

## ATARI 800 EQUATE LISTING

This listing is based on the original release of Operating System, version A. The vectors shown here were not changed in version B. New equates for XL and XE models are included and noted. Changes from version B to XL/XE are also noted.

Most of the equate names given below are the official Atari names. They are in common use but are not mandatory.

```
0100 ;
0101 ;           ATARI 800 EQUATE LISTING
0102 ;
0103 ;
0104 ;
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0109 ;
0110 ;Most of the equate names given below are the official Atari
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0112 ;
0113 ;
0114 ;           DEVICE NAMES
0115 ;
0116 ;
0117 ;SCREDT = "E"   SCREEN EDITOR
0118 ;KBD     = "K"   KEYBOARD
0119 ;DISPLY  = "S"   DISPLAY
0120 ;PRINTR  = "P"   PRINTER
0121 ;CASSET  = "C"   CASSETTE
0122 ;DISK    = "D"   DISK DRIVE
0123 ;
0124 ;
0125 ;
0126 ;           STATUS  CODES
0127 ;
0128 ;
0129 SUCCES = $01           1
0130 BRKABT = $80          128 BREAK KEY ABORT
0131 PRVOPN = $82          130 IOCB ALREADY OPEN
0132 NONDEV = $82          130 NONEXISTANT DEVICE
0133 WRONLY = $83          131 OPENED FOR WRITE ONLY
0134 NVALID = $84          132 INVALID COMMAND
0135 NOTOPN = $85          133 DEVICE OR FILE NOT OPEN
0136 BADIOC = $86          134 INVALID IOCB NUMBER
0137 RDONLY = $87          135 OPENED FOR READ ONLY
0138 EOFERR = $88          136 END OF FILE
0139 TRNRCD = $89          137 TRUNCATED RECORD
0140 TIMEOUT = $8A         138 PERIPHERAL TIME OUT
0141 DNACK   = $8B         139 DEVICE DOES NOT ACKNOWLEDGE
0142 FRMERR  = $8C         140 SERIAL BUS FRAMING ERROR
0143 CRSROR  = $8D         141 CURSOR OUT OF RANGE
0144 OVRRUN  = $8E         142 SERIAL BUS DATA OVERRUN
0145 CHKERR  = $8F         143 SERIAL BUS CHECKSUM ERROR
0146 DERROR  = $90         144 PERIPHERAL DEVICE ERROR
0147 BADMOD  = $91         145 NON EXISTANT SCREEN MODE
0148 FNCNOT  = $92         146 FUNCTION NOT IMPLEMENTED
0149 SCRMEM  = $93         147 NOT ENOUGH MEMORY FOR SCREEN MODE
```

```

0150 ;
0151 ;
0152 ;
0153 ;
0154 ;   COMMAND CODES FOR CIO
0155 ;
0156 ;
0157 OPEN   = $03           3
0158 OPREAD = $04           4 OPEN FOR INPUT
0159 GETREC = $05           5 GET RECORD
0160 OPDIR  = $06           6 OPEN TO DISK DIRECTORY
0161 GETCHR = $07           7 GET BYTE
0162 OWRITE = $08           8 OPEN FOR OUTPUT
0163 PUTREC = $09           9 WRITE RECORD
0164 APPEND = $09           9 OPEN TO APPEND TO END OF DISK FILE
0165 MXDMOD = $10          16 OPEN TO SPLIT SCREEN (MIXED MODE)
0166 PUTCHR = $0B          11 PUT-BYTE
0167 CLOSE  = $0C          12
0168 OUPDAT = $0C          12 OPEN FOR INPUT AND OUTPUT AT THE SAME TIME
0169 STATUS = $0D          13
0170 SPECIL = $0E          14 BEGINNING OF SPECIAL COMMANDS
0171 DRAWLN = $11          17 SCREEN DRAW
0172 FILLIN = $12          18 SCREEN FILL
0173 RENAME = $20          32
0174 INSCLR = $20          32 OPEN TO SCREEN BUT DON'T ERASE
0175 DELETE = $21          33
0176 DFRMAT = $21          33 FORMAT DISK (RESIDENT DISK HANDLER (RDH))
0177 LOCK   = $23          35
0178 UNLOCK = $24          36
0179 POINT  = $25          37
0180 NOTE   = $26          38
0181 PTSECT = $50          80 RDH PUT SECTOR
0182 GTSECT = $52          82 RDH GET SECTOR
0183 DSTAT  = $53          83 RDH GET STATUS
0184 PSECTV = $57          87 RDH PUT SECTOR AND VERIFY
0185 NOIRG  = $80          128 NO GAP CASSETTE MODE
0186 CR     = $9B          155 CARRIAGE RETURN (EOL)
0187 ;
0188 IOCBSZ = $10           16 IOCB SIZE
0189 MAXIOC = $80           128 MAX IOCB BLOCK SIZE
0190 IOCBF  = $FF          255 IOCB FREE
0191 ;
0192 LEDGE  = $02           2 DEFAULT LEFT MARGIN
0193 REDGE  = $27          39 DEFAULT RIGHT MARGIN
0194 ;
0195 ;           OS VARIABLES
0196 ;
0197 ;           PAGE 0
0198 ;
0199 LINZBS = $00           0 (800) FOR ORIGINAL DEBUGGER
0200 ;           $00           0 (XL) RESERVED
0201 NGFLAG = $01           1 (XL) FOR POWER-UP SELF TEST
0202 CASINI = $02           2
0203 RAMLO  = $04           4 POINTER FOR SELF TEST
0204 TRAMSZ = $06           6 TEMPORARY RAM SIZE
0205 TSTDAT = $07           7 TEST DATA
0206 WARMST = $08           8
0207 BOOT?  = $09           9 SUCCESSFUL BOOT FLAG
0208 DOSVEC = $0A          10 PROGRAM RUN VECTOR

```

0209	DOSINI	=	\$0C	12	PROGRAM INITIALIZATION
0210	APPMHI	=	\$0E	14	DISPLAY LOW LIMIT
0211	POKMSK	=	\$10	16	IRQ ENABLE FLAGS
0212	BRKKEY	=	\$11	17	FLAG
0213	RTCLOK	=	\$12	18	3 BYTES, MSB FIRST
0214	BUFADR	=	\$15	21	INDIRECT BUFFER ADDRESS
0215	ICCOMT	=	\$17	23	COMMAND FOR VECTOR
0216	DSKFMS	=	\$18	24	DISK FILE MANAGER POINTER
0217	DSKUTL	=	\$1A	26	DISK UTILITY POINTER (DUP.SYS)
0218	PTIMOT	=	\$1C	28	(800) PRINTER TIME OUT REGISTER
0219	ABUFPT	=	\$1C	28	(XL) RESERVED
0220	PBPNT	=	\$1D	29	(800) PRINTER BUFFER POINTER
0221	;		\$1D	29	(XL) RESERVED
0222	PBUFSZ	=	\$1E	30	(800) PRINTER BUFFER SIZE
0223	;		\$1E	30	(XL) RESERVED
0224	PTEMP	=	\$1F	31	(800) TEMPORARY REGISTER
0225	;		\$1F	31	(XL) RESERVED
0226	ZIOCB	=	\$20	32	ZERO PAGE IOCB
0227	ICHIDZ	=	\$20	32	HANDLER INDEX NUMBER (ID)
0228	ICDNOZ	=	\$21	33	DEVICE NUMBER
0229	ICCOMZ	=	\$22	34	COMMAND
0230	ICSTAZ	=	\$23	35	STATUS
0231	ICBALZ	=	\$24	36	BUFFER POINTER LOW BYTE
0232	ICBAHZ	=	\$25	37	BUFFER POINTER HIGH BYTE
0233	ICPTLZ	=	\$26	38	PUT ROUTINE POINTER LOW
0234	ICPTHZ	=	\$27	39	PUT ROUTINE POINTER HIGH
0235	ICBL LZ	=	\$28	40	BUFFER LENGTH LOW
0236	ICBLHZ	=	\$29	41	
0237	ICAX1Z	=	\$2A	42	AUXILIARY INFORMATION BYTE 1
0238	ICAX2Z	=	\$2B	43	
0239	ICSPRZ	=	\$2C	44	TWO SPARE BYTES (CIO USE)
0240	ICIDNO	=	\$2E	46	IOCB NUMBER X 16
0241	CIOCHR	=	\$2F	47	CHARACTER BYTE FOR CURRENT OPERATION
0242	;				
0243	STATUS	=	\$30	48	STATUS STORAGE
0244	CHKSUM	=	\$31	49	SUM WITH CARRY ADDED BACK
0245	BUFRLO	=	\$32	50	DATA BUFFER LOW BYTE
0246	BUFRHI	=	\$33	51	
0247	BFENLO	=	\$34	52	ADDRESS OF LAST BUFFER BYTE +1 (LOW)
0248	BFENHI	=	\$35	53	
0249	CRETRY	=	\$36	54	(800) NUMBER OF COMMAND FRAME RETRIES
0250	LTEMP	=	\$36	54	(XL) LOADER TEMPORARY STORAGE, 2 BYTES
0251	DRETRY	=	\$37	55	(800) DEVICE RETRIES
0252	BUFRFL	=	\$38	56	BUFFER FULL FLAG
0253	RECVDN	=	\$39	57	RECEIVE DONE FLAG
0254	XMTDON	=	\$3A	58	TRANSMISSION DONE FLAG
0255	CHKSNT	=	\$3B	59	CHECKSUM-SENT FLAG
0256	NOCKSM	=	\$3C	60	CHECKSUM-DOES-NOT-FOLLOW-DATA FLAG
0257	BPTR	=	\$3D	61	
0258	FTYPE	=	\$3E	62	
0259	FEOF	=	\$3F	63	
0260	FREQ	=	\$40	64	
0261	;				
0262	SOUNDR	=	\$41	65	0=QUIET I/O
0263	CRITIC	=	\$42	66	CRITICAL FUNCTION FLAG, NO DEFERRED VBI
0264	FMSZPG	=	\$43	67	DOS ZERO PAGE, 7 BYTES
0265	CKEY	=	\$4A	74	(800) START KEY FLAG
0266	ZCHAIN	=	\$4A	74	(XL) HANDLER LOADER TEMP, 2 BYTES
0267	CASSBT	=	\$4B	75	(800) CASSETTE BOOT FLAG

0268	DSTAT = \$4C	76	DISPLAY STATUS
0269	;		
0270	ATTRACT = \$4D	77	
0271	DRKMSK = \$4E	78	ATTRACT MASK
0272	COLRSH = \$4F	79	ATTRACT COLOR SHIFTER (EORed WITH GRAPHICS)
0273	;		
0274	TMPCHR = \$50	80	
0275	HOLD1 = \$51	81	
0276	LMARGN = \$52	82	SCREEN LEFT MARGIN REGISTER
0277	RMARGN = \$53	83	SCREEN RIGHT MARGIN
0278	ROWCRS = \$54	84	CURSOR ROW
0279	COLCRS = \$55	85	CURSOR COLUMN, 2 BYTES
0280	DINDEX = \$57	87	DISPLAY MODE
0281	SAVMSC = \$58	88	SCREEN ADDRESS
0282	OLDROW = \$5A	90	CURSOR BEFORE DRAW OR FILL
0283	OLDCOL = \$5B	91	
0284	OLDCHR = \$5D	93	DATA UNDER CURSOR
0285	OLDADR = \$5E	94	CURSOR ADDRESS
0286	NEWROW = \$60	96	(800) DRAWTO DESTINATION
0287	FKDEF = \$60	96	(XL) FUNCTION KEY DEFINATION POINTER
0288	NEWCOL = \$61	97	(800) DRAWTO DESTINATION, 2 BYTES
0289	PALNTS = \$62	98	(XL) EUROPE/NORTH AMERICA TV FLAG
0290	LOGCOL = \$63	99	LOGICAL LINE COLUMN POINTER
0291	MLTTMP = \$66	102	
0292	OPNTMP = \$66	102	TEMPORARY STORAGE FOR CHANNEL OPEN
0293	SAVADR = \$68	104	
0294	RAMTOP = \$6A	106	START OF ROM (END OF RAM + 1), HIGH BYTE ONLY
0295	BUFCNT = \$6B	107	BUFFER COUNT
0296	BUFSTR = \$6C	108	POINTER USED BY EDITOR
0297	BITMSK = \$6E	110	POINTER USED BY EDITOR
0298	SHFAMT = \$6F	111	
0299	ROWAC = \$70	112	
0300	COLAC = \$72	114	
0301	ENDPT = \$74	116	
0302	DELTAR = \$76	118	
0303	DELTAC = \$77	119	
0304	ROWINC = \$79	121	(800)
0305	KEYDEF = \$79	121	(XL) KEY DEFINATION POINTER, 2 BYTES
0306	COLINC = \$7A	122	(800)
0307	SWPFLG = \$7B	123	NON 0 IF TEXT AND REGULAR RAM IS SWAPPED
0308	HOLDCH = \$7C	124	CH MOVED HERE BEFORE CTRL AND SHIFT
0309	INSDAT = \$7D	125	
0310	COUNTR = \$7E	126	
0311	;		
0312	ZROFRE = \$80	128	FREE ZERO PAGE, 84 BYTES
0313	FPZRO = \$D4	212	FLOATING POINT RAM, 43 BYTES
0314	FR0 = \$D4	212	FP REGISTER 0
0315	FRE = \$DA	218	
0316	FR1 = \$E0	224	FP REGISTER 1
0317	FR2 = \$E6	230	FP REGISTER 2
0318	FRX = \$EC	236	SPARE
0319	EEXP = \$ED	237	VALUE OF E
0320	NSIGN = \$ED	237	SIGN OF FP NUMBER
0321	ESIGN = \$EF	239	SIGN OF FP EXPONENT
0322	FCHFLG = \$F0	240	FIRST CHARACTER FLAG
0323	DIGRT = \$F1	241	NUMBER OF DIGITS RIGHT OF DECIMAL POINT
0324	CIX = \$F2	242	INPUT INDEX
0325	INBUFF = \$F3	243	POINTER TO ASCII FP NUMBER
0326	ZTEMP1 = \$F5	245	

0327	ZTEMP4 = \$F7	247	
0328	ZTEMP3 = \$F9	249	
0329	DEGFLG = \$FB	251	
0330	RADFLG = \$FB	251	0=RADIANS, 6=DEGREES
0331	FLPTR = \$FC	252	POINTER TO BCD FP NUMBER
0332	FPTR2 = \$FE	254	
0333	;		
0334	;		
0335	;		PAGE 1
0336	;		
0337	;		6502 STACK
0338	;		
0339	;		
0340	;		
0341	;		
0342	;		PAGE 2
0343	;		
0344	;		
0345	INTABS = \$0200	512	INTERRUPT RAM
0346	VDSLST = \$0200	512	NMI VECTOR
0347	VPRCED = \$0202	514	PROCEED LINE IRQ VECTOR
0348	VINTER = \$0204	516	INTERRUPT LINE IRQ VECTOR
0349	VBREAK = \$0206	518	
0350	VKEYBD = \$0208	520	
0351	VSERIN = \$020A	522	SERIAL INPUT READY IRQ
0352	VSEROR = \$020C	524	SERIAL OUTPUT READY IRQ
0353	VSEROC = \$020E	526	SERIAL OUTPUT COMPLETE IRQ
0354	VTIMR1 = \$0210	528	TIMER 1 IRQ
0355	VTIMR2 = \$0212	530	TIMER 2 IRQ
0356	VTIMR4 = \$0214	532	TIMER 4 IRQ
0357	VIMIRQ = \$0216	534	IRQ VECTOR
0358	CDTMV1 = \$0218	536	DOWN TIMER 1
0359	CDTMV2 = \$021A	538	DOWN TIMER 2
0360	CDTMV3 = \$021C	540	DOWN TIMER 3
0361	CDTMV4 = \$021E	542	DOWN TIMER 4
0362	CDTMV5 = \$0220	544	DOWN TIMER 5
0363	VVBLKI = \$0222	546	
0364	VVBLKD = \$0224	548	
0365	CDTMA1 = \$0226	550	DOWN TIMER 1 JSR ADDRESS
0366	CDTMA2 = \$0228	552	DOWN TIMER 2 JSR ADDRESS
0367	CDTMF3 = \$022A	554	DOWN TIMER 3 FLAG
0368	SRTIMR = \$022B	555	REPEAT TIMER
0369	CDTMF4 = \$022C	556	DOWN TIMER 4 FLAG
0370	INTEMP = \$022D	557	IAN'S TEMP
0371	CDTMF5 = \$022E	558	DOWN TIMER FLAG 5
0372	SDMCTL = \$022F	559	DMACTL SHADOW
0373	SDLSTL = \$0230	560	DISPLAY LIST POINTER
0374	SSKCTL = \$0232	562	SKCTL SHADOW
0375	;	\$0233	563 (800) UNLISTED
0376	LCOUNT = \$0233	563	(XL) LOADER TEMP
0377	LPENH = \$0234	564	LIGHT PEN HORIZONTAL
0378	LPENV = \$0235	565	LIGHT PEN VERTICAL
0379	;	\$0236	566 2 SPARE BYTES
0380	;	\$0238	568 (800) SPARE, 2 BYTES
0381	RELADR = \$0238	568	(XL) LOADER
0382	CDEVIC = \$023A	570	DEVICE COMMAND FRAME BUFFER
0383	CAUX1 = \$023C	572	DEVICE COMMAND AUX 1
0384	CAUX2 = \$023D	573	DEVICE COMMAND AUX 2
0385	TEMP = \$023E	574	TEMPORARY STORAGE

0386	ERRFLG = \$023F	575	DEVICE ERROR FLAG (EXCEPT TIMEOUT)
0387	DFLAGS = \$0240	576	FLAGS FROM DISK SECTOR 1
0388	DBSECT = \$0241	577	NUMBER OF BOOT DISK SECTORS
0389	BOOTAD = \$0242	578	BOOT LOAD ADDRESS POINTER
0390	COLDST = \$0244	580	COLD START FLAG, 1 = COLD START IN
	PROGRESS		
0391	;	\$0245	581 (800) SPARE
0392	RECLEN = \$0245	581	(XL) LOADER
0393	DSKTIM = \$0246	582	(800) DISK TIME OUT REGISTER
0394	;	\$0246	582 (XL) RESERVED, 39 BYTES
0395	LINBUF = \$0247	583	(800) CHARACTER LINE BUFFER, 40 BYTES
0396	CHSALT = \$026B	619	(XL) CHARACTER SET POINTER
0397	VSFLAG = \$026C	620	(XL) FINE SCROLL TEMPORARY
0398	KEYDIS = \$026D	621	(XL) KEYBOARD DISABLE
0399	FINE = \$026E	622	(XL) FINE SCROLL FLAG
0400	GPRIOR = \$026F	623	P/M PRIORITY AND GTIA MODES
0401	GTIA = \$026F	623	
0402	PADDLO = \$0270	624	(XL) 3 MORE PADDLES, (800) 6 MORE PADDLES
0403	STICK0 = \$0278	632	(XL) 1 MORE STICK, (800) 3 MORE STICKS
0404	PTRIGO = \$027C	636	(XL) 3 MORE PADDLE TRIGGERS, (800) 6 MORE
0405	STRIGO = \$0284	644	(XL) 1 MORE STICK TRIGGER, (800) 3 MORE
0406	CSTAT = \$0288	648	(800)
0407	WMODE = \$0289	649	
0408	BLIM = \$028A	650	
0409	;	\$028B	651 5 SPARE BYTES
0410	NEWADR = \$028E	654	(XL) LOADER RAM
0411	TXTROW = \$0290	656	
0412	TXTCOL = \$0291	657	
0413	TINDEX = \$0293	659	TEXT INDEX
0414	TXTMSC = \$0294	660	
0415	TXTOLD = \$0296	662	OLD ROW AND OLD COL FOR TEXT, 2 BYTES
0416	;	\$0298	664 4 SPARE BYTES
0417	TMPX1 = \$029C	668	(800)
0418	CRETRY = \$029C	668	(XL) NUMBER OF COMMAND FRAME RETRIES
0419	SUBTMP = \$029E	670	
0420	HOLD2 = \$029F	671	
0421	DMASK = \$02A0	672	
0422	TMPLEBT = \$02A1	673	
0423	ESCFLG = \$02A2	674	
0424	TABMAP = \$02A3	675	15 BYTE BIT MAP FOR TAB SETTINGS
0425	LOGMAP = \$02B2	690	4 BYTE LOGICAL LINE START BIT MAP
0426	INVFLG = \$02B6	694	
0427	FILFLG = \$02B7	695	FILL DIRING DRAW FLAG
0428	TMPROW = \$02B8	696	
0429	TMPCOL = \$02B9	697	
0430	SCRFLG = \$02BB	699	SCROLL FLAG
0431	HOLD4 = \$02BC	700	
0432	HOLD5 = \$02BD	701	(800)
0433	DRETRY = \$02BD	701	(XL) NUMBER OF DEVICE RETRIES
0434	SHFLOC = \$02BE	702	
0435	BOTSCR = \$02BF	703	24 NORM, 4 SPLIT
0436	PCOLR0 = \$02C0	704	3 MORE PLAYER COLOR REGISTERS
0437	COLOR0 = \$02C4	708	4 MORE GRAPHICS COLOR REGISTERS
0438	;	\$02C9	713 (800) 23 SPARE BYTES
0439	RUNADR = \$02C9	713	(XL) LOADER VECTOR
0440	HIUSED = \$02CB	715	(XL) LOADER VECTOR
0441	ZHIUSE = \$02CD	717	(XL) LOADER VECTOR
0442	GBYTEA = \$02CF	719	(XL) LOADER VECTOR
0443	LOADAD = \$02D1	721	(XL) LOADER VECTOR

0444	ZLOADA = \$02D3	723 (XL) LOADER VECTOR
0445	DSCTLN = \$02D5	725 (XL) DISK SECTOR SIZ
0446	ACMISR = \$02D7	727 (XL) RESERVED
0447	KRPDER = \$02D9	729 (XL) KEY AUTO REPEAT DELAY
0448	KEYREP = \$02DA	730 (XL) KEY AUTO REPEAT RATE
0449	NOCLIK = \$02DB	731 (XL) KEY CLICK DISABLE
0450	HELPGF = \$02DC	732 (XL) HELP KEY FLAG
0451	DMASAV = \$02DD	733 (XL) SDMCTL (DMA) SAVE
0452	PBPNT = \$02DE	734 (XL) PRINTER BUFFER POINTER
0453	PBUFSZ = \$02DF	735 (XL) PRINTER BUFFER SIZE
0454	GLBABS = \$02E0	736 GLOBAL VARIABLES, 4 SPARE BYTES
0455	RAMSIZ = \$02E4	740 PERMANENT START OF ROM POINTER
0456	MEMTOP = \$02E5	741 END OF FREE RAM
0457	MEMLO = \$02E7	743
0458	; \$02E9	745 (800) SPARE
0459	HNDLOD = \$02E9	745 (XL) HANDLER LOADER FLAG
0460	DVSTAT = \$02EA	746 DEVICE STATUS BUFFER, 4 BYTES
0461	CBAUDL = \$02EE	750 CASSETTE BAUD RATE, 2 BYTES
0462	CRSINH = \$02F0	752 1 = INHIBIT CURSOR
0463	KEYDEL = \$02F1	753 KEY DELAY AND RATE
0464	CH1 = \$02F2	754
0465	CHACT = \$02F3	755
0466	CHBAS = \$02F4	756 CHARACTER SET POINTER
0467	NEWROW = \$02F5	757 (XL) DRAW DESTINATION
0468	NEWCOL = \$02F6	758 (XL) DRAW DESTINATION
0469	ROWINC = \$02F8	760 (XL)
0470	COLINC = \$02F9	761 (XL)
0471	CHAR = \$02FA	762
0472	ATACHR = \$02FB	763 ATASCII CHARACTER FOR CIO
0473	CH = \$02FC	764
0474	FILDAT = \$02FC	764 COLOR FOR SCREEN FILL
0475	DSPFLG = \$02FE	766 DISPLAY CONTROL CHARACTERS FLAG
0476	SSFLAG = \$02FF	767 DISPLAY START/STOP FLAFG
0477	;	
0478	;	
0479	;	PAGE 3
0480	;	
0481	;	
0482	;	RESIDENT DISK HANDLER/SIO INTERFACE
0483	;	
0484	DCB = \$0300	768 DEVICE CONTROL BLOCK
0485	DDEVIC = \$0300	768
0486	DUNIT = \$0301	769
0487	DCOMND = \$0302	770
0488	DSTATS = \$0303	771
0489	DBUFLO = \$0304	772
0490	DBUFHI = \$0305	773
0491	DTIMLO = \$0306	774
0492	DBYTLO = \$0308	776
0493	DBYTHI = \$0309	777
0494	DAUX1 = \$030A	778
0495	DAUX2 = \$030B	779
0496	TIMER1 = \$030C	780 INITIAL TIMER VALUE
0497	ADDCOR = \$030E	782 (800) ADDITION CORRECTION
0498	JMPERS = \$030E	782 (XL) OPTION JUMPERS
0499	CASFLG = \$030F	783 CASSETTE MODE WHEN SET
0500	TIMER2 = \$0310	784 FINAL VALUE, TIMERS 1 & 2 DETERMINE BAUD RATE
0501	TEMP1 = \$0312	786

0502	TEMP2	= \$0313	787 (XL)
0503	TEMP2	= \$0314	788 (800)
0504	PTIMOT	= \$0314	788 (XL) PRINTER TIME OUT
0505	TEMP3	= \$0315	789
0506	SAVIO	= \$0316	790 SAVE SERIAL IN DATA PORT
0507	TIMFLG	= \$0317	791 TIME OUT FLAG FOR BAUD RATE CORRECTION
0508	STACKP	= \$0318	792 SIO STACK POINTER SAVE
0509	TSTAT	= \$0319	793 TEMPORARY STATUS HOLDER
0510	HATABS	= \$031A	794 HANDLER ADDRESS TABLE, 38 BYTES
0511	MAXDEV	= \$0321	801 MAXIMUM HANDLER ADDRESS INDEX
0512	PUPBT1	= \$033D	829 (XL) POWER-UP/RESET
0513	PUPBT2	= \$033E	830 (XL) POWER-UP/RESET
0514	PUPBT3	= \$033F	831 (XL) POWER-UP/RESET
0515	;		
0516	;IOCB's		
0517	;		
0518	IOCB	= \$0340	832
0519	ICHID	= \$0340	832
0520	ICDNO	= \$0341	833
0521	ICCOM	= \$0342	834
0522	ICSTA	= \$0343	835
0523	ICBAL	= \$0344	836
0524	ICBAH	= \$0345	837
0525	ICPTL	= \$0346	838
0526	ICPTH	= \$0347	839
0527	ICBLL	= \$0348	840
0528	ICBLH	= \$0349	841
0529	ICAX1	= \$034A	842
0530	ICAX2	= \$034B	843
0531	ICAX3	= \$034C	844
0532	ICAX4	= \$034D	845
0533	ICAX5	= \$034E	846
0534	ICAX6	= \$034F	847
0535	;		
			OTHER IOCB's, 112 BYTES
0536	PRNBUF	= \$03C0	960 PRINTER BUFFER, 40 BYTES
0537	;	\$03E8	1000 (800) 21 SPARE BYTES
0538	SUPERF	= \$03E8	1000 (XL) SCREEN EDITOR
0539	CKEY	= \$03E9	1001 (XL) START KEY FLAG
0540	CASSBT	= \$03EA	1002 (XL) CASSETTE BOOT FLAG
0541	CARTCK	= \$03EB	1003 (XL) CARTRIDGE CHECKSUM
0542	ACMVAR	= \$03ED	1005 (XL) RESERVED, 6 BYTES
0543	MINTLK	= \$03F9	1017 (XL) RESERVED
0544	GINTLK	= \$03FA	1018 (XL) CARTRIDGE INTERLOCK
0545	CHLINK	= \$03FB	1019 (XL) HANDLER CHAIN, 2 BYTES
0546	CASBUF	= \$03FD	1021 CASSETTE BUFFER, 131 BYTES TO \$047F
0547	;		
0548	;		
0549	;		
		PAGE 4	
0550	;		
0551	;		
0552	USAREA	= \$0480	1152 128 SPARE BYTES
0553	;		
0554	; SEE APPENDIX C FOR PAGES 4 AND 5 USAGE		
0555	;		
0556	;		
0557	;		
0558	;		
0559	;		
		PAGE 5	
0560	;		



```

0561 PAGE5 = $0500 1280 127 FREE BYTES
0562 ; $057E 1406 129 FREE BYTES IF FLOATING POINT ROUTINES
      NOT USED
0563 ;
0564 ;FLOATING POINT NON-ZERO PAGE RAM, NEEDED ONLY IF FP IS USED
0565 ;
0566 LBPR1 = $057E 1406 LBUFF PREFIX 1
0567 LBPR2 = $05FE 1534 LBUFF PREFIX 2
0568 LBUFF = $0580 1408 LINE BUFFER
0569 PLYARG = $05E0 1504 POLYNOMIAL ARGUMENTS
0570 FPSCR = $05E6 1510 PLYARG+FPREC
0571 FPSCR1 = $05EC 1516 FPSCR+FPREC
0572 FSCR = $05E6 1510 =FPSCR
0573 FSCR1 = $05EC 1516 =FPSCR1
0574 LBFEND = $05FF 1535 END OF LBUFF
0575 ;
0576 ;
0577 ; PAGE 6
0578 ;
0579 ;
0580 PAGE6 = $0600 1536 256 FREE BYTES
0581 ;
0582 ;
0583 ; PAGE 7
0584 ;
0585 ;
0586 BOOTRG = $0700 1792 PROGRAM AREA
0587 ;
0588 ;
0589 ; UPPER ADDRESSES
0590 ;
0591 ;
0592 RITCAR = $8000 32768 RAM IF NO CARTRIDGE
0593 LFTCAR = $A000 40960 RAM IF NO CARTRIDGE
0594 C0PAGE = $C000 49152 (800) EMPTY, 4K BYTES
0595 C0PAGE = $C000 49152 (XL) 2K FREE RAM IF NO CARTRIDGE
0596 ; $C800 51200 (XL) START OF OS ROM
0597 CHORG2 = $CC00 52224 (XL) INTERNATIONAL CHARACTER SET
0598 ;
0599 ;
0600 ; HARDWARE REGISTERS
0601 ;
0602 ;
0603 ; SEE REGISTER LIST FOR MORE INFORMATION
0604 ;
0605 ;
0606 HPOSP0 = $D000 53248
0607 M0PF = $D000 53248
0608 SIZEP0 = $D008 53256
0609 M0PL = $D008 53256
0610 SIZEM = $D00C 53260
0611 GRAFP0 = $D00D 53261
0612 GRAFM = $D011 53265
0613 COLPM0 = $D012 53266
0614 COLPF0 = $D016 53270
0615 PRIOR = $D01B 53275
0616 GTIAR = $D01B 53275
0617 VDELAY = $D01C 53276
0618 GRAC TL = $D01D 53277

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0619 HITCLR = $D01E 53278
0620 CONSOL = $D01F 53279
0621 AUDF1  = $D200 53760
0622 AUDC1  = $D201 53761
0623 AUDCTL = $D208 53768
0624 RANDOM = $D20A 53770
0625 IRQEN  = $D20E 53774
0626 SKCTL  = $D20F 53775
0627 PORTA  = $D300 54016
0628 PORTB  = $D301 54017
0629 PACTL  = $D302 54018
0630 PBCTL  = $D303 54019
0631 DMACTL = $D400 54272
0632 DLISTL = $D402 54274
0633 HSCROL = $D404 54276
0634 VSCROL = $D405 54277
0635 CHBASE = $D409 54281
0636 WSYNC  = $D40A 54282
0637 VCOUNT = $D40B 54283
0638 NMIEN  = $D40E 54286
0639 ;
0640 ; FLOATING POINT MATH ROUTINES
0641 ;
0642 AFP     = $D800 55296
0643 FASC   = $D8E6 55526
0644 IFP    = $D9AA 55722
0645 FPI    = $D9D2 55762
0646 ZFR0   = $DA44 55876
0647 ZF1    = $DA46 55878
0648 FSUB   = $DA60 55904
0649 FADD   = $DA66 55910
0650 FMUL   = $DADB 56027
0651 FDIV   = $DB28 56104
0652 PLYEVL = $DD40 56640
0653 FLD0R  = $DD89 56713
0654 FLD0P  = $DD8D 56717
0655 FLD1R  = $DD98 56728
0656 FLD1P  = $DD9C 56732
0657 FSTOR  = $DDA7 56743
0658 FSTOP  = $DDAB 56747
0659 FMOVE  = $DDB6 56758
0660 EXP    = $DDC0 56768
0661 EXP10  = $DDCC 56780
0662 LOG    = $DECD 57037
0663 LOG10  = $DED1 57041
0664 ;
0665 ;
0666 ;     OPERATING SYSTEM
0667 ;
0668 ;
0669 ;     MODULE ORIGIN TABLE
0670 ;
0671 CHORG   = $E000 57344 CHARACTER SET, 1K
0672 VECTBL  = $E400 58368 VECTOR TABLE
0673 VCTABL  = $E480 58496 RAM VECTOR INITIAL VALUE TABLE
0674 CIOORG  = $E4A6 58534 CIO HANDLER
0675 INTORG  = $E6D5 59093 INTERRUPT HANDLER
0676 SIOORG  = $E944 59716 SIO DRIVER
0677 DSKORT  = $EDEA 60906 DISK HANDLER

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0678 PRNORG = \$EE78 61048 PRINTER HANDLER  
0679 CASORG = \$EE78 61048 CASSETTE HANDLER  
0680 MONORG = \$F0E3 61667 MONITOR/POWER UP MODULE  
0681 KBDORG = \$F3E4 62436 KEYBOARD/DISPLAY HANDLER  
0682 ;  
0683 ;  
0684 ; VECTOR TABLE, CONTAINS ADDRESSES OF CIO ROUTINES IN THE  
0685 ; FOLLOWING ORDER. THE ADDRESSES IN THE TABLE ARE TRUE ADDRESSES-1  
0686 ;  
0687 ; ADDRESS + 0 OPEN  
0688 ;           + 2 CLOSE  
0689 ;           + 4 GET  
0690 ;           + 6 PUT  
0691 ;           + 8 STATUS  
0692 ;           + A SPECIAL  
0693 ;           + C JMP TO INITIALIZATION  
0694 ;           + F NOT USED  
0695 ;  
0696 ;  
0697 EDITRV = \$E400 58368 EDITOR  
0698 SCRENV = \$E410 58384 SCREEN  
0699 KEYBDV = \$E420 58400 KEYBOARD  
0700 PRINTV = \$E430 58416 PRINTER  
0701 CASETV = \$E440 58432 CASSETTE  
0702 ;  
0703 ;           ROM VECTORS  
0704 ;  
0705 DSKINV = \$E453 58451  
0706 CIOV   = \$E456 58454  
0707 SIOV   = \$E459 58457  
0708 SYSVBV = \$E45F 58463  
0709 VBIVAL = \$E460 58464 ADR AT VVBLKI  
0710 XITVBV = \$E462 58466 EXIT VBI  
0711 VBIXVL = \$E463 58467 ADR AT VVBLKD  
0712 BLKBDV = \$E471 58481 MEMO PAD MODE  
0713 WARMSV = \$E474 58484  
0714 COLDSV = \$E477 58487