

STAR RAIDERS - MARCH 1976 - 1 STARBATT 26 JULY 79

TITLE 'STAR RAIDERS' VERSION 25.1 STARDATE 26-JUL-79'

GAME COMPLETE 17-JUN-79

NOTES

RAM 0-1FFF

ROM A000-BFFF

SPILL OVER ROM 9800-9FFF

E4770 PROG START

ALPHA CHARACTERS IN DMA ASCII

\*CAPS = ASCII EOR \$20

NUMBERS = ASCII

40 CHAR = \$CC00

20 CHAR (\*CAPS, NUMBERS), = \$CC00

20 CHAR (CAPS, LOWR CASE), = \$CE00

final listing

UNIVERSE LOOKS LIKE	SIGN	HI BYTE	LOW BYTE
-INFINITY	=	00	00
0	=	01	00
+INFINITY	=	01	FF
-1	=	00	FF

KEYCODE IS ORED WITH \$C0

STRAM MEMORY DEFINED	STRAM+	TYPE	NOTES
	0	OBJ0	ZYLON
	1	OBJ1	ZYLON
	2	OBJ2	PHOTON
	3	OBJ3	PHOTON
	4	MISSLE	PHOTON
	5-N	PLAY.	STARS
	N+1-M	PLAY.	EXPLOS STARS

===\$0062

\*\*\*\*\* POWER UP CLEARED RAM \*\*\*\*\*

0062 MISDIF MISSION DIFFICULTY

==+=1

0063 RESET ONE SHOT CONSL KEY

==+=1

0064 ATRACT GAME OVER FLAG =FF; ATRACT MODE

==+=1

0065 REPMMSG REPEAT MESSAGE BYTE

==+=1

0066 TIMOUT ATRACT MODE TIMEOUT REG

==+=1

0067	PAGE9	***** PAGE9 PROGOST	***** PAGE9 PROGOST	***** PAGE9 PROGOST
			; WAIT FOR VRBLANK = 00	
0068	PNTR	***** PNTR	TEMP REG RAM **** 2 BYTE MISC. TEMPORARY REG POINTER	
006A	TEMP	***** TEMP	TEMPORARY REGISTER	
006B	TEMP1	***** TEMP1	TEMP REG	
006C	TEMP2	***** TEMP2		
006D	TEMP3	***** TEMP3		
006E	TEMP4	***** TEMP4		
006F	NTEMP	***** NTEMP	NMI TEMP REG	
			***** NTEMP	
0070	SPEED	***** SPEED	SHIP SPEED RAM **** SPEED O CURISER	
0071	WARP	***** WARP	SPEED DESIRED AS OPPOSED TO SPEED , THE PRESENT SPEED	
			***** WARP	
0072	TIMERX	***** TIMERX	TIMERS RAM **** USED FO STAR INTENSITY	
0073	ETIMER	***** ETIMER	EXPLOSION TIMEOUT	
0074	SECOND	***** SECOND	SECOND TIMEOUT	
0075	BSEQTM	***** BSEQTM	STARBASE SEQUENCER	
0076	BINTIM	***** BINTIM	BINARY TIMER	
0077	BINNMI	***** BINNMI	BINARY TIMER IN NMI	
0078	JMPTIM	***** JMPTIM	TIME TO JUMP RAM LOC	
			***** JMPTIM	
0079	NSTARS	***** NSTARS	STAR POINTER RAM **** LAST BYTE OF STAR RAM TO STORE, EITHER RMLAST OR STLAST	
007A	CNSTAR	***** CNSTAR	LAST BYTE OF STAR RAM TO CLEAR	
			***** CNSTAR	
007B	BASFLG	***** BASFLG	CONTROL FLAGS AND ENERGY RAM **** STARBASE FLAG	
007C	TRKFLG	***** TRKFLG	AUTO TRACKING = FF	
007D	SHENER	***** SHENER	SHIELD ENERGY O OR 8	
007E	ATENER	***** ATENER	ATTACK COMPUTER ENERGY	
007F	ENFLAG	***** ENFLAG	LS BYTE OF ENERGY , TELLS WHEN TO DEC ENERGY	
0080	WPENER	***** WPENER	WARP ENRGY DEPENDS ON WARP	

STAR RAIDER - VERSION 2.91 - GROUPS - 28 + 00

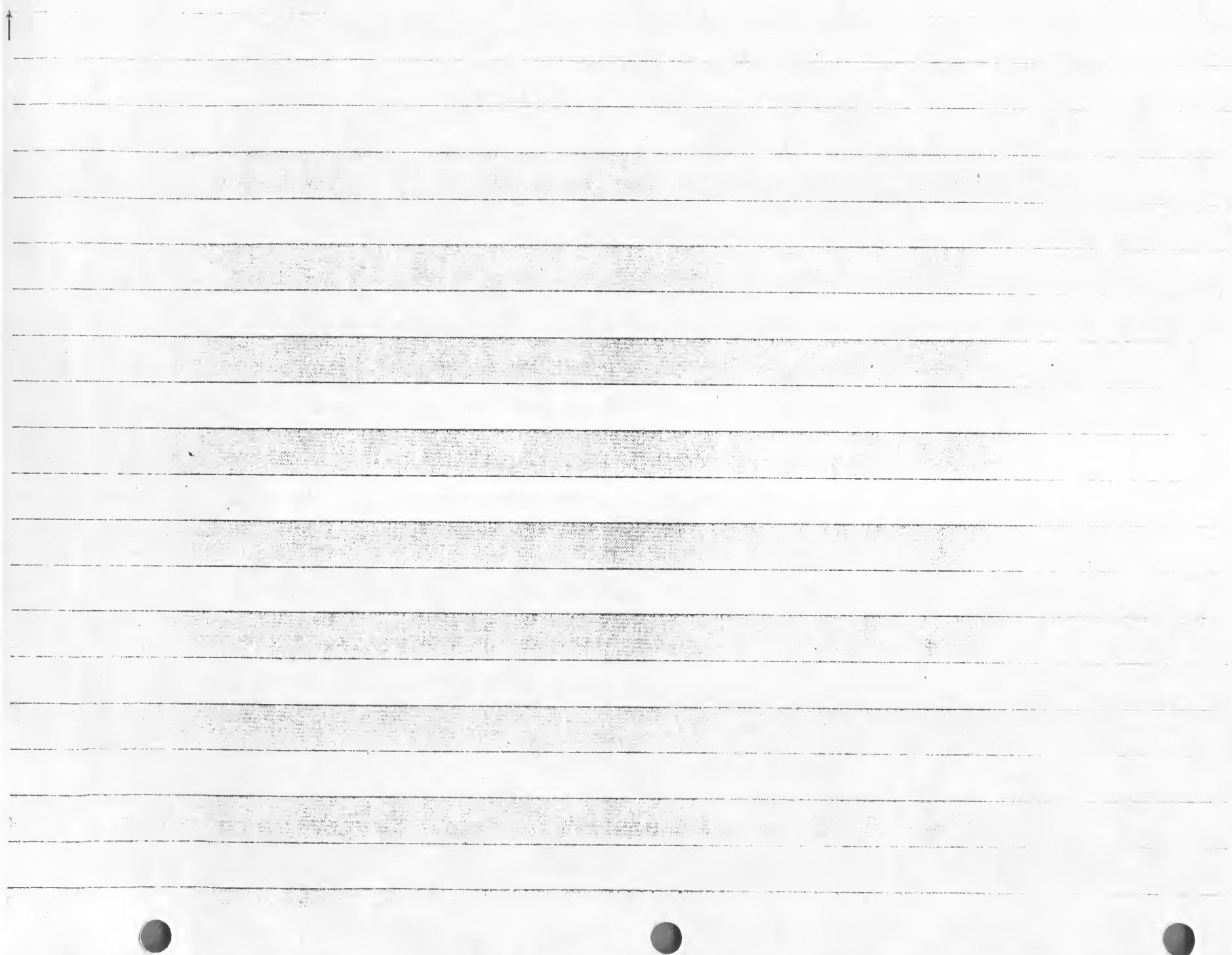
		*=#+1
		***** MISC RAM *****
0081	SPADAK	; SPACE BACKGROUND COLOR
0082	PHITS	; PHOTON HIT DETECT REGS
0084	PHOFLG	; ONE SHOT PHOTON
0085	PHOTIM	; REPEAT TIMEOUT
0086	LOKLOC	; PHOTON LOCK VECTOR PTR
0087	PHOTOG	; PHOTON TOGGLE FLAG
0088	LOKWAT	; TIME BEFORE CAN LOCK AGAIN
0089	LOKTAR	; INDEX OF LOCK ON TARGET
008A	HITME	; SHIP HIT FLAG
008B	REDFLG	; RED ALERT FLAG
		***** GALACTIC CHART RAM *****
008C	GVPOS	; CRUISER VPOS ON CHART
008D	GHPOS	; CRUSIER HPOS ON CHART
008E	HYVPOS	; CURSOR VPOS ON CHART
008F	HYHPOS	; CURSOR HPOS ON CHART
0090	QUADRT	; QUADRANT STAR RAIDER IS IN
0091	HYPENG	; HYPERWARP ENERGY USED
0092	HYPQAD	; HYPERWARP QUADRANT
0093	KILBAS	; QUAD OF STARBASE, ZYLVNS ARE AFTER
0094	KILOCH	; KILL LOC HPOS
0095	KILOCV	; KILL LOC VPOS
0096	JMPPTS	; GRADIENT VALUES
009F	JMPOUT	; JUMP TIMEOUT REG
		***** SCREEN MAP DRAWING RAM *****
00A0	HTARGT	; HORIZ TARGET POSIT
00A1	VTARGT	; VERT TARGET POSIT
00A2	TARPTR	; TARGET SEQUENCER
00A3	LOKFLG	; COMPUTER LOCKON
00A4	NUMPTS	; NUMBER OF POINTS TO DRAW

## VAR PATTERN WORDS

00A5	VDRAW	*==*+1	; VERT POS OF DRAW CURSOR
00A6	HDRAW	*==*+1	; HUR POS OF DRAW CURSOR
		*==*+1	***** THINK RAM *****
00A7	ZYT0GG	*==*+1	; WHICH ZYLON
00A8	SEGEN	*==*+2	; SEQUENCER PNTR RAM
00AA	SEQTIM	*==*+2	; SEQUENCER TIMEOUT RAM
00AC	XINDES	*==*+2	; DESIRED XINCRE
00AE	YINDES	*==*+2	; DESIRED YINCRE
00B0	ZINDES	*==*+2	; DESIRED ZINCRE
00B2	XINPRS	*==*+6	; PRESENT POINTER TO ZYWARP
00B8	BSTRAF	*==*+2	; STRAF BACK 0, OR 1
00BA	ROTTIM	*==*+4	; ROTATION TIMEOUT
00BE	PHEXWT	*==*+1	; PHOTON EXPLOSION WAIT
00BF	ATTARG	*==*+1	; WHICH ZYLON FIRED
		*==*+1	***** HYPERWARP RAM *****
00C0	HFLAG	*==*+1	; HYPERWARP ENGAGED FLAG, 00, FF, OR 7F
00C1	HISPED	*==*+1	; HI BYTE SPEED, 0 OR 2=HWARP
00C2	HTIMER	*==*+1	; HWARP TIMER
00C3	HPNTR	*==*+1	; POINTS TO WHICH LINE STARS TO LOAD
00C4	HSTEER	*==*+1	; OLD HWAR CURSOR HPOS
00C5	VSTEER	*==*+1	; OLD HWARP CURSOR VPO
00C6	STERMK	*==*+1	; STEER MASK
00C7	JMPMSK	*==*+1	; INIT TARGETS IN NEW QUAD, MAX DISTANCE FROM SHIP
		*==*+1	*****
00C8	HORJOY	*==*+1	; KEYS, JOYSTICK RAM ; 0=NO HORIZ, 01=RIGHT, FF=LEFT
00C9	VERJOY	*==*+1	; 0=NO VERT, 01=DOWN, FF=UP
00CA	THEKEY	*==*+1	; THE KEY IN KBCODE
00CB	RATING	*==*+1	; YOUR RATING
00CD	ENDRAT	*==*+2	; FINAL RATING
00CE	ENDCLS	*==*+1	; FINAL CLASS

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		*****+1
00CF	MESTIM	; MESSAGE RAM *****+1 ; MESSAGE TIMEOUT
00D0	DISFLG	; DISPLAY TYPE FLAG 0=FRONT, 1=BACK, 80=GALCHT ***+1 ; 40=SECTOR SCAN
00D1	SENPTR	; SENTENCE POINTER ***+1
00D2	NOTSEG	; NOTE POINTER ***+1 *****+1 AUDIO RAM *****+1
00D3	REPSEG	; HOW MANY TIMES TO REPEAT ***+1
00D4	NDURAT	; DURAT OF NOTE ***+1
00D5	SDURAT	; DURAT OF SPACE ***+1
00D6	NPRIOR	; PRIOR OF NOE TYPE ***+1
00D7	REPPTR	; WHERE TO REPEAT IN NOTETB ***+1
00D8	NDURTM	NOTE TIMER ***+1
00D9	NOTVOL	; NOTE VOLUME ***+1
00DA	PHOREP	; REPAT NOTE FOR PHOTON ***+1
00DB	AUDEXP	; EXPLOS SERVICE TIMER ***+1
00DC	ATYPE2	; RAM FO AUDC2 ***+1
00DD	ATYPE3	; RAM FOR AUDC3 ***+1
00DE	AFREQ1	; RAM FO AUDF1 ***+1
00DF	AFREQ2	; RAM FOR AUDF2 ***+1
00EO	AUDADD	; HOW MUCH TO ADD ***+1
00E1	AUDTIM	; AUDIO TIMEOUT 0=ALL DONE ***+1
00E2	EXPDEL	; EXPLOS DELAY ***+1
00E3	BIGEXP	; SHIELDS DOWN EXPLOS ***+1
00E4	GRAPH	; *****+1 ; OBJECT RAM *****+1 ; GRAPHIC FOR OBJO-4
00E9	STFLAG	; 0=OBJECT NOT ON (DEFINED IN THINK, OR PHOTON) ***+5
00EE	COLRAM	; *****+1 *****+1 COLOR RAM *****+1 ; PLAYER AND PLAYFIELD COLOR RAM
00FC	PHASE4	; *****+14 *****+14



## ADDRESS SPACE

## COLLEEN MNEMONICS

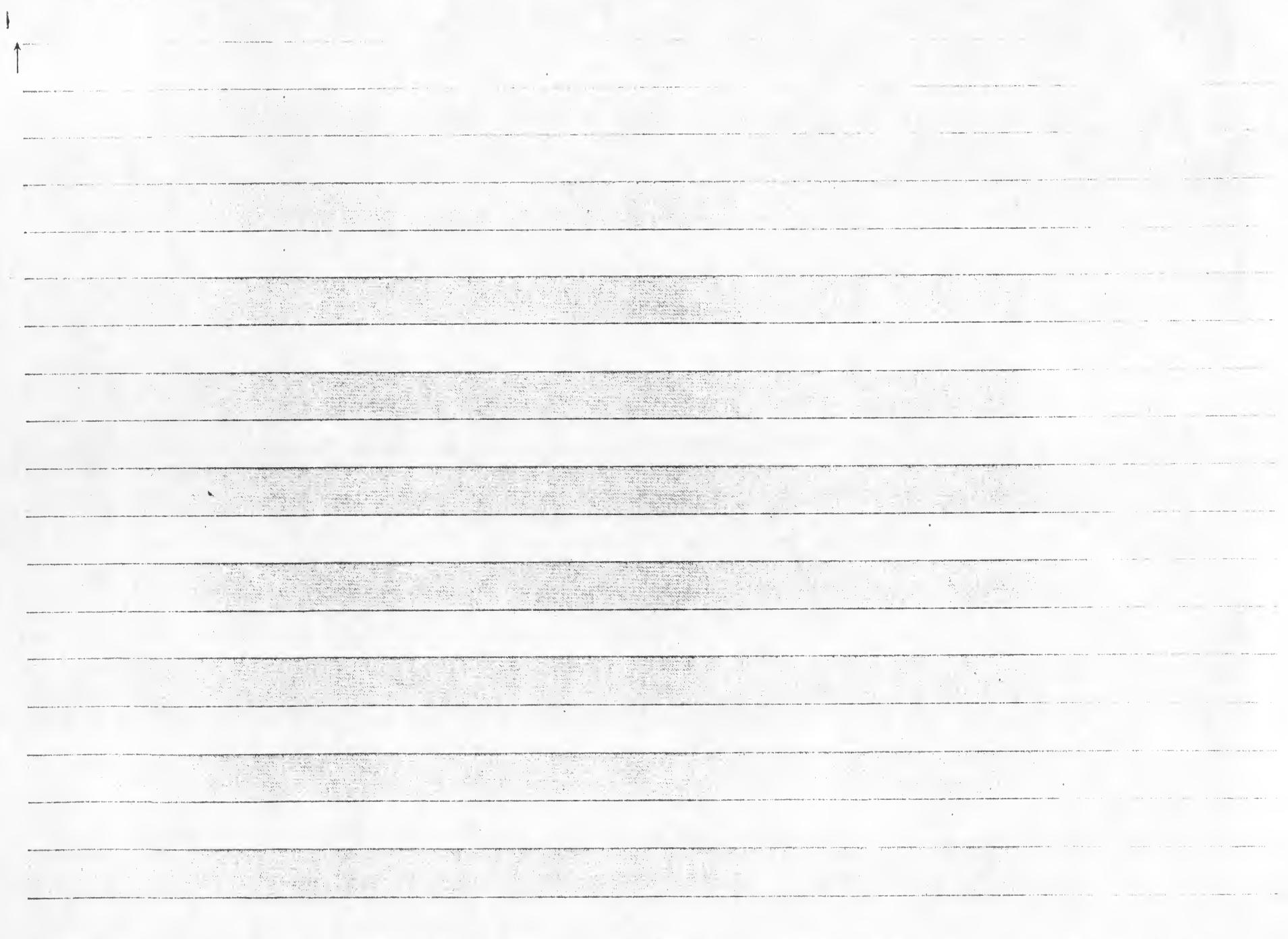
D200	POKEY	=	\$D200
D200	POTO	=	POKEY+0
D201	POT1	=	POKEY+1
D202	POT2	=	POKEY+2
D203	POT3	=	POKEY+3
D204	POT4	=	POKEY+4
D205	POT5	=	POKEY+5
D206	POT6	=	POKEY+6
D207	POT7	=	POKEY+7
D208	ALLPOT	=	POKEY+8
D209	KBCODE	=	POKEY+9
D20A	RANDOM	=	POKEY+10
D20D	SERIN	=	POKEY+13
D20E	IRQST	=	POKEY+14
D20F	SKSTAT	=	POKEY+15
D200	AUDF1	=	POKEY+0
D201	AUDC1	=	POKEY+1
D202	AUDF2	=	POKEY+2
D203	AUDC2	=	POKEY+3
D204	AUDF3	=	POKEY+4
D205	AUDC3	=	POKEY+5
D206	AUDF4	=	POKEY+6
D207	AUDC4	=	POKEY+7
D208	AUDCTL	=	POKEY+8
D209	STIMER	=	POKEY+9
D20A	SKRES	=	POKEY+10
D20B	POTGO	=	POKEY+11
D20D	SEROUT	=	POKEY+13
D20E	IRQEN	=	POKEY+14
D20F	SKCTL	=	POKEY+15
D000	CTIA	=	\$D000
D000	HPOSP0	=	CTIA+0
D001	HPOSP1	=	CTIA+1
D002	HPOSP2	=	CTIA+2
D003	HPOSP3	=	CTIA+3
D004	HPOSM0	=	CTIA+4
D005	HPOSM1	=	CTIA+5
D006	HPOSM2	=	CTIA+6
D007	HPOSM3	=	CTIA+7
D008	SIZEP0	=	CTIA+8
D009	SIZEP1	=	CTIA+9
D00A	SIZEP2	=	CTIA+10
D00B	SIZEP3	=	CTIA+11
D00C	SIZEM	=	CTIA+12
D00D	GRAFP0	=	CTIA+13
D00E	GRAFP1	=	CTIA+14
D00F	GRAFP2	=	CTIA+15
D010	GRAFP3	=	CTIA+16
D011	GRAFM	=	CTIA+17
D012	COLPM0	=	CTIA+18
D013	COLPM1	=	CTIA+19
D014	COLPM2	=	CTIA+20
D015	COLPM3	=	CTIA+21

D016	COLPFO	=	CTIA+22
D017	COLPFI	=	CTIA+23
D018	COLPF2	=	CTIA+24
D019	COLPF3	=	CTIA+25
D01A	COLBK	=	CTIA+26
D01B	PRIOR	=	CTIA+27
D01C	VDELAY	=	CTIA+28
D01D	GRACTL	=	CTIA+29
D01E	HITCLR	=	CTIA+30
D01F	CONSOL	=	CTIA+31
D000	MOPF	=	CTIA+0
D001	M1PF	=	CTIA+1
D002	M2PF	=	CTIA+2
D003	M3PF	=	CTIA+3
D004	POPF	=	CTIA+4
D005	P1PF	=	CTIA+5
D006	P2PF	=	CTIA+6
D007	P3PF	=	CTIA+7
D008	MOPL	=	CTIA+8
D009	M1PL	=	CTIA+9
D00A	M2PL	=	CTIA+10
D00B	M3PL	=	CTIA+11
D00C	POPL	=	CTIA+12
D00D	P1PL	=	CTIA+13
D00E	P2PL	=	CTIA+14
D00F	P3PL	=	CTIA+15
D010	TRIGO	=	CTIA+16
D011	TRIG1	=	CTIA+17
D012	TRIG2	=	CTIA+18
D013	TRIG3	=	CTIA+19
D400	ANTIC	=	\$D400
D400	DMACTL	=	ANTIC+0
D401	CHACTL	=	ANTIC+1
D402	DLISTL	=	ANTIC+2
D403	DLISTH	=	ANTIC+3
D404	HSCROL	=	ANTIC+4
D405	VSCROL	=	ANTIC+5
D407	PMBASE	=	ANTIC+7
D409	CHBASE	=	ANTIC+9
D40A	WSYNC	=	ANTIC+10
D40B	VCOUNT	=	ANTIC+11
D40C	PENH	=	ANTIC+12
D40D	PENV	=	ANTIC+13
D40E	NMIEN	=	ANTIC+14
D40F	NMIRES	=	ANTIC+15
D40F	NMIST	=	ANTIC+15
D300	PIA	=	\$D300
D300	PORTA	=	PIA+0
D301	PORTB	=	PIA+1
D302	PACTL	=	PIA+2
D303	PBCTL	=	PIA+3

## OPERATING SYSTEM

0216	VIMIRQ	=	\$0216	; IMMEDIATE IRQ LOCATION
0222	VVBLKI	=	\$0222	; IMMEDIATE VERT BLANK NMI VECTOR
0200	VDSLST	=	\$0200	; DISPLAY LIST NMI VECTOR
E000	ALPHA	=	\$E000	

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EQUATES			
0282	DISPL1	=	DISPLAY+2 ; LDISP
028F	DISPL2	=	DISPLAY+15 ; LDISP
02DF	DISPL3	=	DISPLAY+95 ; LDISP
007C	DISTOP	=	\$7C ; LDISP SUB.
0032	VOFLOW	=	50
0032	VSTCEN	=	50
007A	VOBCEN	=	\$7A
0050	HOFLOW	=	80
0050	HSTCEN	=	80
007D	HOBCE	=	\$7D
0051	SCPTAB	=	81 ; FOR LOADING PTAB
0064	6CBED	=	100 ; FOR LOADING BCDCON
0028	SCVCON	=	40 ; FOR LOADING VCON TABLES
1D40	ICON1	=	\$1D40
1BFE	ICON2	=	\$1BFE
003D	HORCHT	=	\$3D ; HOR EDGE OF CHART
003F	VERCHT	=	\$3F ; VERT EDGE OF CHART
000C	STRNUM	=	12 ; NUMBER OF STARS DISPLAYED
0005	OBJNUM	=	5 ; NUMBER OF OBJECTS
0020	EXPNUM	=	32 ; NUMBER OF EXPLOSION STARS
0031	RAMNUM	=	OBJNUM+STRNUM+EXPNUM ; TOTAL NUMBER OF RAM LOC.
0004	OBLAST	=	OBJNUM-1 ; RAM LOC OF LAST OBJECT
0030	RMLAST	=	RAMNUM-1 ; RAM LOC OF LAST STAR IN EXPLOSION
0010	STLAST	=	OBJNUM+STRNUM-1 ; RAM LOC OF LAST STAR IN REAL STRS
0002	OBPHOT	=	OBJNUM-3 ; LAST PHOTON LOCATION
0003	OBCOMP	=	OBJNUM-2 ; LAST PHOTON WHICH COULD BE COMP CONT.
1B36	INSET	=	\$1B36 ; 1ST BYTE OF INSET
0064	VMAX	=	100
00A0	HMAX	=	160 ; MAX HORIZ STAR POSITION DISPLAYED
00A0	DBLUE	=	\$A0 ; DARK BLUE
0044	RED	=	\$44 ; COLOR
0092	LTBLUE	=	\$92 ; COLOR
00AF	BRITBLU	=	\$AF ; COLOR
004F	BRTRED	=	\$4F ; COLOR
0060	DRKRED	=	\$60 ; COLOR
0042	DIMRED	=	\$42 ; COLOR
0090	DIMBLU	=	\$90 ; COLOR
0026	YELLOW	=	\$26 ; COLOR
0055	DIM	=	\$55 ; MEMMAP CODE FOR DIM STAR
00AA	MED	=	\$AA
00FF	BRT	=	\$FF
0040	IRQMSK	=	\$40 ; KEY INTERRUPT MASK
17E3	NOSTAR	=	\$17E3 ; NO STAR DURING ATRACT

## CHARACTER GRAPHICS

\*=\$A000

A000	CGRAPH		
A000 00 7F 47	CO	.BYTE	00, \$7F, \$47, \$47, \$47, \$47, \$47, \$47, \$7F
A003 47 47 47			
A005 47 7F			
A008 00 30 10	C1	.BYTE	00, \$30, \$10, \$10, \$10, \$3B, \$3B, \$3B
A00D 10 10 3B			
A00E 3B 3B			
A010 00 7B 0B	C2	.BYTE	00, \$7B, \$0B, \$0B, \$7B, \$40, \$40, \$7B
A013 0B 7B 40			
A016 40 7B			
A018 00 7B 0B	C3	.BYTE	00, \$7B, \$0B, \$0B, \$7C, \$0C, \$0C, \$7C
A01B 0B 7C 0C			
A01E 0C 7C			
A020 00 60 60	C4	.BYTE	00, \$60, \$60, \$60, \$6C, \$7C, \$0C, \$0C
A023 60 6C 7C			
A026 0C 0C			
A028 00 7B 40	C5	.BYTE	00, \$7B, \$40, \$40, \$7B, \$0B, \$0B, \$7B
A02B 40 7B 0B			
A02E 0B 7B			
A030 00 7B 4B	C6	.BYTE	00, \$7B, \$4B, \$40, \$40, \$7E, \$42, \$7E
A033 40 40 7E			
A036 42 7E			
A038 00 7C 44	C7	.BYTE	00, \$7C, \$44, \$04, \$1C, \$10, \$10, \$10
A03B 04 1C 10			
A03E 10 10			
A040 00 3B 2B	C8	.BYTE	00, \$3B, \$2B, \$2B, \$7C, \$6C, \$6C, \$7C
A043 2B 7C 6C			
A046 6C 7C			
A048 00 7C 44	C9	.BYTE	00, \$7C, \$44, \$44, \$7C, \$0C, \$0C, \$0C
A04B 44 7C 0C			
A04E 0C 0C			
A050 00 00 00	CBLK	.BYTE	0, 0, 0, 0, 0, 0, 0
A053 00 00 00			
A056 00 00			
A058 3B 3B 3B	CEQ	.BYTE	\$3B, \$3B, \$3B, \$00, \$00, \$00, \$3B, \$3B, \$3B
A05B 00 00 3B			
A05E 3B 3B			
A060 80 80 80	CGCBLK	.BYTE	\$80, \$80, \$80, \$80, \$80, \$80, \$80, \$80, \$FF
A063 80 80 80			
A066 80 FF			
A068 00 3C 20	CE	.BYTE	\$00, \$3C, \$20, \$20, \$7B, \$60, \$60, \$7C
A06B 20 7B 60			
A06E 60 7C			
A070 00 66 99	CINF	.BYTE	\$00, \$66, \$99, \$99, \$99, \$66, \$00, \$00
A073 99 99 66			
A076 00 00			
A078 00 00 00	CMINUS	.BYTE	\$00, \$00, \$00, \$7E, \$00, \$00, \$00, \$00
A07B 7E 00 00			
A07E 00 00			

A0B0 00 18 18	CPLUS	BYTE	\$00, \$18, \$18, \$18, \$7E, \$18, \$18, \$18
A0B3 18 7E 18			
A0B6 18 18			
A0B9 00 18 7E	CPHI	BYTE	\$00, \$18, \$7E, \$DB, \$99, \$DB, \$7E, \$18
A0B8 DB 99 DB			
A0B8 7E 18			
A090 66 66 66	CV	BYTE	\$66, \$66, \$66, \$66, \$66, \$2C, \$38, \$30
A093 66 66 2C			
A096 38 30			
A098 00 7C 44	CRHO	BYTE	0, \$7C, \$44, \$44, \$7C, \$6B, \$6C, \$6C
A09B 44 7C 6B			
A09E 6C 6C			
A0A0 00 1C 3E	CTHETA	BYTE	\$00, \$1C, \$3E, \$63, \$5D, \$63, \$3E, \$1C
A0A3 63 5D 63			
A0A6 3E 1C			
A0AB 00 46 46	CK	BYTE	\$00, \$46, \$46, \$44, \$7C, \$64, \$66, \$66
A0AB 44 7C 64			
A0AE 66 66			
A0B0 FE 92 10	CT	BYTE	\$FE, \$92, \$10, \$18, \$18, \$18, \$18, \$18
A0B3 18 18 18			
A0B6 18 18			
A0B8 FC 80 80	CC	BYTE	\$FC, \$8C, \$8C, \$80, \$80, \$80, \$84, \$FC
A0B8 80 80 80			
A0B8 84 FC			
A0C0 00 00 00	CHLINE	BYTE	0, 0, 0, 0, 0, 0, 0, \$FF
A0C3 00 00 00			
A0C6 00 FF			
A0C8 80 80 80	CVLINE	BYTE	\$80, \$80, \$80, \$80, \$80, \$80, \$80, \$80
A0CB 80 80 80			
A0CE 80 80			
A0D0 00 00 00	CDOT	BYTE	0, 0, 0, 0, 0, 0, 0, \$80
A0D3 00 00 00			
A0D6 00 80			
A0DB 80 AA 9C	CSBASE	BYTE	\$80, \$AA, \$9C, \$BE, \$9C, \$AA, \$80, \$FF
A0DB BE 9C AA			
A0DE 80 FF			
A0E0 80 98 B0	CZY2	BYTE	\$80, \$98, \$80, \$B6, \$80, \$8C, \$80, \$FF
A0E3 B6 B0 BC			
A0E6 80 FF			
A0E8 80 8E 80	CZY1	BYTE	\$80, \$8E, \$80, \$88, \$80, \$9C, \$80, \$FF
A0EB BB B0 9C			
A0EE 80 FF			
A0F0 80 B0 98	CZY3	BYTE	\$80, \$B0, \$98, \$BE, \$98, \$B0, \$B0, \$FF
A0F3 BE 98 B0			
A0F6 80 FF			

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A0FB

SESCAN

A0FB 00 00 6C . BYTE 0, 0, \$6C, \$6F, \$6E, \$67, 0, \$72, \$61, \$6E, \$67, \$65, 0, \$73, \$63, \$61, \$6E  
A0FB 6F 6E 67  
A0FE 00 72 61  
A101 6E 67 65  
A104 00 73 63  
A107 61 6E

A109

BACKUP

A109 00 00 00 . BYTE 0, 0, 0, 0, 0, 0, \$61, \$66, \$74, 0, \$76, \$69, \$65, \$77, 0, 0, 0  
A10C 00 00 00  
A10F 61 66 74  
A112 00 76 69  
A115 65 77 00  
A118 00 00

A11A

GALCHT

A11A 00 00 . BYTE 0, 0  
A11C 00 67 61 . BYTE 0, \$67, \$61, \$6C, \$61, \$63, \$74, \$69, \$63, 0, \$63, \$6B, \$61, \$72, \$74, 0  
A11F 6C 61 63  
A122 74 69 63  
A125 00 63 68  
A128 61 72 74  
A12B 00  
A12C 00 00 . BYTE 0, 0

A12E

GLDISP

GAL CHT DISPLAY LIST

A12E 60 46 . BYTE \$60, \$46  
A130 1A A1 . WORD GALCHT  
A132 F0 47 . BYTE \$F0, \$47  
A134 35 0D . WORD CHTDIS  
A136 07 07 07 . BYTE 7, 7, 7, 7, 7, 7, 7, 7, \$80, \$46  
A139 07 07 07  
A13C 07 07 B0  
A13F 46  
A140 1F 0D . WORD MESAGE  
A142 46 . BYTE \$46  
A143 71 09 . WORD DGALAC  
A145 06 06 41 . BYTE 6, 6, \$41  
A148 80 02 . WORD DISPLAY

A14A

PHASEB

## INIT SECTION

A14A	INIT		
A14A A9 00	LDA	#\$00	
A14C BD OF D2	STA	SKCTL	
A14F B5 66	STA	TIMOUT	; RESET TIMEOUT
A151 B5 62	STA	MISDIF	; MISSIONDIFFICULTY
A153 B5 63	STA	RESET	; ONE SHOT CONSOL
A155 A9 03	LDA	#\$03	
A157 BD OF D2	STA	SKCTL	; TURN POKEY ON
A15A	INIT3		; GAME SELECT, RESTART POINT *****
A15A A0 2F	LDY	#SENATA-SENTAB	
A15C	INIT4		; ATTRACT MODE RESTART POINT *****
A15C A9 FF	LDA	#\$FF	; GAME OVER
A15E	INIT1		; GAME START RESTART POINT *****
A15E B4 65	STY	REPMMSG	
A160 B5 64	STA	ATRACT	
		CLEAR I/O	
A162 A9 00	LDA	#\$00	
A164 AA	TAX		
A165	INIT2		
A165 9D 00 D0	STA	CTIA, X	
A168 9D 00 D4	STA	ANTIC, X	
A16B E0 0F	CPX	#\$0F	; DONT RESET POKEY
A16D B0 03	BCS	INIT5	
A16F 9D 00 D2	STA	POKEY, X	
A172	INIT5		
A172 9D 00 D3	STA	PIA, X	
A175 9D	BYTE	\$9D	; STA ABS, X
A176 67 00	WORD	PAGEO	; STA PAGEO, X (ABSOLUTE)
A178 E8	INX		
A179 D0 EA	BNE	INIT2	I/O CLEARED
A17B CA	DEX		; X=FF
A17C 9A	TXS		; LOAD STACK PNTR
A17D DB	CLD		
A17E A9 02	LDA	#RAMMAP/256	
A180 20 OF AE	JSR	CLRMP1	; CLEAR ALL RAM
		LD VECTOR RAM	
A183 A9 51	LDA	#IRQVEC	
A185 BD 16 02	STA	VIMIRQ	
A188 A9 A7	LDA	#IRQVEC/256	
A18A BD 17 02	STA	VIMIRQ+1	
A18D A9 D1	LDA	#VBNMI	
A18F BD 22 02	STA	VVBLKI	
A192 A9 18	LDA	#DISNMI	
A194 BD 00 02	STA	VDSLST	
A197 A9 A6	LDA	#VBNMI/256	
A199 BD 23 02	STA	VVBLKI+1	
A19C A9 A7	LDA	#DISNMI/256	
A19E BD 01 02	STA	VDSLST+1	

## CONFIGURE PIA

A1A1 A7 04	LDA	#\$04	
A1A3 BD 02 D3	STA	PACTL	; TURN ON JOYSTICK

## CONFIGURE CTIA

A1A5 A9 11	LDA	#\$11	
A1A8 BD 1B DO	STA	PRIOR	
A1AB A9 03	LDA	#\$03	
A1AD BD 1D DO	STA	GRACTL	
A1B0 20 BA B3	JSR	LDTABS	; INIT TABLES

## INIT DISPLAY LIST

A1B3 A2 0A	LDX	#\$0A	; KEY F, FRONT DISPLAY
A1B5 20 45 B0	JSR	KEYS15	; INIT FRONT VIEW
A1BB A5 64	LDA	ATRACT	
A1BA 29 B0	AND	#\$80	
A1BC A8	TAY		
A1BD A2 5F	LDX	#DISPL3-DISPLY	
A1BF A9 0B	LDA	#\$08	
A1C1 20 F1 AD	JSR	LDISP	; SHIP ALIVE OR DEAD
A1C4 A9 20	LDA	#\$20	
A1C6 B5 71	STA	WARP	; WARP 5 SPEED

## CONFIGURE ANTIC

A1CB A9 B0	LDA	#DISPLAY	
A1CA BD 02 D4	STA	DLISTL	
A1CD A9 02	LDA	#DISPLAY/256	
A1CF BD 03 D4	STA	DLISTH	
A1D2 A9 3E	LDA	#\$3E	
A1D4 BD 00 D4	STA	DMACTL	; DMA ON
A1D7 A9 00	LDA	#PGRAPH-\$0300/256	
A1D9 BD 07 D4	STA	PMBASE	; LD PLAYER / MISSLE BASE

## INIT NUMBER OF STARS

A1DC A9 10	LDA	#\$TLAST	
A1DE B5 79	STA	NSTARS	

A1E0 A6 62	LDX	MISDIF	; GAME TYPE MESSAGE
A1E2 BC 0C BF	LDY	MSENTB,X	
A1E5 20 23 B2	JSR	LDMESS	

A1E8 A9 40                    LDA                    ENABLE INTERRUPTS  
A1CA BD 0E D2                STA                    #IRGMISK  
A1FD 58                      CLI                    IRQEN  
A1EE A9 C0                    LDA                    IRQS READY  
A1F0 BD 0E D4                STA                    #\$C0  
                                NMIEN                    NMIS READY

END INIT

STAR RATTLES VERS 1.0 2/24/85

MAIN PROGRAM

A1F3

MAIN

MAIN FLOW CHART

START

WAIT FOR VBLANK  
CLEAR AND LOAD STARS/OBJECTS  
MOVE ROUTINES  
PLAYER INTERFACE SECTION  
SERVICE SECTION  
HIT DETECT  
SERVICE CONTINOUS RUNNING ROUTINES  
JUMP TO START

GAME ON ONLY  
GAME ON ONLY  
GAME ON ONLY

A1F3 A5 67  
A1F5 F0 FC  
A1F7 A9 00  
A1F9 B5 67

LDA PROGST  
BEQ MAIN  
LDA #\$00  
STA PROGST

; WAIT FOR VBLANK NMI  
; RESET VBLANK STATUS REGISTER

UPDATE MEMORY MAP RAM AND PLAYERS RAM

A1FB A5 7A

A1FD F0 20

A1FF A2 04

A201

CLRSR1

CLRSTR  
CLEAR STAR ROUTINE  
CNSTAR ; THIS FLAGS SAYS OLDPSP NOT DEFINED IF=00  
CLRSR2  
LDX #OBLAST ; LAST LOCATION OF OBJECT IN RAM

A201 E8

A202 BC 5B 0C

A205 B9 00 0B

A208 85 68

A20A B9 64 0B

A20D 85 69

A20F BC BC 0C

A212 BD BD 0C

A215 91 6B

A217 E4 7A

A219 90 E6

A21B A9 00

A21D 85 7A

A21F

CLRSR2

INX  
LDY OLDVER, X  
LDA VCONL, Y  
STA PNTR  
LDA VCONH, Y  
STA PNTR+1  
LDY OLDHOR, X  
LDA OLDBYT, X  
STA (PNTR), Y ; BYTE RESTORED  
CPX CNSTAR  
BCC CLRSR1  
LDA #\$00  
STA CNSTAR ; STARS CLEARED

STOSTR

STORE STAR IN RAM MAP ROUTINE

A21F A5 C0

A221 30 2D

LDA HFLAG

BMI STOSR1

; IN HYPER JUMP ?

; YES, NO STORE.

A223 A6 79

A225 B6 7A

A227

LDX NSTARS

STX CNSTAR

; LAST BYTE OF STAR RAM TO STORE

; STARS POINTERS DEFINED OK TO CLEAR NOW

STOSR2

STAR RATTLES - VER 1.01 AD. 2 - 6581 DATE 10-10-88

MAIN PROGRAM

A1F3

MAIN

MAIN FLOW CHART

START

WAIT FOR VBLANK  
CLEAR AND LOAD STARS/OBJECTS  
MOVE ROUTINES  
PLAYER INTERFACE SECTION  
SERVICE SECTION  
HIT DETECT  
SERVICE CONTINOUS RUNNING ROUTINES  
JUMP TO START

GAME ON ONLY  
GAME ON ONLY  
GAME ON ONLY

A1F3 A5 67  
A1F5 F0 FC  
A1F7 A9 00  
A1F9 B5 67

LDA PROGST  
BEG MAIN  
LDA #\$00  
STA PROGST

; WAIT FOR VBLANK NMI  
; RESET VBLANK STATUS REGISTER

UPDATE MEMORY MAP RAM AND PLAYERS RAM

CLRSTR  
CLEAR STAR ROUTINE

A1FB A5 7A  
A1FD F0 20  
A1FF A2 04  
A201

LDA CNSTAR  
BEG CLRSR2  
LDX #OBLAST  
CLRSR1

; THIS FLAGS SAYS OLDPS NOT DEFINED IF=00  
; CLRSR2  
; LAST LOCATION OF OBJECT IN RAM

A201 E8  
A202 BC 5B 0C  
A205 B9 00 0B  
A208 B5 68  
A20A B9 64 08  
A20D B5 69  
A20F BC BC 0C  
A212 BD BD 0C  
A215 91 68  
A217 E4 7A  
A219 90 E6  
A21B A9 00  
A21D B5 7A  
A21F

INX  
LDY OLDVER, X  
LDA VC0NL, Y  
STA PTR  
LDA VC0NH, Y  
STA PTR+1  
LDY OLDHOR, X  
LDA OLDBYT, X  
STA (PTR), Y  
CPX CNSTAR  
BCC CLRSR1  
LDA #\$00  
STA CNSTAR  
CLRSR2

; BYTE RESTORED  
; STORE STAR IN RAM MAP ROUTINE  
; IN HYPER JUMP ?  
; YES , NO STORE.

ST0STR

STORE STAR IN RAM MAP ROUTINE

A21F A5 C0  
A221 30 2D

LDA HFLAG  
BMI ST0SR1

; IN HYPER JUMP ?  
; YES , NO STORE.

A221 79  
A221 7A  
A227

LDX NSTARS  
STX CNSTAR  
ST0SR2

; LAST BYTE OF STAR TO STORE  
; STARS POINTERS DEFINED OK TO CLEAR NOW

A227 BD F9 0B	LDA	VPOS, X
A22A 9D 5B 0C	STA	OLDVER, X
A22D AB	TAY	
A22E B9 00 0B	LDA	VCONL, Y
A231 B5 68	STA	PNTR
A233 B9 64 0B	LDA	VCONH, Y
A236 B5 69	STA	PNTR+1
A238 BD 2A 0C	LDA	HPOS, X
A238 4A	LSR	A
A23C 4A	LSR	A
A23D 9D BC 0C	STA	OLDHOR, X
A240 AB	TAY	
A241 B1 68	LDA	(PNTR), Y
A243 9D BD 0C	STA	OLDBYT, X
A246 1D EE 0C	ORA	STRBYT, X
A249 91 68	STA	(PNTR), Y
A24B CA	DEX	
A24C E0 04	CPX	#OBLAST
A24E D0 D7	BNE	STOSR2 ; BYTE SAVED
A250 STOSR1		
A250 A5 66	LDA	TIMOUT
A252 10 0E	BPL	STOSR3
A254 A9 00	LDA	#\$00
A256 8D E3 17	STA	NOSTAR
A259 8D E4 17	STA	NOSTAR+1
A25C 8D BC 17	STA	NOSTAR-39
A25F 8D BB 17	STA	NOSTAR-40
A262 STOSR3		
A262 A9 00	LDA	CLROBJ
A264 AC 5F 0C	LDY	CLEAR OBJECT RAM
A267 AE C1 0C	LDX	OBJECT 4
A26A CLROB1		
A26A 99 00 03	STA	MGRAPH, Y
A26D C8	INY	
A26E CA	DEX	
A26F 10 F9	BPL	CLROB1
A271 AC 5E 0C	LDY	OBJECT 3
A274 AE C0 0C	LDX	OLDVER+3
A277 CLROB2		
A277 99 00 07	STA	LDX
A27A C8	INY	PGRAP3, Y
A27B CA	DEX	
A27C 10 F9	BPL	CLROB2
A27E AC 5D 0C	LDY	OBJECT 2
A281 AE BF 0C	LDX	OLDVER+2
A284 CLROB3		
A284 99 00 06	STA	LDX
A287 C8	INY	PGRAP2, Y
A288 CA	DEX	
A289 10 F9	BPL	CLROB3
		OBJECT 1

A28B AC SC 0C	LDY	OLDVER+1
A28E AE BE 0C	LDX	OLDNUM+1
A291	CLROB4	
A291 99 00 05	STA	PGRAP1, Y
A294 CB	INY	
A295 CA	DEX	
A296 10 F9	BPL	CLROB4
		OBJECT 0
A298 AC 5B 0C	LDY	OLDVER+0
A29B AE BD 0C	LDX	OLDNUM+0
A29E	CLROB5	
A29E 99 00 04	STA	PGRAP0, Y
A2A1 CB	INY	
A2A2 CA	DEX	
A2A3 10 F9	BPL	CLROB5

**STOOBJ**  
**STORE OBJECT ROUTINE**

OBJECT 4, ALWAYS PHOTON, OR DOCKING OBJECT		
A2A5 AD 90 0C	LDA	GINDEX+4
A2A8 C9 01	CMP	#\$01
A2AA A4 E8	LDY	GRAPH+4
A2AC AE FD 0B	LDX	VPOS+4
A2AF 8E 5F 0C	STX	OLDVER+4
A2B2 AD F2 0C	LDA	NUMBYT+4
A2B5 85 6A	STA	TEMP
A2B7 BD C1 0C	STA	OLDNUM+4
A2BA	STOOB1	
A2BA B9 E4 B8	LDA	PHGRAF, Y
A2BD B0 03	BCS	STOOBB
A2BF 2D 0A D2	AND	RANDOM
A2C2	STOOB8	
A2C2 9D 00 03	STA	MGRAPH, X
A2C5 CB	INY	
A2C6 E8	INX	
A2C7 C6 6A	DEC	TEMP
A2C9 10 EF	BPL	STOOB1
OBJECT 3, ALWAYS PHOTON		
A2CB AD 8F 0C	LDA	GINDEX+3
A2CE C9 01	CMP	#\$01
A2D0 A4 E7	LDY	GRAPH+3
A2D2 AE FC 0B	LDX	VPOS+3
A2D5 8E 5E 0C	STX	OLDVER+3
A2D8 AD F1 0C	LDA	NUMBYT+3
A2DB 85 6A	STA	TEMP
A2DD BD C0 0C	STA	OLDNUM+3
A2E0	STOOB2	
A2E0 B9 E4 B8	LDA	PHGRAF, Y
A2E3 B0 03	BCS	STOOB9
A2E5 2D 0A D2	AND	RANDOM
A2EB	STOOB9	
A2EB 9D 00 07	STA	PGRAP3, X
A2EB E8	INX	
A2EC CB	INY	
A2ED C6 6A	DEC	TEMP
A2EF 10 EF	BPL	STOOB2

OBJECT 2, (VARIABLE GRAPHIC)

A2F1 AD BE OC	LDA	GINDEX+2	
A2F4 C9 01	CMP	#\$01	DEFINE CARRY
A2F6 A4 E6	LDY	GRAPH+2	
A2FB AE FB 0B	LDX	VPOS+2	
A2FB BE 5D OC	STX	OLDVER+2	
A2FE AD F0 OC	LDA	NUMBYT+2	
A301 85 6A	STA	TEMP	
A303 8D BF OC	STA	OLDNUM+2	
A306 B9 E4 B8	STO0B3		
A309 B0 03	LDA	PHGRAF, Y	
A30B 20 0A D2	BCS	STO0B7	
A30E STO0B7	AND	RANDOM	
A30E 9D 00 06	STA	PGRAP2, X	
A311 EB	INX		
A312 CB	INY		
A313 C6 6A	DEC	TEMP	
A315 10 EF	BPL	STO0B3 OBJECT 1 (VARIABLE)	
A317 A4 E5	LDY	GRAPH+1	
A319 AE FA 0B	LDX	VPOS+1	
A31C BE 5C OC	STX	OLDVER+1	
A31F AD EF OC	LDA	NUMBYT+1	
A322 85 6A	STA	TEMP	
A324 8D BE OC	STA	OLDNUM+1	
A327 STO0B5			
A327 B9 B1 B9	LDA	ZYGRAF, Y	
A32A 9D 00 05	STA	PGRAP1, X	
A32D EB	INX		
A32E CB	INY		
A32F C6 6A	DEC	TEMP	
A331 10 F4	BPL	STO0B5 OBJECT 0 (VARIABLE)	
A333 A4 E4	LDY	GRAPH+0	
A335 AE F9 0B	LDX	VPOS+0	
A338 BE 5B OC	STX	OLDVER+0	
A338 AD EE OC	LDA	NUMBYT+0	
A33E 85 6A	STA	TEMP	
A340 8D BD OC	STA	OLDNUM+0	
A343 STO0B6			
A343 B9 B1 B9	LDA	ZYGRAF, Y	
A346 9D 00 04	STA	PGRAP0, X	
A349 EB	INX		
A34A CB	INY		
A34B C6 6A	DEC	TEMP	
A34D 10 F4	BPL	STO0B6 UPDATE HORIZ	
A34F AD 2A OC	LDA	HPOS+0	
A352 8D 00 D0	STA	HPOS0+0	
A355 AD 2B OC	LDA	HPOS+1	
A358 8D 01 D0	STA	HPOS0+1	
A35B AD 2C OC	LDA	HPOS+2	
A35E 8D 02 D0	STA	HPOS0+2	
A361 AD 2D OC	LDA	HPOS+3	
A364 8D 03 D0	STA	HPOS0+3	
A367 AD 2E OC	LDA	HPOS+4	
A36A 8D 07 D0	STA	HPOS0+7	
A36D 18 CLC			

A36E 69 02	ADC	##02
A370 8D 06 DD	STA	HP0SP0+6
A373 89 02	ADC	##02
A375 8D 05 DD	STA	HP0SP0+5
A378 89 02	ADC	##02
A37A 8D 04 DD	STA	HP0SP0+4

END UPDATE MEMORY MAP RAM AND PLAYERS RAM

STARS/OBJECTS MOVE ROUTINES

A37D 24 DD	BIT	DISFLG
A37F 30 3A	BMI	MAIN1

; NO ROTATE IN GALACTIC CHART

		YROTAT
		ROTATE ALL LEFT AND RIGHT
A381 A5 C8	LDA	HORJOY
A383 F0 19	BEG	YROTA1
A385 85 6D	STA	TEMP3
A387 A4 79	LDY	NSTARS

; HORIZ JOYSTICK ?  
; NO  
; LAST BYTE OF STARS

A389	YROTA2	
A389 84 6E	STY	TEMP4
A38B 18	CLC	
A38C 98	TYA	
A38D AA	TAX	
A38E 69 31	ADC	#RAMNUM
A390 AB	TAY	
A391 20 9B B6	JSR	ROHELP
A394 98	TYA	
A395 AA	TAX	
A396 A4 6E	LDY	TEMP4
A398 20 9B B6	JSR	ROHELP
A39B BB	DEY	
A39C 10 EB	BPL	YROTA2
A39E	YROTA1	

; TEMP STORE  
; YPOS

		ZROTAT
		ROTATE ALL UP AND DOWN
A39E A5 C9	LDA	VERJOY
A3A0 F0 19	BEG	ZROTA1
A3A2 85 6D	STA	TEMP3
A3A4 A4 79	LDY	NSTARS

; VERT JOYSTICK ?  
; NO

A3A6	ZROTA2	
A3A6 84 6E	STY	TEMP4
A3A8 18	CLC	
A3A9 98	TYA	
A3AA AA	TAX	
A3AB 69 62	ADC	#RAMNUM*2
A3AD AB	TAY	
A3AE 20 9B B6	JSR	ROHELP
A3B1 98	TYA	
A3B2 AA	TAX	
A3B3 A4 6E	LDY	TEMP4
A3B5 20 9B B6	JSR	ROHELP
A3B8 BB	DEY	

STAR RATER EQUATION FOR FORWARD MOTION

A3B9 10 EB                    BPL                    ZROTA2  
A3BB                            ZROTA1  
;  
A3BB                            MAIN1  
;                              XMOVE  
;                              UPDATE ALL XPOS DUE TO FORWARD SHIP MOTION  
;                              SUBTRACT SPEED FROM XPOS  
A3BD A6 79                    LDX                    NSTARS                    ; X=INDEX TO STARS/POBJECT TO UPDATE  
A3BD                            XMOVE1  
A3BD E0 05                    CPX                    #OBJNUM                    ; PHOTONS ?  
A3BF B0 05                    BCS                    XMOVE2                    ; NO.  
A3C1 BD BC OC                LDA                    GINDEX, X  
A3C4 F0 19                    BEQ                    XMOVE3  
A3C6                            XMOVE2  
A3C6 3B                        SEC  
A3C7 BD D3 0A                LDA                    XPOS, X  
A3CA E5 70                    SBC                    SPEED  
A3CC 9D D3 0A                STA                    XPOS, X  
A3CF BD 40 0A                LDA                    XPOS, X  
A3D2 E5 C1                    SBC                    HISPED  
A3D4 9D 40 0A                STA                    XPOS, X  
A3D7 BD AD 09                LDA                    XSIGN, X  
A3DA E9 00                    SBC                    #\$00                    ; CARRY ONLY  
A3DC 9D AD 09                STA                    XSIGN, X  
A3DF                            XMOVE3  
A3DF CA                        DEX  
A3E0 10 DB                    BPL                    XMOVE1                    ; NEXT STAR  
;                              ALL DONE

MOTION

OTHER MOTION SUCH AS DUE TO ZYLON SHIP POWER

OR PHOTONS

XINCRE, YINCRE, ZINCRE ARE ALL SIGN-MAGNITUDE TYPES

A3E2 A6 79                    LDX                    NSTARS  
A3E4                            MOTIN1  
A3E4 E0 10                    CPX                    #\$LAST                    ; REG STARS ?  
A3E6 D0 02                    BNE                    MOTIN9                    ; NO  
A3E8 A2 04                    LDX                    #OBJLAST                    ; LAST OBJ  
A3EA                            MOTIN9  
A3EA 8A                        TXA  
A3EB                            MOTIN2  
A3EB A8                        TAY  
A3EC A9 00                    LDA                    #\$00  
A3EE B5 6B                    STA                    TEMP1  
A3F0 B9 66 0B                LDA                    XINCRE, Y  
A3F3 10 09                    BPL                    MOTIN3  
A3F5 49 7F                    EOR                    #\$7F  
A3F7 18                        CLC  
A3FB 69 01                    ADC                    #\$01  
A3FA B0 02                    BCS                    MOTIN3  
A3FC C6 6B                    DEC                    TEMP1  
A3FE                            MOTIN3  
A3FE 18                        CLC  
A3FF 79 D3 0A                ADC                    XPOS, Y  
A402 99 D3 0A                STA                    XPOS, Y  
A405 B9 40 0A                LDA                    XPOS, Y

A408 65 6B	ADC	TEMP1
A40A 99 40 0A	STA	XPOS.H, Y
A40D B9 AD 09	LDA	XSIGN, Y
A410 65 6B	ADC	TEMP1
A412 99 AD 09	STA	XSIGN, Y
A415 98	TYA	
A416 18	CLC	
A417 69 31	ADC	#RAMNUM
A419 C9 90	CMP	#RMLAST*3
A41B 90 CE	BCC	MOTIN2
A41D CA	DEX	
A41E 10 C4	BPL	MOTIN1
		; NEXT STAR OR OBJECT

## BOUNDS

A420 A0 04	LDY	#OBLAST
A422	BOUND1	; ONLY OBJECTS
A422 98	TYA	
A423 AA	TAX	
A424 A9 02	LDA	#\$02
A426 85 6A	STA	TEMP
A428	BOUND3	
A428 BD AD 09	LDA	XSIGN, X
A42B C9 02	CMP	#\$02
A42D 90 10	BCC	BOUND4
		OUT OF BOUNDS
A42F 0A	ASL	A
A430 A9 00	LDA	#\$00
A432 9D AD 09	STA	XSIGN, X
A435 B0 05	BCS	BOUNDS
A437 FE AD 09	INC	XSIGN, X
A43A 49 FF	EOR	#\$FF
A43C	BOUND5	
A43C 9D 40 0A	STA	XPOS.H, X
A43F	BOUND4	
A43F B4	TXA	
A440 18	CLC	
A441 69 31	ADC	#RAMNUM
A443 AA	TAX	
A444 C6 6A	DEC	TEMP
A446 10 E0	BPL	BOUND3
A448 B8	DEY	
A449 10 D7	BPL	BOUND1
		; NEXT STAR

## CALCVH

CALCULATE V, H POS FOR ALL STARS/OBJ

A44B A5 D0	LDA	DISFLG
A44D C9 02	CMP	#\$02
A44F B0 5C	BCS	CALC14
		; NOT FRONT OR BACK
A451 A6 79	LDX	NSTARS
A453	CALCV1	
A453 A9 FF	LDA	#\$FF
A455 BC AD 09	LDY	XSIGN, X

; X=INDEX OF STARS

; STAR LOOP

STAR FABRICS VERSION 28.1 STARDATE 2000.0

A45B C4 D0 CPY BEQ DISFLG  
A45A F0 4B CALCV5

UPDATE VPOS

A45C BD OF 0A LDA ZSIGN, X ; 2'S COMPLE ZPOS?  
A45F D0 12 BNE CALCV8 ; NO

2'S COMPLEMENT

A461 38 SEC  
A462 A9 00 LDA #\$00  
A464 FD 35 0B SBC ZPOSL, X  
A467 B5 6A STA TEMP  
A469 A9 00 LDA #\$00  
A46B FD A2 0A SBC ZPOSH, X  
A46E B5 6B STA TEMP1  
A470 4C 7D A4 JMP CALCV9  
A473 CALCV8

A473 BD 35 0B LDA ZPOSL, X ; STORE IN TOP REQ  
A476 B5 6A STA TEMP  
A478 BD A2 0A LDA ZPOSH, X  
A47B B5 6B STA TEMP1

A47D CALCV9  
A47D 20 21 AA JSR DIVIDE ; DIVIDE ZPOS BY XPOS  
A480 20 1E B7 JSR STVPOS ; STORE VPO

UPDATE HORIZ POS

A483 BD DE 09 LDA YSIGN, X ; 2'S COMPLE YPOS ?  
A486 D0 12 BNE CALCV3 ; NO

2'S COMPLEMENT

A488 38 SEC  
A489 A9 00 LDA #\$00  
A48B FD 04 0B SBC YPOSL, X  
A48E B5 6A STA TEMP ; STORE IN TOP(NUMERATOR)REG  
A490 A9 00 LDA #\$00  
A492 FD 71 0A SBC YPOSH, X  
A495 B5 6B STA TEMP1  
A497 4C A4 A4 JMP CALCV4  
A49A CALCV3

A49A BD 04 0B LDA YPOSL, X ; STORE IN TOP REG

A49D B5 6A STA TEMP  
A49F BD 71 0A LDA YPOSH, X  
A4A2 B5 6B STA TEMP1

A4A4 CALCV4  
A4A4 20 21 AA JSR DIVIDE ; DIVIDE YPOS BY XPOS  
A4A7 CALCV5

A4A7 20 FB B6 JSR STHPOS ; STORE HPOS

A4AA CA DEX  
A4AB 10 A6 BPL CALCV1 ; NEXT STAR  
A4AD CALC14 ALL DONE

A4AD 20 62 B1 JSR CSERVE ; SERVICE GALACTIC CHART

SSERVE

		SECTOR SCAN SERVE	
A4B0 24 D0		BIT	DISFLO
A4B2 50 31		BVC	SSERV1
A4B4 A2 31		LDX	#INSTB2-INSTAB
A4B6 20 6E A7		JSR	LDIRST
A4B9 2C 96 09		BIT	DAMAGE+4
A4BC 70 27		BVS	SSERV1
		LDX	NSTARS
A4BE A6 79	SSERV2	LDA	XPOSH,X
A4C0 BD 40 0A		LDY	XSIGN,X
A4C3 BC AD 09		BNE	SSERV3
A4C6 D0 02		EOR	#\$FF
A4C8 49 FF			
A4CA SSERV3		TAY	
A4CA AB			
A4CB B9 E9 0D		LDA	PTAB,Y
A4CE 20 1E B7		JSR	STVPOS
A4D1 BD 71 0A		LDA	YPOSH,X
A4D4 BC DE 09		LDY	YSIGN,X
A4D7 D0 02		BNE	SSERV4
A4D9 49 FF		EOR	#\$FF
A4DB SSERV4			
A4DB AB		TAY	
A4DC B9 E9 0D		LDA	PTAB,Y
A4DF 20 FB B6		JSR	STHPOS
A4E2 CA		DEX	
A4E3 10 DB	SSERV1	BPL	SSERV2
A4E5			

		OBJCOL	
A4E5 A2 05		LDX	SELECT OBJECT COLOR , GRAPHIC
A4E7	OBJCL2	#DX	#DBLAST+1
A4E7 CA		DEX	; OBJCT LOOP
A4EB 10 03		BPL	OBJCL1
A4EA 4C 79 A5		JMP	OBJC12
A4ED	OBJCL1		
A4ED A9 00		LDA	#\$00
A4EF 95 E4		STA	GRAPH,X
A4F1 9D EE 0C		STA	NUMBYT,X
A4F4 24 D0		BIT	DISFLG
A4F6 10 0B		BPL	OBJCL3
A4FB E0 03		CPX	#\$03
A4FA 90 EB		BCC	OBJCL2
A4FC	OBJCL4		
A4FC AD 0A D2		LDA	RANDOM
A4FF A0 F2		LDY	#\$F2
A501 30 2B		BMI	OBJCL6
A503	OBJCL3		
A503 D5 E9		CMP	STFLAG,X
A505 F0 E0		BEQ	OBJCL2
A507 70 F3		BVS	OBJCL4
A509 BC 40 0A		LDY	XPOSH,X
A50C 24 7B		BIT	BASFLG
A50E 50 1E		BVC	OBJCL6
			; OBJECT ON ?
			; NO
			; SECTOR SCAN
			; INTENSITY AND GRAPHIC SIZE
			; STARBASE ?
			; NO

## STAR REFERENCE OVERLAP 2 - STARBASE COLOR

A510 E0 02	CPX	#\$02	; SBASE OBJECTS ?
A512 B0 16	BCS	OBJCL8	; NO
A514 AD 2C OC	LDA	HPOS+2	; GANG OBJ 0,1,2 TOGETHER
A517 18	CLC		; OBJ 2 IS REFERENCE
A518 7D DB BE	ADC	BHORTB,X	; HORIZ OFFSET , +B, -B
A51B 9D 2A OC	STA	HPOS,X	
A51E AD FB OB	LDA	VPOS+2	; GANG VPOS
A521 18	CLC		
A522 69 04	ADC	#4	
A524 9D F9 OB	STA	VPOS,X	
A527 A0 42 OA	LDY	XPOS+2	; ALL USE OBJ2 POSIT.
OBJCLB			
A52A A5 76	LDA	BINTIM	; MODULATE STARBASE COLOR
A52C 29 OF	AND	#\$OF	
OBJCL6			
A52E B5 6B	STA	TEMP1	; COLOR MODULATE
A530 98	TYA		; XPOS
A531 BC F9 OB	LDY	VPOS,X	; IN BOUNDS CHECK
A534 C0 CC	CPY	#\$CC	; IN BOUNDS ?
A536 B0 AF	BCS	OBJCL2	; NO
A538 A4 D0	LDY	DISFLG	; FRONT OR BACK ?
A53A F0 02	BEQ	OBJCL7	; FRONT
A53C 49 FF	EOR	#\$FF	; ONES COMPLEMENT XPOS
OBJCL7			
A53E C9 20	CMP	#\$20	; TOO FAR AWAY ?
A540 B0 A5	BCS	OBJCL2	; YES
A542 C9 10	CMP	#\$10	; SMALLEST SIZE ?
A544 90 02	BCC	OBJCL5	; NO
A546 A9 OF	LDA	#\$OF	; SMALL SIZE
OBJCL5			
A548 B5 6A	STA	TEMP	; TEMP SAVE XPOS
A54A 1D BC OC	ORA	GINDEX,X	; TYPE OF GRAPHIC
A54D 4A	LSR	A	; ONLY B VALUES PER TYPE
A54E A8	TAY		
A54F B9 2F BE	LDA	GPOINT,Y	; OFFSET FROM PHGRAF, OR ZYGRAF
A552 95 E4	STA	GRAPH,X	; HOLDS INDEX
A554 B9 7F BE	LDA	NBYTAB,Y	
A557 9D EE OC	STA	NUMBYT,X	; NUMBER OF BYTES TO SAVE
A55A 98	TYA		
A55B 4A	LSR	A	
A55C 4A	LSR	A	
A55D 4A	LSR	A	
A55E AB	TAY		; GINDEX ONLY
A55F B9 D1 BF	LDA	COLTAB,Y	; CHROMA OF OBJ
A562 C0 08	CPY	#\$08	; BASE STAR ?
A564 D0 03	BNE	OBJC11	; NO
A566 4D OA D2	EOR	RANDOM	; RANDOM COLOR
OBJC11			
A569 A4 6A	LDY	TEMP	; DISTANCE FOR INTENSITY
A56B 59 DB BF	EOR	COLINT,Y	; INTENSITY
A56E 45 6B	EOR	TEMP1	; COLOR MODULATE , IF ANY
A570 BC DF BB	LDY	CLINDX,X	; WHERE TO STORE
A573 99 EE 00	STA	COLRAM,Y	; COLOR UPDATED
A576 4C E7 A4	JMP	OBJCL2	; NEXT OBJ
OBJC12			
STRBRT			
STAR BRIGHTNESS INTENSITY NEW STAR CALC			

A579 A0 AF

LDY #BRTBLU

A57B A6 B1	LDX	SPABAK	
A57D A5 B8	LDA	REDFLG	
A57F F0 0C	BEQ	STRBR2	
A581 C6 BB	DEC	REDFLG	/ TIME OUT RED ALERT
A583 A0 4F	LDY	#DRTRED	
A585 29 20	AND	#\$20	
A587 F0 04	BEQ	STRBR2	
A589 A2 42	LDX	#DIMRED	
A58B A0 60	LDY	#DRKRED	
A58D	STRBR2		
A58D 84 E4	STY	COLRAM+6	/ PE2
A58F B6 F6	STX	COLRAM+8	/ BAK
A591 A6 79	LDX	NSTARS	/ X=INDWX , INIT TO LAST STAR
A593	STRBR1		
A593 BD 40 0A	LDA	XPOSH, X	/ INTENSITY DETERMINED BY XPOS
A596 A4 D0	LDY	DISFLG	/ FRONT OR BACK ?
A598 C0 01	CPY	#\$01	/ ALL BUT BACK VIEW WILL BRANCH
A59A D0 09	BNE	STRBR5	/ FRONT
A59C C9 F0	CMP	#\$FO	/ STAR AT MINUS BOUNDS ?
A59E B0 03	BCS	STRBR6	
A5A0 20 64 B7	JSR	NEWSTR	
A5A3	STRBR6		
A5A3 49 FF	EOR	#\$FF	/ COMPLEMENT XPOS
A5A5	STRBR5		
A5A5 C9 10	CMP	#\$10	/ USE DEFAULT ?
A5A7 90 02	BCC	STRBR4	/ NO
A5A9 A9 0F	LDA	#\$0F	/ DEFAULT
A5AB	STRBR4		
A5AB 0A	ASL	A	
A5AC 29 1C	AND	#\$1C	
A5AE 05 72	ORA	TIMERX	/ MULTIPLEX WITH FRAME COUNT
A5B0 A8	TAY		/ FOR 8 APPARENT LEVELS OF BRIGHT
A5B1 B9 90 BA	LDA	BRTABL, Y	/ WHICH PLAYFIELD
A5B4 85 6A	STA	TEMP	
A5B6 BD 2A 0C	LDA	HPOS, X	
A5B9 29 03	AND	#\$03	
A5B8 A8	TAY		
A5BC B9 B0 BA	LDA	MASK, Y	
A5BF 25 6A	AND	TEMP	
A5C1 9D EE 0C	STA	STRBYT, X	/ DATA TO STORE IN STOSTR
A5C4 CA	DEX		
A5C5 E0 05	CPX	#OBJNUM	/ ALL DONE WITH STARS ?
A5C7 B0 CA	BCS	STRBR1	/ NEXT STAR
		ALL DONE	
		END STAR/OBJECTS MOVE ROUTINES	
		GAME ON ROUTINES	
		PLAYER INTERFACE SECTION AND SERVICE SECTION, HIT DETECT	
A5C9 24 64	BIT	ATTRACT	/ GAME OVER LOCKOUT PLAYER
A5CB 50 03	BVC	MAIN4	/ YES
A5CD 4C 9B A6	JMP	MAIN3	
A5D0	MAIN4		
A5D0 20 FE AF	JSR	KEYSRV	/ SERVICE KEYBOARD
		JOYSTK	

## JOYSTICK EVALUATION ROUTINE

A5D3 AD 00 D3	LDA	PORTA	
A5D6 A8	TAY	; STORE TEMP	
A5D7 29 03	AND	##03	; VERT ONLY
A5D9 AA	TAX		
A5DA BD F5 BA	LDA	JOYTAB, X	; CODE FOR VERT
A5DD 85 C9	STA	VERJOY	
A5DF 98	TYA		; PORT A AGAIN
A5E0 4A	LSR	A	
A5E1 4A	LSR	A	
A5E2 29 03	AND	##03	
A5E4 AA	TAX		; HORIZ ONLY
A5E5 BD F5 BA	LDA	JOYTAB, X	; CODE FOR HORIZ
A5EB 85 CB	STA	HORJOY	
 A5EA 20 3D AF	JSR	HITZYL	; HIT ZYLON
A5ED 20 29 AE	JSR	PHOTON	; SERVICE TRIGGERS
 A5F0 2C 95 09	BIT	ASERVE	
		ATTACK COMPUTER SERVICE	
A5F3 70 40	BVS	DAMAGE+3	
A5F5 A5 7E	LDA	ASERV2	
A5F7 F0 3C	BEG	ATENER	; ATTACK ON ?
A5F9 A5 D0	LDA	ASERV2	; NO
A5FB D0 03	BNE	DISFLG	
A5FD 20 BF A7	JSR	ASERV1	
A600		UPINST	
		ASERV1	

## AUTO TARGET SELECTOR

A600 AE 5C 09	LDX	DCSTOR	
A603 A5 BF	LDA	ATTARG	
A605 30 05	BMI	ASERV4	
A607 AA	TAX		
A60B 09 80	ORA	##\$80	
A60A B5 BF	STA	ATTARG	
A60C		ASERV4	
A60C B5 E9	LDA	STFLAG, X	
A60E D0 0B	BNE	ASERV3	
A610 8A	TXA		
A611 49 01	EOR	##\$01	
A613 AA	TAX		
A614 B5 E9	LDA	STFLAG, X	
A616 D0 03	BNE	ASERV3	
A618 AE 5C 09	LDX	DCSTOR	
A61B		ASERV3	
A61B 8E 5C 09	STX	DCSTOR	

## COMPUTER AUTO TRACKING

A61E A5 7C	LDA	TRKFLG	
A620 F0 13	BEG	ASERV2	
A622 A5 D0	LDA	DISFLG	
A624 C9 02	CMP	##\$02	; FRONT OR BAK ?
A626 B0 0D	BCS	ASERV2	; NO
A628 49 01	EOR	##\$01	; WHICH DISFLG
A62A DD AD 09	CMP	XSIGN, X	; OBJ IN SIGHT ?
A62D F0 05	BEG	ASERV2	; YES
A62F AA	TAX		
A630 BD CF BE	LDA	TRKTAB, X	; WHICH KEY FOR SWITHING DISPLAY
A633 B5 CA	STA	THEKEY	; SWITCH DISPLAY

A635

ASERV2

A635 20 E6 AC	JSR	B\$ERVE	; SERVICE STARBASE
A638 20 79 AA	JSR	THINK	; SERVICE ZYLON BRAIN
		HITSHP	
		RAIDER HIT PHOTON HIT DETECT	
A63B A5 7B	LDA	BASF\$LG	; STARBASE ?
A63D D0 5C	BNE	HITSH1	; YES
A63F A5 EB	LDA	STFLAG+2	
A641 F0 5B	BEQ	HITSH1	
A643 AC 42 0A	LDY	XPOSH+2	
A646 CB	INY		
A647 C0 02	CPY	##\$02	
A649 B0 50	BCS	HITSH1	
A64B AC 73 0A	LDY	YPOSH+2	
A64E CB	INY		
A64F C0 02	CPY	##\$02	
A651 B0 4B	BCS	HITSH1	
A653 AC A4 0A	LDY	ZPOSH+2	
A656 CB	INY		
A657 C0 02	CPY	##\$02	
A659 B0 40	BCS	HITSH1	
		A HIT !!	
A65B 20 E1 AE	JSR	DAMCTL	
A65E A0 02	LDY	##\$02	
A660 20 6B AC	JSR	EXPLOS	
A663 A2 7F	LDX	##\$7F	
A665 A5 81	LDA	SPABAK	; DEAD ?
A667 D0 1E	BNE	HITSH2	; NO
A669 A2 0A	LDX	##\$0A	; FRONT
A66B 20 45 B0	JSR	KEYS15	
A66E A0 23	LDY	#SENDST-SENTAB	
A670 A2 0B	LDX	##\$0B	; DESTROYED
A672 20 0A B1	JSR	CRATE	
A675 A2 5F	LDX	#DISPL3-DISPLY	
A677 A0 B0	LDY	##\$80	
A679 A9 0B	LDA	##\$0B	
A67B 20 F1 AD	JSR	LDISP	
A67E 20 0D AE	JSR	CLRMAP	
A681 A2 40	LDX	##\$40	; ITS ALL OVER
A683 B6 E3	STX	BIGEXP	
A685 A2 FF	LDX	##\$FF	; HIT ME DEAD
A687	HITSH2		
A687 B6 BA	STX	HITME	
A689 A9 00	LDA	##\$00	
A68B B5 EB	STA	STFLAG+2	
A68D A9 02	LDA	##\$02	
A68F B5 BE	STA	PHEXWT	
A691 A2 01	LDX	##\$01	
A693 20 6F BB	JSR	PANDS6	
A696 A2 0A	LDX	#NOITB1-NOISTB	
A698 20 AB AE	JSR	NOISE	
A69B	HITSH1		

END GAME ON ROUTINES

A69B

MAIN3

CONTINOUS RUNNING ROUTINES			
CONSRV SERVICE CONSOL ROUTINE			
A69B A4 60	LDY	RESET	
A69D AD 1F D0	LDA	CONSOL	
A6A0 49 FF	EOR	<del>#\$FF</del>	; POSITIVE LOGIC
A6A2 29 03	AND	<del>#\$03</del>	
A6A4 85 63	STA	RESET	
A6A6 F0 1A	BEQ	CONSR2	
A6A8 88	DEY		
A6A9 10 17	BPL	CONSR2	
A6AB B5 66	STA	TIMOUT	; RESET TIMEOUT
A6AD C9 02	CMP	<del>#\$02</del>	
A6AF B0 06	BCS	CONSR3	; GAME SELECT
A6B1 A9 00	LDA	<del>#\$00</del>	
A6B3 AB	TAY		
A6B4 4C 5E A1	JMP	INIT1	; GAME START
A6B7	CONSR3		
A6B7 E6 62	INC	MISDIF	
A6B9 A5 62	LDA	MISDIF	
A6BB 29 03	AND	<del>#\$03</del>	
A6BD B5 62	STA	MISDIF	
A6BF 4C 5A A1	JMP	INIT3	
A6C2	CONSR2		
A6C2 20 04 B8	JSR	PANDIS	; SERVICE PANNEL DISPLAY
A6C5 20 9B AB	JSR	HSERVE	; SERVICE HYPERWARP JUMP
A6C8 20 16 B2	JSR	MSERVE	; SERVIE MESSAGE
A6CB 20 E4 B4	JSR	TIMERS	; EVALUATE ALL TIMERS , TIMEOUTS, ETC.
END CONTINOUS RUNNING ROUTINES			
A6CE 4C F3 A1	JMP	MAIN	; END VBLANK ROUTINE, WAIT FOR NEW VBLANK

## NMI INTERRUPT SERVICE SECTION

A6D1	VBNMI			
A6D1 A9 FF	LDA #FF			
A6D3 B5 67	STA PROGST			; SET PROGST VBLANK NMI FLAG
A6D5 A9 E0	LDA #ALPHA/256			
A6D7 BD 09 D4	STA CHBASE			; USE STANDARD ALPHA CHARACTERS
A6D9 A6 F6	LDX COLRAM+8			; BAK
A6DC AD 0A D2	LDA RANDOM			
A6DF 24 8A	BIT HITME			
A6E1 50 07	BVC VBLNK4			
A6E3 30 04	BMI VBLNK1			
A6E5 29 72	AND #\$72			
A6E7 09 40	ORA #\$40			
A6E9	VBLNK1			
A6E9 AA	TAX			
A6EA	VBLNK4			
A6EA A5 D0	LDA DISFLQ			
A6EC C9 03	CMP #\$03			
A6EE 90 02	BCC VBLNK2			
A6F0 A2 A0	LDX #DBLUE			
A6F2	VBLNK2			
A6F2 B6 F6	STX COLRAM+8			; BAK
A6F4 A2 08	LDX #\$08			
A6F6	VBLNK3			
A6F6 B5 EE	LDA COLRAM+0,X			
A6FB 9D 12 D0	STA COLPM0,X			
A6FB CA	DEX			
A6FC 10 FB	BPL VBLNK3			
A6FE BD 1E D0	STA HITCLR			; RESET HITS
A701 20 AB B2	JSR AUDIO			; SERVICE AUDIO
A704 E6 77	INC BINNMI			; ATRACT MODE STUFF
A706 D0 D0	BNE VBLNK5			
A708 A5 66	LDA TIMOUT			
A70A 30 09	BMI VBLNK5			
A70C E6 66	INC TIMOUT			
A70E 10 05	BPL VBLNK5			
A710 A0 00	LDY #\$00			
A712 4C 5C A1	JMP INIT4			
A715	VBLNK5			
A715 4C 4B A7	JMP POPALL			
A718	DISNMI			
A718 48	PHA			; PUSH ALL REGISTERS FOR DP SYSTEM
A719 8A	TXA			
A71A 48	PHA			
A71B 98	TYA			
A71C 48	PHA			
A71D A9 E0	LDA #ALPHA/256			
A71F AC 0B D4	LDY VCOUNT			
A722 C0 60	CPY #\$60			

STAR RA[DENS] VERSION 1.001 STARDATE 124 100 10

A724 F0 02	BEG	DISNM1
A726 A9 A0	LDA	#CGRAPH/256
A728	DISNM1	
A728 BD 09 D4	STA	CHBASE
		USE FUTURE TYPE CHARACTER SET
A72B A2 04	LDX	##04
A72D BD 0A D4	STA	WSYNC
A730	DISNM2	
A730 B5 F7	LDA	COLRAM+9, X
A732 9D 16 D0	STA	COLPFO, X
A735 CA	DEX	
A736 10 FB	BPL	DISNM2
		READ HITS
A738 AD 0B D0	LDA	M0PL
A73B OD 09 D0	ORA	M1PL
A73E OD 0A D0	ORA	M2PL
A741 OD 0B D0	ORA	M3PL
A744 B5 B3	STA	PHITS+1
A746 AD 0F D0	LDA	P3PL
A749 B5 B2	STA	PHITS+0
		PHOTON 3 STORED
A74B	POPALL	
A74B 68	PLA	
A74C A8	TAY	
A74D 68	PLA	
A74E AA	TAX	
A74F 68	PLA	
		END POP
A750 40	RTI	

## IRQ INTERRUPT SERVICE SECTION

A751 IRQVEC

PUSH ACCUM REGISTERS

A751 48 PHA

END PUSH

A752 A9 00 LDA #\$00

A754 BD OE D2 STA IRQEN ; RESET IRQ'S

A757 A9 40 LDA #IRQMSK

A759 BD OE D2 STA IRQEN

A75C AD 09 D2 LDA KBCODE

A75F 09 C0 ORA #\$C0

A761 B5 CA STA THEKEY

A763 68 PLA

A764 40 RTI

END IRQ INTERRUPT SECTION

## SUBROUTINES:

A765	LDINS6		; LOAD UP THE LINE
A765 99 A4 00	STA	NUMPTS, Y	
A768 E8	INX		
A769 88	DEY		
A76A 10 0E	BPL	LDINS4	
A76C 20 82 A7	JSR	DRAWER	
A76F	LDINST		
			LOAD INSET RESERVE BYTE=\$FE
			X= INITIAL START OF PTR IN INSTAB
A76F A9 05	LDA	#\$05	
A771 85 A2	STA	TARPTR	; DEFINE TARGET POINTER
A773 2C 95 09	BIT	DAMAGE+3	; COMPUTER
A776 70 09	BVS	LDINS2	
A778	LDINS1		
A778 A0 02	LDY	#\$02	
A77A	LDINS4		
A77A BD F9 BA	LDA	INSTAB, X	
A77D C9 FE	CMP	#\$FE	; ALL DONE
A77F D0 E4	BNE	LDINS6	; NO
A781	LDINS2		
A781 60	RTS		
A782	DRAWER		; DRAW THE LINE
A782 A9 55	LDA	#\$55	
A784	DRAWR3		; ENTRY POINT FROM UPINST *****
A784 85 6B	STA	TEMP1	
A786 A5 A4	LDA	NUMPTS	
A788 85 6E	STA	TEMP4	
A78A 29 7F	AND	#\$7F	
A78C 85 A4	STA	NUMPTS	
A78E	DRAWR1		
A78E A4 A5	LDY	VDRAW	
A790 B9 00 0B	LDA	VCONL, Y	
A793 85 6B	STA	PNTR	
A795 B9 64 0B	LDA	VCONH, Y	
A798 85 69	STA	PNTR+1	
A79A A5 A6	LDA	HDRAW	
A79C 4A	LSR	A	
A79D 4A	LSR	A	
A79E 85 6A	STA	TEMP	
A7A0 A5 A5	LDA	HDRAW	
A7A2 29 03	AND	#\$03	
A7A4 AB	TAY		
A7A5 B9 B0 BA	LDA	MASK, Y	
A7A8 25 6B	AND	TEMP1	
A7AA A4 6A	LDY	TEMP	
A7AC 11 6B	ORA	(PNTR), Y	
A7AE 91 6B	STA	(PNTR), Y	
A7B0 24 6E	BIT	TEMP4	
A7B2 10 04	BPL	DRAWR4	
A7B4 E6 A5	INC	VDRAW	
A7B6 D0 02	BNE	DRAWR5	; JUMP, VDRAW CANNOT CROSS 0 !!
A7B8	DRAWR4		
A7B8 E6 A6	INC	HDRAW	
A7BA	DRAWR5		

*Sainte-Barbe* (Sainte-Barbe) (Médiathèque de l'Orne)

; POINTS ALL DRAWN ;

A7BA	C6	A4		DEC	NUMPTS	POINTS ALL DRAWN ?
A7BC	00	00		BNE	DRAWR1	
A7BE			DRAWR2			
A7BF	60			RTS		
A7BF		UPINST		UPDATE	INSET	
A7BF	AE	5C	09	LDX	FIRE CONTROL	
A7C2	A4	A2		LDY	DCSTOR	WHICH OBJECT
A7C4	CO	05		CPY	TARPTR	
A7C6	BO	24		BCS	UPINS2	
					LD TARGET DISPLAY	
A7CB	A5	A0		LDA	HTARGT	
A7CA	B5	A6		STA	HDRAW	
A7CC	B9	6E	BF	LDA	ZYTARG,Y	
A7CF			UPINS8			
A7CF	0A			ASL	A	
A7D0	B5	6C		STA	TEMP2	
A7D2	90	0D		BCC	UPINS9	
A7D4	A9	B1		LDA	##\$B1	
A7D6	B5	A4		STA	NUMPTS	
A7D8	A5	A1		LDA	VTARGT	
A7DA	B5	A5		STA	VDRAW	
A7DC	A9	AA		LDA	##\$AA	
A7DE	20	B4	A7	JSR	DRAWR3	
A7E1			UPINS9			
A7E1	E6	A6		INC	HDRAW	
A7E3	A5	6C		LDA	TEMP2	
A7E5	D0	E8		BNF	UPINS8	
A7E7	E6	A1		INC	VTARGT	
A7E9			UPIN10			
A7E9	E6	A2		INC	TARPTR	
A7EB	60			RTS		
A7EC			UPINS2			
A7EC	CO	0A		CPY	##\$0A	
A7EE	90	F9		BCC	UPIN10	
A7FO	B5	E9		LDA	STFLAG,X	
A7F2	F0	3C		BEG	UPINS3	
A7F4	BD	71	0A	LDA	YPOSH,X	
A7F7	BC	DE	09	LDY	YSIGN,X	
A7FA	F0	08		BEG	UPINS4	
A7FC	C9	0C		CMP	##\$0C	
A7FE	90	0A		BCC	UPINS5	
A800	A9	0B		LDA	##\$0B	
A802	10	06		BPL	UPINS5	JUMP
A804			UPINS4			
A804	C9	F5		CMP	##\$F5	
A806	B0	02		BCS	UPINS5	
A808	A9	F5		LDA	##\$F5	
A80A			UPINS5			
A80A	18			CLC		
A80B	69	B3		ADC	#131	
A80D	B5	A0		STA	HTARGT	
A80F	BD	A2	0A	LDA	ZPOSH,X	
A812	49	FF		EOR	##\$FF	

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A814 BC 0F 0A	LDY	ZSIGN,X
A817 D0 08	BNE	UPINS6
A819 C9 05	CMP	##05
A81B 90 0A	BCC	UPINS7
A81D A9 04	LDA	##04
A81F 10 06	BPL	UPINS7 , JUMP
A821	UPINS6	
A821 C9 FA	CMP	##FA
A823 B0 02	BCS	UPINS7
A825 A9 FA	LDA	##FA
A827	UPINS7	
A827 18	CLC	
A828 69 4D	ADC	#77
A82A B5 A1	STA	VTARGT
A82C A9 00	LDA	##00
A82E B5 A2	STA	TARPTR
A830	UPINS3	
A830 A9 36	LDA	CLEAR INSET
A832 B5 6B	STA	#INSET
A834 A9 1B	LDA	PNTR
A836 B5 69	STA	#INSET/256
A838 A2 0E	LDX	PNTR+1
A83A	UPIN12	
A83A A0 06	LDY	#\$06
A83C	UPIN13	
A83C B1 68	LDA	(PNTR),Y
A83E 29 55	AND	##55
A840 91 68	STA	(PNTR),Y
A842 88	DEY	
A843 10 F7	BPL	UPIN13
A845 18	CLC	
A846 A5 68	LDA	PNTR
A848 69 28	ADC	#40
A84A B5 6B	STA	PNTR
A84C 90 02	BCC	UPIN14
A84E E6 69	INC	PNTR+1
A850	UPIN14	
A850 CA	DEX	
A851 10 E7	BPL	UPIN12
		DONE CLEAR INSET
A853 AE 5C 09	LDX	DCSTOR
A856 C8	INY	Y=0
A857 A5 8B	LDA	LOKWAT
A859 F0 04	BEG	UPIN11
A85B C6 8B	DEC	LOKWAT
A85D D0 39	BNE	UPINS1
A85F	UPIN11	
A85F A5 A0	LDA	HTARGT
A861 C9 B1	CMP	#129
A863 90 33	BCC	UPINS1
A865 C9 85	CMP	#133
A867 B0 2F	BCS	UPINS1
A869 A9 AA	LDA	##AA
A86B B0 FE 1B	STA	ICON2
A86E B0 04 1C	STA	ICON2+6
A871 A5 A1	LDA	VTARGT
A873 C9 4B	CMP	#75
A875 90 21	BCC	UPINS1
A877 C9 4F	CMP	##79

A879	B0 1D	BCS	UPINS1
A87B	A9 AA	LDA	#\$AA
A87D	B0 9E 1C	STA	ICON2+160
A880	B0 A4 1C	STA	ICON2+166
A883	B0 40 0A	LDA	XPOSH_X
A886	C9 0C	CMP	#\$0C
A888	B0 0E	BCS	UPINS1
A88A	A0 A0	LDY	#\$A0
A88C	BC 40 1D	STY	ICON1
A88F	BC 6B 1D	STY	ICON1+40
A892	BC 42 1D	STY	ICON1+2
A895	BC 6A 1D	STY	ICON1+42
A898		UPINS1	
A898	84 A3	STY	LOKFLG
A89A	60	RTS	

AB9B HSERVE HYPERWARP SERVICE ROUTINE			
AB9B	A4 C0	LDY	HFLAG        HWARP ?
AB9D	F0 61	BEG	HSERV4      NO
AB9F	A5 70	LDA	SPEED
ABA1	C9 FE	CMP	#\$FE        UP TO SPEED ?
ABA3	B0 5C	BCS	HSERV5      YES
ABA5	C9 80	CMP	#\$80        DO LINES ?
ABA7	90 03	BCC	HSERV6      NO
ABA9	20 B4 A9	JSR	HINES
ABAC		HSERV6	
STEERING STUFF			
ABAC	A9 03	LDA	#\$03
ABAE	BD 5C 09	STA	DCSTOR
ABB1	A9 90	LDA	#\$90
ABB3	BD BF 0C	STA	GINDEX+3
ABB6	B5 EC	STA	STFLAG+3
ABB8	A9 1F	LDA	#\$1F
ABBA	BD 43 0A	STA	XPOSH+3
ABBD	3B	SEC	
ABBE	AD FC 0B	LDA	VPOS+3
ABC1	E9 77	SBC	#V0BCEN-3
ABC3	1B	CLC	
ABC4	65 C5	ADC	VSTEER
ABC6	29 7F	AND	#\$7F
ABC8	B5 8E	STA	HYVPOS
ABC9	3B	SEC	
ABCB	AD 2D 0C	LDA	HPDS+3
ABCE	E9 7D	SBC	#H0BCEN
ABD0	1B	CLC	
ABD1	65 C4	ADC	HSTEER
ABD3	29 7F	AND	#\$7F
ABD5	B5 BF	STA	HYHPOS
ABD7	A5 62	LDA	MISDIF
ABD9	F0 11	BEG	HSERV7
ABDB	AD 0A D2	LDA	RANDOM
ABDE	A4 D0	LDY	DISFLG
ABEO	F0 06	BEG	HSERV9
ABE2	BD 2D 0C	STA	HPDS+3

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A8E9 BD FC 0B		STA	VPOS+3
A8EB	HSERV9	CMP	##\$10
A8EB C9 10		BCS	HSERV4
A8EA B0 14			
A8EC	HSERV7		
A8EC AD 0A D2		LDA	RANDOM
A8EF 09 10		DRA	##\$10
A8F1 25 C6		AND	STERMK
A8F3 BD 9A 0B		STA	YINCRE+3
A8F5 AD 0A D2		LDA	RANDOM
A8F9 09 10		DRA	##\$10
A8FB 25 C6		AND	STERMK
A8FD BD CB 0B		STA	ZINCRE+3
A900	HSERV4		
A900 60		RTS	
A901	HSERV5		
A901 98		TYA	; IN JUMP ?
A902 30 11		BMI	HSERVB ; YES
			BEGIN JUMP
A904 A9 FF		LDA	##\$FF
A906 85 C0		STA	HFLAG
A908 A2 00		LDX	#CH4TB1-CH4TAB
A90A 20 A6 B3		JSR	NOTINT
A90D 20 A7 B1		JSR	CSERVB ; JUMP ENERGY
A910 A0 1B		LDY	#SENHSP-SENTAB
A912 4C BD A9		JMP	HABOR1
A915	HSERV8		; IN JUMP
A915 C6 91		DEC	HYPENG
A917 F0 05		BEG	HSER10 ; YES
A919 A2 02		LDX	##\$02 ; DEC ENERGY
A91B 4C 6F BB		JMP	PANDS6
A91E	HSER10		
			HWARP COMPLETE
A91E A0 19		LDY	#SENHWC-SENTAB
A920 20 87 A9		JSR	HABOR2
A923 A5 BF		LDA	HYHPOS
A925 85 BD		STA	CHPOS
A927 A5 BE		LDA	HYVPOS
A929 85 BC		STA	GVPPOS
A92B 4A		LSR	A
A92C 29 07		AND	##\$07
A92E AA		TAX	
A92F BD B3 BF		LDA	JMASK, X
A932 85 C7		STA	JMPMSK
A934 A4 92		LDY	HYPGAD
A936 84 90		STY	QUADRT
A938 A9 00		LDA	##\$00
A93A 85 7B		STA	BASFLG
A93C BE C9 0B		LDX	CHTRAM, Y
A93F 10 2E		BPL	HSERV2
A941 A9 FF		LDA	##\$FF ; STARBASE STUFF
A943 85 7B		STA	BASFLG
A945 A0 00		LDY	##\$00
A947	HSERV3		
A947 A9 00		LDA	##\$00
A949 99 6B 0B		STA	XINCRE+2, Y
A94C A9 01		LDA	##\$01
A94E 99 AF 09		STA	XSIGN+2, Y
A951 AD 0A D2		LDA	RANDOM
A954 25 C7		AND	JMPMSK

A956 99 42 0A	STA	XPOSH+2, Y
A959 98	TYA	
A95A 18	CLC	
A95B 69 D1	ADC	#RAMNUM
A95D A9	TAY	
A95E C9 93	CMP	#RAMNUM+3
A960 90 E5	BCC	HSERV3
A962 AD 42 0A	LDA	XPOSH+2
A965 09 71	ORA	#\$71
A967 8D 42 0A	STA	XPOSH+2
A968 A2 02	LDX	#\$02
A96C 4C BE B7	JMP	NEWST4
A96F HSERV2		
A96F F0 0E	BEG	HSERV1
A971 A9 FF	LDA	#\$FF
A970 85 B8	STA	REDFLG
A975 A2 06	LDX	#CH4TB2-CH4TAB
A977 20 A6 B3	JSR	NOTINT
A97A A0 75	LDY	#SENRED-SENTAB
A97C 20 23 B2	JSR	LDMESS
A97F HSERV1		
A97F 60	RTS	
<hr/>		
A980 HABORT		
HYPERWARP ABORT ROUTINE		
A980 A2 01	LDX	#\$01
A982 20 6F B8	JSR	PAND86
A985 A0 17	LDY	#SENHWA-SENTAB
A987 HABORT2		ABORT
ENTRY POINT HWARP COMPLETE *****		
A987 A9 00	LDA	#\$00
A989 85 71	STA	WARP
A98B 85 C0	STA	HFLAG
A98D HABORT1		ENTRY POINT BEGIN JUMP *****
A98D A9 10	LDA	#STLAST
A98F 85 79	STA	NSTARS
A991 A9 00	LDA	#\$00
A993 85 C1	STA	HISPED
A995 85 73	STA	ETIMER
A997 85 B4	STA	HITME
A999 8D BF 0C	STA	GINDEX+3
A99C 85 80	STA	WPENER
A99E C0 17	CPY	#SENHWA-SENTAB
A9A0 F0 04	BEG	HABORT3
A9A2 85 E9	STA	STFLAG+0
A9A4 85 EA	STA	STFLAG+1
A9A6 HABORT3		
A9A6 85 EB	STA	STFLAG+2
A9AB 85 EC	STA	STFLAG+3
A9AA 85 ED	STA	STFLAG+4
A9AC 85 75	STA	BSEQTM
A9AE 8D 5C 09	STA	DCSTOR
A9B1 4C 23 B2	JMP	LDMESS

A9B4 C6 C2	DEC	HWARP LINES
A9B6 10 68	BPL	HLINE1
A9B8 A9 01	LDA	#\$01
A9B9 B5 C1	STA	HISPED
A9BC A9 30	LDA	#RMLAST
A9BD 85 79	STA	NSTARS
A9C0 A9 03	LDA	#\$03
A9C2 B5 C2	STA	HTIMER
; HWARP STARS ON		
A9C4 A6 C3	LDX	RESET LINES
A9C6	HLINE2	
A9C6 A9 12	LDA	#\$12
A9CB 85 69	STA	PNTR+1
A9CA AD 0A D2	LDA	RANDOM
A9CD 29 03	AND	#\$03
A9CF A8	TAY	
A9D0 B9 3A BB	LDA	YINIT, Y
A9D3 9D 71 0A	STA	YPOSH, X
A9D6 B9 3E BB	LDA	ZINIT, Y
A9D9 9D A2 0A	STA	ZPOSH, X
A9DC 20 BE B7	JSR	NEWST4
A9DF 8A	TXA	; WHICH QUADRANT
A9E0 A8	TAY	
A9E1 A9 05	LDA	#\$05
A9E3 B5 6E	STA	TEMP4
A9E5	HLINE4	; 8 STARS
A9E5 18	CLC	
A9E6 A5 68	LDA	PNTR
A9E8 69 50	ADC	#\$50
A9EA 85 68	STA	PNTR
A9EC 9D D3 0A	STA	XPOSL, X
A9EF A5 69	LDA	PNTR+1
A9F1 69 00	ADC	#\$00
A9F3 85 69	STA	PNTR+1
A9F5 9D 40 0A	STA	XPOSH, X
A9F8 A9 00	LDA	#\$00
A9FA 9D 66 0B	STA	XINCRE, X
A9FD 9D 97 0B	STA	YINCRE, X
AA00 9D C8 0B	STA	ZINCRE, X
AA03 A9 01	LDA	#\$01
AA05 9D AD 09	STA	XSIGN, X
AA08 A9 63	LDA	#99
AA0A 9D F9 0B	STA	VPOS, X
AA0D 9D 2A OC	STA	HPOS, X
AA10 20 C1 AC	JSR	EXHLP1
AA13 CA	DEX	
AA14 E0 11	CPX	#STLAST+1
AA16 B0 02	BCS	HLINE3
AA18 A2 30	LDX	#RMLAST
AA1A	HLINE3	
AA1A C6 6E	DEC	TEMP4
AA1C 10 C7	BPL	HLINE4
AA1E B6 C3	STX	HPNTR
AA20	HLINE1	
AA20 60	RTS	

DIVIDE			
A = (TOP/BOTTOM) X BO			
AA21 A9 00	LDA	#\$00	; CLEAR THE RESULT
AA23 85 6D	STA	TEMP3	
AA25 A9 07	LDA	#\$07	; NUMBER OF SHIFTS
AA27 65 6E	STA	TEMP4	
			SHIFT 0 INTO THE MSBIT
AA29 45 6B	LSR	TEMP1	; TOP NUMBER
AA2B 66 6A	ROR	TEMP	
AA2D A5 D0	LDA	DISFLG	; FRONT OR BACK ?
AA2F D0 0F	BNE	DIVID1	; BACK
AA31 BD 40 0A	LDA	XPOSH, X	; BOTTOM NUMBER
AA34 4A	LSR	A	
AA35 85 69	STA	PNTR+1	
AA37 BD D3 0A	LDA	XPOSL, X	
AA3A 6A	ROR	A	
AA3B 85 6B	STA	PNTR	
AA3D 4C 52 AA	JMP	DIVID2	
AA40 DIVID1			
AA40 38	SEC		
AA41 A9 00	LDA	#\$00	
AA43 FD D3 0A	SBC	XPOSL, X	
AA45 85 6B	STA	PNTR	
AA48 A9 00	LDA	#\$00	
AA4A FD 40 0A	SBC	XPOSH, X	
AA4D 4A	LSR	A	
AA4E 85 69	STA	PNTR+1	
AA50 66 6B	ROR	PNTR	
AA52 DIVID2			
AA52 06 6D	ASL	TEMP3	; SHIFT RESULT
AA54 3B	SEC		; SUBTRACT BOTTOM FROM TOP
AA55 A5 6A	LDA	TEMP	
AA57 E5 6B	SBC	PNTR	
AA59 AB	TAY		
AA5A A5 6B	LDA	TEMP1	
AA5C E5 69	SBC	PNTR+1	
AA5E 90 06	BCC	DIVID3	; BOTTOM GREATER THAN TOP
AA60 85 6B	STA	TEMP1	; STORE REMAINDER
AA62 B4 6A	STY	TEMP	
AA64 E6 6D	INC	TEMP3	; ADD 1 TO RESULT
AA66 DIVID3			
AA66 06 6A	ASL	TEMP	; SHIFT TOP
AA68 26 6B	ROL	TEMP1	
AA6A 90 03	BCC	DIVID4	
			IF TOP IS GREATER THN BOTTOM THEN OVERFLOW
AA6C A9 FF	LDA	#\$FF	; MAX VALUE TO RESULT
AA6E 60	RTS		
AA6F DIVID4			
AA6F C6 6E	DEC	TEMP4	; NEXT BIT
AA71 10 DF	BPL	DIVID2	
AA73 A4 6D	LDY	TEMP3	; RESULT IN Y
AA75 B9 E9 OD	LDA	PTAB, Y	; MULTIPLY BY BO (PTAB)
AA78 DIVID5			
AA78 60	RTS		; ENTRY POINT FROM THINK *****

AA79	THINK	COMPUTER ATTACK SUBROUTINE	
AA79 A5 C0	LDA	HFLAG	
AA7B 05 7B	ORA	BASFLG	
AA7D D0 F9	BNE	DIVID5	BRANCH TO RTS
			CRUISER PHOTON CONVERGENCE
AA7F A5 B6	LDA	LOKLOC	
AA81 F0 30	BEG	THIN38	
AA83 A6 B9	LDX	LOKTAR	
AA85 38	SEC		
AA86 BD F9 0B	LDA	VPOS, X	
AA89 ED FC 0B	SBC	VPOS+3	
AA8C 90 02	BCC	THIN37	
AA8E A9 00	LDA	#\$00	
AA90	THIN37		
AA90 20 CA AE	JSR	POHELP	
AA93 BD CB 0B	STA	ZINCRE+3	
AA96 BD CC 0B	STA	ZINCRE+4	
AA99 3B	SEC		
AA9A AD 2D 0C	LDA	HPOS+3	
AA9D FD 2A 0C	SBC	HPOS, X	
AAA0 20 CA AE	JSR	POHELP	
AAA3 BD 9A 0B	STA	YINCRE+3	
AAA6 3B	SEC		
AAA7 AD 2E 0C	LDA	HPOS+4	
AAAA FD 2A 0C	SBC	HPOS, X	
AAAD 20 CA AE	JSR	POHELP	
AAB0 BD 9B 0B	STA	YINCRE+4	
AAB3	THIN38		
		HELPER FOR THINK	
AAB3 A2 03	LDX	#\$03	
AAB5	THIN39		
AAB5 D6 BA	DEC	ROTTIM, X	
AAB7 10 27	BPL	THIN44	
AAB9 8A	TXA		
AABA 4A	LSR	A	
AABB AB	TAY		
AABC B9 CB 00	LDA	HORJOY, Y	
AABF A4 D0	LDY	DISFLG	
AAC1 F0 05	BEQ	THIN40	
AAC3 49 FF	EOR	#\$FF	
AAC5 18	CLC		
AAC6 69 01	ADC	#\$01	
AAC8	THIN40		
AAC8 18	CLC		
AAC9 75 B4	ADC	XINPRS+2, X	
AACB 10 02	BPL	THIN41	
AACD A9 00	LDA	#\$00	
AACF	THIN41		
AACF C9 10	CMP	#\$10	
AAD1 90 02	BCC	THIN42	
AAD3 A9 0F	LDA	#\$0F	
AAD5	THIN42		
AAD5 95 B4	STA	XINPRS+2, X	
AAD7 C9 0B	CMP	#\$0B	

AA09 90 02	BCC	THIN43
AA0B 49 0F	EOR	##OF
AA0C THIN43		
AA0D 0A	ASL	A
AA0E 95 BA	STA	ROTTIM, X
AA0F THIN44		
AA0G CA	DEX	
AA0H 10 D2	BPL	THIN39
AA0I AD BE OC	LDA	GINDEX+2
AA0J DO 1B	BNE	THINK2 ; NOT A PHOTON
		PHOTON CONVERGENCE
AA0K A4 62	LDY	MISDIF ; DIFFICULTY
AA0L B9 85 BF	LDA	PHODIF, Y
AA0M AE A4 0A	LDX	ZPOSH+2
AA0N 10 02	BPL	THINK3
AA0P 29 7F	AND	##7F
AA0Q THINK3		
AA0R BD CA OB	STA	ZINCRE+2
AA0S 09 80	DRA	##80
AA0T AE 73 0A	LDX	YPOSH+2
AA0U 10 02	BPL	THINK4
AA0V 29 7F	AND	##7F
AB00 THINK4		
AB01 BD 99 0B	STA	YINCRE+2
AB02 THINK2		
AB03 A5 76	LDA	BINTIM
AB04 29 03	AND	##03
AB05 F0 2E	BEG	THINK5
AB06 THINK1		
AB07 A5 E6	LDA	GRAPH+2
AB08 F0 04	BEG	THIN20 ; NOT ON
AB09 A5 EB	LDA	STFLAG+2
AB10 D0 25	BNE	THIN14
AB11 THIN20		
		METORITE
AB12 AD 0A D2	LDA	RANDOM
AB13 C9 04	CMP	##04
AB14 B0 1E	BCS	THIN14
AB15 A9 60	LDA	##60
AB16 BD BE OC	STA	GINDEX+2
AB17 A2 02	LDX	##02
AB18 20 64 B7	JSR	NEWSTR ; DEFINE LIKE A STAR
AB19 A9 3C	LDA	##60
AB20 85 EB	STA	STFLAG+2
AB21 A9 88	LDA	##88
AB22 BD 68 0B	STA	XINCRE+2
AB23 A9 00	LDA	##00
AB24 BD 2C OC	STA	HPOS+2 ; METEROR FLASH
AB25 BD 99 0B	STA	YINCRE+2
AB26 BD CA OB	STA	ZINCRE+2
AB27 THINK14		
AB28 60	RTS	
AB29 THINK5		
AB30 A5 A7	LDA	ZYTOGG
AB31 49 01	EOR	##01
AB32 B5 A7	STA	ZYTOGG
AB33 AA	TAX	
AB34 B5 E9	LDA	, WHICH ZYLON TO THINK ; ALREADY ON?
AB35 D0 42	BNE	THINK6 ; YES

			INIT ZYLON
AB42 A5 E9	LDA	STFLAG+0	
AB44 05 EA	ORA	STFLAG+1	
AB46 29 01	AND	#\$01	
AB48 A4 90	LDY	QUADRT	
AB4A D9 C9 08	CMP	CHTRAM, Y	
AB4D B0 BA	BCS	THINK1	
			OK TO INIT
AB4F A9 FF	LDA	#\$FF	
AB51 95 E9	STA	STFLAG, X	
AB53 AD 0A D2	LDA	RANDOM	
AB56 29 07	AND	#\$07	
AB58 A8	TAY		
AB59 B9 B9 BF	LDA	ZYGIND, Y	
AB5C 9D 8C 0C	STA	GINDEX+0, X	
AB5F A5 62	LDA	MISDIF	
AB61 F0 03	BEQ	THIN45	
AB63 B9 91 BF	LDA	INTSEQ, Y	
AB66 THIN45			
AB66 95 AB	STA	SEQEN, X	
AB68 A9 01	LDA	#\$01	
AB6A 95 AA	STA	SEQTIM, X	
AB6C 9D AD 09	STA	XSIGN, X	
AB6F AD 0A D2	LDA	RANDOM	
AB72 25 C7	AND	JMPMSK	
AB74 9D A2 0A	STA	ZPOSH, X	
AB77 69 13	ADC	#\$13	
AB79 9D 71 0A	STA	YPOSH, X	
AB7C 09 71	ORA	#\$71	
AB7E 9D 40 0A	STA	XPOSH, X	
AB81 20 BE B7	JSR	NEWST4	I, Y, Z RANDOM SIGN
AB84 THINK6			

			SEQUENCER AND TIMEOUT SECTION
AB84 BD 40 0A	LDA	XPOSH, X	
AB87 C9 20	CMP	#\$20	
AB89 B0 11	BCS	THIN27	
AB8B BD AD 09	LDA	XSIGN, X	
AB8E F0 08	BEQ	THIN26	
AB90 B5 E4	LDA	GRAPH, X	
AB92 F0 08	BEQ	THIN27	
AB94 C9 29	CMP	#ZYGRF6-ZYGRAF	
AB96 F0 04	BEQ	THIN27	
AB98 THIN26			
AB98 A9 00	LDA	#\$00	
AB9A 95 AB	STA	SEQEN, X	
AB9C			THIN27
AB9C D6 AA	DEC	SEQTIM, X	
AB9E 10 24	BPL	THIN30	
ABA0 A9 78	LDA	#120	
ABA2 95 AA	STA	SEQTIM, X	
ABA4 A5 62	LDA	MISDIF	
ABA6 AC 0A D2	LDY	RANDOM	
ABA9 C0 30	CPY	#\$30	
ABAB 90 01	BCC	THIN35	
ABAD 4A	LSR	A	
ABAE THIN35			
ABAE 4A	LSR	A	
ABAF 95 BB	STA	BSTRAF, X	

ABE1 B5 AB	LDA	SEQEN,X
ABE3	THIN28	
ABD3 E0 0A D2	BIT	RANDOM
ABD6 10 02	BPL	THIN31
ABD8 49 0F	EOR	#\$0F
ABBA	THIN31	
ABBA 95 AC	STA	XINDES,X
ABC0 EB	INX	
ABBD E8	INX	
ABBE E0 06	CPX	#\$06
ABC0 90 F1	BCC	THIN28
ABC2 A6 A7	LDX	ZYTOGG ; RESTORE X
ABC4	THIN30	
	;	ZYLON STRAFING SECTION
ABC4 B5 AB	LDA	SEGEN,X
ABC6 D0 32	BNE	THIN24
ABC8 A4 A7	LDY	ZYTOGG
ABC9	THIN11	
ABC9 C0 31	CPY	#RAMNUM
ABC9 B0 13	BCS	THIN12
ABCE B9 B8 00	LDA	BSRAF,Y
ABD1 4A	LSR	A
ABD2 B9 40 0A	LDA	XPOSH,Y
ABD5 B0 06	BCS	THIN36
ABD7 C9 0A	CMP	#\$0A
ABD9 90 0E	BCC	THIN22
ABDB B0 04	BCS	THIN12 ; JUMP
ABDD	THIN36	
ABDD C9 F5	CMP	#\$F5
ABDF B0 04	BCS	THIN33
ABE1	THIN12	
ABE1 B9 AD 09	LDA	XSIGN,Y
ABE4 4A	LSR	A
ABE5	THIN33	
ABE5 A9 0F	LDA	#\$0F
ABE7 B0 02	BCS	THIN23
ABE9	THIN22	
ABE9 A9 00	LDA	#\$00
ABEB	THIN23	
ABEB 95 AC	STA	XINDES,X
ABED 18	CLC	
ABEE 98	TYA	
ABEF 69 31	ADC	#RAMNUM
ABF1 A9	TAY	
ABF2 E8	INX	
ABF3 E8	INX	
ABF4 E0 06	CPX	#\$06
ABF6 90 D2	BCC	THIN11
ABFB A6 A7	LDX	ZYTOGG ; RESTORE X
ABFA	THIN24	
	;	ACCELERATION SECTION
ABFA A4 A7	LDY	ZYTOGG
ABFC	THINK8	
ABFC B5 B2	LDA	XINPRS,X
ABFE D5 AC	CMP	XINDES,X
AC00 F0 0B	BEG	THIN10

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AC02 B0 04		BCS	THINK9	
AC04 F6 B2		INC	XINPRS, X	
AC06 90 02		BCC	THIN10	JUMP
AC08	THINK9			
AC09 D6 B2		DEC	XINPRS, X	
AC0A	THIN10			
AC0A B6 6A		STX.	TEMP	SAVE X
AC0C AA		TAX		
AC0D BD 99 BF		LDA	ZYWARP, X	
AC10 A6 6A		LDX	TEMP	RESTORE X
AC12 99 66 0B		STA	XINCRE, Y	
AC15 98		TVA		
AC16 18		CLC		
AC17 69 31		ADC	#RAMNUM	
AC19 AB		TAY		
AC1A EB		INX		
AC1B EB		INX		
AC1C E0 06		CPX	#\$06	
AC1E 90 DC		BCC	THINK9	
AC20 A6 A7		LDX	ZYTOGG	RESTORE X

#### FIRE PHOTON

AC22 AD BE 0C		LDA	GINDEX+2	
AC25 D0 0B		BNE	THIN16	
AC27 A5 EB		LDA	STFLAG+2	
AC29 D0 06		BNE	THIN13	
AC2B A5 BE		LDA	PHEXWT	
AC2D F0 03		BEQ	THIN16	
AC2F C6 BE		DEC	PHEXWT	
AC31	THIN13			
AC31 60		RTS		
AC32	THIN16			
AC32 18		CLC		
AC33 BD A2 0A		LDA	ZPOSH, X	
AC36 69 02		ADC	#\$02	
AC38 C9 05		CMP	#\$05	
AC3A B0 F5		BCS	THIN13	
AC3C A0 D0		LDY	#\$D0	
AC3E BD AD 09		LDA	XSIGN, X	
AC41 4A		LSR	A	
AC42 BD 40 0A		LDA	XPOSH, X	
AC45 B0 08		BCS	THIN15	
AC47 49 FF		EDR	#\$FF	
AC49 A4 62		LDY	MISDIF	
AC4B F0 E4		BEQ	THIN13	
AC4D A0 50		LDY	#\$50	
AC4F	THIN15			
AC4F C9 20		CMP	#\$20	
AC51 B0 DE		BCS	THIN13	
AC53 BC 68 0B		STY	XINCRE+2	
AC55 A9 00		LDA	#\$00	
AC58 BD BE 0C		STA	GINDEX+2	
AC5B BD 2C 0C		STA	HPOS+2	METEROR FLASH
AC5E A9 3E		LDA	#62	
AC60 B5 EB		STA	STFLAG+2	
AC62 A2 02		LDX	#\$02	
AC64 A4 A7		LDY	ZYTOGG	
AC66 B4 BF		STY	ATTARG	
AC68 4C AF AC		JMP	EXHELP	

AC6B	EXPLOS		INIT EXPLOSION
AC6B A9 80	LDA	#\$80	; Y CONTAINS INDEX OF ZYLON HIT
AC6D 85 73	STA	ETIMER	; 2 SECONDS
AC6F A2 30	LDX	#RMLAST	
AC71 86 79	STX	NSTARS	; LAST STAR FOR EXPLOSION
AC73	EXPLS1		
AC73 AD 0A D2	LDA	RANDOM	
AC76 29 0F	AND	#\$0F	
AC78 79 2A 0C	ADC	HPOS, Y	
AC7B E9 30	SBC	#\$30	
AC7D 9D 2A 0C	STA	HPOS, X	
AC80 AD 0A D2	LDA	RANDOM	
AC83 29 0F	AND	#\$0F	
AC85 79 F9 0B	ADC	VPOS, Y	
AC88 4A	LSR	A	
AC89 E9 10	SBC	#\$10	
AC8B 9D F9 0B	STA	VPOS, X	
AC8E 20 AF AC	JSR	EXHELP	
AC91 AD 0A D2	LDA	RANDOM	
AC94 29 B7	AND	#\$B7	
AC96 9D 66 0B	STA	XINCRE, X	
AC99 AD 0A D2	LDA	RANDOM	
AC9C 29 B7	AND	#\$B7	
AC9E 9D 97 0B	STA	YINCRE, X	
ACA1 AD 0A D2	LDA	RANDOM	
ACA4 29 B7	AND	#\$B7	
ACA6 9D C8 0B	STA	ZINCRE, X	
ACA9 CA	DEX		
ACAA EO 10	CPX	#STLAST	
ACAC D0 C5	BNE	EXPLS1	
ACAE 60	RTS		
ACAF	EXHELP		
ACAF B9 AD 09	LDA	XSIGN, Y	EXPLOSION HELPER
ACB2 9D AD 09	STA	XSIGN, X	
ACB5 B9 40 0A	LDA	XPOS, Y	
ACB8 9D 40 0A	STA	XPOS, X	
ACBB B9 D3 0A	LDA	XPOSL, Y	
ACBE 9D D3 0A	STA	XPOSL, X	
ACC1	EXHLP1		; ENTRY POINT FROM HLINES *****
ACC1 B9 DE 09	LDA	YSIGN, Y	
ACC4 9D DE 09	STA	YSIGN, X	
ACC7 B9 71 0A	LDA	YPOS, Y	
ACCA 9D 71 0A	STA	YPOS, X	
ACCD B9 0F 0A	LDA	ZSIGN, Y	
ACD0 9D 0F 0A	STA	ZSIGN, X	
ACD3 B9 A2 0A	LDA	ZPOS, Y	
ACD6 9D A2 0A	STA	ZPOS, X	
ACD9 B9 04 0B	LDA	YPOSL, Y	
ACDC 9D 04 0B	STA	YPOSL, X	
ACDF B9 35 0B	LDA	ZPOSL, Y	
ACE2 9D 35 0B	STA	ZPOSL, X	

STAR RAIDERS - VERSION 2.0.1 STARDATE 26-JUL-79

ACE5 EXHLP2 ; ENTRY POINT FROM BSERVE \*\*\*\*=  
ACE5 60 RTS

ACE6 BSERVE ;  
; STARBASE SERVICE ROUTINE  
ACE6 A5 7B LDA BASFLG  
ACE8 F0 FB BEQ EXHLP2 ; BRANCH TO RTS  
ACEA A5 D0 LDA DISFLG  
ACEC D0 05 BNE BSERV9  
ACEE A9 14 LDA #\$14 ; PRIORITY FOR FRONT VIEW OF STARBASE  
ACF0 BD 1B D0 STA PRIOR

ACF3 BSERV9  
ACF3 A9 02 LDA #\$02  
ACF5 BD 5C 09 STA DCSTOR

ACFB A9 30 LDA #\$30  
ACFA BD BE 0C STA GINDEX+2  
ACFD A9 20 LDA #\$20  
ACFF BD BD 0C STA GINDEX+1  
AD02 A9 40 LDA #\$40  
AD04 BD BC OC STA GINDEX+0  
AD07 A9 FF LDA #\$FF

AD09 A6 90 LDX QUADRT  
AD08 BC C9 0B LDY CHTRAM,X  
AD0E 30 02 BMI BSER13  
AD10 A9 00 LDA #\$00

AD12 BSER13  
AD12 85 E9 STA STFLAG+0  
AD14 85 EA STA STFLAG+1  
AD16 85 EB STA STFLAG+2  
AD18 85 7B STA BASFLG  
AD1A 30 0A BMI BSERV1  
AD1C A0 02 LDY #\$02  
AD1E 20 6B AC JSR EXPLOS  
AD21 A2 0A LDX #NOITB1-NOISTB  
AD23 4C AB AE JMP NOISE  
AD26 BSERV1 ; TOO CLOSE ?  
AD26 AD 42 0A LDA XPOS#+2  
AD29 D0 0A BNE BSER14  
AD2B AD D5 0A LDA XPOS#+2  
AD2E C9 20 CMP #\$20  
AD30 B0 03 BCS BSER14  
AD32 EE D5 0A INC XPOS#+2

AD35 BSER14 ; ORBIT ?  
AD35 AD 2C 0C LDA HPOS#+2  
AD38 38 SEC  
AD39 E9 7B SBC #\$7B  
AD3B C9 10 CMP #\$10  
AD3D B0 22 BCS BSERV8  
AD3F AD FB 0B LDA VPPOS#+2  
AD42 38 SEC  
AD43 E9 6B SBC #\$6B  
AD45 C9 10 CMP #\$10  
AD47 B0 1B BCS BSERV8

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AD49 AD 42 0A	LDA	XPOSH+2	
AD4C C9 02	CMP	#\$02	
AD4E 80 11	BCS	BSERV8	
AD50 AD AF 09	LDA	XSIGN+2	
AD53 2D 11 0A	AND	ZSIGN+2	
AD56 49 01	EOR	#\$01	
AD58 05 70	ORA	SPEED	
AD5A 0D A4 0A	ORA	ZPOSH+2	
AD5D 05 71	ORA	WARP	
AD5F F0 10	BEQ	BSERV3	; IN ORBIT
AD61 BSERV8			
AD61 A5 75	LDA	BSEQTM	; ORBIT ABORTED
AD63 C9 02	CMP	#\$02	
AD65 90 05	BCC	BSER15	
AD67 A0 1F	LDY	#SENDKA-SENTAB	
AD69 20 23 B2	JSR	LDMESS	
AD6C BSER15			
AD6C A9 00	LDA	#\$00	
AD6E B5 75	STA	BSEQTM	
AD70 BSER11			
AD70 60	RTS		
AD71 BSERV3			
AD71 24 75	BIT	BSEQTM	
AD73 70 0D	BVS	BSERV4	
AD75 30 42	BMI	BSERV9	
AD77 A5 75	LDA	BSEQTM	; LD MESS
AD79 D0 F5	BNE	BSER11	; NO
AD7B C6 75	DEC	BSEQTM	; =FF
AD7D A0 1C	LDY	#SENDRB-SENTAB	
AD7F 4C 23 B2	JMP	LDMESS	
AD82 BSERV4			
AD82 A2 00	LDX	#\$00	
AD84 86 65	STX	REPMMSG	
AD86 A4 D1	LDY	SENPTR	
AD88 D0 E6	BNE	BSER11	; WAIT FOR MESSAGE TO TIMEOUT
AD8A A9 50	LDA	#\$50	
AD8C 8D 90 0C	STA	GINDEX+4	
AD8F A9 01	LDA	#\$01	
AD91 8D B1 09	STA	XSIGN+4	
AD94 8D E2 09	STA	YSIGN+4	
AD97 8D 13 0A	STA	ZSIGN+4	
AD9A 8D A6 0A	STA	ZPOSH+4	
AD9D 8D 9B 0B	STA	YINCRE+4	
ADA0 A9 10	LDA	#\$10	
ADA2 8D 44 0A	STA	XPOSH+4	
ADA5 A9 00	LDA	#\$00	
ADA7 8D 75 0A	STA	YPOSH+4	
ADAA A9 B7	LDA	#\$87	
ADAC 8D 6A 0B	STA	XINCRE+4	
ADAF A9 B1	LDA	#\$B1	
ADB1 85 75	STA	BSEQTM	
ADB3 8D CC 0B	STA	ZINCRE+4	
ADB6 85 ED	STA	STFLAG+4	
ADB8 BSERV7			
ADB8 60	RTS		
ADB9 BSERV5			
ADB9 AD B1 09	LDA	XSIGN+4	; SHIP DOCKED ?
ADBC D0 FA	BNE	BSERV7	; NO
ADBE A2 0C	LDX	#CH4TB3-CH4TAB	; SOUND

STAR WARS EPISODE I VERS FOR 6502 1 RELEASE DATE 2/1/97

ADC0 20 A6 B3	JSR	NOTINT
ADC3 A0 21	LDY	#SENETC-SENTAB
ADC5 20 23 B2	JSR	LDMESS
		CLEAR DAMAGE
ADC8 A2 05	LDX	#\$05
ADCA	BSER12	
ADCA BD BB B8	LDA	STINIT+73, X
ADCD 9D 92 09	STA	DAMAGE, X
ADD0 CA	DEX	
ADD1 10 F7	BPL	BSER12
		NEW ENERGY
ADD3 A9 B9	LDA	#\$B9
ADD5 A2 03	LDX	#\$03
ADD7	BSER20	
ADD7 9D 55 09	STA	DENERG+0, X
ADDA CA	DEX	
ADDB 10 FA	BPL	BSER20
ADDD A9 07	LDA	#\$07
ADDF 8D 6A 0B	STA	XINCRE+4
ADE2 A9 81	LDA	#\$81
ADE4 8D 9B 0B	STA	YINCRE+4
ADE7 A9 01	LDA	#\$01
ADE9 8D CC 0B	STA	ZINCRE+4
ADEC 85 75	STA	BSEGTM
ADEE 4C 7B B0	JMP	KEYSR7
		RE-LOAD INSET

ADF1

LDISP

LOAD DISPLAY LISTS

A=#OF BYTES TO STORE, X=POSIT IN DISPLAY, Y=PNTR IN LISTAB

ADF1 78

SEI ; WE DONT WANT NO INTERRUPTS !!

ADF2 85 6A

STA TEMP

ADF4

LDISP3

VCOUNT

; CHECK IF ANTIC IS IN SAFE AREA

ADF7 C9 7C

CMP #DISTOP

ADF9 90 F9

BCC LDISP3

ADF8

LDISP2

LISTAB, Y

ADFB B9 62 BA

LDA INY

ADFE CB

BPL LDISP1

ADFF 10 02

LDA #\$0D

AE01 A9 0D

LDISP1

AE03 9D 80 02

STA DISPLAY, X

AE06 EB

INX

AE07 C6 6A

DEC TEMP

AE09 D0 F0

BNE LDISP2

AE0B 5B

CLI

; IRQS BACK ON !!

AE0C 60

RTS

AE0D

CLRMAP

```

        CLEAR MEMORY MAP SUBROUTINE
AE0D A9 10      LDA    #MEMMAP/256
AE0F             CLRMP1 ; ENTRY POINT CLEAR ALL RAM ****
AE0F B5 69      STA    PNTR+1
AE11 A9 00      LDA    #$00
AE13 A8          TAY
AE14 B5 68      STA    PNTR
AE16 B5 A3      STA    LOKFLG   ; LOCK FLAG IS CLEARED
AE18 B5 7A      STA    CNSTAR  ; RAM HAS BEEN CLEARED
AE1A             CLRMP2
AE1A 91 68      STA    (PNTR),Y
AE1C C8          INY
AE1D D0 FB      BNE    CLRMP2
AE1F E6 69      INC    PNTR+1
AE21 A4 69      LDY    PNTR+1
AE23 C0 20      CPY    #$20
AE25 A8          TAY    ; RE-ZERO Y REQ
AE26 90 F2      BCC    CLRMP2
AE28 60          RTS

; PHOTON
AE29             PHOTON
; PHOTON TORPEDO FIRE
AE29 A5 84      LDA    PHOFLQ  ; REPEAT FLAG
AE2B AC 10 D0    LDY    TRIGO   ; SHOOT ?
AE2E B4 84      STY    PHOFLQ
AE30 D0 0E      BNE    PHOTN2  ; NO
AE32 B4 66      STY    TIMOUT  ; RESET ATTRACT TIMEOUT
AE34 A6 C0      LDX    HFLAG   ; HWARP ?
AE36 D0 08      BNE    PHOTN2  ; YES, NO FIRE
AE38 A6 87      LDX    PHOTQG
AE3A C9 01      CMP    #$01
AE3C F0 03      BEQ    PHOTN8
AE3E B0 18      BCS    PHOTN4
AE40             PHOTN2
AE40 60          RTS
AE41             PHOTN8
; ONE-SHOT
AE41 B5 EC      LDA    STFLAG+3,X ; ONE-SHOT TIMEOUT
AE43 C9 EB      CMP    #$EB   ; ALL DONE ?
AE45 B0 F9      BCS    PHOTN2 ; NO
AE47 AC 5C 09    LDY    DCSTOR
AE4A B4 89      STY    LOKTAR
AE4C A9 0C      LDA    #12
AE4E A4 A3      LDY    LOKFLG
AE50 B4 86      STY    LOKLDC
AE52 F0 02      BEQ    PHOTN3
AE54 A9 00      LDA    #$00
AE56             PHOTN3
AE56 B5 88      STA    LOKWAT
AE58             PHOTN4
AE58 B4 84      STY    PHOFLG
AE5A 2C 92 09    BIT    DAMAGE+0
AE5D 70 E1      BVS    PHOTN2
AE5F 30 05      BMI    PHOTN7
AE61 BA          TXA
AE62 49 01      EOR    #$01
AE64 B5 87      STA    PHOTQG
AE66             PHOTN7

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AE66 8A	TXA	
AE67 9D E1 09	STA YSIGN+3, X	; NEW YSIGN
AE6A BD 73 BF	LDA PHOYPS, X	; NEW YPOS
AE6D 9D 74 0A	STA YPOSH+3, X	
AE70 A9 FF	LDA #\$FF	
AE72 95 EC	STA STFLAG+3, X	; INIT PHOTON TIME
AE74 9D A5 0A	STA ZPOSH+3, X	
AE77 A9 00	LDA #\$00	
AE79 9D BF 0C	STA GINDEX+3, X	; INIT PHOTON GRAPHIC
AE7C 9D 43 0A	STA XPOSH+3, X	
AE7F 9D 07 0B	STA YPOSL+3, X	
AE82 9D 12 0A	STA ZSIGN+3, X	
AE85 9D 3B 0B	STA ZPOSL+3, X	
AE88 A9 01	LDA #\$01	
AE8A 9D B0 09	STA XSIGN+3, X	
AE8D 9D D6 0A	STA XPOSL+3, X	
AE90 A5 D0	LDA DISFLG	
AE92 4A	LSR A	
AE93 6A	ROR A	
AE94 09 66	ORA #\$66	
AE96 9D 69 0B	STA XINCRE+3, X	
AE99 A9 00	LDA #\$00	
AE9B 9D 9A 0B	STA YINCRE+3, X	
AE9E 9D CB 0B	STA ZINCRE+3, X	
AEA1 A2 02	LDX #\$02	
AEA3 20 6F BB	JSR PANDS6	; PHOTON ENERGY
AEA6 A2 00	LDX #\$00	

FALL THROUGH TO NOISE \*\*\*\*\*

AEAB	NOISE	NOISE INIT, X=NOISTB PNTR
AEAB 8A	TXA	; PHOTONS
AEAB D0 06	BNE NOISE1	; NO
		; PHOTONS HAVE LOWER PRIORITY THAN EXPLOSIONS
AEAB A5 E1	LDA AUDTIM	
AEAD C9 1B	CMP #\$1B	
AEAF B0 1B	BCS NOISE2	
AEB1	NOISE1	
AEB1 A0 07	LDY #\$07	
AEB3	NOISE3	
AEB3 BD 20 BF	LDA NOISTB, X	
AEB6 99 DA 00	STA PHOREP, Y	
AEB9 EB	INX	
AEBA BB	DEY	
AEBB 10 F6	BPL NOISE3	
AEBD BD 20 BF	LDA NOISTB, X	
AEC0 BD 08 D2	STA AUDCTL	
AEC3 BD 21 BF	LDA NOISTB+1, X	
AEC6 BD 04 D2	STA AUDF3	
AEC9	NOISE2	
AEC9 60	RTS	

AECA	POHELP	PHOTON HELPER
AECA A0 B0	LDY #\$80	
AECC B0 04	BCS POHLP1	
AECE 49 FF	EOR #\$FF	

AED0 A0 00		LDY	#\$00
AED2 84 6A	POHLP1	STY	TEMP
AED4 C9 08		CMP	#\$08
AED6 90 02		BCC	POHLP2
AED8 A9 07		LDA	#\$07
AEDA	POHLP2		
AEDA A8		TAY	
AEDB A5 6A		LDA	TEMP
AEDD 19 C9 BF		ORA	PHVECT, Y
AEE0 60		RTS	
AEE1	DAMCTL		
			DAMAGE CONTROL ROUTINE
AEE1 24 64		BIT	ATRACT
AEE3 30 57		BMI	DAMCT1
AEE5 A6 62		LDX	MISDEF
AEE7	DAMCT2		
AEE7 AD 0A D2		LDA	RANDOM
AEEA DD 10 BF		CMP	DPRBTB, X
AEEB B0 4D		BCS	DAMCT1
AEFF 29 07		AND	#\$07
AEF1 C9 06		CMP	#\$06
AEF3 B0 47		BCS	DAMCT1
AEF5 AA		TAX	
AEF6 BD 92 09		LDA	DAMAGE, X
AEF9 0A		ASL	A
AEFA 30 EB		BMI	DAMCT2
AEFC A5 EB		LDA	STFLAG+2
AEFE C9 1E		CMP	#30
AF00 A9 B0		LDA	#\$B0
AF02 BC 14 BF		LDY	DAMCTB, X
AF05 90 17		BCC	DAMCT3
AF07 E0 03		CPX	#\$03
AF09 D0 05		BNE	DAMCT5
AF0B 2C 96 09		BIT	DAMAGE+4
AF0E 70 0E		BVS	DAMCT3
AF10	DAMCT5		
AF10 E0 04		CPX	#\$04
AF12 D0 05		BNE	DAMCT6
AF14 2C 95 09		BIT	DAMAGE+3
AF17 70 05		BVS	DAMCT3
AF19	DAMCT6		
AF19 A9 C0		LDA	#\$C0
AF1B BC 1A BF		LDY	DESTTB, X
AF1E	DAMCT3		
AF1E 1D 92 09		ORA	DAMAGE, X
AF21 9D 92 09		STA	DAMAGE, X
AF24 84 65		STY	REPMMSG
AF26 2C 95 09		BIT	DAMAGE+3
AF29 50 07		BVC	DAMCT4
AF2B A9 00		LDA	#\$00
AF2D 85 7E		STA	ATENER
AF2F 20 0D AE		JSR	CLRMAP
AF32	DAMCT4		
AF32 A0 52		LDY	#SENDMC-SENTAB
AF34 20 23 B2		JSR	LDMESS
AF37 A2 12		LDX	#CH4TB4-CH4TAB
			DAMAGE

STAR WARRIOR - MERCURY 25 - 01/26/80, 19

AF39 20 A6 B3	JSR	NOTINT
AF3C	DAMCT1	
AF3C 60	RTS	
AF3D	HITZYL	
AF3D A2 02	LDX	PHOTON HIT ZYLON CHECK #\$02 ! 2 PLAY PHOTONS
AF3F CA	DEX	
AF40 10 01	BPL	HITZY1
AF42 60	RTS	
AF43 BD BF OC	HITZY1	LDA QINDEX+3, X ; PHOTON ?
AF46 D0 F7	BNE	HITZY2 ; NO
AF48 B5 EC	LDA	STFLAG+3, X ; PHOTON ON ?
AF4A F0 F3	BEG	HITZY2 ; NO
AF4C B5 B2	LDA	PHITS+0, X ; ANY HIT ?
AF4E 29 07	AND	#\$07 ; LOOK AT 0,1 ONLY
AF50 F0 ED	BEG	HITZY2 ; NO HIT
AF52 4A	LSR	A ; 0 OR 1 ONLY
AF53 C9 03	CMP	#\$03
AF55 D0 01	BNE	HITZY9
AF57 4A	LSR	A
AF58	HITZY9	
AF58 AB	TAY	! OBJECT INDEX IN Y
AF59 B9 E9 00	LDA	STFLAG, Y ; SHIP ON ?
AF5C F0 E1	BEG	HITZY2 ; NO
AF5E A5 D0	LDA	DISFLG
AF60 F0 02	BEG	HITZYB
AF62 A9 FF	LDA	#\$FF
AF64	HITZY8	
AF64 85 6C	STA	TEMP2
AF66 59 40 0A	EOR	XPOSH, Y
AF69 C9 10	CMP	#\$10
AF6B 90 02	BCC	HITZY3
AF6D A9 0F	LDA	#\$0F
AF6F	HITZY3	
AF6F 4A	LBR	A
AF70 84 6B	STY	TEMP1
AF72 AB	TAY	
AF73 A5 6C	LDA	TEMP2
AF75 5D 43 0A	EOR	XPOSH+3, X
AF78 D9 75 BF	CMP	PHPOST, Y
AF7B B0 C2	BCS	HITZY2
AF7D D9 7D BF	CMP	PHPOSB, Y
AF80 90 BD	BCC	HITZY2
AF82 A4 6B	LDY	TEMP1
		A HIT !!!
AF84 38	SEC	
AF85 A9 FF	LDA	#\$FF
AF87 F5 EC	SBC	STFLAG+3, X
AF89 B5 E2	STA	EXPDEL
AF8B C9 OF	CMP	#15
AFBD 90 05	BCC	HITZ11
AFBF B9 BC OC	LDA	GINDEX, Y
AF92 C9 80	CMP	#\$80
AF94	HITZ11	
AF94 A9 00	LDA	#\$00
AF96 B5 B8	STA	LOKWAT
AF98 95 EC	STA	STFLAG+3, X
		! PHOTON OFF

AF9A B0 4B	BCS	HITZ10	
AF9C 99 E9 00	STA	STFLAG, Y	; ZYOLON OFF
AF9F B9 8C 0C	LDA	GINDEX, Y	
AFA2 F0 43	BEG	HITZ10	; PHOTON
AFA4 C9 60	CMP	#\$60	; METORER
AFA6 F0 3F	BEQ	HITZ10	; YES
AFA8 A9 00	LDA	#\$00	
AFAA B5 86	STA	LOKLOC	; TURN OFF PHOTONS TRACKING
AFAC A6 90	LDX	QUADRT	; WHICH QUAD KILL IN
AFAE DE C9 08	DEC	CHTRAM, X	; REMOVE FROM CHART
AFB1 10 13	BPL	HITZY4	
AFB3 A9 00	LDA	#\$00	; JUST BLASTED A STARBASE ELSE IMPOSSIBLE TO GET HERE
AFB5 9D C9 08	STA	CHTRAM, X	
AFB8 3B	SEC		
AFB9 A5 CB	LDA	RATING	
AFB9 E9 03	SBC	#3	
AFBD 85 CB	STA	RATING	
AFBF A5 CC	LDA	RATING+1	
AFC1 E9 00	SBC	#\$00	
AFC3 85 CC	STA	RATING+1	
AFC5 60	RTS		
AFC6		HITZY4	

		INCKIL	
		INCRE KILL COUNT DISPLAY	
AFC6 1B	CLC		
AFC7 A5 CB	LDA	RATING	
AFC9 69 06	ADC	#\$06	
AFCB 85 CB	STA	RATING	
AFCD A5 CC	LDA	RATING+1	
AFCF 69 00	ADC	#\$00	
AFD1 85 CC	STA	RATING+1	
AFD3 A2 01	LDX	#\$01	
AFD5	INCKL1		
AFD5 FE 50 09	INC	DKILL, X	; KILL BYTE INCRE
AFD8 BD 50 09	LDA	DKILL, X	
AFDB C9 4A	CMP	#\$4A	; BCD OBERFFLOW
AFDD 90 08	BCC	INCKL2	; NO.
AFDF A9 40	LDA	#\$40	; BCD 0
AFE1 9D 50 09	STA	DKILL, X	
AFE4 CA	DEX		
AFE5 10 EE	BPL	INCKL1	; NEXT BYTE
AFE7	INCKL2		

AFE7	HITZ10		
AFE7 20 6B AC	JSR	EXPLOS	
AFEA A2 7F	LDX	#127	
AFEC	HITZY5		
AFEC BD C9 08	LDA	CHTRAM, X	
AEFF 30 02	BMI	HITZY6	
AFF1 D0 0A	BNE	HITZY7	
AFF3	HITZY6		
AFF3 CA	DEX		
AFF4 10 F6	BPL	HITZY5	
		WIN	
AFF6 A0 3F	LDY	#SENWIN-SENTAB	
AFF8 A2 00	LDX	#\$00	
AFFA 20 21 B1	JSR	CRATE1	
AFFD	HITZY7		

AFFE 60

RTS

AFFE	KEYSRV	KEYBOARD SERVICE ROUTINE		
AFFE A5 CA	LDA	THEKEY	; ANY KEY	
B000 F0 3E	BEG	KEYSR3	; NO	
B002 A2 14	LDX	#\$14	; LAST KEY	
B004 85 6A	STA	TEMP		
B006 A9 00	LDA	#\$00		
B008 85 66	STA	TIMOUT	; RESET ATTRACT TIMEOUT	
B00A 85 CA	STA	THEKEY	; TURN OFF KEY	
B00C A9 11	LDA	#\$11		
B00E BD 1B D0	STA	PRIOR	; RESET PRIORITY FROM STARBASE	
B011	KEYSR1			
B011 BD BE BA	LDA	CODCON,X	; KEY CODES	
B014 C5 6A	CMP	TEMP		
B016 F0 08	BEG	KEYSR2		
B018 CA	DEX			
B019 10 F6	BPL	KEYSR1	; NEXT KEY	
		NO KEY		
B01B A0 10	LDY	#SENWHT-SENTAB	; WHAT	
B01D 4C 23 B2	JMP	LDMESS		
B020	KEYSR2		; KEY FOUND	
B020 E0 0A	CPX	#\$0A	; IMPULSE ENGINE ?	
B022 B0 1D	BCS	KEYSR4	; NO	
B024 A5 C0	LDA	HFLAQ	; HWARP ?	
B026 F0 03	BEG	KEYS20	; NO	
B028 4C 80 A9	JMP	HABORT		
B02B	KEYS20			
B02B 20 93 09	BIT	DAMAGE+1	; ENGINES	
B02E 50 06	BVC	KEYS23		
B030 E0 06	CPX	#\$06		
B032 90 02	BCC	KEYS23		
B034 A2 05	LDX	#\$05		
B036	KEYS23			
B036 BD D3 BA	LDA	WENTAB,X		
B039 B5 B0	STA	WPENER	; IMPULSE ENGINE ENERGY	
B03B BD B4 BA	LDA	WARPTB,X	; SPEED	
B03E B5 71	STA	WARP	; SPEED DESIRED	
B040	KEYSR3			
B040 60	RTS			
B041	KEYSR4			
B041 E0 0E	CPX	#\$0E	; DISPLAY TYPE KEY ?	
B043 B0 1B	BCS	KEYSR5	; NO	
B045	KEYS15		; ENTRY POINT TO INIT DISPLAY, *****	
		X MUST BE DEFINED TO THE KEY CODE IN CODCON		
B045 BD 1B BE	LDA	DISTYP-10,X		
B048 B5 D0	STA	DISFLG		
B04A BC B2 BA	LDY	DISDIS-10,X		
B04D A2 02	LDX	#DISPL1-DISPLY		
B04F A9 08	LDA	#\$08		
B051 20 F1 AD	JSR	LDISP		
B054 A2 10	LDX	#STLAST		
B056	KEYSR6			

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B055 20 64 B7	JSR	NEWSTR
B059 CA	DEX	
B05A E0 05	CPX	#OBJNUM
B05C B0 FB	BCS	KEYSR8
B05E 90 1B	BCC	KEYSR7
B060	KEYSR5	JUMP
B060 E0 11	CPX	#\$11 ; TOGGLE TYPE ?
B062 B0 35	BCS	KEYSR8
B064 BC 1B BE	LDY	TOFFMG-\$0E, X
B067 B5 6E	LDA	TRKFLG-\$0E, X
B069 5D 1B BE	EOR	TOGTAB-\$0E, X
B06C 95 6E	STA	TRKFLG-\$0E, X
B06E F0 03	BEG	KEYSR9
B070 BC 1E BE	LDY	TONMSG-\$0E, X
B073	KEYSR9	
B073 20 23 B2	JSR	LDESS
B076 A2 0C	LDX	#CH4TB3-CH4TAB ; KEYS
B078 20 A6 B3	JSR	NOTINT
B078 A2 16	KEYSR7	; ENTRY POINT FOR RE-LOADING INSET *****
B07D A4 7C	LDX	#\$16
B07F F0 01	BEQ	KEYS18
B081 EB	INX	
B082	KEYS18	
B082 BE 5A 09	STX	DCSTQR-2
B085 20 0D AE	JSR	CLRMAP
B088 A5 7E	LDA	ATENER
B08A F0 B4	BEG	KEYSR3
B08C A6 D0	LDX	DISFLG
B08E F0 06	BEQ	KEYS10
B090 E0 01	CPX	#\$01
B092 D0 AC	BNE	KEYSR3
B094 A2 2A	LDX	#INSTB1-INSTAB
B096	KEYS10	
B096 4C 6F A7	JMP	LDINST
B099	KEYSR8	
B099 E0 11	CPX	#\$11 ; HYPERWARP ?
B09B D0 50	BNE	KEYS13
B09D A5 C0	LDA	HFLAG ; HWARP ALREADY ON ?
B09F D0 5A	BNE	KEYS14
BOA1 A9 7F	LDA	#\$7F
BOA3 85 C0	STA	HFLAG
BOA5 A9 FF	LDA	#\$FF
BOA7 85 71	STA	WARP
BOA9 A9 1E	LDA	#30
BOAB 85 B0	STA	WPENER
BOAD A9 30	LDA	#RMLAST
BOAF 85 C3	STA	HPNTR
		H STEERING STUFF
BOB1 A9 00	LDA	#\$00
BOB3 85 C2	STA	HTIMER
BOB5 BD 74 0A	STA	YPOSH+3
BOB8 BD 07 0B	STA	ZPOSL+3
BOBB BD 3B 0B	STA	ZPOSL+3
BOBE BD 69 0B	STA	XINCRE+3
BOC1 A9 01	LDA	#\$01
BOC3 BD B0 09	STA	XSIGN+3
BOC6 BD E1 09	STA	YSIGN+3
BOC9 BD 12 0A	STA	ZSIGN+3
BOCC BD A5 0A	STA	ZPOSH+3

STAR WARS<sup>TM</sup> VERSION 20.1 STARDATE 16 JULY 79

B0CF A5 BF	LDA	HYHPOS	
B0D1 85 C4	STA	HSTEER	
B0D3 A5 8E	LDA	HYVPOS	
B0D5 85 C5	STA	VSTEER	
B0D7 A5 62	LDA	MISDIF	
B0D9 F0 0B	BEG	KEYS24	
B0DB A5 91	LDA	HYPENG	
B0DD 2A	ROL	A	
B0DE 2A	ROL	A	
B0DF 2A	ROL	A	
BOE0 29 03	AND	#\$03	
BOE2 A8	TAY		
BOE3 B9 D7 BE	LDA	STERTB,Y	: DIFFICULTY
BOE6	KEYS24		
BOE6 85 C6	STA	STERMK	
		END STUFF	
BOEB A0 11	LDY	#SENHYPER-SENTAB	: MESSAGE HYPER WARP ENGAGED
BOEA 4C 23 B2	JMP	LDMESS	
BOED	KEYS13		
BOED E0 13	CPX	#\$13	
BOEF B0 0B	BCS	KEYS27	: PAUSE
BOF1 AD 5C 09	LDA	DCSTOR	
BOF4 49 01	EOR	#\$01	
BOF6 29 01	AND	#\$01	
BOFB BD 5C 09	STA	DCSTOR	
BOFB	KEYS14		
BOFB 60	RTS		
BOFC	KEYS27		
BOFC D0 0B	BNE	KEYS28	
BOFE AD 00 D3	LDA	PORTA	: PAUSE UNTIL MOVE JOYSTICK
B101 C9 FF	CMP	#\$FF	
B103 F0 F7	BEG	KEYS27	
B105 60	RTS		
B106	KEYS28		
		MISSION ABORTED	
B106 A0 76	LDY	#SENABR-SENTAB	
B108 A2 04	LDX	#\$04	
		FALL THROUGH TO CRATE *****	
B10A	CRATE		
		CALCULATE RATING, X=0 MISSION COMPLETE, 4=ABORTED, 6=DESTROYED	
		Y=MESSAGE TYPE	
		GAME OVER, CALCULATE RATING	
B10A A9 00	LDA	#\$00	
B10C B5 EC	STA	STFLAG+3	: NO HWARP CURSOR
B10E B5 D6	STA	NPRIOR	
B110 B5 D1	STA	GENPTR	
B112 B5 BB	STA	REDFLG	
B114 BD 07 D2	STA	AUDC4	
B117 B5 71	STA	WARP	
B119 B5 B1	STA	SPABAK	
B11B B5 7D	STA	SHENER	
B11D B5 C0	STA	HFLAG	
B11F B5 C1	STA	HISPED	
B121	CRATE1		: ENTRY POINT FOR A GOOD MISSION *****
B121 A9 FF	LDA	#\$FF	
B123 B5 64	STA	ATTRACT	
B125 B4 65	STY	REPMSG	: REPEAT MESSAGE
B127 8A	TXA		

		ORA	MISDIF	MISSION DIFF GAME RESULT
B128	05 62	TAX		
B12A	AA	LDA	DISFTAB,X	
B12B	DD DD BE	CLC		
B12E	1B	ADC	RATING	
B12F	65 CB	TAX		
B131	AA	LDA	#\$00	
B132	A9 00	STA	VERJOY	
B134	85 C9	STA	HORJOY	
B136	85 CB	ADC	RATING+1	
B138	65 CC	BMI	CRATE3	
B13A	30 25	LSR	A	
B13C	4A	TXA		
B13D	8A	ROR	A	
B13E	6A	LSR	A	
B13F	4A	LSR	A	
B140	4A	LSR	A	
B141	4A	LSR	A	
B142	C9 13	CMP	#\$13	
B144	90 04	BCC	CRATE2	
B146	A9 12	LDA	#\$12	
B148	A2 OF	LDX	#\$0F	
B14A		CRATE2		
B14A	85 CD	STA	ENDRAT	
B14C	A8	TAY		
B14D	8A	TXA		
B14E	CO 00	CPY	#\$00	
B150	F0 OB	BEQ	CRATE4	
B152	CO OB	CPY	#\$0B	
B154	90 04	BCC	CRATE5	
B155	CO OF	CPY	#\$0F	
B158	90 03	BCC	CRATE4	
B15A		CRATE5		
B15A	4A	LSR	A	
B15B	49 08	EOR	#\$0B	
B15D		CRATE4		
B15D	29 OF	AND	#\$0F	
B15F	85 CE	STA	ENDCLS	
B161		CRATE3		
B161	60	RTS		

B162		CSERVE		
			SERVICE GALACTIC CHART	
B162	A5 CO	LDA	HFLAG	; HWARP ON ?
B164	D0 04	BNE	CSERV9	; YES
B166	A5 D0	LDA	DISFLG	; DOING GALACTIC CHART ?
B168	30 01	BMI	CSERV1	; NO
B16A		CSERV9		
B16A	60	RTS		
B16B		CSERV1		
B16B	20 97 09	BIT	DAMAGE+5	; COMMUNICATIONS
B16E	30 03	BMI	CSER10	
B170	20 B9 B4	JSR	LDGALT	; LD UP THE CHART
B173		CSER10		
B173	A5 72	LDA	TIMERX	; SLOW DOWN CURSOR MOVE
B175	29 01	AND	#\$01	
B177	D0 2E	BNE	CSERVB	
B179	1B	CLC		; UPDATE HORIZ CURSOR POS

STAR RAIDER - VERSION 20.1 - HARDWARE: Z80-BASIC

B17A A5 BF	LDA	HYHPOS	
B17C 65 CB	ADC	HORJOY	
B17E 29 7F	AND	#\$7F	
B180 B5 BF	STA	HYHPOS	
B182 18	CLC		
B183 69 3D	ADC	#HORCHT	; OFFSET TO POSITION ON SCREEN
B185 BD 2E 0C	STA	HPOS+4	; PLAYER FOUR IS CURSOR
B186 18	CLC		; UPDATE VERT CURSOR POSITION
B189 A5 BE	LDA	HYVPOS	
B18B 65 C9	ADC	VERJOY	
B18D 29 7F	AND	#\$7F	
B18F B5 BE	STA	HYVPOS	
B191 18	CLC		; OFF SET TO POSITION ON SCREEN
B192 69 3F	ADC	#VERCHT	
B194 BD FD 0B	STA	VPOS+4	
			SHIP POS TO OBJ3
B197 A5 BC	LDA	GYPOS	
B199 18	CLC		
B19A 69 3F	ADC	#VERCHT	
B19C BD FC 0B	STA	VPQS+3	
B19F A5 BD	LDA	GHPOS	
B1A1 18	CLC		
B1A2 69 3D	ADC	#HORCHT	
B1A4 BD 2D 0C	STA	HPOS+3	CALCULATE CURSORS QUADRANT
B1A7	CSERV8		; ENTRY POINT FOR CALCULATING NEW ENERGY AND QUADRANT *****
B1A7 A5 BF	LDA	HYHPOS	; HPOS
B1A9 4A	LSR	A	
B1AA 4A	LSR	A	
B1AB 4A	LSR	A	
B1AC 85 6A	STA	TEMP	; TEMP STORE H COMP
B1AE A5 BE	LDA	HYVPOS	; VPOS
B1BO 29 70	AND	#\$70	; VCOMP
B1B2 05 6A	ORA	TEMP	; ADD HCOMP
B1B4 85 92	STA	HYPQAD	; QUADRANT CALCULATED
			CALCULATE NUMBER OF ZYLONS IN TARGET
B1B6 AA	TAX		
B1B7 BD C9 0B	LDA	CHTRAM, X	; WHATS IN QUAD
B1BA 10 02	BPL	CSERV2	; STARBASE ?
B1BC A9 00	LDA	#\$00	; YES
B1BE	CSERV2		
B1BE 09 90	ORA	##\$90	; COLOR AND ASCII CODE
B1CO 2C 97 09	BIT	DAMAGE+5	
B1C3 70 03	BVS	CSER11	
B1C5 8D BD 09	STA	DTARG	; DISPLAY NUMBER OF ZYLONS
B1C8	CSER11		
			CALCULATE WARP ENERGY
B1C8 38	SEC		
B1C9 A5 BF	LDA	HYHPOS	
B1CB E5 BD	SBC	GHPOS	
B1CD B0 04	BCS	CSERV3	
B1CF 49 FF	EOR	#\$FF	
B1D1 69 01	ADC	#\$01	
B1D3	CSERV3		
B1D3 B5 6A	STA	TEMP	
B1D5 38	SEC		
B1D6 A5 BE	LDA	HYVPOS	
B1D8 E5 BC	SBC	GYPOS	

B1DA	BO 04	BCS	CSERV4
B1DC	49 FF	EOR	##FF
B1DE	69 01	ADC	##01
B1E0		CSERV4	
B1E0	4A	LSR	A
B1E1	18	CLC	
B1E2	65 6A	ADC	TEMP
B1E4	A8	TAY	
B1E5	4A	LSR	A
B1E6	4A	LSR	A
B1E7	4A	LSR	A
B1E8	AA	TAX	
B1E9	98	TYA	
B1EA	29 03	AND	#\$03
B1EC	18	CLC	
B1ED	7D DD BA	ADC	ENGTAB, X
B1F0	85 91	STA	HYPENG
B1F2	A8	TAY	
B1F3	A9 10	LDA	#\$10
B1F5	BD 7D 09	STA	DWENER+0
B1F8	BD 7E 09	STA	DWENER+1
B1FB	BD 7F 09	STA	DWENER+2
B1FE		CSERV6	
B1FE	A2 02	LDX	#\$02
B200		CSERV5	
B200	FE 7D 09	INC	DWENER, X
B203	BD 7D 09	LDA	DWENER, X
B206	C9 1A	CMP	#\$1A
B208	90 08	BCC	CSERV7
B20A	A9 10	LDA	#\$10
B20C	9D 7D 09	STA	DWENER, X
B20F	CA	DEX	
B210	10 EE	BPL	CSERV5
B212		CSERV7	
B212	88	DEY	
B213	DO E9	BNE	CSERV6
B215	60	RTS	
B216		MSERVE	
B216	A5 D1	LDA	SERVICE MESSAGE
		SENPTR	; MESSAGE ON ?
B218	F0 05	BEQ	LDMS14
B21A	C6 CF	DEC	MESTIM
B21C	F0 10	BEQ	LDMES1
B21E		LDMES2	
B21E	60	RTS	
B21F		LDMS14	
B21F	A4 65	LDY	REPMMSG
B221	F0 FB	BEQ	LDMES2
B223		LDMESS	; REPEAT THE MESSAGE ?
B223	B4 D1	STY	SENPTR
B225	A0 23	LDY	#LISTB6-LISTTAB
B227	A2 0F	LDX	#DISPL2-DISPLY
B229	A9 07	LDA	#\$07
B228	20 F1 AD	JSR	LDISP
B22E		LDMES1	; REVISE DISPLAY LIST FOR MESSAGE
B22E	A2 13	LDX	#19
			; CLEAR MESSAGE RAM

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B230 A9 00	LDA	#\$00	
B232 B5 6B	STA	TEMP1	; CLEAR DISPLAY POINTER
B234	LDMES3		
B234 9D 1F 0D	STA	MESSAGE, X	
B237 CA	DEX		
B238 10 FA	BPL	LDMES3	
B23A	LDMES4		; MESSAGE LOOP POINT
B23A A6 D1	LDX	SENPTR	; NEW WORD PTR
B23C E6 D1	INC	SENPTR	; ADVANCE TO NEXT WORD
B23E D0 09	BNE	LDMES5	
			MESSAGE DONE
B240 A2 0F	LDX	#DISPL2-DISPLAY	
B242 A0 B0	LDY	#\$80	
B244 A9 07	LDA	#\$07	
B246 4C F1 AD	JMP	LDISP	; RESTORE DISPLAY LIST
B249	LDMES5		
B249 BD AA BB	LDA	SENTAB, X	; A =NEW WORD
B24C C9 FC	CMP	#\$FC	; CLASS ?
B24E D0 0F	BNE	LDMES6	; NO
B250 A4 CE	LDY	ENDCLS	
B252 B9 FC BE	LDA	CLASTB, Y	; VALUE 1-5, IN DMA ASCII
B255 A6 6B	LDX	TEMP1	; WHERE TO STORE
B257 9D 1F 0D	STA	MESSAGE, X	
B25A A9 3C	LDA	#60	; END OF LINE
B25C B5 CF	STA	MESTIM	; WAIT 1 SECOND
B25E 60	RTS		
B25F	LDMES6		
B25F C9 FD	CMP	#\$FD	; RANK ?
B261 D0 05	BNE	LDMES12	; NO
B263 A4 CD	LDY	ENDRAT	
B265 B9 E9 BE	LDA	RANKTB, Y	; RANK WORD
B268	LDMES12		
B268 85 6C	STA	TEMP2	; STORE FOR BITS 7,6
B26A 29 3F	AND	#\$3F	
B26C 85 6A	STA	TEMP	; WORD LOC IN #WRDTAB
B26E A9 2A	LDA	#WRDTAB-1	
B270 85 6B	STA	PNTR	
B272 A9 BC	LDA	#WRDTAB-1/256	
B274 85 69	STA	PNTR+1	; WHERE TO START SEARCH
B276	LDMES7		
B276 E6 6B	INC	PNTR	; ADVANCE WORD POINTER
B278 D0 02	BNE	LDMES8	
B27A E6 69	INC	PNTR+1	
B27C	LDMES8		
B27C A0 00	LDY	#\$00	
B27E B1 6B	LDA	(PNTR), Y	
B280 10 F4	BPL	LDMES7	; NOT START OF A WORD
B282 C6 6A	DEC	TEMP	; IS IT THE RIGHT WORD?
B284 D0 F0	BNE	LDMES7	; NO
B286	LDMES9		
B286 29 3F	AND	#\$3F	; REMOVE ANY FLAG BITS
B288 49 A0	EOR	#\$A0	; PLAYFIELD AND DMA ASCII
B28A A6 6B	LDX	TEMP1	; DISPLAY POINTER
B28C E6 6B	INC	TEMP1	; ADVANCE DISPLAY POINTER
B28E 9D 1F 0D	STA	MESSAGE, X	
B291 CB	INY		; NEXT LETTER
B292 B1 6B	LDA	(PNTR), Y	; A=LETTER
B294 10 F0	BPL	LDMES9	
B296 E6 6B	INC	TEMP1	; A SPACE
			END OF WORD FOUND

B298 A9 3C	LDA	#60	; WAIT 1 SECOND
B29A 24 6C	BIT	TEMP2	; WHAT TO DO NEXT
B29C 10 04	BPL	LDMS11	; NOT END OF LINE
B29E 50 08	BVC	LDMS10	; END OF LINE ONLY
B2A0 A9 FE	LDA	#\$FE	; WAIT .4 SECOND; END OF SENTENCE
B2A2		LDMS11	
B2A2 50 96	BVC	LDMES4	; CONTINUE WITH LINE
B2A4 A0 FF	LDY	#\$FF	; END OF SENTENCE
B2A6 84 D1	STY	SENPTR	
B2A8		LDMS10	
B2A9 85 CF	STA	MESTIM	; STORE_WAIT
B2AA 60	RTS		

B2AB                   AUDIO                   AUDIO SERVICE ROUTINE

## CH4 NOTE SECTION

B2AB A5 D6	LDA	NPRIOR	
B2AD F0 37	BEG	AUDIO1	
B2AF C6 D8	DEC	NDURTM	; TIMING OUT ?
B2B1 10 33	BPL	AUDIO1	; YES
B2B3 A5 D9	LDA	NOTVOL	
B2B5 F0 0A	BEG	AUDIO2	; NEXT NOTE
B2B7 A5 D5	LDA	SDURAT	; SPACE BETWEEN NOTE
B2B9 30 06	BMI	AUDIO2	
B2BD 85 D8	STA	NDURTM	
B2BD A0 00	LDY	#\$00	
B2BF F0 20	BEG	AUDIO3	; JUMP

## AUDIO2

B2C1 A5 D4	LDA	NDURAT	
B2C3 B5 D8	STA	NDURTM	
B2C5 A6 D2	LDX	NOTSEQ	
B2C7 E6 D2	INC	NOTSEQ	
B2C9 BD 5C BF	LDA	NOTTAB, X	
B2CC BD 06 D2	STA	AUDF4	
B2CF A0 A8	LDY	#\$AB	
B2D1 C9 FF	CMP	#\$FF	
B2D3 D0 0C	BNE	AUDIO3	
B2D5 A5 D7	LDA	REPPTR	
B2D7 B5 D2	STA	NOTSEQ	
B2D9 C6 D3	DEC	REPSEQ	
B2DB 10 E4	BPL	AUDIO2	
B2DD A0 00	LDY	#\$00	

B2DF 84 D6	STY	NPRIOR	
------------	-----	--------	--

## AUDIO3

B2E1 BC 07 D2	STY	AUDC4	
B2E4 B4 D9	STY	NOTVOL	
B2E6		AUDIO1	
B2E6 A5 E2	LDA	EXPDEL	; ZYLON HIT SERVICE
B2EB F0 09	BEG	AUD11	
B2EA C6 E2	DEC	EXPDEL	
B2EC D0 05	BNE	AUD11	
B2EE A2 14	LDX	#NOITB2-NOISTB	
B2FO 20 AB AE	JSR	NOISE	
B2F3		AUD11	
B2F3 A6 70	LDX	SPEED	

## STAR RAIDERS, VERSION 2001 MAPPER DISCUSSION

B2F5 BA		TXA	
B2F6 4A		LSR	A
B2F7 4A		LSR	A
B2F8 4A		LSR	A
B2F9 4A		LSR	A
B2FA 4A		LSR	A
B2FB C5 E1		CMP	AUDTIM
B2FD 90 2C		BCC	AUD10
B2FF A9 00		LDA	#\$00
B301 85 E1		STA	AUDTIM
ENGINES			
B303 E8		INX	
B304 8A		TXA	
B305 49 FF		EOR	#\$FF
B307 BD 04 D2		STA	AUDF3
B30A AA		TAX	
B30B 0A		ASL	A
B30C 0A		ASL	A
B30D 0A		ASL	A
B30E 0A		ASL	A
B30F 0A		ASL	A
B310 BD 00 D2		STA	AUDF1
B313 8A		TXA	
B314 4A		LSR	A
B315 4A		LSR	A
B316 4A		LSR	A
B317 BD 02 D2		STA	AUDF2
B31A 4A		LSR	A
B31B 49 BF		EOR	#\$BF
B31D BD 03 D2		STA	AUDC2
B320 29 87		AND	#\$87
B322 BD 05 D2		STA	AUDC3
B325 A9 70		LDA	#\$70
B327 BD 08 D2		STA	AUDCTL
B32A 60		RTS	
B32B	AUD10		
B32B A5 DB		LDA	AUDEXP
B32D F0 08		BEG	AUDIO4
B32F C6 DB		DEC	AUDEXP
B331 D0 04		BNE	AUDIO4
B333 A9 BF		LDA	#\$BF
B335 85 DC		STA	ATYPE2
B337	AUDIO4		
B337 A6 DA		LDX	PHOREP
B339 F0 1C		BEG	AUDIO5
B33B C6 DA		DEC	PHOREP
B33D D0 0A		BNE	AUD12
B33F A9 AF		LDA	#\$AF
B341 85 DC		STA	ATYPE2
B343 A9 02		LDA	#\$02
B345 85 DE		STA	AFREQ1
B347 85 DF		STA	AFREQ2
B349	AUD12		
B349 BD EA BF		LDA	PHOTB2-1, X
B34C 85 DD		STA	ATYPE3
B34E BD F2 BF		LDA	PHOTB4-1, X
B351 BD 04 D2		STA	AUDF3
B354 BD 09 D2		STA	STIMER
B357	AUDIOS		
B357 A5 E3		LDA	BIGEXP
EXPLOSION SERVICE			
PHOTON SERVICE			
FINAL EXPLOS SERVICE			

B359 F0 0E	BEQ	AUDIO6
B35B C6 E3	DEC	BIGEXP
B35D A0 D4 D2	LDA	RANDOM
B360 BD 04 D2	STA	AUDF3
B363 29 20	AND	#\$20
B365 45 DD	EOR	ATYPE3
B367 B5 DD	STA	ATYPE3
B369	AUDIO6	
B369 18	CLC	
B36A A5 DE	LDA	AFREQ1
B36C 65 E0	ADC	AUDADD
B36E 85 DE	STA	AFREQ1
B370 BD 00 D2	STA	AUDF1
B373 A5 DF	LDA	AFREQ2
B375 69 00	ADC	#\$00
B377 85 DF	STA	AFREQ2
B379 BD 02 D2	STA	AUDF2
		VOLUME CONTROL
B37C A6 DC	LDX	ATYPE2
B37E A4 DD	LDY	ATYPE3
B380 A5 72	LDA	TIMERX
B382 4A	LSR	A
B383 90 1A	BCC	AUDIO7
B385 A5 E1	LDA	AUDTIM
B387 F0 16	BEQ	AUDIO7
B389 C6 E1	DEC	AUDTIM
B38B C9 11	CMP	#\$11
B38D B0 10	BCS	AUDIO7
B38F BA	TXA	
B390 29 0F	AND	#\$0F
B392 F0 03	BEQ	AUDIO8
B394 CA	DEX	
B395 B6 DC	STX	ATYPE2
B397	AUDIO8	
B397 98	TYA	
B398 29 0F	AND	#\$0F
B39A F0 03	BEQ	AUDIO7
B39C 88	DEY	
B39D B4 DD	STY	ATYPE3
B39F	AUDIO7	
B39F BE 03 D2	STX	AUDC2
B3A2 BC 05 D2	STY	AUDC3
B3A5 60	RTS	
B3A6	NOTINT	
B3A6 BD 3E BF	LDA	AUDIO NOTE INIT, X=CH4TAB PNTR CH4TAB,X
B3A9 C5 D6	CMP	NPRIOR
B3AB 90 0C	BCC	NOTIN2
B3AD A0 05	LDY	#\$05
B3AF	NOTIN1	
B3AF BD 3E BF	LDA	CH4TAB,X
B3B2 99 D2 00	STA	NOTSEQ,Y
B3B5 E8	INX	
B3B6 88	DEY	
B3B7 10 F6	BPL	NOTIN1
B3B9	NOTIN2	
B3B9 60	RTS	

B3BA	LDTABS		INIT PTAB, BCDCON, VCONL, VCONH, DISCTL, CHTRAM
B3BA A2 59	LDX	#89	
B3BC	LDTB10		
B3BC A9 0D	LDA	#\$0D	
B3BE 9D B5 02	STA	DISPLAY+5, X	
B3C1 E0 0A	CPX	#\$0A	
B3C3 B0 05	BCS	LDTABB	
		LD PF COLORS	
B3C5 BD A9 BF	LDA	CLITAB, X	
B3CB 95 F2	STA	COLRAM+4, X	
B3CA	LDTABB		
B3CA CA	DEX		
B3CB 10 EF	BPL	LDTB10	
B3CD A9 70	LDA	#\$70	
B3CF BD 80 02	STA	DISPLAY+0	
B3D2 BD 81 02	STA	DISPLAY+1	
B3D5 A9 41	LDA	#\$41	
B3D7 BD E7 02	STA	DISPLAY+103	
B3DA A9 80	LDA	#DISPLAY	
B3DC BD E8 02	STA	DISPLAY+104	
B3DF A9 02	LDA	#DISPLAY/256	
B3E1 BD E9 02	STA	DISPLAY+105	
B3E4 A2 00	LDX	#\$00	
B3E6 B6 68	STX	PNTR	
B3E8 B6 69	STX	PNTR+1	
B3EA B6 6A	STX	TEMP	
B3EC B6 6B	STX	TEMP1	
B3EE	LDTAB1		
B3EE 18	CLC		
B3EF A5 68	LDA	PNTR	
B3F1 69 51	ADC	#SCPTAB	
B3F3 85 68	STA	PNTR	
B3F5 A5 69	LDA	PNTR+1	
B3F7 9D E9 0D	STA	PTAB, X	
B3FA 69 00	ADC	#\$00	
B3FC B5 69	STA	PNTR+1	
B3FE 18	CLC		
B3FF A5 6A	LDA	TEMP	
B401 69 64	ADC	#SCBCD	
B403 85 6A	STA	TEMP	
B405 A5 6B	LDA	TEMP1	
B407 9D E9 0E	STA	BCDCDN, X	
B40A F8	SED		
B40B 69 00	ADC	#\$00	
B40D DB	CLD		
B40E B5 6B	STA	TEMP1	
B410 E8	INX		
B411 D0 DB	BNE	LDTAB1	

B413 A2 00	LDX	$\#\$00$	
B415 B6 6B	STX	PNTR	
B417 A9 10	LDA	#MEMMAP/256	
B419 B5 69	STA	PNTR+1	
B41B LDTAB2			
B41B 18	CLC		
B41C A5 6B	LDA	PNTR	
B41E 9D 00 08	STA	VCONL, X	
B421 69 2B	ADC	#SCVCON	
B423 B5 6B	STA	PNTR	
B425 A5 69	LDA	PNTR+1	
B427 9D 64 08	STA	VCONH, X	
B42A 69 00	ADC	$\#\$00$	
B42C B5 69	STA	PNTR+1	
B42E BD 42 BB	LDA	STINIT, X	
B431 9D 49 09	STA	DISCTL, X	
B434 E8	INX		
B435 E0 64	CPX	$\#100$	
B437 90 E2	BCC	LDTAB2	
B439 CA	DEX	; X=99, DONT JUMP IMMEDIATELY	
B43A B6 7B	STX	JMPTIM	
B43C A2 03	LDX	$\#\$03$	
B43E B6 11 09	STX	CHTRAM+72	; NOTHING IN SHIPS INIT QUAD
B441 LDTAB3			
B441 BD A6 BB	LDA	CHRTAB, X	
B444 B5 6A	STA	TEMP	
B446 A4 62	LDY	MISDIF	
B448 C8	INY		
B449 C8	INY		
B44A B4 6B	STY	TEMP1	
B44C LDTAB4			
B44C AD 0A D2	LDA	RANDOM	
B44F 29 7F	AND	$\#\$7F$	
B451 AB	TAY		
B452 B9 C9 0B	LDA	CHTRAM, Y	
B455 D0 F5	BNE	LDTAB4	
B457 A5 6A	LDA	TEMP	
		; STARBASES NOT ON EDGES	
B459 10 21	BPL	LDTAB7	
B45B C0 10	CPY	$\#\$10$	
B45D 90 ED	BCC	LDTAB4	
B45F C0 70	CPY	$\#\$70$	
B461 B0 E9	BCS	LDTAB4	
B463 9B	TYA		
B464 29 0F	AND	$\#\$0F$	
B466 F0 E4	BEQ	LDTAB4	
B468 C9 0F	CMP	$\#\$0F$	
B46A F0 E0	BEQ	LDTAB4	
B46C B9 C8 0B	LDA	CHTRAM-1, Y	
B46F 19 CA 0B	ORA	CHTRAM+1, Y	
B472 19 D9 0B	ORA	CHTRAM+16, Y	
B475 19 B9 0B	ORA	CHTRAM-16, Y	
B478 D0 D2	BNE	LDTAB4	
B47A A5 6A	LDA	TEMP	
B47C LDTAB7			
B47C 99 C9 0B	STA	CHTRAM, Y	
B47F C6 6B	DEC	TEMP1	
B481 10 C9	BPL	LDTAB4	

## STAR RAIDERS - VERSION 2.1 - GigaByte Computer

```

B483 CA          DEX
B484 10 BR       BPL    LDTAB3
B485 A2 B4       LDX    LOAD HORIZ WALL OF CHART
B486 LD TABS     #180   ; CLEAR ALL CHART FIRST
B488 A9 0A       LDA    #$0A
B489 9D 34 OD   STA    CHTDIS-1,X
B48D CA          DEX
B48E D0 F8       BNE    LDTAB5
B490 A2 0F       LDX    #$0F   ; LD HORIZ LINE
B492 LD TAB5     LDTAB6
B492 A9 18       LDA    #$18
B494 9D 37 OD   STA    CHTDIS+2,X
B497 CA          DEX
B498 10 F8       BPL    LDTAB6
B49A A9 1A       LDA    #$1A   ; FILL IN THE DOT ON THE CHART
B49C BD 47 OD   STA    CHTDIS+18
B49F A9 00       LDA    #$00
B4A1 BD 11 09   STA    CHTRAM+72
B4A4 A9 48       LDA    #72
B4A6 85 90       STA    QUADRT
B4A8 A9 43       LDA    #67
B4AA 85 BD       STA    QHPOS
B4AC 85 8F       STA    HYHPOS
B4AE A9 47       LDA    #$47
B4B0 85 BE       STA    HYVPOS
B4B2 85 BC       STA    GVPOS
B4B4 A9 EA       LDA    #$EA
B4B6 BD EB 0F   STA    BCDCON+255   ; INFINITY SIGN

```

; FALL THROUGH TO LDGALT

```

B4B9 LDGALT
LD UP THE GALACTIC CHART
TRANSFER CHTRAM TO CHTDIS

```

```

B4B9 A0 00       LDY    #$00   ; CHTDIS PNTR
B4BB 84 6A       STY    TEMP   ; CHTRAM PNTR
B4BD LDGAL1
B4BD A6 6A       LDX    TEMP
B4BF BD C9 0B   LDA    CHTRAM,X ; WHATS IN QUAD
B4C2 10 02       BPL    LDGAL2 ; NO
B4C4 A9 05       LDA    #$05   ; STARBASE DEFAULT
B4C6 LDGAL2
B4C6 AA          TAX
B4C7 BD D1 BE   LDA    CHTABL,X ; CODE FOR CHTDIS
B4CA 99 4B OD   STA    CHTDIS+22,Y
B4CD CB          INY
B4CE E6 6A       INC    TEMP
B4DD A5 6A       LDA    TEMP
B4D2 29 0F       AND    #$0F   ; END OF LINE ?
B4D4 D0 E7       BNE    LDGAL1 ; NO
B4D6 A9 19       LDA    #$19   ; VERT LINE
B4D8 99 4B OD   STA    CHTDIS+22,Y
B4DB CB          INY
B4DC CB          INY
B4DD CB          INY

```

; ADVANCE TO NEXT LINE

B4DE C8	INY		
B4DF C0 A0	CPY	#160	; ALL DONE ?
B4E1 90 DA	BCC	LDCAL1	; NO
B4E3 60	RTS		

## B4E4      TIMERS

SERVICE TIMERS, STARDATE AND ZYLON JUMP  
UPDATE TIMEX, USED FOR STAR INTENSITY MULTIPLEX

B4E4 E6 76	INC	BINTIM	; UPDATE BINARY TIMER
------------	-----	--------	-----------------------

B4E6 A2 90	LDX	#DIMBLU	
------------	-----	---------	--

B4E8 A5 76	LDA	BINTIM	
------------	-----	--------	--

B4EA 10 09	BPL	TIME46	
------------	-----	--------	--

B4EC AC 55 09	LDY	DENERG+0	
---------------	-----	----------	--

B4EF C0 80	CPY	#\$80	
------------	-----	-------	--

B4F1 D0 02	BNE	TIME46	
------------	-----	--------	--

B4F3 A2 44	LDX	#RED	
------------	-----	------	--

B4F5		TIME46	
------	--	--------	--

B4F5 29 03	AND	#\$03	
------------	-----	-------	--

B4F7 85 72	STA	TIMERX	
------------	-----	--------	--

B4F9 D0 1F	BNE	TIME33	
------------	-----	--------	--

		SHIELDS SECTION	
--	--	-----------------	--

B4FB A4 7D	LDY	SHENER	
------------	-----	--------	--

B4FD F0 17	BEQ	TIME31	
------------	-----	--------	--

B4FF A0 A0	LDY	#DBLUE	
------------	-----	--------	--

B501 2C 94 09	BIT	DAMAGE+2	
---------------	-----	----------	--

B504 10 0B	BPL	TIME47	
------------	-----	--------	--

B506 70 07	BVS	TIME32	
------------	-----	--------	--

B508 AD 0A D2	LDA	RANDOM	
---------------	-----	--------	--

B50B C9 C8	CMP	#200	
------------	-----	------	--

B50D 90 07	BCC	TIME31	
------------	-----	--------	--

B50F		TIME32	
------	--	--------	--

B50F A0 00	LDY	#\$00	
------------	-----	-------	--

B511		TIME47	
------	--	--------	--

B511 98	TYA		
---------	-----	--	--

B512 D0 02	BNE	TIME31	
------------	-----	--------	--

B514 A2 26	LDX	#YELLOW	
------------	-----	---------	--

B516		TIME31	
------	--	--------	--

B516 B4 B1	STY	SPABAK	
------------	-----	--------	--

B518 86 FB	BTX	COLRAM+13	
------------	-----	-----------	--

B51A		TIME33	
------	--	--------	--

		END UPDATE TIMERX	
--	--	-------------------	--

		PHOTON TIMEOUT	
--	--	----------------	--

B51A A2 02	LDX	#\$02	
------------	-----	-------	--

B51C		TIMER6	
------	--	--------	--

B51C BD BE OC	LDA	GINDEX+2, X	; PHOTON ?
---------------	-----	-------------	------------

B51F D0 06	BNE	TIMER7	
------------	-----	--------	--

B521 B5 EB	LDA	STFLAG+2, X	; PHOTON TIMEOUT ?
------------	-----	-------------	--------------------

B523 F0 02	BEQ	TIMER7	; YES
------------	-----	--------	-------

B525 D6 EB	DEC	STFLAG+2, X	; DEC PHOTON TIMER
------------	-----	-------------	--------------------

B527		TIMER7	
------	--	--------	--

B527 CA	DEX		
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B528 10 F2	BPL	TIMER6	
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		EXPLOSION TIMEOUT	
--	--	-------------------	--

## STAR DESTROYER - VERSION 1.00 - RELEASED BY ZYLONS

B52A A5 73	LDA	ETIMER
B52C F0 16	BEQ	TIME10
B52E C6 73	DEC	ETIMER
B530 D0 04	BNE	TIMERY
B532 A2 11	LDX	#\$LAST+1
B534 86 79	STX	NSTARS
; 1 FOR FALL THROUGH		
B536 C9 70	CMP	#\$70
B538 B0 04	BCS	TIME30
B53A A2 00	LDX	#\$00
B53C B6 8A	STX	HITME
B53E	TIME30	
B53E C9 18	CMP	#\$18
B540 B0 02	BCS	TIME10
B542 C6 79	DEC	NSTARS
B544	TIME10	
B544 C6 74	DEC	SECOND
B546 10 21	BPL	TIMER1
B548 A9 28	LDA	#\$28
B54A B5 74	STA	SECOND
B54C A2 04	LDX	#\$04
B54E	TIMER2	
B54E FE A3 09	INC	DSDATE, X
B551 BD A3 09	LDA	DSDATE, X
B554 C9 DA	CMP	#\$DA
B556 90 0D	BCC	TIMER3
B558 A9 D0	LDA	#\$D0
B55A 9D A3 09	STA	DSDATE, X
B55D E0 03	CPX	#\$03
B55F D0 01	BNE	TIMER4
B561 CA	DEX	
B562	TIMER4	
B562 CA	DEX	
B563 10 E9	BPL	TIMER2
B565	TIMER3	
B565 C4 78	DEC	JMPTIM
B567 30 01	BMI	TIMERS
B569	TIMER1	
B569 60	RTS	
B56A	TIMER5	
B56A A9 31	LDA	#49
B56C B5 7B	STA	JMPTIM
; RATING DUE TO TIME		
B56E A5 CB	LDA	RATING
B570 D0 02	BNE	TIME61
B572 C6 CC	DEC	RATING+1
B574	TIME61	
B574 C6 CB	DEC	RATING
B576 A6 64	LDX	ATTRACT
B578 D0 EF	BNE	TIMER1
; GAME OVER ?		
; YES		
; ZYLONS JUMP		
; CHECK ALL STARBASES TO SEE IF DESTROYED		
; X=0 FROM ABOVE		
B57A B6 6A	STX	TEMP
B57C	TIME12	
B57C BD C9 0B	LDA	CHTRAM, X
B57F 10 19	BPL	TIME11
B581 20 F1 B7	JSR	TIMHLP
B584 F0 14	BEQ	TIME11
; STARBASE DESTROYED		

STAR RAIDER'S - VERSION 1.1 - TAPDATE 12/10/89

B5B6 A9 02	LDA	#\$02	; 4 ZYLONS
B5B8 9D C9 08	STA	CHTRAM, X	
B5B9 85 6A	STA	TEMP	
B5BD 38	SEC		
B5BE A5 CB	LDA	RATING	
B590 E9 12	SBC	#18	
B592 85 CB	STA	RATING	
B594 A5 CC	LDA	RATING+1	
B596 E9 00	SBC	#\$00	
B598 85 CC	STA	RATING+1	
B59A TIME11			
B59A E8	INX		
B59B 10 DF	BPL	TIME12	
B59D A5 6A	LDA	TEMP	; ANY STARBASES DESTROYED ?
B59F F0 0F	BEG	TIME13	; NO
B5A1 2C 97 09	BIT	DAMAGE+5	; COMMUNICATIONS
B5A4 70 0A	BVS	TIME13	
B5A6 A0 15	LDY	#SENDES-SENTAB	
B5A8 20 23 B2	JSR	LDMESS	
B5AB A2 18	LDX	#CH4TB5-CH4TAB	; MESSAGE
B5AD 20 A6 B3	JSR	NOTINT	
B5B0 TIME13			
B5B0 C6 9F	DEC	JMPOUT	; JUMP TIMEOUT
B5B2 30 07	BMI	TIME28	
B5B4 A6 93	LDX	KILBAS	
B5B6 BD C9 08	LDA	CHTRAM, X	; NEED A NEW BASE ?
B5B9 30 1F	BMI	TIME14	; NO
B5B8 TIME28			
B5BB A9 07	LDA	#\$07	; JUMP TIMEOUT RESTORED
B5BD B5 9F	STA	JMPOUT	
B5BF A0 7F	LDY	#127	
B5C1 TIME15			
B5C1 AD 0A D2	LDA	RANDOM	
B5C4 29 7F	AND	#\$7F	
B5C6 AA	TAX		
B5C7 BD C9 08	LDA	CHTRAM, X	
B5CA 30 0E	BMI	TIME14	; NEW BASE
B5CC 88	DEY		
B5CD 10 F2	BPL	TIME15	; TRY AGAIN
B5CF A2 7F	LDX	#127	
B5D1 TIME16			
B5D1 BD C9 08	LDA	CHTRAM, X	
B5D4 30 04	BMI	TIME14	
B5D6 CA	DEX		
B5D7 10 FB	BPL	TIME16	
B5D9 60	RTS		
B5DA TIME14			
B5DA B6 93	STX	KILBAS	; STORE STXRBASE
B5DC 8A	TXA		
B5DD 29 0F	AND	#\$0F	
B5DF B5 94	STA	KILOCH	
B5E1 8A	TXA		
B5E2 4A	LSR	A	
B5E3 4A	LSR	A	
B5E4 4A	LSR	A	
B5E5 4A	LSR	A	
B5E6 B5 95	STA	KILOCV	
B5E8 A2 FF	LDX	#\$FF	

STAR NAVIGATOR VERS 2.03 STANDARD RELEASE

B5EA	TIME18	MAIN LOOP	
B5EA E8		INX	
B5EB 10 30		BPL	TIME40 END ZYLON JUMP ROUTINE
B5ED A2 00		LDX	#\$00
B5EF	TIME20		
B5EF BD C9 08		LDA	CHTRAM, X
B5F2 29 DF		AND	#\$DF
B5F4 9D C9 08		STA	CHTRAM, X
B5F7 E8		INX	
B5F8 10 F5		BPL	TIME20
B5FA 2C 97 09		BIT	DAMAGE+5
B5FD 70 1D		BVS	TIME44
B5FF A2 00		LDX	#\$00
B601	TIME21		! ANY STARBASES SURROUNDED ?
B601 BD C9 08		LDA	CHTRAM, X
B604 10 13		BPL	TIME19
B606 20 F1 B7		JSR	TIMHLP
B609 F0 0E		BEG	TIME19
			STAR BASE SURROUNDED
B60B A9 63		LDA	#99
B60D 85 78		STA	JMPTIM , 99 CENTONS BEFORE DESTROY
B60F A0 13		LDY	#SENSUR-SENTAB
B611 20 23 B2		JSR	LDMESS
B614 A2 18		LDX	#CH4TB5-CH4TAB
B616 4C A6 B3		JMP	NOTINT
B619	TIME19		
B619 E8		INX	
B61A 10 E5		BPL	TIME21
B61C	TIME44		
B61C 60		RTS	
B61D	TIME40		
B61D BC C9 08		LDY	CHTRAM, X
B620 C0 0A		CPY	#\$0A , STARBASE , OR ALREADY CALCULATED
B622 B0 C6		BCS	TIME18
B624 AD 0A D2		LDA	RANDOM
B627 D9 BB BF		CMP	JMPWHN, Y
B62A B0 BE		BCS	TIME18
B62C E4 90		CPX	QUADRT
B62E F0 BA		BEQ	TIME18
			CALCULATE GRADIENT
B630 A0 0B		LDY	#\$0B
B632	TIME27		
B632 18		CLC	
B633 B4		TXA	
B634 79 C0 BF		ADC	JMPTAB, Y
B637 B5 6A		STA	TEMP
B639 29 OF		AND	#\$0F
B63B 38		SEC	
B63C E5 94		SBC	KILOCH
B63E B0 04		BCS	TIME26
B640 49 FF		EOR	#\$FF
B642 69 01		ADC	#\$01
B644	TIME26		
B644 B5 6B		STA	TEMP1
B646 A5 6A		LDA	TEMP
B648 4A		LSR	A
B649 4A		LSR	A
B64A 4A		LSR	A
B64B 4A		LSR	A

B64C 3B	SEC	
B64D E5 95	SBC	KILOCV
B64F B0 04	BCS	TIME22
B651 49 FF	EOR	#\$FF
B653 69 01	ADC	#\$01
B655 TIME22		
B655 18	CLC	
B656 65 6B	ADC	TEMP1
B658 99 96 00	STA	JMPPTS, Y
B65B 88	DEY	
B65C 10 D4	BPL	TIME27
		ZYLON CONVERGENCE
B65E A9 01	LDA	#\$01
B660 B5 6B	STA	TEMP1
B662 TIME23		
B662 A0 07	LDY	#\$07
B664 TIME24		
B664 B9 96 00	LDA	JMPPTS, Y
B667 C5 9E	CMP	JMPPTS+B
B669 B0 24	BCS	TIME42
B66B 18	CLC	
B66C 8A	TXA	
B66D 79 C0 BF	ADC	JMPTAB, Y
B670 30 1D	BMI	TIME42
B672 84 6A	STY	TEMP
B674 A8	TAY	
B675 B9 C9 08	LDA	CHTRAM, Y
B678 D0 13	BNE	TIME25
B67A BD C9 08	LDA	CHTRAM, X
B67D C4 90	CPY	QUADRT
B67F F0 OC	BEG	TIME25
B681 09 20	ORA	#\$20
B683 99 C9 08	STA	CHTRAM, Y
B686 A9 00	LDA	#\$00
B688 9D C9 08	STA	CHTRAM, X
B68B F0 0B	BEG	TIME45
B68D TIME25		
B68D A4 6A	LDY	TEMP
B68F TIME42		
B68F 88	DEY	
B690 10 D2	BPL	TIME24
B692 E6 9E	INC	JMPPTS+B
B694 C6 6B	DEC	TEMP1
B696 10 CA	BPL	TIME23
B698 TIME45		
B698 4C EA B5	JMP	TIME18
B69B ROHELP		
		HELPER SUB FOR YROTAT, ZROTAT
B69B BD AD 09	LDA	XSIGN, X
B69E 49 01	EOR	#\$01
B6A0 F0 02	BEG	ROHLP1
B6A2 A9 FF	LDA	#\$FF
B6A4 ROHLP1		
B6A4 B5 6B	STA	TEMP1
B6A6 B5 6C	STA	TEMP2
B6A8 BD 40 0A	LDA	XPOSH, X
B6AB 85 6A	STA	TEMP

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B6AD AD 0A D2	LDA	RANDOM	
B6B0 09 BF	ORA	#\$BF	
B6B2 SD D3 0A	EOR	XPOS1, X	
B6B3 0A	ASL	A	
B6B6 26 6A	ROL	TEMP	
B6B8 26 6B	ROL	TEMP1	
B6BA 0A	ASL	A	
B6BB 26 6A	ROL	TEMP	
B6BD 26 6B	ROL	TEMP1	
B6BF A5 6D	LDA	TEMP3	/ JOYSTICK
B6C1 49 FF	EOR	#\$FF	/ TOGGLES EVERY TIME THROUGH, CALL TWICE/STAR
B6C3 85 6D	STA	TEMP3	/ THEN OK, THIS CAN BE TRICKY SO WATCH OUT !!
B6C5 30 1A	BMI	ROHLP2	
B6C7 18	CLC		
B6CB B9 D3 0A	LDA	XPOS1, Y	
B6CB 65 6A	ADC	TEMP	
B6CD 99 D3 0A	STA	XPOS1, Y	
B6D0 B9 40 0A	LDA	XPOS1, Y	
B6D3 65 6B	ADC	TEMP1	
B6D5 99 40 0A	STA	XPOS1, Y	
B6DB B9 AD 09	LDA	XSIGN, Y	
B6DB 65 6C	ADC	TEMP2	
B6DD 99 AD 09	STA	XSIGN, Y	
B6E0 60	RTS		
B6E1	ROHLP2		
B6E1 38	SEC		
B6E2 B9 D3 0A	LDA	XPOS1, Y	
B6E5 E5 6A	SBC	TEMP	
B6E7 99 D3 0A	STA	XPOS1, Y	
B6EA B9 40 0A	LDA	XPOS1, Y	
B6ED E5 6B	SBC	TEMP1	
B6EF 99 40 0A	STA	XPOS1, Y	
B6F2 B9 AD 09	LDA	XSIGN, Y	
B6F5 E5 6C	SBC	TEMP2	
B6F7 99 AD 09	STA	XSIGN, Y	
B6FA 60	RTS		

B6FB	STHPOS	STORE HPOS, X=STR INDEX	
B6FB C9 50	CMP	#HOFLOW	
B6FD B0 5B	BCS	STVPS1	
B6FF B5 6D	STA	TEMP3	
B701 A9 50	LDA	#HSTCEN	
B703 E0 05	CPX	#OBJNUM	
B705 B0 02	BCS	STHPS2	
B707 A9 7D	LDA	#HOBCE	
B709	STHPS2		
B709 BC DE 09	LDY	YSIGN, X	
B70C D0 09	BNE	STHPS3	
B70E 38	SEC		
B70F E6 6D	INC	TEMP3	
B711 E5 6D	SBC	TEMP3	
B713 9D 2A 0C	STA	HPOS, X	
B716 60	RTS		
B717	STHPS3		
B717 18	CLC		

B718 65 6D	ADC	TEMP3
B71A 9D 2A 0C	STA	HPOS, X
B710 60	RTS	
B71E	SIVPOS	
		STORE VPOS, X=STAR INDEX
B71E C9 32	CMP	#VOFLOW
B720 B0 3B	BCS	STVPS1
B722 B5 6D	STA	TEMP3
B724 A9 32	LDA	#VSTCEN
B726 E0 05	CPX	#OBJNUM
B728 B0 04	BCS	STVPS2
B72A 06 6D	ASL	TEMP3
B72C A9 7A	LDA	#VOBCEN
B72E	STVPS2	
B72E 24 D0	BIT	DISFLG ; SECTOR SCAN ?
B730 50 13	BVC	STVPS5 ; NO
B732 2C 96 09	BIT	DAMAGE+4
B735 10 07	BPL	STVPS7
B737 2C 0A D2	BIT	RANDOM
B73A 50 0E	BVC	STVPS6
B73C 70 15	BVS	STVPS3
B73E	STVPS7	
B73E BC AD 09	LDY	XSIGN, X
B741 D0 07	BNE	STVPS6
B743 F0 0E	BEQ	STVPS3 ; JUMP
B745	STVPS5	
B745 BC OF 0A	LDY	ZSIGN, X
B748 F0 09	BEQ	STVPS3
B74A	STVPS6	
B74A 3B	SEC	
B74B E6 6D	INC	TEMP3
B74D E5 6D	SBC	TEMP3
B74F 9D F9 0B	STA	VPOS, X
B752 60	RTS	
B753	STVPS3	
B753 18	CLC	
B754 65 6D	ADC	TEMP3
B756 9D F9 0B	STA	VPOS, X
B759 60	RTS	
B75A	STVPS1	; ENTRY POINT FROM STHPOS *****
B75A E0 05	CPX	#OBJNUM
B75C B0 06	BCS	STVPS4
B75E A9 FB	LDA	##FB
B760 9D F9 0B	STA	VPOS, X
B763	STVPS8	; ENTRY POINT FROM NEWSTR *****
B763 60	RTS	
B764	STVPS4	
		FALL THROUGH TO NEWSTR *****
B764	NEWSTR	
		NEW STAR POSITION
B764 A9 63	LDA	#99 ; RESET TO BOTTOM OF SCREEN
B766 9D F9 0B	STA	VPOS, X
B769 9D 2A 0C	STA	HPOS, X
B76C E0 11	CPX	#STLAST+1 ; EXPLOSION STARS
B76E B0 F3	BCS	STVPS8 ; YES
B770 AD 0A D2	LDA	RANDOM ; UPDATE Z
B773 29 0F	AND	##0F

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B775 85 6A	STA	TEMP	
B777 9D A2 0A	STA	ZPOSH, X	
B77A AD 0A D2	LDA	RANDOM	; UPDATE Y
B77D 29 0F	AND	#\$0F	
B77F C5 6A	CMP	TEMP	
B781 90 02	BCC	NEWST3	
B783 85 6A	STA	TEMP	
B785 NEWST3			
B785 9D 71 0A	STA	YPOSH, X	
B788 A9 0F	LDA	#\$0F	
B78A 9D 40 0A	STA	XPOSH, X	
B78D A5 D0	LDA	DISFLG	; UPDATE X
B78F 49 01	eor	#\$01	
B791 29 01	AND	#\$01	
B793 9D AD 09	STA	XSIGN, X	
B795 D0 11	BNE	NEWST5	
B798 9D 04 0B	STA	YPOSL, X	
B79B 9D 35 0B	STA	ZPOSL, X	
B79E 38	SEC		
B79F E5 6A	SBC	TEMP	
B7A1 9D 40 0A	STA	XPOSH, X	
		TRY THIS FIX, BELOW	
B7A4 A9 B0	LDA	#\$B0	
B7A6 9D D3 0A	STA	XPOSL, X	
B7A9 NEWST5			
B7A9 24 D0	BIT	DISFLG	; SECTOR SCAN ?
B7AB 50 11	BVC	NEWST2	; NO
B7AD AD 0A D2	LDA	RANDOM	
B7B0 9D 71 0A	STA	YPOSH, X	
B7B3 AD 0A D2	LDA	RANDOM	
B7B6 9D 40 0A	STA	XPOSH, X	
B7B9 29 01	AND	#\$01	
B7BB 9D AD 09	STA	XSIGN, X	
B7BE NEWST2			
B7DE NEWST4			; ENTRY POINT FROM HLINES SUB ***** DETERMINE SIGN Y, Z
B7BE AD 0A D2	LDA	RANDOM	
B7C1 29 01	AND	#\$01	
B7C3 9D 0F 0A	STA	ZSIGN, X	
B7C6 D0 0F	BNE	NEWST1	
B7C8 38	SEC		
B7C9 FD 35 0B	SBC	ZPOSL, X	
B7CC 9D 35 0B	STA	ZPOSL, X	
B7CF A9 00	LDA	#\$00	
B7D1 FD A2 0A	SBC	ZPOSH, X	
B7D4 9D A2 0A	STA	ZPOSH, X	
B7D7 NEWST1			
B7D7 AD 0A D2	LDA	RANDOM	
B7DA 29 01	AND	#\$01	
B7DC 9D DE 09	STA	YSIGN, X	
B7DF D0 0F	BNE	NEWST6	
B7E1 38	SEC		
B7E2 FD 04 0B	SBC	YPOSL, X	
B7E5 9D 04 0B	STA	YPOSL, X	
B7E8 A9 00	LDA	#\$00	
B7EA FD 71 0A	SBC	YPOSH, X	

B7ED 9D 71 0A	STA	YPOS.H, X
B7F0	NEWSTo	
B7F0 60	RTS	

B7F1	TIMHLP	HELP ROUTINE FOR TIMERS
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B7F1 BD C8 08	LDA	CHTRAM-1, X
B7F4 F0 00	BEG	TIMHP1
B7F6 BD CA 08	LDA	CHTRAM+1, X
B7F9 F0 0B	BEG	TIMHP1
B7FB BD B9 08	LDA	CHTRAM-16, X
B7FE F0 03	BEG	TIMHP1
B800 BD D9 08	LDA	CHTRAM+16, X

B803	TIMHP1	
B803 60	RTS	

B804	PANDIS	
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PANNEL DISPLAY ROUTINE		
ONE ENTRY POINT AT PANDS6		

UPDATE VELOCITY DISPLAY		
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B804 A6 70	LDX	SPEED
B806 E4 71	CPX	WARP
B808 F0 08	BEG	PANDS2
B80A 90 04	BCC	PANDS3
B80C C6 70	DEC	SPEED
B80E B0 12	BCS	PANDS1

B810	PANDS3	
B810 E6 70	INC	SPEED
B812	PANDS2	
B812 A5 C0	LDA	HFLAG
B814 D0 0C	BNE	PANDS1
B816 2C 93 09	BIT	DAMAGE+1
B819 10 07	BPL	PANDS1
B81B A5 71	LDA	WARP
B81D 2D 0A D2	AND	RANDOM
B820 B5 70	STA	SPEED

B822	PANDS1	ALL DONE VELOCITY DISPLAY
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B822 A0 01	LDY	#DVELOC-DISCTL-1
B824 20 CD B8	JSR	TWOCM3
B827 2C 95 09	BIT	DAMAGE+3
B82A 30 30	BMI	PANDS4

UPDATE COORDINATES DISPLAY		
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B82C A9 31	LDA	#RAMNUM
B82E A0 17	LDY	#DTHETA-DISCTL
B830 20 A7 B8	JSR	TWOCOM
B833 A9 62	LDA	#RAMNUM#2
B835 A0 1D	LDY	#DPHI-DISCTL
B837 20 A7 B8	JSR	TWOCOM
B83A A9 00	LDA	#\$00

; DISPLAY X COORD		
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B83C A0 23	LDY	#DRHO-DISCTI	; DISPLAY IN RHO
B83E 20 A7 B8	JSR	TWOCOM	; UPDATE RHO
		LOW BYTE OF RHO	
R841 AD 6E 09	LDA	DRHO+2	; PUT BLANK IN LSB IF INFINITE
B844 BD 6F 09	STA	DRHO+3	
B847 C9 0A	CMP	#\$0A	; INFINITE ?
B849 B0 11	BCS	PANDS4	; YES
B84B AE 5C 09	LDX	DCSTOR	; WHICH OBJ TRACKING
B84E BD D3 0A	LDA	XPOS1,X	; LOW BYTE
B851 4A	LSR	A	
B852 4A	LSR	A	
B853 4A	LSR	A	
B854 4A	LSR	A	
B855 AA	TAX		
B856 BD E9 0E	LDA	BCDCON,X	; CONVERT TO BCD
B859 BD 6F 09	STA	DRHO+3	; LSB UPDATED
B85C PANDS4			; ALL DONE COORD DISP
			UPDATE ENERGY DISPLAY
			UPDATE ENERGY DUE TO SHIELDS WARPS ATTACK COMPUTER
B85C 18	CLC		
B85D A5 7F	LDA	ENFLAG	; LSRB OF ENERGY, DEC ENERGY WHEN CARRY
B85F 65 7D	ADC	SHENER	; DRAIN FROM SHEILDS
B861 65 B0	ADC	WPENER	; DRAIN FROM WARP
B863 65 7E	ADC	ATENER	; DRAIN FROM ATTACK COMPUTER
B865 69 01	ADC	#\$01	; LIFE SUPPORT
B867 C5 7F	CMP	ENFLAG	; SET CARRY FLAG
B869 B5 7F	STA	ENFLAG	
B86B B0 39	BCS	PANDS5	
			DECRE ENERGY
B86D A2 03	LDX	#\$03	; DECRE BIT 3 OF ENERGY
B86F PANDS6			; ENTRY POINT TO DECRE ENERGY *****
B86F 24 64	BIT	ATRACT	; GAME OVER ?
B871 70 33	BVS	PANDS5	; YES
			X MUST BE DEFINED = BIT TO DECRE FROM
B873 DE 55 09	DEC	DENERO,X	
B876 BD 55 09	LDA	DENERG,X	
B879 C9 80	CMP	#\$B0	; CHECK IF BORROW
B87B B0 29	BCS	PANDS5	; NO BORROW
B87D A9 B9	LDA	#\$B9	
B87F 9D 55 09	STA	DENERG,X	
B882 E0 02	CPX	#\$02	
B884 D0 08	BNE	PANDS7	
B886 A5 CB	LDA	RATING	
B888 D0 02	BNE	PANDS8	
B88A C6 CC	DEC	RATING+1	
B88C PANDSB			
B88C C6 CB	DEC	RATING	
B88E PANDS7			
B88E CA	DEX		
B88F 10 DE	BPL	PANDS6	; NEXT DIGIT
			OUT OF ENERGY !!
B891 A2 0A	LDX	#\$0A	; KEY F
B893 8A	TXA		
B894 A0 03	LDY	#\$03	
B896 PAND10			
B896 99 55 09	STA	DENERG+0,Y	
B899 B8	DEY		
B89A 10 FA	BPL	PAND10	
B89C 20 45 B0	JSR	KEYS15	
B89F A0 31	LDY	#SENDOUT-SENTAB	

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B8A1 A2 04	LDX	#\$04
B8A3 20 0A B1	JSR	CRATE
B8A6	PANDS9	
B8A6	PANDS5	
B8A6 60	RTS	

B8A7 TWOCOM

TWOS COMPLEMENT AND CONVERT TO BCD HELPER ROUTINE  
A=OFFSET(X, Y, Z), Y=WHERE TO STORE

B8A7 18	CLC	
B8A8 6D 5C 09	ADC	DCSTOR ; WHICH OBJ TRACKING
B8A8 AA	TAX	
B8AC A9 10	LDA	#\$10 ; + SIGN
B8AE 85 6A	STA	TEMP
B8B0 BD AD 09	LDA	XSIGN, X ; SIGN OF OBJ
B8B3 4A	LSR	A
B8B4 BD 40 0A	LDA	XPOSH, X
B8B7 B0 04	BCS	TWOCM1
		NEGATIVE VALUE, TWOS COMPLEMENT
B8B9 49 FF	EOR	#\$FF
B8BB C6 6A	DEC	TEMP ; - SIGN
B8BD	TWOCM1	
B8BD AA	TAX	
B8BE A5 6A	LDA	TEMP
B8C0 99 49 09	STA	DISCTL+0, Y ; STORE SIGN

NO INFINITY FOR THETA OR PHI

B8C3 98	TYA	
B8C4 29 10	AND	#\$10 ; THETA OR PHI ?
B8C6 F0 05	BEG	TWOCM3 ; NO
B8CB E0 FF	CPX	#\$FF ; INFINITY ?
B8CA D0 01	BNE	TWOCM3 ; NO
B8CC CA	DEX	; X=FE, NOT FF

B8CD	TWOCM3	; ENTRY POINT TO LOAD ONLY *****
B8CD BD E9 0E	LDA	BCDCON, X ; BCD CONVERT
B8D0 AA	TAX	
B8D1 29 0F	AND	#\$0F
B8D3 99 4B 09	STA	DISCTL+2, Y ; LOW BYTE STORED
B8D6 8A	TXA	
B8D7 4A	LSR	A
B8D8 4A	LSR	A
B8D9 4A	LSR	A
B8DA 4A	LSR	A
B8DB 99 4A 09	STA	DISCTL+1, Y ; HIGHT BYTE STORED
B8DE 60	RTS	

TABLES:		
	CLINDX	; COLOR INDEX TABLE USED IN OBJCOL SUBROUTINE 0, 1, 2, 3, 7
B8DF	BYTE	
B8DF 00 01 02		
B8E2 03 07		
B8E4	PHGRAF	; PHOTON GRAPHIC
B8E4 00	BYTE	0
B8E5 18 3C 7E	BYTE	\$18, \$3C, \$7E, \$7E, \$76, \$F7, \$DF, \$DF, \$FF, \$FF, \$F7, \$76, \$7E, \$7E, \$3C, \$18
B8E8 7E 76 F7		
B8EB DF DF FF		
B8EE FF F7 76		
B8F1 7E 7E 3C		
B8F4 18		
B8F5 PHGRF1		
B8F5 10 3B 7C	BYTE	\$10, \$3B, \$7C, \$7C, \$FE, \$DE, \$DA, \$FA, \$EE, \$EE, \$7C, \$7C, \$3B, \$10
B8F8 7C FE DE		
B8FB DA FA EE		
B8FE EE 7C 7C		
B901 3B 10		
B903 PHGRF2		
B903 18 3C 3C	BYTE	\$18, \$3C, \$3C, \$7E, \$6E, \$7A, \$7E, \$76, \$7E, \$3C, \$3C, \$18
B906 7E 6E 7A		
B909 7E 76 7E		
B90C 3C 3C 18		
B90F PHGRF3		
B90F 10 3B 3B	BYTE	\$10, \$3B, \$3B, \$7C, \$74, \$7C, \$6C, \$3B, \$3B, \$10
B912 7C 74 7C		
B915 6C 3B 3B		
B918 10		
B919 PHGRF4		
B919 10 18 3C	BYTE	\$10, \$18, \$3C, \$2C, \$3C, \$3C, \$18, \$0B
B91C 2C 3C 3C		
B91F 18 0B		
B921 PHGRF5		
B921 10 3B 3B	BYTE	\$10, \$3B, \$3B, \$2B, \$3B, \$10
B924 2B 3B 10		

B927                   DKGRAF                   ; DOCKING SHIP GRAPHIC  
B927 3C 3C 24           BYTE     \$3C, \$3C, \$24, \$3C, \$7E, \$7E, \$7E, \$5A, \$FF, \$FF, \$42, \$42, \$42, \$42, \$42  
B92A 3C 7E 7E  
B92D 7E 9A FF  
B930 FF 42 42  
B933 42 42 42  
B936 42  
  
B937                   DKGRF1  
B937 1C 1C 14           BYTE     \$1C, \$1C, \$14, \$3E, \$3E, \$3E, \$2A, \$7F, \$7F, \$22, \$22, \$22, \$22, \$22  
B93A 3E 3E 3E  
B93D 2A 7F 7F  
B940 22 22 22  
B943 22 22  
  
B945                   DKGRF2  
B945 18 18 3C           BYTE     \$18, \$18, \$3C, \$3C, \$3C, \$3C, \$7E, \$24, \$24, \$24, \$24  
B948 3C 3C 3C  
B94B 7E 24 24  
B94E 24 24  
  
B950                   DKGRF3  
B950 10 10 38           BYTE     \$10, \$10, \$38, \$38, \$38, \$7C, \$28, \$28, \$28  
B953 38 38 7C  
B956 28 28 28  
  
B959                   DKGRF4  
B959 18 18 3C           BYTE     \$18, \$18, \$3C, \$18, \$18  
B95C 18 18  
  
B95E                   DKGRF5  
B95E 10                BYTE     \$10  
B95F                   GBASM6  
B95F 10 3B 10           BYTE     \$10, \$3B, \$10

B962	GBASEM	
B962 18 7E FF	.BYTE	\$18, \$7E, \$FF, \$FF, \$FF, \$FF, \$E7, \$E7, \$FF, \$FF, \$FF, \$FF, \$FF, \$7E, \$7E
B965 FF FF FF		
B968 FF E7 E7		
B96B FF FF FF		
B96E FF FF 7E		
B971 7E		
B972	QBASM1	
B972 00	.BYTE	0
B973 18 3C 7E	.BYTE	\$18, \$3C, \$7E, \$FF, \$FF, \$FF, \$E7, \$66, \$FF, \$FF, \$FF, \$FF, \$7E, \$7E
B976 FF FF FF		
B979 E7 66 FF		
B97C FF FF FF		
B97F 7E 7E		
B981	GBASM2	
B981 00	.BYTE	0
B982 18 3C 7E	.BYTE	\$18, \$3C, \$7E, \$FF, \$FF, \$E7, \$66, \$FF, \$FF, \$FF, \$FF, \$3C
B985 FF FF E7		
B988 66 FF FF		
B98B FF FF 3C		
B98E	GBASM3	
B98E 18 3C FF	.BYTE	\$18, \$3C, \$FF, \$FF, \$E7, \$66, \$FF, \$FF, \$7E, \$3C
B991 FF E7 66		
B994 FF FF 7E		
B997 3C		
B998	GBASM4	
B998 00	.BYTE	0
B999 18 3C FF	.BYTE	\$18, \$3C, \$FF, \$FF, \$FF, \$3C, \$18
B99C FF FF 3C		
B99F 18		
B9A0	GBASM5	
B9A0 18 3C FF	.BYTE	\$18, \$3C, \$FF, \$3C, \$18
B9A3 3C 18		
B9A5	HWARTG	HWARP TARGET GRAPHIC
B9A5 28 28 28	.BYTE	\$28, \$28, \$28, \$28, \$EE, \$0, \$EE, \$28, \$28, \$28, \$28
B9AB 28 EE 00		
B9AB 00 EE 28		
B9AE 28 28 28		

	ZYGRAF	BYTE	GRAPHIC OF ZYLON SHIP BASED ON XPOS
B9B1		0	BLANK
B9B1 00			
B9B2 B1 B1 B1			\$B1, \$B1, \$B1, \$B1, \$BD, \$FF, \$FF, \$BD, \$B1, \$B1, \$B1, \$B1
B9B5 B1 BD FF			
B9B8 FF BD B1			
B9B9 B1 B1 B1			
B9BE	ZYGRF1		
B9BE B2 B2 BA			\$B2, \$B2, \$BA, \$FE, \$FE, \$BA, \$B2, \$B2
B9C1 FE FE BA			
B9C4 B2 B2			
B9C6	ZYGRF2		
B9C6 42 5A 7E			\$42, \$5A, \$7E, \$7E, \$5A, \$42
B9C9 7E 5A 42			
B9CC	ZYGRF3		
B9CC 44 54 7C			\$44, \$54, \$7C, \$7C, \$54, \$44
B9CF 7C 54 44			
B9D2	ZYGRF4		
B9D2 24 3C 3C			\$24, \$3C, \$3C, \$24
B9D5 24			
B9D6	ZYGRF5		
B9D6 28 3B 3B			\$28, \$3B, \$3B, \$28
B9D9 2B			
B9DA	ZYGRF6		
B9DA 1B 1B			\$1B, \$1B

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B9DC	ZYGRF7		
B9DC 10 10		BYTE	\$10, \$10
B9DE	GBASER		
B9DE EO FB FB		BYTE	\$EO, \$FB, \$FB, \$FE, \$57, \$FE, \$FB, \$FB, \$0
B9E1 FE 37 FE			
B9E4 FB FB CO			
B9E7	GBASR3		
B9E7 CO FO		BYTE	\$CO, \$FO
B9E9	GBASR1		
B9E9 CO FO FO		BYTE	\$CO, \$FO, \$FO, \$FC, \$BE, \$FC, \$FO, \$BO, \$B
B9EC FC BE FC			
B9EF FO BO BO			
B9F2	GBASR2		
B9F2 CO CO FO		BYTE	\$CO, \$CO, \$FO, \$BC, \$FO, \$CO
B9F5 BC FO CO			
;			
;			
;			
B9F8	GBASEL		
B9F8 07 1F 1F		BYTE	7, \$1F, \$1F, \$7F, \$EA, \$7F, \$1F, \$1F, \$C
B9FB 7F EA 7F			
B9FE 1F 1F 03			
BA01	GBASL3		
BA01 03 0F		BYTE	3, \$F
BA03	GBASL1		
BA03 03 0F 0F		BYTE	3, \$F, \$F, \$3F, \$7D, \$3F, \$F, 1, 1
BA06 3F 7D 3F			
BA09 0F 01 01			
BA0C	GBASL2		
BA0C 03 03 0F		BYTE	3, 3, \$F, \$3D, \$F, 3
BA0F 3D 0F 03			

BA12	RDGRF1	
BA12 18 3C 7E	BYTE	\$18, \$3C, \$7E, \$7E, \$DB, \$C3, \$81, \$81, \$81
BA15 7E DB C3		
BA18 81 81 81		
BA1B	RDGRF1	
BA1B 10 38 7C	BYTE	\$10, \$38, \$7C, \$7C, \$D6, \$C6, \$82, \$82
BA1E 7C D6 C6		
BA21 82 82		
BA23	RDGRF2	
BA23 18 3C 3C	BYTE	\$18, \$3C, \$3C, \$66, \$66, \$42, \$42
BA26 66 66 42		
BA29 42		
BA2A	RDGRF3	
BA2A 10 38 38	BYTE	\$10, \$38, \$38, \$6C, \$44, \$44
BA2D 6C 44 44		
BA30	RDGRF4	
BA30 18 3C 24	BYTE	\$18, \$3C, \$24, \$24
BA33 24		

BA34	ROGRF5	
BA34 10 38 28	.BYTE	\$10, \$38, \$28
BA37	KLGRAF	
BA37 18 3C 7E	.BYTE	\$18, \$3C, \$7E, \$FF, \$18, \$18, \$FF, \$7E, \$3C, \$18
BA3A FF 18 18		
BA3D FF 7E 3C		
BA40 18		
BA41	KLGRF1	
BA41 10 38 7C	.BYTE	\$10, \$38, \$7C, \$FE, \$38, \$38, \$FE, \$7C, \$38, \$10
BA44 FE 38 38		
BA47 FE 7C 38		
BA4A 10		
BA4B	KLGRF2	
BA4B 18 3C 7E	.BYTE	\$18, \$3C, \$7E, \$18, \$7E, \$3C, \$18
BA4E 18 7E 3C		
BA51 18		
BA52	KLGRF3	
BA52 10 38 7C	.BYTE	\$10, \$38, \$7C, \$10, \$7C, \$38, \$10
BA55 10 7C 38		
BA58 10		
BA59	KLGRF4	
BA59 18 3C 18	.BYTE	\$18, \$3C, \$18, \$3C, \$18
BA5C 3C 18		
BASE	KLGRF5	
BASE 10 38 38	.BYTE	\$10, \$38, \$38, \$10
BA61 10		

BA62	LISTAB	; DISPLAY LIST TABLE LDISP
BA62 8D 00 46	BYTE	\$8D, 0, \$46
BA65 49 09	WORD	DISCTL
BA67 20 06 00	BYTE	\$20, 6, 0
BA6A	LISTB2	; GAL CHT
BA6A 01	BYTE	1
BA6B 2E A1	WORD	GLDISP
BA6D	LISTB3	; SECT SCAN
BA6D 00 00 46	BYTE	0, 0, \$46
BA70 FB A0	WORD	SESCAN
BA72 4D	BYTE	\$4D
BA73 CB 10	WORD	MEMMAP+200
BA79	LISTB4	; BACK VIEW
BA79 00 00 46	BYTE	0, 0, \$46
BA7B 09 A1	WORD	BACKUP
BA7A 4D	BYTE	\$4D
BA7B CB 10	WORD	MEMMAP+200
BA7D	LISTB5	; FRONT VIEW
BA7D 4D	BYTE	\$4D
BA7E 00 10	WORD	MEMMAP
BA80 0D 0D 0D	BYTE	\$0D, \$0D, \$0D, \$0D, \$0D
BA83 0D 0D		
BA85	LISTB6	; MESSAGE DN
BA85 30 46	BYTE	\$30, \$46
BA87 1F 0D	WORD	MESSAGE
BA89 4D	BYTE	\$4D
BABA A8 12	WORD	MEMMAP+680
BA8C	DISDIS	; FOR KEYSRV , DISPLAY LIST POINTERS
BA8C 1B 13 0B	BYTE	LISTB5-LISTAB, LISTB4-LISTAB, LISTB3-LISTAB, LISTB2-LISTAB
BA8F 08		
BA90	BRTABL	; BRIGHTNESS SELECT TABLE
BA90 FF FF FF	BYTE	BRT, BRT, BRT, BRT
BA93 FF		
BA94 AA FF AA	BYTE	MED, BRT, MED, BRT
BA97 FF		
BA98 AA AA AA	BYTE	MED, MED, MED, BRT
BA9B FF		
BA9C AA AA AA	BYTE	MED, MED, MED, MED
BA9F AA		
BAAO AA AA AA	BYTE	MED, MED, MED, DIM
BAA3 55		
BAA4 55 AA 55	BYTE	DIM, MED, DIM, MED
BAA7 AA		
BAAB 55 55 55	BYTE	DIM, DIM, DIM, MED
BAAB AA		
BAAC 55 55 55	BYTE	DIM, DIM, DIM, DIM
BAAF 55		
BA80	MASK	; MASK FOR RAM MAP BYTE DUE TO HPOS
BA80 C0 30 0C	BYTE	\$C0, \$30, \$0C, \$03
BA83 03		

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BAB4 WARPTB ; SELECT WARP ACCEL FROM KEY 0-9  
BAB4 00 01 02 BYTE 0, \$01, \$02, \$04, \$08, \$10, \$20, \$40, \$60, \$70  
BAB7 04 08 10  
BAB8 20 40 60  
BABD 70

BABE CODCON ; USED IN KEYSRV SUBROUTINE FOR KEY CONVERT  
BABE F2 DF DE BYTE \$F2, \$DF, \$DE, \$DA, \$DB, \$DD, \$DB, \$F3, \$F5, \$F0  
BAC1 DA DB DD  
BAC4 DB F3 F5  
BAC7 F0  
BAC8 FB FF CO BYTE \$FB, \$FF, \$C0, \$FD, \$ED, \$FE, \$D2, \$F9, \$E5, \$CA  
BACB FD ED FE  
BACE D2 F9 E5  
BAD1 CA  
BAD2 E7 BYTE \$E7

BAD3 WENTAB ; ENERGY USED PER WARP  
BAD3 00 04 06 BYTE 0, 4, 6, B, 10, 12, 14, 30, 45, 60  
BAD6 08 0A OC  
BAD9 0E 1E 2D  
BADC 3C

BADD	ENGTAB	; ENERGY USED PER DISTANCE WARP JUMP
BADD 0A 0D 10	BYTE	10, 13, 16, 20, 23, 50, 70, 80, 90, 120, 125, 130, 135, 140, 155, 170, 184, 200
BAE0 14 17 32		
BAE3 46 50 5A		
BAE6 78 7D 82		
BAE9 87 8C 9B		
BAEC AA B0 CB		
BAEF D0 D8 DF	BYTE	208, 216, 223, 232, 241, 250
BAF2 E8 F1 FA		
BAF5	JOYTAB	; CODE FOR EACH POSITION ON JOYSTICK
BAF5 00 01 FF	BYTE	0, \$1, \$FF, 0
BAFB 00		
BAF9	INSTAB	; INSET LINES TABLE HDRAW, VDRAW, NUMPTS
BAF9 50 28 B7	BYTE	\$50, \$28, \$87, \$50, \$36, \$87
BAFC 50 36 87		
BAFF 77 46 1E	BYTE	119, 70, 30, 119, 86, 30, 119, 70, \$91, 148, 70, \$91
BB02 77 56 1E		
BB05 77 46 91		
BB08 94 46 91		
BB0B 78 4E 06	BYTE	120, 7B, 6, 126, 75, 15, 126, 81, 15, 141, 7B, 7
BB0E 7E 4B OF		
BB11 7E 51 OF		
BB14 8D 4E 07		
BB17 85 47 84	BYTE	133, 71, \$84, 126, 76, \$85, 140, 76, \$85, 133, 82, \$84
BB1A 7E 4C 85		
BB1D BC 4C 85		
BB20 85 52 84		

## STAR REVENGE - VERSION 2.0 - STARCRAFT 1.0

BB23	INSTB1	; HORIZ CROSS HAIRS	
BB23 3E 32 0F	BYTE	\$3E, \$32, 15, \$34, \$32, 15	
BB26 94 32 0F			
BB29 FE	BYTE	\$FE	; ALL DONE
BB2A	INSTB2	; SECTOR SCAN SHIP	
BB2A 4E 35 82	BYTE	\$4E, \$35, \$82, \$4F, \$34, \$82, \$50, \$32, \$85, \$51, \$34, \$82, \$52, \$35, \$82	
BB2D 4F 34 82			
BB30 50 32 85			
BB33 51 34 82			
BB36 52 35 82			
BB39 FE	BYTE	\$FE	; ALL DONE
BB3A	YINIT	; HLINES	
BB3A 04 04 03	BYTE	4, 4, 3, 2	
BB3D 02			
BB3E	ZINIT	; HLINES	
BB3E 02 03 04	BYTE	2, 3, 4, 4	
BB41 04			

	STINIT	; STATUS INIT TABLE (LDTABS)		
BB42		BYTE	1B, 11, 0, 0, 10, \$55, \$4B, \$40, \$40, 10, \$8D, \$8B, \$89, \$89, \$89, \$89	
BB42 12	0B 00			
BB45	00 0A 55			
BB48	4B 40 40			
BB4B	0A 8D 8B			
BB4E	89 89 89			
BB51	B9			
BB52	0A 16 0B	BYTE	10, \$16, 11, 0	
BB52	00			
BB56	0A	BYTE	10	
BB57	14 0B OF	BYTE	\$14, \$0B, \$0F, 0, 0, 10, \$51, \$4B, \$0F, 0, 0, 10, \$93, \$8B, \$0F, 0, 0, 0	
BB5A	00 00 0A			
BB5D	51 4B OF			
BB60	00 00 0A			
BB63	93 8B OF			
BB66	00 00 00			
BB69	0A	BYTE	10	
BB6A	37 21 32	BYTE	\$37, \$21, \$32, \$30, 0, \$25, \$2E, \$25, \$32, \$27, \$39, \$1A, 0, 0, 0	
BB6D	30 00 25			
BB70	2E 25 32			
BB73	27 39 1A			
BB76	00 00 00			
BB79	10 00 00	BYTE	\$10, 0, 0, 0, 0	
BB7C	00 00			
BB7E	B4 A1 B2	BYTE	\$B4, \$A1, \$B2, \$A7, \$A5, \$B4, \$B3, \$9A, 0, 0	
BB81	A7 A5 B4			
BB84	B3 9A 00			
BB87	00			
BB88	24 23 1A	BYTE	\$24, \$23, \$1A, \$30, \$25, \$33, \$23, \$2C, \$32	
BB8B	30 25 33			
BB8E	23 2C 32			
BB91	00	BYTE	0	
BB92	F3 F4 E1	BYTE	\$F3, \$F4, \$E1, \$F2, 0, \$E4, \$E1, \$F4, \$E5, \$DA, \$D0, \$D0, \$CE, \$D0	
BB95	F2 00 E4			
BB98	E1 F4 E5			
BB9B	DA D0 D0			
BB9E	CE D0			
BBA0	D0 00 00	BYTE	\$D0, 0, 0, 0, 0, 0	
BBA3	00 00 00			
		CHRTAB	; TABLE FOR LDTABS ROUTINE	
BBA6		BYTE	\$CF, 4, 3, 2	
BBA6	CF 04 03			
BBA9	02			
			;	
			;	
			;	
			;	
			;	

BDAA	SENTAB		TABLE OF SENTENSES
BDAA 00		BYTE 0	; BUFFER
BDAB	SENACN		; ATTACK COMPUTER ON
BBAE 05 06 42		BYTE 5, 6, \$42	
BBAE	SENACF		; ATTACK COMPUTER OFF
BBAE 05 06 43		BYTE 5, 6, \$43	
BBB1	SESON		; SHIELDS ON
BBB1 04 42		BYTE 4, \$42	
BBB3	SENSOF		; SHIELDS OFF
BBB3 04 43		BYTE 4, \$43	
BBB5	SENCTN		; COMPUTER TRACKING ON
BBB5 06 07 42		BYTE 6, 7, \$42	
BBB8	SENCTF		; COMPUTER TRACKING OFF
BBB8 07 43		BYTE 7, \$43	
BBD4	SENWHT		; WHAT?
BBBA 48		BYTE \$48	
BBBB	SENHYP		; HYPERWARP ENGAGED
BBBB 09 4A		BYTE 9, \$4A	
BBBD	SENSUR		
BBBD 0B CD		BYTE 11, \$CD	; STARBASE SURROUNDED
BRBF	SENDES		
BBBF 0B CC		BYTE 11, \$CC	; STARBASE DESTROYED
BBC1	SENHWA		; HYPERWARP ABORTE
BBC1 09 4E		BYTE 9, \$4E	
BBC3	SENHWC		; HYPERWARP COMPLETE
BBC3 09 4F		BYTE 9, \$4F	
BBC5	SENHSP		; HYPERSPACE
BBC5 D0		BYTE \$D0	
BBC5	SENORB		; ORBIT ESTABLISHED
BBC6 11 92 56		BYTE 17, \$92, \$56	
BBC9	SENDKA		; DOCKING ABORTED
BBC9 13 4E		BYTE 19, \$4E	
BBCB	SENETC		; ENERGY TRANSFER COMPLETE
BBCB 15 4F		BYTE 21, \$4F	
BBCD	SENDST		; YOU ARE DESTROYED
BBCD B8 97 99		BYTE \$B8, \$97, \$99, \$98, \$8C, \$9D, \$30, \$9F, \$FD, \$37, \$FC, \$78	
BBDO 98 BC 9D			
BBD3 1E 9F FD			
BBD6 25 FC 78			
BBD9	SENATA		; TITLE
BBD9 9B 60		BYTE \$9B, \$60	

BBDB	SENOUT	; OUT OF ENERGY
BBDB BB 97 98	BYTE	\$BB, \$97, \$98, 26, \$BE, 28, \$94, 36, \$9F, \$FD, 37, \$FC, \$A7, \$68
BBDE 1A BE 1C		
BBE1 94 24 9F		
BBE4 FD 25 FC		
BBE7 A7 68		
BBE9	SENWIN	; YOU WIN
BBE9 BB 97 98	BYTE	\$BB, \$97, \$98, 26, \$BF, 36, \$9F, \$FD, 37, \$FC, \$66
BBEC 1A BF 24		
BBEF 9F FD 25		
BBF2 FC 66		
BBF4	SENNOV	; NOVICE MISSION
BBF4 2C 5A	BYTE	44, \$5A
BBF6	SENPIL	; PILOT MISSION
BBF6 2E 5A	BYTE	46, \$5A
BBF8	SENWAR	; WARRIOR MISSION
BBF8 31 5A	BYTE	49, \$5A

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BBFA	SENCOM	; COMMANDER MISSION
BBFA 33 5A	SENDMC	; DAMAGE CONTROL
BBFC		; BYTE \$B8, \$52, \$76
BBFC BB 34 76		
BBFF	SENPDPM	; PHOTONS DAMAGED
BBFF 37 B5 78	SENPDMS	; BYTE 55, \$B5, \$78
BC02	SENPDOS	; PHOTONS DESTROYED
BC02 37 BC 78	SENEDM	; BYTE 55, \$BC, \$78
BC05		; ENGINES DAMAGED
BC05 23 B5 78		; BYTE 35, \$B5, \$78
BC08	SENEDS	; ENGINES DESTROYED
BC08 23 BC 78	SENSDM	; BYTE 35, \$BC, \$78
BC0B		; SHIELDS DAMAGED
BC0B 04 B5 78	SENSDS	; BYTE 4, \$B5, \$78
BC0E		; SHIELDS DESTROYED
BC0E 04 BC 78	SENCDM	; BYTE 4, \$BC, \$78
BC11		; COMPUTER DAMAGED
BC11 06 B5 78	SENCDOS	; BYTE 6, \$B5, \$78
BC14		; COMPUTER DESTROYED
BC14 06 BC 78	SENTDM	; BYTE 6, \$BC, \$78
BC17		; SECTOR SCAN DAMAGED
BC17 A2 75		; BYTE \$A2, \$75
BC19	SENTDS	; SECTOR SCAN DESTROYED
BC19 A2 4C		; BYTE \$A2, \$4C
BC1B	SENMDM	; COMMUNICATIONS DAMAGED
BC1B A1 75		; BYTE \$A1, \$75
BC1D	SENMDOS	; COMMUNICATIONS DESTROYED
BC1D A1 4C		; BYTE \$A1, \$4C
BC1F	SENRED	; RED ALERT
BC1F C1		; BYTE \$C1
BC20	SENABR	; MISSION ABORTED KEY
BC20 BB 97 98		; BYTE \$BB, \$97, \$98, 26, \$BE, 36, \$9F, \$FD, 37, \$FC, \$66
BC23 1A BE 24		
BC26 9F FD 25		
BC29 FC 66		

BC2B WORDTAB , TABLE OF WORDS  
BC2B A0 20 20 BYTE \$A0, "RED ALERT"  
BC2E 20 20 52  
BC31 45 44 20  
BC34 41 4C 45  
BC37 52 54  
BC39 CF 4E BYTE \$CF, "N"  
BC3B CF 46 46 BYTE \$CF, "FF"  
BC3E D3 48 49 BYTE \$D3, "HIELDS"  
BC41 45 4C 44  
BC44 53  
BC45 C1 54 54 BYTE \$C1, "TTACK"  
BC48 41 43 4B  
BC4B C3 4F 4D BYTE \$C3, "OMPUTER"  
BC4E 50 55 54  
BC51 45 52  
BC53 D4 52 41 BYTE \$D4, "RACKING"  
BC56 43 4B 49  
BC59 4E 47  
BC5B D7 48 41 BYTE \$D7, "HATS WRONG?"  
BC5E 54 53 20  
BC61 57 52 4F  
BC64 4E 47 3F  
BC67 C8 59 50 BYTE \$CB, "YPERWARP"  
BC6A 45 52 57  
BC6D 41 52 50  
BC70 C5 4E 47 BYTE \$C5, "NGAGED"  
BC73 41 47 45  
BC76 44

## STAR WARS - THE ROTATIONAL STANDBY LOGON

BC77	D3	54	41	BYTE	\$D3, "TARBASE"
BC7A	52	42	41		
BC7D	53	45			
BC7F	C4	45	53	BYTE	\$C4, "ESTROYED"
BC82	54	52	4F		
BC85	59	45	44		
BC88	D3	55	52	BYTE	\$D3, "URROUNDED"
BC8B	52	4F	55		
BC8E	4E	44	45		
BC91	44				
BC92	C1	42	4F	BYTE	\$C1, "BORTED"
BC95	52	54	45		
BC98	44				
BC99	C3	4F	4D	BYTE	\$C3, "OMPLETE"
BC9C	50	4C	45		
BC9F	54	45			
BCA1	C8	59	50	BYTE	\$C8, "YPERSPACE"
BCA4	45	52	53		
BCA7	50	41	43		
BCAA	45				
BCAB	CF	52	42	BYTE	\$CF, "RBIT"
BCAE	49	54			
BCB0	C5	53	54	BYTE	\$C5, "STABLISHED"
BCB3	41	42	4C		
BCB6	49	53	48		
BCB9	45	44			
BCBB	C4	4F	43	BYTE	\$C4, "OCKING"
BCDE	4B	49	4E		
BCC1	47				
BCC2	C5	4E	45	BYTE	\$C5, "NERGY"
BCC5	52	47	59		
BCCB	D4	52	41	BYTE	\$D4, "RANSFER"
BCCB	4E	53	46		
BCCG	45	52			
BCD0	D3	54	41	BYTE	\$D3, "TANDBY"
BCD3	4E	44	42		
BCD6	59				
BCD7	D3	54	41	BYTE	\$D3, "TAR FLEET TO"
BCDA	52	20	46		
BCDD	4C	45	45		
BCE0	54	20	54		
BCE3	4F				
BCE4	D3	54	41	BYTE	\$D3, "TAR CRUISER 7"
BCE7	52	20	43		
BCEA	52	55	49		
BCED	53	45	52		
BCF0	20	37			

BCF2 C1 4C 4C	BYTE \$C1, "EE UNITS"
BCF5 20 55 4E	
BCF8 49 54 53	
BCFB CD 49 53	BYTE \$CD, "MISSION"
BCFE 53 49 4F	
BD01 4E	
BD02 A0 20 20	BYTE \$A0, "STAR RAIDERS"
BD05 20 53 54	
BD08 41 52 20	
BD0B 52 41 49	
BD0E 44 45 52	
BD11 53	
BD12 DA 45 52	BYTE \$DA, "ERO"
BD15 4F	
BD16 C2 59 20	BYTE \$C2, "Y ZYLON FIRE"
BD19 5A 52 4C	
BD1C 4F 4E 20	
BD1F 46 49 52	
BD22 45	
BD23 D0 4F 53	BYTE \$D0, "OSTHUMOUS"
BD26 54 48 55	
BD29 4D 4F 55	
BD2C 53	
BD2D D2 41 4E	BYTE \$D2, "ANK IS:"
BD30 4B 20 49	
BD33 53 3A	
BD35 C3 4F 50	BYTE \$C3, "OPYRIGHT ATARI 1979"
BD38 59 52 49	
BD3B 47 4B 54	
BD3E 20 41 54	
BD41 41 52 49	
BD44 20 31 39	
BD47 37 39	
BD49 D3 55 42	BYTE \$D3, "UB-SPACE RADIO"
BD4C 2D 53 50	
BD4F 41 43 45	
BD52 20 52 41	
BD55 44 49 4F	
BD58 D3 45 43	BYTE \$D3, "ECTOR SCAN"
BD5B 54 4F 52	
BD5E 20 53 43	
BD61 41 4E	
BD63 C5 4E 47	BYTE \$C5, "NGINES"
BD66 49 4E 45	
BD69 53	
BD6A CE 45 57	BYTE \$CE, "EW"
BD6D C3 4C 41	BYTE \$C3, "LASS"
BD70 53 53	
BD72 C3 4F 4E	BYTE \$C3, "ONGRATULATIONS"
BD75 47 52 41	
BD78 54 55 4C	
BD7B 41 54 49	
BD7E 4F 4E 53	

BDB1	D2	45	50	BYTE	\$D2, "EPORT TO BASE"
BDB4	47	52	54		
BDB7	20	54	4F		
BDA8A	20	42	41		
BDBD	53	45			
BDBF	C6	4F	52	BYTE	\$C6, "DR TRAINING"
BDB2	20	54	52		
BDB5	41	49	4E		
BDB8	49	4E	47		
BDBB	C7	41	4C	BYTE	\$C7, "ALACTIC COOK"
BDBE	41	43	54		
BDA1	49	43	20		
BDA4	43	4F	4F		
BDA7	4B				
BDA8	C7	41	52	BYTE	\$C7, "ARBAGE SCOW CAPTAIN"
BDA9	42	41	47		
BDAE	45	20	53		
BDB1	43	4F	57		
BDB4	20	43	41		
BDB7	50	54	41		
BDBA	49	4E			
BDBC	D2	4F	4F	BYTE	\$D2, "DOOKIE"
BDBF	4B	49	45		
BDC2	CE	4F	56	BYTE	\$CE, "VICE"
BDC5	49	43	45		
BDC8	C5	4E	53	BYTE	\$C5, "NSIGN"
BDCB	49	47	4E		
BDCE	D0	49	4C	BYTE	\$D0, "ILOT"
BDD1	4F	54			
BDD3	C1	43	45	BYTE	\$C1, "CE"
BDD6	CC	49	45	BYTE	\$CC, "IEUTENANT"
BDD9	55	54	45		
BDDC	4E	41	4E		
BDDF	54				
BDE0	D7	41	52	BYTE	\$D7, "ARRIOR"
BDE3	52	49	4F		
BDE6	52				
BDE7	C3	41	50	BYTE	\$C3, "APTAIN"
BDEA	54	41	49		
BDED	4E				

BDEE C3 4F 4D	BYTE	\$C3, "COMMANDER"
BDF1 4D 41 4E		
BDF4 44 45 52		
BDF7 44 41 4D	BYTE	\$C4, "AMAGE"
BDFA 41 47 45		
BDFD C4 41 4D	BYTE	\$C4, "AMAGED"
BE00 41 47 45		
BE03 44		
BE04 C3 4F 4E	BYTE	\$C3, "ONTROL"
BE07 54 52 4F		
BE0A 4C		
BE0B D0 4B 4F	BYTE	\$D0, "HOTONS"
BE0E 54 4F 4E		
BE11 53		
BE12 A0	BYTE	\$A0 ; BLANK
BE13 D3 54 41	BYTE	\$D3, "TAR COMMANDER"
BE16 52 20 43		
BE19 4F 4D 4D		
BE1C 41 4E 44		
BE1F 45 52		
BE21 80	BYTE	\$B0 ; END TABLE

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BE22	DISTYP	; CODE TO LOAD IN DISFLG
BE22 00 01 40	.BYTE	0, 1, \$40, \$80
BE25 80		
BE26	TOFFMG	; POINTER TO TOGLE OFF MESSAGE
BE26 0E 09 04	.BYTE	SENCTF-SENTAB, SENSOF-SENTAB, SENACF-SENTAB
BE29	TOGTAB	; BYTE TO TOGGLE RAM BYTE WITH
BE29 FF 0B 02	.BYTE	\$FF, B, 2
BE2C	TONMSG	; POINTER TO TOGGLE ON MESSAGE
BE2C 0B 07 01	.BYTE	SENCTN-SENTAB, SENSON-SENTAB, SENACN-SENTAB
BE2F	GPOINT	; TABLE OF GRAPHIC POINTERS FOR THE OBJ (OBJCOL)
BE2F 01 11 1F	.BYTE	1, PHGRF1-PHGRAF, PHGRF2-PHGRAF, PHGRF3-PHGRAF, PHGRF4-PHGRAF
BE32 2B 35		
BE34 3D 75 7A	.BYTE	PHGRF5-PHGRAF, DKQRF4-PHGRAF, DKQRF5-PHGRAF
BE37 01 0D 15	.BYTE	1, ZYGRF1-ZYGRAF, ZYQRF2-ZYGRAF, ZYQRF3-ZYGRAF, ZYQRF4-ZYGRAF
BE3A 1B 21		
BE3C 25 29 2B	.BYTE	ZYGRF5-ZYGRAF, ZYQRF6-ZYGRAF, ZYQRF7-ZYGRAF
BE3F 2D	.BYTE	QBASER-ZYGRAF
BE40 3B 41 36	.BYTE	GBASR1-ZYGRAF, GBASR2-ZYGRAF, GBASR3-ZYGRAF, GBASR3-ZYGRAF, 0, 0, 0
BE43 36 00 00		
BE46 00		
BE47 7E	.BYTE	GBASEM-PHGRAF
BE48 BE 9D AA	.BYTE	GBASM1-PHGRAF, GBASM2-PHGRAF, GBASM3-PHGRAF, GBASM4-PHGRAF
BE4B B4		
BE4C BC 7B 7A	.BYTE	GBASM5-PHGRAF, GBASM6-PHGRAF, DKQRF5-PHGRAF
BE4F 47	.BYTE	QBASL1-ZYGRAF
BE50 52 5B 50	.BYTE	QBASL1-ZYGRAF, QBASL2-ZYGRAF, QBASL3-ZYGRAF, QBASL3-ZYGRAF, 0, 0, 0
BE53 50 00 00		
BE56 00		
BE57 43	.BYTE	DKGRAF-PHGRAF
BE58 53 61 6C	.BYTE	DKQRF1-PHGRAF, DKQRF2-PHGRAF, DKQRF3-PHGRAF, DKQRF4-PHGRAF
BE5B 75		
BE5C 7A 75 7A	.BYTE	DKQRF5-PHGRAF, DKQRF4-PHGRAF, DKQRF5-PHGRAF
BE5F 01 11 1F	.BYTE	1, PHGRF1-PHGRAF, PHGRF2-PHGRAF, PHGRF3-PHGRAF, PHGRF4-PHGRAF
BE62 2B 35		
BE64 3D 75 7A	.BYTE	PHGRF5-PHGRAF, DKQRF4-PHGRAF, DKQRF5-PHGRAF

BEA7 61	.BYTE	ROGRAF-ZYGRAF
BE68 6A 72 79	.BYTE	ROGRF1-ZYGRAF, ROGRF2-ZYGRAF, ROGRF3-ZYGRAF, ROGRF4-ZYGRAF
BE6B 7F	.BYTE	
BE6C 83 29 2B	.BYTE	ROGRF5-ZYGRAF, ZYGRF6-ZYGRAF, ZYGRF7-ZYGRAF
BE6F 86	.BYTE	KLGRAF-ZYGRAF
BE70 90 9A A1	.BYTE	KLGRF1-ZYGRAF, KLGRF2-ZYGRAF, KLGRF3-ZYGRAF, KLGRF4-ZYGRAF
BE73 AB	.BYTE	
BE74 AD 29 2B	.BYTE	KLGRF5-ZYGRAF, ZYGRF6-ZYGRAF, ZYGRF7-ZYGRAF
BE77 C1 C1 C1	.BYTE	HWARTG-PHGRAF, HWARTG-PHGRAF, HWARTG-PHGRAF, HWARTG-PHGRAF
BE7A C1	.BYTE	
BE7B C1 C1 75	.BYTE	HWARTG-PHGRAF, HWARTG-PHGRAF, DKGRF4-PHGRAF, HWARTG-PHGRAF
BE7E C1	.BYTE	

		NBYTAB	NUMBER OF BYTES TO STORE (OBJCOL)
BE7F	OF 0D 0B	.BYTE	15, 13, 11, 9, 7, 5, 1, 1
BE82	09 07 05	.BYTE	
BE85	01 01	.BYTE	
BE87	0B 07 05	.BYTE	11, 7, 5, 5, 3, 3, 1, 1
BE8A	05 03 03	.BYTE	
BE8D	01 01	.BYTE	
BE8F	09 08 05	.BYTE	9, 8, 5, 2, 0, 0, 0, 0
BE92	02 00 00	.BYTE	
BE95	00 00	.BYTE	
BE97	0F 0E 0C	.BYTE	15, 14, 12, 9, 7, 4, 2, 1
BE9A	09 07 04	.BYTE	
BE9D	02 01	.BYTE	
BE9F	09 08 05	.BYTE	9, 8, 5, 2, 0, 0, 0, 0
BEA2	02 00 00	.BYTE	
BEA5	00 00	.BYTE	
BEA7	0F 0D 0A	.BYTE	15, 13, 10, 8, 4, 3, 1, 1
BEAA	08 04 03	.BYTE	
BEAD	01 01	.BYTE	
BEAF	0F 0D 0B	.BYTE	15, 13, 11, 9, 7, 5, 1, 1
BEB2	09 07 05	.BYTE	
BEB5	01 01	.BYTE	
BEB7	08 07 06	.BYTE	8, 7, 6, 5, 3, 2, 1, 1
BEBA	05 03 02	.BYTE	
BEBD	01 01	.BYTE	
BEBF	09 09 06	.BYTE	9, 9, 6, 6, 4, 3, 1, 1
BEC2	06 04 03	.BYTE	
BEC5	01 01	.BYTE	
BEC7	0B 0B 0B	.BYTE	11, 11, 11, 11, 11, 11, 1, 11
BECA	0B 0B 0B	.BYTE	
BECD	01 0B	.BYTE	

STAR RAIDERS. 16K BYTES OF ROM CODE - 79

BECF TRKTAB ; KEY FOR SWITCHING DISPLAY, ASERVE  
BECF FB FF .BYTE \$FB, \$FF

BED1 CHTABL ; FOR LDALTI, CODES FOR CHTDIS  
.BYTE \$0C, \$1E, \$1E, \$1D, \$1C, \$1B

BED1 OC 1E 1E  
BED4 1D 1C 1B

BED7 STERTB ; USED IN HWARP STEERING, OBJCOL  
BED7 9F BF DF .BYTE \$9F, \$BF, \$DF, \$FF

BEDA FF

BEDB BHORTB ; STAR BASE HORIZ OFFSET TABLE  
BEDB F8 0B .BYTE \$F8, 0B

BEDD DIFTAB ; RATING/DIFFICULTY TABLE  
BEDD 50 4C 3C .BYTE 80, 76, 60, 111, 60, 60, 50, 100, 40, 50, 40, 90

BEEO 6F 3C 3C

BEE3 32 64 2B

BEE6 32 2B 5A

BEE9 RANKTB ; RANK WORD VS. RATING HI NIBBLE

BEE9 A9 AA AA .BYTE \$A9, \$AA, \$AA, \$AB, \$AB, \$AC, \$AC, \$AD, \$AD, \$AE, \$AE, \$AF, \$B0, \$B1, \$B2, \$B3

BEEC AB AB AC

BEEF AC AD AD

BEF2 AE AE AF

BEF5 B0 B1 B2

BEF8 B3

BEF9 B3 B9 B9 .BYTE \$B3, \$B9, \$B9

BEFC	CLASTB	; DMA ASCII CLASS VS RATING LO NIBBLE
BEFC 95 95 95	BYTE	\$95, \$95, \$95, \$94, \$94, \$94, \$94, \$94, \$93, \$93, \$92, \$92, \$92, \$91
BEFF 94 94 94		
BF02 94 93 93		
BF05 93 92 92		
BF08 92 91		
BF0A 91 91	BYTE	\$91, \$91
BF0C	MSENTB	; MISSION TYPE TABLE
BF0C 4A 4C 4E	BYTE	SENNOV-SENTAB, SENPIL-SENTAB, SENWAR-SENTAB, SENCOM-SENTAB
BF0F 50		
BF10	DPRBTB	; DAMAGE PROB BASED ON MISDIF
BF10 00 50 B4	BYTE	0, 80, 180, \$FE
BF13 FE		
BF14	DAMGTB	; SENTENCES FO DAMAGE (DAMCTL)
BF14 55 5B 61	BYTE	SENPDPM-SENTAB, SENEDM-SENTAB, SENSDM-SENTAB, SENCDM-SENTAB
BF17 67		
BF18 6D 71	BYTE	SENEDM-SENTAB, SENMDM-SENTAB
BF1A	DESTTB	; SENTENCES FO DESTROY (DAMCIL)
BF1A 58 5E 64	BYTE	SENPDPS-SENTAB, SENEDS-SENTAB, SENSDS-SENTAB, SENCDS-SENTAB
BF1D 6A		
BF1E 6F 73	BYTE	SENEDS-SENTAB, SENMDS-SENTAB
BF20	NOISBTB	; NOISE ROUTINE, INIT AUDTIM, AUDADD, AFREQ2, AFREQ1, ATYPE3
		; ATYPE2, AUDEXP, PHOREP, AUDCTL, AUDF3
		FOR PHOTONS
BF20 18 FF 02	BYTE	\$18, \$FF, 2, 0, \$8A, \$A0, 0, 8, \$50, \$00
BF23 00 8A A0		
BF26 00 08 50		
BF29 00		
BF2A	NOITB1	; FOR SHIELD EXPLOSION
BF2A 40 40 01	BYTE	\$40, \$40, 1, 3, \$88, \$AF, 8, 0, \$50, 4
BF2D 03 88 AF		
BF30 08 00 50		
BF33 04		
BF34	NOITB2	; FOR ZYLON EXPLOS
BF34 30 40 01	BYTE	\$30, \$40, 1, 3, \$84, \$AB, 4, 0, \$50, 4
BF37 03 84 A8		
BF3A 04 00 50		
BF3D 04		

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BF3E	CH4TAB	; NOTINT,	INIT REPTR, NPRIOR, SDURAT, NDURAT, REPSEQ, NOTSEQ
BF3E	CH4TB1	; HYPERSPACE	
BF3E 02 02 02		2, 2, 2, 3, 12, 2	
BF41 03 00 02			
BF44	CH4TB2	; RED ALERT	
BF44 04 03 FF		4, 3, \$FF, \$10, 7, 4	
BF47 10 07 04			
BF4A	CH4TB3	; KEYS	
BF4A 07 04 02		7, 4, 2, 2, 0, 7	
BF4D 02 00 07			
BF50	CH4TB4	; DAMAGE	
BF50 0B 05 FF		11, 5, \$FF, \$20, 2, 11	
BF53 20 02 0B			
BF56	CH4TB5	; MESSAGE	
BF56 0E 06 08		14, 6, 8, \$20, 0, 14	
BF59 20 00 0E			
BF5C	NOTTAB	; TABL 0 NOTES, FF=RESERVED BYTE	
BF5C 10 FF		\$10, \$FF	; TRACKING
BF5E 18 FF		\$18, \$FF	; HYPERSPACE
BF60 40 60 FF		\$40, \$60, \$FF	; RED ALERT
BF63 10 10 10		\$10, \$10, \$10, \$FF	; KEYS
BF66 FF			
BF67 40 20 FF		\$40, \$20, \$FF	; DAMAGE
BF6A 48 40 51		\$48, \$40, \$51, \$FF	; STARFLEET MESSAGE
BF6D FF			
BF6E	ZYTARG	; GRAPHIC OF ZYLDN TARGET	
BF6E B4 B4 FC		\$B4, \$B4, \$FC, \$B4, \$B4	
BF71 B4 B4			
BF73	PHOYPS	; YPOS FOR PHOTON	
BF73 FF 01		\$FF, 1	
BF75	PHPOST	; BOUNDS IN HITZYL	
BF75 0C 0C 0C		\$C, \$C, \$C, \$C, \$E, \$E, \$E, \$20	
BF78 0C 0E 0E			
BF7B 0E 20			

BF7D PHOSB ; BOUNDS IN HITZYL  
BF7D 00 00 00 BYTE 0, 0, 0, 2, 4, 6, 8, \$C  
BF80 02 04 06  
BF83 08 00

BF85 PHODIF ; THINK  
BF85 01 84 08 BYTE \$81, \$84, \$88, \$94  
BF88 94  
BF89 ZYGIND ; THINK  
BF89 80 10 10 BYTE \$80, \$10, \$10, \$10, \$70, \$70, \$70, \$10  
BFBC 10 70 70  
BF8F 70 10  
BF91 INTSEQ ; THINK  
BF91 04 04 00 BYTE 4, 4, 0, 0, 0, 1, 0, 0  
BF94 00 00 01  
BF97 00 00

BF99 ZYWARP ; THINK  
BF99 3E 1E 10 BYTE \$3E, \$1E, \$10, 8, 4, 2, 1, 0, 0, \$81, \$82, \$84, \$88, \$90, \$9E, \$BE  
BF9C 08 04 02  
BF9F 01 00 00  
BFA2 81 82 84  
BFA5 88 90 9E  
BFB8 BE

BFA9	CLITAB	; LDTABS
BFA9 A6 AA AF	BYTE	\$A6, \$AA, \$AF, 0, 0, \$BB, \$5A, \$FC, \$5E, \$90
BFAC 00 00 BB		
BFAD 5A FC 5E		
BFB2 90		
BFB3	JMASK	; HWARP SUB, USED FOR INITING TARG POSITIONS
BFB3 FF FF 3F	BYTE	\$FF, \$FF, \$3F, \$0F, \$3F, \$7F, \$FF, \$FF
BFB6 0F 3F 7F		
BFB9 FF FF		
BFBB	JMPWHN	; TIMERS, WHEN EACH ZYLON TYPE SHOULD JUMP
BFBB 00 FF FF	BYTE	0, \$FF, \$FF, \$C0, \$20
BFBE C0 20		
BFC0	JMPTAB	; TIMERS, JUMP VECTORS FOR ZYLVNS
BFC0 F0 EF FF	BYTE	\$F0, \$EF, \$FF, 15, 16, 17, 1, \$F1, 0
BFC3 0F 10 11		
BFC6 01 F1 00		
BFC9	PHVect	; POHELP
BFC9 00 08 10	BYTE	0, 8, \$10, \$18, \$28, \$30, \$38, \$40
BFCC 18 28 30		
BFCC 38 40		
BFD1	COLTAB	; OBJCOL, CHROMA FOR EACH TYPE GRAPHIC
BFD1 50 00 20	BYTE	\$50, 0, \$20, \$20, \$20, 0, \$A0, 0, 0, \$9F
BFD4 20 20 00		
BFD7 A0 00 00		
BFDA 9F		
BFD8	COLINT	; OBJCOL, INTENSITY PER XPOS
BFDB 0E 0E 0E	BYTE	\$E, \$E, \$E, \$C, \$C, \$C, \$A, \$A, \$A, 8, 8, 8, 6, 6, 4, 4
BFDE 0C 0C 0C		
BFE1 0A 0A 0A		
BFE4 08 08 08		
BFE7 06 06 04		
BFEA 04		

BFE8	PHOTB2	; AUDIO, ATYPE3
BFE8 8A BF BD	BYTE	\$8A, \$8F, \$BD, \$BB, \$B9, \$B7, \$B5, \$B3
BFFE 8B B9 B7		
BFF1 B5 B3		
BFF3	PHOTB4	; AUDIO, AFREQ3
BFF3 00 04 01	BYTE	0, 4, 1, 4, 1, 4, 1, 4
BFF6 04 01 04		
BFF9 01 04		
BFFF	PHASE5	

P?  
02  
01  
W

STAR RAIDERS. VERSION 2.0.1 STARDATE 260000.0

CARTRIDGE OPERATING CODES

BFFC 00	*=\$BFFC	
BFFD 80	.BYTE 0	; CARTRIDGE IN FLAG
BFFE 4A A1	.BYTE \$80	; RUN CARTRIDGE IMMEDIATELY
	.WORD INIT	; START ADDR POINTER

C000 PHASE9

RAM MAP		
0280	RAMMAP	*=\$280 ; MISC RAM STORAGE
0280	DISPLAY	*=\$+128 ; DISPLAY LIST RAM
		*=\$+128 ; SEE EQUATES FOR INTERNAL LABELS
0300	PHASE2	
0300	PGRAPH	*=\$300
0300	MGRAPH	; MISSLE GRAPHICS RAM
0400	PGRAP0	*=\$+256
0500	PGRAP1	*=\$+256
0600	PGRAP2	*=\$+256
0700	PGRAP3	*=\$+256
0800	VCONL	; VERT CONVERT TABLE LO BYTE
		*=\$+100
0864	VCONH	; VERT CONVERT TABLE HI BYTE
		*=\$+100
		*=\$+1 ; BUFFER BYTE
08C9	CHTRAM	; CHART RAM, HOW MANY ZYLDNS IN EACH QUAD
		*=\$+128
0949	DISCTL	; DISPLAY OF CONTRAL STATUS PANNEL
		*=\$+2
0948	DVELOC	; DISP OF VELOC
		*=\$+2
		*=\$+3
0950	DKILL	; DISP OF KILL
		*=\$+2
		*=\$+3
0955	DENERG	; DISPLAY OF ENERGY
		*=\$+4
		*=\$+3
095C	DCSTOR	; WHICH OBJ TRACKING
		*=\$+1
		; NEXT LINE
0960	DTHETA	; DISPLAY OF THETA
		*=\$+3
		*=\$+3
0966	DPHI	; DISPLAY OF PHI
		*=\$+3
		*=\$+3
096C	DRHO	; DISPLAY OF RHO
		*=\$+4
		*=\$+1
		; NEXT LINE
0971	DGALAC	; GALACTIC CHART INFO
		*=\$+12
097D	DWENER	; DISPLAY WARP ENERGY
		*=\$+3

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		*==#+5
		NEXT LINE
098D	DTARG	*==#+8 ; DISP OF TARGETS IN QUAD
		*==#+1
		*==#+4
0992	DAMAGE	; DAMAGE CONTROL RAM, +0=PHOTONS, +1=ENGINES *==#+6 ; +2=SHIELDS, +3=COMPUTER, +4=SECTOR SCAN ; +5=SUB-SPACE RADIO *==#+1
		NEXT LINE
09A3	DSDATE	*==#+10 ; DISP OF STAR DATE
		*==#+5
		*==#+5
09AD	STRRAM	; RAM FOR STARS, OBJECTS POSITIONS, ETC.
09AD	XSIGN	; SIGN OF XPOS
09DE	YSIGN	*==#+RAMNUM *==#+RAMNUM
0A0F	ZSIGN	*==#+RAMNUM
0A40	XPOS	; XPOS IN SPACE HI BYTE *==#+RAMNUM
0A71	YPOS	*==#+RAMNUM
0AA2	ZPOS	*==#+RAMNUM
0AD3	XPOS	; XPOS IN SPACE LO BYTE *==#+RAMNUM
0B04	YPOS	*==#+RAMNUM
0B35	ZPOS	*==#+RAMNUM
0B66	XINCRE	; OBJECTS X DIRECTION VELOCITY *==#+RAMNUM
0B97	VINCRE	*==#+RAMNUM
0BC8	ZINCRE	*==#+RAMNUM
0BF9	VPOS	; VERT POS ON SCREEN *==#+RAMNUM
0C2A	HPOS	; HORIZ POS ON SCREEN *==#+RAMNUM
0C5B	OLDVER	; OLD VERT POSIT *==#+RAMNUM
0CBC	GINDEX	; TYPE OF GRAPHIC, OBJECT
0CBC	OLDHOR	; OLD HORIZ POSIT STARS
0CBD	OLDNUM	; PREVIOUS NUMBER OF BYTES STORED OBJECT
0CBD	OLDBYT	; OLD BYTE IN RAM MAP STARS
0CEE	NUMBYT	*==#+RAMNUM ; HOW MANY BYTES TO STORE OBJECT
0CEE	STRBYT	; THE BYTE TO STORE STARS
0D1F	MESAGE	*==#+RAMNUM ; DISPLAY OF MESSAGE RAM
		*==#+20
		*==#+2 ; BUFFER ZONE
0D35	CHTDIS	; CHAR GRAPHICS PNTR FD GALCHT

\*=++180

ODE9	PTAB	XBO SCALER TABLE ***+256
OFEY	BCDCON	BINARY TO BCD TABLE ***+256
OFE9	PHASE7	
1000	MEMMAP	*=\$1000 SCREEN MAP RAM ***+4096
2000	MEMEND	
2000	PHASE3	
	END	END PROGRAM

STAR RATINGS: MFPSTON 19-1 STARDATE 26-JUL-79

SYMBOL TABLE

AFREQ1	00DE	AFREG2	00DF	ALLPOT	D208	ALPHA	E000
ANT1C	D400	ASERV1	A600	ASERV2	A635	ASERV3	A61B
ASERV4	A60C	ATENER	007E	ATTRACT	0064	ATTARG	00BF
ATYPE2	00D0	ATYPE3	00DD	AUD10	B32B	AUDL1	B2F3
AUD12	B349	AUDADD	00E0	AUDC1	D201	AUDC2	D203
AUDC3	D205	AUDC4	D207	AUDCTL	D208	AUDEXP	00DB
AUDF1	D200	AUDF2	D202	AUDF3	D204	AUDF4	D206
AUDIO	B2AB	AUDIO1	B2E6	AUDIO2	B2C1	AUDIO3	B2E1
AUDI04	B337	AUDI05	B357	AUDI06	B369	AUDI07	B39F
AUDI08	B397	AUDTIM	00E1	BACKUP	A109	BASFLG	007B
BCDCON	0EE9	BHORTB	BEDB	BIGEXP	00E3	BINNMI	0077
BINTIM	0076	BOUND1	A422	BOUND3	A428	BOUND4	A43F
BOUNDS	A43C	BRT	00FF	BRTABL	BA90	BRTBLU	00AF
BRTRED	004F	BSEQTM	0075	BSER11	AD70	BSER12	ADCA
BSER13	AD12	BSER14	AD35	BSER15	AD6C	BSER20	ADD7
BSERV1	AD26	BSERV3	AD71	BSERV4	AD82	BSERVE	ADB9
BSERV7	ADBB	BSERVB	AD61	BSERV9	ACF3	BSERVE	ACE6
BSTRAF	00BB	CO	A000	C1	A008	C2	A010
C3	A018	C4	A020	C5	A028	C6	A030
C7	A038	C8	A040	C9	A048	CALC14	A4AD
CALCV1	A453	CALCV3	A49A	CALCV4	A4A4	CALCV5	A4A7
CALCV8	A473	CALCV9	A47D	CBLK	A050	CC	A0B8
CDQT	A0D0	CE	A068	CEQ	A058	CGCBLK	A060
CGRAPH	A000	CH4TAB	BF3E	CH4TB1	BF3E	CH4TB2	BF44
CH4TB3	BF4A	CH4TB4	BF50	CH4TB5	BF56	CHACTL	D401
CHIBASE	D409	CHLINE	A0C0	CHRTAB	BBA6	CHTABLE	BED1
CHTDIS	OD35	CHTRAM	08C9	CINF	A070	CK	A0A8
CLASTB	BEFC	CLINDX	B8DF	CLITAB	BFA9	CLRMAP	AE0D
CLRMP1	AE0F	CLRMP2	AE1A	CLROB1	A26A	CLROB2	A277
CLROB3	A284	CLROB4	A291	CLROB5	A29E	CLRSR1	A201
CLRSR2	A21F	CMINUS	A07B	CNSTAR	007A	CDCON	BABE
COLBK	D01A	COLINT	BFDB	COLPFO	D016	COLPF1	D017
COLPF2	D018	COLPF3	D019	COLPM0	D012	COLPM1	D013
COLPM2	D014	COLPM3	D015	COLRAM	00EE	COLTAB	BFD1
CONSOL	D01F	CONSR2	A6C2	CONSR3	A6B7	CPHI	A0B8
CPLUS	A0B0	CRATE	B10A	CRATE1	B121	CRATE2	B14A
CRATE3	B161	CRATE4	B15D	CRATE5	B15A	CRHQ	A09B
CSBASE	A0DB	CSER10	B173	CSER11	B1CB	CSERV1	B16B
CSERV2	B1BE	CSERV3	B1D3	CSERV4	B1E0	CSERV5	B200
CSERV6	B1FE	CSERV7	B212	CSERV8	B1A7	CSERV9	B16A
CSERVE	B162	CT	A0B0	CTHETA	A0A0	CTIA	D000
CV	A090	CVLINE	A0CB	CZY1	A0E8	CZY2	A0E0
CZY3	A0F0	DAMAGE	0992	DAMCT1	AF3C	DAMCT2	AEE7
DAMCT3	AF1E	DAMCT4	AF32	DAMCT5	AF10	DAMCT6	AF19
DAMCTL	AEE1	DAMGTB	BF14	DBLUE	00A0	DCSTOR	095C
DENERG	0955	DESTTB	BF1A	DGALAC	0971	DIFTAB	BEDD
DIM	0055	DIMBLU	0090	DIMRED	0042	DISCTL	0949
DISDIS	BABC	DISFLG	00D0	DISNMI	A728	DISNM2	A730
DISNMI	A718	DISPL1	0282	DISPL2	028F	DISPL3	02DF
DISPLAY	0280	DISTOP	007C	DISTYP	BE22	DIVID1	AA40
DIV1D2	AA52	DIVID3	AA66	DIVID4	AA6F	DIVID5	AA7B
DIVIDE	AA21	DKGRAF	B927	DKGRF1	B937	DKGRF2	B945
DKGRF3	B950	DKGRF4	B959	DKGRF5	B95E	DKILL	0950
DLISTH	D403	DLISTL	D402	DMACTL	D400	DPHI	0966
DPRBTB	BF10	DRAWER	A782	DRAWR1	A78E	DRAWR2	A7BE
DRAWR3	A784	DRAWR4	A7B8	DRAWR5	A7BA	DRHO	096C
DRKRED	0060	DSDATE	09A3	DTARG	09BD	DTHETA	0960
DVELOC	094B	DWENER	097D	ENDCLS	00CE	ENDRAT	00CD
ENFLAG	007F	ENGTAB	BADD	ETIMER	0073	EXHELP	ACAF

## STAR RAIDERS VERSION 1.0 - 1

STARGATE 25.09.1997

EXHLP1	ACC1	EXHLP2	ACES	EXPDEL	00E2	EXPLOS	AC6B
EXPLS1	A073	EXPNUM	0020	GALCHT	A11A	GBASEL	B9FB
GBASEM	B982	GBASER	B9DE	GBASL1	BA03	GBASL2	BA0C
GBASL3	BA01	GBASM1	B972	GBASM2	B981	GBASM3	B98E
GBASM4	B998	GBASM5	B9A0	GBASM6	B95F	GBASM1	B9E9
GBASR2	B9F2	GBASR3	B9E7	GHPDS	008D	GINDEX	0C8C
GLD1SP	A12E	GPOINT	BE2F	GRACTL	D01D	GRAFM	D011
GRAFPO	D00D	GRAFP1	D0QE	GRAFP2	D00F	GRAFP3	D01Q
GRAPH	C0E4	GVPOS	008C	HABOR1	A98D	HABOR2	A987
HABOR3	A9A6	HABORT	A980	HDRAW	00A6	HFLAG	00C0
HISPED	00C1	HITCLR	D01E	HITME	008A	HITS1	A69B
HITSH2	A6B7	HITZ10	AFE7	HITZ11	AF94	HITZY1	AF43
HITZY2	AF3F	HITZY3	AF6F	HITZY4	AFC6	HITZY5	AFEC
HITZY6	AFF3	HITZY7	AFFD	HITZY8	AF64	HITZY9	AF58
HITZYL	AF3D	HLINE1	AA20	HLINE2	A9C6	HLINE3	AA1A
HLINE4	A9E5	HLINES	A9B4	HMAX	00A0	HOBCEN	007D
HOFLOW	0050	HORCHT	003D	HORJOY	00C8	HPNTR	00C3
HPOS	0C2A	HPOSMO	D004	HPOSM1	D005	HPOSM2	D006
HPOSM3	D007	HPOSP0	D00Q	HPOSP1	D001	HPOSP2	D002
HPOSP3	D003	HSCROL	D404	HSER10	A91E	HSERV1	A97F
HSERV2	A96F	HSERV3	A947	HSERV4	A900	HSERV5	A901
HSERV6	A8AC	HSERV7	ABEC	HSERV8	A915	HSERV9	ABE8
HSERVE	AB9B	HSTCEN	0050	HSTEER	00C4	HTARGT	00A0
HTIMER	00C2	HWARTG	B9A5	HYHPOS	008F	HYPENG	0091
HYPQAD	0092	HYVPOS	008E	ICON1	1D40	ICON2	1BFE
INCKL1	AFD5	INCKL2	AFE7	INIT	A14A	INIT1	A15E
INIT2	A165	INIT3	A15A	INIT4	A15C	INIT5	A172
INSET	IB36	INSTAB	BAF9	INSTB1	BB23	INSTB2	BB2A
INTSEQ	BF91	IRQEN	D20E	IRQMSK	0040	IRQST	D20E
IRQVEC	A751	JMASK	BFB3	JMPMSK	00C7	JMPOUT	009F
JMPPTS	0096	JMPTAB	BFC0	JMPTIM	0078	JMPWHN	BFBB
JOYTAB	BAF5	KBCODE	D209	KEYS10	B096	KEYS13	BOED
KEYS14	B0FB	KEYS15	B045	KEYS1B	B082	KEYS20	B02B
KEYS23	B036	KEYS24	BOE6	KEYS27	BOFC	KEYS28	B106
KEYSR1	B011	KEYSR2	B020	KEYSR3	B040	KEYSR4	B041
KEYSR5	B060	KEYSR6	B056	KEYSR7	B07B	KEYSR8	B099
KEYSR9	B073	KEYSRV	AFFE	KILBAS	0093	KILOCH	0094
KILOCV	0095	KLGRAF	BA37	KLGRF1	BA41	KLGRF2	BA4B
KLGRF3	BA52	KLGRF4	BA59	KLGRF5	BA5E	LDGAL1	B4BD
LDGAL2	B4C6	LDGALT	B4B9	LDINS1	A778	LDINS2	A7B1
LDINS4	A77A	LDINS6	A765	LDINST	A76F	LDISP	ADF1
LDISP1	AE03	LDISP2	ADFB	LDISP3	ADF4	LDMES1	B22E
LDMES2	B21E	LDMES3	B234	LDMES4	B23A	LDMES5	B249
LDMES6	B25F	LDMES7	B276	LDMES8	B27C	LDMES9	B286
LDMESS	B223	LDMS10	B2A8	LDMS11	B2A2	LDMS12	B26B
LDMS14	B21F	LDTAB1	B3EE	LDTAB2	B41B	LDTAB3	B441
LDTAB4	B44C	LDTAB5	B48B	LDTAB6	B492	LDTAB7	B47C
LDTABB	B3CA	LDTABS	B3BA	LDTB10	B3BC	LISTAB	BA62
LISTB2	B4A6	LISTB3	BA6D	LISTB4	BA75	LISTB5	BA7D
LISTB6	B4B5	LOKFLG	00A3	LOKLOC	0086	LOKTAR	00B9
LOKWAT	00B8	LTBLUE	0092	MOPF	D000	MOPL	D00B
M1PF	D001	M1PL	D009	M2PF	D002	M2PL	D00A
M3PF	D003	M3PL	D00B	MAIN	A1F3	MAIN1	A3BB
MAIN3	A69B	MAIN4	A5D0	MASK	BAB0	MED	00AA
MEMEND	2000	MEMMAP	1000	MESSAGE	0D1F	MESTIM	00CF
MGRAPH	0300	MISDIF	0062	MOTIN1	A3E4	MOTIN2	A3EB
MOTIN3	A3FE	MOTIN9	A3EA	MSENTB	BFOC	MSERVE	B216
NBYTAB	BE7F	NDURAT	00D4	NDURTM	00DB	NEWST1	B7D7
NEWST2	B7BE	NEWST3	B785	NEWST4	B7BE	NEWST5	B7A9
NEWST6	B7FO	NEWSTR	B764	NMIEN	D40E	NMIRES	D40F

STAR RAIDERS, VER 0.104 2011 STARDATE 26 DEC 10

NMIST	D40F	NOISE	AEAB	NOISE1	AEB1	NOISE2	AEC9
NOISE3	AEB3	NO1STB	BF20	NOITB1	BF2A	NOITB2	BF34
NOSTAR	I7E3	NOTIN1	BCAF	NOTIN2	B3B9	NOTINT	B3A6
NOTSEQ	00D2	NDTTAB	BF5C	NOTVOL	00D9	NPRIOR	00D6
NOTAKS	0079	NTEMP	006F	NUMBYT	0CEE	NUMPTS	00A4
OBCOMP	0003	OBJC11	A569	OBJC12	A579	OBJCL1	A4ED
OBJCL2	A4E7	OBJCL3	A503	OBJCL4	A4FC	OBJCL5	A548
OBJCL6	A52E	OBJCL7	A53E	OBJCL8	A52A	OBJNUM	0005
OBLAST	0004	OBPHOT	0002	OLDBYT	OCBD	OLDHOR	OC8C
OLDNUM	OCBD	OLDVER	OC5B	POPF	D004	POPL	DOOC
P1PF	D005	P1PL	D00D	P2PF	D006	P2PL	D00E
P3PF	D007	P3PL	D00F	PACTL	D302	PAGEO	0067
PAND10	B896	PANDIS	B804	PANDS1	B822	PANDS2	B812
PANDS3	B810	PANDS4	B85C	PANDS5	B8A6	PANDS6	B86F
PANDS7	B89E	PANDS8	B88C	PANDS9	B8A6	PBCTL	D303
PE4H	D40C	PENV	D40D	PGRAP0	0400	PGRAP1	0500
PGRAP2	0600	PGRAP3	0700	PGRAPH	0300	PHASE2	0300
PHASE3	2000	PHASE4	00FC	PHASE5	BFFB	PHASE7	0FE9
PHASE8	A14A	PHASE9	C000	PHEXWT	00BE	PHGRAF	B8E4
PHGRF1	B8F5	PHGRF2	B903	PHGRF3	B90F	PHGRF4	B919
PHGRF5	B921	PHITS	0082	PHODIF	B8F5	PHOFLG	0084
PHOREP	00DA	PHOTB2	BFE8	PHOTB4	BFF3	PHOTIM	0085
PHOTN2	AE40	PHOTN3	AE56	PHOTN4	AE58	PHOTN7	AE66
PHOTNB	AE41	PHOTQ	0087	PHOTON	AE29	PHQYPS	BF73
PHP0SB	BF7D	PHPOST	BF75	PHVECT	BFC9	PIA	D300
PM8BASE	D407	PNTR	0068	POHELP	AECA	POHLP1	AED2
POHLP2	AEDA	POKEY	D200	POPALL	A74B	PORTA	D300
PORTB	D301	POTO	D200	POT1	D201	POT2	D202
POT3	D203	POT4	D204	POTS	D205	POT6	D206
POT7	D207	POTQO	D208	PRIOR	D01B	PROGST	0067
PTAB	ODE9	QUADRT	0090	RAMMAP	D280	RAMNUM	0031
RANDOM	D20A	RANKTB	BEE9	RATING	00CB	RED	0044
REDFLG	008B	REPMSG	0065	REPPTR	00D7	REPSEQ	00D3
RESET	0063	RMLAST	0030	ROGRAF	BA12	ROGRF1	BA1B
ROGRF2	BA23	ROGRF3	BA2A	ROGRF4	BA30	ROGRF5	BA34
ROHELP	B69B	ROHLP1	B6A4	ROHLP2	B6E1	ROTTIM	00BA
SCBCD	0064	SCPTAB	0051	SCYCON	002B	SDURAT	00D5
SECOND	0074	SENABR	BC20	SENACF	BBAE	SENACN	BBAB
SENATA	BBD9	SENCDM	BC11	SENCDS	BC14	SENCOM	BBFA
SENCTF	BBBB	SENCTN	BBB5	SENDES	BBBF	SENDKA	BBC9
SENDMC	BBFC	SENDST	BBCD	SENEDM	BC05	SENEDS	BC08
SENETC	BBCB	SENHSP	BBC5	SENHWA	BBC1	SENHWC	BBC3
SENHYP	BBBB	SENMDM	BC1B	SENMD5	BC1D	SENNOV	BBF4
SENORB	BBC6	SENOUT	BBDB	SENPD5	BBFF	SENPD8	BC02
SENPII	BBF6	SENPTR	00D1	SENRED	BC1F	SENSDM	BC0B
SENSDS	BCOE	SENOF	BBB3	SENOSEN	BBB1	SENSUR	BBBD
SENTAB	BBAA	SENTDM	BC17	SENTDS	BC19	SENWAR	BBF8
SENWHT	BBBA	SENWIN	BBE9	SEQEN	00AB	SEQTIM	00AA
SERIN	D20D	SEROUT	D20D	SESCAN	A0FB	SHENER	007D
SIZEM	D00C	SIZEPO	D008	SIZEP1	D009	SIZEP2	D00A
SIZEP3	D00B	SKCTL	D20F	SKRES	D20A	SKSTAT	D20F
SPABAK	0081	SPEED	0070	SSERV1	A4E5	SSERV2	A4C0
SSERV3	A4CA	SSERV4	A4DB	STERMK	00C6	STERTB	BED7
STFLAG	00E9	STHPOS	B6FB	STHPS2	B709	STHPS3	B717
STIMER	D209	STINIT	BB42	STLAST	0010	STOOB1	A2BA
STOOB2	A2E0	STOOB3	A306	STOOB5	A327	STOOB6	A343
STOOB7	A30E	STOOB8	A2C2	STOOB9	A2E8	STOSR1	A250
STOSR2	A227	STOSR3	A262	STRBR1	A593	STRBR2	A58D
STRBR4	A5AB	STRBR5	A5A5	STRBR6	A5A3	STRBYT	0CEE
STRNUM	000C	STRRAM	09AD	STVPOS	B71E	STVPS1	B75A

STAR NAMES: VENUS IN 25-1 STARDATE 22-JUN-72

STVPS2	B72E	STVPS3	B753	STVPS4	B764	STVPS5	B745
STVPS6	B74A	STVPS7	B73E	STVPS8	B763	TARPTR	00A2
TEMP	06EA	TEMP1	006B	TEMP2	006C	TEMP3	006D
TEMP4	006E	THINKEY	00CA	THIN10	AC0A	THIN11	ABCA
THIN12	ABE1	THIN13	AC31	THIN14	AB35	THIN15	AC4F
THIN16	AC32	THIN20	AB11	THIN22	ABE9	THIN23	ABE8
THIN24	ABFA	THIN26	AB98	THIN27	AB9C	THIN28	ABB3
THIN30	ABC4	THIN31	ABA	THIN33	ABE5	THIN35	ABAE
THIN36	ABDD	THIN37	AA90	THIN38	AAB3	THIN39	AAB5
THIN40	AAC8	THIN41	AACF	THIN42	AAD5	THIN43	AADD
THIN44	AAE0	THIN45	AB66	THINK	AA79	THINK1	AB09
THINK2	AB03	THINK3	AAF4	THINK4	AB00	THINK5	AB37
THINK6	AB84	THINK8	ABFC	THINK9	AC08	TIME10	B544
TIME11	B59A	TIME12	B57C	TIME13	B580	TIME14	B5DA
TIME15	B5C1	TIME16	B5D1	TIME18	B5EA	TIME19	B619
TIME20	B5EF	TIME21	B601	TIME22	B655	TIME23	B662
TIME24	B664	TIME25	B68D	TIME26	B644	TIME27	B632
TIME28	B5BB	TIME30	B53E	TIME31	B516	TIME32	B50F
TIME33	B51A	TIME40	B61D	TIME42	B68F	TIME44	B61C
TIME45	B698	TIME46	B4F5	TIME47	B511	TIME61	B574
TIMER1	B569	TIMER2	B54E	TIMER3	B565	TIMER4	B562
TIMERS	B56A	TIMER6	B51C	TIMER7	B527	TIMER9	B536
TIMERS	B4E4	TIMERX	0072	TIMHLP	B7F1	TIMHP1	B803
TIMOUT	0066	TOFFMG	BE26	TOGTAB	BE29	TONMSQ	BE2C
TRIGO	D010	TRIG1	D011	TRIG2	D012	TRIG3	D013
TRKFLG	007C	TRKTAB	BECF	TWOCM1	B8BD	TWOCM3	B8CD
TWOCM	B8A7	UPIN10	A7E9	UPIN11	A85F	UPIN12	AB3A
UPIN13	AB3C	UPIN14	AB50	UPINS1	A898	UPINS2	A7EC
UPINS3	AB30	UPINS4	AB04	UPINS5	A80A	UPINS6	A821
UPINS7	A827	UPINS8	A7CF	UPINS9	A7E1	UPINST	A7BF
VBLNK1	A6E9	VBLNK2	A6F2	VBLNK3	A6F6	VBLNK4	A6EA
VBLNK5	A715	VBNMI	A6D1	VCONH	OB64	VCONL	OB00
VCOUNT	D40B	VDELAY	D01C	VDRAW	0045	VDSLST	0200
VERCHT	003F	VERJOY	00C9	VIMIRQ	0216	VMAX	0064
VOBCEN	007A	VOFLOW	0032	VPOS	0BF9	VSCROL	D405
VSTCEN	0032	VSTEER	00C5	VTARGT	00A1	VYBLKI	0222
WARP	0071	WARPTB	BAB4	WENTAB	BAD3	WPENER	0080
WRDTAB	BC2B	WSYNC	D40A	XINCRE	OB66	XINDES	00AC
XINPRS	00B2	XMOVE1	A3BD	XMOVE2	A3C6	XMOVE3	A3DF
XPOSH	0A40	XPOSL	0AD3	XSIGN	09AD	YELLOW	0026
YINCRE	OB97	YINDES	00AE	YINIT	BB3A	YPOSH	0A71
YPOSL	OB04	YROTA1	A39E	YROTA2	A3B9	YSIGN	09DE
ZINCRE	0BC8	ZINDES	00B0	ZINIT	BB3E	ZPOSH	0AA2
ZPOSL	OB35	ZROTA1	A3B8	ZROTA2	A3A6	ZSIGN	0AOF
ZYGIN	BF89	ZYGRAF	B9B1	ZYGRF1	B9BE	ZYGRF2	B9C6
ZYGRF3	B9CC	ZYGRF4	B9D2	ZYGRF5	B9D6	ZYGRF6	B9DA
ZYGRF7	B9DC	ZYTARG	BF6E	ZYTOGG	00A7	ZYWARP	BF99