST ;TURN OFF
12	8E0D	A6	E8		LDX	ESTTUS
13	8E0F	E0	04		CPX	#BCTKL
14	8E11	D0	05		BNE	9\$
15	8E13	AD	0304		LDA	PASINT
16	8E16	F0	03		BEQ	10\$
17	8E18	8D	0414	9\$:	STA	QOTIME ;IF PLAY STOPPED CLOCK, SAVE QTIMST AS OFF
18	8E1B	A5	E8	10\$:	LDA	ESTTUS
19	8E1D	C9	03		CMP	#BCRTD
20	8E1F	F0	04		BEQ	15\$
21	8E21	C9	0A		CMP	#ENDGAM
22	8E23	D0	05		BNE	30\$
23	8E25	A9	50	15\$:	LDA	#50
24	8E27	4C	8E2C		JMP	40\$
25	8E2A	A9	20	30\$:	LDA	#20
26	8E2C	8D	03AC	40\$:	STA	CTIMER ;ENDDLY TIMER!
27				:		
28	8E2F	20	8092		JSR	ENCALB ;ENTER TRACKBALL CALIBRATE MODE
29				:		
30				: CLEAR ALL BUMPST BITS		
31	8E32	A2	0C		LDX	#BALL
32	8E34	B5	F1	99\$:	LDA	PLYRFG(X)
33	8E36	29	FB		AND	#0FB ;CLEAR BUMPST
34	8E38	95	F1		STA	PLYRFG(X)
35	8E3A	CA			DEX	
36	8E3B	10	F7		BPL	99\$
37	8E3D	60			RTS	
38				:IF ESTTUS = BCRTD, WHEN BLCRYR "THERE", SET ANIM TO DANCE		
39				: (RUNH FOR NOW), AND TASK TO DEAD		
40	8E3E	AE	03DB	333\$:	LDX	BLCRYR ;STILL DEFINED????????
41	8E41	A5	E8		LDA	ESTTUS
42	8E43	C9	03		CMP	#BCRTD
43	8E45	D0	32		BNE	334\$
44	8E47	B5	F1		LDA	PLYRFG(X)
45	8E49	10	2E		BPL	334\$
46	8E4B	86	D6		STX	T0
47	8E4D	8A			TXA	
48	8E4E	0A			ASL	
49	8E4F	AA			TAX	
50	8E50	A9	F7		LDA	#DANCE&OFF ;FOR NOW!!!!!!!!!!!!!!!!!!!!
51	8E52	95	23		STA	ANMSEQ(X)
52	8E54	A9	B8		LDA	#DANCE&OFF00/100
53	8E56	95	24		STA	ANMSEQ+1(X)
54	8E58	A1	23		LDA	@ANMSEQ(X)
55	8E5A	A6	D6		LDX	T0
56	8E5C	9D	0340		STA	ANMMOD(X)
57	8E5F	A9	00		LDA	#0

58	8E61	9D	0333	STA	ANMNDX(X)	
59	8E64	A9	FF	LDA	#OFF	
60	8E66	9D	034D	STA	ANMRPT(X)	
61	8E69	A9	00	LDA	#0	:DEAD
62	8E68	9D	026E	STA	FCNNDX(X)	
63				:ADJUST	BALL VERT POSN	
64	8E6E	A0	0C	LDY	#BALL	
65	8E70	B9	02D8	LDA	YPOS(Y)	
66	8E73	38		SEC		
67	8E74	E9	04	SBC	#4	
68	8E76	99	02D8	STA	YPOS(Y)	
69	8E79			334\$:		
70				:		
71				: DAVE'S ADDITION:		
72				:		
73				:*DAVE* JSR	MFLASH	:CALL ONLY TO START MESSAGE *DAVE* 7/16
74				:		
75	8E79	CE	03AC	DEC	CTIMER	
76	8E7C	D0	09	BNE	125\$	
77	8E7E	A5	F0	LDA	STATE	
78	8E80	8D	03F1	STA	OLDSTT	
79	8E83	A9	01	LDA	#SCRUPD	
80	8E85	85	F0	STA	STATE	
81	8E87	60		125\$:	RTS	
82				:		


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1      ;
2      ; MESSAGE DISPLAY, SERVICE FLASH, & KILL ROUTINES:  *DAVE* 7/16
3      ;
4      ; ENTRY:  ACCUM = MESSAGE # TO DISPLAY OR 0 IF MIDDLE LINE
5      ;           OF SCOREBOARD IS TO BE RESTORED TO:
6      ;           "QUARTER N    XTH AND MM    BALL ON YY"
7      ;
8      8E88      MFLASH:
9      8E88      0A      ASL      ;FORM MSG # TIMES 2
10     8E89      D0      2A      BNE      2$      ;IF NORMAL MESSAGE, SKIP LINE #2 RESTORE
11
12     ; RESTORE LINE 2 TO "QUARTER XX    NTH AND XX    BALL ON ZZ"
13     ;
14     8E88      A2      27      LDX      #39.      ;40 CHARS TO COPY
15     8E8D      1$:
16     8E8D      BD      BA33      LDA      SCORE+40.(X)      ;GET ORIGINAL ROM MESSAGE
17     8E90      18      CLC
18     8E91      69      60      ADC      #60      ;FORM DISPLAYABLE FROM THE ASCII
19     8E93      9D      0467      STA      SBOARD+40.(X)      ;6 DISPLAY
20     8E96      CA      DEX
21     8E97      10      F4      BPL      1$      ;GO FOR ALL
22     8E99      AD      03E9      LDA      QUARTR      ;GET CORRECT QUARTER
23     8E9C      18      CLC
24     8E9D      69      90      ADC      #90      ;FORM DISPLAY CHAR
25     8E9F      8D      0470      STA      SBOARD+49.
26     8EA2      AD      02C9      LDA      YTOGO      ;GET YARDS TO GO
27     8EA5      8D      047E      STA      SBOARD+63.
28     8EA8      AD      02CA      LDA      YTOG1
29     8EAB      8D      047F      STA      SBOARD+64.
30     8EAE      20      917F      JSR      DISDWN      ;DISPLAY CORRECT DOWN STUFF
31     8EB1      20      AD3A      JSR      YRDBAL      ;AND "BALL ON..."
32     8EB4      60      RTS      ;WE'RE DONE
33     ;
34     ; USER MESSAGE TO DISPLAY
35     ;
36     8EB5      2$:
37     8EB5      AA      TAX      ;MSG # TO INDEX
38     8EB6      BD      0423      LDA      MSGTB(X)      ;FETCH LSB, MESSAGE PTR
39     8EB9      85      4D      STA      PTR
40     8EBB      BD      0424      LDA      MSGTB+1(X)
41     8EBE      85      4E      STA      PTR+1
42     8EC0      A0      00      LDY      #0      ;START WITH TIMER/STATUS BYTE
43     8EC2      B1      4D      LDA      @PTR(Y)
44     8EC4      29      C0      AND      #FLASHD+NOTIMD      ;MASK FOR STATUS BITS
45     8EC6      C9      40      CMP      #NOTIMD      ;IF NOT TIMED & NOT FLASHED
46     8EC8      F0      10      BEQ      22$      ;PUT UP MESSAGE WITHOUT SERVICING
47     8ECA      8D      02C5      STA      MSTAT      ;SAVE BITS 7 & 6
48     8ECD      8E      02C7      STX      MNR      ;SAVE FOR SFLASH
49     8ED0      B1      4D      LDA      @PTR(Y)      ;REGET TIMER VALUE
50     8ED2      29      3E      AND      #3E      ;MASK FOR TIMER
51     8ED4      0A      ASL
52     8ED5      09      04      ORA      #4      ;FORCE GOOD FLASH TIMER
53     8ED7      8D      02C6      STA      MTIMER      ;SAVE
54     8EDA      22$:
55     8EDA      C8      INY
56     8EDB      B1      4D      LDA      @PTR(Y)      ;GET OFFSET IN SCOREBOARD
57     8EDD      AA      TAX      ;TO INDEX X

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58	8EDE	C8		INY		
59	8EDF			3\$:		
60	8EDF	B1	4D	LDA	@PTR(Y)	:FETCH NEXT MESSAGE CHAR
61	8EE1	F0	0A	BEQ	4\$:IF TERMINATOR, EXIT
62	8EE3	18		CLC		
63	8EE4	69	60	ADC	#60	:ELSE, FORM DISPLAYABLE FROM ASCII
64	8EE6	9D	0467	STA	SBOARD+40.(X)	:STUFF IN SCOREBOARD W/OFFSET
65	8EE9	E8		INX		
66	8EEA	C8		INY		
67	8EEB	D0	F2	BNE	3\$:BRANCH ALWAYS
68	8EED			4\$:		
69	8EED	60		RTS		
70				:		
71				:	SERVICE FLASHING MESSAGE ROUTINE	*DAVE* 7/16
72				:		
73	8EEE			SFLASH:		
74	8EEE	AD	02C7	LDA	MNBR	:FETCH MESSAGE NUMBER (TIMES 2)
75	8EF1	D0	0F	BNE	SFLASO	:CURRENT MESSAGE, GO SERVICE
76	8EF3	60		RTS		:ELSE, EXIT
77				:		
78				:	KILL CURRENT MESSAGE ROUTINE	*DAVE* 7/16
79				:		
80	8EF4			KFLASH:		
81	8EF4	AD	02C7	LDA	MNBR	:CHECK FOR CURRENT MESSAGE
82	8EF7	D0	01	BNE	KFLASO	:BR IF ONE IS STILL UP
83	8EF9	60		RTS		:ELSE, NO MESSAGE TO KILL
84	8EFA			KFLASO:		
85	8EFA	A9	00	LDA	#0	:RESET STATUS OF THIS MESSAGE
86	8EFC	8D	02C6	STA	MTIMER	:TIMER TO BE TIMED OUT
87	8EFF	8D	02C5	STA	MSTAT	:STATUS INDICATES ERASE MESSAGE
88	8F02			SFLASO:		
89	8F02	CE	02C6	DEC	MTIMER	:DECREMENT TIMER
90	8F05	AE	02C7	LDX	MNBR	:GET MSG # (TIMES 2)
91	8F08	BD	0423	LDA	MSGTB(X)	:LOAD MESSAGE POINTER
92	8F0B	85	4D	STA	PTRA	:FROM POINTER TABLE
93	8F0D	BD	0424	LDA	MSGTB+1(X)	:MSB TOO
94	8F10	85	4E	STA	PTRA+1	
95	8F12	A0	01	LDY	#1	:INDEX TO MESSAGE OFFSET BYTE
96	8F14	B1	4D	LDA	@PTR(Y)	:GET INDEX
97	8F16	AA		TAX		:USE IN INDEX X
98	8F17	C8		INY		:Y INDEXES TO 1ST BYTE OF MESSAGE
99	8F18	2C	02C5	BIT	MSTAT	:CHECK MESSAGE STATUS
100	8F1B	10	29	BPL	3\$:BR IF NO FLASHING DESIRED
101				:		
102				:	FLASH STUFF:	
103				:		
104	8F1D	AD	02C6	LDA	MTIMER	:GET TIMER
105	8F20	29	03	AND	#3	:DO FLASH CHANGE EVERY 8 CALLS
106	8F22	D0	22	BNE	3\$:BR IF NOT TIME TO FLASH
107	8F24	AD	02C6	LDA	MTIMER	:CHECK BIT 3
108	8F27	29	04	AND	#4	:BIT3 SEZ: 1-WRITE, 0-ERASE
109	8F29	F0	0E	BEQ	2\$:BRANCH IF ERASE NEEDED
110				:		ELSE, WRITE IT...
111				:		
112				:	WRITE MESSAGE	
113				:		
114	8F2B			1\$:		

115	8F2B	B1	4D	LDA	@PTR(Y)	:FETCH NEXT MESSAGE CHAR
116	8F2D	F0	28	BEQ	4\$:QUIT IF END OF MESSAGE
117	8F2F	18		CLC		
118	8F30	69	60	ADC	#60	:FORM DISPLAYABLE FROM ASCII
119	8F32	9D	0467	STA	SBOARD+40.(X)	:STUFF IN SCORE BOARD W/OFFSET
120	8F35	E8		INX		
121	8F36	C8		INY		
122	8F37	D0	F2	BNE	1\$:BRANCH ALWAYS
123				:		
124				:	ERASE MESSAGE	
125				:		
126	8F39			2\$:		
127	8F39	B1	4D	LDA	@PTR(Y)	:FETCH NEXT MESSAGE CHAR
128	8F3B	F0	1A	BEQ	4\$:QUIT IF END OF MESSAGE
129	8F3D	A9	80	LDA	#80	:USE BLANK CHAR INSTEAD
130	8F3F	9D	0467	STA	SBOARD+40.(X)	:STUFF IN SCORE BOARD W/OFFSET
131	8F42	E8		INX		
132	8F43	C8		INY		
133	8F44	D0	F3	BNE	2\$:BRANCH ALWAYS
134				:		
135				:	CHECK FOR MESSAGE TIMED OUT	
136				:		
137	8F46			3\$:		
138	8F46	2C	02C5	BIT	MSTAT	:CHECK FOR INDEFINITE MESSAGE
139	8F49	70	0C	BVS	4\$:BR IF INDEFINITE
140	8F4B	AD	02C6	LDA	MTIMER	:CHECK FOR NEGATIVE TIMER
141	8F4E	10	07	BPL	4\$:BRANCH IF MORE TIME TO GO
142	8F50	A9	00	LDA	#0	:ELSE, TURN OFF MESSAGE
143	8F52	8D	02C7	STA	MNBR	:INDICATES NOT ACTIVE
144	8F55	F0	E2	BEQ	2\$:BRANCH ALWAYS TO MESSAGE ERASE
145	8F57			4\$:		
146	8F57	60		RTS		:WE'RE DONE
147				:		
148				:		
149				:	SAVE BOTTOM LINE ROUTINE:	
150				:		
151				:	PROMPT ROUTINE MESSAGES AUTOMATICALLY SAVED IN BOTLIN BUFFER	
152				:	CURRENTLY FLASHING MESSAGES (MFLASH) ARE SAVED	
153				:		
154	8F58			SAVBOT:		
155	8F58	A9	00	LDA	#0	:ASSUME NO FLASHING MESSAGES TO SAVE
156	8F5A	8D	02C8	STA	FMNBR	
157	8F5D	AD	02C7	LDA	MNBR	:FETCH CURRENT MSG #
158	8F60	C9	02	CMP	#FBEG-MSGTB	:CHECK AGAINST 1ST SPECIAL FLASHER MSG
159	8F62	90	07	BCC	1\$:BR IF NOT SPECIAL
160	8F64	C9	0E	CMP	#FEND-MSGTB	:CHECK AGAINST LAST + 1
161	8F66	B0	03	BCS	1\$:BR IF NOT SPECIAL
162	8F68	8D	02C8	STA	FMNBR	:SAVE FOR RESTORATION LATER
163	8F6B			1\$:		
164	8F6B	A9	00	LDA	#0	:TURN OFF FLASHER
165	8F6D	8D	02C7	STA	MNBR	
166	8F70	A9	80	LDA	#80	:BLANK CHAR
167	8F72	A2	27	LDX	#39.	:CLEAR BOTTOM LINE
168	8F74			2\$:		
169	8F74	9D	048F	STA	SBOARD+80.(X)	
170	8F77	CA		DEX		
171	8F78	10	FA	BPL	2\$	


```

172 8F7A 60 RTS
173 :
174 :
175 : RESTORE BOTTOM LINE ROUTINE
176 :
177 :
178 8F7B RESBOT:
179 8F7B A2 27 LDX #39.
180 8F7D 1$:
181 8F7D BD 052D LDA BOTLIN(X) ;COPY BUFFER TO
182 8F80 9D 048F STA SBOARD+80.(X) ;DISPLAY BUFFER
183 8F83 CA DEX
184 8F84 10 F7 BPL 1$
185 8F86 AD 02C8 LDA FMNBR ;WAS A FLASHER PENDING?
186 8F89 F0 04 BEQ 2$ ;NO, SKIP RE-INIT
187 8F8B 4A LSR
188 8F8C 20 8E88 JSR MFLASH
189 8F8F 2$:
190 8F8F 60 RTS
191 :
192 :
193 : END DAVE'S ADDITION
194 :
195 : *****

```



```

1      ;
2      ; SCORE UPDATE ETC. ROUTINE
3      ;
4      SCORUP:
5      8F90      A5      F0      LDA      STATE
6      8F92      8D      03F1    STA      OLDSTT
7      8F95      A5      E8      LDA      ESTTUS
8      8F97      C9      0A      CMP      #ENDGAM
9      8F99      D0      05      BNE      5$
10     8F98      A9      07      LDA      #SLCT
11     8F9D      85      F0      STA      STATE
12     8F9F      60              RTS
13     8FA0      C9      09      5$: CMP      #HALFTM
14     8FA2      D0      05      BNE      6$
15     8FA4      A9      82      LDA      #ASMHUD
16     8FA6      85      F0      STA      STATE
17     8FA8      60              RTS
18     8FA9      A9      82      6$: LDA      #ASMHUD
19     8FAB      85      F0      STA      STATE
20     ;
21     ; *****
22     ;
23     ; STUFF ADDED BY DAVE:
24     ;
25     8FAD      20      AD3A     JSR      YRDBAL      ;SET-UP "BALL ON..."
26     8FB0      A6      E8      LDX      ESTTUS      ;PICK UP END-OF-PLAY STATUS
27     8FB2      8D      89F9     LDA      SCRTBL(X)    ;AS INDEX INTO JUMP TABLE (LSB)
28     8FB5      85      4D      STA      PTR
29     8FB7      8D      BA02     LDA      SCRTBH(X)    ;MSB TOO
30     8FBA      85      4E      STA      PTR+1
31     8FBC      6C      004D     JMP      @PTR      ;GO TO SELECTED ROUTINE
32     ;
33     ; ROUTINES FOR SCORE-UPDATE, ETC. DEPENDING ON END-PLAY STATUS
34     ;
35     ; BALL DEAD:
36     ;
37     8FBF      BDEAD:
38     ;
39     ; BALL OUT
40     ;
41     8FBF      BOUT:
42     ;
43     ; BALL CARRIER OUT
44     ;
45     8FBF      BCOT:
46     ;
47     ; BALL CARRIER TACKLED
48     ;
49     8FBF      BCTAC:
50     8FBF      AD      03D4     LDA      PASINT      ;CHECK FOR PASS INTERCEPT
51     8FC2      D0      11      BNE      10$
52     8FC4      AD      03D7     LDA      KIKRCP
53     8FC7      D0      0C      BNE      10$
54     8FC9      AD      03D9     LDA      PNTDON
55     8FCC      F0      0E      BEQ      YARTG
56     8FCE      20      9F15     JSR      SWCHOF
57     8FD1      20      90F0     JSR      FIR10

```


58	8FD4	60		RTS		
59	8FD5	20	90F0	10\$: JSR	FIR10	:ELSE, SET-UP 1ST & 10
60	8FD8	20	9F18	JSR	SWC	:SET-UP DOWN MARKER COLORS
61	8FDB	60		RTS		:& EXIT
62				:		
63				: CALCULATE YARDS-TO-GO		
64				:		
65	8FDC			YARTG:		
66	8FDC	AD	03EC	LDA	FRSTDN+1	:CHECK MSB FOR FF
67	8FDF	C9	FF	CMP	#OFF	:THIS MEANS GOAL IS 1ST DOWN GOAL
68	8FE1	D0	14	BNE	11\$:NO, DO REGULAR
69	8FE3	EE	03EA	INC	DOWNNO	
70	8FE6	AD	03EA	LDA	DOWNNO	
71	8FE9	C9	05	CMP	#5	
72	8FEB	D0	07	BNE	12\$	
73	8FED	20	9F15	JSR	SWCHOF	
74	8FF0	20	90F0	JSR	FIR10	
75	8FF3	60		RTS		
76	8FF4			12\$: JMP	DISD	:DAVE* 8/3
77	8FF4	4C	9073	:DAVE* JSR	DGRFX	:UPDATE PLAYER 3 (DOWN MARKER) GRAFIX
78				:DAVE* JSR	DISDWN	
79				:DAVE* RTS		
80				11\$:		
81	8FF7					
82	8FF7	24	DE	BIT	OFFDIR	:CHECK OFFENSE DIRECTION
83	8FF9	10	12	BPL	2\$:BR IF DIRECTION IS RIGHT
84				:		
85				: OFFENSE DIRECTION: LEFT		
86				:		
87	8FFB	A5	EE	LDA	SCRIMX	:ELSE, IT'S LEFT
88	8FFD	38		SEC		:SO SCRIMX-FRSTDN IS YARDS TO GO
89	8FFE	ED	03EB	SBC	FRSTDN	:SUBTRACT LSB'S
90	9001	85	D6	STA	T0	:SAVE IN TEMP
91	9003	A5	EF	LDA	SCRIMX+1	:MSB TOO
92	9005	ED	03EC	SBC	FRSTDN+1	
93	9008	85	D7	STA	T1	:SAVE
94	900A	4C	901C	JMP	3\$:GOTO THRESHOLD CHECK
95				:		
96				: OFFENSE DIRECTION: RIGHT		
97				:		
98	900D			2\$:		
99	900D	AD	03EB	LDA	FRSTDN	:RIGHT MEANS FRSTDN-SCRIMX
100	9010	38		SEC		:IS YARDS TO GO
101	9011	E5	EE	SBC	SCRIMX	:SUBTRACT LSB'S
102	9013	85	D6	STA	T0	:SAVE IN TEMP
103	9015	AD	03EC	LDA	FRSTDN+1	:MSB TOO
104	9018	E5	EF	SBC	SCRIMX+1	
105	901A	85	D7	STA	T1	:SAVE
106	901C			3\$:		
107	901C	90	04	BCC	4\$:WE SURPASSED 1ST DOWN MARK
108	901E	05	D6	ORA	T0	:CHECK FOR 0 YRDS TO GO
109	9020	D0	04	BNE	5\$:IF T0 OR'D W/ T1 IS NOT 0, CONTINUE
110	9022			4\$:		
111	9022	20	90F0	JSR	FIR10	:ELSE, 1ST & 10
112	9025	60		RTS		:ALL SET, EXIT
113	9026			5\$:		
114	9026	A5	D6	LDA	T0	:FETCH YARDS TO GO LSB

115	9028	18		CLC		
116	9029	69	03	ADC	#3	:SET-UP ROUND OFF
117	9028	85	06	STA	T0	
118	902D	90	02	BCC	6\$	
119	902F	E6	07	INC	T1	
120						
121						: CHECK ANY DOWNS LEFT BEFORE CALCULATING YARDS TO GO
122						
123	9031					6\$:
124	9031	EE	03EA	INC	DOWNNO	:ADVANCE DOWN COUNT
125	9034	AD	03EA	LDA	DOWNNO	
126	9037	C9	05	CMP	#5	:EXCEED NFL STANDARD FOR DOWNS?
127	9039	D0	0E	BNE	7\$:NO, CALCULATE YARDS TO GO
128						:NO 4TH DOWN CONVERSION. KEEP CLOCK OFF!
129	9038	A5	ED	LDA	QTIMST	
130	903D	29	8F	AND	#0BF	
131	903F	8D	0414	STA	QOTIME	
132						
133	9042	20	9F15	JSR	SWCHOF	:ELSE, TURN-OVER (OUT OF DOWNS)
134	9045	20	90F0	JSR	FIR10	:SET-UP 1ST & 10 FOR NEW OFFENSIVE TEAM
135	9048	60		RTS		:& EXIT
136						
137						: CALCULATE YARDS TO GO
138						
139	9049					7\$:
140				:*DAVE*	JSR	DGRFX
141	9049	A5	D6	LDA	T0	:UPDATE PLAYER #3 (DOWN MARKER) GRAFIX
142	9048	46	D7	LSR	T1	:FETCH LSB
143	904D	6A		ROR		:DIVIDE BY 8
144	904E	46	D7	LSR	T1	
145	9050	6A		ROR		
146	9051	46	D7	LSR	T1	
147	9053	6A		ROR		
148	9054	A2	8F	LDX	#90-1	:ASCII FOR "0"-1
149	9056					8\$:
150	9056	38		SEC		
151	9057	E9	0A	SBC	#10.	:PULL OUT A 10
152	9059	E8		INX		:COUNT 10'S OF YARDS (IN ASCII)
153	905A	B0	FA	BCS	8\$:LOOP TIL NO MORE 10'S
154	905C	69	0A	ADC	#10.	:NEG, SO PUT LAST 10 BACK
155	905E	E0	90	CPX	#90	:0 TENS?
156	9060	D0	02	BNE	9\$:NO, SKIP LEADING ZERO SUPPRESSION
157	9062	A2	80	LDX	#80	:ELSE, USE BLANK SPACE
158	9064					9\$:
159	9064	8E	047E	STX	SBOARD+63.	:STUFF IN TEN'S PLACE
160	9067	8E	02C9	STX	YTOG0	:SAVE 10'S PLACE *DAVE* 7/19
161	906A	18		CLC		
162	906B	69	90	ADC	#90	:FORM ASCII
163	906D	8D	047F	STA	SBOARD+64.	
164	9070	8D	02CA	STA	YTOG1	:SAVE UNITS PLACE *DAVE* 7/19
165	9073					10\$:
166	9073					DISD:
167	9073	24	ED	BIT	QTIMST	:QUARTER OVER? *DAVE* 8/3
168	9075	30	06	BMI	1\$:BR IF YES, ENDQTR DOES IT *DAVE* 8/3
169	9077	20	91FB	JSR	DGRFX	:ELSE, GET PROPER DOWNMARKER GRAFIX *DAVE* 8/3
170	907A	20	917F	JSR	DISDWN	:DISPLAY DOWN #
171	907D					1\$:


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172 907D 60          RTS          ;WE'RE THRU
173
174
175
176          ; TOUCH DOWN!!!!
177
178 907E          TDOWN:
179 907E A9 07      LDA #7          ;GET OFFICIAL TD POINTS
180 9080          TD1:
181 9080 A6 0D      LDX OFFENS      ;GET OFFENSIVE TEAM # IN INDEX
182 9082 20 91B2    JSR ADSCR       ;ADD & DISPLAY NEW SCORE
183 9085 20 9F15    JSR SWCHOF
184 9088 20 90D9    JSR NEW20      ;SET-UP 1ST & 10 ON 20 YARD LINE
185 9088 60        RTS
186
187
188          ; FIELD GOAL GOOD
189
190 908C          GOODFG:
191 908C A9 03      LDA #3          ;OFFICIAL FIELD GOAL PTS.
192 908E 4C 9080    JMP TD1        ;EXCEPT FOR POINTS, SAME AS TD
193
194
195          ; FIELD GOAL NO GOOD
196
197 9091          NOGOFG:
198 9091 20 9F15    JSR SWCHOF      ;TURN-OVER TIME
199 9094 24 DE      BIT OFFDIR     ;CHECK OFFENSE DIRECTION
200 9096 30 0C      BMI 1$         ;BRANCH IF PREVIOUS WAS RITE
201
202          ; ELSE, PREVIOUS OFFENSE DIRECTION < ---
203
204
205 9098 A5 EF      LDA SCRIMX+1    ;CHECK MSB OF OLD SCRIMAGE
206 909A D0 16      BNE 2$         ;BRANCH IF ATTEMPT WAS FROM > 20 YRDS
207 909C A5 EE      LDA SCRIMX
208 909E C9 F1      CMP #241.&OFF
209 90A0 B0 10      BCS 2$         ;> 20 YRDS
210 90A2 90 15      BCC 3$         ;ELSE, INSIDE 20 YARD LINE
211 90A4          1$:
212 90A4 A5 EF      LDA SCRIMX+1
213 90A6 C9 02      CMP #<241.+480.>&OFF00/100
214 90A8 90 08      BCC 2$
215 90AA D0 0D      BNE 3$
216 90AC A5 EE      LDA SCRIMX
217 90AE C9 D1      CMP #<241.+480.>&OFF
218 90B0 B0 07      BCS 3$
219
220          ; ATTEMPT WAS FROM FURTHER THAN 20 YARDS:
221
222 90B2          2$:
223 90B2 20 90F0    JSR FIR10       ;TURN OVER FROM OLD SCRIMAGE
224 90B5 20 AD3A    JSR YRDBAL
225 90B8 60        RTS
226
227          ; ATTEMPT WAS FROM WITHIN 20 YARD LINE:
228

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229 90B9          3$:
230 90B9      20 90D9      JSR      NEW20      ;MOVE OUT TO 20 YARD LINE
231 90BC      60          RTS
232          :
233          : SAFETY
234          :
235 90BD      SFTY:
236 90BD      A9  E1      LDA      #<241.+240.>&OFF      ;SET FOR 50 YRD LINE
237 90BF      85  EE      STA      SCRIMX
238 90C1      A9  01      LDA      #<241.+240.>&OFF00/100
239 90C3      85  EF      STA      SCRIMX+1
240 90C5      A5  DD      LDA      OFFENS
241 90C7      49  01      EOR      #1
242 90C9      AA          TAX
243 90CA      A9  02      LDA      #2      ;OFFICIAL NFL SAFETY POINT SCORE
244 90CC      20 91B2      JSR      ADSCR      ;ADD TO FORMER DEFENSE
245 90CF      20 9F15      JSR      SWCHDF
246 90D2      20 90F0      JSR      FIR10      ;SET-UP FOR 1ST & 10
247 90D5      20 AD3A      JSR      YRDBAL
248 90D8      60          RTS
249          :
250          : TOUCH BACK
251          :
252 90D9      TBACK:
253          :
254          : FALL THRU TO...
255          :
256          :
257          : SET-UP 1ST & 10 ON OFFENSIVE 20 YARD LINE
258          :
259 90D9      NEW20:
260 90D9      A2  D1      LDX      #<241.+480.>&OFF      ;ASSUME RIGHT 20 YRD LINE
261 90DB      A0  02      LDY      #<241.+480.>&OFF00/100 ;MSB
262 90DD      24  DE      BIT      OFFDIR      ;CHECK OFFENSIVE DIRECTION
263 90DF      30  04      BMI      1$      ;BR IF ASSUMPTION OK
264 90E1      A2  F1      LDX      #241.&OFF      ;USE LEFT 20 YRD LINE
265 90E3      A0  00      LDY      #241.&OFF00/100
266 90E5      1$:
267 90E5      86  EE      STX      SCRIMX
268 90E7      84  EF      STY      SCRIMX+1
269 90E9      20 90F0      JSR      FIR10      ;NEW 1ST & 10
270 90EC      20 AD3A      JSR      YRDBAL
271 90EF      60          RTS
272          :
273          :
274          :
275          : FIRST & 10 --- DO IT AGAIN!!!
276          :
277          : SET-UP 1ST AND 10 STATUS AND UPDATE DISPLAY
278          :
279 90F0      FIR10:
280 90F0      A9  01      LDA      #1
281 90F2      8D  03EA     STA      DOWNND      ;SET NEW DOWN #
282 90F5      20 91F8      JSR      DGRFX      ;SET-UP DOWN MARKER GRAFIX
283 90F8      A5  EF      LDA      SCRIMX+1      ;SET MSB, FRSTDN
284 90FA      8D  03EC     STA      FRSTDN+1
285 90FD      8D  02BE     STA      XDPOSH+1      ;TO DOWN MARKER

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286	9100	A5	EE	LDA	SCRIMX	:LSB TOO
287	9102	8D	02B8	STA	XDPOS+1	
288	9105	24	DE	BIT	OFFDIR	:CHECK OFFENSIVE DIRECTION
289	9107	10	26	BPL	1\$:BR IF RIGHT
290	9109	A5	EE	LDA	SCRIMX	:ELSE, LEFT
291	9108	38		SEC		
292	910C	E9	50	SBC	#80.	:FORM NEW FRSTDN
293	910E	8D	03E8	STA	FRSTDN	
294	9111	80	03	BCS	2\$	
295	9113	CE	03EC	DEC	FRSTDN+1	
296	9116			2\$:		
297	9116	AD	03EC	LDA	FRSTDN+1	:CHECK MSB FOR 0
298	9119	D0	21	BNE	3\$	
299	9118	A9	51	LDA	#81.	
300	911D	CD	03E8	CMP	FRSTDN	:1ST DOWN LESS THAN OR = 81.?
301	9120	90	35	BCC	4\$:BR TO NORMAL IF NOT
302	9122	A9	51	LDA	#81.&OFF	:ELSE, USE GOAL FOR 1ST DWN MARK
303	9124	8D	028C	STA	XDPOS+2	
304	9127	A9	00	LDA	#81.&OFF00/100	
305	9129	8D	02BF	STA	XDPOSH+2	
306	912C	4C	916A	JMP	5\$	
307	912F			1\$:		
308	912F	A5	EE	LDA	SCRIMX	
309	9131	18		CLC		
310	9132	69	50	ADC	#80.	
311	9134	8D	03E8	STA	FRSTDN	
312	9137	90	03	BCC	3\$	
313	9139	EE	03EC	INC	FRSTDN+1	
314	913C			3\$:		
315	913C	AD	03EC	LDA	FRSTDN+1	:FETCH MSB
316	913F	C9	03	CMP	#881.&OFF00/100	
317	9141	D0	14	BNE	4\$	
318	9143	AD	03E8	LDA	FRSTDN	
319	9146	C9	71	CMP	#881.&OFF	
320	9148	90	00	BCC	4\$	
321	914A	A9	71	LDA	#881.&OFF	
322	914C	8D	028C	STA	XDPOS+2	
323	914F	A9	03	LDA	#881.&OFF00/100	
324	9151	8D	02BF	STA	XDPOSH+2	:SET 1ST DWN MARK AT RIGHT GOAL
325	9154	4C	916A	JMP	5\$	
326	9157			4\$:		
327	9157	AD	03EC	LDA	FRSTDN+1	
328	915A	8D	028F	STA	XDPOSH+2	
329	915D	AD	03E8	LDA	FRSTDN	
330	9160	8D	028C	STA	XDPOS+2	
331	9163	A9	91	LDA	#91	
332	9165	A2	90	LDX	#90	
333	9167	4C	9173	JMP	6\$	
334	916A			5\$:		
335	916A	A9	FF	LDA	#OFF	
336	916C	8D	03EC	STA	FRSTDN+1	:GOAL TO GO
337	916F	A9	A7	LDA	#0A7	: "G"
338	9171	A2	80	LDX	#80	:BLANK
339	9173			6\$:		
340	9173	8D	047E	STA	SBOARD+63.	
341	9176	8D	02C9	STA	YTOGO	
342	9179	8E	047F	STX	SBOARD+64.	


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343 917C 8E 02CA STX YTOG1
344
345 : FALL THRU TO DISPLAY DOWN # ...
346
347 : DISPLAY DOWN # WITH ORDINAL INDICATOR
348
349 DISOWN:
350 917F A5 EF LDA SCRIMX+1
351 9181 8D 02BD STA XDPOSH+0
352 9184 A5 EE LDA SCRIMX ;SET DOWN NUMBER MARKER @ SCRIMAGE
353 9186 38 SEC
354 9187 E9 03 SBC #3 ;OFFSET INTO GRAFIX
355 9189 8D 02BA STA XDPOS+0
356 918C B0 03 BCS 30$
357 918E CE 02BD DEC XDPOSH+0
358 30$:
359 9191 AD 03EA LDA DOWNNO ;FETCH DOWN
360 9194 18 CLC
361 9195 69 90 ADC #90 ;FORM ASCII
362 9197 8D 0476 STA SBOARD+55.
363 919A 38 SEC
364 919B E9 91 SBC #91 ;GET 0-3
365 919D 0A ASL ;*2
366 919E AA TAX ;TO INDEX
367 919F BD B9F1 LDA ORDTB(X) ;ST,ND,RD,TH!!!!!!!!!!!!!!
368 91A2 18 CLC
369 91A3 69 60 ADC #60
370 91A5 8D 0477 STA SBOARD+56.
371 91A8 BD B9F2 LDA ORDTB+1(X)
372 91AB 18 CLC
373 91AC 69 60 ADC #60
374 91AE 8D 0478 STA SBOARD+57.
375 91B1 60 RTS ;WE'RE THRU
376
377 :
378 : ADD NEW SCORE AND DISPLAY
379 :
380 : ENTRY:
381 : X=TEAM # TO ADD SCORE
382 : A=AMOUNT OF POINTS TO ADD
383 :
384 ADSCR:
385 91B2 F8 SED ;BCD NEEDS DECIMAL MODE
386 91B3 18 CLC
387 91B4 7D 03ED ADC SCORE0(X) ;FETCH PREVIOUS OFFENSE SCORE
388 91B7 9D 03ED STA SCORE0(X) ;SAVE
389 91BA BD 03EF LDA SCORH0(X) ;FETCH MS NIBBLE *DAVE* 7/27
390 91BD 69 00 ADC #0 ;ADD IN CY *DAVE* 7/27
391 91BF 9D 03EF STA SCORH0(X) ;SAVE IN HI NIBBLE *DAVE* 7/27
392
393 91C2 D8 CLD ;EXIT DECIMAL MODE
394 91C3 A0 1A LDY #26. ;INDEX TO SCORE AREA
395 91C5 A2 01 LDX #1 ;TEAM #
396 1$:
397 91C7 BD 03EF LDA SCORH0(X) ;FETCH HI NIB *DAVE* 7/27
398 91CA D0 02 BNE 11$ ;IF <> 0, SKIP 0 SUP *DAVE* 7/27
399 91CC A9 F0 LDA #-10 ;ELSE, BLANK 0 *DAVE* 7/27

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400 91CE          11$:
401 91CE          CLC
402 91CF          ADC          #90          ;FORM DISPLAYABLE CODE *DAVE* 7/27
403 91D1          STA          SBOARD+10.(Y) ;AND PUT UP ON SCREEN *DAVE* 7/27
404 91D4          LDA          SCORE0(X)
405 91D7          LSR
406 91D8          LSR
407 91D9          LSR
408 91DA          LSR
409 91DB          BNE          2$
410 91DD          DD          03EF          CMP          SCORH0(X)          ;IS IT LEADING 0? *DAVE* 7/27
411 91E0          DD          02          BNE          2$          ;BR IF NO, >= 100 *DAVE* 7/27
412 91E2          A9          F0          LDA          #-10
413 91E4          2$:
414 91E4          CLC
415 91E5          ADC          #90
416 91E7          STA          SBOARD+11.(Y)
417 91EA          LDA          SCORE0(X)
418 91ED          29          0F          AND          #0F
419 91EF          18          CLC
420 91F0          69          90          ADC          #90
421 91F2          99          044B          STA          SBOARD+12.(Y)
422 91F5          A0          00          LDY          #0
423 91F7          CA          DEX
424 91F8          10          CD          BPL          1$
425 91FA          60          RTS
426          ;
427          ;
428          ; SET-UP NUMERIC DOWN MARKER GRAFIX IN PLAYER 3 STRIP
429          ;
430          ;
431          DGRFX:
432 91FB          A9          FF          LDA          #-1          ;ASSUME OFFENSE DIRECTION RIGHT
433 91FD          A0          03          LDY          #3          ;DOWN MARKER FUDGE FOR RIGHT
434 91FF          A6          DE          LDX          OFFDIR          ;CHECK DIRECTION
435 9201          F0          04          BEQ          2$          ;ASSUMPTION OK
436 9203          A9          03          LDA          #3          ;OFFSET FOR DEFENSE GRAFIX
437 9205          A0          F0          LDY          #-3          ;HORZ FUDGE FOR LEFT
438 9207          2$:
439 9207          8C          02C3          STY          DMFUDG          ;SAVE FUDGE
440 920A          18          CLC
441 920B          6D          03EA          ADC          DOWNNO          ;ADD DOWN #
442 920E          A8          TAY
443 920F          BE          B989          LDX          DLENTB(Y)          ;ADJUST GRAFIX INDEX ACCORDINGLY
444 9212          A0          0B          LDY          #DOWNLEN-1
445 9214          1$:
446 9214          BD          B991          LDA          DMARK(X)
447 9217          99          273A          STA          GXPM+P3OFF+3A(Y)
448 921A          E8          INX
449 921B          88          DEY
450 921C          10          F6          BPL          1$
451 921E          60          RTS
452          ;
453 921F          AD          03E9          ENDQTR: LDA          QUATR
454 9222          38          SEC
455 9223          E9          01          SBC          #1
456 9225          0A          ASL

```


457	9226	AA		TAX	
458	9227	BD	9231	LDA	EQTRTB+1(X)
459	922A	48		PHA	
460	922B	BD	9230	LDA	EQTRTB(X)
461	922E	48		PHA	
462	922F	60		RTS	
463					
464	9230	9237	92DB 9237 9331	EQTRTB: .WORD	EQTR-1,EHALF-1,EQTR-1,EGAME-1
465					
466					
467	9238			EQTR:	
468				:CHANGE OFFDIR	
469	9238	A5	DE	LDA	OFFDIR
470	923A	49	80	EOR	#80
471	923C	85	DE	STA	OFFDIR
472				:SET SCRIMX ACCORDINGLY	
473	923E	A5	EE	LDA	SCRIMX
474	9240	38		SEC	
475	9241	E9	E1	SBC	#481.&OFF :50 YD LINE
476	9243	85	D6	STA	T0
477	9245	A5	EF	LDA	SCRIMX+1
478	9247	E9	01	SBC	#481.&OFF00/100
479	9249	85	D7	STA	T1
480					
481	924B	A9	E1	LDA	#481.&OFF :50 YD LINE
482	924D	38		SEC	
483	924E	E5	D6	SBC	T0
484	9250	85	EE	STA	SCRIMX
485	9252	A9	01	LDA	#481.&OFF00/100
486	9254	E5	D7	SBC	T1
487	9256	85	EF	STA	SCRIMX+1
488					
489				:DAVE* JSR	DISDWN :WRONG TIME
490					
491				:SET FRSTDN ACCORDINGLY	
492	9258	AD	03EB	LDA	FRSTDN
493	925B	38		SEC	
494	925C	E9	E1	SBC	#481.&OFF :50 YD LINE
495	925E	85	D6	STA	T0
496	9260	AD	03EC	LDA	FRSTDN+1
497	9263	E9	01	SBC	#481.&OFF00/100
498	9265	85	D7	STA	T1
499					
500	9267	A9	E1	LDA	#481.&OFF :50 YD LINE
501	9269	38		SEC	
502	926A	E5	D6	SBC	T0
503	926C	BD	03EB	STA	FRSTDN
504	926F	A9	01	LDA	#481.&OFF00/100
505	9271	E5	D7	SBC	T1
506	9273	BD	03EC	STA	FRSTDN+1
507					
508	9276	A2	01	LDX	#1
509	9278	BD	028B	10\$: LDA	XDPOS+1(X)
510	927B	38		SEC	
511	927C	E9	E1	SBC	#481.&OFF :50 YD LINE
512	927E	85	D6	STA	T0
513	9280	BD	028E	LDA	XDPOSH+1(X)


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514 9283 E9 01 SBC #481.60FF00/100
515 9285 85 07 STA T1
516
517 9287 A9 E1 LDA #481.60FF ;50 YD LINE
518 9289 38 SEC
519 928A E5 D6 SBC T0
520 928C 9D 028B STA XDPOS+1(X)
521 928F A9 01 LDA #481.60FF00/100
522 9291 E5 07 SBC T1
523 9293 9D 028E STA XDPOS+1(X)
524 9296 CA DEX
525 9297 10 DF BPL 10$
526 ;
527 9299 20 917F JSR DISDWN ;*DAVE*
528 929C 20 91FB JSR DGRFX ;GET PROPER DOWNMARKER GRAFIX *DAVE* 7/16
529 ;
530 ;RELOAD TIMER PROPERLY!!!!!!!!!!!!!!!!!!!!!!
531 ; FOR NOW !!!!!!!!!!!!!!!!!!!!!!!
532 929F A2 04 LDX #4
533 92A1 8D 8A1C 20$: LDA SCORE+17.(X)
534 92A4 18 CLC
535 92A5 69 60 ADC #60
536 92A7 9D 0450 STA SBOARD+17.(X)
537 92AA CA DEX
538 92AB 10 F4 BPL 20$
539 ;MOD. BASED ON GAMTYP
540 ;*DAVE* LDA GAMTYP
541 ;*DAVE* BPL 11$
542 ;
543 92AD 2C 03CA BIT GAMTYP ;TEST SHORT GAME FLAG *DAVE* 7/22
544 92B0 50 0A BVC 11$ ;BR IF NOT SHORT *DAVE* 7/22
545 ;
546 92B2 A9 80 LDA #80
547 92B4 8D 0450 STA SBOARD+17.
548 92B7 A9 96 LDA #96
549 92B9 8D 0451 STA SBOARD+18.
550
551 ;INCR QUARTER AND ON SBOARD
552 92BC AD 03E9 11$: LDA QUARTER
553 92BF 18 CLC
554 92C0 69 01 ADC #1
555 92C2 8D 03E9 STA QUARTER
556 92C5 18 CLC
557 92C6 69 90 ADC #90 ;FOR ASCII
558 92C8 8D 0470 STA SBOARD+49.
559 ;CLEAR ANY MESSAGES
560 ;
561 92CB 20 AABA JSR BLMSG ;CLEAR BOTTOM SBOARD LINE *DAVE* 7/16
562 ;
563 ; SET OLDSTT AND STATE=ASMHUD FOR NOW!!!!!!!!!!!!!!
564 92CE A9 FF LDA #OFF
565 92D0 8D 03F1 STA OLDSTT
566 92D3 A9 82 LDA #ASMHUD
567 92D5 85 F0 STA STATE
568 92D7 A9 00 LDA #0 ;SO CLOCK DOESNT RUN
569 92D9 85 E8 STA ESTTUS
570 92DB 60 RTS

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571
572          92DC          EHALF:
573          92DC          A9      01          LDA      #1
574          92DE          85      DD          STA      OFFENS
575          92E0          A9      80          LDA      #80
576          92E2          85      DE          STA      OFFDIR
577          92E4          20      9F18        JSR      SWC          ;*DAVE* 8/3
578          92E7          20      90D9        JSR      NEW20
579          ;RELOAD TIMER PROPERLY!!!!!!!!!!!!!!!!!!!!!!
580          ; FOR NOW !!!!!!!!!!!!!!!!!!!!!!!
581          92EA          A2      04          LDX      #4
582          92EC          BD      BA1C        20$: LDA      SCORE+17.(X)
583          92EF          18              CLC
584          92F0          69      60          ADC      #60
585          92F2          9D      0450        STA      SBOARD+17.(X)
586          92F5          CA              DEX
587          92F6          10      F4          BPL      20$
588          ;MOD. BASED ON GAMTYP
589          ;*DAVE* LDA      GAMTYP
590          ;*DAVE* BPL      11$
591          ;
592          92F8          2C      03CA        BIT      GAMTYP          ;TEST SHORT GAME FLAG *DAVE* 7/22
593          92FB          50      0A          BVC      11$          ;BR IF NOT SHORT *DAVE* 7/22
594          ;
595          92FD          A9      80          LDA      #80
596          92FF          8D      0450        STA      SBOARD+17.
597          9302          A9      96          LDA      #96
598          9304          8D      0451        STA      SBOARD+18.
599
600          ;INCR QUARTR AND ON SBOARD
601          9307          AD      03E9        11$: LDA      QUARTR
602          930A          18              CLC
603          930B          69      01          ADC      #1
604          930D          8D      03E9        STA      QUARTR
605          9310          18              CLC
606          9311          69      90          ADC      #90          ;FOR ASCII
607          9313          8D      0470        STA      SBOARD+49.
608          ;CLEAR ANY MESSAGES
609          ;
610          9316          20      AABA        JSR      BLMSG          ;*DAVE* 7/16
611          ;
612          ; SET OLDSTT AND STATE=ASHUD FOR NOW!!!!!!!!!!!!!!
613          9319          A9      FF          LDA      #OFF
614          931B          8D      03F1        STA      OLDSTT
615          931E          A9      86          LDA      #EDELAY
616          9320          85      F0          STA      STATE
617          9322          A9      09          LDA      #HALFTM ;SO CLOCK DOESNT RUN
618          9324          85      E8          STA      ESTTUS
619          9326          20      9D47        JSR      CROWD
620          9329          20      A591        JSR      LDEAD
621          932C          A9      05          LDA      #5          ;LOAD HALFTIME MESSAGE *DAVE* 7/16
622          932E          20      8E88        JSR      MFLASH          ;*DAVE* 7/16
623          9331          60              RTS
624
625          9332          EGAME:
626          9332          A9      FF          LDA      #OFF
627          9334          8D      03F1        STA      OLDSTT
  
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628	9337	A9	86	LDA	#EDELAY	
629	9339	85	F0	STA	STATE	
630				;SET FOR END GAME MESSAGE		
631	9338	A9	0A	LDA	#ENDGAM	
632	933D	85	E8	STA	ESTTUS	
633				;CLEAR OFF AND DEF MESSAGES		
634				;		
635	933F	20	AABA	JSR	BLMSG	;*DAVE* 7/16
636	9342	20	9D47	JSR	CROWD	
637	9345	20	A591	JSR	LDEAD	
638	9348	A9	06	LDA	#6	;GAME OVER MESSAGE *DAVE* 7/16
639	934A	20	8E88	JSR	MFLASH	;*DAVE* 7/16
640				;		
641	934D	60		RTS		
642						

1					:PLYSTT	
2	934E				PLYSTT:	
3					: COLLISION DETECT	
4	934E	A0	0C		COLLN: LDY	#BALL
5	9350	98			NXTPLR: TYA	
6	9351	AA			TAX	
7	9352	CA			DEX	
8	9353	C0	0C		NXTPLX: CPY	#BALL
9	9355	F0	26		BEQ	BALCLN
10	9357	B9	00F1		LDA	PLYRFG(Y)
11	935A	29	04		AND	#BUMPST
12	935C	F0	03		BEQ	300\$
13	935E	4C	93DA		JMP	DECPLY :MAKE UNCOLLIDEABLE WHILE BUMPED
14	9361	B5	F1		300\$: LDA	PLYRFG(X)
15	9363	29	04		AND	#BUMPST
16	9365	D0	6D		BNE	DECPLX ;"
17	9367	20	9E6A		JSR	YTOXY
18	936A	C9	03		CMP	#3
19	936C	B0	66		BCS	DECPLX :NO COLLN
20	936E	20	9E7E		JSR	YTOXX
21	9371	A5	D7		LDA	T1
22	9373	D0	5F		BNE	DECPLX
23	9375	A5	D6		LDA	T0
24	9377	C9	04		CMP	#4
25	9379	B0	59		BCS	DECPLX :NO COLLN
26	937B	90	2B		BCC	COLISN :ALWAYS
27	937D	B0	02CB		BALCLN: LDA	XPOS(X)
28	9380	18			CLC	
29	9381	69	03		ADC	#3
30	9383	85	D6		STA	T0
31	9385	B0	02E5		LDA	XPOSHI(X)
32	9388	69	00		ADC	#0
33	938A	85	D7		STA	T1
34	938C	B0	02D8		LDA	YPOS(X)
35	938F	18			CLC	
36	9390	69	06		ADC	#LENGTH/2-1
37	9392	85	D8		STA	T2
38					: TEST Y COORD.	
39	9394	20	9DD4		JSR	YTOT2Y
40	9397	C9	04		CMP	#4 :COLLISION DELTA FOR BALL WITH PLAYER
41	9399	B0	39		BCS	DECPLX
42	939B	20	9DAE		JSR	YTOTOX
43	939E	A5	D7		LDA	T1
44	93A0	D0	32		BNE	DECPLX
45	93A2	A5	D6		LDA	T0
46	93A4	C9	03		CMP	#3
47	93A6	B0	2C		BCS	DECPLX
48						
49					:COLLISION. Y IS GT X ALWAYS.	
50	93A8	98			COLISN: TYA	
51	93A9	48			PHA	:SAVE Y
52	93AA	8A			TXA	
53	93AB	48			PHA	:SAVE X
54	93AC	18			CLC	
55	93AD	79	B274		ADC	COLNDX-1(Y)
56	93B0	AA			TAX	
57	93B1	B0	04B7		LDA	CLNRAM(X)

58	9384	09	01	ORA	#1	:SET COLLN BIT
59	9386	AC	03AA	LDY	YTXYDR	
60	9389	10	04	BPL	10%	
61	9388	09	80	ORA	#80	
62	938D	30	02	BMI	20%	:ALWAYS
63	93BF	29	7F	10%: AND	#7F	
64	93C1	AC	03A9	20%: LDY	YTXXDR	
65	93C4	10	05	BPL	30%	
66	93C6	09	40	ORA	#40	
67	93C8	4C	93CD	JMP	40%	
68	93CB	29	BF	30%: AND	#0BF	
69	93CD	9D	04B7	40%: STA	CLNRAM(X)	
70						: RESTORE X AND Y
71	93D0	68		PLA		
72	93D1	AA		TAX		
73	93D2	68		PLA		
74	93D3	A8		TAY		
75	93D4	CA		DECPLX: DEX		
76	93D5	30	03	BMI	DECPLY	
77	93D7	4C	9353	JMP	NXTPLX	
78	93DA	88		DECPLY: DEY		
79	93DB	F0	03	BEQ	PATPRC	
80	93DD	4C	9350	JMP	NXTPLR	
81						: PATTERN PROCESSING
82	93E0	AE	03E2	PATPRC: LDX	RX1	
83	93E3	30	09	BMI	10%	
84	93E5	B5	F1	LDA	PLYRFG(X)	
85	93E7	29	01	AND	#INPTRN	
86	93E9	F0	03	BEQ	10%	
87	93EB	20	A48A	JSR	PTNPRC	
88	93EE	AE	03E3	10%: LDX	RX2	
89	93F1	30	09	BMI	20%	
90	93F3	B5	F1	LDA	PLYRFG(X)	
91	93F5	29	01	AND	#INPTRN	
92	93F7	F0	03	BEQ	20%	
93	93F9	20	A48A	JSR	PTNPRC	
94	93FC	AE	03DD	20%: LDX	PBLK	
95	93FF	30	16	BMI	PWAIT	
96	9401	B5	F1	LDA	PLYRFG(X)	
97	9403	29	80	AND	#THERE	
98	9405	F0	10	BEQ	PWAIT	
99	9407	B5	F1	LDA	PLYRFG(X)	
100	9409	29	7F	AND	#07F	:CLEAR THERE
101	940B	95	F1	STA	PLYRFG(X)	
102	940D	A9	12	LDA	#18.	:OFBLKA (NRSTDF)
103	940F	9D	026E	STA	FCNNDX(X)	
104						:TURN OFF PBLK
105	9412	A9	FF	LDA	#OFF	
106	9414	8D	03DD	STA	PBLK	
107	9417	AD	03C9	PWAIT: LDA	OPLTYP	
108	941A	C9	40	CMP	#40	:PUNT
109	941C	D0	1F	BNE	SPCIAL	
110	941E	AD	03D5	LDA	KICKON	
111	9421	F0	1A	BEQ	SPCIAL	
112						:IF PUNT PLAY AND KICKON
113	9423	AE	03DF	LDX	RDBACK	
114	9426	B5	F1	LDA	PLYRFG(X)	

115	9428	10	13	BPL	SPCIAL	
116				: CLEAR	THERE BIT	
117	942A	29	7F	AND	#07F	
118	942C	95	F1	STA	PLYRFG(X)	
119				: TASK	RDBACK DEAD	
120	942E	A9	00	LDA	#0	
121	9430	9D	026E	STA	FCNNDX(X)	
122				: WANT TO STAND IN	DEFDIR!!!	
123	9433	A5	DE	LDA	OFFDIR	
124	9435	49	80	EOR	#80	
125	9437	9D	02A2	STA	REVERS(X)	
126	943A	20	A5C8	JSR	STNDAN	
127				: CHECK FOR HIKE DONE		
128	943D	AD	03DA	SPCIAL: LDA	HIKDON	
129	9440	D0	10	BNE	BCOVR	
130	9442	A0	0C	LDY	#BALL	
131	9444	AE	040A	LDX	OCTL	
132	9447	2D	9EA6	JSR	CHKCLN	
133	944A	F0	03	BEQ	910\$: BRANCH IF NO COLLN
134	944C	20	9EB6	JSR	ENDHIK	
135	944F	4C	994A	910\$: JMP	DOBUMP	
136						
137				: B.C. OVER PROCESSING		
138	9452	2C	03C9	BCOVR: BIT	OPLTYP	
139	9455	30	06	BMI	11\$: BRANCH IF PASS PLAY
140	9457	70	0C	BVS	12\$: BRANCH IF PUNT PLAY
141				: ELSE, KICK PLAY		
142	9459	EA		NOP		
143	945A	4C	94EA	JMP	CHKRCP	
144	945D	AD	03C8	11\$: LDA	PSDSBL	
145	9460	F0	08	BEQ	20\$	
146	9462	4C	94EA	JMP	CHKRCP	
147	9465	AD	03CC	12\$: LDA	KKDSBL	: ONESHOT
148	9468	D0	05	BNE	21\$	
149	946A	AE	03DB	20\$: LDX	BLCRYR	
150	946D	10	03	BPL	221\$	
151	946F	4C	94EA	21\$: JMP	CHKRCP	: BRANCH IF BALL IN AIR
152	9472	A4	DE	221\$: LDY	OFFDIR	
153	9474	30	08	BMI	22\$	
154	9476	20	98A8	JSR	SCRMDR	
155	9479	30	6F	BMI	CHKRCP	
156	947B	4C	9483	JMP	23\$	
157	947E	20	98A8	22\$: JSR	SCRMDR	
158	9481	10	67	BPL	CHKRCP	
159				: IF B.C. OVER, DISABLE KICK AND PASS		
160	9483	A9	01	23\$: LDA	#1	
161	9485	8D	03CC	STA	KKDSBL	
162	9488	8D	03C8	STA	PSDSBL	
163				: RETASK RECEIVERS, IF ANY.		
164	948B	AE	03E2	40\$: LDX	RX1	
165	948E	30	11	BMI	41\$: BRANCH IF NONE DEFINED
166	9490	EC	03DB	CPX	BLCRYR	: FIX TO COVER PASS RECEIPT CASE!
167	9493	F0	0C	BEQ	41\$	
168				: CLEAR INPTRN BIT		
169	9495	B5	F1	LDA	PLYRFG(X)	
170	9497	29	FE	AND	#0FE	
171	9499	95	F1	STA	PLYRFG(X)	

172	949B	20	9C2D	JSR	NRSTDF	:FIND AND LINK TO NEAREST DEF
173	949E	20	9C21	JSR	SETRAK	
174	94A1	AE	03E3	41\$: LDX	RX2	
175	94A4	30	11	BMI	100\$	
176	94A6	EC	03DB	CPX	BLCRYR	
177	94A9	F0	0C	BEQ	100\$	
178				; CLEAR INPTRN BIT		
179	94AB	B5	F1	LDA	PLYRFG(X)	
180	94AD	29	FE	AND	#0FE	
181	94AF	95	F1	STA	PLYRFG(X)	
182	94B1	20	9C2D	JSR	NRSTDF	
183	94B4	20	9C21	JSR	SETRAK	
184				;UNDEFINE RX'S AND ENABLE DCTLCH		
185	94B7	A9	FF	100\$: LDA	#0FF	
186	94B9	8D	03E2	STA	RX1	
187	94BC	8D	03E3	STA	RX2	
188	94BF	A9	01	LDA	#1	
189	94C1	8D	03D2	STA	DCTLCH	
190				; TASK ALL DEF TO "TRACK" BALL		
191	94C4	AE	03E0	200\$: LDX	LDBACK	
192	94C7	A9	0C	LDA	#BALL	
193	94C9	9D	0261	STA	LINK(X)	
194	94CC	20	9C21	JSR	SETRAK	
195	94CF	AE	03DF	LDX	RDBACK	
196	94D2	A9	0C	LDA	#BALL	
197	94D4	9D	0261	STA	LINK(X)	
198	94D7	20	9C21	JSR	SETRAK	
199				; IF COMPUTER PLAYER, DO FOR DLB ALSO!!!!!!!!!!!!!!		
200	94DA	AD	03CA	LDA	GAMTYP	
201	94DD	10	0B	BPL	CHKRCP	
202	94DF	AE	03E1	LDX	LNBACK	
203	94E2	A9	0C	LDA	#BALL	
204	94E4	9D	0261	STA	LINK(X)	
205	94E7	20	9C21	JSR	SETRAK	
206						
207				;CHECK PASS RECEPTION		
208	94EA	AD	03D0	CHKRCP: LDA	PASSON	
209	94ED	F0	4A	BEQ	PNTPLY	
210	94EF	AE	03DC	LDX	CHOSNR	
211	94F2	A0	0C	LDY	#BALL	
212	94F4	20	9EA6	JSR	CHKCLN	
213	94F7	F0	06	BEQ	CHKINT	:BRANCH IF NO COLLN
214	94F9	20	9F39	JSR	RECEPT	
215	94FC	4C	994A	JMP	DOBUMP	
216						
217				;CHECK PASS INTERCEPT		
218	94FF	AD	03D0	CHKINT: LDA	PASSON	
219	9502	F0	35	BEQ	PNTPLY	
220	9504	A0	0C	LDY	#BALL	
221	9506	A5	DD	LDA	OFFENS	
222	9508	49	01	EOR	#1	
223	950A	18		CLC		
224	950B	69	0A	ADC	#BALL-2	
225	950D	AA		TAX		
226	950E	20	9EA6	DUM: JSR	CHKCLN	
227	9511	F0	1D	BEQ	30\$:BRANCH IF NO COLLN
228				; IF DEF NEAR CHOSNR		

229				:	STY	T4	:SAVE Y
230	9513	AC	03DC		LDY	CHOSNR	
231	9516	20	9E6A		JSR	YTOXY	
232	9519	C9	10		CMP	#16.	:2 YDS
233	951B	B0	13		BCS	30\$	
234	951D	20	9E7E		JSR	YTOXX	
235	9520	A5	D7		LDA	T1	
236	9522	D0	0C		BNE	30\$	
237	9524	A5	D6		LDA	T0	
238	9526	C9	10		CMP	#16.	:2 YDS
239	9528	B0	06		BCS	30\$	
240	952A	20	9FF9		JSR	INTRCP	
241	952D	4C	994A		JMP	DOBUMP	
242	9530			30\$:			
243	9530	A0	0C		LDY	#BALL	
244	9532	CA			DEX		
245	9533	CA			DEX		
246	9534	10	D8		BPL	DUM	
247	9536	4C	9571		JMP	BTHREE	
248							
249				:	CHECK	PUNT	RECEPTION
250				:	CHECK	FOR	BALL AND CHOSND
251	9539	AD	03C9	PNTPLY:	LDA	OPLTYP	
252	953C	C9	40		CMP	#40	:PUNT
253	953E	D0	31		BNE	BTHREE	:BRANCH IF FG PLAY
254	9540	AD	03D9		LDA	PNTDON	
255	9543	F0	2C		BEQ	BTHREE	
256	9545	AD	03D7		LDA	KIKRCP	
257	9548	D0	27		BNE	BTHREE	
258	954A	A0	0C		LDY	#BALL	
259	954C	A2	0B		LDX	#BALL-1	
260	954E	20	9EA6	10\$:	JSR	CHKCLN	
261	9551	F0	1B		BEQ	20\$	
262	9553	8A			TXA		
263	9554	29	01		AND	#1	
264	9556	C5	DD		CMP	OFFENS	
265	9558	F0	06		BEQ	15\$	
266				:	DEFENDER	RECEIVES	PUNT
267	955A	20	A0F1		JSR	KRECEP	
268	955D	4C	994A		JMP	DOBUMP	
269				:	OFFENSE	RECEIVES	PUNT
270	9560	A9	00	15\$:	LDA	#0	
271	9562	B0	03D5		STA	KICKON	
272	9565	BE	03D8		STX	BLCRYR	
273	9568	20	A175		JSR	BCOUT	
274	956B	4C	994A		JMP	DOBUMP	
275	956E	CA		20\$:	DEX		
276	956F	10	DD		BPL	10\$	
277							
278				:	CHECK	BALL	THERE
279	9571	AD	03D0	BTHREE:	LDA	PASSON	
280	9574	D0	0A		BNE	40\$	
281	9576	AD	03D5		LDA	KICKON	
282	9579	D0	05		BNE	40\$	
283	957B	AD	03D6		LDA	TIPON	
284	957E	F0	30		BEQ	50\$	
285	9580	A0	0C	40\$:	LDY	#BALL	

286	9582	B9	00F1	LDA	PLYRFG(Y)	
287	9585	10	29	BPL	50\$	
288				: CLEAR THERE BIT		
289	9587	29	7F	AND	#7F	
290	9589	99	00F1	STA	PLYRFG(Y)	
291	958C	AD	03D5	LDA	KICKON	
292	958F	F0	19	BEQ	45\$	
293	9591	AD	03C9	LDA	OPLTYP	
294	9594	C9	40	CMP	#40	:PUNT
295	9596	D0	12	BNE	45\$	
296	9598	A9	01	LDA	#1	
297	959A	8D	03D9	STA	PNTDON	
298	959D	A9	00	LDA	#0	
299	959F	8D	03D5	STA	KICKON	
300				:TASK BALL TO NADA		
301	95A2	A9	00	LDA	#0	:DEAD
302	95A4	99	026E	STA	FCNNDX(Y)	:Y IS BALL!!!?
303	95A7	4C	994A	JMP	DOBUMP	
304	95AA	20	A114	45\$: JSR	BLDEAD	
305	95AD	4C	994A	JMP	DOBUMP	
306				:FOR KICK PLAY????????????????????		
307				: CHECK BALL OUT		
308	95B0	AD	03D0	50\$: LDA	PASSON	
309	95B3	D0	05	BNE	51\$	
310	95B5	AD	03D6	LDA	TIPON	
311	95B8	F0	0F	BEQ	60\$	
312	95BA	A0	0C	51\$: LDY	#BALL	
313	95BC	B9	00F1	LDA	PLYRFG(Y)	
314	95BF	29	40	AND	#OUTBND	
315	95C1	F0	06	BEQ	60\$	
316	95C3	20	A153	JSR	BLOUT	
317	95C6	4C	994A	JMP	DOBUMP	
318						
319				: CHECK CLOSURE OF HARD AND SOFT TRIGGER FOR CHGCTL!		
320	95C9	AD	03D0	60\$: LDA	PASSON	
321	95CC	F0	27	BEQ	NFLITE	
322	95CE	AD	03D1	LDA	OCTLCH	
323	95D1	D0	22	BNE	NFLITE	
324	95D3	A6	DD	LDX	OFFENS	
325	95D5	AC	03DC	LDY	CHOSNR	
326	95D8	BD	03F7	LDA	TRGFG(X)	
327	95DB	D0	0B	BNE	19\$	
328	95DD	5D	03F9	EOR	OTRGFG(X)	
329	95E0	F0	06	BEQ	19\$	
330	95E2	20	9E2F	JSR	CHGCTL	
331	95E5	4C	95F5	JMP	NFLITE	
332	95E8	BD	03F3	19\$: LDA	STRGFG(X)	
333	95EB	D0	08	BNE	NFLITE	
334	95ED	5D	03F5	EOR	OSTRG(X)	
335	95F0	F0	03	BEQ	NFLITE	
336	95F2	20	9E2F	SWITCH: JSR	CHGCTL	
337						
338				:CHECK BLCRYR OUT		
339	95F5	AD	03D0	NFLITE: LDA	PASSON	
340	95F8	D0	16	BNE	100\$	
341	95FA	AD	03D5	LDA	KICKON	
342	95FD	D0	11	BNE	100\$	

343	95FF	AE	03D8	LDX	BLCRYR	!!!!!!!!!!!!!!
344	9602	30	0C	BMI	100\$	
345	9604	B5	F1	LDA	PLYRFG(X)	
346	9606	29	40	AND	#OUTBND	
347	9608	F0	06	BEQ	100\$	
348	960A	20	A175	JSR	BCOUT	
349	960D	4C	994A	JMP	DOBUMP	
350						
351						
						:CHECK BC TO
352	9610	AD	03D0	100\$: LDA	PASSON	
353	9613	D0	59	BNE	CHTKL	
354	9615	AD	03D5	LDA	KICKON	
355	9618	D0	54	BNE	CHTKL	
356	961A	AE	03D8	LDX	BLCRYR	
357	961D	30	4F	BMI	CHTKL	:BRANCH IF NO BLCRYR
358	961F	A2	0C	LDX	#BALL	
359	9621	A5	DE	LDA	OFFDIR	
360	9623	30	23	BMI	105\$	
361						: COMPARE WITH RIGHT GOAL
362	9625	BD	02C8	LDA	XPOS(X)	
363	9628	38		SEC		
364	9629	E9	71	SBC	#881.&OFF	
365	962B	BD	02E5	LDA	XPOSHI(X)	
366	962E	E9	03	SBC	#881.&OFF00/100	
367	9630	30	3C	BMI	CHTKL	
368	9632	AE	03D8	LDX	BLCRYR	
369	9635	A9	99	LDA	#921.&OFF	:MID E.Z.
370	9637	9D	030C	STA	XGOTO(X)	
371	963A	A9	03	LDA	#921.&OFF00/100	
372	963C	9D	0319	STA	XHGOTO(X)	
373	963F	AD	0411	LDA	SCRIMY	
374	9642	9D	0326	STA	YGOTO(X)	
375	9645	4C	9668	JMP	TD	
376						:COMPARE WITH LEFT GOAL
377	9648	BD	02C8	105\$: LDA	XPOS(X)	
378	9648	38		SEC		
379	964C	E9	51	SBC	#81.&OFF	
380	964E	BD	02E5	LDA	XPOSHI(X)	
381	9651	E9	00	SBC	#0	
382	9653	10	19	BPL	CHTKL	
383	9655	AE	03D8	LDX	BLCRYR	
384	9658	A9	29	LDA	#41.&OFF	:MID LEFT E.Z.
385	965A	9D	030C	STA	XGOTO(X)	
386	965D	A9	00	LDA	#41.&OFF00/100	
387	965F	9D	0319	STA	XHGOTO(X)	
388	9662	AD	0411	LDA	SCRIMY	
389	9665	9D	0326	STA	YGOTO(X)	
390	9668	20	A1F9	TD: JSR	BCTD	
391	9668	4C	994A	JMP	DOBUMP	
392						
393						:CHECK TACKLE
394	966E	AD	03D0	CHTKL: LDA	PASSON	
395	9671	D0	3F	BNE	PKING	
396	9673	AD	03D5	LDA	KICKON	
397	9676	D0	3A	BNE	PKING	
398	9678	A5	DD	LDA	OFFENS	
399	967A	49	01	EOR	#1	

400	967C	18		CLC	
401	967D	69	0A	ADC	#BALL-2
402	967F	85	DA	STA	T4 ;SAVE X
403	9681	AD	03DB	TKLLP: LDA	BLCRYR
404	9684	30	2C	BMI	PKING
405	9686	C5	DA	CMP	T4
406	9688	B0	10	BCS	10\$
407				;X>BLCRYR.	
408	968A	A4	DA	LDY	T4
409	968C	AE	03DB	LDX	BLCRYR
410	968F	20	9EA6	JSR	CHKCLN
411	9692	F0	16	BEQ	20\$
412	9694	20	A239	JSR	TACKLE
413	9697	4C	994A	JMP	DOBUMP
414				; X<BLCRYR.	
415	969A	AC	03DB	10\$: LDY	BLCRYR
416	969D	A6	DA	LDX	T4
417	969F	20	9EA6	JSR	CHKCLN
418	96A2	F0	06	BEQ	20\$
419	96A4	20	A239	JSR	TACKLE
420	96A7	4C	994A	JMP	DOBUMP
421	96AA	A6	DA	20\$: LDX	T4
422	96AC	CA		DEX	
423	96AD	CA		DEX	
424	96AE	86	DA	STX	T4
425	96B0	10	CF	BPL	TKLLP
426					
427				; CHECK FOR PASSING,KICKING ACTIVE	
428	96B2	AD	03CE	PKING: LDA	KIKING
429	96B5	D0	03	BNE	409\$
430	96B7	4C	9780	JMP	PSING
431	96BA	A5	DD	409\$: LDA	OFFENS
432	96BC	49	01	EOR	#1
433	96BE	18		CLC	
434	96BF	69	0A	ADC	#BALL-2
435	96C1	AA		TAX	
436	96C2	A0	0C	LDY	#BALL
437	96C4	20	9EA6	JSR	CHKCLN
438	96C7	F0	47	BEQ	2\$
439	96C9	A9	01	LDA	#1
440	96CB	8D	03D6	STA	TIPON
441	96CE	A9	00	LDA	#0
442	96D0	8D	03D5	STA	KICKON
443	96D3	A2	0C	LDX	#BALL
444	96D5	A5	DE	LDA	OFFDIR
445	96D7	30	14	BMI	3\$
446	96D9	8D	02CB	LDA	XPOS(X)
447	96DC	38		SEC	
448	96DD	E9	18	SBC	#24. ;3 YDS
449	96DF	9D	030C	STA	XGOTO(X)
450	96E2	8D	02E5	LDA	XPOSHI(X)
451	96E5	E9	00	SBC	#0
452	96E7	9D	0319	STA	XHGOTO(X)
453	96EA	4C	96FE	JMP	4\$
454	96ED	8D	02CB	3\$: LDA	XPOS(X)
455	96F0	18		CLC	
456	96F1	69	18	ADC	#24. ;3 YDS

457	96F3	9D	030C	STA	XGOTO(X)	
458	96F6	BD	02E5	LDA	XPOSHI(X)	
459	96F9	69	00	ADC	#0	
460	96FB	9D	0319	STA	XHGOTO(X)	
461	96FE	BD	02D8	4\$: LDA	YPOS(X)	
462	9701	9D	0326	STA	YGOTO(X)	
463	9704	20	9E5E	JSR	SETUPD	
464	9707	20	AD8C	JSR	LAUNCH	
465	970A	20	9D93	JSR	INTSND	
466	970D	4C	9714	JMP	5\$	
467	9710	CA		2\$: DEX		
468	9711	CA		DEX		
469	9712	10	80	BPL	1\$	
470	9714	AE	03DE	5\$: LDX	KICKER	
471	9717	B5	F1	LDA	PLYRFG(X)	
472	9719	29	10	AND	#ANMON	
473	971B	D0	63	BNE	PSING	
474				;WHEN HE TURNS OFF, TURN HIM ON AGAIN!		
475	971D	B5	F1	LDA	PLYRFG(X)	
476	971F	09	10	ORA	#ANMON	
477	9721	95	F1	STA	PLYRFG(X)	
478	9723	A9	00	LDA	#0	
479	9725	BD	03CE	STA	KIKING	
480	9728	AD	03C9	LDA	OPLTYP	
481	972B	C9	40	CMP	#40	
482	972D	F0	31	BEQ	10\$;IF PUNT, LEAVE HIM TASKED TO OFFCTL
483						;WHICH DOESNT UPDATE WHEN KIKING ACTIVE!
484				;ASSUME DFORM=3!		
485	972F	AD	03BE	LDA	OPLAY	
486	9732	C9	02	CMP	#2	
487	9734	90	14	BCC	100\$	
488				;FAKE FG		
489	9736	AE	040A	LDX	OCTL	
490	9739	A9	08	LDA	#8	;OFFCTL
491	973B	9D	026E	STA	FCNNDX(X)	
492				;TASK KICKER TO NRSTDF		
493	973E	AE	03DE	LDX	KICKER	
494	9741	20	9C2D	JSR	NRSTDF	
495	9744	20	9C21	JSR	SETRAK	
496	9747	4C	9760	JMP	10\$	
497	974A	AE	040A	100\$: LDX	OCTL	
498	974D	A9	0C	LDA	#BALL	
499	974F	9D	0261	STA	LINK(X)	
500	9752	20	9C21	JSR	SETRAK	
501	9755	AE	03DE	LDX	KICKER	
502	9758	A9	0C	LDA	#BALL	
503	975A	9D	0261	STA	LINK(X)	
504	975D	20	9C21	JSR	SETRAK	
505				;SET RUNH AND UNDEFINE KICKER		
506	9760	AD	03DE	10\$: LDA	KICKER	
507	9763	0A		ASL		
508	9764	AA		TAX		
509	9765	A9	A9	LDA	#RUNH&OFF	
510	9767	95	23	STA	ANMSEQ(X)	
511	9769	A9	B7	LDA	#RUNH&OFF00/100	
512	976B	95	24	STA	ANMSEQ+1(X)	
513	976D	A1	23	LDA	2ANMSEQ(X)	


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514 976F AE 03DE LDX KICKER
515 9772 9D 0340 STA ANMMOD(X)
516 ;DONT RESET ANMNDX
517 9775 A9 FF LDA #OFF
518 9777 9D 034D STA ANMRPT(X) ;SET REPEAT
519 977A 8D 03DE STA KICKER ;UNDEFINE KICKER
520
521 977D 4C 97B0 JMP PKRLS
522 9780 AD 03CF PSING: LDA PASING
523 9783 F0 2B BEQ PKRLS
524 9785 A5 DD LDA OFFENS
525 9787 18 CLC
526 9788 69 0A ADC #0QB
527 978A AA TAX
528 978B B5 F1 LDA PLYRFG(X)
529 978D 29 10 AND #ANMON
530 978F F0 03 BEQ 9$
531 9791 4C 98E0 JMP CHKDCH
532 ;TURN HIM BACK ON
533 9794 B5 F1 9$: LDA PLYRFG(X)
534 9796 09 10 ORA #ANMON
535 9798 95 F1 STA PLYRFG(X)
536 979A A9 00 LDA #0
537 979C 8D 03CF STA PASING
538 979F 9D 034D STA ANMRPT(X) ;FIX TO KEEP QB FROM FREEZING!
539 97A2 9D 0333 STA ANMNDX(X)
540 97A5 A9 0C LDA #BALL
541 97A7 9D 0261 STA LINK(X)
542 97AA 20 9C21 JSR SETRAK
543 97AD 4C 98E0 JMP CHKDCH
544
545 ;CHECK PASS,KICK,PUNT RELEASE
546 97B0 AD 03C9 PKRLS: LDA OPLTYP
547 97B3 10 03 BPL 1$
548 97B5 4C 97FE JMP CHKRLS
549 97B8 0A 1$: ASL
550 97B9 10 03 BPL 2$
551 97BB 4C 9873 JMP CHKPNT
552 97BE 0A 2$: ASL
553 97BF 30 01 BMI CHKFG
554 97C1 00 BRK
555 ;CHECK FOR FG RELEASE
556 97C2 AD 03CC CHKFG: LDA KKDSBL ;ONESHOT
557 97C5 F0 03 BEQ 2$
558 97C7 4C 98E0 JMP CHKDCH
559 97CA AE 03DE 2$: LDX KICKER
560 97CD A0 0C LDY #BALL
561 97CF 20 9EA6 JSR CHKCLN
562 97D2 F0 27 BEQ 4$
563 ;FG PLAY
564 97D4 A9 FF LDA #OFF
565 97D6 8D 03DB STA BLCRYR ;TURN BLCRYR OFF
566 ;SET KICK ANIM
567 97D9 AE 03DE LDX KICKER
568 97DC 20 A59D JSR KIKANM
569 ;SET BALL DEST PT. (FOR NOW!!!!!!!!!!)
570 ;

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571      ; ADDITION BY DAVE:
572      ;
573      97DF      20      AB7F      JSR      KPLACE      ;FIND XGOTO, XHGOTO, YGOTO FOR BALL DESTINATION
574      97E2      A2      0C      LDX      #BALL
575      ;
576      ; END DAVE'S ADDITION
577      ;LAUNCH BALL
578      97E4      20      9E5E      JSR      SETUPD      ;TASK TO UPDATE
579      97E7      20      AD8C      JSR      LAUNCH
580      97EA      A9      01      LDA      #1
581      97EC      8D      03CE      STA      KIKING
582      97EF      8D      03D5      STA      KICKON
583      97F2      8D      03CC      STA      KKDSBL
584      97F5      8D      03C8      STA      PSDSBL
585      97F8      20      9A49      JSR      KIKSND      ;FOR KICK
586      97FB      4C      98E0      4$: JMP      CHKDCH
587      97FE      AD      038C      CHKRLS: LDA      OFORM      ;CHECK FOR FAKE FG
588      9801      C9      03      CMP      #3
589      9803      D0      33      BNE      20$
590      9805      AD      038E      LDA      OPLAY
591      9808      C9      02      CMP      #2
592      980A      90      2C      BCC      20$
593      980C      C9      03      CMP      #3
594      980E      B0      28      BCS      20$
595      ;FAKE FG
596      9810      AD      03CC      LDA      KKDSBL      ;ONESHOT
597      9813      D0      23      BNE      20$
598      9815      AE      03DE      LDX      KICKER
599      9818      A0      0C      LDY      #BALL
600      981A      20      9EA6      JSR      CHKCLN
601      981D      F0      16      BEQ      100$
602      ;TASK OQB TO OFFCTL
603      981F      AE      040A      LDX      OCTL
604      9822      A9      08      LDA      #8      ;OFFCTL
605      9824      9D      026E      STA      FCNNDX(X)
606      ;SET KICKER ANIM AND SET KIKING
607      9827      AE      03DE      LDX      KICKER
608      982A      20      A59D      JSR      KIKANM
609      982D      A9      01      LDA      #1
610      982F      8D      03CC      STA      KKDSBL
611      9832      8D      03CE      STA      KIKING
612      9835      4C      98E0      100$: JMP      CHKDCH
613      9838      AD      03C8      20$: LDA      PSDSBL
614      983B      D0      0A      BNE      1$
615      983D      AD      03D0      LDA      PASSON
616      9840      D0      05      BNE      1$
617      9842      AD      03D8      LDA      BLCRYR
618      9845      10      03      BPL      2$
619      9847      4C      98E0      1$: JMP      CHKDCH
620      984A      A6      D0      2$: LDX      OFFENS
621      984C      BD      03F7      LDA      TRGFG(X)
622      984F      D0      0D      BNE      60$
623      9851      5D      03F9      EOR      OTRGFG(X)
624      9854      F0      08      BEQ      60$
625      9856      AC      03E2      LDY      RX1
626      9859      30      15      BHI      40$
627      985B      4C      986D      JMP      30$

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628	985E	BD	03F3	60\$:	LDA	STRGFG(X)	
629	9861	D0	0D		BNE	40\$	
630	9863	5D	03F5		EOR	OSTRG(X)	
631	9866	F0	08		BEQ	40\$	
632	9868	AC	03E3		LDY	RX2	
633	9868	30	03		BMI	40\$	
634	986D	20	A2F8	30\$:	JSR	RELEAS	
635	9870	4C	98E0	40\$:	JMP	CHKDCH	
636							
637	9873	AD	03CC	CHKPNT:	LDA	KKDSBL	
638	9876	D0	11		BNE	1\$	
639	9878	AD	03D5		LDA	KICKON	
640	9878	D0	0C		BNE	1\$	
641				: CHECK	CLOSURE	OF HARD TRIGGER	
642	987D	A6	0D		LDX	OFFENS	
643	987F	BD	03F7		LDA	TRGFG(X)	
644	9882	D0	05		BNE	1\$	
645	9884	5D	03F9		EOR	OTRGFG(X)	
646	9887	D0	03		BNE	2\$	
647	9889	4C	98E0	1\$:	JMP	CHKDCH	
648				: IF SO, SET BALL'S GOTO PT. AND LAUNCH IT			
649				:DEFINE KICKER			
650	988C	A5	DD	2\$:	LDA	OFFENS	
651	988E	18			CLC		
652	988F	69	0A		ADC	#0QB	
653	9891	BD	03DE		STA	KICKER	
654							
655	9894	A9	01		LDA	#1	
656	9896	BD	03D5		STA	KICKON	
657	9899	BD	03CC		STA	KKDSBL	
658	989C	BD	03CB		STA	PSDSBL	
659	989F	BD	03CE		STA	KIKING	
660				:SET KICK ANIM			
661	98A2	AE	040A		LDX	OCTL	
662	98A5	20	A59D		JSR	KIKANM	
663				:			
664	98A8	20	AB7F		JSR	KPLACE	:SET PLACEMENT FOR BALL DESTINATION
665	98AB	A2	0C		LDX	#BALL	
666				:			
667				: LAUNCH BALL			
668	98AD	20	9E5E		JSR	SETUPD	
669	9880	20	AD8C		JSR	LAUNCH	
670				:LOCATE CHOSND TO BALL'S GOTO PT. MINUS OFFSET.			
671	98B3	AC	03DF		LDY	RDBACK	
672	98B6	BD	030C		LDA	XGOTO(X)	
673	98B9	38			SEC		
674	98BA	E9	03		SBC	#3	
675	98BC	99	030C		STA	XGOTO(Y)	
676	98BF	BD	0319		LDA	XHGOTO(X)	
677	98C2	E9	00		SBC	#0	
678	98C4	99	0319		STA	XHGOTO(Y)	
679	98C7	BD	0326		LDA	YGOTO(X)	
680	98CA	38			SEC		
681	98CB	E9	06		SBC	#LENGTH/2-1	
682	98CD	99	0326		STA	YGOTO(Y)	
683				:RETASK			
684	98D0	98			TYA		

685	98D1	AA		TAX	
686	98D2	20	9E5E	JSR	SETUPD
687	98D5	20	AD8C	JSR	LAUNCH
688	98D8	A9	FF	LDA	#OFF ;UNDEFINE BLCRYR!!
689	98DA	8D	03DB	STA	BLCRYR
690	98DD	20	9A49	JSR	KIKSND ;FOR KICK
691					;CHECK DCTL SWITCH
692	98E0	AD	03D2	CHKDCH: LDA	DCTLCH
693	98E3	F0	65	BEQ	DOBUMP
694	98E5	A5	DD	LDA	OFFENS
695	98E7	49	01	EOR	#1
696	98E9	AA		TAX	
697	98EA	AD	03CA	LDA	GAMTYP
698	98ED	10	14	BPL	5\$
699					;IF PASINT OR KIKRCP, DONT ALLOW COMP. TO SWITCH NEW DCTL (OLD DCTL)
700	98EF	AD	03D4	LDA	PASINT
701	98F2	D0	0F	BNE	5\$
702	98F4	AD	03D7	LDA	KIKRCP
703	98F7	D0	0A	BNE	5\$
704					;ELSE, ALLOW COMPUTER TO SWITCH WITH RANDOM DELAY
705	98F9	AD	03B6	LDA	CYCLCT
706	98FC	29	0F	AND	#0F
707	98FE	F0	0D	BEQ	6\$
708	9900	4C	994A	JMP	DOBUMP
709	9903	8D	03F7	5\$: LDA	TRGFG(X)
710	9906	D0	42	BNE	DOBUMP
711	9908	5D	03F9	EOR	OTRGFG(X)
712	990B	F0	3D	BEQ	DOBUMP
713					;TASK OLD DCTL TO TRACK BALL
714	990D	AE	040B	6\$: LDX	DCTL
715	9910	A9	0C	LDA	#BALL
716	9912	9D	0261	STA	LINK(X)
717	9915	20	9C21	JSR	SETRAK
718					;FIND NEAREST DEF TO DCTL
719					; SWITCH HIM TO DCTL AND TMNCTL
720	9918	AE	040A	LDX	DCTL
721	9918	20	9C61	JSR	NRSTBC
722	991E	A6	D9	LDX	T3
723	9920	8E	040B	STX	DCTL
724	9923	8A		TXA	
725	9924	4A		LSR	
726	9925	B0	06	BCS	10\$
727	9927	8E	040C	STX	TMOCTL
728	992A	4C	9930	JMP	20\$
729	992D	8E	040D	10\$: STX	TM1CTL
730	9930	AD	03CA	20\$: LDA	GAMTYP
731	9933	10	0B	BPL	25\$
732	9935	A9	0C	LDA	#BALL
733	9937	9D	0261	STA	LINK(X)
734	993A	20	9C21	JSR	SETRAK
735	993D	4C	9945	JMP	30\$
736	9940	A9	14	25\$: LDA	#20. ;DEFCTL
737	9942	9D	026E	STA	FCNNDX(X)
738					;DISABLE DCTLCH
739	9945	A9	00	30\$: LDA	#0
740	9947	8D	03D2	STA	DCTLCH
741	994A	A5	F0	DOBUMP: LDA	STATE

742	994C	C9	85	CMP	#PLAYON	
743	994E	F0	06	BEQ	49\$	
744				;IF EXITTING PLYSTT, CLEAR ANY LEFTOVER KEYS		
745	9950	A9	FF	LDA	#OFF	
746	9952	85	E9	STA	KEY	
747	9954	85	EA	STA	KEY+1	
748	9956	A0	08	49\$: LDY	#BALL-1	
749	9958	98		50\$: TYA		
750	9959	AA		TAX		
751	995A	CA		DEX		
752	995B	8A		200\$: TXA		
753	995C	86	DB	STX	T5	;SAVE X
754	995E	18		CLC		
755	995F	79	B274	ADC	COLNDX-1(Y)	
756	9962	AA		TAX		
757	9963	BD	0487	LDA	CLNRAM(X)	
758	9966	85	DA	STA	T4	;SAVE CLNRAM VALUE
759	9968	A6	DB	LDX	T5	;RESTORE X
760	996A	29	01	AND	#1	
761	996C	D0	03	BNE	999\$	
762	996E	4C	99E7	JMP	130\$	
763				;FOR KICK PLAY		
764	9971	EC	03DE	999\$: CPX	KICKER	;NO BUMP FOR KICKER WHILE ACTIVE
765						;ALLOW COLLN WITH BALL THOUGH
766	9974	F0	71	BEQ	130\$	
767	9976	CC	03DE	CPY	KICKER	
768	9979	F0	6C	BEQ	130\$	
769	997B	CC	03E2	CPY	RX1	
770	997E	F0	67	BEQ	130\$	
771	9980	EC	03E2	CPX	RX1	
772	9983	F0	62	BEQ	130\$	
773	9985	CC	03E3	CPY	RX2	
774	9988	F0	5D	BEQ	130\$	
775	998A	EC	03E3	CPX	RX2	
776	998D	F0	58	BEQ	130\$	
777	998F	84	D9	STY	T3	
778	9991	8A		TXA		
779	9992	45	D9	EOR	T3	
780	9994	29	01	AND	#1	
781	9996	D0	10	BNE	90\$	
782				; SAME TEAM		
783	9998	A9	02	LDA	#2	;TEMP BMPCTR VALUE
784	999A	85	DC	STA	T6	
785	999C	EC	03DB	CPX	BLCRYR	
786	999F	F0	2C	BEQ	120\$;IF X IS BLCRYR, BUMP OTHER
787	99A1	CC	03DB	CPY	BLCRYR	
788	99A4	F0	11	BEQ	110\$;IF Y IS BLCRYR, BUMP OTHER
789	99A6	D0	07	BNE	100\$;ALWAYS
790				; OPPOSITE TEAMS		
791	99A8	A9	05	90\$: LDA	#5	;TEMP BMPCTR VALUE
792	99AA	85	DC	STA	T6	
793	99AC	20	9A13	JSR	HITSND	
794	99AF	B9	038E	100\$: LDA	RAND(Y)	
795	99B2	DD	038E	CMP	RAND(X)	
796	99B5	90	16	BCC	120\$;BRANCH IF X VALUE GT Y VALUE. BUMP Y.
797				; Y VALUE	GT X VALUE. BUMP X.	
798	99B7	A5	DA	110\$: LDA	T4	

799	9989	9D	0381	STA	YBMPDR(X)
800	998C	0A		ASL	
801	998D	9D	0374	STA	XBMPDR(X)
802	99C0	A5	DC	LDA	T6
803	99C2	9D	0398	STA	BMPCTR(X)
804					
805	99C5	B5	F1	LDA	PLYRFG(X)
806	99C7	09	04	ORA	#BUMPST
807	99C9	95	F1	STA	PLYRFG(X)
808	99CB	D0	1A	BNE	130\$:ALWAYS
809					
810	99CD	A5	DA		
811	99CF	49	80	120\$: LDA	T4
812	99D1	99	0381	EOR	#80
813	99D4	0A		STA	YBMPDR(Y)
814	99D5	49	80	ASL	
815	99D7	99	0374	EOR	#80
816	99DA	A5	DC	STA	XBMPDR(Y)
817	99DC	99	0398	LDA	T6
818				STA	BMPCTR(Y)
819	99DF	B9	00F1		
820	99E2	09	04	LDA	PLYRFG(Y)
821	99E4	99	00F1	ORA	#BUMPST
822	99E7	CA		STA	PLYRFG(Y)
823	99E8	30	03	130\$: DEX	
824	99EA	4C	995B	BMI	135\$
825	99ED	88		JMP	200\$
826	99EE	F0	03	135\$: DEY	
827	99F0	4C	9958	BEQ	9\$
828	99F3	A2	0B	JMP	50\$
829	99F5	BD	0398	9\$: LDX	#BALL-1
830	99F8	F0	0B	10\$: LDA	BMPCTR(X)
831	99FA	DE	039B	BEQ	20\$
832	99FD	D0	06	DEC	BMPCTR(X)
833	99FF	B5	F1	BNE	20\$
834	9A01	29	FB	LDA	PLYRFG(X)
835	9A03	95	F1	AND	#0FB :CLEAR BUMPST
836	9A05	CA		STA	PLYRFG(X)
837	9A06	10	ED	20\$: DEX	
838				BPL	10\$
839	9A08	A2	4D		
840	9A0A	A9	00	: CLEAR CLNRAM	
841	9A0C	9D	0487	LDX	#77.
842	9A0F	CA		LDA	#0
843	9A10	10	FA	900\$: STA	CLNRAM(X)
844	9A12	60		DEX	
845				BPL	900\$
846				EPLYST: RTS	
847	9A13	A9	01		
848	9A15	8D	03AE	: SUBROUTINE TO SET HIT SOUND	
849	9A18	A9	00	HITSND: LDA	#HITCNT :CHANNEL 1
850	9A1A	8D	03B2	STA	SND CNT
851	9A1D	A9	D2	LDA	#HITRT
852	9A1F	85	3D	STA	SMPLRT
853	9A21	A9	85	LDA	#HITFRQ&OFF
854	9A23	85	3E	STA	SNDFRQ
855	9A25	A9	D0	LDA	#HITFRQ&OFF00/100
				STA	SNDFRQ+1
				LDA	#HITCTL&OFF

856	9A27	85	45	STA	SNDCTL
857	9A29	A9	B5	LDA	#HITCTL&OFF00/100
858	9A2B	85	46	STA	SNDCTL+1
859	9A2D	60		RTS	
860					
861	9A2E	A9	0C	GUN: LDA	#GUNCNT ;CHANNEL 2????????
862	9A30	8D	03AF	STA	SNDCNT+1
863	9A33	A9	00	LDA	#GUNRT
864	9A35	8D	0383	STA	SMPLRT+1
865	9A38	A9	88	LDA	#GUNFRQ&OFF
866	9A3A	85	3F	STA	SNDFRQ+2
867	9A3C	A9	85	LDA	#GUNFRQ&OFF00/100
868	9A3E	85	40	STA	SNDFRQ+2+1
869	9A40	A9	7E	LDA	#GUNCTL&OFF
870	9A42	85	47	STA	SNDCTL+2
871	9A44	A9	85	LDA	#GUNCTL&OFF00/100
872	9A46	85	48	STA	SNDCTL+2+1
873	9A48	60		RTS	
874					
875	9A49	A9	05	KIKSND: LDA	#KIKCNT ;CHANNEL 3
876	9A4B	8D	0380	STA	SNDCNT+2
877	9A4E	A9	00	LDA	#KIKRT
878	9A50	8D	0384	STA	SMPLRT+2
879	9A53	A9	98	LDA	#KIKFRQ&OFF
880	9A55	85	41	STA	SNDFRQ+4
881	9A57	A9	85	LDA	#KIKFRQ&OFF00/100
882	9A59	85	42	STA	SNDFRQ+4+1
883	9A5B	A9	9E	LDA	#KIKCTL&OFF
884	9A5D	85	49	STA	SNDCTL+4
885	9A5F	A9	85	LDA	#KIKCTL&OFF00/100
886	9A61	85	4A	STA	SNDCTL+4+1
887	9A63	60		RTS	
888					


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1      ;HUDSTT
2      9A64  A5  F0      HUDSTT: LDA  STATE
3      9A66  CD  03F1    CMP    OLDSTT
4      9A69  D0  03      BNE    5$
5      9A6B  4C  980E    JMP    SETHUD
6      9A6E  A5  F0      5$:  LDA  STATE
7      9A70  BD  03F1    STA  OLDSTT
8
9      ; SET SCREEN TARGETS FOR SCROLL
10     9A73  A5  DE      LDA  OFFDIR
11     9A75  30  07      BMI  100$
12     9A77  A0  48      LDY  #72.
13     9A79  A2  48      LDX  #75.
14     9A7B  4C  9A82    JMP  200$
15     9A7E  A0  54      100$: LDY  #84.
16     9A80  A2  57      LDX  #87.
17     9A82  8C  03C5    200$: STY  LSTRGT
18     9A85  8E  03C6    STX  RSTRGT
19
20     9A88  A2  0C      LDX  #BALL
21     9A8A  A5  EE      LDA  SCRIMX
22     9A8C  9D  030C    STA  XGOTO(X)
23     9A8F  A5  EF      LDA  SCRIMX+1
24     9A91  9D  0319    STA  XHGOTO(X)
25     9A94  AD  0411    LDA  SCRIMY
26     9A97  9D  0326    STA  YGOTO(X)
27
28     ; CLEAR COUNT FOR ALL "THERE"
29     9A9A  A9  00      LDA  #0
30     9A9C  8D  03B9    STA  THRCNT
31
32     ;SET PTR A TO DHUDDL
32     9A9F  A9  73      LDA  #DHUDDLEOFF
33     9AA1  85  4D      STA  PTR A
34     9AA3  A9  B3      LDA  #DHUDDLEOFF00/100
35     9AA5  85  4E      STA  PTR A+1
36     9AA7  20  A7B1    JSR  LDDFRM
37
38     ;SET PTR B TO DHUDDL
38     9AAA  A9  7F      LDA  #DHUDDLEOFF
39     9AAC  85  4D      STA  PTR B
40     9AAE  A9  B3      LDA  #DHUDDLEOFF00/100
41     9AB0  85  4E      STA  PTR B+1
42
43     ; LOAD HUDDLE DELTAS TO PLR GOTO PTS BASED ON ORIENTATION
43     9AB2  20  A7EE    JSR  LDDFRM
44     ;LAUNCH EACH PLAYER????????????????????/
44     9AB5  A2  0C      LDX  #BALL
45     9AB7  86  19      STX  CURPLR
46
47     ;TASK EACH TO "UPDATE"
47
48     ;FIX TO HUDDLE UP MORE QUICKLY!
48
49     ;ONESHOT!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
49
50     9AB9  BD  02C8    10$:  LDA  XPOS(X)
51     9ABC  38          SEC
52     9ABD  E5  EB      SBC  LFTEDG
53     9ABF  85  D6      STA  TO
54     9AC1  BD  02E5    LDA  XPOSHI(X)
55     9AC4  E5  EC      SBC  LFTEDG+1
56     9AC6  F0  2D      BEQ  12$
57     9AC8  10  19      BPL  14$

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58				: ELSE, OFF TO LEFT	
59	9ACA	A5	EB	LDA	LFTEDG
60	9ACC	38		SEC	
61	9ACD	E9	08	SBC	#8
62	9ACF	9D	02CB	STA	XPOS(X)
63	9AD2	A5	EC	LDA	LFTEDG+1
64	9AD4	E9	00	SBC	#0
65	9AD6	10	05	BPL	900\$
66	9AD8	A9	00	LDA	#0
67	9ADA	9D	02CB	STA	XPOS(X)
68	9ADD	9D	02E5	900\$: STA	XPOSHI(X)
69	9AE0	4C	9AFB	JMP	16\$
70				: OFF TO RIGHT	
71	9AE3	A5	EB	14\$: LDA	LFTEDG
72	9AE5	18		CLC	
73	9AE6	69	A0	ADC	#160.
74	9AE8	9D	02CB	STA	XPOS(X)
75	9AEB	A5	EC	LDA	LFTEDG+1
76	9AED	69	00	ADC	#0
77	9AEF	9D	02E5	STA	XPOSHI(X)
78	9AF2	4C	9AFB	JMP	16\$
79	9AF5	A5	D6	12\$: LDA	T0
80	9AF7	C9	9F	CMP	#159.
81	9AF9	B0	E8	BCS	14\$
82				: SET PLAYER ON	
83	9AFB	B5	F1	16\$: LDA	PLYRFG(X)
84	9AFD	09	10	ORA	#ANMON
85	9AFF	95	F1	STA	PLYRFG(X)
86	9B01	20	9E5E	JSR	SETUPD
87	9B04	20	AD8C	JSR	LAUNCH
88	9B07	C6	19	DEC	CURPLR
89	9B09	A6	19	LDX	CURPLR
90	9B0B	10	AC	BPL	10\$
91					
92	9B0D	60		RTS	
93	9B0E	A2	0C	SETHUD: LDX	#BALL
94	9B10	86	19	STX	CURPLR
95	9B12	B5	F1	10\$: LDA	PLYRFG(X)
96	9B14	10	45	BPL	15\$:BRANCH IF NOT THERE
97				: THERE	
98				: CLEAR "THERE" BIT	
99	9B16	29	7F	AND	#7F
100	9B18	95	F1	STA	PLYRFG(X)
101					
102	9B1A	EE	03B9	INC	THRCNT :COUNT ALL 14. PLAYERS
103	9B1D	BD	030C	LDA	XGOTO(X)
104	9B20	9D	02CB	STA	XPOS(X)
105	9B23	BD	0319	LDA	XHGOTO(X)
106	9B26	9D	02E5	STA	XPOSHI(X)
107	9B29	BD	0326	LDA	YGOTO(X)
108	9B2C	9D	02D8	STA	YPOS(X)
109	9B2F	E0	0C	CPX	#BALL
110	9B31	F0	18	BEQ	14\$
111	9B33	8A		11\$: TXA	
112	9B34	4A		LSR	
113	9B35	0A		ASL	
114	9B36	A8		TAY	:2 BYTE INDEX TO ANIM FOR HUDDLE

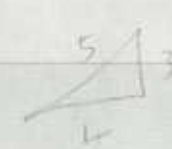
115					
116	9837	8A		TXA	
117	9838	0A		ASL	
118	9839	AA		TAX	:2 BYTE INDEX TO ANMSEQ
119					
120	983A	B9	B388	LDA	HUDANM(Y)
121	983D	95	23	STA	ANMSEQ(X)
122	983F	B9	B38C	LDA	HUDANM+1(Y)
123	9842	95	24	STA	ANMSEQ+1(X)
124					: GET ANMHOD
125	9844	A1	23	LDA	2ANMSEQ(X)
126	9846	A6	19	LDX	CURPLR
127	9848	9D	0340	STA	ANMHOD(X)
128					: TURN PLAYER OFF
129	984B	A9	00	14\$: LDA	#0
130	984D	9D	0333	STA	ANMNDX(X)
131	9850	A9	FF	LDA	#OFF
132	9852	9D	034D	STA	ANMRPT(X)
133	9855	B5	F1	LDA	PLYRFG(X)
134	9857	29	EF	AND	#0EF :ANIM OFF
135	9859	95	F1	STA	PLYRFG(X)
136	985B	C6	19	15\$: DEC	CURPLR
137	985D	A6	19	LDX	CURPLR
138	985F	10	B1	BPL	10\$
139					
140	9861	AD	03B9	LDA	THRCNT
141	9864	C9	0D	CMP	#BALL+1
142	9866	D0	0E	BNE	20\$:BRANCH IF ALL NOT THERE YET
143					: SET TMOCTL AND TMICTL
144	9868	A9	0A	LDA	#BALL-2
145	986A	8D	040C	STA	TMOCTL
146	986D	A9	0B	LDA	#BALL-1
147	986F	8D	040D	STA	TMICTL
148					
149	9872	A9	84	LDA	#SLCTPL
150	9874	85	F0	STA	STATE
151					
152	9876	60		20\$: RTS	
153					


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1      .SBTTL SUBROUTINES
2      :SUBROUTINES
3
4      9877      A0      AC      LOADDL: LDY      #171.+1
5      9879      B9      BE16    93$:  LDA      DLIST-1(Y)
6      987C      99      1FFF    STA      DLRAM-1(Y)
7      987F      88
8      9880      D0      F7      DEY
9      9882      A9      00      BNE      93$
10     9884      85      05      LDA      #DLRAMEOFF
11     9886      A9      20      STA      SDLSTL
12     9888      85      06      LDA      #DLRAMEOFF00/100
13     988A      60      RTS      STA      SDLSTH
14
15     9888      BD      02C8    BTWEEN: LDA      XPOS(X)
16     988E      18      CLC
17     988F      79      02C8    ADC      XPOS(Y)
18     9892      85      D6      STA      T0
19     9894      BD      02E5    LDA      XPOSHI(X)
20     9897      79      02E5    ADC      XPOSHI(Y)
21     989A      85      D7      STA      T1
22     989C      46      D7      LSR      T1
23     989E      66      D6      ROR      T0
24     98A0      BD      02D8    LDA      YPOS(X)
25     98A3      18      CLC
26     98A4      79      02D8    ADC      YPOS(Y)
27     98A7      6A      ROR
28     98A8      85      D8      STA      T2
29     98AA      60      RTS
30
31     .CALC DIR OF PLAYER WITH BALL FROM SCRIMX
32     98AB      BD      02C8    SCRMDR: LDA      XPOS(X)
33     98AE      18      CLC
34     98AF      69      03      ADC      #3
35     98B1      85      D6      STA      T0
36     98B3      BD      02E5    LDA      XPOSHI(X)
37     98B6      69      00      ADC      #0
38     98B8      85      D7      STA      T1
39     98BA      A5      D6      LDA      T0
40     98BC      38      SEC
41     98BD      E5      EE      SBC      SCRIMX
42     98BF      A5      D7      LDA      T1
43     98C1      E5      EF      SBC      SCRIMX+1
44     98C3      60      RTS
45
46     98C4      AD      03E8    HYPOTN: LDA      SMALL
47     98C7      4A      LSR ✓
48     98C8      18      CLC
49     98C9      6D      03E6    ADC      LARGE
50     98CC      8D      0404    STA      TEMP
51     98CF      AD      03E7    LDA      LARGE+1
52     98D2      69      00      ADC      #0
53     98D4      BD      0405    STA      TEMP+1
54     98D7      60      RTS
55
56     98D8      A5      D7      LARGST: LDA      T1
57     98DA      D0      16      BNE      XLRG
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SMALL + LARGE
2

58	98DC	A5	D6	LDA	T0	
59	98DE	C5	D8	CMP	T2	
60	98E0	B0	10	BCS	XLRG	
61	98E2	A5	D8	YLRG:	LDA	T2
62	98E4	B0	03E6	STA	LARGE	
63	98E7	A9	00	LDA	#0	
64	98E9	B0	03E7	STA	LARGE+1	
65	98EC	A5	D6	LDA	T0	
66	98EE	B0	03E8	STA	SMALL	
67	98F1	B0		RTS		
68	98F2	A5	D7	XLRG:	LDA	T1
69	98F4	B0	03E7	STA	LARGE+1	
70	98F7	A5	D6	LDA	T0	
71	98F9	B0	03E6	STA	LARGE	
72	98FC	A5	D8	LDA	T2	
73	98FE	B0	03E8	STA	SMALL	
74	9C01	B0		RTS		
75						
76	9C02	AD	03E4	SVCLOS:	LDA	DIST
77	9C05	38		SEC		
78	9C06	ED	0404	SBC	TEMP	
79	9C09	AD	03E5	LDA	DIST+1	
80	9C0C	ED	0405	SBC	TEMP+1	
81	9C0F	B0	01	BCS	10\$	
82	9C11	B0		RTS		
83	9C12	AD	0404	10\$:	LDA	TEMP
84	9C15	B0	03E4	STA	DIST	
85	9C18	AD	0405	LDA	TEMP+1	
86	9C1B	B0	03E5	STA	DIST+1	
87	9C1E	B4	D9	STY	T3	:SAVE PLAYER Y
88	9C20	B0		RTS		
89						
90	9C21	A9	0C	SETRAK:	LDA	#12. :TRACK
91	9C23	9D	026E	STA	FCNNDX(X)	
92	9C26	A9	00	LDA	#0	
93	9C28	95	BC	STA	MSUML(X)	
94	9C2A	95	C9	STA	MSUMH(X)	
95	9C2C	B0		RTS		
96						
97						: X HAS OFF PLAYER # (OR BALL INDICATED?)
98	9C2D			NRSTDF:		
99				:INITIALIZE DISTANCE		
100	9C2D	A9	FF	LDA	#OFF	
101	9C2F	B0	03E4	STA	DIST	
102	9C32	B0	03E5	STA	DIST+1	
103	9C35	B5	D9	STA	T3	:INIT NEAREST PLAYER TEMP
104				:SET Y= MAX DEF	PLAYER #	
105	9C37	A5	DD	LDA	OFFENS	
106	9C39	49	01	EOR	#1	
107	9C3B	18		CLC		
108	9C3C	69	0A	ADC	#BALL-2	
109	9C3E	A8		TAY		
110				: GET ABS DELTA X AND Y INTO T0, T1 AND T2 RESPECTIVELY		
111	9C3F	20	9E7E	GETDST:	JSR	YTOXX
112	9C42	20	9E6A	JSR	YTOXY	
113				: FIND LARGEST AND SMALLEST		
114	9C45	20	9BD8	JSR	LARGST	


```
115      ; CALC L+1/2(S) INTO TEMP (2 BYTE)
116      JSR      HYPOTN
117      ; IF TEMP LT DIST, SAVE Y (DEF PLAYER #) TO T3
118      JSR      SVCLOS
119      DEY
120      DEY
121      BPL      GETDST
122      ; SET LINK(X) TO PLAYER Y (NEAREST DEF)
123      LDA      T3
124      STA      LINK(X)
125      ; SET "LINKED" BIT FOR LINKED PLAYER
126      TAY
127      LDA      PLYRFG(Y)
128      ORA      #LINKED
129      STA      PLYRFG(Y)
130      RTS
131
132      NRSTBC:
133      ; INITIALIZE DISTANCE
134      LDA      #OFF
135      STA      DIST
136      STA      DIST+1
137      STA      T3      ; INIT NEAREST PLAYER TEMP
138      ; SET Y= MAX DEF PLAYER #
139      LDA      OFFENS
140      EOR      #1
141      CLC
142      ADC      #BALL-2
143      TAY
144      ; GET ABS DELTA X AND Y INTO T0,T1 AND T2 RESPECTIVELY
145      DSTGET: JSR      YTOXX
146              JSR      YTOXY
147      ; FIND LARGEST AND SMALLEST
148      JSR      LARGST
149      ; CALC L+1/2(S) INTO TEMP (2 BYTE)
150      JSR      HYPOTN
151      ; IF TEMP LT DIST, SAVE Y (DEF PLAYER #) TO T3
152      JSR      SVCLOS
153      DEY
154      DEY
155      BPL      DSTGET
156      RTS
157
158      NRSTUN:
159      ; INITIALIZE DISTANCE
160      LDA      #OFF
161      STA      DIST
162      STA      DIST+1
163      STA      T3      ; INIT NEAREST PLAYER
164      ; SET Y = MAX DEF PLAYER #
165      LDA      OFFENS
166      EOR      #1
167      CLC
168      ADC      #BALL-2
169      TAY
170      ; GET ABS DELTA X AND Y INTO T0,T1 AND T2
171      GTDIST: LDA      PLYRFG(Y)
```



9.16


```
172 9C9C 29 02      AND    #LINKED
173 9C9E D0 0F      BNE    10$
174 9CA0 20 9E7E     JSR    YTOXX
175 9CA3 20 9E6A     JSR    YTOXY
176          ; FIND LARGEST AND SMALLEST
177 9CA6 20 98D8     JSR    LARGST
178          ; CALC HYPOTENUSE INTO TEMP (2 BYTES)
179 9CA9 20 98C4     JSR    HYPOTN
180          ; IF TEMP LT. DIST, SAVE Y TO T3
181 9CAC 20 9C02     JSR    SVCLOS
182 9CAF 88          10$: DEY
183 9CB0 88          DEY
184 9CB1 10 E6       BPL    GTDIST
185          ; SET LINK(X) TO PLAYER Y
186 9CB3 A5 D9       LDA    T3
187 9CB5 10 02       BPL    15$
188 9CB7 A9 0C       LDA    #BALL ; IF NONE FOUND, LINK TO BALL?????????
189 9CB9 9D 0261     15$: STA    LINK(X)
190          ; SET "LINKED" BIT FOR PLAYER Y
191 9CBC A8          TAY
192 9CBD 89 00F1     LDA    PLYRFG(Y)
193 9CC0 09 02       ORA    #LINKED
194 9CC2 99 00F1     STA    PLYRFG(Y)
195 9CC5 60          RTS
196
197          ; X IS 0 OR 1 FOR TEAM 0 OR 1
198 9CC6 A9 01       VALID: LDA    #VLCNT
199 9CC8 9D 03AE     STA    SDCNT(X)
200 9CCB A9 00       LDA    #VLDRT
201 9CCD 9D 03B2     STA    SMPLRT(X)
202 9CD0 8A          TXA
203 9CD1 0A          ASL
204 9CD2 A8          TAY
205 9CD3 E0 01       CPX    #1
206 9CD5 F0 0D       BEQ    10$
207 9CD7 A9 30       LDA    #VLDFR0&OFF
208 9CD9 99 003D     STA    SDFRQ(Y)
209 9CDC A9 B6       LDA    #VLDFR0&OFF00/100
210 9CDE 99 003E     STA    SDFRQ+1(Y)
211 9CE1 4C 9CEE     JMP    20$
212 9CE4 A9 34       10$: LDA    #VLDFR1&OFF
213 9CE6 99 003D     STA    SDFRQ(Y)
214 9CE9 A9 B6       LDA    #VLDFR1&OFF00/100
215 9CEB 99 003E     STA    SDFRQ+1(Y)
216 9CEE A9 32       20$: LDA    #VLDCTL&OFF
217 9CF0 99 0045     STA    SDCNT(Y)
218 9CF3 A9 B6       LDA    #VLDCTL&OFF00/100
219 9CF5 99 0046     STA    SDCNT+1(Y)
220 9CF8 60          RTS
221
222          ; X IS 0 OR 1 FOR TEAM 0 OR 1
223 9CF9 A9 01       NVALID: LDA    #NVCNT
224 9CFB 9D 03AE     STA    SDCNT(X)
225 9CFE A9 00       LDA    #VLDRT
226 9D00 9D 03B2     STA    SMPLRT(X)
227 9D03 8A          TXA
228 9D04 0A          ASL
```



```
229 9D05 A8 TAY
230 9D06 E0 01 CPX #1
231 9D08 F0 0D BEQ 10$
232 9D0A A9 30 LDA #VLDFR0&OFF
233 9D0C 99 003D STA SNDFRQ(Y)
234 9D0F A9 B6 LDA #VLDFR0&OFF00/100
235 9D11 99 003E STA SNDFRQ+1(Y)
236 9D14 4C 9D21 JMP 20$
237 9D17 A9 34 10$: LDA #VLDFR1&OFF
238 9D19 99 003D STA SNDFRQ(Y)
239 9D1C A9 B6 LDA #VLDFR1&OFF00/100
240 9D1E 99 003E STA SNDFRQ+1(Y)
241 9D21 A9 36 20$: LDA #NVCTL&OFF
242 9D23 99 0045 STA SNDCNT(Y)
243 9D26 A9 B6 LDA #NVCTL&OFF00/100
244 9D28 99 0046 STA SNDCNT+1(Y)
245 9D2B 60 RTS
246
247 9D2C A9 2D WHISTL: LDA #WSLCNT :CHANNEL 3
248 9D2E 8D 0380 STA SNDCNT+2
249 9D31 A9 00 LDA #WSLRT
250 9D33 8D 0384 STA SMPLRT+2
251 9D36 A9 02 LDA #WSLFRQ&OFF
252 9D38 85 41 STA SNDFRQ+4
253 9D3A A9 B6 LDA #WSLFRQ&OFF00/100
254 9D3C 85 42 STA SNDFRQ+4+1
255 9D3E A9 04 LDA #WSLCTL&OFF
256 9D40 85 49 STA SNDCNT+4
257 9D42 A9 B5 LDA #WSLCTL&OFF00/100
258 9D44 85 4A STA SNDCNT+4+1
259 9D46 60 RTS
260
261 9D47 A9 35 CROWD: LDA #CRDCNT :CHANNELS 3 AND 4
262 9D49 8D 0380 STA SNDCNT+2
263 9D4C 8D 0381 STA SNDCNT+3
264 9D4F A9 03 LDA #CRDRT
265 9D51 8D 0384 STA SMPLRT+2
266 9D54 8D 0385 STA SMPLRT+3
267 9D57 A9 38 LDA #CRDCT1&OFF
268 9D59 85 49 STA SNDCNT+4
269 9D5B A9 B6 LDA #CRDCT1&OFF00/100
270 9D5D 85 4A STA SNDCNT+4+1
271 9D5F A9 6E LDA #CRDFR1&OFF
272 9D61 85 41 STA SNDFRQ+4
273 9D63 A9 B6 LDA #CRDFR1&OFF00/100
274 9D65 85 42 STA SNDFRQ+4+1
275 9D67 A9 A4 LDA #CRDCT2&OFF
276 9D69 85 48 STA SNDCNT+6
277 9D6B A9 B6 LDA #CRDCT2&OFF00/100
278 9D6D 85 4C STA SNDCNT+6+1
279 9D6F A9 DA LDA #CRDFR2&OFF
280 9D71 85 43 STA SNDFRQ+6
281 9D73 A9 B6 LDA #CRDFR2&OFF00/100
282 9D75 85 44 STA SNDFRQ+6+1
283 9D77 60 RTS
284
285
```

;RECEPT SOUND USES CH 3

286	9D78	A9	09	RCPSND:	LDA	#RCPCNT
287	9D7A	8D	0380		STA	SNDCNT+2
288	9D7D	A9	01		LDA	#RCPRT
289	9D7F	8D	0384		STA	SMPLRT+2
290	9D82	A9	A4		LDA	#RECFRQ&OFF
291	9D84	85	41		STA	SNDFRQ+4
292	9D86	A9	B5		LDA	#RECFRQ&OFF00/100
293	9D88	85	42		STA	SNDFRQ+4+1
294	9D8A	A9	AE		LDA	#RECCTL&OFF
295	9D8C	85	49		STA	SNDCTL+4
296	9D8E	A9	B5		LDA	#RECCTL&OFF00/100
297	9D90	85	4A		STA	SNDCTL+4+1
298	9D92	60			RTS	
299						
300						
						:INTERCEPT SOUND USES CH 3
301	9D93	A9	08	INTSND:	LDA	#INTCNT
302	9D95	8D	0380		STA	SNDCNT+2
303	9D98	A9	01		LDA	#INTRT
304	9D9A	8D	0384		STA	SMPLRT+2
305	9D9D	A9	B8		LDA	#INTFRQ&OFF
306	9D9F	85	41		STA	SNDFRQ+4
307	9DA1	A9	B5		LDA	#INTFRQ&OFF00/100
308	9DA3	85	42		STA	SNDFRQ+4+1
309	9DA5	A9	C4		LDA	#INTCTL&OFF
310	9DA7	85	49		STA	SNDCTL+4
311	9DA9	A9	B5		LDA	#INTCTL&OFF00/100
312	9DAB	85	4A		STA	SNDCTL+4+1
313	9DAD	60			RTS	
314						
315	9DAE	A5	D6	YTOTOX:	LDA	T0
316	9DB0	38			SEC	
317	9DB1	F9	02CB		SBC	XPOS(Y)
318	9DB4	85	D6		STA	T0
319	9DB6	A5	D7		LDA	T1
320	9DB8	F9	02E5		SBC	XPOSHI(Y)
321	9DBB	8D	03A9		STA	YTXDR
322	9DBE	85	D7		STA	T1
323	9DC0	10	11		BPL	20\$
324	9DC2	49	FF		EOR	#OFF
325	9DC4	85	D7		STA	T1
326	9DC6	A5	D6		LDA	T0
327	9DC8	49	FF		EOR	#OFF
328	9DCA	18			CLC	
329	9DCB	69	01		ADC	#1
330	9DCD	85	D6		STA	T0
331	9DCF	90	02		BCC	20\$
332	9DD1	E6	D7		INC	T1
333	9DD3	60		20\$:	RTS	
334						
335	9DD4	A5	D8	YTOT2Y:	LDA	T2
336	9DD6	38			SEC	
337	9DD7	F9	02D8		SBC	YPOS(Y)
338	9DDA	8D	03AA		STA	YTXYDR
339	9DDD	10	05		BPL	10\$
340	9DDF	49	FF		EOR	#OFF
341	9DE1	18			CLC	
342	9DE2	69	01		ADC	#1

343	9DE4	85	D8	10\$:	STA	T2	
344	9DE6	60			RTS		
345							
346	9DE7	A5	EE	ZONLFT:	LDA	SCRIMX	
347	9DE9	38			SEC		
348	9DEA	E9	10		SBC	#16.	:1 YD
349	9DEC	85	D6		STA	T0	
350	9DEE	A5	EF		LDA	SCRIMX+1	
351	9DF0	E9	00		SBC	#0	
352	9DF2	85	D7		STA	T1	
353	9DF4	89	0319		LDA	XHGOTO(Y)	
354	9DF7	C5	D7		CMP	T1	
355	9DF9	F0	05		BEQ	5\$	
356	9DFB	90	0C		BCC	10\$	
357	9DFD	4C	9E07		JMP	20\$	
358	9E00	89	030C	5\$:	LDA	XGOTO(Y)	:CHECK FURTHER
359	9E03	C5	D6		CMP	T0	
360	9E05	90	02		BCC	10\$	
361	9E07	18		20\$:	CLC	:NOT IN	
362	9E08	60			RTS		
363	9E09	38		10\$:	SEC	:INZONE	
364	9E0A	60			RTS		
365							
366	9E0B	A5	EE	ZONRIT:	LDA	SCRIMX	
367	9E0D	18			CLC		
368	9E0E	69	08		ADC	#8	:1 YD OUT
369	9E10	85	D6		STA	T0	
370	9E12	A5	EF		LDA	SCRIMX+1	
371	9E14	69	00		ADC	#0	
372	9E16	85	D7		STA	T1	
373	9E18	89	0319		LDA	XHGOTO(Y)	
374	9E1B	C5	D7		CMP	T1	
375	9E1D	90	0E		BCC	10\$	
376	9E1F	F0	03		BEQ	5\$	
377	9E21	4C	9E2B		JMP	20\$	
378	9E24	89	030C	5\$:	LDA	XGOTO(Y)	:CHECK FURTHER
379	9E27	C5	D6		CMP	T0	
380	9E29	90	02		BCC	10\$	
381	9E2B	38		20\$:	SEC	:INZONE	
382	9E2C	60			RTS		
383	9E2D	18		10\$:	CLC	:NOT IN	
384	9E2E	60			RTS		
385							
386				: SET OCTL TO RX1			
387	9E2F	A9	01	CHGCTL:	LDA	#1	
388	9E31	8D	03D1		STA	OCTLCH	
389				:ALLOW DCTLCH			
390				:	STA	DCTLCH	
391				:HAVE OLD OCTL	"TRACK" BALL		
392	9E34	AE	040A		LDX	OCTL	
393	9E37	A9	0C		LDA	#BALL	
394	9E39	9D	0261		STA	LINK(X)	
395	9E3C	20	9C21		JSR	SETRAK	
396	9E3F	AE	030C		LDX	CHOSNR	
397	9E42	85	F1		LDA	PLYRFG(X)	
398	9E44	29	FE		AND	#0FE	:CLEAR INPTRN BIT
399	9E46	95	F1		STA	PLYRFG(X)	


```
400 9E48 8E 040A          STX    DCTL
401                      : SET TMOCTL OR TM1CTL
402 9E4B 8A              TXA
403 9E4C 4A              LSR
404 9E4D B0 06           BCS    666$
405 9E4F 8E 040C         STX    TMOCTL
406 9E52 4C 9E58         JMP    667$
407 9E55 8E 040D         666$: STX    TM1CTL
408 9E58 A9 08           667$: LDA    #8      :OFFCTL
409 9E5A 9D 026E         STA    FCNNDX(X)
410 9E5D 60              RTS
411
412
413                      :SUBROUTINE TO TASK PLAYER X TO UPDATE FCN
414 9E5E A9 04           SETUPD: LDA    #4      :UPDATE
415 9E60 9D 026E         STA    FCNNDX(X)
416 9E63 A9 00           LDA    #0
417 9E65 95 BC           STA    MSUML(X)
418 9E67 95 C9           STA    MSUMH(X)
419 9E69 60              RTS
420
421
422                      : FOR PLYRX, CALC ABSY=T2 AND YDIR=XTYYDR TO PLYR Y
423 9E6A B9 02D8         YTOXY: LDA    YPOS(Y)
424 9E6D 38              SEC
425 9E6E FD 02D8         SBC    YPOS(X)
426 9E71 6E 03AA         ROR    YTXYDR :SHIFT CARRY INTO BIT7
427 9E74 30 05           BMI    10$
428 9E76 49 FF           EOR    #OFF
429 9E78 18              CLC
430 9E79 69 01           ADC    #1
431 9E7B 85 D8           10$: STA    T2
432 9E7D 60              RTS
433
434                      : FOR PLYR X, CALC ABSX=T0,T1 AND XDIR=XTYXDR TO PLYR Y
435 9E7E BD 02CB         YTOXX: LDA    XPOS(X)
436 9E81 38              SEC
437 9E82 F9 02CB         SBC    XPOS(Y)
438 9E85 85 D6           STA    T0
439 9E87 BD 02E5         LDA    XPOSHI(X)
440 9E8A F9 02E5         SBC    XPOSHI(Y)
441 9E8D 8D 03A9         STA    YTXXDR
442 9E90 85 D7           STA    T1
443 9E92 10 11           BPL    20$
444 9E94 49 FF           EOR    #OFF
445 9E96 85 D7           STA    T1
446 9E98 A5 D6           LDA    T0
447 9E9A 49 FF           EOR    #OFF
448 9E9C 18              CLC
449 9E9D 69 01           ADC    #1
450 9E9F 85 D6           STA    T0
451 9EA1 90 02           BCC    20$
452 9EA3 E6 D7           INC    T1
453 9EA5 60              20$: RTS
454
455                      : X AND Y PLAYER #S SET UPON ENTRY
456 9EA6 8A              CHKCLN: TXA
```



```
457 9EA7 86 DB STX T5 ;SAVE X
458 9EA9 18 CLC
459 9EAA 79 B274 ADC COLNDX-1(Y)
460 9EAD AA TAX
461 9EAE BD 04B7 LDA CLNRAM(X)
462 9EB1 A6 DB LDX T5 ;RESTORE X
463 9EB3 29 01 AND #1
464 9EB5 60 RTS
465
466 9EB6 ENDDHIX:
467 9EB6 A9 01 LDA #1
468 9EB8 BD 03DA STA HIKDON
469 9EB8 A0 0C LDY #BALL
470 9EBD AD 040A LDA OCTL
471 9EC0 BD 03DB STA BLCRYR ;DEFINE BLCRYR!!!
472 9EC3 99 0261 STA LINK(Y)
473 9EC6 A9 06 LDA #6 ;BLCOPY
474 9EC8 99 026E STA FCNNDX(Y)
475 ;FOR FG PLAY
476 9ECB AD 03BC LDA OFORM
477 9ECE C9 03 CMP #3 ;FG FORMATION
478 9ED0 D0 42 BNE 100$
479 9ED2 AD 03BE LDA OPLAY
480 9ED5 C9 03 CMP #3
481 9ED7 B0 2D BCS 200$
482 9ED9 AE 03DE LDX KICKER
483 ;TASK KICKER TO GO TOWARDS SCRIM PT.
484 9EDC A5 EE LDA SCRIMX
485 9EDE 38 SEC
486 9EDF E9 03 SBC #3
487 9EE1 9D 030C STA XGOTO(X)
488 9EE4 A5 EF LDA SCRIMX+1
489 9EE6 E9 00 SBC #0
490 9EE8 9D 0319 STA XHGOTO(X)
491 9EEB AD 0411 LDA SCRIMY
492 9EEE 38 SEC
493 9EEF E9 06 SBC #LENGTH/2-1
494 9EF1 9D 0326 STA YGOTO(X)
495 ;TASK TO UPDATE AND LAUNCH
496 9EF4 20 9E5E JSR SETUPD
497 9EF7 20 AD8C JSR LAUNCH
498 ;TURN ON KICKER ANIM!!!
499 9EFA AE 03DE LDX KICKER
500 9EFD B5 F1 LDA PLYRFG(X)
501 9EFF 09 10 ORA #ANMON
502 9F01 95 F1 STA PLYRFG(X)
503 9F03 4C 9F14 JMP 100$
504 ; FOR PLAYS 3-4,5
505 9F06 AE 03DE 200$: LDX KICKER
506 9F09 A9 FF LDA #OFF
507 9F0B BD 03DE STA KICKER ;UNDEFINE KICKER
508 9F0E 20 9C2D JSR NRSTDF
509 9F11 20 9C21 JSR SETRAK
510 9F14 60 100$: RTS
511
512 9F15 SWCHOF:
513 9F15 20 9F27 JSR SWICH
```



```
514 9F18          SWC:
515 9F18          A5  DD      LDA      OFFENS      ;ASSUME BLUE TEAM
516 9F1A          A2  7A      LDX      #CTEAM1
517 9F1C          29  01      AND      #1
518 9F1E          D0  02      BNE      1$
519 9F20          A2  4A      LDX      #CTEAM0
520 9F22          1$:
521 9F22          86  0F      STX      COLOR3      ;SET OS SHADOW FOR PLAYER 5 (MISSLES)
522 9F24          86  0B      STX      PCOLR3      ;AND NUMERIC DOWN MARKER PLAYER #3
523 9F26          60
524
525              ;
526 9F27          SWITCH:
527 9F27          A9  01      LDA      #1
528 9F29          8D  03D8    STA      OFSWCH
529 9F2C          A5  DD      LDA      OFFENS
530 9F2E          49  01      EOR      #1
531 9F30          85  DD      STA      OFFENS
532 9F32          A5  DE      LDA      OFFDIR
533 9F34          49  80      EOR      #80
534 9F36          85  DE      STA      OFFDIR
535 9F38          60      RTS
536
537
538 9F39          A0  01      RECEPT: LDY      #1      ;????????????????????????????
539              ;      LDA      OCTLCH
540              ;      BEQ      10$
541              ;      LDA      DCTLCH
542              ;      BEQ      20$
543 9F3B          8C  03D2    10$: STY      DCTLCH
544 9F3E          8C  03D1    STY      OCTLCH
545 9F41          8C  03D3    20$: STY      PASCMP
546 9F44          A9  00      LDA      #0
547 9F46          8D  03D0    STA      PASSON
548              ;UNDEFINE RX'S AND ENABLE DCTLCH
549 9F49          A9  FF      LDA      #OFF
550 9F4B          8D  03E2    STA      RX1
551 9F4E          8D  03E3    STA      RX2
552              ; SET BLCRYR, OCTL=CHOSNR
553              ;CLEAR FLIGHT FLAG
554 9F51          AE  03DC    LDX      CHOSNR
555 9F54          8E  03DB    STX      BLCRYR
556 9F57          8E  040A    STX      OCTL
557              ; SET TMOCTL OR TM1CTL
558 9F5A          8A      TXA
559 9F5B          4A      LSR
560 9F5C          B0  06      BCS      666$
561 9F5E          8E  040C    STX      TMOCTL
562 9F61          4C  9F67    JMP      667$
563 9F64          8E  040D    666$: STX      TM1CTL
564              ;CHECK FOR PASS FOR TD
565 9F67          A2  0C      667$: LDX      #BALL
566 9F69          A5  DE      LDA      OFFDIR
567 9F6B          30  23      BMI      105$
568              ; COMPARE WITH RIGHT GOAL
569 9F6D          BD  02CB    LDA      XPOS(X)
570 9F70          38      SEC
```



```
571 9F71 E9 71 SBC #881.&OFF
572 9F73 BD 02E5 LDA XPOSHI(X)
573 9F76 E9 03 SBC #881.&OFF00/100
574 9F78 30 3A BMI NOTD
575 9F7A AE 03D8 LDX BLCRYR
576 9F7D A9 99 LDA #921.&OFF ;MID E.Z.
577 9F7F 9D 030C STA XGOTO(X)
578 9F82 A9 03 LDA #921.&OFF00/100
579 9F84 9D 0319 STA XHGOTO(X)
580 9F87 AD 0411 LDA SCRIMY
581 9F8A 9D 0326 STA YGOTO(X)
582 9F8D 4C 9FB0 JMP TDTD
583 ;COMPARE WITH LEFT GOAL
584 9F90 BD 02CB 105$: LDA XPOS(X)
585 9F93 38 SEC
586 9F94 E9 51 SBC #81.&OFF
587 9F96 BD 02E5 LDA XPOSHI(X)
588 9F99 E9 00 SBC #0
589 9F9B 10 17 BPL NOTD
590 9F9D AE 03D8 LDX BLCRYR
591 9FA0 A9 29 LDA #41.&OFF ;MID LEFT E.Z.
592 9FA2 9D 030C STA XGOTO(X)
593 9FA5 A9 00 LDA #41.&OFF00/100
594 9FA7 9D 0319 STA XHGOTO(X)
595 9FAA AD 0411 LDA SCRIMY
596 9FAD 9D 0326 STA YGOTO(X)
597 9FB0 20 A1F9 TDTD: JSR BCTD
598 9FB3 60 RTS
599
600 ; TASK BACKS TO TRACK BALL
601 9FB4 AE 03E0 NOTD: LDX LDBACK
602 9FB7 A9 0C LDA #BALL
603 9FB9 9D 0261 STA LINK(X)
604 9FBC 20 9C21 JSR SETRAK
605 9FBF AE 03DF LDX RDBACK
606 9FC2 A9 0C LDA #BALL
607 9FC4 9D 0261 STA LINK(X)
608 9FC7 20 9C21 JSR SETRAK
609 ; IF COMPUTER GAME, DO FOR DLB ALSO!!!!!!!!!!!!!!
610 9FCA AD 03CA LDA GAMTYP
611 9FCD 10 0B BPL 10$
612 9FCF AE 03E1 LDX LNBACK
613 9FD2 A9 0C LDA #BALL
614 9FD4 9D 0261 STA LINK(X)
615 9FD7 20 9C21 JSR SETRAK
616 ; TASK NEW BLCRYR TO OFFCTL ---DR, COMP RUNNER!!!!!!!!!!!!!!
617 9FDA AE 03DB 105: LDX BLCRYR
618 9FDD B5 F1 LDA PLYRFG(X)
619 9FDF 29 FE AND #0FE ;CLEAR INPTRN BIT
620 9FE1 95 F1 STA PLYRFG(X)
621 9FE3 A9 0B LDA #8 ;OFFCTL
622 9FE5 9D 026E STA FCNNDX(X)
623 ; TASK BALL TO COPY BLCRYR
624 9FE8 A0 0C LDY #BALL
625 9FEA AD 03DB LDA BLCRYR
626 9FED 99 0261 STA LINK(Y)
627 9FF0 A9 06 LDA #6 ;BLCOPY
```



```
628 9FF2 99 026E          STA FCNNDX(Y)
629                      ;SET RECEPTION SOUND!!!!!!!!!!!!!!
630 9FF5 20 9D78          JSR RCPSND
631 9FF8 60              RTS
632 9FF9 8E 0308          INTRCP: STX BLCRYR
633 9FFC A9 00            LDA #0
634 9FFE 8D 0300          STA PASSON
635 A001 A9 01            LDA #1
636 A003 8D 03CB          STA PSDSBL
637 A006 8D 03D4          STA PASINT
638                      ; IF IN OWN E.Z., DISABLE SAFETY
639 A009 A2 0C            LDX #BALL
640 A00B A5 DE            LDA OFFDIR
641 A00D 10 10            BPL 3%
642 A00F 8D 02CB          LDA XPOS(X)
643 A012 38              SEC
644 A013 E9 51            SBC #81.&OFF
645 A015 8D 02E5          LDA XPOSHI(X)
646 A018 E9 00            SBC #81.&OFF00/100
647 A01A 10 15            BPL 10% ;NOT IN OWN E.Z.
648 A01C 4C A02C          JMP 5% ;DISABLE SAFETY
649 A01F 8D 02CB          3%: LDA XPOS(X)
650 A022 38              SEC
651 A023 E9 71            SBC #881.&OFF
652 A025 8D 02E5          LDA XPOSHI(X)
653 A028 E9 03            SBC #881.&OFF00/100
654 A02A 30 05            BMI 10% ;NOT IN
655 A02C A9 01            5%: LDA #1
656 A02E 8D 03CD          STA SFENBL
657                      ; CLEAR ALL "LINKED" AND INPTRN BITS
658 A031 A0 0B            10%: LDY #BALL-1
659 A033 B9 00F1          20%: LDA PLYRFG(Y)
660 A036 29 FC            AND #0FC
661 A038 99 00F1          STA PLYRFG(Y)
662 A03B 88              DEY
663 A03C 10 F5            BPL 2D%
664 A03E 20 A045          JSR DCATCH
665                      ;SET INTERCEPT SOUND!!!!!!!!!!!!!!
666 A041 20 9D93          JSR INTSND
667 A044 60              RTS
668
669 A045 AE 03DB          DCATCH: LDX BLCRYR
670                      ; HAVE BALL COPY HIM
671 A048 A0 0C            LDY #BALL
672 A04A 8A              TXA
673 A04B 99 0261          STA LINK(Y)
674 A04E A9 06            LDA #6 ;BLCOPY
675 A050 99 026E          STA FCNNDX(Y)
676 A053 20 9F27          JSR SWICH
677 A056 20 A167          JSR CLRBT5
678                      ; TASK OTHER NEW OFF PLAYERS TO LINK TO NEAREST NEW DEF
679 A059 A5 DD            LDA OFFENS
680 A05B 18              CLC
681 A05C 69 0A            ADC #BALL-2
682 A05E AA              TAX
683                      ; LINK WITH NEAREST UNLINKED DEF
684 A05F 20 9C87          15%: JSR NRSTUN
```



```
685 A062 20 9C21 JSR SETRAK
686 : ETC.
687 A065 CA DEX
688 A066 CA DEX
689 A067 10 F6 BPL 15$
690 : TASK NEW DEF PLAYERS TO TRACK BALL
691 A069 A5 DD LDA OFFENS
692 A068 49 01 EOR #1
693 A06D 18 CLC
694 A06E 69 0A ADC #BALL-2
695 A070 AA TAX
696 A071 A9 0C 5$: LDA #BALL
697 A073 9D 0261 STA LINK(X)
698 A076 20 9C21 JSR SETRAK
699 A079 CA DEX
700 A07A CA DEX
701 A07B 10 F4 BPL 5$
702 : TASK OLD OCTL TO DEFCTL
703 A07D AE 040A LDX OCTL
704 A080 A9 14 LDA #20. ;DEFCTL
705 A082 9D 026E STA FCNNDX(X)
706 A085 8E 0408 STX OCTL
707 : SET TMOCTL OR TMICTL
708 A088 8A TXA
709 A089 4A LSR
710 A08A B0 06 BCS 666$
711 A08C 8E 040C STX TMOCTL
712 A08F 4C A095 JMP 667$
713 A092 8E 040D 666$: STX TMICTL
714 A095 EA 667$: NOP
715 :UNDEFINE RX'S AND ENABLE DCTLCH
716 A096 A9 FF LDA #OFF
717 A098 8D 03E2 STA RX1
718 A09B 8D 03E3 STA RX2
719 A09E 8D 03DF STA RDBACK
720 A0A1 8D 03E0 STA LDBACK
721 A0A4 A9 01 LDA #1
722 A0A6 8D 03D2 STA DCTLCH
723 : TASK BLCRYR TO OFFCTL --OR. COMP. RUNNER!!!!!!!!!!!!!!
724 A0A9 AE 03DB BLOB: LDX BLCRYR
725 A0AC 8E 040A STX OCTL
726 : SET TMOCTL OR TMICTL
727 A0AF 8A TXA
728 A0B0 4A LSR
729 A0B1 B0 06 BCS 666$
730 A0B3 8E 040C STX TMOCTL
731 A0B6 4C A0BC JMP 667$
732 A0B9 8E 040D 666$: STX TMICTL
733 A0BC AD 03CA 667$: LDA GANTYP
734 A0BF 10 2A BPL 100$
735 : DO RUN FOR GOAL!!!
736 A0C1 A5 DE LDA OFFDIR
737 A0C3 30 0D BMI 50$
738 :CALC MID EZ PT
739 A0C5 A9 99 LDA #921.EOFF
740 A0C7 9D 030C STA XGOTO(X)
741 A0CA A9 03 LDA #921.EOFF00/100
```



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742 A0CC 9D 0319 STA XHGOTO(X)
743 A0CF 4C A0DC JMP 60$
744 A0D2 A9 29 50$: LDA #41.E0FF
745 A0D4 9D 030C STA XGOTO(X)
746 A0D7 A9 00 LDA #41.E0FF00/100
747 A0D9 9D 0319 STA XHGOTO(X)
748 A0DC 8D 02D8 60$: LDA YPOS(X)
749 A0DF 9D 0326 STA YGOTO(X)
750 A0E2 20 9E5E JSR SETUPD
751 A0E5 20 A08C JSR LAUNCH
752 A0E8 4C A0F0 JMP 200$
753 A0EB A9 08 100$: LDA #8 ;OFFCTL
754 A0ED 9D 026E STA FCNNDX(X)
755 A0F0 60 200$: RTS
756
757 A0F1 8E 03D8 KRECEP: STX BLCRYR
758 ;SPECIAL FIX FOR SCROLLING ON KICK RECEP
759 A0F4 A0 50 LDY #80.
760 A0F6 A5 DE LDA OFFDIR
761 A0F8 30 06 BMI 10$
762 A0FA 8C 03C5 STY LSTRGT
763 A0FD 4C A103 JMP 20$
764 A100 8C 03C6 10$: STY RSTRGT
765 A103 A9 00 20$: LDA #0
766 A105 8D 03D5 STA KICKON
767 A108 A9 01 LDA #1
768 A10A 8D 03D7 STA KIKRCP
769 A10D 20 A045 JSR DCATCH
770 ; SET RECEPTION SOUND!!!!!!!!!!!!!!
771 A110 20 9D78 JSR RCPSND
772 A113 60 RTS
773
774 A114 20 A14C BLDEAD: JSR DEDBAL
775 ; SET ENDPLAY STATUS
776 A117 AD 03C9 LDA DPLTYP
777 A11A 29 20 AND #20 ;FG
778 A11C F0 1D BEQ 100$
779 ;TEST FOR FG GOOD??????????????
780 A11E AD 02C4 LDA FGSTAT ;FIELD GOAL: GOOD/NO GOOD
781 A121 C9 06 CMP #FGGOOD
782 A123 D0 0E BNE 50$
783 A125 A9 04 LDA #4 ;"FIELD GOAL !!" *DAVE* 7/22
784 A127 20 8E88 JSR MFLASH ; *DAVE* 7/22
785 A12A 20 9D47 JSR CROWD
786 A12D AD 02C4 LDA FGSTAT
787 A130 4C A140 JMP 200$
788 A133 20 9D2C 50$: JSR WHISTL
789 A136 A9 07 LDA #FGNOGD
790 A138 4C A140 JMP 200$
791 A13B 20 9D2C 100$: JSR WHISTL
792 A13E A9 00 LDA #BLDED
793 A140 85 E8 200$: STA ESTTUS
794 A142 A5 F0 LDA STATE
795 A144 8D 03F1 STA OLDSTT
796 A147 A9 86 LDA #EDELAY
797 A149 85 F0 STA STATE
798 A14B 60 RTS
```



```
799
800 A14C DEDBAL:
801 ; TASK ALL TO DEAD
802 A14C 20 A591 JSR LDEAD ;SETS ANIM OFF
803 A14F 20 A5BF JSR STSTND
804 A152 60 RTS
805
806 A153 20 A14C BLOUT: JSR DEDBAL
807 ; SET ENDPLAY STATUS
808 A156 A9 01 LDA #BALOUT
809 A158 B5 E8 STA ESTTUS
810 A15A 20 9D2C JSR WHISTL
811 A15D A5 F0 LDA STATE
812 A15F 8D 03F1 STA OLDSTT
813 A162 A9 86 LDA #EDELAY
814 A164 B5 F0 STA STATE
815 A166 60 RTS
816
817 ; CLEAR ALL LINK AND INPTRN BITS
818 A167 A0 08 CLR8TS: LDY #BALL-1
819 A169 B9 00F1 95$: LDA PLYRFG(Y)
820 A16C 29 FC AND #OFC
821 A16E 99 00F1 STA PLYRFG(Y)
822 A171 B8 DEY
823 A172 10 F5 BPL 95$
824 A174 60 RTS
825
```



```
1  A175      BCRUT:
2              ; TASK ALL TO DEAD
3  A175      20  A591      JSR      LDEAD      ;SET ANIM OFF
4  A178      20  A58F      JSR      STSTND
5              ; IF BLCRYR IN OWN EZ, .....
6  A178      AE  03D8      LDX      BLCRYR
7  A17E      A5  DE        LDA      OFFDIR
8  A180      30  20        BMI      10$
9  A182      BD  02C8      LDA      XPOS(X)
10 A185      38           SEC
11 A186      E9  51        SBC      #81.&OFF      ;LEFT GOAL
12 A188      BD  02E5      LDA      XPOSHI(X)
13 A18B      E9  00        SBC      #81.&OFF00/100
14 A18D      10  40        BPL      20$
15 A18F      AD  03D4      LDA      PASINT
16 A192      F0  0C        BEQ      9$
17 A194      A9  08        LDA      #TOUCHB
18 A196      85  E8        STA      ESTTUS
19 A198      A9  03        LDA      #3              ;SET FOR TOUCHBACK MESSAGE      *DAVE* 7/16
20 A19A      20  8E88      JSR      MFLASH          ;                      *DAVE* 7/16
21 A19D      4C  A1EF      JMP      25$
22              ; SAFETY IN LEFT E.Z.
23 A1A0      A9  05      9$: LDA      #SAFETY
24 A1A2      85  E8      STA      ESTTUS
25 A1A4      20  9D47      JSR      CROWD
26 A1A7      A9  02      LDA      #2              ;SET FOR SAFETY MESSAGE      *DAVE* 7/16
27 A1A9      20  8E88      JSR      MFLASH          ;                      *DAVE* 7/16
28 A1AC      4C  A1EF      JMP      25$
29 A1AF      BD  02C8      10$: LDA      XPOS(X)
30 A1B2      38           SEC
31 A1B3      E9  71        SBC      #881.&OFF
32 A1B5      BD  02E5      LDA      XPOSHI(X)
33 A1B8      E9  03        SBC      #881.&OFF00/100
34 A1BA      30  20        BMI      20$
35 A1BC      AD  03D4      LDA      PASINT
36 A1BF      F0  0C        BEQ      19$
37 A1C1      A9  08        LDA      #TOUCHB
38 A1C3      85  E8        STA      ESTTUS
39 A1C5      A9  03        LDA      #3              ;SET FOR TOUCHBACK MESSAGE      *DAVE* 7/16
40 A1C7      20  8E88      JSR      MFLASH          ;                      *DAVE* 7/16
41 A1CA      4C  A1EF      JMP      25$
42              ;SAFETY IN RIGHT E.Z.
43 A1CD      A9  05      19$: LDA      #SAFETY
44 A1CF      85  E8      STA      ESTTUS
45 A1D1      20  9D47      JSR      CROWD
46 A1D4      A9  02      LDA      #2              ;SET FOR SAFETY MESSAGE      *DAVE* 7/16
47 A1D6      20  8E88      JSR      MFLASH          ;                      *DAVE* 7/16
48 A1D9      4C  A1EF      JMP      25$
49
50              ;SET ENDPLAY STATUS
51 A1DC      A9  02      20$: LDA      #BCROUT
52 A1DE      85  E8      STA      ESTTUS
53              ; SET WHISTLE SOUND!!!!!!!!!!!!!!
54 A1E0      20  9D2C      JSR      WHISTL
55
56              ;UPDATE SCRIMX
57 A1E3      A2  0C      LDX      #BALL      ;OR SET TO FWDMD??????????????
```



```
58 A1E5 B0 02C8 LDA XPOS(X)
59 A1E8 85 EE STA SCRMX
60 A1EA B0 02E5 LDA XPOSHI(X)
61 A1ED 85 EF STA SCRMX+1
62 A1EF A5 F0 25$: LDA STATE
63 A1F1 80 03F1 STA OLDSTT
64 A1F4 A9 86 LDA #EDELAY
65 A1F6 85 F0 STA STATE
66
67 A1F8 60 RTS
68
69 A1F9 BCTD:
70 ; SET CROWD CHEER SOUND!!!!!!!!!!!!!!
71 A1F9 20 9D47 JSR CROWD
72 ; TASK ALL TO DEAD
73 A1FC 20 A591 JSR LDEAD ;SET ANIM OFF
74 A1FF 20 A5BF JSR STSTND
75 ; KEEP BALL AND BLCRYR ANIM ON
76 A202 A2 0C LDX #BALL
77 A204 B5 F1 LDA PLYRFG(X)
78 A206 09 10 ORA #ANMON
79 A208 95 F1 STA PLYRFG(X)
80 A20A AE 03DB LDX BLCRYR
81 A20D B5 F1 LDA PLYRFG(X)
82 A20F 09 10 ORA #ANMON
83 A211 95 F1 STA PLYRFG(X)
84 ; RETASK BLCRYR TO GOTO MID E.Z.
85 ;BLCRYR GOTO PTS MUST BE DEFINED!
86 A213 20 9E5E JSR SETUPD
87 A216 20 AD8C JSR LAUNCH
88 ; TASK BALL TO BLCOPY IF NOT ALREADY SET
89 A219 A0 0C LDY #BALL
90 A21B AD 03DB LDA BLCRYR
91 A21E 99 0261 STA LINK(Y)
92 A221 A9 06 LDA #6 ;BLCOPY
93 A223 99 026E STA FCNNDX(Y)
94 ; SET ENDPLOY STATUS
95 A226 A9 03 LDA #BCRTD
96 A228 85 E8 STA ESTTUS
97 A22A A5 F0 LDA STATE
98 A22C 80 03F1 STA OLDSTT
99 A22F A9 86 LDA #EDELAY
100 A231 85 F0 STA STATE
101 A233 A9 01 LDA #1 ;TOUCHDOWN MESSAGE *DAVE* 7/16
102 A235 20 8E88 JSR MFLASH
103 A238 60 RTS
104
105 A239 TACKLE:
106 ;TASK ALL TO DEAD
107 A239 20 A591 JSR LDEAD ;SET ANIM OFF
108 A23C 20 A5BF JSR STSTND
109 ; KEEP BLCRYR ANIM ON
110 A23F AE 03DB LDX BLCRYR
111 A242 B5 F1 LDA PLYRFG(X)
112 A244 09 10 ORA #ANMON
113 A246 95 F1 STA PLYRFG(X)
114 ;TASK BLCRYR TO "DEAD"
```


115	A248	A9	00	LDA	#0	:DEAD	
116	A24A	9D	026E	STA	FCNNDX(X)		
117				; SET BLCRYR ANIM TO "FALL"			
118	A24D	86	D6	STX	TO		
119	A24F	8A		TXA			
120	A250	0A		ASL			
121	A251	AA		TAX			
122	A252	A9	32	LDA	#FALLEOFF		
123	A254	95	23	STA	ANMSEQ(X)		
124	A256	A9	88	LDA	#FALLEOFF00/100		
125	A258	95	24	STA	ANMSEQ+1(X)		
126	A25A	A1	23	LDA	@ANMSEQ(X)		
127	A25C	A6	D6	LDX	TO		
128	A25E	9D	0340	STA	ANMMOD(X)		
129	A261	A9	00	LDA	#0		
130	A263	9D	0333	STA	ANMNDX(X)		
131	A266	9D	0340	STA	ANMRPT(X)		
132				; ADJUST BALL VERT POSN			
133	A269	A0	0C	LDY	#BALL		
134	A26B	B9	02D8	LDA	YPOS(Y)		
135	A26E	18		CLC			
136	A26F	69	04	ADC	#4		
137	A271	99	02D8	STA	YPOS(Y)		
138				; IF BLCRYR IN OWN EZ, DO SAFETY (SET SCRIM TO OFF 20 YD LINE)			
139				; SET ENDPY STATUS TO SAFETY AND EXIT			
140	A274	A2	0C	LDX	#BALL		
141	A276	A5	DE	LDA	OFFDIR		
142	A278	30	32	BMI	10%		
143	A27A	BD	02CB	LDA	XPOS(X)		
144	A27D	38		SEC			
145	A27E	E9	51	SBC	#81.&OFF	:LEFT GOAL	
146	A280	BD	02E5	LDA	XPOSHI(X)		
147	A283	E9	00	SBC	#81.&OFF00/100		
148	A285	10	57	BPL	20%		
149	A287	AD	03D4	LDA	PASINT		
150	A28A	F0	11	BEQ	9%		
151	A28C	AD	03CD	LDA	SFENBL		
152	A28F	F0	0C	BEQ	9%		
153	A291	A9	08	LDA	#TOUCHB		
154	A293	85	E8	STA	ESTTUS		
155	A295	A9	03	LDA	#3	:TOUCHBACK	*DAVE* 7/16
156	A297	20	8E88	JSR	MFLASH	:	*DAVE* 7/16
157	A29A	4C	A2F1	JMP	25%		
158				; SAFETY IN LEFT E.Z.			
159	A29D	A9	05	9%: LDA	#SAFETY		
160	A29F	85	E8	STA	ESTTUS		
161	A2A1	20	9D47	JSR	CROWD		
162	A2A4	A9	02	LDA	#2	:SAFETY	*DAVE* 7/16
163	A2A6	20	8E88	JSR	MFLASH	:	*DAVE* 7/16
164	A2A9	4C	A2F1	JMP	25%		
165	A2AC	BD	02CB	10%: LDA	XPOS(X)		
166	A2AF	38		SEC			
167	A2B0	E9	71	SBC	#881.&OFF		
168	A2B2	BD	02E5	LDA	XPOSHI(X)		
169	A2B5	E9	03	SBC	#881.&OFF00/100		
170	A2B7	30	25	BMI	20%		
171	A2B9	AD	03D4	LDA	PASINT		

172	A28C	F0	11	BEQ	19\$		
173	A28E	AD	03CD	LDA	SFENBL		
174	A2C1	F0	0C	BEQ	19\$		
175	A2C3	A9	08	LDA	#TOUCHB		
176	A2C5	85	E8	STA	ESTTUS		
177	A2C7	A9	03	LDA	#3	; TOUCHBACK	*DAVE* 7/16
178	A2C9	20	8E88	JSR	MFLASH	;	*DAVE* 7/16
179	A2CC	4C	A2F1	JMP	25\$		
180							
181	A2CF	A9	05	19\$: LDA	#SAFETY		
182	A2D1	85	E8	STA	ESTTUS		
183	A2D3	20	9D47	JSR	CROWD		
184	A2D6	A9	02	LDA	#2	; SAFETY	*DAVE* 7/16
185	A2D8	20	8E88	JSR	MFLASH	;	*DAVE* 7/16
186	A2DB	4C	A2F1	JMP	25\$		
187							
188							
189	A2DE	A2	0C				
190	A2E0	BD	02CB	20\$: LDX	#BALL	; OR SET TO FWDMD????????	
191	A2E3	85	EE	LDA	XPOS(X)		
192	A2E5	BD	02E5	STA	SCRIMX		
193	A2E8	85	EF	LDA	XPOSHI(X)		
194				STA	SCRIMX+1		
195	A2EA	A9	04				
196	A2EC	85	E8				
197							
198	A2EE	20	9D2C	; SET ENDPLAY STATUS TO TACKLE			
199	A2F1	A5	F0	LDA	#BCTKL		
200	A2F3	8D	03F1	STA	ESTTUS		
201	A2F6	A9	86				
202	A2F8	85	F0	; SET WHISTLE SOUND			
203	A2FA	60		JSR	WHISTL		
204							
205	A2FB	AE	03DB	25\$: LDA	STATE		
206	A2FE	B9	02CB	STA	OLDSTT		
207	A301	38		LDA	#EDELAY		
208	A302	FD	02CB	STA	STATE		
209	A305	B9	02E5	RTS			
210	A308	FD	02E5				
211	A308	45	DE				
212	A30D	10	13				
213	A30F	AD	03EF				
214	A312	4D	03F0				
215	A315	F0	0A				
216	A317	A9	C3				
217	A319	8D	042F				
218	A31C	A9	BE				
219	A31E	8D	0430				
220	A321	60					
221	A322	8C	03DC				
222	A325	AE	03DB				
223	A328	86	D6				
224	A32A	8A					
225	A32B	0A					
226	A32C	AA					
227	A32D	A9	AB				
228	A32F	95	23				


```
229 A331 A9 B8 LDA #PASSER&OFF00/100
230 A333 95 24 STA ANMSEQ+1(X)
231 A335 A1 23 LDA @ANMSEQ(X)
232 A337 A6 06 LDX TO
233 A339 9D 0340 STA ANMMOD(X)
234 A33C A9 00 LDA #0
235 A33E 9D 0333 STA ANMNDX(X)
236 A341 9D 034D STA ANMRPT(X)
237 A344 A5 DE LDA OFFDIR
238 A346 9D 02A2 STA REVERS(X)
239 ;FAKE?
240 ; IGNORE FOR NOW. CANT PASS AGAIN??? --- RX1,RX2? PLAY VARS? ONESHOT?
241 ; Y IS CHOSNR!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
242 A349 A9 01 PASS: LDA #1
243 A34B 8D 0300 STA PASSON
244 A34E 8D 03C8 STA PSDSBL
245 A351 8D 03CC STA KKDSBL
246 A354 8D 03CF STA PASING
247 A357 A2 0C LDX #BALL
248 ;ADJUST BALL VERT POSN
249 A359 8D 02D8 LDA YPOS(X)
250 A35C 38 SEC
251 A35D E9 04 SBC #4
252 A35F 9D 02D8 STA YPOS(X)
253 A362 AC 03DC LDY CHOSNR
254 A365 B9 00F1 LDA PLYRFG(Y) ;Y IS CHOSNR
255 A368 29 01 AND #INPTRN
256 A36A F0 1D BEQ 150$
257 ; RX STILL IN PATTERN. SET BALLS GOTO PT TO RX GOTO PT
258 A36C B9 030C LDA XGOTO(Y)
259 A36F 18 CLC
260 A370 69 03 ADC #3
261 A372 9D 030C STA XGOTO(X)
262 A375 B9 0319 LDA XHGOTO(Y)
263 A378 69 00 ADC #0
264 A37A 9D 0319 STA XHGOTO(X)
265 A37D B9 0326 LDA YGOTO(Y)
266 A380 18 CLC
267 A381 69 06 ADC #LENGTH/2-1
268 A383 9D 0326 STA YGOTO(X)
269 A386 4C A3A3 JMP 200$
270 ;RX NO LONGER IN PATTERN. SET BALLS GOTO PT TO RX CURR POSN
271 A389 B9 02CB 150$: LDA XPOS(Y)
272 A38C 18 CLC
273 A38D 69 03 ADC #3
274 A38F 9D 030C STA XGOTO(X)
275 A392 B9 02E5 LDA XPOSHI(Y)
276 A395 69 00 ADC #0
277 A397 9D 0319 STA XHGOTO(X)
278 A39A B9 02D8 LDA YPOS(Y)
279 A39D 18 CLC
280 A39E 69 06 ADC #LENGTH/2-1
281 A3A0 9D 0326 STA YGOTO(X)
282 ; TASK BALL TO "UPDATE"
283 A3A3 20 9E5E 200$: JSR SETUPD
284 ; LAUNCH BALL
285 A3A6 20 AD8C JSR LAUNCH
```


286				:RETASK QB TO DEAD	
287	A3A9	A5	DD	LDA	OFFENS
288	A3AB	18		CLC	
289	A3AC	69	0A	ADC	#DQ8
290	A3AE	AA		TAX	
291	A3AF	A9	00	LDA	#0 :DEAD
292	A3B1	9D	026E	STA	FCNNDX(X)
293				:UNDEFINE BLCRYR	
294	A3B4	A9	FF	LDA	#OFF
295	A3B6	8D	03DB	STA	BLCRYR
296					
297	A3B9	60		10\$: RTS	
298					
299	A3BA	A5	F0	DOSCR1: LDA	STATE
300	A3BC	C9	82	CMP	#ASMHUD
301	A3BE	D0	05	BNE	10\$
302	A3C0	A0	02	5\$: LDY	#2
303	A3C2	4C	A3DB	JMP	30\$
304	A3C5	AD	03D0	10\$: LDA	PASSON
305	A3C8	D0	0F	BNE	20\$
306	A3CA	AD	03D5	LDA	KICKON
307	A3CD	D0	F1	BNE	5\$
308	A3CF	AD	03D6	LDA	TIPON
309	A3D2	D0	EC	BNE	5\$
310	A3D4	A0	01	LDY	#1
311	A3D6	4C	A3DB	JMP	30\$
312	A3D9	A0	03	20\$: LDY	#3
313	A3DB	8C	03C7	30\$: STY	SCLSPD
314	A3DE	A2	0C	LDX	#BALL
315	A3E0	A5	F0	LDA	STATE
316	A3E2	C9	82	CMP	#ASMHUD
317	A3E4	F0	12	BEQ	35\$
318	A3E6	BD	02C8	LDA	XPOS(X)
319	A3E9	38		SEC	
320	A3EA	E5	EB	SBC	LFTEDG
321	A3EC	85	D8	STA	T2
322	A3EE	BD	02E5	LDA	XPOSHI(X)
323	A3F1	E5	EC	SBC	LFTEDG+1
324	A3F3	F0	16	BEQ	50\$
325	A3F5	30	65	BMI	61\$
326	A3F7	00		BRK	
327	A3F8	BD	030C	35\$: LDA	XGOTO(X)
328	A3FB	38		SEC	
329	A3FC	E5	EB	SBC	LFTEDG
330	A3FE	85	D8	STA	T2
331	A400	BD	0319	LDA	XHGOTO(X)
332	A403	E5	EC	SBC	LFTEDG+1
333	A405	30	55	BMI	61\$
334	A407	F0	02	BEQ	50\$
335	A409	10	0A	BPL	51\$
336	A40B	A5	D8	50\$: LDA	T2
337	A40D	CD	03C6	CMP	RSTRGT
338	A410	80	03	BCS	51\$
339	A412	4C	A457	JMP	60\$
340	A415	A5	EB	51\$: LDA	LFTEDG
341	A417	18		CLC	
342	A418	6D	03C7	ADC	SCLSPD

343	A418	85	D6	STA	T0
344	A41D	A5	EC	LDA	LFTEDG+1
345	A41F	69	00	ADC	#0
346	A421	85	D7	STA	T1
347	A423	C9	03	CMP	#805.&OFF00/100
348	A425	D0	06	BNE	55\$
349	A427	A5	D6	LDA	T0
350	A429	C9	25	CMP	#805.&OFF
351	A42B	B0	6D	BCS	ENDSCL
352	A42D	A5	D6	55\$: LDA	T0
353	A42F	85	EB	STA	LFTEDG
354	A431	A5	D7	LDA	T1
355	A433	85	EC	STA	LFTEDG+1
356				; DECR HSCROL MODULO 8 (FOR YARD #S)	
357	A435	AD	0410	LDA	SCROLH
358	A438	38		SEC	
359	A439	ED	03C7	SBC	SCLSPD
360	A43C	AA		TAX	
361	A43D	29	07	AND	#7
362	A43F	8D	0410	STA	SCROLH
363	A442	E0	08	CPX	#8
364	A444	90	54	BCC	ENDSCL
365	A446	AD	0415	LDA	YRDADR
366	A449	18		CLC	
367	A44A	69	01	ADC	#1
368	A44C	8D	0415	STA	YRDADR
369	A44F	90	49	BCC	ENDSCL
370	A451	EE	0416	INC	YRDADR+1
371	A454	4C	A49A	JMP	ENDSCL
372	A457	CD	03C5	60\$: CMP	LSTRGT
373	A45A	B0	3E	BCS	ENDSCL
374	A45C	A5	EB	61\$: LDA	LFTEDG
375	A45E	38		SEC	
376	A45F	ED	03C7	SBC	SCLSPD
377	A462	85	D6	STA	T0
378	A464	A5	EC	LDA	LFTEDG+1
379	A466	E9	00	SBC	#0
380	A468	85	D7	STA	T1
381	A46A	10	09	BPL	70\$
382	A46C	A9	00	LDA	#0
383	A46E	85	EB	STA	LFTEDG
384	A470	85	EC	STA	LFTEDG+1
385	A472	4C	A49A	JMP	ENDSCL
386	A475	85	EC	70\$: STA	LFTEDG+1
387	A477	A5	D6	LDA	T0
388	A479	85	EB	STA	LFTEDG
389				; INCR HSCROL MODULO 8 (FOR YARD #S)	
390	A47B	AD	0410	CAMLFT: LDA	SCROLH
391	A47E	18		CLC	
392	A47F	6D	03C7	ADC	SCLSPD
393	A482	AA		TAX	
394	A483	29	07	AND	#7
395	A485	8D	0410	STA	SCROLH
396	A488	E0	08	CPX	#8
397	A48A	90	0E	BCC	ENDSCL
398	A48C	AD	0415	LDA	YRDADR
399	A48F	38		SEC	

400	A490	E9	01	SBC	#1
401	A492	8D	0415	STA	YRDADR
402	A495	B0	03	BCS	ENDSCL
403	A497	CE	0416	DEC	YRDADR+1
404	A49A	60		ENDSCL:	RTS
405					
406				;BUMP	
407	A49B	A9	01	BUMP:	LDA #1
408	A49D	85	D6		STA TO
409	A49F	BD	0374		LDA XBMPDR(X)
410	A4A2	30	06		BMI 20\$
411	A4A4	20	A88D		JSR XPSADD
412	A4A7	4C	A4AD		JMP 30\$
413	A4AA	20	A8D0	20\$:	JSR XPSSUB
414	A4AD	BD	0381	30\$:	LDA YBMPDR(X)
415	A4B0	30	04		BMI 40\$
416	A4B2	20	A8F2		JSR YPSADD
417	A4B5	60			RTS
418	A4B6	20	A91B	40\$:	JSR YPSSUB
419	A4B9	60			RTS
420					
421	A4BA	B5	F1	PTNPRC:	LDA PLYRFG(X)
422	A4BC	10	07		BPL 112\$
423					; THERE. GET NEXT PATTERN POINT!!!!!!
424					; CLEAR "THERE" BIT
425	A4BE	29	7F		AND #7F
426	A4C0	95	F1		STA PLYRFG(X)
427	A4C2	20	B0A9		JSR PATTRN
428	A4C5	60		112\$:	RTS
429					
430					; A HAS PLAYER #
431					; Y IS PTR INDEX INTO OFFPLAY FOR MEMBER # OF PATTERN PLAYER
432	A4C6	C8		STPTRN:	INY ; INCR INDEX TO GET PATTERN ADDRESS
433	A4C7	AA			TAX
434	A4C8	B5	F1		LDA PLYRFG(X)
435	A4CA	09	01		ORA #INPTRN
436	A4CC	95	F1		STA PLYRFG(X)
437	A4CE	8A			TXA
438	A4CF	0A			ASL
439	A4D0	AA			TAX
440	A4D1	B1	4D		LDA @PTRN(Y)
441	A4D3	9D	027B		STA PTRNPT(X)
442	A4D6	C8			INY
443	A4D7	B1	4D		LDA @PTRN(Y)
444	A4D9	9D	027C		STA PTRNPT+1(X)
445	A4DC	8A			TXA
446	A4DD	4A			LSR
447	A4DE	AA			TAX
448	A4DF	A9	00		LDA #0 ;ZERO PTRNDX
449	A4E1	9D	0295		STA PTRNDX(X)
450	A4E4	60			RTS
451					
452					; REQUIRES X TO BE TWICE MAX OFF OR DEF PLR #
453	A4E5	B1	4D	LDSCRIP:	LDA @PTRN(Y)
454	A4E7	9D	026E		STA FCNNDX(X)
455	A4EA	A9	00		LDA #0
456	A4EC	95	BC		STA MSUML(X)


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457 A4EE 95 C9 STA MSUMH(X)
458 A4F0 CA DEX
459 A4F1 CA DEX
460 A4F2 88 DEY
461 A4F3 10 F0 BPL LDSCR
462 A4F5 60 RTS
463
464 ;ANMSET
465 A4F6 86 D6 ANMSET: STX TO ;SAVE X
466
467 A4F8 BD 02F2 LDA LSTXDR(X)
468 A4FB 9D 02A2 STA REVER(X)
469 A4FE B5 F1 LDA PLYRFG(X)
470 A500 09 10 ORA #ANMON
471 A502 95 F1 STA PLYRFG(X)
472 A504 8A TXA
473 A505 0A ASL
474 A506 A8 TAY
475 A507 B5 F1 LDA PLYRFG(X)
476 A509 29 08 AND #YMAJOR
477 A50B D0 0D BNE 10$
478 ; X IS MAJOR
479 A50D A9 A9 LDA #RUNH&OFF
480 A50F 99 0023 STA ANMSEQ(Y)
481 A512 A9 B7 LDA #RUNH&OFF00/100
482 A514 99 0024 STA ANMSEQ+1(Y)
483 A517 4C A524 JMP GETMOD
484
485 A51A A9 30 10$: LDA #RUNV&OFF
486 A51C 99 0023 STA ANMSEQ(Y)
487 A51F A9 B7 LDA #RUNV&OFF00/100
488 A521 99 0024 STA ANMSEQ+1(Y)
489
490 A524 98 GETMOD: TYA
491 A525 AA TAX
492 A526 A1 23 LDA @ANMSEQ(X)
493 A528 A6 D6 LOX TO
494 A52A 9D 0340 STA ANMMOD(X)
495 ; DONT ZERO ANMNDX!!!!!!!!!!!!!!
496 ; SET REPEAT TO INFINITE
497 A52D A9 FF LDA #OFF
498 A52F 9D 034D STA ANMRPT(X)
499 A532 60 RTS
500
501
502 A533 B5 F1 MJRSTP: LDA PLYRFG(X)
503 A535 29 08 AND #YMAJOR
504 A537 D0 04 BNE 10$ ;BRANCH IF Y MAJOR
505 A539 20 A86B JSR XUPDAT ; X IS MAJOR
506 A53C 60 RTS
507 A53D 20 A87C 10$: JSR YUPDAT
508 A540 60 RTS
509
510 A541 B5 F1 MNRSTP: LDA PLYRFG(X)
511 A543 29 08 AND #YMAJOR
512 A545 D0 04 BNE 10$ ;BRANCH IF Y MAJOR. UPDATE X AS MINOR
513 A547 20 A87C JSR YUPDAT
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514 A54A 60      RTS
515 A54B 20 A86B 10$: JSR XUPDAT
516 A54E 60      RTS
517
518
519      ;ABSDRX
520      ;USES CURRENT POSN AS START PT, AND GOTO PT AS END PT
521      ;X HAS CURPLR INDEX
522 A54F BD 030C  ABSDRX: LDA XGOTO(X)
523 A552 38      SEC
524 A553 FD 02C8  SBC XPOS(X)
525 A556 85 D6   STA TO ;DELTA X
526 A558 BD 0319  LDA XHGOTO(X)
527 A55B FD 02E5  SBC XPOSHI(X)
528 A55E 85 D7   STA T1 ;DELTA X HI
529 A560 9D 02F2  STA LSTXDR(X) ;X DIRECTION
530      ; CALC ABSOLUTE DELTA IN TO,T1
531 A563 10 11    BPL 10$
532 A565 49 FF    EOR #OFF
533 A567 85 D7    STA T1
534 A569 A5 D6    LDA TO
535 A56B 49 FF    EOR #OFF
536 A56D 18      CLC
537 A56E 69 01    ADC #1
538 A570 85 D6    STA TO
539 A572 90 02    BCC 10$
540 A574 E6 D7    INC T1
541 A576 60      10$: RTS
542
543 A577 BD 02D8  ABSDRY: LDA YPOS(X)
544 A57A DD 0326  CMP YGOTO(X)
545 A57D 7E 02FF  ROR LSTYDR(X)
546 A580 BD 02D8  LDA YPOS(X)
547 A583 38      SEC
548 A584 FD 0326  SBC YGOTO(X)
549      ; CALC ABSOLUTE DELTA IN T2
550 A587 B0 05    BCS 20$
551 A589 49 FF    EOR #OFF
552 A58B 18      CLC
553 A58C 69 01    ADC #1
554 A58E 85 D8    STA T2
555 A590 60      20$: RTS
556
557      ; SUBROUTINE LDEAD
558 A591 A2 0C    LDEAD: LDX #BALL
559 A593 B5 F1    LDLP: LDA PLYRFG(X)
560 A595 29 EF    AND #0EF ;SET ANIM OFF
561 A597 95 F1    STA PLYRFG(X)
562 A599 CA      DEX
563 A59A 10 F7    BPL LDLP
564 A59C 60      RTS
565
566 A59D 86 D6    KIKANM: STX TO
567 A59F 8A      TXA
568 A5A0 0A      ASL
569 A5A1 AA      TAX
570 A5A2 A9 34    LDA #KICKEOFF
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571 A5A4 95 23 STA ANMSEQ(X)
572 A5A6 A9 89 LDA #KICK&OFF00/100
573 A5A8 95 24 STA ANMSEQ+1(X)
574 A5AA A1 23 LDA @ANMSEQ(X)
575 A5AC A6 D6 LDX TO
576 A5AE 9D 0340 STA ANMMOD(X)
577 A5B1 A9 00 LDA #0
578 A5B3 9D 0333 STA ANMNDX(X)
579 A5B6 9D 0340 STA ANMRPT(X)
580 A5B9 A5 DE LDA OFFDIR
581 A5BB 9D 02A2 STA REVERS(X)
582 A5BE 60 RTS
583
584
585 ;SET ANIM TO "STAND"
586 A5BF A2 0B STSTND: LDX #BALL-1
587 A5C1 20 A5C8 5$: JSR STNDAN
588 A5C4 CA 10$: DEX
589 A5C5 10 FA BPL 5$
590 A5C7 60 RTS
591
592 A5C8 86 D6 STNDAN: STX TO
593 A5CA 8A TXA
594 A5CB 0A ASL
595 A5CC AA TAX
596 A5CD A9 20 LDA #STAND&OFF
597 A5CF 95 23 STA ANMSEQ(X)
598 A5D1 A9 87 LDA #STAND&OFF00/100
599 A5D3 95 24 STA ANMSEQ+1(X)
600 A5D5 A1 23 LDA @ANMSEQ(X)
601 A5D7 A6 D6 LDX TO
602 A5D9 9D 0340 STA ANMMOD(X)
603 A5DC A9 00 LDA #0
604 A5DE 9D 0333 STA ANMNDX(X)
605 A5E1 A9 FF LDA #OFF
606 A5E3 9D 0340 STA ANMRPT(X)
607 A5E6 60 RTS
608
609 ;SUBROUTINE STANSQ
610 A5E7 B1 4D STANSQ: LDA @PTRA(Y)
611 A5E9 95 23 STA ANMSEQ(X)
612 A5EB C8 INY
613 A5EC B1 4D LDA @PTRA(Y)
614 A5EE 95 24 STA ANMSEQ+1(X)
615 A5F0 CA DEX
616 A5F1 CA DEX
617 A5F2 CA DEX
618 A5F3 CA DEX
619 A5F4 88 DEY
620 A5F5 88 DEY
621 A5F6 88 DEY
622 A5F7 10 EE BPL STANSQ
623 A5F9 60 RTS
624
625 ; SUBROUTINE PLPROC
626 ; X HAS CURPLR VALUE
627 A5FA B5 F1 PLPROC: LDA PLYRFG(X)
```


628	A5FC	29	10	AND	#ANMON
629	A5FE	F0	37	BEQ	20\$
630	A600	BD	0333	LDA	ANMNDX(X)
631	A603	18		CLC	
632	A604	69	0F	ADC	#LENGTH
633	A606	DD	0340	CMP	ANMMOD(X)
634	A609	90	10	BCC	11\$
635	A60B	BD	034D	LDA	ANMRPT(X)
636	A60E	D0	09	BNE	9\$;IF REPEAT SET, CONTINUE
637	A610	B5	F1	LDA	PLYRFG(X) ;ELSE, TURN OFF
638	A612	29	EF	AND	#0EF ;ANIM OFF
639	A614	95	F1	STA	PLYRFG(X)
640	A616	4C	A637	JMP	20\$
641	A619	A9	00	LDA	#0
642	A61B	9D	0333	STA	ANMNDX(X)
643	A61E	B5	F1	LDA	PLYRFG(X)
644	A620	29	04	AND	#BUMPST
645	A622	D0	0C	BNE	10\$;IF COLLIDED, IGNORE NORMAL PROCESSING
646	A624	BC	026E	LDY	FCNNDX(X)
647	A627	B9	B282	LDA	FCNTBL+1(Y)
648	A62A	48		PHA	
649	A62B	B9	B281	LDA	FCNTBL(Y)
650	A62E	48		PHA	
651	A62F	60		RTS	
652	A630	A9	A4	LDA	#BUMP-1&0FF00/100
653	A632	48		PHA	
654	A633	A9	9A	LDA	#BUMP-1&0FF
655	A635	48		PHA	
656	A636	60		RTS	
657	A637	A9	AD	LDA	#DEAD-1&0FF00/100
658	A639	48		PHA	
659	A63A	A9	8A	LDA	#DEAD-1&0FF
660	A63C	48		PHA	
661	A63D	60		RTS	
662					
663	A63E	A9	00	CLRRAM: LDA	#0
664	A640	85	4D	STA	PTRA
665	A642	A9	02	LDA	#2
666	A644	85	4E	STA	PTRA+1
667					
668	A646	A0	20	LDY	#20
669	A648	A9	00	LDA	#0
670	A64A	91	4D	STA	@PTRA(Y)
671	A64C	C8		INY	
672	A64D	D0	F8	BNE	20\$
673					
674	A64F	E6	4E	INC	PTRA+1
675	A651	A0	00	LDY	#0
676	A653	A5	4E	LDA	PTRA+1
677	A655	C9	40	CMP	#40
678	A657	90	EF	BCC	10\$
679					
680	A659	60		RTS	
681					
682					
683					EXIT ATTRACT MODE IF IN IT ROUTINE
684					


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685 A65A NOATR:
686 A65A A2 00 LDX #0 ;FORCE NO ATTRACT
687 A65C A5 04 LDA ATTRACT ;ARE WE IN ATTRACT?
688 A65E 86 04 STX ATTRACT ;CLEAR ATTRACT MODE
689 A660 30 01 BMI NOATRO ;LEAVE ATTRACT IF IN IT
690 A662 60 RTS ;ELSE, WE'RE OK
691 A663 NOATRO:
692 A663 A2 08 LDX #ZBBAK-ZPLYBK ;# OF DLI COLORS TO RESTORE
693 A665 21$:
694 A665 80 B980 LDA CSCHM(X) ;LOAD ACTIVE GAME COLOR SCHEME
695 A668 95 0F STA ZPLYBK(X) ;TO DLI ZPAGE COLORS
696 A66A CA DEX
697 A66B 10 F8 BPL 21$
698 A66D 60 RTS
699 ;
700 ;
701 ; END DAVE'S ADDITION
702 ;
703 ; SUBROUTINE START
704 A66E START:
705 A66E 20 A7A5 JSR LDMESS
706 ; INIT LOAD SCOREBOARD TO RAM
707 A671 A2 4F LDX #79.
708 A673 80 BA08 99$: LDA SCORE(X)
709 A676 18 CLC
710 A677 69 60 ADC #60
711 A679 90 043F STA SBOARD(X)
712 A67C CA DEX
713 A67D 10 F4 BPL 99$
714 A67F 20 AABA JSR BLMSG
715 ;MOD. BASED ON GAMTYP
716 ;DAVE* LDA GAMTYP
717 ;DAVE* BPL 11$
718 ;
719 A682 2C 03CA BIT GAMTYP ;TEST SHORT GAME FLAG *DAVE* 7/22
720 A685 50 0A BVC 11$ ;BR IF NOT SHORT *DAVE* 7/22
721 ;
722 A687 A9 80 LDA #80
723 A689 80 0450 STA SBOARD+17.
724 A68C A9 96 LDA #96
725 A68E 80 0451 STA SBOARD+18.
726 ;
727 ;
728 A691 A9 00 11$: LDA #0 ;TURN TIMER OFF
729 A693 85 ED STA QTIMST
730 A695 A9 1E LDA #FRPSC ;LOAD FRAMES PER SECOND
731 A697 80 0280 STA QFRCT ;TO BE CLEAN
732 ;
733 ;
734 ; SET COLOR FOR FIELD LINES
735 ;
736 ; LET DLI SET-UP FIELD LINE COLOR
737 ;
738 A69A 20 A663 JSR NOATRO ;LOAD DLI COLORS
739 A69D A9 4A LDA #CTEAM0 ;START UP USING TEAM #0 RED
740 A69F 85 0B STA PCOLR3 ;ON PLAYER #3 (NUMERIC DOWN MARK)
741 A6A1 85 0F STA COLOR3 ;AND REGULAR DOWN MARKS TOO
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742      ;
743      ; SET P/MO (BALL) COLOR
744      ;
745      A6A3      A9      22      LDA      #CBALL      ;BROWN
746      A6A5      85      08      STA      PCOLR0
747      ;
748      A6A7      A9      1E      LDA      #CTMOC      ;SOME OTHER COLOR
749      A6A9      85      09      STA      PCOLR1      ;SET TEAM 0 CONTROL PLAYER COLOR
750      A6AB      A9      82      LDA      #CTM1C
751      A6AD      85      0A      STA      PCOLR2      ;TEAM 1 CNTRL
752      ;
753      ;
754      ; SET TEAM COLOR MASKS
755      ;
756      A6AF      A9      55      LDA      #55
757      A6B1      8D      0401     STA      TMOCLR
758      A6B4      A9      AA      LDA      #0AA
759      A6B6      8D      0402     STA      TM1CLR
760      ; DRAW AT PLAYER AREA
761      ;
762      ; MISSLES FOR FIELD LINES:
763      ;
764      A6B9      A2      CE      LDX      #<3-PMRES>*103.
765      A6BB      A9      FF      6$: LDA      #OFF
766      A6BD      9D      2300     STA      GXPM+MOFF(X)
767      A6C0      CA      DEX
768      A6C1      E0      48      CPX      #<3-PMRES>*36.
769      A6C3      8D      F6      BCS      6$
770      ;
771      ;
772      ; MISSLES FOR DOWN MARKS
773      ;
774      A6C5      A2      05      LDX      #5      ;DOWN MARKS 6 LINES HI
775      A6C7      A9      0F      LDA      #OF      ;USE ONLY MISSLES 0 & 1
776      A6C9      8$: STA
777      A6C9      9D      2340     STA      GXPM+MOFF+40(X)
778      A6CC      CA      DEX
779      A6CD      10      FA      BPL      8$
780      ;
781      ; GOAL POSTS IN PLAYER 3
782      ;
783      A6CF      A2      03      LDX      #3      ;4 LINES THICK EACH
784      A6D1      A9      FF      LDA      #OFF      ;JUST SOLID GRAFIX
785      A6D3      9$: STA
786      A6D3      9D      2783     STA      GXPM+P3OFF+83(X)
787      A6D6      9D      2793     STA      GXPM+P3OFF+93(X)
788      A6D9      CA      DEX
789      A6DA      10      F7      BPL      9$
790      ;
791      A6DC      A9      D8      LDA      #0D8
792      A6DE      8D      02B9     STA      HZGOAL      ;SET IT OFF-SCREEN FOR NOW
793      A6E1      A9      00      LDA      #0      ;SET CONSOL SHADOW
794      A6E3      8D      03B8     STA      VRTBNK      ;TO CONTROLLER #0, CALIBRATE MODE
795      ;
796      A6E6      20      8092     JSR      ENCALB      ;ENTER CALIBRATE MODE
797      ;
798
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799 A6E9 A9 54 LDA #84.
800 A6E8 8D 0411 STA SCRIMY
801 A6EE A9 F1 LDA #241.&OFF
802 A6F0 85 EE STA SCRIMX
803 A6F2 A9 00 LDA #241.&OFF00/100
804 A6F4 85 EF STA SCRIMX+1
805 ;
806 ; INITIALIZATION FOR SCORES, FIRST DOWN INDICATOR, & DOWN NUMBER
807 ;
808 A6F6 A9 01 LDA #1
809 A6F8 8D 03E9 STA QUATR
810 ;
811 A6F8 A9 00 LDA #0 ;CLEAR SCORES
812 A6FD A2 03 LDX #3
813 A6FF 10$: STA SCORE0(X)
814 A6FF 9D 03ED DEX
815 A702 CA BPL 10$
816 A703 10 FA
817 ;
818 ; SET UP INIT HSCROL STUFF
819 A705 A9 00 LDA #0
820 A707 8D D404 STA HSCROL
821 A70A 8D 0410 STA SCROLH
822 A70D A9 00 LDA #169.&OFF00/100
823 A70F 85 EC STA LFTEDG+1
824 A711 A9 A9 LDA #169.&OFF
825 A713 85 EB STA LFTEDG
826 ; PROBLEM WITH TIMING ??????????????
827 A715 A9 82 LDA #YARDND+19.&OFF
828 A717 8D 0415 STA YRADR
829 A71A A9 BF LDA #YARDND+19.&OFF00/100
830 A71C 8D 0416 STA YRADR+1
831 ; INIT SCROLL BOUNDS
832 A71F A9 48 LDA #72.
833 A721 8D 03C5 STA LSTRGT
834 A724 A9 48 LDA #75.
835 A726 8D 03C6 STA RSTRGT
836 ; LOAD ALL TO DEAD-1
837 A729 20 A591 JSR LDEAD
838 ;
839 ;
840 ; INITIALIZE TRIGGER FLAGS AND KEY VARIABLES
841 A72C A2 01 LDX #1
842 ;
843 A72E A9 FF 25$: LDA #OFF
844 A730 95 E9 STA KEY(X)
845 A732 A9 01 LDA #1
846 A734 9D 03F7 STA TRGFG(X)
847 A737 9D 03F9 STA OTRGFG(X)
848 A73A 9D 03F3 STA STRGFG(X)
849 A73D 9D 03F5 STA OSTRG(X)
850 A740 CA DEX
851 A741 10 EB BPL 25$
852 A743 A9 00 LDA #0
853 A745 85 DD STA OFFENS ;INIT TM1 AS OFFENSE FOR NOW
854 A747 85 DE STA OFFDIR
855 A749 20 90F0 JSR FIR10
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856	A74C	20	AD3A	JSR	YRDBAL	
857				:INIT POSITION	PLAYERS OFF SCREEN	
858	A74F	A2	0C	LDX	#BALL	
859	A751	A9	10	LDA	#YTOPBL	
860	A753	9D	02D8	STA	YPOS(X)	
861	A756	A9	F1	LDA	#241.£OFF	
862	A758	9D	02C8	STA	XPOS(X)	
863	A75B	A9	00	LDA	#241.£OFF00/100	
864	A75D	9D	02E5	STA	XPOSHI(X)	
865	A760	A2	08	LDX	#BALL-1	
866	A762	8A		IPOS LP: TXA		
867	A763	29	01	AND	#1	
868	A765	F0	12	BEQ	10%	
869	A767	A5	EB	LDA	LFTEDG	
870	A769	18		CLC		
871	A76A	69	A0	ADC	#160.	
872	A76C	9D	02C8	STA	XPOS(X)	
873	A76F	A5	EC	LDA	LFTEDG+1	
874	A771	69	00	ADC	#0	
875	A773	9D	02E5	STA	XPOSHI(X)	
876	A776	4C	A788	JMP	20%	
877	A779	A5	EB	10%: LDA	LFTEDG	
878	A77B	38		SEC		
879	A77C	E9	09	SBC	#9	
880	A77E	9D	02C8	STA	XPOS(X)	
881	A781	A5	EC	LDA	LFTEDG+1	
882	A783	E9	00	SBC	#0	
883	A785	9D	02E5	STA	XPOSHI(X)	
884	A788	A9	10	20%: LDA	#YTOPBL	
885	A78A	18		CLC		
886	A78B	7D	A799	ADC	TEAM Y(X)	
887	A78E	9D	02D8	STA	YPOS(X)	
888	A791	CA		DEX		
889	A792	10	CE	BPL	IPOS LP	
890	A794	A9	00	LDA	#0	:KEEPS 30 SEC CLOCK OFF! (BASED ON OLD ESTTUS)
891	A796	85	E8	STA	ESTTUS	
892	A798	60		RTS		
893						
894	A799	00	00	10	10	TEAM Y: .BYTE 0,0,16.,16.,32.,32.,48.,48.,64.,64.,80.,80.
	A79D	20	20	30	30	
	A7A1	40	40	50	50	
895						
896	A7A5	A2	18	LDMESS: LDX	#MSGEND-MSGST-1£OFF	
897	A7A7	8D	8A5B	10%: LDA	MSGST(X)	
898	A7AA	9D	0423	STA	MSGTB(X)	
899	A7AD	CA		DEX		
900	A7AE	10	F7	BPL	10%	
901	A7B0	60		RTS		
902						
903				: SET BALL=SCRIM		
904				: REQUIRES PTR A SET TO DESIRED OFFENS FORMATION		
905				: AND PTR B SET TO DEFENSE FORMATION		
906				:LOAD STANDARD OFF AND DEF FORMS TO RAM		
907				: OFFENSE		
908	A7B1	A9	0A	LDOFRM: LDA	#BALL-2	
909	A7B3	18		CLC		
910	A7B4	65	DD	ADC	OFFENS	

911	A7B6	AA			TAX
912	A7B7	8A		LDOFF:	TXA
913	A7B8	29	FE		AND #0FE
914	A7BA	A8			TAY
915	A7BB	B1	4D		LDA @PTR(A(Y)
916	A7BD	9D	030C		STA XGOTO(X)
917	A7C0	C8			INY
918	A7C1	B1	4D		LDA @PTR(A(Y)
919	A7C3	9D	0326		STA YGOTO(X)
920	A7C6	CA			DEX
921	A7C7	CA			DEX
922	A7C8	10	ED		BPL LDOFF
923				; INVERT DELTA X AND YS BASED ON OFFDIR AND LFTRIT	
924				; FOR OFFENSE	
925	A7CA	A5	DD		LDA OFFENS
926	A7CC	18			CLC
927	A7CD	69	0A		ADC #BALL-2
928	A7CF	AA			TAX
929	A7D0	86	D6		STX TO
930					
931	A7D2	A5	DE		LDA OFFDIR
932	A7D4	30	0B		BMI LFT
933	A7D6	20	A963	RR:	JSR YINVRT
934	A7D9	A6	D6		LDX TO
935	A7DB	20	A94E		JSR XINVRT
936	A7DE	4C	A7E4		JMP 8888
937					
938	A7E1	20	A944	LFT:	JSR XHZERO
939	A7E4	A5	DD	8888:	LDA OFFENS
940	A7E6	18			CLC
941	A7E7	69	0A		ADC #BALL-2
942	A7E9	AA			TAX
943	A7EA	20	A831		JSR CLCABS
944					
945	A7ED	60			RTS
946					
947					
948	A7EE	A5	DD	LDDFRM:	LDA OFFENS
949	A7F0	49	01		EOR #1
950	A7F2	18			CLC
951	A7F3	69	0A		ADC #BALL-2
952	A7F5	AA			TAX
953	A7F6	8A		LDDEF:	TXA
954	A7F7	29	FE		AND #0FE
955	A7F9	A8			TAY
956	A7FA	B1	4D		LDA @PTR(A(Y)
957	A7FC	9D	030C		STA XGOTO(X)
958	A7FF	C8			INY
959	A800	B1	4D		LDA @PTR(A(Y)
960	A802	9D	0326		STA YGOTO(X)
961	A805	CA			DEX
962	A806	CA			DEX
963	A807	10	ED		BPL LDDEF
964					
965	A809	A5	DD		LDA OFFENS
966	A80B	49	01		EOR #1
967	A80D	18			CLC

968	A80E	69	0A	ADC	#BALL-2
969	A810	AA		TAX	
970	A811	86	D6	STX	TO
971	A813	A5	DE	LDA	OFFDIR
972	A815	30	06	BMI	DINVRT
973					
974	A817	20	A944	JSR	XHZERO
975	A81A	4C	A825	JMP	AAAA
976	A81D	20	A963	DINVRT: JSR	YINVRT
977	A820	A6	D6	LDX	TO
978	A822	20	A94E	JSR	XINVRT
979	A825	A5	DD	AAAA: LDA	OFFENS
980	A827	49	01	EOR	#1
981	A829	18		CLC	
982	A82A	69	0A	ADC	#BALL-2
983	A82C	AA		TAX	
984	A82D	20	A831	JSR	CLCABS
985	A830	60		RTS	
986					
987				; ADD SCRIMX DOUBLE BYTE	
988	A831	A5	EE	CLCABS: LDA	SCRIMX
989	A833	18		CLC	
990	A834	7D	030C	ADC	XGOTO(X)
991	A837	9D	030C	STA	XGOTO(X)
992	A83A	A5	EF	LDA	SCRIMX+1
993	A83C	7D	0319	ADC	XHGOTO(X)
994	A83F	9D	0319	STA	XHGOTO(X)
995				; ADD XOFFSET DOUBLE BYTE	
996	A842	A9	FD	LDA	#0FD
997	A844	18		CLC	
998	A845	7D	030C	ADC	XGOTO(X)
999	A848	9D	030C	STA	XGOTO(X)
1000	A84B	A9	FF	LDA	#OFF
1001	A84D	7D	0319	ADC	XHGOTO(X)
1002	A850	9D	0319	STA	XHGOTO(X)
1003				; ADD SCRIMY	
1004	A853	AD	0411	LDA	SCRIMY
1005	A856	18		CLC	
1006	A857	7D	0326	ADC	YGOTO(X)
1007	A85A	9D	0326	STA	YGOTO(X)
1008				; ADD YOFFSET	
1009	A85D	A9	F9	LDA	#0F9
1010	A85F	18		CLC	
1011	A860	7D	0326	ADC	YGOTO(X)
1012	A863	9D	0326	STA	YGOTO(X)
1013	A866	CA		DEX	
1014	A867	CA		DEX	
1015	A868	10	C7	BPL	CLCABS
1016	A86A	60		RTS	


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1      ; X HAS PLYR #
2      A868      B5      A2      XUPDAT: LDA      MVCNT(X)
3      A86D      B5      D6      STA      TO
4      A86F      BD      02F2      LDA      LSTXDR(X)
5      A872      30      04      BMI      10$
6      A874      20      A88D      JSR      XPSADD
7      A877      60
8      A878      20      A8D0      10$: JSR      XPSSUB
9      A87B      60      RTS

10
11     ; X HAS PLYR #
12     A87C      B5      A2      YUPDAT: LDA      MVCNT(X)
13     A87E      B5      D6      STA      TO
14     A880      BD      02FF      LDA      LSTYDR(X)
15     A883      30      04      BMI      20$
16     A885      20      A8F2      JSR      YPSADD
17     A888      60
18     A889      20      A918      20$: JSR      YPSSUB
19     A88C      60
20     A88D      E0      0C      XPSADD: CPX      #BALL
21     A88F      D0      17      BNE      5$
22     A891      BD      02E5      LDA      XPOSHI(X)
23     A894      C9      03      CMP      #XRITBLEOFF00/100
24     A896      90      29      BCC      10$
25     A898      BD      02CB      LDA      XPOS(X)
26     A898      C9      C0      CMP      #XRITBLEOFF
27     A89D      90      22      BCC      10$
28     A89F      B5      F1      LDA      PLYRFG(X)
29     A8A1      09      40      ORA      #OUTBND
30     A8A3      95      F1      STA      PLYRFG(X)
31     A8A5      4C      A8CF      JMP      ENDXAD
32     A8A8      BD      02E5      5$: LDA      XPOSHI(X)
33     A8AB      30      14      BMI      10$
34     A8AD      C9      03      CMP      #XRITPL&OFF00/100
35     A8AF      90      10      BCC      10$
36     A8B1      BD      02CB      LDA      XPOS(X)
37     A8B4      C9      BD      CMP      #XRITPL&OFF
38     A8B6      90      09      BCC      10$
39     A8B8      B5      F1      LDA      PLYRFG(X)
40     A8BA      09      40      ORA      #OUTBND
41     A8BC      95      F1      STA      PLYRFG(X)
42     A8BE      4C      A8CF      JMP      ENDXAD
43
44     A8C1      BD      02CB      10$: LDA      XPOS(X)
45     A8C4      18      CLC
46     A8C5      65      D6      ADC      TO
47     A8C7      9D      02CB      STA      XPOS(X)
48     A8CA      90      03      BCC      ENDXAD
49     A8CC      FE      02E5      INC      XPOSHI(X)
50     A8CF      60      ENDXAD: RTS
51
52     A8D0      BD      02CB      XPSSUB: LDA      XPOS(X)
53     A8D3      38      SEC
54     A8D4      E5      D6      SBC      TO
55     A8D6      9D      02CB      STA      XPOS(X)
56     A8D9      B0      03      BCS      10$
57     A8DB      DE      02E5      DEC      XPOSHI(X)
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58	A8DE	BD	02E5	10\$:	LDA	XPOSHI(X)
59	A8E1	10	0E		BPL	ENDXSB
60	A8E3	B5	F1		LDA	PLYRFG(X)
61	A8E5	09	40		ORA	#OUTBND
62	A8E7	95	F1		STA	PLYRFG(X)
63	A8E9	A9	00		LDA	#0
64	A8EB	9D	02C8		STA	XPOS(X)
65	A8EE	9D	02E5		STA	XPOSHI(X)
66	A8F1	60		ENDXSB:	RTS	
67	A8F2	BD	02D8	YPSADD:	LDA	YPOS(X)
68	A8F5	18			CLC	
69	A8F6	65	D6		ADC	T0
70	A8F8	E0	0C		CPX	#BALL
71	A8FA	D0	0F		BNE	10\$
72	A8FC	C9	94		CMP	#YBOTBL
73	A8FE	90	17		BCC	20\$
74	A900	B5	F1		LDA	PLYRFG(X)
75	A902	09	40		ORA	#OUTBND
76	A904	95	F1		STA	PLYRFG(X)
77	A906	A9	94		LDA	#YBOTBL
78	A908	4C	A917		JMP	20\$
79						
80	A90B	C9	89	10\$:	CMP	#YBOTPL
81	A90D	90	08		BCC	20\$
82	A90F	B5	F1		LDA	PLYRFG(X)
83	A911	09	40		ORA	#OUTBND
84	A913	95	F1		STA	PLYRFG(X)
85	A915	A9	89		LDA	#YBOTPL
86	A917	9D	02D8	20\$:	STA	YPOS(X)
87	A91A	60		ENDYAD:	RTS	
88	A91B	BD	02D8	YPSSUB:	LDA	YPOS(X)
89	A91E	38			SEC	
90	A91F	E5	D6		SBC	T0
91	A921	E0	0C		CPX	#BALL
92	A923	D0	0F		BNE	10\$
93	A925	C9	10		CMP	#YTOPBL
94	A927	B0	17		BCS	20\$
95	A929	B5	F1		LDA	PLYRFG(X)
96	A92B	09	40		ORA	#OUTBND
97	A92D	95	F1		STA	PLYRFG(X)
98	A92F	A9	10		LDA	#YTOPBL
99	A931	4C	A940		JMP	20\$
100						
101	A934	C9	03	10\$:	CMP	#YTOPPL
102	A936	B0	08		BCS	20\$
103	A938	B5	F1		LDA	PLYRFG(X)
104	A93A	09	40		ORA	#OUTBND
105	A93C	95	F1		STA	PLYRFG(X)
106	A93E	A9	03		LDA	#YTOPPL
107	A940	9D	02D8	20\$:	STA	YPOS(X)
108	A943	60			RTS	
109						
110						
111						
112	A944	A9	00	XHZERO:	LDA	#0
113	A946	9D	0319	10\$:	STA	XHGOTO(X)
114	A949	CA			DEX	


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115 A94A CA          DEX
116 A94B 10 F9      BPL 10$
117 A94D 60        RTS
118 A94E BD 030C    XINVRT: LDA XGOTO(X)
119 A951 49 FF      EOR #OFF
120 A953 18        CLC
121 A954 69 01      ADC #1
122 A956 9D 030C    STA XGOTO(X)
123 A959 A9 FF      LDA #OFF
124 A95B 9D 0319    STA XHGOTO(X)
125 A95E CA        DEX
126 A95F CA        DEX
127 A960 10 EC      BPL XINVRT
128 A962 60        RTS
129 A963 BD 0326    YINVRT: LDA YGOTO(X)
130 A966 49 FF      EOR #OFF
131 A968 18        CLC
132 A969 69 01      ADC #1
133 A96B 9D 0326    STA YGOTO(X)
134 A96E CA        DEX
135 A96F CA        DEX
136 A970 10 F1      BPL YINVRT
137 A972 60        RTS
138          ; SAVES CURRENT SCREEN VALUES TO BUFFER VIA OLDXPT AND OLDYPT
139 A973          NEWOLD:
140          ;
141          ;
142 A973 A0 0B      LDY #BALL-1
143          ; *DAVE* LDY #BALL+3          ; *DAVE* ALL OBJECTS PLEASE
144 A975          10$:
145 A975 B9 0254    LDA NEWX(Y)
146 A978 91 5B      STA @OLDXPT(Y)
147 A97A B9 02D8    LDA YPOS(Y)
148 A97D 91 5D      STA @OLDYPT(Y)
149 A97F 88        DEY
150 A980 10 F3      BPL 10$
151 A982 60        RTS
152          ; SUBROUTINE CALCULATES SCREEN POSITION FROM
153          ; ABSOLUTE POSITION
154 A983          SCNPOS:
155 A983 A2 0C      LDX #BALL
156          ; *DAVE* LDX #BALL+3          ; DOWN MARKERS TOO *DAVE*
157          ;
158 A985 BD 02CB    50$: LDA XPOS(X)
159 A988 38        SEC
160 A989 E5 E8      SBC LFTEDG
161 A98B A8        TAY
162 A98C BD 02E5    LDA XPOSHI(X)
163 A98F E5 EC      SBC LFTEDG+1
164          ; SET NEWX TO -7 TO 159. OR OFF SCREEN (0D4=212.)
165 A991 F0 0B      BEQ 110$
166 A993 C9 FF      CMP #OFF
167 A995 D0 0C      BNE 120$
168 A997 98        TYA
169 A998 C9 F9      CMP #0F9          ; -7
170 A99A 90 07      BCC 120$
171 A99C B0 07      BCS 130$
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172 A99E 98      110$: TYA
173 A99F C9      CMP      #160.
174 A9A1 90      BCC      130$
175 A9A3 A9      120$: LDA      #0D4
176 A9A5 9D      130$: STA      NEWX(X)
177 A9A8 CA      DEX
178 A9A9 10      BPL      50$
179      ;
180      ; *****
181      ;
182      ;   ADDED BY DAVE:
183      ;
184 A9A8 A2      02      LDX      #2
185 A9AD      140$:
186 A9AD BD      02BA    LDA      XDPOS(X)
187 A9B0 38      SEC
188 A9B1 E5      EB      SBC      LFTEDG
189 A9B3 A8      TAY
190 A9B4 BD      02BD    LDA      XDPOSH(X)
191 A9B7 E5      EC      SBC      LFTEDG+1
192 A9B9 90      06      BCC      150$
193 A9BB D0      04      BNE      150$
194 A9BD C0      A0      CPY      #160.
195 A9BF 90      02      BCC      160$
196 A9C1      150$:
197 A9C1 A0      D4      LDY      #0D4
198 A9C3      160$:
199 A9C3 98      TYA
200 A9C4 18      CLC
201 A9C5 69      30      ADC      #30
202 A9C7 E0      00      CPX      #0
203 A9C9 D0      06      BNE      170$
204 A9CB 18      CLC
205 A9CC 6D      02C3    ADC      DMFUDG
206 A9CF A2      00      LDX      #0
207 A9D1      170$:
208 A9D1 9D      02C0    STA      XDSPPOS(X)
209 A9D4 CA      DEX
210 A9D5 10      D6      BPL      140$
211      ;
212      ;   END DAVE'S ADDITIONS
213      ;
214 A9D7 60      RTS
215      ;SCLFLD
216 A9D8 BD      B2D1    SCLFLD: LDA      LINLOC(X)
217 A9DB 38      SEC
218 A9DC E5      EB      SBC      LFTEDG
219 A9DE B5      D6      STA      T0
220 A9E0 BD      B2D2    LDA      LINLOC+1(X)
221 A9E3 E5      EC      SBC      LFTEDG+1
222 A9E5 D0      15      BNE      50$
223 A9E7 A5      D6      LDA      T0
224 A9E9 C9      A0      CMP      #160.
225 A9EB B0      0F      BCS      50$
226      ;
227      ; *****
228      ;
```

;MUST BE DOWNMARKER, SO
;USE HORZ FUDGE FACTOR

DAVE 7/16
DAVE 7/16


```
229      ; ADDED BY DAVE:
230      ;
231      A9ED      69      30      ADC      #30      ;CY=0, ADD HPOS OFFSET
232      A9EF      C0      02      CPY      #2      ;MISSILES 0,1 MUST USE SHADOWS
233      A9F1      90      05      BCC      60$      ;BRANCH IF MULTI PURPOSE MISSILES
234      A9F3      99      0004     STA      HPOSM0(Y) ;ELSE, MISSILE 2 OR 3 (ALWAYS A FIELD LINE)
235      A9F6      B0      03      BCS      70$      ;BRANCH ALWAYS
236      A9F8      60$:
237      A9F8      99      02B7     STA      HZMIS(Y) ;MISSILES 0, 1 USE SHADOWS
238      A9F8      70$:
239      ;
240      ;
241      ;*DAVE* STX      T1
242      ;      LDX      AVTBL(Y)
243      ;      CLC
244      ;      ADC      #30      ;HPOS OFFSET
245      ;      STA      HPOSPO(X)
246      ;      LDX      T1
247      ;
248      ; END DAVE'S ADDITION/DELETION
249      ;
250      A9FB      88      DEY
251      A9FC      CA      50$: DEX
252      A9FD      CA      DEX
253      A9FE      10      D8      BPL      SCLFLD
254      AA00      C0      00      CPY      #0      ;CHECK FOR CASE WHERE ONLY 3 ARE ON SCREEN
255      AA02      D0      05      BNE      ENDFLD
256      ;*DAVE* LDX      AVTBL(Y)
257      AA04      A9      D8      LDA      #0D8      ;SET OFF FIELD
258      ;*DAVE* STA      HPOSPO(X)
259      AA06      B0      02B7     STA      HZMIS      ;*DAVE*
260      AA09      60      ENDFLD: RTS
261      ;HSHVAL
262      AA0A      85      D6      HSHVAL: STA      T0
263      AA0C      B0      B29F     10$: LDA      EXPTBL(X)
264      AA0F      99      0506     STA      BUFFER+1(Y)
265      AA12      B0      B2A0     LDA      EXPTBL+1(X)
266      AA15      99      0505     STA      BUFFER(Y)
267      AA18      88      DEY
268      AA19      88      DEY
269      AA1A      C4      D6      CPY      T0
270      AA1C      D0      EE      BNE      10$
271      AA1E      60      RTS
272      ;BLKMOV
273      AA1F      B0      0505     BLKMOV: LDA      BUFFER(X)
274      AA22      91      4F      STA      @PTRB(Y)
275      AA24      91      51      STA      @PTRC(Y)
276      AA26      91      53      STA      @PTRD(Y)
277      AA28      91      55      STA      @PTRE(Y)
278      AA2A      88      DEY
279      AA2B      CA      DEX
280      AA2C      10      F1      BPL      BLKMOV
281      AA2E      60      RTS
282      ;SETPTB
283      ; SETS PTAB(X) TO SCREEN START +Y(40.)
284      ; X HAS OFFSET FROM PTAB
285      AA2F      B9      BCD7     SETPTB: LDA      LOFRTY(Y)
```


286	AA32	18		CLC	
287	AA33	65	5F	ADC	UPDTPT
288	AA35	95	4D	STA	PTAB(X)
289	AA37	B9	BD6F	LDA	HIFRTY(Y)
290	AA3A	65	60	ADC	UPDTPT+1
291	AA3C	95	4E	STA	PTAB+1(X)
292	AA3E	60		RTS	
293					
294					
295					: ERASEP
296					: SUSPICIOUS FUNCTION!!!!!!!!!!!!!!!!!!!!!!
297					: Y AND CURPLR HAVE ABS PLAYER #
298	AA3F				ERASEP:
299					:
300					: ADDED BY DAVE:
301					:
302	AA3F	A9	0E	LDA	#LENGTH-1
303	AA41	85	D6	STA	TO
304					:ASSUME BIT-MAP PLAYER
305					:SAVE IN TEMP
306					:
307	AA43	B1	5B		
308	AA45	C9	D4		
309	AA47	F0	4A		
310	AA49	C9	A0		
311	AA4B	B0	04		
312	AA4D	4A			
313	AA4E	4A			
314	AA4F	10	04		
315	AA51	38			
316	AA52	6A			
317	AA53	38			
318	AA54	6A			
319	AA55	85	1D		
320					
321	AA57	B1	5D		
322	AA59	A8			
323	AA5A	C0	98		
324	AA5C	90	01		
325	AA5E	00			
326	AA5F	B9	BCD7		
327	AA62	18			
328	AA63	65	5F		
329	AA65	85	4F		
330	AA67	B9	BD6F		
331	AA6A	65	60		
332	AA6C	85	50		
333					
334	AA6E	A9	00		
335	AA70	A4	1D		
336	AA72	30	02		
337	AA74	91	4F		
338	AA76	C8			
339	AA77	C0	28		
340	AA79	B0	02		
341	AA7B	91	4F		
342	AA7D	C8			

343	AA7E	C0	28		CPY	#40.
344	AA80	B0	02		BCS	103\$
345	AA82	91	4F		STA	@PTRB(Y)
346						
347	AA84	A5	4F	103\$:	LDA	PTRB
348	AA86	18			CLC	
349	AA87	69	28		ADC	#40.
350	AA89	85	4F		STA	PTRB
351	AA8B	90	02		BCC	110\$
352	AA8D	E6	50		INC	PTRB+1
353	AA8F	C6	D6	110\$:	DEC	T0
354	AA91	10	D8		BPL	100\$
355	AA93	C6	19	ENDERS:	DEC	CURPLR
356	AA95	A4	19		LDY	CURPLR
357	AA97	10	A6		BPL	ERASEP
358	AA99	60			RTS	
359						
360				:WBLOCK		
361	AA9A	91	4F	WBLOCK:	STA	@PTRB(Y)
362	AA9C	88			DEY	
363	AA9D	10	F8		BPL	WBLOCK
364	AA9F	60			RTS	
365						
366				:SUBROUTINE GOSTAT		
367	AAA0	A5	F0	GOSTAT:	LDA	STATE
368	AAA2	29	7F		AND	#7F ;MASK OFF PLAYON BIT, AND USE REST AS INDEX
369	AAA4	0A			ASL	
370	AAA5	AA			TAX	
371						
372	AAA6	BD	B54A		LDA	STATBL+1(X)
373	AAA9	48			PHA	
374	AAAA	BD	B549		LDA	STATBL(X)
375	AAAD	48			PHA	
376	AAAE	60			RTS	
377				:		


```
1      ;
2      ;*****
3      ;
4      ;   ADDED BY DAVE
5      ;
6      ;   ERASE MID & BOT SCOREBOARD LINES
7      ;
8      ; CLR1:
9      ; AAAF      A2      4F      LDX      #79.
10     ; AAB1      A9      80      LDA      #80
11     ; AAB3      1$:
12     ; AAB3      9D      0467     STA      SBOARD+40.(X)
13     ; AAB6      CA
14     ; AAB7      10      FA      DEX
15     ; AAB9      60      BPL      1$
16     ; RTS
17     ;
18     ;   BLANK OUT MESSAGE AREA ROUTINE          *DAVE* 7/16
19     ;
20     ; BLMSG:
21     ; AABA      A9      80      LDA      #80      ;GET BLANK CHAR      *DAVE* 7/16
22     ; AABC      A2      27      LDX      #39.      ;40 CHARS TO KILL    *DAVE* 7/16
23     ; AABE      1$:
24     ; AABE      9D      048F     STA      SBOARD+80.(X) ;WRITE BLANK      *DAVE* 7/16
25     ; AAC1      9D      052D     STA      BOTLIN(X)   ;SAVE IN SHADOW   *DAVE* 7/22
26     ; AAC4      CA
27     ; AAC5      10      F7      DEX
28     ; AAC7      60      BPL      1$
29     ; RTS
30     ;
31     ;   PROMPT MESSAGE ROUTINE
32     ;
33     ;   PROMPTS PLAYER FOR KEY-PUSH INPUT
34     ;
35     ;   UPON ENTRY:  HI NIBBLE OF ACCUM CONTAINS 0 FOR OFFENSE, 1 FOR DEFENSE
36     ;                  LO NIBBLE CONTAINS MESSAGE # OR 0 FOR ERASE PREVIOUS MESSAGE
37     ;
38     ;   USES GLOBAL VARIABLE OFFENS TO DETERMINE WHICH SIDE OF SCOREBOARD
39     ;   TO USE.
40     ;
41     ;   PROMPT:
42     ; AAC8      86      D7      STX      T1      ;PRESERVE X
43     ; AAC9      84      D8      STY      T2      ;AND Y TOO
44     ; AACB      85      D6      STA      T0      ;SAVE MESSAGE #
45     ; AACD      AD      02C7     LDA      MNBR     ;GET CURRENT MSG #      *DAVE* 8/3
46     ; AAE1      C9      02      CMP      #FBEG-MSGTB ;IS IT SPECIAL FLASHING? *DAVE* 8/3
47     ; AAE3      90      07      BCC      12$      ;BR IF NO, SKIP KILL MSG *DAVE* 8/3
48     ; AAE5      C9      0E      CMP      #FEND-MSGTB ;MAX FLASHING SPECIAL?  *DAVE* 8/3
49     ; AAE7      B0      03      BCS      12$      ;BR IF NO      *DAVE* 8/3
50     ; AAE9      20      8EF4     JSR      KFLASH    ;KILL CURRENT FLASHER  *DAVE* 8/3
51     ; AADC      12$:
52     ; AADC      A5      D6      LDA      T0      ;RESTORE MSG #      *DAVE* 8/3
53     ; AADE      A2      13      LDX      #19.      ;ASSUME LEFT SIDE TO CLEAR
54     ; AAEO      A0      13      LDY      #19.
55     ; AAE2      4A      LSR
56     ; AAE3      4A      LSR
57     ; AAE4      4A      LSR
```


58	AAE5	4A		LSR		
59	AAE6	45	DD	EOR	OFFENS	:SEE WHICH SIDE TO CLEAR
60	AAE8	F0	02	BEQ	1\$:BR IF LEFT SIDE
61	AAEA	A0	27	LDY	#39.	:ELSE, USE RIGHT SIDE
62	AAEC					
63	AAEC	A9	80	LDA	#80	:BLANK CHAR
64	AAEE					
65	AAEE	99	048F	STA	SBOARD+80.(Y)	:STUFF IN SCOREBOARD
66	AAF1	99	052D	STA	BOTLIN(Y)	:SAVE IN SHADOW BUFFER TOO
67	AAF4	88		DEY		
68	AAF5	CA		DEX		
69	AAF6	10	F6	BPL	2\$:LOOP TO CLEAR ALL LEFT/RIGHT SIDE
70						
71	AAF8	A5	D6	LDA	T0	:REGET COMMAND CHAR
72	AAFA	29	0F	AND	#0F	:USE LD NIBBLE
73	AAFC	F0	7C	BEQ	11\$:BR IF 0 (CLEAR IS ALL WE NEED)
74						
75	AAFE	38		SEC		
76	AAFF	E9	01	SBC	#1	:ADJUST MESSAGE #
77	AB01	0A		ASL		
78	AB02	AA		TAX		
79	AB03	BD	BB88	LDA	PMSG(X)	:LOAD PTR
80	AB06	85	4D	STA	PTRA	
81	AB08	BD	BB8C	LDA	PMSG+1(X)	
82	AB0B	85	4E	STA	PTRA+1	
83	AB0D	A9	83	LDA	#OMSG&OFF	
84	AB0F	85	4F	STA	PTRB	
85	AB11	A9	88	LDA	#OMSG&OFF00/100	
86	AB13	85	50	STA	PTRB+1	
87	AB15	A5	D6	LDA	T0	:CHECK FOR OFF: OR DEF:
88	AB17	29	10	AND	#10	:BIT 4 HAS IT
89	AB19	F0	08	BEQ	3\$:BR IF OFF:
90	AB1B	A5	4F	LDA	PTRB	
91	AB1D	18		CLC		
92	AB1E	69	04	ADC	#4	
93	AB20	85	4F	STA	PTRB	
94	AB22	90	02	BCC	3\$	
95	AB24	E6	50	INC	PTRB+1	
96	AB26					
97	AB26	C0	13	CPY	#19.	
98	AB28	D0	2E	BNE	8\$	
99						
100						: RIGHT SIDE
101						
102	AB2A	A0	00	LDY	#0	
103	AB2C					
104	AB2C	B1	4D	LDA	@PTRA(Y)	
105	AB2E	F0	03	BEQ	5\$	
106	AB30	C8		INY		
107	AB31	D0	F9	BNE	4\$:BR ALWAYS
108	AB33					
109	AB33	88		DEY		
110	AB34	A2	26	LDX	#38.	
111	AB36					
112	AB36	B1	4D	LDA	@PTRA(Y)	
113	AB38	18		CLC		
114	AB39	69	60	ADC	#60	


```
115 AB38 9D 048F STA SBOARD+80.(X) ;STUFF IN SCOREBOARD
116 AB3E 9D 052D STA BOTLIN(X) ;SAVE IN SHADOW BUFFER TOO
117 AB41 CA DEX
118 AB42 88 DEY
119 AB43 10 F1 BPL 6$
120 ;
121 AB45 A0 03 LDY #3
122 AB47 7$: LDA @PTRB(Y)
123 AB47 B1 4F CLC
124 AB49 18 ADC #60
125 AB4A 69 60 STA SBOARD+80.(X) ;STUFF IN SCOREBOARD
126 AB4C 9D 048F STA BOTLIN(X) ;SAVE IN SHADOW BUFFER TOO
127 AB4F 9D 052D DEX
128 AB52 CA DEY
129 AB53 88 BPL 7$
130 AB54 10 F1 BMI 11$
131 AB56 30 22
132 ;
133 ; LEFT SIDE
134 ;
135 AB58 8$: LDY #3
136 AB58 A0 03
137 AB5A 9$: LDA @PTRB(Y)
138 AB5A B1 4F CLC
139 AB5C 18 ADC #60
140 AB5D 69 60 STA SBOARD+81.(Y) ;STUFF IN SCOREBOARD
141 AB5F 99 0490 STA BOTLIN+1(Y) ;SAVE IN SHADOW BUFFER TOO
142 AB62 99 052E DEY
143 AB65 88 BPL 9$
144 AB66 10 F2
145 ;
146 AB68 A0 00 LDY #0
147 AB6A 10$: LDA @PTRB(Y)
148 AB6A B1 4D BEQ 11$
149 AB6C F0 0C CLC
150 AB6E 18 ADC #60
151 AB6F 69 60 STA SBOARD+85.(Y) ;STUFF IN SCOREBOARD
152 AB71 99 0494 STA BOTLIN+5(Y) ;SAVE IN SHADOW BUFFER TOO
153 AB74 99 0532 INY
154 AB77 C8 BNE 10$
155 AB78 D0 F0
156 ;
157 AB7A 11$: LDX T1
158 AB7A A6 D7 LDY T2
159 AB7C A4 D8 RTS
160 AB7E 60
161 ;
162 ;
163 ;
164 ;
165 ;
166 ; *****
167 ;
168 ;
169 ; KICK PLACEMENT ROUTINE
170 ;
171 ; ENTRY: OPLTYP FLAG DETERMINES PUNT, KICK-OFF, OR FIELD-GOAL
```



```
172      ; XPOS+BALL, XPOSHI+BALL, YPOS+BALL USED AS BALL START POSITION
173      ;
174      ; EXIT: XGOTO+BALL, XHGOTO+BALL, YGOTO+BALL SET ACCORDING TO DESTINATION
175      ;
176      A87F      KPLACE:
177      A87F      A2      00      LDX      #0      ;INDEX INTO PARAM TABLES = 0
178      AB81      A9      40      LDA      #40      ;MASK FOR 1ST KICK TYPE
179      AB83      1$:
180      AB83      2C      03C9      BIT      OPLTYP      ;AND MASK WITH KICK TYPE
181      AB86      D0      07      BNE      2$      ;FOUND IT, X=VALID INDEX
182      AB88      4A      LSR      ;SHIFT MASK
183      AB89      E8      INX      ;ADVANCE INDEX
184      AB8A      E0      03      CPX      #RANGEM-AVEHZ      ;OUT OF KICK TYPES?
185      AB8C      D0      F5      BNE      1$      ;NO, CHECK NEXT
186      AB8E      60      RTS      ;ELSE, IGNORE UNRECOGNIZED KICK TYPE
187      AB8F      2$:
188      AB8F      BD      AD18      LDA      AVEHZ(X)      ;PICK UP AVERAGE HORZ KICK (YRDS*4)
189      AB92      85      D8      STA      T2      ;SAVE IN TEMP
190      AB94      BD      AD1E      LDA      LFMAXL(X)      ;ASSUME LEFT BOUNDS TO CHECK
191      AB97      BC      AD21      LDY      LFMAXH(X)      ;GET MSB TOO
192      AB9A      24      DE      BIT      OFFDIR      ;CHECK WHICH FORWARD DIRECTION
193      AB9C      30      06      BMI      3$      ;SKIP RIGHT BOUNDS SUBSTITUTION
194      AB9E      BD      AD24      LDA      RTMAXL(X)      ;ELSE, USE RIGHT BOUNDS
195      ABA1      BC      AD27      LDY      RTMAXH(X)      ;MSB TOO
196      ABA4      3$:
197      ABA4      85      DA      STA      T4      ;SAVE LSB, BOUNDS
198      ABA6      84      DB      STY      T5      ;MSB TOO
199      ABA8      BD      AD1B      LDA      RANGEM(X)      ;FETCH RANGE MULTIPLIER (0-15)
200      ABAB      20      ACF1      JSR      WRAND      ;GET WEIGHTED RANDOM, SCALED BY RANGEM
201      ABAE      85      D9      STA      T3      ;SAVE
202      ABB0      A5      D8      LDA      T2      ;GET AVERAGE KICK (YRDS*4)
203      ABB2      0A      ASL      ;GET YRDS*8
204      ABB3      85      D6      STA      T0      ;SAVE LSB
205      ABB5      A9      00      LDA      #0
206      ABB7      69      00      ADC      #0
207      ABB9      85      D7      STA      T1      ;SAVE MSB, NORMAL FIELD UNITS (YRDS*8)
208      AB88      2C      D20A      BIT      RANDOM      ;DETERMINE + OR -
209      AB8E      10      0E      BPL      4$      ;JUMP TO WEIGHTED ADD
210      ;
211      ; DO WEIGHTED RANDOM SUBTRACT FROM AVERAGE:
212      ;
213      ABC0      A5      D6      LDA      T0      ;REGET LSB
214      ABC2      38      SEC
215      ABC3      E5      D9      SBC      T3      ;SUBTRACT
216      ABC5      85      D6      STA      T0
217      ABC7      B0      10      BCS      5$
218      ABC9      C6      D7      DEC      T1
219      ABCB      4C      ABD9      JMP      5$
220      ABCE      4$:
221      ABCE      A5      D6      LDA      T0
222      ABD0      18      CLC
223      ABD1      65      D9      ADC      T3
224      ABD3      85      D6      STA      T0
225      ABD5      90      02      BCC      5$
226      ABD7      E6      D7      INC      T1
227      ABD9      5$:
228      ABD9      24      DE      BIT      OFFDIR      ;CHECK WHICH WAY IS FORWARD
```



```
229 ABDB 30 19 BMI 6$ ;BRANCH IF LEFT
230 ABDD AD 02D7 LDA XPOS+BALL ;GET BALL START, LSB
231 ABE0 18 CLC
232 ABE1 65 D6 ADC T0 ;ADD NEW OFFSET
233 ABE3 A8 TAY ;SAVE IN Y
234 ABE4 AD 02F1 LDA XPOSHI+BALL ;MSB
235 ABE7 65 D7 ADC T1 ;ADD W/CY
236 ABE9 AA TAX
237 ABEA E4 D8 CPX T5 ;RANGE CHECK
238 ABEC 90 23 BCC 8$ ;BR IF WITHIN BOUNDS, NO FURTHER CHECK
239 ABEE D0 1D BNE 7$ ;EXCEEDS BOUNDS, SET TO RIGHT BOUNDS
240 ABF0 C4 DA CPY T4 ;CHECK LSB
241 ABF2 90 1D BCC 8$ ;BR IF WITHIN BOUNDS
242 ABF4 80 17 BCS 7$ ;BR ALWAYS TO EXCEEDS BOUNDS
243 ABF6 6$:
244 ABF6 AD 02D7 LDA XPOS+BALL
245 ABF9 38 SEC
246 ABFA E5 D6 SBC T0
247 ABFC A8 TAY
248 ABFD AD 02F1 LDA XPOSHI+BALL
249 AC00 E5 D7 SBC T1
250 AC02 AA TAX
251 AC03 90 08 BCC 7$ ;WENT NEG, NEED TO CORRECT
252 AC05 E4 D8 CPX T5 ;CHECK AGAINST MSB BOUNDS
253 AC07 D0 08 BNE 8$ ;WITHIN BOUNDS
254 AC09 C4 DA CPY T4 ;CHECK LSB
255 ;*DAVE* BCC 8$ ;BUG HERE *DAVE* 7/19
256 AC0B 80 04 BCS 8$ ;AH!! MUCH BETTER *DAVE* 7/19
257 AC0D 7$:
258 AC0D A6 D8 LDX T5 ;SET X DESTINATION TO BOUNDS
259 AC0F A4 DA LDY T4
260 AC11 8$:
261 AC11 8C 0318 STY XGOTO+BALL
262 AC14 8E 0325 STX XHGOTO+BALL
263 ;
264 ; VERTICAL DESTINATION DETERMINATION
265 ;
266 AC17 A5 D7 LDA T1 ;FETCH MSB, HORZ KICK DELTA
267 AC19 06 D6 ASL T0 ;FORM NIBBLE PROPORTIONATE
268 AC1B 2A ROL ;TO HORZ KICK DELTA FOR
269 AC1C 06 D6 ASL T0 ;RANGE SCALAR
270 AC1E 2A ROL
271 AC1F 06 D6 ASL T0
272 AC21 2A ROL
273 AC22 85 D8 STA T2 ;SAVE
274 AC24 20 ACF1 JSR WRAND ;USE NIBBLE AS SCALAR
275 AC27 4A LSR
276 AC28 4A LSR
277 AC29 85 D6 STA T0 ;SAVE
278 AC2B A5 D8 LDA T2
279 AC2D 0A ASL
280 AC2E 0A ASL
281 AC2F 85 D9 STA T3
282 AC31 C6 D9 DEC T3
283 ;
284 ; DETERMINE IF VERTICAL RANGE WITHIN FAIR TERRITORY
285 ;
```



```
286 AC33 AD 02E4 LDA YPOS+BALL :FETCH CURRENT BALL Y POSITION
287 AC36 85 D7 STA T1 :SAVE IN WORKING START Y POS
288 AC38 C9 54 CMP #84. :CHECK MID-LINE
289 AC3A 90 12 BCC 10$ :BRANCH IF ABOVE MID-LINE
290 :
291 : BALL IN LOWER PART OF FAIR TERRITORY (YPOS >= 84.)
292 :
293 AC3C 18 CLC
294 AC3D 65 D9 ADC T3 :ADD WORST CASE
295 AC3F 38 SEC
296 :
297 :***** FIX FOR UNRETRIEVEABLE PUNT AT BOTTOM *****
298 :
299 AC40 E9 90 SBC #144. :SUBTRACT MAX ALLOWABLE YPOS
300 AC42 90 27 BCC 12$ :WITHIN LIMITS, SKIP START Y CHANGE
301 AC44 49 FF EOR #OFF :FORM NEGATIVE OF OVERAGE
302 AC46 38 SEC :ADD 1 FOR 2'S CMPL
303 AC47 65 D7 ADC T1 :MOVE START UP BY DIFFERENCE
304 AC49 85 D7 STA T1
305 AC4B 4C AC6B JMP 12$ :EFFECTIVE START Y POS SET (T1)
306 :
307 : BALL IS IN UPPER PART OF FIELD (YPOS < 84.)
308 :
309 : 10$:
310 AC4E 38 SEC
311 AC4F E5 D9 SBC T3 :SUBTRACT WORST CASE
312 AC51 90 0E BCC 11$ :WENT NEGATIVE, NEED TO ADJUST
313 AC53 E9 11 SBC #17. :SUBTRACT MINIMUM YPOS ALLOWED
314 AC55 80 14 BCS 12$ :BRANCH IF WITHIN BOUNDS
315 AC57 49 FF EOR #OFF :ELSE, FORM POS FROM NEG DIFFERENCE
316 AC59 38 SEC :+1
317 AC5A 65 D7 ADC T1 :ADD TO START YPOS TO MOVE IT DOWN
318 AC5C 85 D7 STA T1
319 AC5E 4C AC6B JMP 12$
320 AC61 11$:
321 AC61 49 FF EOR #OFF :FORM POS FROM NEG DIFFERENCE
322 AC63 38 SEC
323 AC64 69 11 ADC #17. :ADD MINIMUM TOO
324 AC66 18 CLC
325 AC67 65 D7 ADC T1
326 AC69 85 D7 STA T1
327 AC6B 12$:
328 AC68 A5 D6 LDA T0 :FETCH WEIGHTED RANDOM VERTICAL
329 AC6D 2C D20A BIT RANDOM :ARE WE BEING NEGATIVE?
330 AC70 10 05 BPL 13$ :NO, SKIP NEGATION
331 AC72 49 FF EOR #OFF
332 AC74 18 CLC
333 AC75 69 01 ADC #1
334 AC77 13$:
335 AC77 18 CLC
336 AC78 65 D7 ADC T1 :ADD TO ADJUSTED BASE VERT POSITION
337 AC7A 80 0332 STA YGOTO+BALL :SEND BALL THERE
338 AC7D AD 03C9 LDA OPLTYP :DID WE PROCESS A FIELD GOAL?
339 AC80 29 20 AND #20
340 AC82 D0 01 BNE 14$ :BR IF YES *DAVE* 8/5
341 AC84 60 RTS :ELSE, WE'RE DONE *DAVE* 8/5
342 :
```



```
343      : NEW FIELD GOAL PLACEMENT STUFF          *DAVE* 8/5
344      :
345      AC85      : 14$:
346      AC85      24      DE      BIT      OFFDIR      :CHECK DIRECTION      *DAVE* 8/5
347      AC87      30      10      BMI      15$      :BR IF GOAL ON LEFT      *DAVE* 8/5
348      :
349      : RIGHT GOAL
350      :
351      AC89      A9      C1      LDA      #961.&OFF      :FIND DIST TO RIGHT      *DAVE* 8/5
352      AC8B      38      SEC      :GOAL POSTS
353      AC8C      ED      02D7      SBC      XPOS+BALL
354      AC8F      85      D6      STA      T0      :SAVE LSB, RAW DELTA
355      AC91      A9      03      LDA      #961.&OFF00/100      :DO SAME FOR MSB
356      AC93      ED      02F1      SBC      XPOSHI+BALL
357      AC96      4C      ACA6      JMP      16$
358      :
359      : LEFT GOAL:
360      :
361      AC99      : 15$:
362      AC99      AD      02D7      LDA      XPOS+BALL      :FIND DISTANCE TO LEFT
363      AC9C      38      SEC      :GOAL POSTS
364      AC9D      E9      01      SBC      #1.&OFF
365      AC9F      85      D6      STA      T0
366      ACA1      AD      02F1      LDA      XPOSHI+BALL
367      ACA4      E9      00      SBC      #1.&OFF00/100
368      ACA6      : 16$:
369      ACA6      A2      04      LDX      #4      :SHIFT RIGHT 5 TIMES
370      ACA8      : 17$:
371      ACA8      4A      LSR
372      ACA9      66      D6      RDR      T0      :TO FIND YARDS/4
373      ACAB      CA      DEX
374      ACAC      10      FA      BPL      17$
375      :
376      ACAE      A6      D6      LDX      T0      :0-15 IS IN RANGE (0-63 YRDS)
377      ACB0      E0      10      CPX      #16.      :OUT OF RANGE?
378      ACB2      B0      23      BCS      18$      :BR TO FG NO GOOD IF BEYOND 63 YRDS
379      ACB4      BD      AD2A      LDA      FGTab(X)      :ELSE, FETCH FG PERCENT
380      ACB7      CD      D20A      CMP      RANDOM      :COMPARE W/RANDOM
381      ACBA      90      18      BCC      18$      :BR IF RANDOM < FGTab, FG FAILED
382      :
383      : FIELD GOAL GOOD
384      :
385      ACBC      A9      06      LDA      #FGGOOD      :SET STATUS
386      ACBE      8D      02C4      STA      FGSTAT      :AS GOOD ONE
387      ACC1      A5      DA      LDA      T4      :LSB, GOAL POST CO-ORD
388      ACC3      8D      0318      STA      XGOTO+BALL      :SEND BALL ALL THE WAY
389      ACC6      A5      DB      LDA      T5      :MSB
390      ACC8      8D      0325      STA      XHGOTO+BALL
391      ACC8      AD      D20A      LDA      RANDOM
392      ACCE      29      0F      AND      #0F      :16 POSITIONS WITHIN GOAL POSTS
393      ACD0      18      CLC
394      ACD1      69      4C      ADC      #76.      :ADD MIN GOAL LINE #
395      ACD3      8D      0332      STA      YGOTO+BALL      :SEND BALL THERE
396      ACD6      60      RTS      :ALL SET
397      :
398      : FIELD GOAL NO GOOD
399      :
```



```
400 ACD7          18$: LDA #FGNOGD      ;SET FOR BAD TRY
401 ACD7          A9 07      STA FGSTAT    ;CAN'T WIN 'EM ALL
402 ACD9          8D 02C4    LDY #74.-16.    ;ASSUME ABOVE GOAL POST MISS
403 ACDC          A0 3A      LDA RANDOM      ;FETCH RANDOM
404 ACDE          AD D20A    BMI 19$         ;NEG MEANS MISS ABOVE GOAL POSTS
405 ACE1          30 02      LDY #95.        ;ELSE, MISS IS BELOW GOAL POSTS
406 ACE3          A0 5F
407 ACE5          19$: AND #0F             ;0-15 LINE OFFSET
408 ACE5          29 0F      STA TO
409 ACE7          85 D6      TYA
410 ACE9          98         CLC
411 ACEA          18         ADC TO
412 ACEB          65 D6      STA YGOTO+BALL  ;FORCE BALL OFF COURSE
413 ACED          8D 0332    RTS             ;WE'RE DONE
414 ACFO          60
415
416
417
418 ; WEIGHTED RANDOM INTEGER GENERATOR
419 ; RANGE SELECT INPUT IN ACCUMULATOR (0-15)
420
421 ; USES AS TEMPS TO, T1
422
423 WRAND:
424 ACF1          18         CLC
425 ACF2          69 01      ADC #1           ;INC RANGE SELECT
426 ACF4          29 0F      AND #0F         ;WRAP AT NIBBLE BOUNDARY
427 ACF6          A8         TAY             ;SAVE IN Y
428 ACF7          AD D20A    LDA RANDOM      ;PICK UP RANDOM
429 ACFA          29 1F      AND #1F         ;0-31 PLEASE
430 ACFC          AA
431 ACFO          BD 88B7    LDA KDENS(X)     ;FETCH
432 AD00          85 D6      STA TO           ;SAVE WEIGHTED RANDOM
433 AD02          C0 00      CPY #0           ;SCALAR = 0?
434 AD04          F0 11      BEQ 3$          ;YES, EXIT WITH UNSCALED WEIGHTED RANDOM
435 AD06          84 D7      STY T1          ;ELSE, SAVE MULTIPLIER
436 AD08          A2 03      LDX #3          ;SET FOR 4-BIT MULTIPLY
437 AD0A          A9 00      LDA #0          ;START W/CLEAN ACCUMULATOR
438 AD0C          1$: LSR T1                ;LS BIT OF MULTIPLIER TO CY
439 AD0C          46 D7      BCC 2$          ;BRANCH IF NO ADD TO PERFORM
440 AD0E          90 03      CLC
441 AD10          18         ADC TO          ;ADD A COPY OF WEIGHTED RANDOM
442 AD11          65 D6
443 AD13          2$: ROR                 ;SHIFT CY INTO MS BIT
444 AD13          6A
445 AD14          CA         DEX
446 AD15          10 F5      BPL 1$         ;GO FOR ALL 4 BITS
447 AD17          3$:
448 AD17          60      RTS                ;ACCUM = SCALED, WEIGHTED RANDOM
449
450
451 ; THE FOLLOWING ARE PARAMETER TABLES FOR:
452
453 ; PUNT, FIELD GOAL, & KICK-OFF IN THAT ORDER
454
455 ; AVERAGE KICK (CENTER OF DISTRIBUTION) IN UNITS OF YARDS*4
456
```



```
457 AD18 AVEHZ:
458 AD18 B4 B4 DC .BYTE 45.*4,45.*4,55.*4
459
460 : RANGE MULTIPLIER (0-15) TO DETERMINE + OR - RANGE CENTERED ABOUT AVERAGE
461 :
462 : 0 --- +-2 YRDS MAX RANGE
463 : 1 --- +-4
464 : 2 --- +-6
465 : 3 --- +-8
466 :
467 :
468 :
469 : F --- +-32 YRDS
470 :
471 :
472 AD18 RANGEM:
473 AD18 05 02 05 .BYTE 5,2,5
474 :
475 : LEFT MAXIMUM BOUNDS (MINIMUM FIELD HORZ COORDINATE)
476 :
477 : LSB...
478 AD1E LFMAXL:
479 AD1E 51 03 01 .BYTE 81.&0FF,3.&0FF,1.&0FF
480 : MSB...
481 AD21 LFMAXH:
482 AD21 00 00 00 .BYTE 81.&0FF00/100,3.&0FF00/100,1.&0FF00/100
483 :
484 : RIGHT MAXIMUM BOUNDS:
485 :
486 : LSB...
487 AD24 RTMAXL:
488 AD24 71 C1 C1 .BYTE 881.&0FF,961.&0FF,961.&0FF
489 :
490 : MSB...
491 AD27 RTMAXH:
492 AD27 03 03 03 .BYTE 881.&0FF00/100,961.&0FF00/100,961.&0FF00/100
493 :
494 :
495 :
496 : FIELD GOAL SUCCESS PERCENTAGE RATE TABLE:
497 :
498 : 1ST TERM OF EXPRESSION IS PERCENT OF FIELD GOAL SUCCESS
499 : 100 PERCENT SUCCESS IS GIVEN BY FF ENTRY
500 :
501 AD2A FGTab:
502 AD2A FD .BYTE 99.*256./100. : 0- 3 YARD FIELD GOAL ATTEMPT
503 AD2B FD .BYTE 99.*256./100. : 4- 7
504 AD2C FD .BYTE 99.*256./100. : 8-11
505 AD2D FD .BYTE 99.*256./100. :12-15
506 AD2E F3 .BYTE 95.*256./100. :16-19
507 AD2F EB .BYTE 92.*256./100. :20-23
508 AD30 EB .BYTE 92.*256./100. :24-27
509 AD31 E1 .BYTE 88.*256./100. :28-31
510 AD32 D9 .BYTE 85.*256./100. :32-35
511 AD33 D4 .BYTE 83.*256./100. :36-39
512 AD34 CC .BYTE 80.*256./100. :40-43
513 AD35 B8 .BYTE 72.*256./100. :44-47
```


514	AD36	B0		.BYTE	69.*256./100.	:48-51
515	AD37	99		.BYTE	60.*256./100.	:52-55
516	AD38	85		.BYTE	52.*256./100.	:56-59
517	AD39	4F		.BYTE	31.*256./100.	:60-63
518				:		
519				:	BEYOND 63 YARDS...NO WAY!	
520				:		
521				:		
522				:		
523				:	UPDATE "BALL ON ..." YARD # FROM SCRIMX & SCRIMX+1	
524				:	ROUTINE	
525				:		
526				:	USES TO AS TEMP, ASSUMES SCRIMX IS LSB, SCRIMX+1 IS MSB	
527				:		
528				:	WHERE 0 IS LEFT SIDE OF LEFT END-ZONE (END ZONE IS 10 YRDS WIDE)	
529				:	AND EACH YRD IS 8 UNITS.	
530				:		
531	AD3A			YRDBAL:		
532	AD3A	A5	EE	LDA	SCRIMX	:FETCH LSB, SCRIMAGE POSITION
533	AD3C	18		CLC		
534	AD3D	69	03	ADC	#3	:TRICKY ROUND OFF TO NEAREST YARD
535	AD3F	85	D6	STA	T0	:SO ADD 1/2 YARD & SAVE IN TEMP
536	AD41	A5	EF	LDA	SCRIMX+1	:GET MSB
537	AD43	69	00	ADC	#0	:ADD IN CARRY-OUT IF ANY
538	AD45	4A		LSR		:PERFORM 16-BIT DIVIDE BY 8
539	AD46	66	D6	ROR	T0	:AND THROW AWAY REMAINDER
540	AD48	4A		LSR		
541	AD49	66	D6	ROR	T0	
542	AD4B	4A		LSR		
543	AD4C	66	D6	ROR	T0	:YARD # IN TO (0-119.)
544	AD4E	A5	D6	LDA	T0	:NEED TO SUBTRACT OUT LEFT END-ZONE
545	AD50	38		SEC		
546	AD51	E9	0A	SBC	#10.	:YARD # NOW 0-109
547	AD53	90	28	BCC	3%	:IF NEG, WE'RE IN LEFT END-ZONE
548	AD55	F0	29	BEQ	3%	:OR ON GOAL
549	AD57	C9	33	CMP	#51.	:ON RIGHT SIDE OF FIELD?
550	AD59	90	08	BCC	1%	:NO, LEFT, SO YARD # IS OK
551	AD5B	85	D6	STA	T0	:ELSE, RIGHT SIDE T0=51 THRU 109
552	AD5D	A9	64	LDA	#100.	:FIND 100 COMPLIMENT
553	AD5F	38		SEC		
554	AD60	E5	D6	SBC	T0	
555	AD62	F0	1C	BEQ	3%	:ON RIGHT GOAL
556	AD64	90	1A	BCC	3%	:IN RIGHT END-ZONE
557	AD66			1%:		
558	AD66	A2	8F	LDX	#90-1	:ASCII FOR "0"-1
559	AD68			2%:		
560	AD68	38		SEC		
561	AD69	E9	0A	SBC	#10.	:PULL OUT A 10
562	AD6B	E8		INX		:COUNT 10'S OF YARDS (IN ASCII)
563	AD6C	B0	FA	BCS	2%	:LOOP TIL NO MORE 10'S
564	AD6E	69	0A	ADC	#10.	:NEG, SO PUT LAST 10 BACK
565	AD70	E0	90	CPX	#90	:0 TENS?
566	AD72	D0	02	BNE	4%	:NON-ZERO
567	AD74	A2	80	LDX	#80	:ELSE, DO LEADING ZERO SUPPRESSION
568	AD76			4%:		
569	AD76	8E	048C	STX	SBOARD+77.	:STUFF IN TENS PLACE
570	AD79	18		CLC		

571	AD7A	69	90	ADC	#90	:FORM FUNNY ASCII
572	AD7C	80	048D	STA	SBOARD+78.	:AND ONES PLACE TOO
573	AD7F	60		RTS		:ALL SET!
574				:		
575				:	IF BALL IS ON A GOAL OR IN END-ZONE, PUT UP A "G"	
576				:		
577	AD80			3\$:		
578	AD80	A9	80	LDA	#80	:LOAD BLANK SPACE
579	AD82	8D	048C	STA	SBOARD+77.	:IN TENS PLACE
580	AD85	A9	A7	LDA	#60+47	:LOAD "G"
581	AD87	8D	048D	STA	SBOARD+78.	:IN ONES PLACE
582	AD8A	60		RTS		:ALL DONE
583				:		
584				:		
585				:	END DAVE'S ADDITION	
586				:		


```
1      .SBTTL SCRIPTS
2      :SCRIPTS
3
4      AD8B      60      DEAD:   RTS
5
6      :SUBROUTINE LAUNCH
7      : CURRENT POSN AND GOTO PTS MUST BE DEFINED
8      : X HAS CURPLR
9      : GREATEST X OR Y DIST OF TRAVEL IS 32 YDS.
10     : CAN STILL TRACK OBJECTS FARTHER AWAY HOWEVER.
11     AD8C
12     : LAUNCH:
13     : CALC T0,T1 = ABS DELTA X AND LSTXDR
14     JSR      ABSDRX
15     : CALC T2 = ABS DELTA Y AND LSTYDR
16     JSR      ABSDRY
17     AD92      A5      D7      LNCH1: LDA      T1
18     AD94      95      6E      STA      MAJORH(X)
19     AD96      95      95      STA      MINDXH(X)
20     AD98      D0      15      BNE      40$
21
22     AD9A      A5      D6      LDA      T0
23     AD9C      C5      D8      CMP      T2
24     AD9E      B0      0F      BCS      40$
25     : Y IS MAJOR AXIS
26     ADA0      95      7B      STA      MINDR(X)
27     ADA2      A5      D8      LDA      T2
28     ADA4      95      61      STA      MAJORL(X)
29     ADA6      B5      F1      LDA      PLYRFG(X)
30     ADA8      09      08      ORA      #YMAJOR
31     ADAA      95      F1      STA      PLYRFG(X)
32     ADAC      4C      ADBD     JMP      50$
33
34     : X IS MAJOR AXIS
35     ADAF      A5      D6      40$: LDA      T0
36     ADB1      95      61      STA      MAJORL(X)
37     ADB3      A5      D8      LDA      T2
38     ADB5      95      7B      STA      MINDR(X)
39     ADB7      B5      F1      LDA      PLYRFG(X)
40     ADB9      29      F7      AND      #0F7      ;CLEAR YMAJOR FLAG (X IS MAJOR)
41     ADBB      95      F1      STA      PLYRFG(X)
42     ADBD      B5      61      50$: LDA      MAJORL(X)
43     ADBF      95      88      STA      MINDXL(X)
44
45     ADC1      E0      0C      CPX      #BALL
46     ADC3      D0      1B      BNE      60$
47     ADC5      A5      F0      LDA      STATE
48     ADC7      C9      82      CMP      #ASHUD
49     ADC9      F0      15      BEQ      60$      ;SHOULD BE TO LNCHDN!!!!?????
50     ADCB      AD      03C9     LDA      DPLTYP
51     ADCE      29      7F      AND      #7F
52     ADD0      D0      11      BNE      LNCHDN ;BRANCH IF PUNT,KICK, OR FG PLAY
53     : IF BALL, INCREASE MINDEX FOR OVERSHOOT?????????????
54     ADD2      B5      88      LDA      MINDXL(X)
55     ADD4      18
56     ADD5      69      28      CLC
57     ADD7      95      88      ADC      #40.      ;5 YDS
58     STA      MINDXL(X)
```


58	ADD9	90	08	BCC	LNCHDN
59	ADDB	F6	95	INC	MINDXH(X)
60	ADDD	4C	ADE3	JMP	LNCHDN
61				; IF NOT BALL, SET ANIM	
62	ADE0	20	A4F6	60\$: JSR	ANMSET
63					
64	ADE3	60		LNCHDN: RTS	

				:UPDATE		
				: X HAS	CURPLR	INDEX
				UPDATE:	LDA	STATE
1						
2						
3	ADE4	A5	F0			
4	ADE6	C9	82		CMP	#ASMHUD
5	ADE8	F0	72		BEQ	50\$
6	ADEA	EC	040A		CPX	DCTL
7	ADED	F0	47		BEQ	21\$
8	ADEF	EC	03E3		CPX	RX2
9	ADF2	F0	30		BEQ	23\$
10	ADF4	EC	03E2		CPX	RX1
11	ADF7	F0	28		BEQ	23\$
12	ADF9	E0	0C		CPX	#BALL
13	ADF8	F0	51		BEQ	20\$
14	ADFD	EC	0408		CPX	DCTL
15	AE00	F0	16		BEQ	25\$
16	AE02	EC	03DF		CPX	RDBACK
17	AE05	F0	38		BEQ	26\$
18	AE07	EC	03E0		CPX	LDBACK
19	AE0A	F0	36		BEQ	26\$
20	AE0C	A9	00	24\$:	LDA	#0
21	AE0E	9D	035A		STA	MXSPD(X)
22	AE11	A9	E0		LDA	#0E0
23	AE13	9D	0367		STA	MXSPDL(X)
24	AE16	D0	4E		BNE	5\$;ALWAYS
25	AE18	A9	01	25\$:	LDA	#1
26	AE1A	9D	035A		STA	MXSPD(X)
27	AE1D	A9	10		LDA	#10
28	AE1F	9D	0367		STA	MXSPDL(X)
29	AE22	D0	42		BNE	5\$;ALWAYS
30	AE24	B5	F1	23\$:	LDA	PLYRFG(X) ;IF INPATTERN, MOD. SPEED!
31	AE26	29	01		AND	#INPTRN
32	AE28	F0	E2		BEQ	24\$
33	AE2A	A9	01	22\$:	LDA	#1
34	AE2C	9D	035A		STA	MXSPD(X)
35	AE2F	A9	20		LDA	#20
36	AE31	9D	0367		STA	MXSPDL(X)
37	AE34	D0	30		BNE	5\$;ALWAYS
38	AE36	A9	01	21\$:	LDA	#1
39	AE38	9D	035A		STA	MXSPD(X)
40	AE3B	A9	00		LDA	#0
41	AE3D	9D	0367		STA	MXSPDL(X)
42	AE40	F0	24		BEQ	5\$;ALWAYS
43	AE42	A9	00	26\$:	LDA	#0
44	AE44	9D	035A		STA	MXSPD(X)
45	AE47	A9	F0		LDA	#0F0
46	AE49	9D	0367		STA	MXSPDL(X)
47	AE4C	D0	18		BNE	5\$;ALWAYS
48	AE4E	AD	03D5	20\$:	LDA	KICKON
49	AE51	D0	09		BNE	50\$
50	AE53	AD	03D6		LDA	TIPON
51	AE56	D0	04		BNE	50\$
52	AE58	A9	03		LDA	#3
53	AE5A	D0	02		BNE	60\$;ALWAYS
54	AE5C	A9	02	50\$:	LDA	#2
55	AE5E	9D	035A	60\$:	STA	MXSPD(X)
56	AE61	A9	00		LDA	#0
57	AE63	9D	0367		STA	MXSPDL(X)

58						
59	AE66	BD	0367	5\$:	LDA	MXSPDL(X)
60	AE69	18			CLC	
61	AE6A	75	AF		ADC	MVCNTL(X)
62	AE6C	95	AF		STA	MVCNTL(X)
63	AE6E	BD	035A		LDA	MXSPDL(X)
64	AE71	69	00		ADC	#0
65	AE73	95	A2		STA	MVCNT(X)
66	AE75	F0	50		BEQ	NOGO ;??????????????
67	AE77	B5	88		LDA	MINDXL(X)
68	AE79	38			SEC	
69	AE7A	F5	A2		SBC	MVCNT(X)
70	AE7C	95	88		STA	MINDXL(X)
71	AE7E	B0	02		BCS	7\$
72	AE80	D6	95		DEC	MINDXH(X)
73	AE82	B5	95	7\$:	LDA	MINDXH(X)
74	AE84	F0	0B		BEQ	8\$
75	AE86	10	13		BPL	10\$
76	AE88	A9	00		LDA	#0
77	AE8A	95	95		STA	MINDXH(X)
78	AE8C	95	88		STA	MINDXL(X)
79	AE8E	4C	AE95		JMP	9\$
80	AE91	B5	88	8\$:	LDA	MINDXL(X)
81	AE93	D0	06		BNE	10\$
82					; SET "THERE" FLAG	
83	AE95	B5	F1	9\$:	LDA	PLYRFG(X)
84	AE97	09	80		ORA	#THERE
85	AE99	95	F1		STA	PLYRFG(X)
86	AE9B	B5	BC	10\$:	LDA	MSUML(X)
87	AE9D	18			CLC	
88	AE9E	75	7B		ADC	MINDR(X)
89	AEA0	95	BC		STA	MSUML(X)
90	AEA2	90	02		BCC	11\$
91	AEA4	F6	C9		INC	MSUMH(X)
92	AEA6	B5	C9	11\$:	LDA	MSUMH(X)
93	AEA8	D5	6E		CMP	MAJORH(X)
94	AEA A	90	18		BCC	16\$;BRANCH IF MSUM LESS
95	AEAC	D0	06		BNE	15\$;BRANCH IF MSUM GREATER
96	AEAE	B5	BC		LDA	MSUML(X)
97	AEB0	D5	61		CMP	MAJORL(X)
98	AEB2	90	10		BCC	16\$;BRANCH IF MSUM LESS
99						
100	AEB4	B5	BC	15\$:	LDA	MSUML(X)
101	AEB6	38			SEC	
102	AEB7	F5	61		SBC	MAJORL(X)
103	AEB9	95	BC		STA	MSUML(X)
104	AEBB	B5	C9		LDA	MSUMH(X)
105	AEBD	F5	6E		SBC	MAJORH(X)
106	AEBF	95	C9		STA	MSUMH(X)
107	AEC1	20	A541		JSR	MNRSTP
108						
109	AEC4	20	A533	16\$:	JSR	MJRSTP
110	AEC7	60		NOGO:	RTS	


```
1  AECB      BLCOPY:
2  AECB      BC  0261      LDY      LINK(X)
3                                ; CALC QB X POSN +3 INTO T1,T0
4  AECB      B9  02CB      LDA      XPOS(Y) ; QB X POSN
5  AECE      18            CLC
6  AECF      69   03      ADC      #3
7  AED1      85   D6      STA      T0      ;NEW BALL X POSN
8  AED3      B9  02E5      LDA      XPOSHI(Y)
9  AED6      69   00      ADC      #0
10 AED8      85   D7      STA      T1      ;NEW BALL XHI POSN
11                                ; CALC SCREEN DELTA BETWEEN NEW AND OLD BALL POSITIONS
12                                ; SAVE AS ABS DELTA AND DIRECTION
13 AEDA      A5   D6      LDA      T0      ;NEW BALL X POSN
14 AEDC      38            SEC
15 AEDD      ED  02D7      SBC      XPOS+BALL      ;OLD BALL X POSN
16 AEE0      A5   D7      LDA      T1      ; NEW BALL XHI
17 AEE2      ED  02F1      SBC      XPOSHI+BALL      ;OLD BALL XHI
18 AEE5      8D  02FE      STA      LSTXDR+BALL      ;BALL X DIR
19 AEE8      BC  0261      LDY      LINK(X)
20 AEEB      B9  02D8      LDA      YPOS(Y) ;QB Y POSN
21 AEEE      18            CLC
22 AEEF      69   07      ADC      #LENGTH-1/2
23 AEF1      85   D9      STA      T3      ;NEW BALL Y POSN
24
25 AEF3      A5   D9      LDA      T3      ;NEW BALL Y
26 AEF5      38            SEC
27 AEF6      ED  02E4      SBC      YPOS+BALL
28 AEF9      8D  0308      STA      LSTYDR+BALL      ;BALL Y DIR
29                                ; SET NEW X POSN AND Y POSN FOR BALL
30 AEFc      A5   D6      LDA      T0
31 AEFE      8D  02D7      STA      XPOS+BALL
32 AF01      A5   D7      LDA      T1
33 AF03      8D  02F1      STA      XPOSHI+BALL
34 AF06      A5   D9      LDA      T3
35 AF08      8D  02E4      STA      YPOS+BALL
36 AF0B      60            RTS
37
```


1	AF0C	AD	03DA	OFFCTL: LDA	HIKDON
2	AF0F	FO	08	BEQ	OJYDON
3	AF11	AD	03CE	LDA	KIKING
4	AF14	DO	03	BNE	OJYDON
5	AF16	20	AF87	100\$: JSR	ODCTL
6	AF19	60		OJYDON: RTS	


```
1  AF1A  A5  F0      DEFCTL: LDA  STATE
2  AF1C  C9  85      CMP    #PLAYON
3  AF1E  F0  63      BEQ    100$
4                      ;IF PREPLAY.....
5  AF20  AD  03C2     LDA    DCTLEN
6  AF23  F0  61      BEQ    DJYDON
7  AF25  A5  EE      LDA    SCRIMX
8  AF27  A4  DE      LDY    OFFDIR
9  AF29  10  1A      BPL    60$
10 AF2B  38          SEC
11 AF2C  E9  09      SBC    #9
12 AF2E  85  D6      STA    T0
13 AF30  A5  EF      LDA    SCRIMX+1
14 AF32  E9  00      SBC    #0
15 AF34  85  D7      STA    T1
16 AF36  BD  02CB     LDA    XPOS(X)
17 AF39  38          SEC
18 AF3A  E5  D6      SBC    T0
19 AF3C  BD  02E5     LDA    XPOSHI(X)
20 AF3F  E5  D7      SBC    T1
21 AF41  30  40      BMI    100$
22 AF43  10  18      BPL    20$      ;ALWAYS
23 AF45  18          60$: CLC
24 AF46  69  03      ADC    #3
25 AF48  85  D6      STA    T0
26 AF4A  A5  EF      LDA    SCRIMX+1
27 AF4C  69  00      ADC    #0
28 AF4E  85  D7      STA    T1
29 AF50  BD  02CB     LDA    XPOS(X)
30 AF53  38          SEC
31 AF54  E5  D6      SBC    T0
32 AF56  BD  02E5     LDA    XPOSHI(X)
33 AF59  E5  D7      SBC    T1
34 AF5B  10  26      BPL    100$
35 AF5D  86  D6      20$: STX    T0
36 AF5F  8A          TXA
37 AF60  0A          ASL
38 AF61  AA          TAX
39 AF62  A9  20      LDA    #STANDEOFF
40 AF64  95  23      STA    ANMSEQ(X)
41 AF66  A9  B7      LDA    #STANDEOFF00/100
42 AF68  95  24      STA    ANMSEQ+1(X)
43 AF6A  A1  23      LDA    @ANMSEQ(X)
44 AF6C  A6  D6      LDX    T0
45 AF6E  9D  0340     STA    ANMHOD(X)
46 AF71  A9  00      LDA    #0
47 AF73  9D  0333     STA    ANMNDX(X)
48 AF76  A9  FF      LDA    #OFF
49 AF78  9D  034D     STA    ANMRPT(X)
50
51 AF7B  A5  DE      LDA    OFFDIR
52 AF7D  49  FF      EOR    #OFF
53 AF7F  9D  02A2     STA    REVERS(X)
54 AF82  60          RTS
55 AF83  20  AF87     100$: JSR    DDCTL
56 AF86  60          DJYDON: RTS
57                      ;
```



```
58      : OFFENSE/DEFENSE COMMON CONTROL CODE:
59      :
60      AF87      : DOCTL:                                : *DAVE*
61      AF87      8A      TXA      :SET Y TO 0 OR 2 BASED ON TEAM # FOR STICK
62      AF88      29      01      AND      #1
63      AF8A      0A      ASL
64      AF8B      AB      TAY
65      :
66      :
67      AF8C      A9      00      LDA      #0
68      AF8E      85      D6      STA      T0
69      AF90      85      D7      STA      T1
70      AF92      85      D8      STA      T2
71      AF94      B9      0011     LDA      PADDLO(Y)
72      AF97      38      SEC
73      AF98      F9      041F     SBC      PADMID(Y)
74      :
75      AF9B      90      03      BCC      1$      :BR IF NEG (CONVERT BORROW TO SIGN) *DAVE* 7/16
76      AF9D      18      CLC      :INVERT BORROW *DAVE* 7/16
77      AF9E      90      01      BCC      2$      :BR ALWAYS *DAVE* 7/16
78      AFA0      1$:
79      AFA0      38      SEC      :INVERT BORROW, TO MAKE SIGN *DAVE* 7/16
80      AFA1      2$:
81      AFA1      6A      ROR      :ROLL IN SIGN (/2 ALSO) *DAVE* 7/16
82      :
83      : *DAVE* STA      LSTXOR(X)      :???
84      AFA2      85      D9      STA      T3      :SAVE IN TEMP *DAVE* 7/27
85      AFA4      10      05      BPL      10$
86      AFA6      49      FF      EOR      #OFF
87      AFA8      18      CLC
88      AFA9      69      01      ADC      #1
89      AFAB      10$:
90      AFAB      C0      00      CPY      #0      :CHECK WHICH CNTRLR READ *DAVE* 7/16
91      AFAD      D0      07      BNE      3$      :BR IF NOT #1, SKIP TO #2 *DAVE* 7/16
92      AFAF      2C      02AF     BIT      JORT      :TEST TRAKBALL ON #1 *DAVE* 7/16
93      AFB2      10      07      BPL      4$      :BR IF JOYSTICK *DAVE* 7/16
94      AFB4      30      07      BMI      5$      :ELSE, GO FOR TRAKBALL LSR'S *DAVE* 7/16
95      :
96      : TESTING FOR TRAKBALL ON CONTROLLER #2
97      :
98      AF86      3$:
99      AFB6      2C      02AF     BIT      JORT      :TEST TRAKBALL ON #2 *DAVE* 7/16
100     AFB9      70      02      BVS      5$      :BR IF TRAKBALL LSR'S *DAVE* 7/16
101     :
102     : JOYSTICK ENTRY POINT:
103     AFB8      4$:
104     AFB8      4A      LSR
105     AFBC      4A      LSR
106     :
107     : TRAKBALL ENTRY POINT:
108     :
109     AFB0      5$:
110     AFB0      4A      LSR
111     AFBE      4A      LSR
112     AFBF      85      D6      STA      T0
113     AFC1      F0      05      BEQ      20$      :IF ZERO HORZ COMPONENT, SKIP LSTXOR
114     AFC3      A5      D9      LDA      T3      :ELSE, USE SIGN FROM SUBTRACTION *DAVE* 7/27
```



```
115 AFC5 9D 02F2 STA LSTXDR(X) ;TO UPDATE HORZ DIRECTION *DAVE* 7/27
116 AFC8 20$:
117 ; NOW DO FOR Y
118 ;
119 AFC8 B9 0012 20$: LDA PADDLO+1(Y)
120 AFC8 38 SEC
121 AFCC F9 0420 SBC PADMID+1(Y)
122 ;
123 AFCF 90 03 BCC 6$ ;DO BORROW INVERT AS ABOVE *DAVE* 7/16
124 AFD1 18 CLC ; *DAVE* 7/16
125 AFD2 90 01 BCC 7$ ; *DAVE* 7/16
126 AFD4 6$:
127 AFD4 38 SEC ; *DAVE* 7/16
128 AFD5 7$:
129 AFD5 6A ROR ; *DAVE* 7/16
130 ;
131 ;*DAVE* STA LSTYDR(X)
132 AFD6 B5 D9 STA T3 ;SAVE IN TEMP (MAYBE WE'LL USE) *DAVE* 7/27
133 AFD8 10 05 BPL 30$
134 AFDA 49 FF EOR #OFF
135 AFDC 18 CLC
136 AFDD 69 01 ADC #1
137 AFD F 30$:
138 AFD F C0 00 CPY #0 ;WHICH CONTROLLER? *DAVE* 7/16
139 AFE1 D0 07 BNE 8$ ;SKIP TO #2 *DAVE* 7/16
140 AFE3 2C 02AF BIT JORT ;TEST FOR TRAKBALL *DAVE* 7/16
141 AFE6 10 07 BPL 9$ ;BR IF JOYSTICK LSR'S *DAVE* 7/16
142 AFE8 30 07 BMI 11$ ;ELSE, TRAKBALL LSR'S *DAVE* 7/16
143 AFEA 8$:
144 AFEA 2C 02AF BIT JORT ;TRAKBALL ON PORT #2? *DAVE* 7/16
145 AFED 70 02 BVS 11$ ;BR IF TRAKBALL *DAVE* 7/16
146 ;
147 ; JOYSTICK ENTRY
148 ;
149 AFEF 9$:
150 AFEF 4A LSR ;GIVES US DEAD SPACE
151 AFF0 4A LSR
152 ;
153 ; TRACKBALL ENTRY:
154 ;
155 AFF1 11$:
156 AFF1 4A LSR
157 AFF2 4A LSR
158 AFF3 B5 D8 STA T2
159 AFF5 F0 05 BEQ 40$ ;BR IF NO VERT COMPONENT *DAVE* 7/27
160 AFF7 A5 D9 LDA T3 ;ELSE, USE SIGN FROM SUBTRACT *DAVE* 7/27
161 AFF9 9D 02FF STA LSTYDR(X) ;TO LSTYDR *DAVE* 7/27
162 ;
163 AFFC A5 D6 40$: LDA T0
164 AFEE D0 25 BNE 50$
165 B000 A5 D8 LDA T2
166 B002 D0 21 BNE 50$
167 ; TASK TO STAND
168 B004 B6 D9 STX T3
169 B006 BA TXA
170 B007 0A ASL
171 B008 AA TAX
```


172	B009	A9	20	LDA	#STAND&OFF
173	B008	95	23	STA	ANMSEQ(X)
174	B00D	A9	B7	LDA	#STAND&OFF00/100
175	B00F	95	24	STA	ANMSEQ+1(X)
176	B011	A1	23	LDA	@ANMSEQ(X)
177	B013	A6	D9	LDX	T3
178	B015	9D	0340	STA	ANMMOD(X)
179	B018	A9	00	LDA	#0
180	B01A	9D	0333	STA	ANMNDX(X)
181	B01D	A9	FF	LDA	#OFF ;KEEP ON (OKEY BECAUSE ANMMOD = 0)
182	B01F	9D	034D	STA	ANMRPT(X)
183	B022	4C	B02B	JMP	60\$
184	B025	20	AD92	50\$: JSR	LNCH1
185	B028	20	ADE4	JSR	UPDATE
186					
187	B02B	60		60\$: RTS	

1	B02C	A5	F0	HIKEBL:	LDA	STATE	: WF HIKE STATE
2	B02E	C9	85		CMP	#PLAYON	
3	B030	D0	2A		BNE	10%	
4	B032	A0	0C		LDY	#BALL	
5	B034	A9	0A		LDA	#BALL-2	
6	B036	18			CLC		
7	B037	65	DD		ADC	OFFENS	
8	B039	AA			TAX		
9	B03A	8D	02CB		LDA	XPOS(X)	
10	B03D	18			CLC		
11	B03E	69	03		ADC	#3	:OFFSET TO CENTER OF PLAYER
12	B040	99	030C		STA	XGOTO(Y)	
13	B043	8D	02E5		LDA	XPOSHI(X)	
14	B046	69	00		ADC	#0	
15	B048	99	0319		STA	XHGOTO(Y)	
16	B048	8D	02D8		LDA	YPOS(X)	
17	B04E	18			CLC		
18	B04F	69	06		ADC	#LENGTH/2-1	: OFFSET
19	B051	99	0326		STA	YGOTO(Y)	
20							
21	B054	A2	0C		LDX	#BALL	
22	B056	20	9E5E		JSR	SETUPD	
23	B059	20	AD8C		JSR	LAUNCH	
24	B05C	60		10%:	RTS		
25							


```
1      :TRACK LINK. (LINK IS BALL OR PLAYER)
2      : X HAS CURPLR INDEX. LINK(X) HAS TARGET INDEX.
3      B05D BC 0261      TRACK: LDY LINK(X)
4      B060 C0 0C        CPY #BALL
5      B062 D0 1D        BNE 10$
6      B064 B9 02C8      LDA XPOS(Y)
7      B067 38          SEC
8      B068 E9 03        SBC #3
9      B06A 9D 030C      STA XGOTO(X)
10     B06D B9 02E5      LDA XPOSHI(Y)
11     B070 E9 00        SBC #0
12     B072 9D 0319      STA XHGOTO(X)
13     B075 B9 02D8      LDA YPOS(Y)
14     B078 38          SEC
15     B079 E9 06        SBC #LENGTH/2-1
16     B07B 9D 0326      STA YGOTO(X)
17     B07E 4C B093      JMP 20$
18
19     B081 B9 02C8      10$: LDA XPOS(Y)
20     B084 9D 030C      STA XGOTO(X)
21     B087 B9 02E5      LDA XPOSHI(Y)
22     B08A 9D 0319      STA XHGOTO(X)
23     B08D B9 02D8      LDA YPOS(Y)
24     B090 9D 0326      STA YGOTO(X)
25
26     B093 20 AD8C      20$: JSR LAUNCH
27     B096 20 ADE4      JSR UPDATE
28     B099 60          TRKDON: RTS
```



```
1      ; SET LINK TO BALL. TASK TO "TRACK". ZERO MSUM.
2      809A      A5      F0      DEFBLK: LDA      STATE
3      809C      C9      85      CMP      #PLAYON
4      809E      D0      08      BNE      170$
5      80A0      A9      0C      LDA      #BALL
6      80A2      9D      0261     STA      LINK(X)
7      80A5      20      9C21     JSR      SETRAK
8      80A8      60      170$:   RTS
```


1	BOA9	A5	F0	PATRN:	LDA	STATE	
2	BOAB	C9	85		CMP	#PLAYON	
3	BOAD	F0	03		BEQ	11\$	
4	BOAF	4C	B181		JMP	PTRNDN	
5				: GET PLAYER'S PATTERN POINTER			
6	BOB2	8A		11\$:	TXA		
7	BOB3	0A			ASL		
8	BOB4	A8			TAY		
9	BOB5	B9	027B		LDA	PTRNPT(Y)	
10	BOB8	85	4D		STA	PTRA	
11	BOBA	B9	027C		LDA	PTRNPT+1(Y)	
12	BOBD	85	4E		STA	PTRA+1	
13							
14	BOBF	BC	0295		LDY	PTRNDX(X)	
15							
16	BOC2	B1	4D		LDA	@PTRA(Y)	
17	BOC4	85	D6		STA	TO	
18	BOC6	C9	FF		CMP	#OFF	:IF PATTERN VAL=FF, => END OF PATTERN
19	BOC8	D0	5F		BNE	10\$	
20				: IF NEG, PATTERN DONE			
21	BOCA	B5	F1		LDA	PLYRFG(X)	
22	BOCC	29	FE		AND	#0FE	:CLEAR INPTRN
23	BOCE	95	F1		STA	PLYRFG(X)	
24				: TASK TO TRACK BALL			
25	BOD0	A9	0C		LDA	#BALL	
26	BOD2	9D	0261		STA	LINK(X)	
27	BOD5	20	9C21		JSR	SETRAK	
28	BOD8	B6	D6		STX	TO	
29	BODA	AE	03DF		LDX	RDBACK	
30	BODD	30	17		BMI	800\$	
31	BODF	EC	040B		CPX	DCTL	
32	BOE2	F0	12		BEQ	800\$	
33	BOE4	BD	0261		LDA	LINK(X)	
34	BOE7	C5	D6		CMP	TO	
35	BOE9	D0	0B		BNE	800\$	
36	BOEB	A9	0C		LDA	#BALL	
37	BOED	9D	0261		STA	LINK(X)	
38	BOF0	20	9C21		JSR	SETRAK	
39	BOF3	4C	B10F		JMP	810\$	
40	BOF6	AE	03E0	800\$:	LDX	LDBACK	
41	BOF9	30	14		BMI	810\$	
42	BOFB	EC	040B		CPX	DCTL	
43	BOFE	F0	0F		BEQ	810\$	
44	B100	BD	0261		LDA	LINK(X)	
45	B103	C5	D6		CMP	TO	
46	B105	D0	0B		BNE	810\$	
47	B107	A9	0C		LDA	#BALL	
48	B109	9D	0261		STA	LINK(X)	
49	B10C	20	9C21		JSR	SETRAK	
50	B10F	AD	03CA	810\$:	LDA	GAMTYP	
51	B112	10	12		BPL	100\$	
52				:IF DLBS LINK IS RX, TASK DLB TO TRACK BALL			
53	B114	AE	040B		LDX	DCTL	
54	B117	BD	0261		LDA	LINK(X)	
55	B11A	C5	D6		CMP	TO	
56	B11C	D0	0B		BNE	100\$	
57	B11E	A9	0C		LDA	#BALL	

58	B120	9D	0261		STA	LINK(X)
59	B123	20	9C21		JSR	SETRAK
60	B126	4C	B181	100\$:	JMP	PTRNDN
61						
62	B129	A5	DE	10\$:	LDA	OFFDIR
63	B128	30	14		BMI	20\$
64				:	OFFDIR	TO RIGHT -->
65	B12D	8D	02C8		LDA	XPOS(X)
66	B130	18			CLC	
67	B131	65	D6		ADC	T0
68	B133	9D	030C		STA	XGOTO(X)
69	B136	8D	02E5		LDA	XPOSHI(X)
70	B139	69	00		ADC	#0
71	B138	9D	0319		STA	XHGOTO(X)
72	B13E	4C	B152		JMP	30\$
73						
74	B141	8D	02C8	20\$:	LDA	XPOS(X)
75	B144	38			SEC	
76	B145	E5	D6		SBC	T0
77	B147	9D	030C		STA	XGOTO(X)
78	B14A	8D	02E5		LDA	XPOSHI(X)
79	B14D	E9	00		SBC	#0
80	B14F	9D	0319		STA	XHGOTO(X)
81	B152	C8		30\$:	INY	
82	B153	B1	4D		LDA	JPTRA(Y)
83	B155	85	D6		STA	T0
84	B157	8D	02D8		LDA	YPOS(X)
85	B15A	38			SEC	
86	B158	ED	0411		SBC	SCRIMY
87	B15E	90	09		BCC	200\$
88				:	PLAYER	BELOW SCRIMY
89	B160	A5	D6		LDA	T0
90	B162	18			CLC	
91	B163	7D	02D8		ADC	YPOS(X)
92	B166	4C	B16F		JMP	40\$
93				:	PLAYER	ABOVE SCRIMY
94	B169	8D	02D8	200\$:	LDA	YPOS(X)
95	B16C	38			SEC	
96	B16D	E5	D6		SBC	T0
97				:	INCREMENT	PTRNDX BY RECORD LENGTH
98	B16F	9D	0326	40\$:	STA	YGOTO(X)
99	B172	8D	0295		LDA	PTRNDX(X)
100	B175	18			CLC	
101	B176	69	02		ADC	#2
102	B178	9D	0295		STA	PTRNDX(X)
103				:	TASK	TO "UPDATE"
104	B178	20	9E5E		JSR	SETUPD
105				:	LAUNCH	IT
106	B17E	20	AD8C		JSR	LAUNCH
107						
108	B181	60			PTRNDN:	RTS

1					:LINK TO NEAREST DEF AND TASK TO "TRACK" HIM/HER
2	B182	A5	F0		OFBLKA: LDA STATE
3	B184	C9	85		CMP #PLAYON
4	B186	D0	06		BNE 100\$
5	B188	20	9C2D		JSR NRSTDF :LINK TO NEAREST DEF
6	B188	20	9C21		JSR SETRAK
7	B18E	60			100\$: RTS
8					
9					:PASS/RUN BLOCK PATTERN (TO PT.)
10	B18F	A5	F0		OFBLKB: LDA STATE
11	B191	C9	85		CMP #PLAYON
12	B193	D0	06		BNE 10\$
13	B195	20	9E5E		JSR SETUPD
14	B198	20	AD8C		JSR LAUNCH
15	B198	60			10\$: RTS
16					
17					:LINK TO NEAREST UNLINKED DEF AND TRACK HIM
18	B19C	A5	F0		OFBLKC: LDA STATE
19	B19E	C9	85		CMP #PLAYON
20	B1A0	D0	06		BNE 100\$
21	B1A2	20	9C87		JSR NRSTUN
22	B1A5	20	9C21		JSR SETRAK
23	B1A8	60			100\$: RTS

1	B1A9	A5	F0	DEEPBK:	LDA	STATE	
2	B1AB	C9	85		CMP	#PLAYON	
3	B1AD	F0	03		BEQ	10%	
4	B1AF	4C	B268		JMP	ENDEEP	
5	B1B2	AD	03C9	10%:	LDA	OPLTYP	
6	B1B5	C9	40		CMP	#40	:PUNT
7	B1B7	D0	2F		BNE	20%	
8	B1B9	EC	03DF		CPX	RDBACK	
9	B1BC	D0	2A		BNE	20%	
10	B1BE	A5	DE		LDA	OFFDIR	
11	B1C0	30	0D		BMI	15%	
12	B1C2	A9	71		LDA	#881.&OFF	
13	B1C4	9D	030C		STA	XGOTO(X)	
14	B1C7	A9	03		LDA	#881.&OFF00/100	
15	B1C9	9D	0319		STA	XHGOTO(X)	
16	B1CC	4C	B1D9		JMP	18%	
17	B1CF	A9	51	15%:	LDA	#81.&OFF	
18	B1D1	9D	030C		STA	XGOTO(X)	
19	B1D4	A9	00		LDA	#81.&OFF00/100	
20	B1D6	9D	0319		STA	XHGOTO(X)	
21	B1D9	AD	0411	18%:	LDA	SCRIMY	
22	B1DC	9D	0326		STA	YGOTO(X)	
23	B1DF	20	9E5E		JSR	SETUPD	
24	B1E2	20	AD8C		JSR	LAUNCH	
25	B1E5	4C	B26B		JMP	ENDEEP	
26							
27	B1E8	A0	01	20%:	LDY	#1	
28	B1EA	B4	D8	CHKELG:	STY	T2	
29	B1EC	B9	03E2		LDA	RX1(Y)	
30	B1EF	10	03		BPL	100%	
31	B1F1	4C	B249		JMP	NOTIN	:DOESNT DEAL WITH FAKE PATTERNS!!!!
32	B1F4	A8		100%:	TAY		
33	B1F5	B9	00F1		LDA	PLYRFG(Y)	
34	B1F8	29	02		AND	#LINKED	
35	B1FA	F0	03		BEQ	110%	
36	B1FC	4C	B249		JMP	NOTIN	:BRANCH IF ALREADY COVERED
37	B1FF	EC	03E0	110%:	CPX	LDBACK	
38	B202	F0	24		BEQ	LFDEEP	:DLDB
39				:			MUST BE DRDB
40	B204	A5	DE		LDA	OFFDIR	
41	B206	30	10		BMI	DRNEG1	:OFFDIR TO LEFT
42	B208	B9	0326		LDA	YGOTO(Y)	
43	B20B	CD	0411		CMP	SCRIMY	
44	B20E	B0	39		BCS	NOTIN	
45	B210	20	9E08		JSR	ZONRIT	
46	B213	B0	47		BCS	INZONE	
47	B215	4C	B249		JMP	NOTIN	
48	B218	B9	0326	DRNEG1:	LDA	YGOTO(Y)	
49	B21B	CD	0411		CMP	SCRIMY	
50	B21E	90	29		BCC	NOTIN	
51	B220	20	9DE7		JSR	ZONLFT	
52	B223	B0	37		BCS	INZONE	
53	B225	4C	B249		JMP	NOTIN	
54	B228	A5	DE	LFDEEP:	LDA	OFFDIR	
55	B22A	30	10		BMI	DRNEG2	:OFFDIR IS TO LEFT
56	B22C	B9	0326		LDA	YGOTO(Y)	
57	B22F	CD	0411		CMP	SCRIMY	

58	B232	90	15	BCC	NOTIN
59	B234	20	9E08	JSR	ZONRIT
60	B237	B0	23	BCS	INZONE
61	B239	4C	B249	JMP	NOTIN
62	B23C	B9	0326	DRNEG2: LDA	YGOTO(Y)
63	B23F	CD	0411	CMP	SCRIMY
64	B242	B0	05	BCS	NOTIN
65	B244	20	9DE7	JSR	ZONLFT
66	B247	B0	13	BCS	INZONE
67	B249	A4	D8	NOTIN: LDY	T2
68	B24B	88		DEY	
69	B24C	30	03	BMI	120\$
70	B24E	4C	B1EA	JMP	CHKELG
71				; IF NONE, TRACK BALL	
72	B251	A9	0C	120\$: LDA	#BALL
73	B253	9D	0261	STA	LINK(X)
74	B256	20	9C21	JSR	SETRAK
75	B259	4C	B268	JMP	ENDEEP
76	B25C	B9	00F1	INZONE: LDA	PLYRFG(Y)
77	B25F	09	02	ORA	#LINKED
78	B261	99	00F1	STA	PLYRFG(Y)
79	B264	98		TYA	
80	B265	9D	0261	STA	LINK(X)
81	B268	20	9C21	JSR	SETRAK
82	B26B	60		ENDEEP: RTS	


```
1      .SBTTL TABLES
2      ;
3      ; TABLES
4      ;
5      B26C      07      07      07      BNDTBL: .BYTE      7,7,7      ;ADD MORE LATER!!!!!!!!!!!!!!
6      B26F      B3B1      B429      B4A1      OPLYT8: .WORD      OPLY11,OPLY21,OPLY31      ;ADD MORE LATER!!!!!!!!!!!!!!
7
8      ; Y(Y-1)/2 PLUS X
9      B275      00      01      03      06      COLNDX: .BYTE      0,1,3,6,10,,15,,21,,28,,36,,45,,55,,66.
10     B279      0A      0F      15      1C
11     B27D      24      2D      37      42
12     B281      AD8A      AD8B      ADE3      AEC7      FCNTBL: .WORD      DEAD-1,LAUNCH-1,UPDATE-1,BLCOPY-1,OFFCTL-1
13     B289      AF0B
14     B28B      B02B      B05C      B099      B0A8      .WORD      HIKEBL-1,TRACK-1,DEFBLK-1,PATTRN-1,OFBLKA-1
15     B293      B181
16     B295      AF19      B1A8      AD8A      B18E      .WORD      DEFCTL-1,DEEPBK-1,DEAD-1,OFBLKB-1,OFBLKC-1
17     B29D      B19B
18     B29F      C000      0003      000C      0030      EXPTBL: .WORD      0C000,3,0C,30,0C0,300,0C00,3000,0
19     B2A7      00C0      0300      0C00      3000
20     B2AF      0000
21     B2B1      00      03      0C      0F      MSKTBL: .BYTE      0,3,0C,0F,30,33,3C,3F,0C0,0C3,0CC,0CF
22     B2B5      30      33      3C      3F
23     B2B9      C0      C3      CC      CF
24     B2BD      F0      F3      FC      FF      .BYTE      0F0,0F3,0FC,0FF
25     B2C1      FF      FC      F3      F0      NMSKT8: .BYTE      0FF,0FC,0F3,0F0,0CF,0CC,0C3,0C0
26     B2C5      CF      CC      C3      C0
27     B2C9      3F      3C      33      30      .BYTE      3F,3C,33,30,0F,0C,3,0
28     B2CD      0F      0C      03      00
29     ;
30     B2D1      0000      0001      0051      0079      LINLOC: .WORD      LEZ 0      10      20      30      40
31     B2D9      00A1      00C9      00F1      0119      0,1,81,,121,,161,,201,,241,,281,,321,,361,,401.
32     B2E1      0141      0169      0191
33     ;
34     B2E7      0189      01E1      0209      0231      .WORD      441,,481,,521,,561,,601,,641,,681,,721,,761,,801,,841.
35     B2EF      0259      0281      02A9      02D1
36     B2F7      02F9      0321      0349
37     ;
38     B2FD      0371      03C1      03C2      .WORD      0      REZ*
39     ;
40     B303      04      05      06      07      .WORD      881,,961,,962.
41     ;
42     B307      06      E0      .WORD      M0,M1,M2,M3
43     B309      06      F0      AVTBL: .BYTE      4,5,6,7
44     B30B      06      00      ;FORM1
45     B30D      06      10      OFFORM: .BYTE      6,0E0      ;X,Y
46     B30F      10      20      .BYTE      6,0F0
47     B311      10      00      .BYTE      6,0
48     ;FORM2 (PUNT)
49     B313      10      E0      .BYTE      6,10
50     B315      06      F0      .BYTE      10,20
51     B317      06      00      .BYTE      10,0
52     B319      06      10      .BYTE
53     B31B      10      20      .BYTE
54     B31D      20      00      .BYTE      20,0
```


43				:FORM3 (FG)	
44	B31F	10	08	.BYTE	10,8
45	B321	06	F0	.BYTE	6,0F0
46	B323	06	00	.BYTE	6,0
47	B325	06	10	.BYTE	6,10
48	B327	2C	00	.BYTE	2C,0
49	B329	20	00	.BYTE	20,0
50	B328			OFFORM:	
51				: RUN DEFENSE	
52	B328	06	F0	.BYTE	6,0F0 :X,Y
53	B320	06	00	.BYTE	6,0
54	B32F	06	10	.BYTE	6,10
55	B331	20	D0	.BYTE	20,0D0
56	B333	20	30	.BYTE	20,30
57	B335	0C	00	.BYTE	0C,0
58				:SHORT PASS DEFENSE	
59	B337	06	E8	.BYTE	6,0E8
60	B339	06	00	.BYTE	6,0
61	B338	06	18	.BYTE	6,18
62	B33D	28	D0	.BYTE	28,0D0
63	B33F	28	30	.BYTE	28,30
64	B341	0C	00	.BYTE	0C,0
65				:LONG PASS DEFENSE	
66	B343	06	E8	.BYTE	6,0E8
67	B345	06	00	.BYTE	6,0
68	B347	06	18	.BYTE	6,18
69	B349	40	D0	.BYTE	40,0D0
70	B348	40	30	.BYTE	40,30
71	B34D	18	00	.BYTE	18,0
72				:FIELD GOAL DEFENSE	
73	B34F	06	EC	.BYTE	6,0EC
74	B351	06	00	.BYTE	6,0
75	B353	06	14	.BYTE	6,14
76	B355	06	D8	.BYTE	6,0D8
77	B357	06	28	.BYTE	6,28
78	B359	0C	00	.BYTE	0C,0
79				:GOAL LINE DEFENSE	
80	B35B	06	E8	.BYTE	6,0E8
81	B35D	06	00	.BYTE	6,0
82	B35F	06	18	.BYTE	6,18
83	B361	0C	D0	.BYTE	0C,0D0
84	B363	0C	30	.BYTE	0C,30
85	B365	0C	00	.BYTE	0C,0
86				:PUNT DEF (AUTO)	
87	B367	06	E8	.BYTE	6,0E8
88	B369	06	00	.BYTE	6,0
89	B36B	06	18	.BYTE	6,18
90	B36D	58	F0	.BYTE	58,0F0 :OFF SCREEN
91	B36F	28	10	.BYTE	28,10
92	B371	0C	00	.BYTE	0C,0
93				: HUDDLES	
94	B373	10	F8	OHUDDL: .BYTE	10,0F8 :X,Y
95	B375	10	08	.BYTE	10,8
96	B377	20	08	.BYTE	20,8
97	B379	18	10	.BYTE	18,10
98	B37B	20	F8	.BYTE	20,0F8
99	B37D	18	F0	.BYTE	18,0F0

100	B37F	08	F8			DHUDDL: .BYTE	8,0F8	
101	B381	08	08			.BYTE	8,8	
102	B383	18	08			.BYTE	18,8	
103	B385	10	10			.BYTE	10,10	
104	B387	18	F8			.BYTE	18,0F8	
105	B389	10	F0			.BYTE	10,0F0	
106						;FOR BOTH		
107	B388	B822	B822	B822	B822	HUDANM: .WORD	VRTSTD,VRTSTD,VRTSTD,VRTSTD	
108	B393	B822	B822	B822		.WORD	VRTSTD,VRTSTD,VRTSTD	
109								
110	B399	B720	B710	B710	B710	DFMANM: .WORD	STAND,CROUCH,CROUCH,CROUCH	
111	B3A1	B720	B720			.WORD	STAND,STAND	
112								
113	B3A5	B710	B710	B710	B720	DFMANM: .WORD	CROUCH,CROUCH,CROUCH,STAND	
114	B3AD	B720	B720			.WORD	STAND,STAND	
115						; EACH OFFENSIVE PLAY IS 24. BYTES!!!!!!!!!!!!!!		
116						;TASKINGS		
117	B381	10				OPLY11: .BYTE	16.	:PATRN 0
118	B382	12				.BYTE	18.	:OFBLKA 8
119	B383	12				.BYTE	18.	:OFBLKA 8
120	B384	10				.BYTE	16.	:PATRN 6
121	B385	1A				.BYTE	26.	:OFBLKB 8
122	B386	08				.BYTE	8	:OFFCTL 10.
123						;PLAY TYPE		
124	B3B7	80				.BYTE	80	:TYPE=PASS
125						; RX'S AND PATTERNS		
126	B388	00				.BYTE	0	:RX1 MEMBER #
127	B389	B563				.WORD	SIDELN	:RX1 PATTERN
128	B388	06				.BYTE	6	:RX2 MEMBER # ???????????????????
129	B38C	B559				.WORD	POST	
130						; PBLK AND 2 PLAYERS		
131	B38E	08				.BYTE	8	:PBLK MEMBER #
132	B38F	06	0A			.BYTE	6,10	
133						:RANDS	PLYR #,RAND VAL.	
134	B3C1	FF	FF	FF		.BYTE	OFF,OFF,OFF	
135						;UNUSED		
136	B3C4	FF				.BYTE	OFF	
137								
138	B3C5	10				OPLY12: .BYTE	16.	:PATTERN
139	B3C6	12				.BYTE	18.	:OFBLKA
140	B3C7	12				.BYTE	18.	:OFBLKA
141	B3C8	12				.BYTE	18.	:OFBLKA
142	B3C9	1A				.BYTE	26.	:OFBLKB
143	B3CA	08				.BYTE	8	:OFFCTL
144						; PLAY TYPE		
145	B3CB	80				.BYTE	80	:TYPE RUN/PASS
146						; RX'S AND PATTERNS		
147	B3CC	00				.BYTE	0	
148	B3CD	B56D				.WORD	STREAK	
149	B3CF	FF				.BYTE	OFF	
150	B3D0	B57D				.WORD	NONE	
151						; PBLK AND 2 PLAYER HOLE		
152	B3D2	08				.BYTE	8	
153	B3D3	04	06			.BYTE	4,6	
154	B3D5	4F	6F	8F		.BYTE	4F,6F,8F	
155	B3D8	FF				.BYTE	OFF	
156								

157	B3D9	10				OPLY13:	.BYTE	16.	:PATTERN
158	B3DA	12					.BYTE	18.	:OFBLKA
159	B3DB	12					.BYTE	18.	:OFBLKA
160	B3DC	10					.BYTE	16.	:PATTERN
161	B3DD	1A					.BYTE	26.	:OFBLKB
162	B3DE	08					.BYTE	8	:OFFCTL
163						:TYPE			
164	B3DF	80					.BYTE	80	:PASS
165						:RX'S AND PATTERNS			
166	B3E0	00					.BYTE	0	
167	B3E1	B559					.WORD	POST	
168	B3E3	06					.BYTE	6	
169	B3E4	B572					.WORD	SLOUT	
170						:PBLK AND 2 PLAYER HOLE			
171	B3E6	08					.BYTE	8	
172	B3E7	06	0A				.BYTE	6,10.	
173						:RANDS	PLYR #, RAND VAL.		
174	B3E9	FF	FF	FF			.BYTE	OFF, OFF, OFF	
175						:UNUSED			
176	B3EC	FF					.BYTE	OFF	
177									
178						:SCREEN			
179	B3ED	12				OPLY14:	.BYTE	18.	:OFBLKA
180	B3EE	12					.BYTE	18.	:OFBLKA
181	B3EF	12					.BYTE	18.	:OFBLKA
182	B3F0	10					.BYTE	16.	:PATTERN
183	B3F1	10					.BYTE	16.	:PATTERN
184	B3F2	08					.BYTE	8	:OFFCTL
185						:TYPE			
186	B3F3	80					.BYTE	80	
187						:RX'S			
188	B3F4	08					.BYTE	8	
189	B3F5	B578					.WORD	CRSNGO	
190	B3F7	06					.BYTE	6	
191	B3F8	B56D					.WORD	STREAK	
192						:PBLK			
193	B3FA	FF					.BYTE	OFF	
194	B3FB	FF	FF				.BYTE	OFF, OFF	
195	B3FD	00	20	40			.BYTE	00, 20, 40	
196	B400	FF					.BYTE	OFF	
197									
198	B401	10				OPLY15:	.BYTE	16.	:PATTERN
199	B402	12					.BYTE	18.	
200	B403	12					.BYTE	18.	
201	B404	12					.BYTE	18.	
202	B405	10					.BYTE	16.	:PATTERN
203	B406	08					.BYTE	8	:OFFCTL
204									
205	B407	80					.BYTE	80	
206									
207	B408	00					.BYTE	0	
208	B409	B559					.WORD	POST	
209	B40B	08					.BYTE	8	
210	B40C	B563					.WORD	SIDELN	
211									
212	B40E	FF					.BYTE	OFF	
213	B40F	FF	FF				.BYTE	OFF, OFF	

214	B411	2F	4F	6F	.BYTE	2F,4F,6F	
215	B414	FF			.BYTE	OFF	
216							
217	B415	12			OPLY16: .BYTE	18.	
218	B416	12			.BYTE	18.	
219	B417	12			.BYTE	18.	
220	B418	10			.BYTE	16.	:PATTERN
221	B419	1A			.BYTE	26.	:OFBLKB
222	B41A	08			.BYTE	8	
223							
224	B41B	80			.BYTE	80	
225							
226	B41C	FF			.BYTE	OFF	
227	B41D	B57D			.WORD	NONE	
228	B41F	06			.BYTE	6	
229	B420	B56D			.WORD	STREAK	
230							
231	B422	08			.BYTE	8	
232	B423	06	0A		.BYTE	6,10.	
233							
234	B425	0F	2F	4F	.BYTE	0F,2F,4F	
235	B428	FF			.BYTE	OFF	
236							
237					:PUNT		
238	B429	12			OPLY21: .BYTE	18.	:OFBLKA
239	B42A	12			.BYTE	18.	
240	B42B	12			.BYTE	18.	
241	B42C	12			.BYTE	18.	
242	B42D	1A			.BYTE	26.	:OFBLKB
243	B42E	08			.BYTE	8	:OFFCTL
244					:PLAY TYPE		
245	B42F	40			.BYTE	40	:PUNT
246					:RX'S AND PATTERNS		
247	B430	FF			.BYTE	OFF	
248	B431	B57D			.WORD	NONE	
249	B433	FF			.BYTE	OFF	
250	B434	B57D			.WORD	NONE	
251					:PBLK AND 2 PLYRS		
252	B436	08			.BYTE	8	
253	B437	06	0A		.BYTE	6,10.	
254	B439	2F	FF	FF	.BYTE	2F,OFF,OFF	
255	B43C	FF			.BYTE	OFF	
256							
257					:FAKE PUNT		
258	B43D	1A			OPLY22: .BYTE	26.	:OFBLKB
259	B43E	10			.BYTE	16.	:PATTERN
260	B43F	12			.BYTE	18.	:OFBLKA
261	B440	12			.BYTE	18.	
262	B441	10			.BYTE	16.	:PATTERN
263	B442	08			.BYTE	8	:OFFCTL
264					:TYPE		
265	B443	80			.BYTE	80	:PASS
266					:RX'S AND PATTERNS		
267	B444	02			.BYTE	2	
268	B445	B56D			.WORD	STREAK	
269	B447	08			.BYTE	8	
270	B448	B568			.WORD	DRAG	

271					:PBLK AND 2 PLYRS		
272	B44A	00			.BYTE	0	
273	B44B	02	0A		.BYTE	2,10.	
274					:RANDS	PLYR #,RAND VAL.	
275	B44D	FF	FF	FF	.BYTE	OFF,OFF,OFF	
276					:UNUSED		
277	B450	FF			.BYTE	OFF	
278							
279	B451	1A			OPLY23:	.BYTE 26.	:OFBLKB
280	B452	10			.BYTE	16.	:PATTERN
281	B453	12			.BYTE	18.	
282	B454	12			.BYTE	18.	
283	B455	10			.BYTE	16.	:PATTERN
284	B456	08			.BYTE	8	
285							
286	B457	80			.BYTE	80	
287							
288	B458	02			.BYTE	2	
289	B459	B559			.WORD	POST	
290	B45B	08			.BYTE	8	
291	B45C	B563			.WORD	SIDELN	
292							
293	B45E	00			.BYTE	0	
294	B45F	02	0A		.BYTE	2,10.	
295							
296					:RANDS	PLYR #,RAND VAL.	
297	B461	FF	FF	FF	.BYTE	OFF,OFF,OFF	
298					:UNUSED		
299	B464	FF			.BYTE	OFF	
300							
301							
302					:SCREEN		
303	B465	10			OPLY24:	.BYTE 16.	:PATTERN
304	B466	12			.BYTE	18.	
305	B467	12			.BYTE	18.	
306	B468	12			.BYTE	18.	
307	B469	10			.BYTE	16.	:PATTERN
308	B46A	08			.BYTE	8	
309							
310	B46B	80			.BYTE	80	
311							
312	B46C	00			.BYTE	0	
313	B46D	B563			.WORD	SIDELN	
314	B46F	08			.BYTE	8	
315	B470	B578			.WORD	CRSNGO	
316							
317	B472	FF			.BYTE	OFF	
318	B473	FF	FF		.BYTE	OFF,OFF	
319							
320	B475	20	40	60	.BYTE	20,40,60	
321	B478	FF			.BYTE	OFF	
322							
323							
324	B479	10			OPLY25:	.BYTE 16.	:PATTERN
325	B47A	12			.BYTE	18.	
326	B47B	12			.BYTE	18.	
327	B47C	10			.BYTE	16.	:PATTERN

328	B47D	1A				.BYTE	26.	:OFBLKB
329	B47E	08				.BYTE	8	
330								
331	B47F	80				.BYTE	80	
332								
333	B480	00				.BYTE	0	
334	B481	B563				.WORD	SIDELN	
335	B483	06				.BYTE	6	
336	B484	B559				.WORD	POST	
337								
338	B486	08				.BYTE	8	
339	B487	06	0A			.BYTE	6,10.	
340								
341					:RANDS	PLYR #,RAND VAL.		
342	B489	FF	FF	FF		.BYTE	OFF,OFF,OFF	
343					:UNUSED			
344	B48C	FF				.BYTE	OFF	
345								
346								
347	B48D	10			OPLY26:	.BYTE	16.	:PATTERN
348	B48E	12				.BYTE	18.	
349	B48F	12				.BYTE	18.	
350	B490	10				.BYTE	16.	:PATTERN
351	B491	1A				.BYTE	26.	:OFBLKB
352	B492	08				.BYTE	8	
353								
354	B493	80				.BYTE	80	
355								
356	B494	00				.BYTE	0	
357	B495	B563				.WORD	SIDELN	
358	B497	06				.BYTE	6	
359	B498	B56D				.WORD	STREAK	
360								
361	B49A	08				.BYTE	8	
362	B49B	06	0A			.BYTE	6,10.	
363								
364					:RANDS	PLYR #,RAND VAL.		
365	B49D	FF	FF	FF		.BYTE	OFF,OFF,OFF	
366					:UNUSED			
367	B4A0	FF				.BYTE	OFF	
368								
369								
370					:FG			
371	B4A1	1A			OPLY31:	.BYTE	26.	:OFBLKB
372	B4A2	12				.BYTE	18.	:OFBLKA
373	B4A3	12				.BYTE	18.	:OFBLKA
374	B4A4	12				.BYTE	18.	:OFBLKA
375	B4A5	00				.BYTE	0	:DEAD
376	B4A6	00				.BYTE	0	:DEAD
377					:TYPE			
378	B4A7	20				.BYTE	20	:FG
379					:RX'S AND PATTERNS			
380	B4A8	FF				.BYTE	OFF	
381	B4A9	B57D				.WORD	NONE	
382	B4AB	FF				.BYTE	OFF	
383	B4AC	B57D				.WORD	NONE	
384					:PBLK AND 2 PLYRS			

385	B4AE	00				.BYTE	0	
386	B4AF	04	0A			.BYTE	4,10.	
387					:RANDS	PLYR #,RAND VAL.		
388	B4B1	FF	FF	FF		.BYTE	OFF,OFF,OFF	
389					:UNUSED			
390	B4B4	FF				.BYTE	OFF	
391								
392					:FAKE FG			
393	B4B5	1A			OPLY32:	.BYTE	26.	:OFBLKB
394	B4B6	10				.BYTE	16.	:PATTERN
395	B4B7	12				.BYTE	18.	:OFBLKA
396	B4B8	10				.BYTE	16.	:PATTERN
397	B4B9	00				.BYTE	0	:DEAD
398	B4BA	00				.BYTE	0	:DEAD
399					:TYPE			
400	B4BB	80				.BYTE	80	:PASS
401					:RX'S			
402	B4BC	02				.BYTE	2	
403	B4BD	B56D				.WORD	STREAK	
404	B4BF	06				.BYTE	6	
405	B4C0	B563				.WORD	SIDELN	
406					:PBLK			
407	B4C2	00				.BYTE	0	
408	B4C3	04	0A			.BYTE	4,10.	
409					:RANDS	PLYR #,RAND VAL.		
410	B4C5	FF	FF	FF		.BYTE	OFF,OFF,OFF	
411					:UNUSED			
412	B4C8	FF				.BYTE	OFF	
413								
414	B4C9	1A			OPLY33:	.BYTE	26.	:OFBLKB
415	B4CA	10				.BYTE	16.	:PATTERN
416	B4CB	12				.BYTE	18.	
417	B4CC	10				.BYTE	16.	:PATTERN
418	B4CD	1A				.BYTE	26.	:OFBLKB
419	B4CE	08				.BYTE	8	:
420								
421	B4CF	80				.BYTE	80	
422								
423	B4D0	02				.BYTE	2	
424	B4D1	B56D				.WORD	STREAK	
425	B4D3	06				.BYTE	6	
426	B4D4	B572				.WORD	SLOUT	
427								
428	B4D6	00				.BYTE	0	
429	B4D7	04	06			.BYTE	4,6	
430								
431					:RANDS	PLYR #,RAND VAL.		
432	B4D9	FF	FF	FF		.BYTE	OFF,OFF,OFF	
433					:UNUSED			
434	B4DC	FF				.BYTE	OFF	
435								
436					:SCREEN			
437	B4DD	10			OPLY34:	.BYTE	16.	:PATTERN
438	B4DE	12				.BYTE	18.	
439	B4DF	12				.BYTE	18.	
440	B4E0	12				.BYTE	18.	
441	B4E1	10				.BYTE	16.	:PATTERN

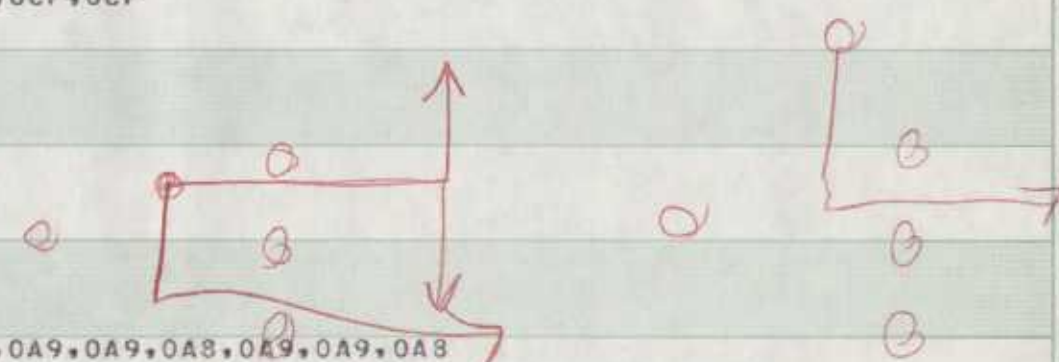
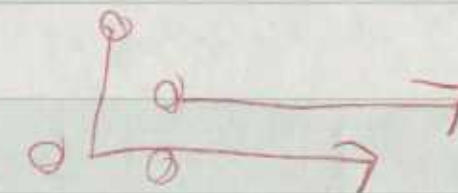
442	B4E2	08			.BYTE	8	
443							
444	B4E3	80			.BYTE	80	
445							
446	B4E4	08			.BYTE	8	
447	B4E5	B56D			.WORD	STREAK	
448	B4E7	00			.BYTE	0	
449	B4E8	B563			.WORD	SIDELN	
450							
451	B4EA	FF			.BYTE	OFF	
452	B4EB	FF	FF		.BYTE	OFF,OFF	
453							
454	B4ED	20	40	60	.BYTE	20,40,60	
455	B4F0	FF			.BYTE	OFF	
456							
457	B4F1	10			OPLY35: .BYTE	16.	:PATTERN
458	B4F2	10			.BYTE	16.	:PATTERN
459	B4F3	12			.BYTE	18.	
460	B4F4	12			.BYTE	18.	
461	B4F5	1A			.BYTE	26.	:OFBLKB
462	B4F6	08			.BYTE	8	
463							
464	B4F7	80			.BYTE	80	
465							
466	B4F8	02			.BYTE	2	
467	B4F9	B572			.WORD	SLOUT	:????????????????///
468	B4FB	00			.BYTE	0	
469	B4FC	B563			.WORD	SIDELN	
470							
471	B4FE	08			.BYTE	8	
472	B4FF	04	0A		.BYTE	4,10.	
473							
474					:RANDS	PLYR #,RAND VAL.	
475	B501	FF	FF	FF	.BYTE	OFF,OFF,OFF	
476					:UNUSED		
477	B504	FF			.BYTE	OFF	
478							
479	B505	10			OPLY36: .BYTE	16.	:PATTERN
480	B506	10			.BYTE	16.	:PATTERN
481	B507	12			.BYTE	18.	
482	B508	12			.BYTE	18.	
483	B509	1A			.BYTE	26.	:OFBLKB
484	B50A	08			.BYTE	8	
485							
486	B50B	80			.BYTE	80	
487							
488	B50C	02			.BYTE	2	
489	B50D	B572			.WORD	SLOUT	:????????????????????
490	B50F	00			.BYTE	0	
491	B510	B55E			.WORD	FLAG	
492							
493	B512	08			.BYTE	8	
494	B513	04	0A		.BYTE	4,10.	
495							
496					:RANDS	PLYR #,RAND VAL.	
497	B515	FF	FF	FF	.BYTE	OFF,OFF,OFF	
498					:UNUSED		

499	B518	FF	.BYTE	OFF	
500					
501					:DEFENSE PLAYS
502					:RUN DEFENSE
503	B519	0E	DPLY1: .BYTE	14.	:DEFBLK
504	B51A	0E	.BYTE	14.	:DEFBLK
505	B51B	0E	.BYTE	14.	:DEFBLK
506	B51C	16	.BYTE	22.	:DEEPBK
507	B51D	16	.BYTE	22.	:DEEPBK
508	B51E	14	.BYTE	20.	:DEFCTL
509	B51F	80	.BYTE	80	:BLITZ (FOR COMPUTER)
510	B520	07	.BYTE	7	:7/8
511					
512					:SHORT PASS DEF
513	B521	0E	DPLY2: .BYTE	14.	:DEFBLK
514	B522	0E	.BYTE	14.	:DEFBLK
515	B523	0E	.BYTE	14.	:DEFBLK
516	B524	16	.BYTE	22.	:DEEPBK
517	B525	16	.BYTE	22.	:DEEPBK
518	B526	14	.BYTE	20.	:DEFCTL
519	B527	00	.BYTE	0	:COVER
520	B528	07	.BYTE	7	:7/8
521					
522					:LONG PASS DEF
523	B529	0E	DPLY3: .BYTE	14.	:DEFBLK
524	B52A	0E	.BYTE	14.	:DEFBLK
525	B52B	0E	.BYTE	14.	:DEFBLK
526	B52C	16	.BYTE	22.	:DEEPBK
527	B52D	16	.BYTE	22.	:DEEPBK
528	B52E	14	.BYTE	20.	:DEFCTL
529	B52F	00	.BYTE	0	:COVER
530	B530	07	.BYTE	7	:7/8
531					
532					:FIELD GOAL DEF
533	B531	0E	DPLY4: .BYTE	14.	:DEFBLK
534	B532	0E	.BYTE	14.	:DEFBLK
535	B533	0E	.BYTE	14.	:DEFBLK
536	B534	16	.BYTE	22.	:DEEPBK
537	B535	16	.BYTE	22.	:DEEPBK
538	B536	14	.BYTE	20.	:DEFCTL
539	B537	80	.BYTE	80	:BLITZ ?????????????????????
540	B538	07	.BYTE	7	:7/8
541					
542					:GOAL LINE DEF
543	B539	0E	DPLY5: .BYTE	14.	:DEFBLK
544	B53A	0E	.BYTE	14.	:DEFBLK
545	B53B	0E	.BYTE	14.	:DEFBLK
546	B53C	16	.BYTE	22.	:DEEPBK
547	B53D	16	.BYTE	22.	:DEEPBK
548	B53E	14	.BYTE	20.	:DEFCTL
549	B53F	00	.BYTE	0	:COVER ?????????????????????
550	B540	07	.BYTE	7	:7/8
551					
552					:PUNT DEF
553	B541	0E	DPLY6: .BYTE	14.	:DEFBLK
554	B542	0E	.BYTE	14.	
555	B543	0E	.BYTE	14.	

556	B544	16				.BYTE	22.	:DEEPBK (OR DEAD)
557	B545	16				.BYTE	22.	:DEEPBK
558	B546	14				.BYTE	20.	:DEFCTL
559	B547	80				.BYTE	80	:BLITZ
560	B548	07				.BYTE	7	:7/8
561								
562	B549	87EF	8F8F	9A63	87B1	STATBL:	.WORD	PAUSST-1,SCORUP-1,HUDSTT-1,ACCDST-1
563	B551	88CF	934D	8DF7	8841		.WORD	SELECT-1,PLYSTT-1,ENDDLY-1,GMSLCT-1
564								
565						:PATTERNS		
566						:X,Y (IF Y IS +, ==> OUT)		
567	B559	28	00	14	07	POST:	.BYTE	40.,0,20.,^C40.,OFF
	B55D	FF						
568	B55E	28	00	14	28	FLAG:	.BYTE	40.,0,20.,40.,OFF
	B562	FF						
569	B563	28	00	00	1E	SIDELN:	.BYTE	40.,0,0,30.,OFF
	B567	FF						
570	B568	28	00	00	07	DRAG:	.BYTE	40.,0,0,^C40.,OFF
	B56C	FF						
571	B56D	28	00	28	00	STREAK:	.BYTE	40.,0,40.,0,OFF
	B571	FF						
572	B572	18	28	FF		SLOUT:	.BYTE	24.,40.,OFF
573	B575	18	D7	FF		SLNTIN:	.BYTE	24.,^C40.,OFF
574	B578	00	EB	28	00	CRSNGO:	.BYTE	0,^C20.,40.,0,OFF
	B57C	FF						
575	B57D	FF				NONE:	.BYTE	OFF



1						:SOUNDS	
2							
3		000C				GUNCNT=12.	
4		0000				GUNRT=0	
5	B57E	81	81	82	83	GUNCTL: .BYTE	81,81,82,83,85,87,89,8B,8D,8F,8F,8F,8F
	B582	85	87	89	8B		
	B586	8D	8F	8F	8F		
	B58A	8F					
6	B58B	07	07	07	07	GUNFRQ: .BYTE	7,7,7,7,7,7,7,7,7,7,7,7,7
	B58F	07	07	07	07		
	B593	07	07	07	07		
	B597	07					
7							
8		0005				KIKCNT=5	
9		0000				KIKRT=0	
10	B598	37	37	37	37	KIKFRQ: .BYTE	37,37,37,37,37,37
	B59C	37	37				
11	B59E	8B	8D	8F	8F	KIKCTL: .BYTE	8B,8D,8F,8F,8F,8F
	B5A2	8F	8F				
12							
13		0009				RCPCNT=9	
14		0001				RCPRT=1	
15	B5A4	2A	2A	2F	2F	RECFRQ: .BYTE	2A,2A,2F,2F,32,32,39,39,40,40
	B5A8	32	32	39	39		
	B5AC	40	40				
16	B5AE	A2	A3	A5	A7	RECCTL: .BYTE	0A2,0A3,0A5,0A7,0A9,0AB,0AD,0AE,0AD,0AB
	B5B2	A9	AB	AD	AE		
	B5B6	AD	AB				
17							
18		000B				INTCNT=11.	
19		0001				INTRT=1	
20	B5B8	44	2F	48	2F	INTFRQ: .BYTE	44,2F,48,2F,48,2F,48,2F,48,2F
	B5BC	48	2F	48	2F		
	B5C0	48	2F	48	2F		
21	B5C4	CF	CF	CF	CF	INTCTL: .BYTE	0CF,0CF,0CF,0CF,0CF,0CF,0CF,0CF
	B5C8	CF	CF	CF	CF		
22	B5CC	CF	CF	CF	CF	.BYTE	0CF,0CF,0CF,0CF
23							
24		0001				HITCNT=1	
25		0000				HITRT=0	
26	B5D0	88	88			HITCTL: .BYTE	88,88
27	B5D2	2A	2C			HITFRQ: .BYTE	2A,2C
28							
29		002D				WSLCNT=45.	
30		0000				WSLRT=0	
31	B5D4	A9	A9	A8	A9	WSLCTL: .BYTE	0A9,0A9,0A8,0A9,0A9,0A8,0A9,0A9,0A8,0A9,0A9,0A8
	B5D8	A9	A8	A9	A9		
	B5DC	A8	A9	A9	A8		
32	B5E0	A9	A9	A8	A9	.BYTE	0A9,0A9,0A8,0A9,0A9,0A8
	B5E4	A9	A8				
33	B5E6	A9	A9	A8	A9	.BYTE	0A9,0A9,0A8,0A9,0A9,0A8
	B5EA	A9	A8				
34	B5EC	A9	A9	A8	A9	.BYTE	0A9,0A9,0A8,0A9,0A9,0A8
	B5F0	A9	A8				
35	B5F2	A9	A9	A8	A9	.BYTE	0A9,0A9,0A8,0A9,0A9,0A8
	B5F6	A9	A8				
36	B5F8	A9	A9	A8	A9	.BYTE	0A9,0A9,0A8,0A9,0A9,0A8



37	B5FC	A9	A8					
38	B5FE	A9	AA	A8	A3	WSLFRQ:	.BYTE	0A9,0AA,0A8,0A3
39	B602	0B	0C	0B	0C		.BYTE	0B,0C,0B,0C,0B,0C
	B606	0B	0C					
40	B608	0B	0C	0B	0C		.BYTE	0B,0C,0B,0C,0B,0C
	B60C	0B	0C					
41	B60E	0B	0C	0B	0C		.BYTE	0B,0C,0B,0C,0B,0C
	B612	0B	0C					
42	B614	0B	0C	0B	0C		.BYTE	0B,0C,0B,0C,0B,0C
	B618	0B	0C					
43	B61A	0B	0C	0B	0C		.BYTE	0B,0C,0B,0C,0B,0C
	B61E	0B	0C					
44	B620	0B	0C	0B	0C		.BYTE	0B,0C,0B,0C,0B,0C
	B624	0B	0C					
45	B626	0B	0C	0B	0C		.BYTE	0B,0C,0B,0C,0B,0C
	B62A	0B	0C					
46	B62C	0B	0C	0B	0C		.BYTE	0B,0C,0B,0C
47								
48		0001				VLCNT=1		
49		0000				VLDRT=0		
50	B630	10	10			VLDFR0:	.BYTE	10,10
51	B632	A8	A8			VLDCTL:	.BYTE	0A8,0A8
52	B634	20	20			VLDFR1:	.BYTE	20,20
53								
54		0001				NVCNT=1		
55	B636	48	48			NVCTL:	.BYTE	48,48 ;????????????????
56								
57		0035				CRDCNT=53.		;N-1
58		0003				CRDRT=3		;N-1
59	B638	81	81	81	82	CRDCTL:	.BYTE	81,81,81,82,82,82,83,83,83,84,84,84
	B63C	82	82	83	83			
	B640	83	84	84	84			
60	B644	85	85	85	86		.BYTE	85,85,85,86,86,86,87,87,87,88,88,89,89,8A,8A
	B648	86	86	87	87			
	B64C	87	88	88	89			
	B650	89	8A	8A				
61	B653	8B	8B	8C	8C		.BYTE	8B,8B,8C,8C,8D,8E,8E,8E,8E,8D,8D,8C,8D,8D,8C,8C,8B
	B657	8D	8E	8E	8E			
	B65B	8E	8D	8D	8C			
	B65F	8D	8D	8C	8C			
	B663	8B						
62	B664	8A	8B	87	86		.BYTE	8A,8B,87,86,85,84,83,83,82,82
	B668	85	84	83	83			
	B66C	82	82					
63	B66E	17	16	15	14	CRDFR1:	.BYTE	17,16,15,14,13,13,13,13,13,13,14,13,13,13,13,14,13,14
	B672	13	13	13	13			
	B676	13	14	13	13			
	B67A	13	13	14	13			
	B67E	14						
64	B67F	13	13	13	14		.BYTE	13,13,13,14,13,13,14,13,13,14,13,13,13,13,14,13,13,14
	B683	13	13	14	13			
	B687	13	14	13	13			
	B68B	13	13	14	13			
	B68F	13	14					
65	B691	13	13	13	14		.BYTE	13,13,13,14,13,13,13,13,13,14,13,13,14,13,13,13,13
	B695	13	13	13	13			

	B699	13	14	13	13		
	B69D	14	13	13	13		
	B6A1	13					
66	B6A2	14	15			.BYTE	14,15
67	B6A4	81	81	81	81	CRDOCT2:	.BYTE 81,81,81,81,81,81,81,81,81,81,81,81,81,81,82,82,82,83,83,83,83
	B6A8	81	81	81	81		
	B6AC	81	81	82	82		
	B6B0	82	83	83	83		
	B6B4	83					
68	B6B5	84	84	84	85	.BYTE	84,84,84,85,85,85,86,86,86,86,87,87,88,89,88,89,88,88,88,88
	B6B9	85	85	86	86		
	B6BD	86	87	87	88		
	B6C1	89	88	89	88		
	B6C5	88	88	88			
69	B6C8	89	89	88	89	.BYTE	89,89,88,89,89,89,88,87,86,85,84,83,82,82,81,81,81,81
	B6CC	89	89	88	87		
	B6D0	86	85	84	83		
	B6D4	82	82	81	81		
	B6D8	81	81				
70	B6DA	09	09	09	0A	CRDFR2:	.BYTE 9,9,9,0A,0A,9,9,9,9,9,9,9,0A,9,9,9,9,9,0A,0A
	B6DE	0A	09	09	09		
	B6E2	09	09	09	0A		
	B6E6	09	09	09	09		
	B6EA	09	0A	0A			
71	B6ED	09	09	09	09	.BYTE	9,9,9,9,9,9,0A,8,8,8,8,8,8,0A,0A,9,9,9,9,0A,0A
	B6F1	09	0A	08	08		
	B6F5	08	08	08	08		
	B6F9	0A	0A	09	09		
	B6FD	09	09	0A	0A		
72	B701	09	09	09	0A	.BYTE	9,9,9,0A,0A,9,9,9,9,9,9,0A,0A,0D,14,14
	B705	0A	09	09	09		
	B709	09	09	0A	0A		
	B70D	0D	14	14			

: UPSIDE DOWN

CROUCH: .BYTE

LENGTH :MODULO

.BYTE

0,60,42,20,24,60,68,78,38,6,4,6,0,0,0

STAND: .BYTE

LENGTH :MODULO

.BYTE

0,60,58,20,30,18,38,74,68,38,38,30,18,10,18

RUNV: .BYTE

LENGTH*8

:MODULO

.BYTE

0,0,26,24,24,14,18,18,18,18,3C,3C,18,10,18

.BYTE

0,6,4,24,24,34,14,18,18,18,3C,38,18,10,18

.BYTE

6,4,4,24,24,3C,0C,0C,1E,2C,1E,1C,0C,8,0C

.BYTE

0C,8,28,20,38,0C,0C,0E,2C,1E,1C,8,0C,8,0C

.BYTE

30,0,20,20,38,0C,0C,2C,2E,3D,0C,8,0C,8,0C

.BYTE

0,30,20,18,28,14,0C,1C,16,1C,0C,8,0C,8,0C

.BYTE

0,20,28,28,24,0C,1C,3C,28,3C,3C,10,18,10,18

.BYTE

0,0,20,26,24,14,0C,1C,18,3C,3C,10,18,10,18

RUNH: .BYTE

LENGTH*8

:MODULO

.BYTE

0,0,40,46,64,14,18,18,38,5C,30,10,18,10,18

.BYTE

0,0,3,42,42,32,12,0C,38,3C,30,10,18,10,18

.BYTE

0,6,4,44,44,78,8,18,14,18,18,18,0C,8,0C

19	B7D7	00	0C	48	40	.BYTE	0,0C,48,40,78,0C,0C,18,1C,1C,1C,8,0C,8,0C
	B7D8	78	0C	0C	18		
	B7DF	1C	1C	1C	08		
20	B7E3	0C	08	0C		.BYTE	0,30,0,20,38,0C,0C,18,3C,3A,38,18,0C,8,0C
	B7E6	00	30	00	20		
	B7EA	38	0C	0C	18		
	B7EE	3C	3A	38	18		
	B7F2	0C	08	0C			
21	B7F5	00	00	60	58	.BYTE	0,0,60,58,28,14,6,0C,58,5E,78,38,0C,8,0C
	B7F9	28	14	06	0C		
	B7FD	58	5E	78	38		
	B801	0C	08	0C			
22	B804	00	40	48	68	.BYTE	0,40,48,68,14,0C,1C,18,2C,58,58,30,18,10,18
	B808	14	0C	1C	18		
	B80C	2C	58	58	30		
	B810	18	10	18			
23	B813	00	00	40	46	.BYTE	0,0,40,46,24,14,0C,18,10,38,58,30,18,10,18
	B817	24	14	0C	18		
	B81B	10	38	58	30		
	B81F	18	10	18			
24	B822	0F				VRTSTD: .BYTE	LENGTH :MODULO
25	B823	00	00	14	14	.BYTE	0,0,14,14,14,14,14,18,3C,5A,3C,7E,18,0,18
	B827	14	14	14	18		
	B82B	3C	5A	3C	7E		
	B82F	18	00	18			
26	B832	78				FALL: .BYTE	LENGTH*8 :MODULO
27	B833	00	00	60	58	.BYTE	0,0,60,58,28,14,06,0C,58,5E,78,38,0C,8,0C
	B837	28	14	06	0C		
	B83B	58	5E	78	38		
	B83F	0C	08	0C			
28	B842	00	40	48	68	.BYTE	0,40,48,68,14,0C,1C,18,2C,58,58,30,18,10,18
	B846	14	0C	1C	18		
	B84A	2C	58	58	30		
	B84E	18	10	18			
29	B851	00	40	50	70	.BYTE	0,40,50,70,10,8,1C,18,0C,18,30,30,18,10,18
	B855	10	08	1C	18		
	B859	0C	18	30	30		
	B85D	18	10	18			
30	B860	00	00	40	40	.BYTE	0,0,40,40,0,28,18,28,0A,1C,18,18,0C,8,0C
	B864	00	28	18	28		
	B868	0A	1C	18	18		
	B86C	0C	08	0C			
31	B86F	00	00	00	A0	.BYTE	0,0,0,0A0,50,0B0,11,32,3C,1C,6,14,6,0,0
	B873	50	B0	11	32		
	B877	3C	1C	06	14		
	B87B	06	00	00			
32	B87E	00	00	A0	50	.BYTE	0,0,0A0,50,0B1,12,30,3E,1C,7,3,0B,10,0,0
	B882	B1	12	30	3E		
	B886	1C	07	03	0B		
	B88A	10	00	00			
33	B88D	00	80	E2	32	.BYTE	0,80,0E2,32,0A6,0DC,7B,3B,0B,8,10,0,0,0,0
	B891	A6	DC	78	38		
	B895	08	08	10	00		
	B899	00	00	00			
34	B89C	88	E6	72	8C	.BYTE	88,0E6,72,0BC,3B,18,4B,30,0,0,0,0,0,0
	B8A0	38	18	4B	30		
	B8A4	00	00	00	00		

35	B8A8	00	00	00					
	B8AB	48				PASSER:	.BYTE	LENGTH*5	:MODULO
36	B8AC	00	43	42	32		.BYTE	0,43,42,32,12,1C,18,18,24,1C,30,18,10,18,0	
	B8B0	12	1C	18	18				
	B8B4	24	1C	30	18				
	B8B8	10	18	00					
37	B8BB	00	43	42	32		.BYTE	0,43,42,32,12,1C,18,18,1A,1C,70,088,90,18,0	
	B8BF	12	1C	18	18				
	B8C3	1A	1C	70	88				
	B8C7	90	18	00					
38	B8CA	00	46	44	34		.BYTE	0,46,44,34,14,1C,18,18,1E,18,30,38,10,28,10	
	B8CE	14	1C	18	18				
	B8D2	1E	18	30	38				
	B8D6	10	28	10					
39	B8D9	00	46	44	34		.BYTE	0,46,44,34,14,1C,18,18,18,18,1C,14,12,19,0	
	B8DD	14	1C	18	18				
	B8E1	18	18	1C	14				
	B8E5	12	19	00					
40	B8E8	00	46	44	34		.BYTE	0,46,44,34,14,1C,18,18,19,0A,1C,18,10,18,0	
	B8EC	14	1C	18	18				
	B8F0	19	0A	1C	18				
	B8F4	10	18	00					
41	B8F7	3C				DANCE:	.BYTE	LENGTH*4	:MODULO
42	B8F8	36	14	14	14		.BYTE	36,14,14,14,14,14,1C,0,5A,5A,3C,3C,18,0,18	
	B8FC	14	14	1C	00				
	B900	5A	5A	3C	3C				
	B904	18	00	18					
43	B907	36	14	14	22		.BYTE	36,14,14,22,14,1C,0,18,18,3C,7E,99,0,18,0	
	B90B	14	1C	00	18				
	B90F	18	3C	7E	99				
	B913	00	18	00					
44	B916	06	34	14	02		.BYTE	6,34,14,2,34,1C,0,18,18,3C,7E,5A,42,18,0	
	B91A	34	1C	00	18				
	B91E	18	3C	7E	5A				
	B922	42	18	00					
45	B925	30	16	14	20		.BYTE	30,16,14,20,16,1C,0,18,18,3C,7E,5A,42,18,0	
	B929	16	1C	00	18				
	B92D	18	3C	7E	5A				
	B931	42	18	00					
46	B934	48				KICK:	.BYTE	LENGTH*5	:MODULO
47	B935	00	18	10	18		.BYTE	0,18,10,18,4,18,30,38,14,18,18,10,18,10,18	
	B939	04	18	30	38				
	B93D	14	18	18	10				
	B941	18	10	18					
48	B944	00	60	40	44		.BYTE	0,60,40,44,2A,30,70,60,2C,30,38,10,18,10,18	
	B948	2A	30	70	60				
	B94C	2C	30	38	10				
	B950	18	10	18					
49	B953	00	40	40	20		.BYTE	0,40,40,20,20,60,0DE,82,40,60,60,78,20,20,30	
	B957	20	60	DE	82				
	B95B	40	60	60	78				
	B95F	20	20	30					
50	B962	00	40	40	20		.BYTE	0,40,40,20,10,20,30,18,24,32,31,39,14,10,18	
	B966	10	20	30	18				
	B96A	24	32	31	39				
	B96E	14	10	18					
51	B971	00	60	40	26		.BYTE	0,60,40,26,2A,30,60,60,2C,30,30,18,10,18,0	

B975	2A	30	60	60
B979	2C	30	30	18
B97D	10	18	00	


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DAVE'S ROM TABLE SPACE:

COLOR SCHEME FOR DLI COLORS:

CSCHM:

B980	D6	4A	7A	0F	.BYTE	CPBAK,CTEAM0,CTEAM1,CHMYDN,CSBLET,CSBBAK,CGOAL,C510YD,CBBAK
B980	0A	00	0F	0A		
B984	0A					
B988	8A					

OLENTB:

B989	00	0C	18	24	.BYTE	0*DOWNLEN,1*DOWNLEN,2*DOWNLEN,3*DOWNLEN
B98D	30	3C	48	54	.BYTE	4*DOWNLEN,5*DOWNLEN,6*DOWNLEN,7*DOWNLEN

DMARK:

OFFENSE DIRECTION: RIGHT

1ST DOWN MARKER:

.BYTE	10,10,10,0FE
.BYTE	0EE,0EE,0EE,0EE,0EE
.BYTE	0FE

B991	80	80	80	80	.BYTE	80,80,80,80,80,0F8,0EC,0EE,0EF,0EE,0EC,0F8
B995	80	F8	EC	EE		
B999	EF	EE	EC	F8		

DOWNLEN = .-DMARK

2ND DOWN MARKER:

.BYTE	10,10,10,0FE
.BYTE	0C2,0DE,0E6,0FA,0C6
.BYTE	0FE

B99D	80	80	80	80	.BYTE	80,80,80,80,80,0F8,0C4,0DE,0C7,0F6,0C4,0F8
B9A1	80	F8	C4	DE		
B9A5	C7	F6	C4	F8		

3RD DOWN MARKER

.BYTE	10,10,10,0FE
.BYTE	0C2,0FA,0E2,0FA,0C2
.BYTE	0FE

B9A9	80	80	80	80	.BYTE	80,80,80,80,80,0F8,0C4,0F6,0E7,0F6,0C4,0F8
B9AD	80	F8	C4	F6		
B9B1	E7	F6	C4	F8		

4TH DOWN MARKER

.BYTE	10,10,10,0FE
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50						:	.BYTE	0F6,0F6,32,0B6,0B6	
51						:	.BYTE	0FE	
52						:			
53	B985	80	80	80	80	:	.BYTE	80,80,80,80,80,0F8,0F4,0F6,0C3,0D6,0D4,0F8	
	B989	80	F8	F4	F6				
	B98D	C3	D6	D4	F8				
54						:			
55						:	OFFENSE DIRECTION:	LEFT	
56						:			
57						:	1ST DOWN MARKER:		
58						:			
59	B9C1	01	01	01	01	:	.BYTE	1,1,1,1,1,1F,3B,7B,0F8,7B,3B,1F	
	B9C5	01	1F	3B	7B				
	B9C9	F8	7B	3B	1F				
60						:			
61						:	2ND DOWN MARKER:		
62						:			
63	B9CD	01	01	01	01	:	.BYTE	1,1,1,1,1,1F,31,77,0F1,7D,31,1F	
	B9D1	01	1F	31	77				
	B9D5	F1	7D	31	1F				
64						:			
65						:	3RD DOWN MARKER:		
66						:			
67	B9D9	01	01	01	01	:	.BYTE	1,1,1,1,1,1F,31,7D,0F9,7D,31,1F	
	B9DD	01	1F	31	7D				
	B9E1	F9	7D	31	1F				
68						:			
69						:	4TH DOWN MARKER:		
70						:			
71	B9E5	01	01	01	01	:	.BYTE	1,1,1,1,1,1F,3B,7B,0E1,6B,2B,1F	
	B9E9	01	1F	3B	7B				
	B9ED	E1	6B	2B	1F				
72						:			
73						:			
74	B9F1					:	ORDTB:		
75	B9F1	53	54			:	.ASCII	/ST/	
76	B9F3	4E	44			:	.ASCII	/ND/	
77	B9F5	52	44			:	.ASCII	/RD/	
78	B9F7	54	48			:	.ASCII	/TH/	
79						:			
80	B9F9					:	SCRTBL:		
81	B9F9	BF				:	.BYTE	BDEAD&OFF	:BALL DEAD
82	B9FA	BF				:	.BYTE	BOUT&OFF	:BALL OUT-OF-BOUNDS
83	B9FB	BF				:	.BYTE	BCOT&OFF	:BALL CARRIER OUT-OF-BOUNDS
84	B9FC	7E				:	.BYTE	TDOWN&OFF	:TOUCH DOWN
85	B9FD	BF				:	.BYTE	BCTAC&OFF	:BALL CARRIER TACKLED
86	B9FE	BD				:	.BYTE	SFTY&OFF	:SAFETY
87	B9FF	8C				:	.BYTE	GOODFG&OFF	:FIELD GOAL GOOD
88	BA00	91				:	.BYTE	NOGOFG&OFF	:FIELD GOAL NO GOOD
89	BA01	D9				:	.BYTE	TBACK&OFF	:TOUCHBACK
90						:			
91	BA02					:	SCRTBH:		
92	BA02	8F				:	.BYTE	BDEAD&OFF00/100	:BALL DEAD
93	BA03	8F				:	.BYTE	BOUT&OFF00/100	:BALL OUT-OF-BOUNDS
94	BA04	8F				:	.BYTE	BCOT&OFF00/100	:BALL CARRIER OUT-OF-BOUNDS
95	BA05	90				:	.BYTE	TDOWN&OFF00/100	:TOUCH DOWN
96	BA06	8F				:	.BYTE	BCTAC&OFF00/100	:BALL CARRIER TACKLED

97	BA07	90				.BYTE	SFTY&OFF00/100		:SAFETY
98	BA08	90				.BYTE	GOODFG&OFF00/100		:FIELD GOAL GOOD
99	BA09	90				.BYTE	NOGOF&OFF00/100		:FIELD GOAL NO GOOD
100	BA0A	90				.BYTE	TBACK&OFF00/100		:TOUCHBACK
101						:			
102						:			
103	BA0B	20	48	4F	4D	SCORE:	.ASCII / HOMETEAM	0	15:00 VISITORS 0 /
	BA0F	45	54	45	41				
	BA13	4D	20	20	20				
	BA17	30	20	20	20				
	BA1B	20	31	35	3A				
	BA1F	30	30	20	20				
	BA23	20	20	20	56				
	BA27	49	53	49	54				
	BA2B	4F	52	53	20				
	BA2F	20	20	30	20				
104	BA33	20	51	55	41		.ASCII / QUARTER 1	1ST AND 10	BALL ON 50 /
	BA37	52	54	45	52				
	BA3B	20	31	20	20				
	BA3F	20	20	20	31				
	BA43	53	54	20	41				
	BA47	4E	44	20	31				
	BA4B	30	20	20	20				
	BA4F	20	42	41	4C				
	BA53	4C	20	4F	4E				
	BA57	20	35	30	20				
105						:			
106						:	*****		
107						:			
108						:	ADDED BY DAVE:		
109						:			
110	BA5B					MSGST:			
111						:MSGTB:			
112	BA5B	0000				.WORD	0	:0	- DUMMY ENTRY
113						:FBEG:			
114	BA5D	BA77				.WORD	TDMSG	:1	- TOUCHDOWN !!
115	BA5F	BA87				.WORD	SFMSG	:2	- S A F E T Y
116	BA61	BA95				.WORD	TBMSG	:3	- TOUCHBACK
117	BA63	BAA1				.WORD	FGMSG	:4	- FIELD GOAL !
118	BA65	BAB1				.WORD	HAFMSG	:5	- HALFTIME!
119	BA67	BABD				.WORD	ENDMSG	:6	- GAME OVER
120						:FEND:			
121	BA69	BAC9				.WORD	PASMSG	:7	- GAME PAUSED
122	BA6B	BAD7				.WORD	SELMSG	:8	- SELECT OPTIONS OR START GAME
123	BA6D	BAF6				.WORD	P1MSG	:9	- PRACTICE GAME
124	BA6F	BB0B				.WORD	P2MSG	:10	- TWO PLAYER GAME
125	BA71	BB1A				.WORD	REGMSG	:11	- REGULATION TIME
126	BA73	BB2C				.WORD	SHRMSG	:12	- SHORT GAME
127	BA75	BB3E				.WORD	RSTMSG	:13	- HIT RESET AGAIN TO SELECT GAME
128	BA77					MSGEND:			
129						:			HIT PAUSE TO CONTINUE
130						:			
131						:	MESSAGES:		
132						:			
133						:	FORMAT FOR MESSAGES IS:		
134						:			
135						:	+0 - STATUS/TIMER BYTE		

136						:	BIT 7 - FLASH MESSAGE IF SET (EQUATE: FLASHD)
137						:	BIT 6 - MESSAGE NOT TO EXPIRE IF SET (EQUATE: NOTIMD)
138						:	
139						:	BIT 5 THRU BIT 0, TIME TIL MESSAGE EXPIRES IN
140						:	1/6 THS OF A SECOND (0-63, OR 0 TO 10 SECS)
141						:	
142						:	+1 - OFFSET FROM LEFTMOST CHAR POSITION OF 2ND LINE OF SCOREBOARD
143						:	WHERE MESSAGE SHOULD START
144						:	
145						:	+2 THRU +N - ASCII MESSAGE CHARACTERS
146						:	
147						:	+N+1 - TERMINATOR BYTE (0)
148						:	
149						:	
150	BA77					:	TDMMSG:
151	BA77	B2				:	.BYTE FLASHD+50. :FLASH ABOUT 8 SECS
152	BA78	35				:	.BYTE 40.+13. :START 13 CHARS FROM LEFT ON BOTTOM LINE
153	BA79	54	4F	55	43	:	.ASCII /TOUCHDOWN !!!/
	BA7D	48	44	4F	57	:	
	BA81	4E	20	21	21	:	
	BA85	21				:	
154	BA86	00				:	.BYTE 0 :TERMINATOR
155						:	
156	BA87					:	SFMSG:
157	BA87	B2				:	.BYTE FLASHD+50. :FLASH ABOUT 8 SECS
158	BA88	36				:	.BYTE 40.+14. :START 14 CHARS FROM LEFT ON BOTTOM LINE
159	BA89	53	20	41	20	:	.ASCII /S A F E T Y/
	BA8D	46	20	45	20	:	
	BA91	54	20	59		:	
160	BA94	00				:	.BYTE 0 :TERMINATOR
161	BA95					:	TBMSG:
162	BA95	B2				:	.BYTE FLASHD+50. :FLASH ABOUT 8 SECS
163	BA96	37				:	.BYTE 40.+15. :START 15 CHARS FROM LEFT ON BOTTOM LINE
164	BA97	54	4F	55	43	:	.ASCII /TOUCHBACK/
	BA9B	48	42	41	43	:	
	BA9F	48				:	
165	BAA0	00				:	.BYTE 0 :TERMINATOR
166	BAA1					:	FGMSG:
167	BAA1	B2				:	.BYTE FLASHD+50. :FLASH ABOUT 8 SECS
168	BAA2	35				:	.BYTE 40.+13. :START 13 CHARS FROM LEFT ON BOTTOM LINE
169	BAA3	46	49	45	4C	:	.ASCII /FIELD GOAL !!!/
	BAA7	44	20	47	4F	:	
	BAA8	41	4C	20	21	:	
	BAAF	21				:	
170	BAB0	00				:	.BYTE 0 :TERMINATOR
171	BAB1					:	HAFMSG:
172	BAB1	B2				:	.BYTE FLASHD+50. :FLASH ABOUT 8 SECS
173	BAB2	37				:	.BYTE 40.+15. :START 15 CHARS FROM LEFT ON BOTTOM LINE
174	BAB3	48	41	4C	46	:	.ASCII /HALFTIME!//
	BAB7	54	49	4D	45	:	
	BAB8	21				:	
175	BABC	00				:	.BYTE 0 :TERMINATOR
176	BABD					:	ENDMSG:
177	BABD	B2				:	.BYTE FLASHD+50. :FLASH ABOUT 8 SECS
178	BABE	37				:	.BYTE 40.+15. :START 15 CHARS FROM LEFT ON BOTTOM LINE
179	BABF	47	41	4D	45	:	.ASCII /GAME OVER/
	BAC3	20	4F	56	45	:	

Address	Hex Data	Disassembly	Comment
180	BAC7 52		
181	BAC8 00		
182	BAC9 C0		
183	BACA 36		
184	BACB 47 41 4D 45		
	BACF 20 50 41 55		
	BAD3 53 45 44		
185	BAD6 00		
186	BAD7		
187	BAD7 C0		
188	BAD8 06		
189	BAD9 53 45 4C 45		
	BADD 43 54 20 4F		
	BAE1 50 54 49 4F		
	BAE5 4E 53 20 4F		
	BAE9 52 20 53 54		
	BAED 41 52 54 20		
	BAF1 47 41 4D 45		
190	BAF5 00		
191	BAF6		
192	BAF6 40		
193	BAF7 2A		
194	BAF8 20 50 52 41		
	BAFC 43 54 49 43		
	BB00 45 20 47 41		
	BB04 4D 45 20		
195	BB07 00		
196	BB08		
197	BB08 40		
198	BB09 2A		
199	BB0A 54 57 4F 20		
	BB0E 50 4C 41 59		
	BB12 45 52 20 47		
	BB16 41 4D 45		
200	BB19 00		
201	BB1A		
202	BB1A 40		
203	BB1B 3E		
204	BB1C 52 45 47 55		
	BB20 4C 41 54 49		
	BB24 4F 4E 20 54		
	BB28 49 4D 45		
205	BB2B 00		
206	BB2C		
207	BB2C 40		
208	BB2D 3E		
209	BB2E 20 20 20 53		
	BB32 48 4F 52 54		
	BB36 20 47 41 4D		
	BB3A 45 20 20		
210	BB3D 00		
211	BB3E		
212	BB3E C0		
213	BB3F 05		
214	BB40 48 49 54 20		
	BB44 52 45 53 45		

	BB48	54	20	41	47	
	BB4C	41	49	4E	20	
	BB50	54	4F	20	53	
	BB54	45	4C	45	43	
	BB58	54	20	47	41	
	BB5C	4D	45	20	20	
	BB60	20	20	20	20	
215	BB63	20	20	20	20	.ASCII / HIT PAUSE TO CONTINUE/
	BB67	20	20	20	20	
	BB6B	20	20	48	49	
	BB6F	54	20	50	41	
	BB73	55	53	45	20	
	BB77	54	4F	20	43	
	BB7B	4F	4E	54	49	
	BB7F	4E	55	45		
216	BB82	00				.BYTE 0
217						
218						
219						
220						
221						
222						
223						:
224						:
225	BB83					DMSG:
226	BB83	4F	46	46	3A	.ASCII /OFF:/
227	BB87					DMSG:
228	BB87	44	45	46	3A	.ASCII /DEF:/
229						:
230	BB8B					PMSG:
231	BB8B	BB91				.WORD PMSG1
232	BB8D	BBA0				.WORD PMSG2
233	BB8F	BBAA				.WORD PMSG3
234						:
235	BB91					PMSG1:
236	BB91	50	49	43	4B	.ASCII /PICK FORMATION/
	BB95	20	46	4F	52	
	BB99	4D	41	54	49	
	BB9D	4F	4E			
237	BB9F	00				.BYTE 0
238	BBA0					PMSG2:
239	BBA0	50	49	43	4B	.ASCII /PICK PLAY/
	BBA4	20	50	4C	41	
	BBAB	59				
240	BBAB	00				.BYTE 0
241	BBAA					PMSG3:
242	BBAA	43	48	41	4E	.ASCII /CHANGE PLAY?/
	BBAB	47	45	20	50	
	BBB2	4C	41	59	3F	
243	BBB6	00				.BYTE 0
244						:
245						: KICK DENSITY DISTRIBUTION TABLE
246						:
247	BBB7					KDENS:
248	BBB7	00	00	01	02	.BYTE 0,0,1,2,4,7,10,13.
	BBB8	04	07	0A	0D	
249	BBBF	11	16	1B	20	.BYTE 17,22,27,32,38,45,52,60.

250	BBC3	26	2D	34	3C		
	BBC7	44	4D	56	60	.BYTE	68.,77.,86.,96.,107.,118.,129.,141.
	BBCB	68	76	81	8D		
251	BBCF	9A	A7	B4	C2	.BYTE	154.,167.,180.,194.,209.,224.,240.,255.
	BBD3	D1	E0	F0	FF		
252						:	
253						: END ADDITION	
254						:	
255						: *****	
256						:	
257	BBD7	00	80	40	C0	REVTBL: .BYTE	00,80,40,0C0,20,0A0,60,0E0
	BBD8	20	A0	60	E0		
258	BBDf	10	90	50	D0	.BYTE	10,90,50,0D0,30,0B0,70,0F0
	BBE3	30	80	70	F0		
259	BBE7	08	88	48	C8	.BYTE	08,88,48,0C8,28,0A8,68,0E8
	BBE8	28	A8	68	E8		
260	BBEF	18	98	58	D8	.BYTE	18,98,58,0D8,38,0B8,78,0F8
	BBF3	38	B8	78	F8		
261	BBF7	04	84	44	C4	.BYTE	04,84,44,0C4,24,0A4,64,0E4
	BBF8	24	A4	64	E4		
262	BBFF	14	94	54	D4	.BYTE	14,94,54,0D4,34,0B4,74,0F4
	BC03	34	B4	74	F4		
263	BC07	0C	8C	4C	CC	.BYTE	0C,8C,4C,0CC,2C,0AC,6C,0EC
	BC08	2C	AC	6C	EC		
264	BC0F	1C	9C	5C	DC	.BYTE	1C,9C,5C,0DC,3C,0BC,7C,0FC
	BC13	3C	BC	7C	FC		
265	BC17	02	82	42	C2	.BYTE	02,82,42,0C2,22,0A2,62,0E2
	BC18	22	A2	62	E2		
266	BC1F	12	92	52	D2	.BYTE	12,92,52,0D2,32,0B2,72,0F2
	BC23	32	B2	72	F2		
267	BC27	0A	8A	4A	CA	.BYTE	0A,8A,4A,0CA,2A,0AA,6A,0EA
	BC28	2A	AA	6A	EA		
268	BC2F	1A	9A	5A	DA	.BYTE	1A,9A,5A,0DA,3A,0BA,7A,0FA
	BC33	3A	BA	7A	FA		
269	BC37	06	86	46	C6	.BYTE	06,86,46,0C6,26,0A6,66,0E6
	BC38	26	A6	66	E6		
270	BC3F	16	96	56	D6	.BYTE	16,96,56,0D6,36,0B6,76,0F6
	BC43	36	B6	76	F6		
271	BC47	0E	8E	4E	CE	.BYTE	0E,8E,4E,0CE,2E,0AE,6E,0EE
	BC48	2E	AE	6E	EE		
272	BC4F	1E	9E	5E	DE	.BYTE	1E,9E,5E,0DE,3E,0BE,7E,0FE
	BC53	3E	BE	7E	FE		
273	BC57	01	81	41	C1	.BYTE	01,81,41,0C1,21,0A1,61,0E1
	BC58	21	A1	61	E1		
274	BC5F	11	91	51	D1	.BYTE	11,91,51,0D1,31,0B1,71,0F1
	BC63	31	B1	71	F1		
275	BC67	09	89	49	C9	.BYTE	09,89,49,0C9,29,0A9,69,0E9
	BC68	29	A9	69	E9		
276	BC6F	19	99	59	D9	.BYTE	19,99,59,0D9,39,0B9,79,0F9
	BC73	39	B9	79	F9		
277	BC77	05	85	45	C5	.BYTE	05,85,45,0C5,25,0A5,65,0E5
	BC78	25	A5	65	E5		
278	BC7F	15	95	55	D5	.BYTE	15,95,55,0D5,35,0B5,75,0F5
	BC83	35	B5	75	F5		
279	BC87	0D	8D	4D	CD	.BYTE	0D,8D,4D,0CD,2D,0AD,6D,0ED
	BC88	2D	AD	6D	ED		
280	BC8F	1D	9D	5D	DD	.BYTE	1D,9D,5D,0DD,3D,0BD,7D,0FD

281	BC93	3D	BD	7D	FD	.BYTE	03,83,43,0C3,23,0A3,63,0E3
	BC97	03	83	43	C3		
	BC9B	23	A3	63	E3		
282	BC9F	13	93	53	D3	.BYTE	13,93,53,0D3,33,0B3,73,0F3
	BCA3	33	83	73	F3		
283	BCA7	0B	8B	4B	C8	.BYTE	0B,8B,4B,0CB,2B,0AB,6B,0EB
	BCAB	2B	AB	6B	E8		
284	BCAF	1B	9B	5B	DB	.BYTE	1B,9B,5B,0DB,3B,0BB,7B,0FB
	BCB3	3B	BB	7B	FB		
285	BCB7	07	87	47	C7	.BYTE	07,87,47,0C7,27,0A7,67,0E7
	BCB8	27	A7	67	E7		
286	BCBF	17	97	57	D7	.BYTE	17,97,57,0D7,37,0B7,77,0F7
	BCC3	37	B7	77	F7		
287	BCC7	0F	8F	4F	CF	.BYTE	0F,8F,4F,0CF,2F,0AF,6F,0EF
	BCCB	2F	AF	6F	EF		
288	BCCF	1F	9F	5F	DF	.BYTE	1F,9F,5F,0DF,3F,0BF,7F,0FF
	BCD3	3F	BF	7F	FF		

1	BCD7	00	28	50	78	LOFRTY:	.BYTE	0,28,50,78,0A0,0C8,0F0
	BCD8	A0	C8	F0				
2	BCDE	18	40	68	90		.BYTE	18,40,68,90,0B8,0E0
	BCE2	B8	E0					
3	BCE4	08	30	58	80		.BYTE	8,30,58,80,0A8,0D0,0F8
	BCE8	A8	D0	F8				
4	BCEB	20	48	70	98		.BYTE	20,48,70,98,0C0,0E8
	BCEF	C0	E8					
5	BCF1	10	38	60	88		.BYTE	10,38,60,88,0B0,0D8
	BCF5	B0	D8					
6	BCF7	00	28	50	78		.BYTE	0,28,50,78,0A0,0C8,0F0
	BCF8	A0	C8	F0				
7	BCFE	18	40	68	90		.BYTE	18,40,68,90,0B8,0E0
	BD02	B8	E0					
8	BD04	08	30	58	80		.BYTE	8,30,58,80,0A8,0D0,0F8
	BD08	A8	D0	F8				
9	BD0B	20	48	70	98		.BYTE	20,48,70,98,0C0,0E8
	BD0F	C0	E8					
10	BD11	10	38	60	88		.BYTE	10,38,60,88,0B0,0D8
	BD15	B0	D8					
11	BD17	00	28	50	78		.BYTE	0,28,50,78,0A0,0C8,0F0
	BD1B	A0	C8	F0				
12	BD1E	18	40	68	90		.BYTE	18,40,68,90,0B8,0E0
	BD22	B8	E0					
13	BD24	08	30	58	80		.BYTE	8,30,58,80,0A8,0D0,0F8
	BD28	A8	D0	F8				
14	BD2B	20	48	70	98		.BYTE	20,48,70,98,0C0,0E8
	BD2F	C0	E8					
15	BD31	10	38	60	88		.BYTE	10,38,60,88,0B0,0D8
	BD35	B0	D8					
16	BD37	00	28	50	78		.BYTE	0,28,50,78,0A0,0C8,0F0
	BD3B	A0	C8	F0				
17	BD3E	18	40	68	90		.BYTE	18,40,68,90,0B8,0E0
	BD42	B8	E0					
18	BD44	08	30	58	80		.BYTE	8,30,58,80,0A8,0D0,0F8
	BD48	A8	D0	F8				
19	BD4B	20	48	70	98		.BYTE	20,48,70,98,0C0,0E8
	BD4F	C0	E8					
20	BD51	10	38	60	88		.BYTE	10,38,60,88,0B0,0D8
	BD55	B0	D8					
21	BD57	00	28	50	78		.BYTE	0,28,50,78,0A0,0C8,0F0
	BD5B	A0	C8	F0				
22	BD5E	18	40	68	90		.BYTE	18,40,68,90,0B8,0E0
	BD62	B8	E0					
23	BD64	08	30	58	80		.BYTE	8,30,58,80,0A8,0D0,0F8
	BD68	A8	D0	F8				
24	BD6B	20	48	70	98		.BYTE	20,48,70,98
25	BD6F	00	00	00	00	HIFRTY:	.BYTE	0,0,0,0,0,0,0
	BD73	00	00	00				
26	BD76	01	01	01	01		.BYTE	1,1,1,1,1,1
	BD7A	01	01					
27	BD7C	02	02	02	02		.BYTE	2,2,2,2,2,2,2
	BD80	02	02	02				
28	BD83	03	03	03	03		.BYTE	3,3,3,3,3,3
	BD87	03	03					
29	BD89	04	04	04	04		.BYTE	4,4,4,4,4,4
	BD8D	04	04					

30	BD8F	05	05	05	05	.BYTE	5,5,5,5,5,5,5
	BD93	05	05	05			
31	BD96	06	06	06	06	.BYTE	6,6,6,6,6,6,6
	BD9A	06	06				
32	BD9C	07	07	07	07	.BYTE	7,7,7,7,7,7,7
	BDA0	07	07	07			
33	BDA3	08	08	08	08	.BYTE	8,8,8,8,8,8,8
	BDA7	08	08				
34	BDA9	09	09	09	09	.BYTE	9,9,9,9,9,9,9
	BDAD	09	09				
35	BDAF	0A	0A	0A	0A	.BYTE	0A,0A,0A,0A,0A,0A,0A
	BDB3	0A	0A	0A			
36	BDB6	0B	0B	0B	0B	.BYTE	0B,0B,0B,0B,0B,0B,0B
	BDBA	0B	0B				
37	BDBC	0C	0C	0C	0C	.BYTE	0C,0C,0C,0C,0C,0C,0C
	BDC0	0C	0C	0C			
38	BDC3	0D	0D	0D	0D	.BYTE	0D,0D,0D,0D,0D,0D,0D
	BDC7	0D	0D				
39	BDC9	0E	0E	0E	0E	.BYTE	0E,0E,0E,0E,0E,0E,0E
	BDCD	0E	0E				
40	BDCF	0F	0F	0F	0F	.BYTE	0F,0F,0F,0F,0F,0F,0F
	BDD3	0F	0F	0F			
41	BDD6	10	10	10	10	.BYTE	10,10,10,10,10,10,10
	BDDA	10	10				
42	BDDC	11	11	11	11	.BYTE	11,11,11,11,11,11,11
	BDE0	11	11	11			
43	BDE3	12	12	12	12	.BYTE	12,12,12,12,12,12,12
	BDE7	12	12				
44	BDE9	13	13	13	13	.BYTE	13,13,13,13,13,13,13
	BDED	13	13				
45	BDEF	14	14	14	14	.BYTE	14,14,14,14,14,14,14
	BDF3	14	14	14			
46	BDF6	15	15	15	15	.BYTE	15,15,15,15,15,15,15
	BDFA	15	15				
47	BDFC	16	16	16	16	.BYTE	16,16,16,16,16,16,16
	BE00	16	16	16			
48	BE03	17	17	17	17	.BYTE	17,17,17,17,17,17,17
49							
50	BE07	2830	0220	022D	0830	CYCLE1: .WORD	BUFFER2,OLDX1,OLDY1,BUFFER1
51	BE0F	0830	023A	0247	2830	CYCLE2: .WORD	BUFFER1,OLDX2,OLDY2,BUFFER2

.SBTTL DISPLAY LIST

; VCOUNT=14./2 + LINENO/2. DLI OCCURS AT FIRST OF LINES.

DLIST: .BYTE OF0,70,60,80 ;8BLNK+DLI,8BLNK,7BLNK,1BLNK+DLI

.BYTE 042 ;40 CHR, 2 CLR, 8 LIN, 1/2 CLK

.WORD SBOARD

.BYTE 02

.BYTE 82 ;+DLI

.BYTE 04E ;160 CLK, 4 CLR, 1 LIN

.WORD BUFFER1 ;10. AND 11.

.BYTE 0E,0E,0E,0E,0E,0E,0E,0E

.BYTE 0E,0E,0E,0E,0E,0E,0E,0E

.BYTE 0E,0E,0E,0E,0E,0E,0E,0E

; *DAVE* ADDED DLI HERE

.BYTE 0E,0E,0E,0E,0E,0E,0E,0E

.BYTE 0E,0E,0E,0E,0E,0E,0E,0E

.BYTE 0E,0E,0E,0E,0E,0E,0E,0E

.BYTE 0E,0E,0E,0E,0E,0E,0E,0E

.BYTE 0E,0E,0E,0E,0E,0E,0E,0E

.BYTE 0E,0E,0E,0E,0E,0E,0E,0E

.BYTE 0E,0E,0E,0E,0E,0E,0E,0E

.BYTE 0E,0E,0E,0E,0E,0E,0E,0E

.BYTE 0E,0E,0E,0E,0E,0E,0E,0E

.BYTE 0E,0E,0E,0E,0E,0E,0E,0E

.BYTE 0E,0E,0E,0E,0E,0E,0E,0E

.WORD BUFFER1+07D0 ;62. AND 63.

.BYTE 0E,0E,0E,0E,0E,0E,0E,0E

.BYTE 0E,0E,0E,0E,0E,0E,0E,0E

.BYTE 0E,0E,0E,0E,0E,0E,0E,0E

.BYTE 0E,0E,0E,0E,0E,0E,0E,0E

.BYTE 0E,0E,0E,0E,0E,0E,0E,0E

.BYTE 0E,0E,0E,0E,0E,0E,0E,0E

.BYTE 0E,0E,0E,0E,0E,0E,0E,0E

.BYTE 0E,0E,0E,0E,0E,0E,0E,0E

.BYTE 0E,0E,0E,0E,0E,0E,0E,0E

.BYTE 0E,0E,0E,0E,0E,0E,0E,0E

.BYTE 0E,0E,0E,0E,0E,0E,0E,0E

.BYTE 0E,0E,0E,0E,0E,0E,0E,0E

.BYTE 0E,0E,0E,0E,0E,0E,0E,0E

.BYTE 0E,0E,0E,0E,0E,0E,0E,0E

.BYTE 0E,0E,0E,0E,0E,0E,0E,0E

.BYTE 0E,0E,0E,0E,0E,0E,0E,0E

.BYTE 0E,0E,0E,0E,0E,0E,0E,0E

.BYTE 0E,0E,0E,0E,0E,0E,0E,0E

.BYTE 0E,0E,0E,0E,0E,0E,0E,0E

.BYTE 0E,0E,0E,0E,0E,0E,0E,0E

.BYTE 0E,0E,0E,0E,0E,0E,0E,0E

.BYTE 0E,0E,0E,0E,0E,0E,0E,0E

.BYTE 0E,0E,0E,0E,0E,0E,0E,0E

.BYTE 0E,0E,0E,0E,0E,0E,0E,0E

.BYTE 0E,0E,0E,0E,0E,0E,0E,0E

.BYTE 0E,0E,0E,0E,0E,0E,0E,0E

.BYTE 0E,0E,0E,0E,0E,0E,0E,0E

.BYTE 0E,0E,0E,0E,0E,0E,0E,0E

.WORD YARDNO+18. ;166. AND 167.

.BYTE 80 ;1 BLANK LINE + DLI

.BYTE 41

.WORD DLRAM

.BYTE 0B2,30,44,45,53,49,47,4E,45,44,20

ENDDL:

.BYTE 0B2,30,44,45,53,49,47,4E,45,44,20

	BEC7	53	49	47	4E	
	BECB	45	44	20		
39	BECE	42	59	20	54	.BYTE 42,59,20,54,48,45,20,57,41,52,4C,4F,52,44,0
	BED2	48	45	20	57	
	BED6	41	52	4C	4F	
	BEDA	52	44	00		
40	BEDD					REND:
41						:
42						:
43						: ROM AVAILABLE:
44						:
45	0092					RAVAIL =0BF6F-REND

1		BF6F				. =08F6F		
2		01				. IF DF,ZZZRDM		
3						. =9F6F		
4		01				. ENDC		
5	BF6F	80	80	80	80	YARDNO:	. BYTE	80,80,80,80,80,80,80,80,80,80
	BF73	80	80	80	80			
	BF77	80	80					
6	BF79	A7					. BYTE	0A7
7	BF7A	80	80	80	80		. BYTE	80,80,80,80,80,80,80,80
	BF7E	80	80	80	80			
8	BF82	91	90				. BYTE	91,90
9	BF84	80	80	80	80		. BYTE	80,80,80,80,80,80,80,80
	BF88	80	80	80	80			
10	BF8C	92	90				. BYTE	92,90
11	BF8E	80	80	80	80		. BYTE	80,80,80,80,80,80,80,80
	BF92	80	80	80	80			
12	BF96	93	90				. BYTE	93,90
13	BF98	80	80	80	80		. BYTE	80,80,80,80,80,80,80,80
	BF9C	80	80	80	80			
14	BFA0	94	90				. BYTE	94,90
15	BFA2	80	80	80	80		. BYTE	80,80,80,80,80,80,80,80
	BFA6	80	80	80	80			
16	BFAA	95	90				. BYTE	95,90
17	BFAC	80	80	80	80		. BYTE	80,80,80,80,80,80,80,80
	BFBO	80	80	80	80			
18	BF84	94	90				. BYTE	94,90
19	BF86	80	80	80	80		. BYTE	80,80,80,80,80,80,80,80
	BFBA	80	80	80	80			
20	BFBE	93	90				. BYTE	93,90
21	BFC0	80	80	80	80		. BYTE	80,80,80,80,80,80,80,80
	BFC4	80	80	80	80			
22	BFC8	92	90				. BYTE	92,90
23	BFCA	80	80	80	80		. BYTE	80,80,80,80,80,80,80,80
	BFCE	80	80	80	80			
24	BF02	91	90				. BYTE	91,90
25	BF04	80	80	80	80		. BYTE	80,80,80,80,80,80,80,80
	BF08	80	80	80	80			
26	BFDC	A7					. BYTE	0A7
27	BFDD	80	80	80	80		. BYTE	80,80,80,80,80,80,80,80,80,80
	BFE1	80	80	80	80			
	BFE5	80	80					
28	BFE7	80					. BYTE	80
29								
30						: GAME TITLE		
31						:0BFE8		
32	BFEB	40	40	40	40		. BYTE	40,40,40,40,40,40,66,6F,6F,74,62,61,6C,6C,40,40
	BFEC	40	40	66	6F			
	BFF0	6F	74	62	61			
	BFF4	6C	6C	40	40			
33	BFF8	40	40	40	40		. BYTE	40,40,40,40
34						:0BFFC		
35	BFFC	58	52				. BYTE	58,52
36						:0BFFE		
37	BFFE	8000					. WORD	PWRUP
38		0001*					. END	

AAAA	A825	BLITZ1	8DA5	COLPF1=	D017	DINVRT	A81D	ENDSCL	A49A
ABCDEF	857A	BLKMOV	AA1F	COLPF2=	D018	DISD	9073	ENDXAD	A8CF
ABSDRX	A54F	BLMSG	AABA	COLPF3=	D019	DISOWN	917F	ENDXSB	A8F1
ABSDRY	A577	BLOB	A0A9	COLPM0=	D012	DIST	03E4	ENDYAD	A91A
ACCDST	87B2	BLOUT	A153	COLPM1=	D013	DJYDON	AF86	EPLYST	9A12
ACCIDR=	0003	BMPCTR	0398	COLPM2=	D014	DLB	= 000A	EQTR	9238
ADSCR	9182	BNDTBL	826C	COLPM3=	D015	DLOB	= 0008	EQTRTB	9230
ALLPOT=	D208	BOTLIN	0520	CONSOL=	D01F	DLENTB	8989	ERASEP	AA3F
ALOWEN	03C3	BOUT	8F8F	COVER	8DB0	DLI	8668	ESTTUS	00E8
ANMMOD	0340	BTHRE	9571	COVER1	8DB9	DLIST	BE17	EXCALB	80B7
ANMNDX	0333	BTWEEN	9888	CPBAK	= 00D6	DLISTH=	D403	EXPTBL	829F
ANMON	= 0010	BUFFER	0505	CRDCNT=	0035	DLISTL=	D402	EXTDL1	86F3
ANMRPT	0340	BUFFR1=	0830	CRDCT1	8638	DLN1	= 0000	EXTOFF	8B24
ANMSEQ	0023	BUFFR2=	2830	CRDCT2	86A4	DLN2	= 0002	FALL	8832
ANMSET	A4F6	BUMP	A498	CRDFR1	866E	DLN3	= 0004	FBEG	0425
ANTIC	= D400	BUMPST=	0004	CRDFR2	86DA	DGRAM	2000	FCNNDX	026E
ASMHUD=	0082	BIEND	= 1FF0	CRDRT	= 0003	DMACTL=	D400	FCNTBL	8281
ATRACT	0004	B2END	= 3FF0	CRITIC	0003	DMARK	8991	FEND	0431
AUDCTL=	D208	CAMLET	A478	CROUCH	8710	DMFUDG	02C3	FGG00D=	0006
AUDC1	= D201	CBALL	= 0022	CROWD	9D47	DMSG	8887	FGMSG	BAA1
AUDC2	= D203	CBBAK	= 008A	CRSNGD	8578	DOBUMP	994A	FGNDGD=	0007
AUDC3	= D205	CGOAL	= 000F	CSBBAK=	0000	DOSCL2	0412	FGSTAT	02C4
AUDC4	= D207	CHACTL=	D401	CSBLET=	000A	DOSCRL	A3BA	FGTAB	AD2A
AUDF1	= D200	CHBASE=	D409	CSCMH	8980	DOWNNO	03EA	FHBND	03C8
AUDF2	= D202	CHGCTL	9E2F	CTEAM0=	004A	DPLAY	03BF	FIR10	90F0
AUDF3	= D204	CHKCLN	9EA6	CTEAM1=	007A	DPLY1	8519	FLAG	855E
AUDF4	= D206	CHKDCH	98E0	CTIMER	03AC	DPLY2	8521	FLASHD=	0080
AVEHZ	AD18	CHKELG	81EA	CTMOC	= 001E	DPLY3	8529	FLDSET	868A
AVTBL	8303	CHKFG	97C2	CTMIC	= 0082	DPLY4	8531	FMNBR	02C8
BALCLN	9370	CHKINT	94FF	CURPLR	0019	DPLY5	8539	FRAME	001A
BALCLR	0403	CHKPAW	8142	CYCLCT	0386	DPLY6	8541	FRPSC	= 001E
BALL	= 000C	CHKPNT	9873	CYCLE	040F	DRAG	8568	FRSTON	03EB
BALOUT=	0001	CHKRCP	94EA	CYCLE1	8E07	DRBTMP	82FD	GAMTYP	03CA
BBBB	A7E4	CHKRLS	97FE	CYCLE2	8E0F	DRDB	= 0006	GETDST	9C3F
BCOT	8F8F	CHKRST	8105	CYCLPT	0057	DRNEG1	8218	GETMOD	A524
BCOUT	A175	CHKSND	8609	C510YD=	000A	DRNEG2	823C	GMSLCT	8842
BCOVR	9452	CHKTKL	966E	DANCE	88F7	DSLCT	03C1	GOODFG	908C
BCROUT=	0002	CHMYDN=	000F	DATA	001F	DSLPLY	8D61	GOSTAT	AAA0
BCRTD	= 0003	CHOSNR	03DC	DCATCH	A045	DSTGET	9C73	GRACTL=	D01D
BCTAC	8F8F	CLCABS	A831	DCTL	0408	DTAB	0415	GRAFM	= D011
BCTD	A1F9	CLNRAM	0487	DCTLCH	0302	DTHRE	038B	GRAFP0=	D00D
BCTKL	= 0004	CLRBTS	A167	DCTLEN	03C2	DUM	950E	GRAFP1=	D00E
BDEAD	8F8F	CLRMASK	0020	DCTLTH	03C4	DWNLEN=	000C	GRAFP2=	D00F
BLANK	= 0008	CLRRAM	A63E	DEAD	AD88	DWNSET	86D4	GRAFP3=	D010
BLANK1=	0000	CLR1	AAAF	DECCUR	8412	EDELAY=	0086	GRFNDX	001E
BLANK2=	0010	CMPMID	85EB	DECPLX	93D4	EGAME	9332	GTDIST	9C99
BLANK3=	0020	COLBK	= D01A	DECPLY	93DA	EHALF	92DC	GTIA	= D000
BLANK4=	0030	COLIDE=	0020	DEDBAL	A14C	ENCALB	8092	GUN	9A2E
BLANK5=	0040	COLISN	93A8	DEEPBK	81A9	ENDDL	8EC3	GUNCNT=	000C
BLANK6=	0050	COLLN	934E	DEFBLK	809A	ENDDLY	8DF8	GUNCTL	857E
BLANK7=	0060	COLNDX	8275	DEFCTL	AF1A	ENDEEP	826B	GUNFRQ	858B
BLANK8=	0070	COLOR0	000C	DFFORM	832B	ENDERS	AA93	GUNRT	= 0000
BLCOPY	AEC8	COLOR1	000D	DFMANM	83A5	ENDFLD	AA09	GXPM	= 2000
BLCRYR	03DB	COLOR2	000E	DFORM	038D	ENDGAM=	000A	HAFMSG	BAB1
BLDEAD	A114	COLOR3	000F	DFPBLK	8CF2	ENDHIK	9E86	HALFTM=	0009
BLDED	= 0000	COLOR4	0010	DGRFX	91FB	ENDMSG	8ABD	HIFRTY	8D6F
BLITZ	8D9C	COLPF0=	D016	DHUDDL	837F	ENDQTR	921F	HIKDON	03DA

PAM FOOTBALL
SYMBOL TABLE

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HIKEBL	B02C	KPLACE	AB7F	MVCNT	00A2	OLDBLY	03AB	PADMIN	0417
HITCLR=	D01E	KRECEP	A0F1	MVCNTL	00AF	OLDCYC	03B7	PAL	= D014
HITCNT=	0001	KTIMER	03FC	MXSPD	035A	OLDKEY	03FE	PASCMP	0303
HITCTL	B5D0	LARGE	03E6	MXSPDL	0367	OLDSTT	03F1	PASING	03CF
HITFRQ	B5D2	LARGST	9B08	MOPF	= D000	OLDXPT	005B	PASINT	0304
HITRT	= 0000	LAUNCH	AD8C	MOPL	= D008	OLDX1	0220	PASMSG	BAC9
HITSND	9A13	LDBACK	03E0	MIPF	= D001	OLDX2	023A	PASS	A349
HPOSM0=	D004	LDDEF	A7F6	M1PL	= D009	OLDYPT	005D	PASSER	B8AB
HPOSM1=	D005	LDDFRM	A7EE	M2PF	= D002	OLDYP1	02B1	PASSON	0300
HPOSM2=	D006	LDEAD	A591	M2PL	= D00A	OLDYP2	02B2	PATPRC	93E0
HPOSM3=	D007	LDLP	A593	M3PF	= D003	OLDY1	022D	PATTRN	80A9
HPOSP0=	D000	LDMESS	A7A5	M3PL	= D00B	OLDY2	0247	PAUSST	87F0
HPOSP1=	D001	LDOFF	A7B7	NEWOLD	A973	OLN1	= 0000	PAWS	= 0000
HPOSP2=	D002	LDOFRM	A7B1	NEWX	0254	OLN2	= 0002	PBLK	03DD
HPOSP3=	D003	LDSCRIP	A4E5	NEW20	90D9	OLN3	= 0004	PCOLR0	0008
HSC	= 0010	LENGTH=	000F	NFLITE	95F5	OLN4	= 0006	PCOLR1	0009
HSCROL=	D404	LFDEEP	B228	NMIEN	= D40E	OMSG	8B83	PCOLR2	000A
HSVAL	AA0A	LFMAXH	AD21	NMIRE=	D40F	OPLAY	03BE	PCOLR3	000B
HUDANM	B38B	LFMAXL	AD1E	NMIST	= D40F	OPLTYP	03C9	PDSLCT	879E
HUDSTT	9A64	LFT	A7E1	NMSKT8	B2C1	OPLYT8	B26F	PENH	= D40C
HYPOTN	9BC4	LFTEDG	00EB	NOATR	A65A	OPLY11	B3B1	PENV	= D40D
HZGOAL	02B9	LFTRIT	0400	NOATRO	A663	OPLY12	B3C5	PKING	96B2
HZMIS	02B7	LINCNT	001C	NOAYRG	85F9	OPLY13	B3D9	PKRLS	97B0
INPTRN=	0001	LINK	0261	NOGO	AEC7	OPLY14	B3ED	PLAYON=	0085
INT	= 0080	LINKED=	0002	NOGOF8	9091	OPLY15	B401	PLPROC	A5FA
INTCNT=	0008	LINLOC	B2D1	NONE	B57D	OPLY16	B415	PLYRFG	00F1
INTCTL	B5C4	LNBACK	03E1	NOSND	865F	OPLY21	B429	PLYSTT	934E
INTFRQ	B5B8	LNCHDN	ADE3	NOSND1	8657	OPLY22	B43D	PMBASE=	D407
INTRCP	9FF9	LNCH1	AD92	NOTD	9FB4	OPLY23	B451	PMBLOK=	0100
INTRT	= 0001	LOADDL	9B77	NOTIND=	0040	OPLY24	B465	PMRES	= 0001
INTSND	9D93	LOFRTY	BCD7	NOTIN	B249	OPLY25	B479	PMSG	888B
INZONE	B25C	LSTRGT	03C5	NRSTBC	9C61	OPLY26	B48D	PMSG1	8B91
IPOSLP	A762	LSTXDR	02F2	NRSTDF	9C2D	OPLY31	B4A1	PMSG2	8BA0
IRQEN	= D20E	LSTYDR	02FF	NRSTUN	9C87	OPLY32	B4B5	PMSG3	8BAA
IRQST	= D20E	L1	83A6	NVALID	9CF9	OPLY33	B4C9	PNTDON	03D9
JMPWT	= 0041	L2	83A3	NVCNT	= 0001	OPLY34	B4DD	PNTPLY	9539
JORT	02AF	L3	83A0	NVCTL	8636	OPLY35	B4F1	POKEY	= D200
JUMP	= 0001	L4	839D	NXTPLR	9350	OPLY36	B505	POKMSK	0000
KBCODE=	D209	MAJORH	006E	NXTPLX	9353	QQB	= 000A	POST	B559
KBLOCK	03A8	MAJORL	0061	NXTPOT	85F6	QQTIME	0414	POTGO	= D20B
KDENS	8BB7	MAXFLD=	0030	OBK	= 0008	QRDT8	B9F1	POTO	= D200
KEY	00E9	MFLASH	8E88	OCTL	040A	OSLCT	03C0	POT1	= D201
KEYBRD	86F7	MINDXH	0095	OCTLCH	03D1	OSLPLY	8C5B	POT2	= D202
KFLASH	8EF4	MINDXL	0088	ODCTL	AF87	OSTRG	03F5	POT3	= D203
KFLASO	8EFA	MINOR	007B	OFBLKA	8182	OTHERE	03BA	POT4	= D204
KICK	B934	MJRSTP	A533	OFBLKB	818F	OTRGFG	03F9	POT5	= D205
KICKER	03DE	MNBR	02C7	OFBLKC	819C	OUTBND=	0040	POT6	= D206
KICKON	03D5	MNRSTP	A541	OFFCTL	AF0C	PADDL0	0011	POT7	= D207
KIKANM	A59D	MOFF	= 0300	OFFDIR	00DE	PADDL1	0012	PRIOR	= 0018
KIKCNT=	0005	MSGEND	8A77	OFFENS	00DD	PADDL2	0013	PROCES	80EC
KIKCTL	B59E	MSGST	8A5B	OFFORM	8307	PADDL3	0014	PROMPT	AAC8
KIKFRQ	B598	MSGTB	0423	OFFSET	0018	PADDL4	0015	PSDSBL	03CB
KIKING	03CE	MSKTBL	8281	OFMANH	8399	PADDL5	0016	PSING	9780
KIKRCP	03D7	MSTAT	02C5	OFORM	038C	PADDL6	0017	PSPLAY	8CD4
KIKRT	= 0000	MSUMH	00C9	OFSWCH	03D8	PADDL7	0018	PTAB	004D
KIKSND	9A49	MSUML	008C	OHUDDL	8373	PADMAX	041B	PTCNTR	85C5
KKDSBL	03CC	MTIMER	02C6	OJYDON	AF19	PADMID	041F	PTNPRC	A48A

PTRA	004D	RUNV	B730	SKPMAX	85E3	TRGFG	03F7	XDPOS	028A
PTRB	004F	RX1	03E2	SKRES =	D20A	TRGLP	81A1	XDPOSH	028D
PTRC	0051	RX2	03E3	SKSTAT=	D20F	TRIGO =	D010	XDSP0S	02C0
PTRD	0053	SAFETY=	0005	SLCT =	0007	TRIG1 =	D011	XGOTO	030C
PTRE	0055	SAVBOT	8F58	SLCTPL=	0084	TRIG2 =	D012	XHGOTO	0319
PTRNDN	8181	SAVSTT	03F2	SLNTIN	8575	TRIG3 =	D013	XHZERO	A944
PTRNDX	0295	SBMPLP	8DEE	SLOUT	8572	TRKDON	8099	XINVRT	A94E
PTRNPT	027B	SBOARD	043F	SMALL	03E8	TWOPLR	8DD3	XLRG	98F2
PULALL	8662	SCLFLD	A9D8	SMPLRT	0382	T0	00D6	XPOS	02C8
PWAIT	9417	SCLSPD	03C7	SNDCNT	03AE	T1	00D7	XPOSHI	02E5
PWRUP	8000	SCNPOS	A983	SNDCNTL	0045	T2	00D8	XPSADD	A88D
POOFF =	0400	SCNSTT	001D	SNDFRQ	003D	T3	00D9	XPSSUB	A8D0
POPF =	D004	SCNWRT	8281	SOFT	871F	T4	00DA	XRITBL =	03C0
POPL =	D00C	SCORE	8A0B	SPCIAL	943D	T5	00DB	XRITPL =	038D
P1GRX	0283	SCORE0	03ED	STAND	8720	T6	00DC	XTSLCT	8C5A
P1MSG	8AF6	SCORE1	03EE	STANSQ	A5E7	UPDATE	ADE4	XUPDAT	A86B
P1OFF =	0500	SCORH0	03EF	START	A66E	UPDTPT	005F	YARDND	BF6F
P1PF =	D005	SCORH1	03F0	STATBL	8549	VALID	9CC6	YARTG	8FDC
P1PL =	D00D	SCORUP	8F90	STATE	00F0	VBCNTR	03AD	YBMPDR	0381
P2GRX	0285	SCRIMX	00EE	STIMER=	D209	VBFLAG	040E	YBOTBL =	0094
P2MSG	8B08	SCRIMY	0411	STNDAN	A5C8	VBLANK	8597	YBOTPL =	0089
P2OFF =	0600	SCRMDR	9BAB	STPTRN	A4C6	VBRKOP	020E	YGOTO	0326
P2PF =	D006	SCRNP	81F9	STREAK	856D	VBWAIT	842B	YINVRT	A963
P2PL =	D00E	SCRNPT	0059	STRGFG	03F3	VCOUNT=	D40B	YLRG	98E2
P3OFF =	0700	SCRDLH	0410	STSTND	A5BF	VDELAY=	D01C	YMAJOR=	0008
P3PF =	D007	SCRSET	86AA	STSTPT	8191	VDSLST	0206	YPOS	02D8
P3PL =	D00F	SCRTBH	8A02	SVCLDS	9C02	VIMIRQ	0200	YPSADD	A8F2
QFRCT	0280	SCRTBL	89F9	SWC	9F18	VKYBDF	020A	YPSSUB	A91B
QTIME	8730	SCRUPD=	0001	SWCHOF	9F15	VKYBDI	0208	YRDADR	0415
QTIMST	00ED	SDLSTH	0006	SWICH	9F27	VLD CNT=	0001	YRDBAL	AD3A
QUARTR	03E9	SDLSTL	0005	SWITCH	95F2	VLDCTL	8632	YTOGO	02C9
RAND	038E	SDMCTL	0007	TACKLE	A239	VLD FRO	8630	YTOG1	02CA
RANDOM=	D20A	SELECT	88D0	TBACK	90D9	VLD FRI	8634	YTOPBL =	0010
RANGEM	AD1B	SELMG	8AD7	TBMG	8A95	VLDRT =	0000	YTOPPL =	0003
RAVAIL=	0092	SERIN =	D20D	TD	9668	VRTBNK	0388	YTOTOX	9DAE
RCPCNT=	0009	SEROUT=	D20D	TDMSG	8A77	VRTSTD	8822	YTOT2Y	9DD4
RCPRT =	0001	SETBUF	844E	TDOWN	907E	VSC =	0020	YTOXX	9E7E
RCPSND	9D78	SETHUD	9B0E	TDTD	9FB0	VSCROL=	D405	YTOXY	9E6A
RDBACK	03DF	SETPTB	AA2F	TD1	9080	VSERIN	0210	YTXDR	03A9
RECCTL	85AE	SETPTS	8430	TEAMY	A799	VSEROC	0214	YTXYDR	03AA
RECEPT	9F39	SETRAK	9C21	TEMP	0404	VSERDR	0212	YUPDAT	A87C
RECFRQ	85A4	SETSCN	837E	TEMPA	0022	VTIMR1	0216	ZAVAIL=	0002
REGMSG	8B1A	SETUPD	9E5E	TEMPB	0021	VTIMR2	0218	ZBBAK	00E7
RELEAS	A2FB	SFENBL	03CD	TEST =	0001	VTIMR4	021A	ZEND =	00FE
REND	8EDD	SFLASH	8EEE	THERE =	0080	VTRIGR	020C	ZGOAL	00E5
RESBOT	8F78	SFLAS0	8F02	THRCNT	0389	VVBLKD	0204	ZHASH	00E2
REVER5	02A2	SFMSG	8A87	TIMR30	0413	VVBLKI	0202	ZLET	00E3
REVTBL	8B07	SFTY	90BD	TIPON	0306	WBLOCK	AA9A	ZONLFT	9DE7
RDMSC=	0040	SHRMSG	8B2C	TKLLP	9681	WHISTL	9D2C	ZONRIT	9E0B
RR	A7D6	SIDELN	8563	TMPKEY	03F8	WRAND	ACF1	ZPLYBK	00DF
RSTMSG	8B3E	SIEM =	D00C	TMOCLR	0401	WSLCNT=	002D	ZSCRBD	00E4
RSTRGT	03C6	SIZEP0=	D008	TMOCTL	040C	WSLCTL	85D4	ZTMO	00E0
RTCLOK	0001	SIZEP1=	D009	TMICLR	0402	WSLFRQ	8602	ZTM1	00E1
RTMAXH	AD27	SIZEP2=	D00A	TMICTL	040D	WSLRT =	0000	Z5Y10	00E6
RTMAXL	AD24	SIZEP3=	D00B	TOUCHB=	0008	WSYNC =	D40A		
RUNH	87A9	SKCTL =	D20F	TRACK	805D	XBMPDR	0374		

. ABS. C000 00
0000 01

Errors detected: 0

Available memory: 6454. words.

DK2:TST,LP:/C=DK1:TST

{DK2:TST,OBJ,LP:.,LST,DK:CREF,TMP=DK1:TST}

A TOTAL OF 9,336 STATEMENTS WERE PROCESSED.

CPU TIME - 04:31.5 I/O TIME - 01:42.8

.	1-39#	1-40#	1-41#	1-42#	1-44#	1-46#	1-47#	1-49#	1-51#	1-52#	1-53#	1-54#	1-55#	1-56#
	1-57#	1-58#	1-59#	1-62#	1-63#	1-64#	1-65#	1-66#	1-67#	1-68#	1-69#	1-79#	1-80#	1-81#
	1-82#	1-83#	1-84#	1-85#	1-86#	1-87#	1-88#	1-89#	1-90#	1-91#	1-92#	1-93#	4-3#	4-4#
	4-5#	4-6#	4-7#	4-8#	4-9#	4-10#	4-11#	4-12#	4-13#	4-14#	4-15#	4-16#	4-18#	4-19#
	4-20#	4-21#	4-22#	4-24#	4-25#	4-26#	4-27#	4-28#	4-29#	4-30#	4-31#	4-32#	4-33#	4-34#
	4-35#	4-36#	4-37#	4-38#	4-39#	4-40#	4-41#	4-42#	4-43#	4-44#	4-45#	4-46#	4-76#	4-78#
#	4-79#	4-80#	4-81#	4-82#	4-87#	4-88#	4-89#	4-90#	4-91#	4-97#	4-102#	4-133#	4-134#	4-135
#	4-136#	4-137#	4-138#	4-139#	4-140#	4-141#	4-142#	4-143#	4-144#	4-145#	4-146#	4-147#	4-148#	4-149
#	4-150#	4-151#	4-152#	4-153#	4-154#	4-155#	4-156#	4-157#	4-158#	4-159#	4-160#	4-161#	4-162#	4-163
#	4-164#	4-165#	4-166#	4-167#	4-168#	4-169#	4-170#	4-171#	4-172#	4-174#	4-175#	4-176#	4-177#	4-179
#	4-180#	4-182#	4-183#	4-184#	4-185#	4-186#	4-187#	4-188#	4-189#	4-190#	4-191#	4-192#	4-193#	4-194
#	4-195#	4-196#	4-197#	4-199#	4-200#	4-201#	4-202#	4-203#	4-204#	4-205#	4-206#	4-207#	4-209#	4-210
#	4-211#	4-213#	4-214#	4-215#	4-226#	4-227#	4-228#	4-229#	4-230#	4-231#	4-233#	4-234#	4-235#	4-236
#	4-237#	4-238#	4-239#	4-240#	4-241#	4-242#	4-243#	4-244#	4-245#	4-246#	4-247#	4-249#	4-250#	4-251
	4-252#	4-255#	4-256#	4-257#	4-258#	4-259#	4-260#	4-261#	4-262#	4-263#	4-264#	4-268#	5-2#	40-1#
AAAA	20-975	20-979#												
ABCDEF	8-200	8-202	8-205	8-212#										
ABSDRX	20-522#	23-13												
ABSDRY	20-543#	23-15												
ACCDST	10-5#	34-562												
ACCIDR	2-14#	7-36												
ADSCR	16-182	16-244	16-384#											
ALLPOT	1-123#													
ALOWEN	4-171#	11-24*	11-40	11-213	11-464*									
NMMOD	4-142#	11-189	11-444*	14-56*	17-515*	18-127*	20-128*	20-233*	20-494*	20-576*	20-602*	20-633	27-45*	27-178
ANMNDX	4-141#	7-361	11-191*	11-446*	14-58*	17-539*	18-130*	20-130*	20-235*	20-578*	20-604*	20-630	20-642*	27-47*
	27-180*													
ANMON	2-41#	11-57	11-144	11-293	11-387	17-472	17-476	17-529	17-534	18-84	19-501	20-78	20-82	20-112
	20-470	20-628												
ANMRPT	4-143#	11-193*	11-296*	11-448*	14-60*	17-518*	17-538*	18-132*	20-131*	20-236*	20-498*	20-579*	20-606*	20-635
	27-49*	27-182*												
NMSEQ	4-14#	7-359	7-363	11-183	11-185*	11-187	11-438*	11-440*	11-442	14-51*	14-53*	14-54	17-510*	17-512
*	17-513	18-121*	18-123*	18-125	20-123*	20-125*	20-126	20-228*	20-230*	20-231	20-480*	20-482*	20-486*	20-488
*	20-492	20-571*	20-573*	20-574	20-597*	20-599*	20-600	20-611*	20-614*	27-40*	27-42*	27-43	27-173*	27-175
	27-176													
ANMSET	20-465#	23-62												
ANTIC	1-99#	1-201	1-202	1-203	1-204	1-205	1-206	1-207	1-208	1-209	1-210	1-211	1-212	1-213
	1-214	1-215												
ASMHUD	2-13#	7-20	7-53	10-126	16-15	16-18	16-566	20-300	20-316	23-48	24-4			
ATRACT	1-44#	9-23	20-687	20-688*										
AUDC1	1-131#	9-108*	9-129*											
AUDC2	1-133#	9-113*												
AUDC3	1-135#	9-118*												
AUDC4	1-137#	9-123*												
AUDCTL	1-138#	5-37*												
AUDF1	1-130#	9-106*												
AUDF2	1-132#	9-111*												
AUDF3	1-134#	9-116*												
AUDF4	1-136#	9-121*												
AVEHZ	22-184	22-188	22-457#											
AVTBL	34-28#													
B1END	2-5#													
B2END	2-7#													
BALCLN	17-9	17-27#												
BALCLR	4-239#													
BALL	2-20#	4-14	4-29	4-30	4-31	4-32	4-33	4-34	4-35	4-36	4-37	4-78	4-79	4-80

	4-81	4-82	4-87	4-88	4-89	4-90	4-91	4-133	4-134	4-135	4-136	4-137	4-138	4-139
	4-140	4-141	4-142	4-143	4-144	4-145	4-146	4-147	4-148	4-149	5-79	5-81	7-99	7-122
	7-135	7-143	7-154	7-168	7-341	8-176	8-182	8-206	11-140	11-159	11-291	11-381	11-407	12-60
	12-63	12-67	12-71	12-74	12-82	12-91	12-118	12-148	13-22	13-25	13-34	13-45	13-79	14-31
	14-64	17-4	17-8	17-130	17-192	17-196	17-203	17-211	17-220	17-224	17-243	17-258	17-259	17-285
	17-312	17-358	17-401	17-434	17-436	17-443	17-498	17-502	17-540	17-560	17-574	17-599	17-665	17-715
	17-732	17-748	17-828	18-20	18-45	18-93	18-109	18-141	18-144	18-146	19-108	19-142	19-168	19-188
	19-393	19-469	19-565	19-602	19-606	19-613	19-624	19-639	19-658	19-671	19-681	19-694	19-696	19-818
	20-57	20-76	20-89	20-133	20-140	20-189	20-247	20-314	20-558	20-586	20-858	20-865	20-908	20-927
*	20-941	20-951	20-968	20-982	21-20	21-70	21-91	21-142	21-155	22-230	22-234	22-244	22-248	22-261
	22-262*	22-286	22-337*	22-353	22-356	22-362	22-366	22-388*	22-390*	22-395*	22-413*	23-45	24-12	25-15
	25-17	25-18*	25-27	25-28*	25-31*	25-33*	25-35*	28-4	28-5	28-21	29-4	30-5	31-25	31-36
	31-47	31-57	33-72											
BALOUT	2-67#	19-808												
BB88	20-936	20-939#												
BCOT	16-45#	37-83	37-94											
BCOUT	17-273	17-348	20-1#											
BCOVR	17-129	17-138#												
BCROUT	2-68#	20-51												
BCRTD	2-69#	14-19	14-42	20-95										
BCTAC	16-49#	37-85	37-96											
BCTD	17-390	19-597	20-69#											
BCTKL	2-70#	14-13	20-195											
BDEAD	16-37#	37-81	37-92											
BLANK	2-78#													
BLANK1	1-24#													
BLANK2	1-25#													
BLANK3	1-26#													
BLANK4	1-27#													
BLANK5	1-28#													
BLANK6	1-29#													
BLANK7	1-30#													
BLANK8	1-31#													
BLCOPY	25-1#	34-11												
BLCRYR	4-199#	12-10	12-12*	14-40	17-149	17-166	17-176	17-272*	17-343	17-356	17-368	17-383	17-403	17-409
	17-415	17-565*	17-617	17-689*	17-785	17-787	19-471*	19-555*	19-575	19-590	19-617	19-625	19-632*	19-669
	19-724	19-757*	20-6	20-80	20-90	20-110	20-205	20-222	20-295*					
BLDEAD	17-304	19-774#												
BLDED	2-66#	19-792												
BLITZ	13-40#													
BLITZ1	13-45#	13-53	13-61											
BLKMOV	7-282	7-298	21-273#	21-280										
BLMSG	11-288	16-561	16-610	16-635	20-714	22-20#								
BLOB	19-724#													
BLOUT	17-316	19-806#												
BMPCTR	4-149#	17-803*	17-817*	17-829	17-831*									
BNDTBL	11-75	34-5#												
BOTLIN	4-266#	15-181	22-25*	22-66*	22-116*	22-127*	22-142*	22-153*						
BOUT	16-41#	37-82	37-93											
BTHERE	17-247	17-253	17-255	17-257	17-279#									
BTWEEN	12-107	19-15#												
BUFFER	4-264#	21-264*	21-266*	21-273										
BUFR1	2-4#	2-5	38-50	38-51	39-9	39-18								
BUFR2	2-6#	2-7	38-50	38-51										
BUMP	20-407#	20-652	20-654											
BUMPST	2-43#	17-11	17-15	17-806	17-820	20-644								

C510YD	2-103#	37-9								
CAMLFT	20-390#									
CBALL	2-99#	20-745								
CBBAK	2-100#	37-9								
CGOAL	2-104#	37-9								
CHACTL	1-202#									
CHBASE	1-208#									
CHGCTL	17-330	17-336	19-387#							
CHKCLN	17-132	17-212	17-226	17-260	17-410	17-417	17-437	17-561	17-600	19-456#
CHKDCH	17-531	17-543	17-558	17-586	17-612	17-619	17-635	17-647	17-692#	
CHKELG	33-28#	33-70								
CHKFG	17-553	17-556#								
CHKINT	17-213	17-218#								
CHKPAW	7-52#									
CHKPNT	17-551	17-637#								
CHKRCP	17-143	17-146	17-151	17-155	17-158	17-201	17-208#			
CHKRLS	17-548	17-587#								
CHKRST	7-6	7-8	7-10	7-12	7-19#					
CHKSND	9-93#	9-131								
CHKTKL	17-353	17-355	17-357	17-367	17-382	17-394#				
CHMYDN	2-102#	37-9								
CHOSNR	4-200#	17-210	17-230	17-325	19-396	19-554	20-221*	20-253		
CLCABS	20-943	20-984	20-988#	20-115						
CLNRAM	4-263#	17-57	17-69*	17-757	17-841*	19-461				
CLR1	7-46	7-87	10-53	10-97	22-8#					
CLRBTS	19-677	19-818#								
CLRMSK	4-11#	7-350*	7-468	7-487	7-503					
CLRRAM	5-16	20-663#								
CMPMID	9-67	9-71#								
COLBK	1-173#	9-170*	9-183*	9-195*						
COLIDE	2-40#									
COLISN	17-26	17-50#								
COLLN	17-4#									
COLNDX	17-55	17-755	19-459	34-9#						
COLOR0	1-55#									
COLOR1	1-56#									
COLOR2	1-57#									
COLOR3	1-58#	19-521*	20-741*							
COLOR4	1-59#									
COLPFO	1-169#	9-201*								
COLPF1	1-170#	9-188*	9-199*							
COLPF2	1-171#	9-190*	9-197*							
COLPF3	1-172#	9-209*								
COLPM0	1-165#									
COLPM1	1-166#									
COLPM2	1-167#									
COLPM3	1-168#	9-211*								
CONSOL	1-178#	6-8*	6-59*	9-322*						
COVER	13-38	13-50#								
COVER1	13-43	13-54#								
CPBAK	2-101#	37-9								
CRDCNT	19-261	35-57#								
CRDCT1	19-267	19-269	35-59#							
CRDCT2	19-275	19-277	35-67#							
CRDFR1	19-271	19-273	35-63#							
CRDFR2	19-279	19-281	35-70#							

[illegible]

DLN3	2-32#													
DGRAM	4-269#	8-22*	8-24*	8-29*	8-32*	8-218*	8-219*	19-6*	19-9	19-11	39-36			
DMACTL	1-201#													
DMARK	16-446	37-17#	37-29											
DMFUDG	4-118#	16-439*	21-205											
DMSG	37-227#													
DOBUMP	17-135	17-215	17-241	17-268	17-274	17-303	17-305	17-317	17-349	17-391	17-413	17-420	17-693	17-708
	17-710	17-712	17-741#											
DOSCL2	4-250#													
DOSCL	7-162	20-299#												
DOWND	4-214#	16-69*	16-70	16-124*	16-125	16-281*	16-359	16-441						
DPLAY	4-167#	11-331*	13-3											
DPLY1	13-10	13-14	34-503#											
DPLY2	34-513#													
DPLY3	34-523#													
DPLY4	34-533#													
DPLY5	34-543#													
DPLY6	34-553#													
DRAG	34-270	34-570#												
DRBTMP	7-343#	7-521												
DRDB	2-33#	13-69												
DRNEG1	33-41	33-48#												
DRNEG2	33-55	33-62#												
DSLCT	4-169#	11-20*	11-320	11-342*	11-399*	11-466*	11-478*							
DSLPLY	11-285	11-467	13-3#											
DSTGET	19-145#	19-155												
DTAB	4-253#													
DTHRE	4-163#	11-22*	11-52*	11-423*	11-457	11-461*								
DUM	17-226#	17-246												
DWNLEN	16-444	37-13	37-13	37-13	37-13	37-14	37-14	37-14	37-14	37-29#				
DWNSET	9-157	9-206#												
EDELAY	2-17#	7-7	7-24	7-57	16-615	16-628	19-796	19-813	20-64	20-99	20-201			
EGAME	16-464	16-625#												
EHAF	16-464	16-572#												
ENCALB	6-4#	14-28	20-796											
ENDDL	20-216	20-218	39-37#											
ENDDL	14-2#	34-563												
ENDEEP	33-4	33-25	33-75	33-82#										
ENDERS	21-309	21-355#												
ENDFLD	21-255	21-260#												
ENDGAM	2-77#	14-21	16-8	16-631										
ENDHTK	17-134	19-466#												
ENDMSG	10-93	10-95	37-119	37-176#										
ENDQTR	7-16	16-453#												
ENDSCL	20-351	20-364	20-369	20-371	20-373	20-385	20-397	20-402	20-404#					
ENDXAD	21-31	21-42	21-48	21-50#										
ENDXSB	21-59	21-66#												
ENDYAD	21-87#													
EPLYST	17-844#													
EQTR	16-464	16-464	16-467#											
EQTRTB	16-458	16-460	16-464#											
ERASEP	7-171	21-298#	21-357											
ESTTUS	4-63#	14-12	14-18	14-41	16-7	16-26	16-569*	16-618*	16-632*	19-793*	19-809*	20-18*	20-24*	20-38*
	20-44*	20-52*	20-96*	20-154*	20-160*	20-176*	20-182*	20-196*	20-891*					
EXCALB	6-33#	11-336												
EXPTBL	21-263	21-265	34-15#											

HITCTL	17-855	17-857	35-26#																	
HITFRQ	17-851	17-853	35-27#																	
HITRT	17-849	35-25#																		
HITSND	17-793	17-847#																		
HPOSMO	1-151#	9-172*	9-213*	21-234*																
HPOSM1	1-152#	9-174*	9-215*																	
HPOSM2	1-153#																			
HPOSM3	1-154#																			
HPOSP0	1-147#	8-179*																		
HPOSP1	1-148#	8-80*																		
HPOSP2	1-149#	8-122*																		
HPOSP3	1-150#	9-176*	9-217*																	
HSC	1-22#																			
HSCROL	1-205#	8-215*	20-820*																	
HSVAL	7-241	7-262	7-265	21-262#																
HUDANM	18-120	18-122	34-107#																	
HUDSTT	18-2#	34-562																		
HYPOTN	19-46#	19-116	19-150	19-179																
HZGOAL	4-113#	7-318*	7-325*	7-335*	9-216	20-792*														
HZMIS	4-112#	9-212	9-214	21-237*	21-259*															
INPTRN	2-45#	17-85	17-91	20-255	20-435	24-31														
INT	1-18#																			
INTCNT	19-301	35-18#																		
INTCTL	19-309	19-311	35-21#																	
INTERQ	19-305	19-307	35-20#																	
INTRCP	17-240	19-632#																		
INTRT	19-303	35-19#																		
INTSND	17-465	19-301#	19-666																	
INZONE	33-46	33-52	33-60	33-66	33-76#															
IPOSLP	20-866#	20-889																		
IROEN	1-142#	5-13*	5-61*																	
IROST	1-128#																			
JMPWT	1-19#																			
JORT	4-97#	6-13*	6-45	6-47*	9-48	9-52	27-92	27-99	27-140	27-144										
JUMP	1-23#																			
KBCODE	1-124#																			
KBLOCK	4-150#	5-40*	9-224*	9-244*	9-317*	9-323*														
KDENS	22-431	37-247#																		
KEY	4-64#	7-28	7-32*	7-67	7-71*	9-238*	10-6	10-10*	10-25	10-29*	10-39	10-43*	10-103*	10-104						
*	10-107	10-118*	10-139*	11-8*	11-64	11-78*	11-89*	11-95	11-103*	11-115*	11-216*	11-217*	11-235	11-243						
	11-253*	11-325	11-334*	11-356*	11-483*	17-746*	17-747*	20-844*												
KEYBRD	5-50	5-52	9-224#																	
KFLASO	15-82	15-84#																		
KFLASH	15-80#	22-50																		
KICK	20-570	20-572	36-46#																	
KICKER	4-202#	12-24*	17-470	17-493	17-501	17-506	17-514	17-519*	17-559	17-567	17-598	17-607	17-653*	17-764						
	17-767	19-482	19-499	19-505	19-507*															
KICKON	4-192#	17-110	17-271*	17-281	17-291	17-299*	17-341	17-354	17-396	17-442*	17-582*	17-639	17-656*	19-766						
	20-306	24-48																		
KIKANM	17-568	17-608	17-662	20-566#																
KIKCNT	17-875	35-8#																		
KIKCTL	17-883	17-885	35-11#																	
KIKFRQ	17-879	17-881	35-10#																	
KIKING	4-185#	17-428	17-479*	17-581*	17-611*	17-659*	26-3													
KIKRCP	4-194#	16-52	17-256	17-702	19-768*															
KIKRT	17-877	35-9#																		

KIKSND	17-585	17-690	17-875#											
KKDSBL	4-183#	17-147	17-161*	17-556	17-583*	17-596	17-610*	17-637	17-657*	20-245*				
KPLACE	17-573	17-664	22-176#											
KRECEP	17-267	19-757#												
KTIMER	4-234#	9-8	9-10*	9-230	9-232*									
L1	7-448	7-455#												
L2	7-446	7-453#												
L3	7-447	7-451#												
L4	7-444	7-449#												
LARGE	4-210#	19-49	19-51	19-62*	19-64*	19-69*	19-71*							
LARGST	19-56#	19-114	19-148	19-177										
LAUNCH	11-147	11-394	17-464	17-579	17-669	17-687	18-87	19-497	19-751	20-87	20-285	23-11#	28-23	29-26
	31-106	32-14	33-24	34-11										
LDBACK	4-204#	13-74*	17-191	19-601	19-720*	24-18	31-40	33-37						
LDDEF	20-953#	20-963												
LDDFRM	11-377	18-43	20-948#											
LDEAD	16-620	16-637	19-802	20-3	20-73	20-107	20-558#	20-837						
LDLP	20-559#	20-563												
LDMESS	20-705	20-896#												
LDOFF	20-912#	20-922												
LDOFRM	11-137	18-36	20-908#											
LDSCRIP	12-69	13-27	20-453#	20-461										
LENGTH	2-47#	2-51	7-352	8-51	8-59	8-87	8-104	8-129	8-146	17-36	17-681	19-493	20-267	20-280
	20-632	21-302	25-22	28-18	29-15	36-2	36-4	36-6	36-15	36-24	36-26	36-35	36-41	36-46
LFDEEP	33-38	33-54#												
LFMAXH	22-191	22-481#												
LFMAXL	22-190	22-478#												
LFT	20-932	20-938#												
LFTEDG	4-65#	7-193	7-195	7-308	7-312	7-328	18-52	18-55	18-59	18-63	18-71	18-75	20-320	20-323
*	20-329	20-332	20-340	20-344	20-353*	20-355*	20-374	20-378	20-383*	20-384*	20-386*	20-388*	20-823*	20-825
	20-869	20-873	20-877	20-881	21-160	21-163	21-188	21-191	21-218	21-221				
LFTRIT	4-236#													
LINCNT	4-7#													
EINK	4-87#	11-299*	12-64*	13-46*	13-62*	17-193*	17-197*	17-204*	17-499*	17-503*	17-541*	17-716*	17-733*	19-124
	19-189*	19-394*	19-472*	19-603*	19-607*	19-614*	19-626*	19-673*	19-697*	20-91*	25-2	25-19	29-3	30-6*
	31-26*	31-33	31-37*	31-44	31-48*	31-54	31-58*	33-73*	33-80*					
LINKED	2-44#	19-128	19-172	19-193	33-34	33-77								
LINLOC	21-216	21-220	34-22#											
LNBACK	4-205#	11-55	13-78*	17-202	19-612									
LNCH1	23-17#	27-184												
LNCHDN	23-52	23-58	23-60	23-64#										
LOADOL	5-18	19-4#												
LQRTY	7-423	21-285	21-326	38-1#										
LSTRGT	4-174#	11-314*	18-17*	19-762*	20-372	20-833*								
LSTXDR	4-136#	20-467	20-529*	21-4	25-18*	27-115*								
LSTYDR	4-137#	20-545*	21-14	25-28*	27-161*									
MOPF	1-179#													
MOPL	1-187#													
M1PF	1-180#													
M1PL	1-188#													
M2PF	1-181#													
M2PL	1-189#													
M3PF	1-182#													
M3PL	1-190#													
MAJORH	4-30#	23-18*	24-93	24-105										
MAJORL	4-29#	23-28*	23-36*	23-42	24-97	24-102								

MAXFLD	2-8#	8-221												
MFLASH	7-48	7-91	10-21	10-55	10-66	10-72	10-79	10-99	10-149	10-155	15-8#	15-188	16-622	16-639
	19-784	20-20	20-27	20-40	20-47	20-102	20-156	20-163	20-178	20-185				
MINDXH	4-33#	23-19*	23-59*	24-72*	24-73	24-77*								
MINDXL	4-32#	23-43*	23-54	23-57*	24-67	24-70*	24-78*	24-80						
MINOR	4-31#	23-26*	23-38*	24-88										
MJRSTP	20-502#	24-109												
MNBR	4-125#	10-20*	10-78*	10-121*	15-48*	15-74	15-81	15-90	15-143*	15-157	15-165*	22-45		
MNRSTP	20-510#	24-107												
MOFF	2-86#	20-766*	20-777*											
MSGEND	20-896	37-128#												
MSGST	20-896	20-897	37-110#											
MSGTB	4-259#	15-38	15-40	15-91	15-93	15-158	15-160	20-898*	22-46	22-48				
MSKTBL	7-467	7-486	7-502	34-17#										
MSTAT	4-123#	15-47*	15-87*	15-99	15-138									
MSUMH	4-37#	11-393*	19-94*	19-418*	20-457*	24-91*	24-92	24-104	24-106*					
MSUML	4-36#	11-392*	19-93*	19-417*	20-456*	24-86	24-89*	24-96	24-100	24-103*				
MTIMER	4-124#	15-53*	15-86*	15-89*	15-104	15-107	15-140							
MVCNT	4-34#	21-2	21-12	24-65*	24-69									
MVCNTL	4-35#	24-61	24-62*											
MXSPD	4-144#	24-21*	24-26*	24-34*	24-39*	24-44*	24-55*	24-63						
MXSPDL	4-145#	24-23*	24-28*	24-36*	24-41*	24-46*	24-57*	24-59						
NEW20	16-184	16-230	16-259#	16-578										
NEWOLD	7-526	21-139#												
NEWX	4-82#	7-401	7-408	8-75	8-117	8-176	21-145	21-176*						
NFLITE	17-321	17-323	17-331	17-333	17-335	17-339#								
NMIEN	1-213#	5-12*	5-59*											
NMIRE	1-214#													
NMIST	1-215#													
NMSKTBL	7-470	7-489	7-505	34-19#										
NDATR	9-242	20-685#												
NDATRO	20-689	20-691#	20-738											
NDAVRG	9-39	9-79#												
NOGO	24-66	24-110#												
NOGOF	16-197#	37-88	37-99											
NONE	34-150	34-227	34-248	34-250	34-381	34-383	34-575#							
NOSND	9-98	9-109	9-114	9-119	9-124	9-130#								
NOSND1	9-94	9-125#												
NOTD	19-574	19-589	19-601#											
NOTIMD	2-112#	15-44	15-45	37-182	37-187	37-192	37-197	37-202	37-207	37-212				
NOTIN	33-31	33-36	33-44	33-47	33-50	33-53	33-58	33-61	33-64	33-67#				
NRSTBC	17-721	19-132#												
NRSTDF	17-172	17-182	17-494	19-98#	19-508	32-5								
NRSTUN	19-158#	19-684	32-21											
NVALID	11-90	11-116	11-254	11-357	19-223#									
NVCNT	19-223	35-54#												
NVCTL	19-241	19-243	35-55#											
NXTPLR	17-5#	17-80												
NXTPLX	17-8#	17-77												
NXTPOT	9-49	9-54	9-69	9-76#										
DBK	2-27#	12-23												
CTL	4-241#	12-61*	17-131	17-489	17-497	17-603	17-661	17-720	19-392	19-400*	19-470	19-556*	19-703	19-725
	24-6													
DCTLCH	4-188#	17-322	19-388*	19-544*										
ODCTL	26-5	27-55	27-60#											
OFBLKA	32-2#	34-12												

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PENV	1-212#													
PKING	17-395	17-397	17-404	17-428#										
PKRLS	17-521	17-523	17-546#											
PLAYON	2-16#	7-5	7-62	8-199	9-271	11-309	17-742	27-2	28-2	30-3	31-2	32-3	32-11	32-19
	33-2													
PLPROC	7-128	7-138	7-147	20-627#										
PLYRFG	4-69#	7-100	7-102*	7-155	7-157*	11-56	11-58*	11-143	11-145*	11-162	11-167*	11-194	11-196*	11-292
	11-294*	11-386	11-388*	11-413	11-418*	11-449	11-451*	12-27	12-29*	12-149	12-151*	13-80	13-82*	14-32
	14-34*	14-44	17-10	17-14	17-84	17-90	17-96	17-99	17-101*	17-114	17-118*	17-169	17-171*	17-179
	17-181*	17-286	17-290*	17-313	17-345	17-471	17-475	17-477*	17-528	17-533	17-535*	17-805	17-807*	17-819
*	17-821*	17-833	17-835*	18-83	18-85*	18-95	18-100*	18-133	18-135*	19-127	19-129*	19-171	19-192	19-194
	19-397	19-399*	19-500	19-502*	19-618	19-620*	19-659	19-661*	19-819	19-821*	20-77	20-79*	20-81	20-83*
*	20-111	20-113*	20-254	20-421	20-426*	20-434	20-436*	20-469	20-471*	20-475	20-502	20-510	20-559	20-561
	20-627	20-637	20-639*	20-643	21-28	21-30*	21-39	21-41*	21-60	21-62*	21-74	21-76*	21-82	21-84*
	21-95	21-97*	21-103	21-105*	23-29	23-31*	23-39	23-41*	24-30	24-83	24-85*	31-21	31-23*	33-33
	33-76	33-78*												
PLYSTT	17-2#	34-563												
PMBASE	1-207#	5-30*												
PMBLOK	2-85#	2-86	2-87	2-88	2-89	2-90								
PMRES	2-84#	2-85	8-168	8-170*	8-171	8-173*	8-186	8-188*	8-189	8-191*	20-764	20-768		
PMSG	22-79	22-81	37-230#											
PMSG1	37-231	37-235#												
PMSG2	37-232	37-238#												
PMSG3	37-233	37-241#												
PNTDON	4-196#	16-54	17-254	17-297*										
PNTPLY	17-209	17-219	17-251#											
POKEY	1-104#	1-115	1-116	1-117	1-118	1-119	1-120	1-121	1-122	1-123	1-124	1-125	1-126	1-127
	1-128	1-129	1-130	1-131	1-132	1-133	1-134	1-135	1-136	1-137	1-138	1-139	1-140	1-141
	1-142	1-143												
POKMSK	1-40#	5-14*	5-62*											
POST	34-129	34-167	34-208	34-289	34-336	34-567#								
POTO	1-115#													
POT1	1-116#													
POT2	1-117#													
POT3	1-118#													
POT4	1-119#													
POT5	1-120#													
POT6	1-121#													
POT7	1-122#													
POTGO	1-126#													
PRIOR	1-174#	5-23*												
PROCES	7-2#	8-223												
PROMPT	11-30	11-32	11-82	11-108	11-220	11-223	11-247	11-339	22-41#					
PSDSBL	4-182#	12-4	12-6*	17-144	17-162*	17-584*	17-613	17-658*	19-636*	20-244*				
PSING	17-430	17-473	17-522#											
PSPLAY	12-74#													
PTAB	4-17#	7-174	7-182	7-267	7-270	7-273	7-276	7-283	7-286	7-289	7-292	21-288*	21-291*	
PTCNTR	9-44#	9-77												
PTNPRC	17-87	17-93	20-421#											
PTRA	4-18#	7-362*	7-365*	7-366	7-369*	7-371*	7-381	7-383	7-389	7-391	7-435	8-70*	8-91	8-107
	11-133*	11-136*	11-373*	11-376*	12-36*	12-38*	12-50	12-53*	12-54	12-56*	12-72	12-75	12-83	12-92
	12-98	12-103	12-130	13-13*	13-16*	13-37	13-42	13-52	15-39*	15-41*	15-43	15-49	15-56	15-60
	15-92*	15-94*	15-96	15-115	15-127	16-28*	16-30*	16-31	18-33*	18-35*	18-39*	18-41*	20-440	20-443
	20-453	20-610	20-613	20-664*	20-666*	20-670*	20-674*	20-676	20-915	20-918	20-956	20-959	22-80*	22-82*
	22-104	22-112	22-148	31-10*	31-12*	31-16	31-82							
PTRB	4-19#	7-174	7-182	7-267	7-283	7-426*	7-429*	7-471	7-473*	7-490	7-492*	7-506	7-508*	7-509

*	7-512*	7-514*	8-133	8-149	21-274*	21-329*	21-332*	21-337*	21-341*	21-345*	21-347	21-350*	21-352*	21-361
	22-84*	22-86*	22-90	22-93*	22-95*	22-123	22-138							
PTRC	4-20#	7-270	7-286	21-275*										
PTRD	4-21#	7-273	7-289	21-276*										
PTRE	4-22#	7-276	7-292	21-277*										
PTRNDN	31-4	31-60	31-108#											
PTRNDX	4-90#	20-449*	31-14	31-99	31-102*									
PTRNPT	4-89#	20-441*	20-444*	31-9	31-11									
PULALL	9-132#	9-245												
PWAIT	17-95	17-98	17-107#											
PWRUP	5-6#	40-37												
QFRCT	4-102#	9-265*	9-268*	20-731*										
QTIME	9-88	9-261#												
QTIMST	4-66#	7-11	7-15*	7-38	7-41*	7-77	7-80*	9-262	9-275	9-277*	9-307	9-309*	10-15*	10-46*
	11-303	11-305*	11-344	11-350*	14-8	14-11*	16-129	16-167	20-729*					
QUARTR	4-213#	15-22	16-453	16-552	16-555*	16-601	16-604*	20-809*						
RAND	4-148#	8-209*	12-122*	12-143*	17-794	17-795								
RANDOM	1-125#	8-207	12-120	13-41	13-51	13-54	22-208	22-329	22-380	22-391	22-404	22-428		
RANGEM	22-184	22-199	22-472#											
RAVAIL	39-45#													
RCPCNT	19-286	35-13#												
RCPRT	19-288	35-14#												
RCPSND	19-286#	19-630	19-771											
RDBACK	4-203#	13-70*	17-113	17-195	17-671	19-605	19-719*	24-16	31-29	33-8				
RECCTL	19-294	19-296	35-16#											
RECEPT	17-214	19-538#												
RECFRQ	19-290	19-292	35-15#											
REGMSG	37-125	37-201#												
RELEAS	17-634	20-205#												
REND	39-40#	39-45												
RESBOT	10-22	10-80	15-178#											
REVERS	4-91#	7-439	8-85	8-127	11-172*	11-427*	17-125*	20-238*	20-468*	20-581*	27-53*			
REVTBL	7-442	8-93	8-135	37-257#										
RLDMSC	1-20#													
RR	20-933#													
RSTMSG	37-127	37-211#												
RSTRGT	4-175#	11-315*	18-18*	19-764*	20-337	20-835*								
RTCLOK	1-41#	9-28												
RTMAXH	22-195	22-491#												
RTMAXL	22-194	22-487#												
RUNH	17-509	17-511	20-479	20-481	36-15#									
RUNV	20-485	20-487	36-6#											
RX1	4-206#	12-79*	13-57	17-82	17-164	17-186*	17-625	17-769	17-771	19-550*	19-717*	24-10	33-29	
RX2	4-207#	12-10	12-87*	13-60	17-88	17-174	17-187*	17-632	17-773	17-775	19-551*	19-718*	24-8	
SAFETY	2-71#	20-23	20-43	20-159	20-181									
SAVBOT	7-45	7-89	15-154#											
SAVSTT	4-227#	7-35*	7-74*	7-84	10-12	10-48								
SBMPLP	13-80#	13-84												
BOARD	4-262#	9-281*	9-282	9-285*	9-286*	9-287	9-290*	9-291*	9-292	9-295*	9-296	9-300*	9-304*	9-305
*	9-306*	11-14*	15-19*	15-25*	15-27*	15-29*	15-64*	15-119*	15-130*	15-169*	15-182*	16-159*	16-163*	16-340
*	16-342*	16-362*	16-370*	16-374*	16-403*	16-416*	16-421*	16-536*	16-547*	16-549*	16-558*	16-585*	16-596*	16-598
*	16-607*	20-711*	20-723*	20-725*	22-12*	22-24*	22-65*	22-115*	22-126*	22-141*	22-152*	22-569*	22-572*	22-579
	22-581*	39-5												
SCLFLD	8-222	21-216#	21-253											
SCLSPD	4-176#	20-313*	20-342	20-359	20-376	20-392								
SCNPOS	7-164	21-154#												

SCNSTT	4-8#	7-418*	7-460	21-319*	21-335									
SCNWRT	7-244	7-251	7-265#											
SCORE	15-16	16-533	16-582	20-708	37-103#									
SCORE0	4-219#	16-387	16-388*	16-404	16-417	20-814*								
SCORE1	4-220#													
SCORHO	4-222#	16-389	16-391*	16-397	16-410									
SCORH1	4-223#													
SCORUP	16-4#	34-562												
SCRIMX	4-67#	16-87	16-91	16-101	16-104	16-205	16-207	16-212	16-216	16-237*	16-239*	16-267*	16-268*	16-283
	16-286	16-290	16-308	16-350	16-352	16-473	16-477	16-484*	16-487*	18-21	18-23	19-41	19-43	19-346
	19-350	19-366	19-370	19-484	19-488	20-59*	20-61*	20-191*	20-193*	20-802*	20-804*	20-988	20-992	22-532
	22-536	27-7	27-13	27-26										
SCRIMY	4-249#	17-373	17-388	18-25	19-491	19-580	19-595	20-800*	20-804	31-86	33-21	33-43	33-49	33-57
	33-63													
SCRMDR	17-154	17-157	19-32#											
SCRNP	7-118	7-164#												
SCRNPT	4-25#	8-16*	8-21	8-23	8-26	8-30								
SCROLH	4-247#	8-214	20-357	20-362*	20-390	20-395*	20-821*							
SCRSET	9-150	9-186#												
SCRTBH	16-29	37-91#												
SCRTBL	16-27	37-80#												
SCRUPD	2-12#	7-9	14-79											
SDLSTH	1-47#	19-12*												
SDLSTL	1-46#	19-10*												
SDMCTL	1-49#	5-28*												
SELECT	11-1#	34-563												
SELMSG	37-122	37-186#												
SERIN	1-127#													
SEROUT	1-141#													
SETBUF	8-21#													
SETHUD	18-5	18-93#												
SETPTB	7-176	7-185	7-269	7-272	7-275	7-278	7-285	7-288	7-291	7-294	21-285#			
SETPTS	8-5#													
SETRAK	13-47	13-63	17-173	17-183	17-194	17-198	17-205	17-495	17-500	17-504	17-542	17-717	17-734	19-90#
	19-395	19-509	19-604	19-608	19-615	19-685	19-698	30-7	31-27	31-38	31-49	31-59	32-6	32-22
	33-74	33-81												
SETSCN	7-431#	7-517												
SETUPD	11-146	17-463	17-578	17-668	17-686	18-86	19-414#	19-496	19-750	20-86	20-283	28-22	31-104	32-13
	33-23													
SFENBL	4-184#	19-656*	20-151	20-173										
SFLASO	15-75	15-88#												
SFLASH	8-46	15-73#												
SFMSG	37-115	37-156#												
SFTY	16-235#	37-86	37-97											
SHRMSG	37-126	37-206#												
SIDELN	34-127	34-210	34-291	34-313	34-334	34-357	34-405	34-449	34-469	34-569#				
SIZEM	1-159#													
SIZEP0	1-155#													
SIZEP1	1-156#													
SIZEP2	1-157#													
SIZEP3	1-158#													
SKCTL	1-143#	5-25*												
SKPMAX	9-65	9-68#												
SKRES	1-140#													
SKSTAT	1-129#													
SLCT	2-18#	5-69	7-59	7-85	10-33	10-50	16-10							

SLCTPL	2-15#	7-22	7-55	18-149										
SLNTIN	34-573#													
SLOUT	34-169	34-426	34-467	34-489	34-572#									
SMALL	4-211#	19-46	19-66*	19-73*										
SMPLRT	4-157#	9-97	17-850*	17-864*	17-878*	19-201*	19-226*	19-250*	19-265*	19-266*	19-289*	19-304*		
\$NDCNT	4-156#	5-75*	9-93	9-99*	17-848*	17-862*	17-876*	19-199*	19-224*	19-248*	19-262*	19-263*	19-287*	19-302
\$NDCTL	4-16#	9-107	9-112	9-117	9-122	17-856*	17-858*	17-870*	17-872*	17-884*	17-886*	19-217*	19-219*	19-242
	19-244*	19-256*	19-258*	19-268*	19-270*	19-276*	19-278*	19-295*	19-297*	19-310*	19-312*			
\$NDFRQ	4-15#	9-105	9-110	9-115	9-120	17-852*	17-854*	17-866*	17-868*	17-880*	17-882*	19-208*	19-210*	19-213
*	19-215*	19-233*	19-235*	19-238*	19-240*	19-252*	19-254*	19-272*	19-274*	19-280*	19-282*	19-291*	19-293*	19-306
	19-308*													
SOFT	5-54	5-56	9-247#											
SPCIAL	17-109	17-111	17-115	17-128#										
STAND	20-596	20-598	27-39	27-41	27-172	27-174	34-110	34-111	34-111	34-113	34-114	34-114	36-4#	
STANSQ	20-610#	20-622												
START	5-84	10-122	20-704#											
STATBL	21-372	21-374	34-562#											
STATE	4-68#	5-70*	7-4	7-19	7-34	7-37*	7-52	7-73	7-76*	7-116	8-198	9-270	10-13*	10-31
	10-34*	10-49*	10-85	10-124	10-127*	11-1	11-4	11-307	11-310*	14-2	14-5	14-77	14-80*	16-5
*	16-11*	16-16*	16-19*	16-567*	16-616*	16-629*	17-741	18-2	18-6	18-150*	19-794	19-797*	19-811	19-814
	20-62	20-65*	20-97	20-100*	20-199	20-202*	20-299	20-315	21-367	23-47	24-3	27-1	28-1	30-2
	31-1	32-2	32-10	32-18	33-1									
STIMER	1-139#													
STNDAN	17-126	20-587	20-592#											
STPTRN	12-81	12-89	20-432#											
STREAK	34-148	34-191	34-229	34-268	34-359	34-403	34-424	34-447	34-571#					
STRGFG	4-228#	7-110	7-113*	9-253*	17-332	17-628	20-848*							
STSTND	19-803	20-4	20-74	20-108	20-586#									
STSTPT	7-97#													
SVCLOS	19-76#	19-118	19-152	19-181										
SWC	16-60	16-577	19-514#											
SWCHOF	16-56	16-73	16-133	16-183	16-198	16-245	19-512#							
SWICH	19-513	19-526#	19-676											
SWITCH	17-336#													
TO	4-38#	6-38*	6-46	6-53*	7-198*	7-201	7-206*	7-208*	7-210*	7-212	7-245	7-332*	7-334	8-90*
	8-94	8-132*	8-136	11-126*	11-129	11-366*	11-369	11-410*	11-419	12-44*	12-48	12-49*	12-52	12-109
	12-133*	12-141	13-9*	13-12	14-46*	14-55	16-90*	16-102*	16-108	16-114	16-117*	16-141	16-476*	16-483
	16-495*	16-502	16-512*	16-519	17-23	17-30*	17-45	17-237	18-53*	18-79	19-18*	19-23*	19-35*	19-39
*	19-58	19-65	19-70	19-315	19-318*	19-326	19-330*	19-349*	19-359	19-369*	19-379	19-438*	19-446	19-450
	20-118*	20-127	20-223*	20-232	20-343*	20-349	20-352	20-377*	20-387	20-408*	20-465*	20-493	20-525*	20-534
	20-538*	20-566*	20-575	20-592*	20-601	20-929*	20-934	20-970*	20-977	21-3*	21-13*	21-46	21-54	21-69
*	21-90	21-219*	21-223	21-262*	21-269	21-303*	21-353*	22-44*	22-52	22-71	22-87	22-204*	22-213	22-216
*	22-221	22-224*	22-232	22-246	22-267*	22-269*	22-271*	22-277*	22-328	22-354*	22-365*	22-372*	22-376	22-409
	22-412	22-432*	22-442	22-535*	22-539*	22-541*	22-543*	22-544	22-551*	22-554	23-22	23-35	25-7*	25-13
	25-30	27-12*	27-18	27-25*	27-31	27-35*	27-44	27-68*	27-112*	27-163	31-17*	31-28*	31-34	31-45
	31-55	31-67	31-76	31-83*	31-89	31-96								
¥1	4-39#	7-194*	7-200*	7-205*	7-207*	7-209*	12-111	12-128*	12-145*	16-93*	16-105*	16-119*	16-142*	16-144
	16-146*	16-479*	16-486	16-498*	16-505	16-515*	16-522	17-21	17-33*	17-43	17-235	19-21*	19-22*	19-38*
*	19-42	19-56	19-68	19-319	19-322*	19-325*	19-332*	19-352*	19-354	19-372*	19-374	19-442*	19-445*	19-452
	20-346*	20-354	20-380*	20-528*	20-533*	20-540*	22-42*	22-158	22-207*	22-218*	22-226*	22-235	22-249	22-266
	22-287*	22-303	22-304*	22-317	22-318*	22-325	22-326*	22-336	22-435*	22-439*	23-17	25-10*	25-16	25-32
	27-15*	27-20	27-28*	27-33	27-69*									
¥2	4-40#	7-204*	7-225	7-248	7-263	12-113	17-37*	19-28*	19-59	19-61	19-72	19-335	19-343*	19-431
	20-321*	20-330*	20-336	20-554*	22-43*	22-159	22-189*	22-202	22-273*	22-278	23-23	23-27	23-37	27-70*
	27-158*	27-165	33-28*	33-67										
¥3	4-41#	17-722	17-777*	17-779	19-87*	19-103*	19-123	19-137*	19-163*	19-186	22-201*	22-215	22-223	22-281

T4	22-282*	22-294	22-311	25-23*	25-25	25-34	27-84*	27-114	27-132*	27-160	27-168*	27-177		
	4-42#	17-402*	17-405	17-408	17-416	17-421	17-424*	17-758*	17-798	17-810	22-197*	22-240	22-254	22-259
	22-387													
T5	4-43#	17-753*	17-759	19-457*	19-462	22-198*	22-237	22-252	22-258	22-389				
T6	4-44#	17-784*	17-792*	17-802	17-816									
TACKLE	17-412	17-419	20-105#											
TBACK	16-252#	37-89	37-100											
TBMSG	37-116	37-161#												
TD	17-375	17-390#												
TD1	16-180#	16-192												
TDMSG	37-114	37-150#												
TDOWN	16-178#	37-84	37-95											
TDTD	19-582	19-597#												
TEAMY	20-886	20-894#												
TEMP	4-240#	19-50*	19-53*	19-78	19-80	19-83	19-85							
TEMPA	4-13#	7-432*	7-450*	7-452*	7-454*	7-456*	7-462							
TEMPB	4-12#	7-459*	7-478	7-497										
TEST	1-2#	7-61												
THERE	2-38#	17-97	24-84											
THRCNT	4-161#	18-30*	18-102*	18-140										
TIMR30	4-251#	9-273*	11-352*											
TIPDN	4-193#	17-283	17-310	17-440*	20-308	24-50								
TKLLP	17-403#	17-425												
TMOCLR	4-237#	7-349	20-757*											
TMOCTL	4-243#	5-80*	7-379	8-74	17-727*	18-145*	19-405*	19-561*	19-711*	19-730*				
TMICLR	4-238#	20-759*												
TMICTL	4-244#	5-82*	7-387	8-116	17-729*	18-147*	19-407*	19-563*	19-713*	19-732*				
TMPKEY	4-233#	9-226*	9-237											
TOUCHB	2-74#	20-17	20-37	20-153	20-175									
TRACK	29-3#	34-12												
TRGFG	4-230#	7-108	9-84*	11-46	11-263	11-276	17-326	17-621	17-643	17-709	20-846*			
TRGLP	7-108#	7-115												
TRIGO	1-195#	9-83												
TRIG1	1-196#													
TRIG2	1-197#													
TRIG3	1-198#													
TRKDDN	29-28#													
TWOPLR	13-30	13-48	13-65#											
UPDATE	24-3#	27-185	29-27	34-11										
UPDTPT	4-28#	7-425	7-428	21-287	21-290	21-328	21-331							
VALID	7-33	7-72	10-11	10-30	10-44	10-119	10-140	11-79	11-104	11-245	11-335	19-198#		
VBCNTR	4-155#	5-68*	7-530	7-533*	8-1	8-36*	9-12*							
VBFLAG	4-245#													
VBANK	5-42	5-44	9-3#											
VBRKOP	1-87#													
VBWAIT	5-87	7-531	8-1#	8-2										
VCOUNT	1-210#	9-146												
VDELAY	1-175#													
VDSLST	1-83#	5-47*	5-49*											
VIMIRQ	1-80#													
VKYBDF	1-85#	5-51*	5-53*											
VKYBDI	1-84#													
VLDCNT	19-198	35-48#												
VLDCTL	19-216	19-218	35-51#											
VLDFR0	19-207	19-209	19-232	19-234	35-50#									
VLDFR1	19-212	19-214	19-237	19-239	35-52#									

VLDRT	19-200	19-225	35-49#											
VRTBNK	4-160#	6-5	6-7*	6-34	6-56	6-58*	9-5	9-38	9-227	9-249	9-319	9-321*	20-794*	
VRTSTD	34-107	34-107	34-107	34-107	34-108	34-108	34-108	36-24#						
VSC	1-21#													
VSCROL	1-206#													
VSERIN	1-88#													
VSEROC	1-90#													
VSEROR	1-89#													
VTIMR1	1-91#													
VTIMR2	1-92#													
VTIMR4	1-93#													
VTRIGR	1-86#	5-55*	5-57*											
VVBLKD	1-82#	5-43*	5-45*											
VVBLKI	1-81#													
WBLOCK	7-181	7-189	21-361#	21-363										
WHISTL	19-247#	19-788	19-791	19-810	20-54	20-198								
WRAND	22-200	22-274	22-423#											
WSLCNT	19-247	35-29#												
WSLCTL	19-255	19-257	35-31#											
WSLFRQ	19-251	19-253	35-38#											
WSLRT	19-249	35-30#												
WSYNC	1-209#	9-168*	9-181*	9-186*	9-193*	9-207*								
XBMPDR	4-146#	17-801*	17-815*	20-409										
XDPOS	4-114#	16-287*	16-303*	16-322*	16-330*	16-355*	16-509	16-520*	21-186					
XDPOSH	4-115#	16-285*	16-305*	16-324*	16-328*	16-351*	16-357*	16-513	16-523*	21-190				
XDSPDS	4-116#	9-171	9-173	9-175	21-208*									
GOTO	4-138#	12-110	17-370*	17-385*	17-449*	17-457*	17-672	17-675*	18-22*	18-103	19-358	19-378	19-487*	19-577
*	19-592*	19-740*	19-745*	20-258	20-261*	20-274*	20-327	20-522	20-916*	20-957*	20-990	20-991*	20-998	20-999
	21-118	21-122*	22-261*	22-388*	28-12*	29-9*	29-20*	31-68*	31-77*	33-13*	33-18*			
HGOTO	4-139#	12-112	17-372*	17-387*	17-452*	17-460*	17-676	17-678*	18-24*	18-105	19-353	19-373	19-490*	19-579
*	19-594*	19-742*	19-747*	20-262	20-264*	20-277*	20-331	20-526	20-993	20-994*	20-:01	20-:02*	21-113*	21-124
	22-262*	22-390*	28-15*	29-12*	29-22*	31-71*	31-80*	33-15*	33-20*					
XHZERO	20-938	20-974	21-112#											
XINVRT	20-935	20-978	21-118#	21-127										
XLRG	19-57	19-60	19-68#											
XPDS	4-133#	17-27	17-362	17-377	17-446	17-454	18-50	18-62*	18-67*	18-74*	18-104*	19-15	19-17	19-32
	19-317	19-435	19-437	19-569	19-584	19-642	19-649	20-9	20-29	20-58	20-143	20-165	20-190	20-206
	20-208	20-271	20-318	20-524	20-862*	20-872*	20-880*	21-25	21-36	21-44	21-47*	21-52	21-55*	21-64*
	21-158	22-230	22-244	22-353	22-362	25-4	25-15	25-31*	27-16	27-29	28-9	29-6	29-19	31-65
	31-74													
XPOSHI	4-135#	17-31	17-365	17-380	17-450	17-458	18-54	18-68*	18-77*	18-106*	19-19	19-20	19-36	19-320
	19-439	19-440	19-572	19-587	19-645	19-652	20-12	20-32	20-60	20-146	20-168	20-192	20-209	20-210
	20-275	20-322	20-527	20-864*	20-875*	20-883*	21-22	21-32	21-49*	21-57*	21-58	21-65*	21-162	22-234
	22-248	22-356	22-366	25-8	25-17	25-33*	27-19	27-32	28-13	29-10	29-21	31-69	31-78	
XPSADD	20-411	21-6	21-20#											
XPSSUB	20-413	21-8	21-52#											
XRITBL	2-54#	21-23	21-26											
XRITPL	2-55#	21-34	21-37											
XTSLCT	11-316	11-353	11-358	11-400	11-469	11-472	11-476	11-484#						
XUPDAT	20-505	20-515	21-2#											
YARDNO	20-827	20-829	39-33	40-5#										
YARTG	16-55	16-65#												
YBMPDR	4-147#	17-799*	17-812*	20-414										
YBOTBL	2-52#	21-72	21-77											
YBOTPL	2-53#	21-80	21-85											
YGOTO	4-140#	12-114*	17-374*	17-389*	17-462*	17-679	17-682*	18-26*	18-107	19-494*	19-581*	19-596*	19-749*	20-265

[illegible]