

LINE# LOC CODE LINE

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0001 0000 ;*****
0002 0000 ;*COMMODORE PET BASIC *
0003 0000 ;* *
0004 0000 ;*VERSION 4 *
0005 0000 ;*COPYRIGHT 1979 BY *
0006 0000 ;*COMMODORE INTERNATIONAL LIMITED *
0007 0000 ;*****

0009 0000 OFFSET =$B000 ;RAM/ROM SWITCH
0010 0000 ROMLOC =$3000+OFFSET ;START THIS VERSION

0012 0000 ;VERSION 1 - AUGUST 1977
0013 0000 ; ORIGINAL MICROSOFT RELEASE
0014 0000 ;VERSION 2 - AUGUST 1978
0015 0000 ; FIXED MANY BUGS SOME ARE:
0016 0000 ; 1) ARRAYS LIMITED TO 255
0017 0000 ; 2) NON-INTERRUPTABLE CODE
0018 0000 ; 3) GARBAGE COLLECT STRINGS
0019 0000 ;VERSION 3 - MAY 1979
0020 0000 ; FASTER GARBAGE COLLECT
0021 0000 ;VERSION 4 - JULY 1979
0022 0000 ; 1) EXPAND RESERVED WORDS
0023 0000 ; 2) ADD DISK COMMANDS
0024 0000 ; 3) ADD DISK STATUS VARS.

0026 0000 ;*****LISTING DATE: 2/29/80 V4.1*****

0028 0000 ;CONSTANTS FROM PET OS
0029 0000 CTIMR =$8D ;(TIME)
0030 0000 CSTAT =$96 ;(SATUS)
0031 0000 CHTIM =$E844 ;(TIL)
0032 0000 TRMPOS =$C6 ;(PNTR)
0033 0000 ;*****PATCHES IN OS V4.1*****
0034 0000 PATCH2 =$DEA4 ;ADDRESS OF POWER ON MESSAGE
0035 0000 ;*****

0037 0000 ;OS ROUTINES IN JUMP TABLE
0038 0000 * =$7F93+OFFSET
0039 FF93 CONCAT **++3 ;LINK TWO FILES
0040 FF96 DOPEN **++3 ;OPEN DISK FILE
0041 FF99 DCLOSE **++3 ;CLOSE DISK FILE(S)
0042 FF9C RECORD **++3 ;POSITION REL. RECRD
0043 FF9F FORMAT **++3 ;PREPARE MEDIA
0044 FFA2 COLECT **++3 ;VERIFY DISK BAM
0045 FFA5 BACKUP **++3 ;COPY WHOLE DISK
0046 FFAB DCOPY **++3 ;COPY ONE FILE
0047 FFAB APPEND **++3 ;OPEN TO ADD TO FILE
0048 FFAE DSAVE **++3 ;SAVE BASIC PRG
0049 FFB1 DLOAD **++3 ;LOAD BASIC PRG

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0050	FFB4	DIRCAT	
0051	FFB4	DCAT	*=**3 ;LIST DIRECTORY
0052	FFB7	RENAME	*=**3 ;CHANGE FILE NAME
0053	FFBA	SCRATC	*=**3 ;SCRATCH DISK FILE
0054	FFBD	READDS	*=**3 ;READ DISK STATUS
0055	FFC0	COPEN	*=**3 ;OPEN FILE
0056	FFC3	CCLOS	*=**3 ;CLOSE FILE
0057	FFC6	COIN	*=**3 ;OPEN INPUT CHANNEL
0058	FFC9	COOUT	*=**3 ;OPEN OUTPUT CHANNEL
0059	FFCC	CLSCHN	
0060	FFCC	CCCHN	*=**3 ;CLOSE I/O CHANNELS
0061	FFCF	INCHR	
0062	FFCF	CINCH	*=**3 ;INPUT CHARACTER(S)
0063	FFD2	OUTCH	*=**3 ;OUTPUT CHARACTER
0064	FFD5	CLOAD	*=**3 ;CASSETTE LOAD
0065	FFDB	CSAVE	*=**3 ;CASSETTE SAVE
0066	FFDB	CVERF	*=**3 ;CASSETTE VERIFY
0067	FFDE	CSYS	*=**3 ;SYS FUNCTION
0068	FFE1	ISCNTC	*=**3 ;SCAN STOP KEY
0069	FFE4	CGETL	*=**3 ;GET CHARACTER
0070	FFE7	CCALL	*=**3 ;CLOSE ALL FILES

0072	FFEA	LINLEN	=40
0073	FFEA	FORSIZ	=@22
0074	FFEA	BUFLN	=81
0075	FFEA	ADDPRC	=1
0076	FFEA	BUFPAG	=2
0077	FFEA	BUF	=512
0078	FFEA	STKEND	=507
0079	FFEA	CLMWID	=10
0080	FFEA	PI	=255
0081	FFEA	NUMLEV	=23
0082	FFEA	STRSIZ	=3
0083	FFEA	RAMLOC	=\$0400

0085	FFEA	; ZERO PAGE STORAGE	
0086	FFEA	*	=0
0087	0000	USRPOK	*=**3
0088	0003	INTEGR	
0089	0003	CHARAC	*=**1
0090	0004	ENDCHR	*=**1
0091	0005	COUNT	*=**1
0092	0006	DIMFLG	*=**1
0093	0007	VALTYP	*=**1
0094	0008	INTFLG	*=**1
0095	0009	GARBFL	
0096	0009	DORES	*=**1

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0097	000A	SUBFLG	==+1	
0098	000B	INPFLG	==+1	
0099	000C	DOMASK		
0100	000C	TANSGN	==+1	
0101	000D	DSEDESC	==+3	; DISK STATUS STRING
0102	0010	CHANNL	==+1	
0103	0011	POKER		
0104	0011	LINNUM	==+2	
0105	0013	TEMPPT	==+1	
0106	0014	LASTPT	==+2	
0107	0016	TEMPST	==+9	
0108	001F	INDEX		
0109	001F	INDEX1	==+2	
0110	0021	INDEX2	==+2	
0111	0023	RESHO	==+1	
0112	0024	RESMOH	==+1	
0113	0025	ADDEND		
0114	0025	RESMO	==+1	
0115	0026	RESLO	==+1	
0116	0027		==+1	
0117	0028	TXTTAB	==+2	
0118	002A	VARTAB	==+2	
0119	002C	ARYTAB	==+2	
0120	002E	STREND	==+2	
0121	0030	FRETOP	==+2	
0122	0032	FRESPC	==+2	
0123	0034	MEMSIZ	==+2	
0124	0036	CURLIN	==+2	
0125	0038	OLDLIN	==+2	
0126	003A	OLDTXT	==+2	
0127	003C	DATLIN	==+2	
0128	003E	DATPTR	==+2	
0129	0040	INPPTR	==+2	
0130	0042	VARNAM	==+2	
0131	0044	FDEOPT		
0132	0044	VARPNT	==+2	
0133	0046	LSTPNT		
0134	0046	ANDMSK		
0135	0046	FORPNT	==+2	
0136	0048	EORMSK	=FORPNT+1	
0137	0048	VARTXT		
0138	0048	OPPTR	==+2	
0139	004A	OPMASK	==+1	
0140	004B	GRBPNT		
0141	004B	TEMPF3		
0142	004B	DEFPNT	==+2	
0143	004D	DSCPNT	==+2	
0144	004F		==+1	
0145	0050	FOUR6	==+1	
0146	0051	JMPER	==+1	
0147	0052	SIZE	==+1	
0148	0053	OLDOV	==+1	
0149	0054	TEMPF1	==+1	
0150	0055	ARYPNT		
0151	0055	HIGHDS	==+2	

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0152	0057	HIGHTR	==+2
0153	0059	TEMPF2	==+1
0154	005A	DECCNT	
0155	005A	LOWDS	==+2
0156	005C	GRBTOP	
0157	005C	DPTFLG	
0158	005C	LOWTR	==+1
0159	005D	EXPSGN	==+1
0160	005E	TENEXP	=LOWDS+1
0161	005E	EPSGN	=LOWTR+1
0162	005E	DSCTMP	
0163	005E	FAC	
0164	005E	FACEXP	==+1
0165	005F	FACHD	==+1
0166	0060	FACMOH	==+1
0167	0061	INDICE	
0168	0061	FACMD	==+1
0169	0062	FACLO	==+1
0170	0063	FACSGN	==+1
0171	0064	DEGREE	
0172	0064	SGNFLG	==+1
0173	0065	BITS	==+1
0174	0066	ARGEXP	==+1
0175	0067	ARGHO	==+1
0176	0068	ARGMOH	==+1
0177	0069	ARGMO	==+1
0178	006A	ARGLO	==+1
0179	006B	ARGSGN	==+1
0180	006C	STRNG1	
0181	006C	ARISGN	==+1
0182	006D	FACOV	==+1
0183	006E	BUFPTR	
0184	006E	STRNG2	
0185	006E	POLYPT	
0186	006E	CURTOL	
0187	006E	FBUFPT	==+2
0188	0070	CHRGET	==+6
0189	0076	CHRGOT	==+1
0190	0077	TXTPTR	==+6
0191	007D	GNUM	==+10
0192	0087	CHRRTS	==+1
0193	008B	RNDX	==+5

0195	008D		* =\$FF
0196	00FF	LOFBUF	==+1
0197	0100	FBUFFER	==+1
0198	0101		. FIL TOKENS

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0200 0101          ; STATEMENT DISPATCH TABLE
0201 0101          * =ROMLOC

0203 B000 C7 B7    STMDSP . WOR END-1
0204 B002 DD B6    . WOR FOR-1
0205 B004 18 BD    . WOR NEXT-1
0206 B006 B2 B8    . WOR DATA-1
0207 B008 A3 BB    . WOR INPUTN-1
0208 B00A BD BB    . WOR INPUT-1
0209 B00C 20 C1    . WOR DIM-1
0210 B00E 01 BC    . WOR READ-1
0211 B010 2F B9    . WOR LET-1
0212 B012 2F BB    . WOR GOTO-1
0213 B014 07 BB    . WOR RUN-1
0214 B016 B2 B8    . WOR IF-1
0215 B018 B6 B7    . WOR RESTOR-1
0216 B01A 12 B8    . WOR GOSUB-1
0217 B01C 5C B8    . WOR RETURN-1
0218 B01E C5 B8    . WOR REM-1
0219 B020 C5 B7    . WOR STOP-1
0220 B022 D5 B8    . WOR ONGOTO-1
0221 B024 62 C9    . WOR FNWAIT-1
0222 B026 D4 FF    . WOR CLOAD-1
0223 B028 D7 FF    . WOR CSAVE-1
0224 B02A DA FF    . WOR CVERF-1
0225 B02C DB C4    . WOR DEF-1
0226 B02E 59 C9    . WOR POKE-1
0227 B030 87 BA    . WOR PRINTN-1
0228 B032 A7 BA    . WOR PRINT-1
0229 B034 ED B7    . WOR CONT-1
0230 B036 2F B6    . WOR LIST-1
0231 B038 ED B5    . WOR CLEAR-1
0232 B03A 8D BA    . WOR CMD-1
0233 B03C DD FF    . WOR CSYS-1
0234 B03E BF FF    . WOR COPEN-1
0235 B040 C2 FF    . WOR CCLOS-1
0236 B042 79 BB    . WOR GET-1
0237 B044 D1 B5    . WOR SCRATH-1
0238 B046 AB B7    . WOR GO-1
0239 B048          ; DISK COMMANDS 6/28/79
0240 B048 92 FF    . WOR CONCAT-1
0241 B04A 95 FF    . WOR DOPEN-1
0242 B04C 98 FF    . WOR DCLOSE-1
0243 B04E 9B FF    . WOR RECORD-1
0244 B050 9E FF    . WOR FORMAT-1
0245 B052 A1 FF    . WOR COLLECT-1
0246 B054 A4 FF    . WOR BACKUP-1
0247 B056 A7 FF    . WOR DCPY-1
0248 B058 AA FF    . WOR APPEND-1
0249 B05A AD FF    . WOR DSAVE-1
0250 B05C B0 FF    . WOR DLOAD-1
0251 B05E B3 FF    . WOR DCAT-1
0252 B060 B6 FF    . WOR RENAME-1
0253 B062 B9 FF    . WOR SCRATC-1
0254 B064 B3 FF    . WOR DIRCAT-1

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0255	BO66	6F	CD	FUNDSP	. WOR	SGN
0256	BO68	02	CE		. WOR	INT
0257	BO6A	8E	CD		. WOR	ABS
0258	BO6C	00	00	USRLOC	. WOR	USRPOK
0259	BO6E	A8	C4		. WOR	FRE
0260	BO70	C9	C4		. WOR	POS
0261	BO72	08	D1		. WOR	SQR
0262	BO74	29	D2		. WOR	RND
0263	BO76	20	CB		. WOR	LOG
0264	BO78	84	D1		. WOR	EXP
0265	BO7A	82	D2		. WOR	COS
0266	BO7C	89	D2		. WOR	SIN
0267	BO7E	D2	D2		. WOR	TAN
0268	BO80	2C	D3		. WOR	ATN
0269	BO82	43	C9		. WOR	PEEK
0270	BO84	B2	C8		. WOR	LEN
0271	BO86	8E	C5		. WOR	STRD
0272	BO88	E3	C8		. WOR	VAL
0273	BO8A	C1	C8		. WOR	ASC
0274	BO8C	22	C8		. WOR	CHRD
0275	BO8E	36	C8		. WOR	LEFTD
0276	BO90	62	C8		. WOR	RIGHTD
0277	BO92	6D	C8		. WOR	MIDD
0278	BO94	79		OPTAB	. BYT	121
0279	BO95	9F	C9		. WOR	FADDT-1
0280	BO97	79			. BYT	121
0281	BO98	88	C9		. WOR	FSUBT-1
0282	BO9A	7B			. BYT	123
0283	BO9B	60	CB		. WOR	FMULTT-1
0284	BO9D	7B			. BYT	123
0285	BO9E	47	CC		. WOR	FDIVT-1
0286	BOA0	7F			. BYT	127
0287	BOA1	11	D1		. WOR	FPWRT-1
0288	BOA3	50			. BYT	80
0289	BOA4	88	CO		. WOR	ANDOP-1
0290	BOA6	46			. BYT	70
0291	BOA7	85	CO		. WOR	DROP-1
0292	BOA9	7D		NEGTAB	. BYT	125
0293	BOAA	4A	D1		. WOR	NEGOP-1
0294	BOAC	5A		NOTTAB	. BYT	90
0295	BOAD	CB	BE		. WOR	NOTOP-1
0296	BOAF	64		PTDORL	. BYT	100
0297	BOB0	B5	CO		. WOR	DOREL-1

0299 BOB2 ; RESERVED WORD LIST

0301	BOB2	45	4E	RESLST	. BYT	'EN', \$C4
0301	BOB4	C4				
0302	BOB5			ENDTK	=@200	
0303	BOB5	46	4F		. BYT	'FO', \$D2
0303	BOB7	D2				

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0304	BOB8				FORTK	=@201
0305	BOB8	4E	45	5B		.BYT 'NEX', \$D4
0305	BOBB	D4				
0306	BOBC	44	41	54		.BYT 'DAT', \$C1
0306	BOBF	C1				
0307	BOCO				DATATK	=@203
0308	BOC0	49	4E			.BYT 'INPUT', \$A3
0308	BOC5	A3				
0309	BOC6	49	4E			.BYT 'INPU', \$D4
0309	BOCA	D4				
0310	BOCB	44	49			.BYT 'DI', \$CD
0310	BOCD	CD				
0311	BOCE	52	45	41		.BYT 'REA', \$C4
0311	BOD1	C4				
0312	BOD2	4C	45			.BYT 'LE', \$D4
0312	BOD4	D4				
0313	BOD5	47	4F	54		.BYT 'GOT', \$CF
0313	BOD8	CF				
0314	BOD9				GDTOTK	=@211
0315	BOD9	52	55			.BYT 'RU', \$CE
0315	BOD8	CE				
0316	BODC	49				.BYT 'I', \$C6
0316	BODD	C6				
0317	BODE	52	45			.BYT 'RESTOR', \$C5
0317	BOE4	C5				
0318	BOE5	47	4F			.BYT 'GOSU', \$C2
0318	BOE9	C2				
0319	BOEA				GOSUTK	=@215
0320	BOEA	52	45			.BYT 'RETUR', \$CE
0320	BOEF	CE				
0321	BOF0	52	45			.BYT 'RE', \$CD
0321	BOF2	CD				
0322	BOF3				REMTK	=@217
0323	BOF3	53	54	4F		.BYT 'STO', \$D0
0323	BOF6	D0				
0324	BOF7	4F				.BYT 'O', \$CE
0324	BOF8	CE				
0325	BOF9	57	41	49		.BYT 'WAI', \$D4
0325	BOFC	D4				
0326	BOFD	4C	4F	41		.BYT 'LOA', \$C4
0326	B100	C4				
0327	B101	53	41	56		.BYT 'SAV', \$C5
0327	B104	C5				
0328	B105	56	45			.BYT 'VERIF', \$D9
0328	B10A	D9				
0329	B10B	44	45			.BYT 'DE', \$C6
0329	B10D	C6				
0330	B10E	50	4F	4B		.BYT 'POK', \$C5
0330	B111	C5				
0331	B112	50	52			.BYT 'PRINT', \$A3
0331	B117	A3				
0332	B118	50	52			.BYT 'PRIN', \$D4
0332	B11C	D4				
0333	B11D				PRINTK	=@231
0334	B11D	43	4F	4E		.BYT 'CON', \$D4

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0334	B120	D4			
0335	B121	4C	49	53	.BYT 'LIS', \$D4
0335	B124	D4			
0336	B125	43	4C		.BYT 'CL', \$D2
0336	B127	D2			
0337	B128	43	4D		.BYT 'CM', \$C4
0337	B12A	C4			
0338	B12B	53	59		.BYT 'SY', \$D3
0338	B12D	D3			
0339	B12E	4F	50	45	.BYT 'OPE', \$CE
0339	B131	CE			
0340	B132	43	4C		.BYT 'CLOS', \$C5
0340	B136	C5			
0341	B137	47	45		.BYT 'GE', \$D4
0341	B139	D4			
0342	B13A	4E	45		.BYT 'NE', \$D7
0342	B13C	D7			
0343	B13D				SCRATK =@242
0344	B13D				.FIL TOKEN2
0345	B13D				; TOKEN2
0346	B13D	54	41	42	.BYT 'TAB', \$AB
0346	B140	AB			
0347	B141				TABTK =@243
0348	B141	54			.BYT 'T', \$CF
0348	B142	CF			
0349	B143				TOTK =@244
0350	B143	46			.BYT 'F', \$CE
0350	B144	CE			
0351	B145				FNTK =@245
0352	B145	53	50	43	.BYT 'SPC', \$AB
0352	B148	AB			
0353	B149				SPCTK =@246
0354	B149	54	48	45	.BYT 'THE', \$CE
0354	B14C	CE			
0355	B14D				THENTK =@247
0356	B14D	4E	4F		.BYT 'NO', \$D4
0356	B14F	D4			
0357	B150				NOTTK =@250
0358	B150	53	54	45	.BYT 'STE', \$D0
0358	B153	D0			
0359	B154				STEPTK =@251
0360	B154	AB			.BYT \$AB
0361	B155				PLUSTK =@252
0362	B155	AD			.BYT \$AD
0363	B156				MINUTK =@253
0364	B156	AA			.BYT \$AA
0365	B157	AF			.BYT \$AF
0366	B158	DE			.BYT \$DE
0367	B159	41	4E		.BYT 'AN', \$C4
0367	B15B	C4			
0368	B15C	4F			.BYT 'D', \$D2
0368	B15D	D2			
0369	B15E	BE			.BYT 190
0370	B15F				GREATK =@261
0371	B15F	BD			.BYT \$BD

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0372	B160			EQULTK	=@262
0373	B160	BC			.BYT 188
0374	B161			LESSTK	=@263
0375	B161	53	47		.BYT 'SG', \$CE
0375	B163	CE			
0376	B164			ONEFUN	=@264
0377	B164	49	4E		.BYT 'IN', \$D4
0377	B166	D4			
0378	B167	41	42		.BYT 'AB', \$D3
0378	B169	D3			
0379	B16A	55	53		.BYT 'US', \$D2
0379	B16C	D2			
0380	B16D	46	52		.BYT 'FR', \$C5
0380	B16F	C5			
0381	B170	50	4F		.BYT 'PO', \$D3
0381	B172	D3			
0382	B173	53	51		.BYT 'SQ', \$D2
0382	B175	D2			
0383	B176	52	4E		.BYT 'RN', \$C4
0383	B178	C4			
0384	B179	4C	4F		.BYT 'LO', \$C7
0384	B17B	C7			
0385	B17C	45	58		.BYT 'EX', \$D0
0385	B17E	D0			
0386	B17F	43	4F		.BYT 'CO', \$D3
0386	B181	D3			
0387	B182	53	49		.BYT 'SI', \$CE
0387	B184	CE			
0388	B185	54	41		.BYT 'TA', \$CE
0388	B187	CE			
0389	B188	41	54		.BYT 'AT', \$CE
0389	B18A	CE			
0390	B18B	50	45	45	.BYT 'PEE', \$CB
0390	B18E	CB			
0391	B18F	4C	45		.BYT 'LE', \$CE
0391	B191	CE			
0392	B192	53	54	52	.BYT 'STR', \$A4
0392	B195	A4			
0393	B196	56	41		.BYT 'VA', \$CC
0393	B198	CC			
0394	B199	41	53		.BYT 'AS', \$C3
0394	B19B	C3			
0395	B19C	43	48	52	.BYT 'CHR', \$A4
0395	B19F	A4			
0396	B1A0			LASNUM	=@307
0397	B1A0	4C	45		.BYT 'LEFT', \$A4
0397	B1A4	A4			
0398	B1A5	52	49		.BYT 'RIGHT', \$A4
0398	B1AA	A4			
0399	B1AB	4D	49	44	.BYT 'MID', \$A4
0399	B1AE	A4			
0400	B1AF	47			.BYT 'G', \$CF
0400	B1B0	CF			
0401	B1B1			GOTK	=@313
0402	B1B1	43	4F		.BYT 'CONCA', \$D4

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0402	B1B6	D4	
0403	B1B7	44 4F	.BYT 'DOPE', \$CE
0403	B1BB	CE	
0404	B1BC	44 43	.BYT 'DCLOS', \$C5
0404	B1C1	C5	
0405	B1C2	52 45	.BYT 'RECOR', \$C4
0405	B1C7	C4	
0406	B1C8	48 45	.BYT 'HEADE', \$D2
0406	B1CD	D2	
0407	B1CE	43 4F	.BYT 'COLLEC', \$D4
0407	B1D4	D4	
0408	B1D5	42 41	.BYT 'BACKU', \$D0
0408	B1DA	D0	
0409	B1DB	43 4F 50	.BYT 'COP', \$D9
0409	B1DE	D9	
0410	B1DF	41 50	.BYT 'APPEN', \$C4
0410	B1E4	C4	
0411	B1E5	44 53	.BYT 'DSAV', \$C5
0411	B1E9	C5	
0412	B1EA	44 4C	.BYT 'DLQA', \$C4
0412	B1EE	C4	
0413	B1EF	43 41	.BYT 'CATALO', \$C7
0413	B1F5	C7	
0414	B1F6	52 45	.BYT 'RENAM', \$C5
0414	B1FB	C5	
0415	B1FC	53 43	.BYT 'SCRATC', \$C8
0415	B202	C8	
0416	B203	44 49	.BYT 'DIRECTOR', \$D9
0416	B20B	D9	
0417	B20C	00	.BYT 0

0419 B20D

; BASIC ERROR MESSAGES

0421	B20D	4E 45	ERRTAB .BYT 'NEXT WITHOUT FO', \$D2
0421	B21C	D2	
0422	B21D		ERRNF =@0
0423	B21D	53 59	.BYT 'SYNTA', \$D8
0423	B222	D8	
0424	B223		ERRSN =@20
0425	B223	52 45	.BYT 'RETURN WITHOUT GOSU', \$C2
0425	B236	C2	
0426	B237		ERRRG =@26
0427	B237	4F 55	.BYT 'OUT OF DAT', \$C1
0427	B241	C1	
0428	B242		ERROD =@52
0429	B242	49 4C	.BYT 'ILLEGAL QUANTIT', \$D9
0429	B251	D9	
0430	B252		ERRFC =@65
0431	B252	4F 56	.BYT 'OVERFLO', \$D7
0431	B259	D7	
0432	B25A		ERROV =@105

LINE# LOC CODE LINE

0433	B25A	4F	55		.BYT 'OUT OF MEMOR', \$D9
0433	B266	D9			
0434	B267			ERRDM	=@115
0435	B267	55	4E		.BYT 'UNDEF', \$27
0435	B26C	27			
0436	B26D	44	20		.BYT 'D STATEMEN', \$D4
0436	B277	D4			
0437	B278			ERRUS	=@132
0438	B278	42	41		.BYT 'BAD SUBSCRIP', \$D4
0438	B284	D4			
0439	B285			ERRBS	=@153
0440	B285	52	45		.BYT 'REDIM', \$27, 'D ARRA', \$D9
0440	B28A	27			
0440	B28B	44	20		
0440	B291	D9			
0441	B292			ERRDD	=@170
0442	B292	44	49		.BYT 'DIVISION BY ZER', \$CF
0442	B2A1	CF			
0443	B2A2			ERRDVO	=@205
0444	B2A2	49	4C		.BYT 'ILLEGAL DIREC', \$D4
0444	B2AF	D4			
0445	B2B0			ERRID	=@225
0446	B2B0	54	59		.BYT 'TYPE MISMATC', \$CB
0446	B2BC	CB			
0447	B2BD			ERRTM	=@243
0448	B2BD	53	54		.BYT 'STRING TOO LON', \$C7
0448	B2CB	C7			
0449	B2CC			ERRLS	=@260
0450	B2CC	46	49		.BYT 'FILE DAT', \$C1
0450	B2D4	C1			
0451	B2D5			ERRBD	=@277
0452	B2D5	46	4F		.BYT 'FORMULA TOO COMPLE', \$D8
0452	B2E7	DB			
0453	B2EB			ERRST	=@310
0454	B2EB	43	41 4E		.BYT 'CAN', \$27, 'T CONTINU', \$C5
0454	B2EB	27			
0454	B2EC	54	20		
0454	B2F5	C5			
0455	B2F6			ERRCN	=@333
0456	B2F6	55	4E		.BYT 'UNDEF', \$27, 'D FUNCTIO', \$CE
0456	B2FB	27			
0456	B2FC	44	20		
0456	B305	CE			
0457	B306			ERRUF	=@351
0458	B306	20	45	ERR	.BYT ' ERROR', 0
0458	B30C	00			
0459	B30D	20	49	INTXT	.BYT ' IN ', 0
0459	B311	00			
0460	B312	0D		REDDY	.BYT \$D, 'READY.', \$D, 0
0460	B313	52	45		
0460	B319	0D			
0460	B31A	00			
0461	B31B	0D		BRKTX	.BYT \$D, 'BREAK', 0
0461	B31C	42	52		
0461	B321	00			

LINE# LOC CODE LINE

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0463 B322          ; START OF INTERPRETER CODE
0464 B322 BA      FNDFOR TSX
0465 B323 EB          INX
0466 B324 EB          INX
0467 B325 EB          INX
0468 B326 EB          INX
0469 B327 BD 01 01   FFLOOP LDA 257, X
0470 B32A C9 81      CMP #FORTK
0471 B32C D0 21      BNE FFRTS
0472 B32E A5 47      LDA FORPNT+1
0473 B330 D0 0A      BNE CMPFOR
0474 B332 BD 02 01   LDA 258, X
0475 B335 B5 46      STA FORPNT
0476 B337 BD 03 01   LDA 259, X
0477 B33A B5 47      STA FORPNT+1
0478 B33C DD 03 01   CMPFOR CMP 259, X
0479 B33F D0 07      BNE ADDFRS
0480 B341 A5 46      LDA FORPNT
0481 B343 DD 02 01   CMP 258, X
0482 B346 F0 07      BEQ FFRTS
0483 B348 BA          ADDFRS TXA
0484 B349 18          CLC
0485 B34A 69 12      ADC #FORSIZ
0486 B34C AA          TAX
0487 B34D D0 D8      BNE FFLOOP
0488 B34F 60          FFRTS RTS
0489 B350 20 A0 B3   BLTU   JSR REASON
0490 B353 B5 2E      STA STREND
0491 B355 B4 2F      STY STREND+1
0492 B357 38          BLTUC  SEC
0493 B358 A5 57      LDA HIGHTR
0494 B35A E5 5C      SBC LOWTR
0495 B35C B5 1F      STA INDEX
0496 B35E A8          TAY
0497 B35F A5 58      LDA HIGHTR+1
0498 B361 E5 5D      SBC LOWTR+1
0499 B363 AA          TAX
0500 B364 EB          INX
0501 B365 98          TYA
0502 B366 F0 23      BEQ DECBLT
0503 B368 A5 57      LDA HIGHTR
0504 B36A 38          SEC
0505 B36B E5 1F      SBC INDEX
0506 B36D B5 57      STA HIGHTR
0507 B36F B0 03      BCS BLT1
0508 B371 C6 58      DEC HIGHTR+1
0509 B373 38          SEC
0510 B374 A5 55      BLT1  LDA HIGHDS
0511 B376 E5 1F      SBC INDEX
0512 B378 B5 55      STA HIGHDS
0513 B37A B0 08      BCS MOREN1
0514 B37C C6 56      DEC HIGHDS+1
0515 B37E 90 04      BCC MOREN1
0516 B380 B1 57      BLTLP LDA (HIGHTR)Y
0517 B382 91 55      STA (HIGHDS)Y

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0518 B384 88          MOREN1 DEY
0519 B385 D0 F9          BNE BLTLP
0520 B387 B1 57          LDA (HIGHTR), Y
0521 B389 91 55          STA (HIGHDS), Y
0522 B388 C6 58          DECBLT DEC HIGHTR+1
0523 B38D C6 56          DEC HIGHDS+1
0524 B38F CA           DEX
0525 B390 D0 F2          BNE MOREN1
0526 B392 60           RTS
0527 B393 0A          GETSTK ASL A
0528 B394 69 3E          ADC #NUMLEV+NUMLEV+16
0529 B396 B0 35          BCS OMERR
0530 B398 85 1F          STA INDEX
0531 B39A BA           TSX
0532 B39B E4 1F          CPX INDEX
0533 B39D 90 2E          BCC OMERR
0534 B39F 60           RTS
0535 B3A0 C4 31          REASON CPY FRETOP+1
0536 B3A2 90 28          BCC REARTS
0537 B3A4 D0 04          BNE TRYMOR
0538 B3A6 C5 30          CMP FRETOP
0539 B3AB 90 22          BCC REARTS
0540 B3AA 48           TRYMOR PHA
0541 B3AB A2 09          LDX #B+ADDPRC
0542 B3AD 98           TYA
0543 B3AE 48           REASAV PHA
0544 B3AF B5 54          LDA HIGHDS-1, X
0545 B3B1 CA           DEX
0546 B3B2 10 FA          BPL REASAV
0547 B3B4 20 6A C6       JSR GARBA2
0548 B3B7 A2 F7          LDX #248-ADDPRC
0549 B3B9 68           REASTO PLA
0550 B3BA 95 5E          STA HIGHDS+8+ADDPRC, X
0551 B3BC E8           INX
0552 B3BD 30 FA          BMI REASTO
0553 B3BF 68           PLA
0554 B3C0 A8           TAY
0555 B3C1 68           PLA
0556 B3C2 C4 31          CPY FRETOP+1
0557 B3C4 90 06          BCC REARTS
0558 B3C6 D0 05          BNE OMERR
0559 B3C8 C5 30          CMP FRETOP
0560 B3CA B0 01          BCS OMERR
0561 B3CC 60           REARTS RTS
0562 B3CD           . FIL CODE1
0563 B3CD           ; *****CODE1*****
0564 B3CD A2 4D          OMERR LDX #ERROM

0566 B3CF A5 10          ERROR LDA CHANNL
0567 B3D1 F0 07          BEQ ERRCRD
0568 B3D3 20 CC FF       JSR CLSCHN
0569 B3D6 A9 00          LDA #0
0570 B3D8 85 10          STA CHANNL

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LINE# LOC CODE LINE

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0571 B3DA 20 DF BA   ERRCRD JSR CRDD
0572 B3DD 20 44 BB   JSR OUTQST
0573 B3E0 BD OD B2   GETERR LDA ERRTAB, X
0574 B3E3 4B         PHA
0575 B3E4 29 7F         AND #127
0576 B3E6 20 46 BB   JSR OUTDO
0577 B3E9 E8         INX
0578 B3EA 68         PLA
0579 B3EB 10 F3         BPL GETERR
0580 B3ED 20 OE B6   TYPERR JSR STKINI
0581 B3F0 A9 06         LDA #<ERR
0582 B3F2 A0 B3         LDY #>ERR
0583 B3F4 20 1D BB   ERRFIN JSR STROUT
0584 B3F7 A4 37         LDY CURLIN+1
0585 B3F9 C8         INY
0586 B3FA F0 03         BEQ READY
0587 B3FC 20 78 CF   JSR INPRT

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0589 B3FF A9 12   READY LDA #<REDDY
0590 B401 A0 B3   LDY #>REDDY
0591 B403 20 1D BB JSR STROUT

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0593 B406 20 E2 B4   MAIN JSR INLIN
0594 B409 86 77   STX TXTPTR
0595 B40B 84 78   STY TXTPTR+1
0596 B40D 20 70 00 JSR CHRGET
0597 B410 AA         TAX
0598 B411 F0 F3   BEQ MAIN
0599 B413 A2 FF   LDX #255
0600 B415 86 37   STX CURLIN+1
0601 B417 90 06   BCC MAIN1
0602 B419 20 FB B4 JSR CRUNCH
0603 B41C 4C 7C B7 JSR CRUNCH
0604 B41F 20 F6 BB MAIN1 JSR LINGET
0605 B422 20 FB B4 JSR CRUNCH
0606 B425 84 05   STY COUNT
0607 B427 20 A3 B5 JSR FNDLIN
0608 B42A 90 44   BCC NODEL
0609 B42C A0 01   LDY #1
0610 B42E B1 5C   LDA (LOWTR)Y
0611 B430 85 20   STA INDEX1+1
0612 B432 A5 2A   LDA VARTAB
0613 B434 85 1F   STA INDEX1
0614 B436 A5 5D   LDA LOWTR+1
0615 B438 85 22   STA INDEX2+1
0616 B43A A5 5C   LDA LOWTR
0617 B43C 88         DEY
0618 B43D F1 5C   SBC (LOWTR)Y
0619 B43F 18         CLC
0620 B440 65 2A   ADC VARTAB
0621 B442 85 2A   STA VARTAB

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LINE# LOC CODE LINE

0622	B444	85	21		STA INDEX2
0623	B446	A5	2B		LDA VARTAB+1
0624	B448	69	FF		ADC #255
0625	B44A	85	2B		STA VARTAB+1
0626	B44C	E5	5D		SBC LOWTR+1
0627	B44E	AA			TAX
0628	B44F	38			SEC
0629	B450	A5	5C		LDA LOWTR
0630	B452	E5	2A		SBC VARTAB
0631	B454	A8			TAY
0632	B455	B0	03		BCS QDECT1
0633	B457	E8			INX
0634	B458	C6	22		DEC INDEX2+1
0635	B45A	18		QDECT1	CLC
0636	B45B	65	1F		ADC INDEX1
0637	B45D	90	03		BCC MLOOP
0638	B45F	C6	20		DEC INDEX1+1
0639	B461	18			CLC
0640	B462	B1	1F	MLOOP	LDA (INDEX1)Y
0641	B464	91	21		STA (INDEX2)Y
0642	B466	C8			INX
0643	B467	D0	F9		BNE MLOOP
0644	B469	E6	20		INC INDEX1+1
0645	B46B	E6	22		INC INDEX2+1
0646	B46D	CA			DEX
0647	B46E	D0	F2		BNE MLOOP
0648	B470	20	E9 B5	NODEL	JSR RUNC
0649	B473	20	B6 B4		JSR LNKPRG
0650	B476	AD	00 02		LDA BUF
0651	B479	F0	8B		BEQ MAIN
0652	B47B	18			CLC
0653	B47C	A5	2A		LDA VARTAB
0654	B47E	85	57		STA HIGHTR
0655	B480	65	05		ADC COUNT
0656	B482	85	55		STA HIGHDS
0657	B484	A4	2B		LDY VARTAB+1
0658	B486	84	58		STY HIGHTR+1
0659	B488	90	01		BCC NODELC
0660	B48A	C8			INX
0661	B48B	84	56	NODELC	STY HIGHDS+1
0662	B48D	20	50 B3		JSR BLTU
0663	B490	A5	11		LDA LINNUM
0664	B492	A4	12		LDY LINNUM+1
0665	B494	8D	FE 01		STA BUF-2
0666	B497	8C	FF 01		STY BUF-1
0667	B49A	A5	2E		LDA STREND
0668	B49C	A4	2F		LDY STREND+1
0669	B49E	85	2A		STA VARTAB
0670	B4A0	84	2B		STY VARTAB+1
0671	B4A2	A4	05		LDY COUNT
0672	B4A4	8B			DEY
0673	B4A5	B9	FC 01	STOLOOP	LDA BUF-4, Y
0674	B4A8	91	5C		STA (LOWTR)Y
0675	B4AA	88			DEY
0676	B4AB	10	F8		BPL STOLOOP

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0677 B4AD 20 E9 B5 FINI JSR RUNC
0678 B4B0 20 B6 B4 JSR LNKPRG
0679 B4B3 4C 06 B4 JMP MAIN
0680 B4B6 A5 28 LNKPRG LDA TXTTAB
0681 B4B8 A4 29 LDY TXTTAB+1
0682 B4BA 85 1F STA INDEX
0683 B4BC 84 20 STY INDEX+1
0684 B4BE 18 CLC
0685 B4BF A0 01 CHEAD LDY #1
0686 B4C1 B1 1F LDA (INDEX)Y
0687 B4C3 F0 1C BEQ LNKRTS
0688 B4C5 A0 04 LDY #4
0689 B4C7 C8 CZLOOP INY
0690 B4C8 B1 1F LDA (INDEX)Y
0691 B4CA D0 FB BNE CZLOOP
0692 B4CC C8 INY
0693 B4CD 98 TYA
0694 B4CE 65 1F ADC INDEX
0695 B4D0 AA TAX
0696 B4D1 A0 00 LDY #0
0697 B4D3 91 1F STA (INDEX)Y
0698 B4D5 98 TYA
0699 B4D6 65 20 ADC INDEX+1
0700 B4D8 C8 INY
0701 B4D9 91 1F STA (INDEX)Y
0702 B4DB 86 1F STX INDEX
0703 B4DD 85 20 STA INDEX+1
0704 B4DF 90 DE BCC CHEAD
0705 B4E1 60 LNKRTS RTS
0706 B4E2 A2 00 INLIN LDX #0
0707 B4E4 20 CF FF INLINC JSR INCHR
0708 B4E7 C9 0D CMP #13
0709 B4E9 F0 0D BEQ FININ1
0710 B4EB 9D 00 02 STA BUF, X
0711 B4EE E8 INX
0712 B4EF E0 51 CPX #81
0713 B4F1 D0 F1 BNE INLINC ; IF =81 CHARS IN THEN...
0714 B4F3 A2 B0 LDX #ERRLS ; STRING TOO LONG ERR
0715 B4F5 4C CF B3 JMP ERROR
0716 B4F8 4C D2 BA FININ1 JMP FININL
0717 B4FB .FIL CODE2
0718 B4FB ;*****CODE2*****
0719 B4FB BUFOFS =@1000
0720 B4FB A6 77 CRUNCH LDX TXTPTR
0721 B4FD A0 04 LDY #4
0722 B4FF 84 09 STY DORES
0723 B501 BD 00 02 KLOOP LDA BUFOFS, X
0724 B504 10 07 BPL CMPSPC
0725 B506 C9 FF CMP #PI
0726 B508 F0 4A BEQ STUFFH
0727 B50A E8 INX
0728 B50B D0 F4 BNE KLOOP
0729 B50D C9 20 CMPSPC CMP #'
0730 B50F F0 43 BEQ STUFFH
0731 B511 85 04 STA ENDCHR

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LINE# LOC CODE LINE

```

0732 B513 C9 22          CMP #34
0733 B515 F0 62          BEQ STRNG
0734 B517 24 09          BIT DORES
0735 B519 70 39          BVS STUFFH
0736 B51B C9 3F          CMP #'?
0737 B51D D0 04          BNE KLOOP1
0738 B51F A9 99          LDA #PRINTK
0739 B521 D0 31          BNE STUFFH
0740 B523 C9 30          KLOOP1 CMP #'0
0741 B525 90 04          BCC MUSTCR
0742 B527 C9 3C          CMP #60
0743 B529 90 29          BCC STUFFH
0744 B52B 84 6E          MUSTCR STY BUFPTR
0745 B52D A0 00          LDY #0
0746 B52F 84 05          STY COUNT
0747 B531 86 77          STX TXTPTR
0748 B533 A9 B0          LDA #>RESLST
0749 B535 85 20          STA INDEX1+1
0750 B537 A9 B2          LDA #<RESLST
0751 B539 85 1F          STA INDEX1
0752 B53B D0 07          BNE RESCON          ; BRANCH ALWAYS

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0754 B53D E8          RESER INX
0755 B53E E6 1F          INC INDEX1
0756 B540 D0 02          BNE RESCON
0757 B542 E6 20          INC INDEX1+1
0758 B544 BD 00 02      RESCON LDA BUFOFS, X
0759 B547 38          SEC
0760 B548 F1 1F          SBC (INDEX1)Y
0761 B54A F0 F1          BEQ RESER
0762 B54C C9 80          CMP #128
0763 B54E D0 30          BNE NTHIS
0764 B550 05 05          ORA COUNT
0765 B552 A4 6E          GETBPT LDY BUFPTR
0766 B554 E8          STUFFH INX
0767 B555 C8          INY
0768 B556 99 FB 01      STA BUF-5, Y
0769 B559 B9 FB 01      LDA BUF-5, Y
0770 B55C F0 3B          BEQ CRDONE
0771 B55E 38          SEC
0772 B55F E9 3A          SBC #' :
0773 B561 F0 04          BEQ COLIS
0774 B563 C9 49          CMP #DATATK-$3A
0775 B565 D0 02          BNE NODATT
0776 B567 85 09          COLIS STA DORES
0777 B569 38          NODATT SEC
0778 B56A E9 55          SBC #REMTK-$3A
0779 B56C D0 93          BNE KLOOP
0780 B56E 85 04          STA ENDCHR
0781 B570 BD 00 02      STR1 LDA BUFOFS, X
0782 B573 F0 DF          BEQ STUFFH
0783 B575 C5 04          CMP ENDCHR
0784 B577 F0 DB          BEQ STUFFH

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```

0785 B579 CB          STRNG  INY
0786 B57A 99 FB 01   STA BUF-5,Y
0787 B57D E8          INX
0788 B57E D0 F0      BNE STR1
0789 B580 A6 77      NTHIS  LDX TXTPTR
0790 B582 E6 05      INC COUNT
    
```

```

0792 B584          ;LOOK FOR END OF RESERVED WORD
0793 B584 B1 1F      NTHIS1 LDA (INDEX1)Y
0794 B586 08          PHP
0795 B587 E6 1F      INC INDEX1
0796 B589 D0 02      BNE NTHIS2
0797 B58B E6 20      INC INDEX1+1
0798 B58D 28          NTHIS2 PLP
0799 B58E 10 F4      BPL NTHIS1
    
```

```

0801 B590          ;LOOK FOR END OF RESLST
0802 B590 B1 1F      LDA (INDEX1)Y
0803 B592 D0 B0      BNE RESCON
0804 B594 BD 00 02   LDA BUFOFS,X
0805 B597 10 B9      BPL GETBPT
    
```

```

0807 B599 99 FD 01   CRDONE STA BUF-3,Y
0808 B59C C6 78      DEC TXTPTR+1
0809 B59E          ZZ1   =BUF-1
0810 B59E A9 FF      LDA #<ZZ1
0811 B5A0 B5 77      STA TXTPTR
0812 B5A2 60          RTS
0813 B5A3 A5 28      FNDLIN LDA TXTTAB
0814 B5A5 A6 29      LDX TXTTAB+1
0815 B5A7 A0 01      FNDLNC LDY #1
0816 B5A9 B5 5C      STA LOWTR
0817 B5AB B6 5D      STX LOWTR+1
0818 B5AD B1 5C      LDA (LOWTR)Y
0819 B5AF F0 1F      BEQ FLINRT
0820 B5B1 C8          INY
0821 B5B2 C8          INY
0822 B5B3 A5 12      LDA LINNUM+1
0823 B5B5 D1 5C      CMP (LOWTR)Y
0824 B5B7 90 18      BCC FLNRTS
0825 B5B9 F0 03      BEQ FNDL01
0826 B5BB 88          DEY
0827 B5BC D0 09      BNE AFFRTS
0828 B5BE A5 11      FNDL01 LDA LINNUM
0829 B5C0 88          DEY
0830 B5C1 D1 5C      CMP (LOWTR)Y
0831 B5C3 90 0C      BCC FLNRTS
0832 B5C5 F0 0A      BEQ FLNRTS
0833 B5C7 88          AFFRTS DEY
    
```

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0834	B5C8	B1	5C		LDA (LOWTR)Y
0835	B5CA	AA			TAX
0836	B5CB	88			DEY
0837	B5CC	B1	5C		LDA (LOWTR)Y
0838	B5CE	B0	D7		BCS FNDLNC
0839	B5D0	18		FLINRT	CLC
0840	B5D1	60		FLNRTS	RTS
0841	B5D2	D0	FD	SCRATH	BNE FLNRTS
0842	B5D4	A9	00	SCRATCH	LDA #0
0843	B5D6	A8			TAY
0844	B5D7	91	28		STA (TXTTAB)Y
0845	B5D9	C8			INY
0846	B5DA	91	28		STA (TXTTAB)Y
0847	B5DC	A5	28		LDA TXTTAB
0848	B5DE	18			CLC
0849	B5DF	69	02		ADC #2
0850	B5E1	85	2A		STA VARTAB
0851	B5E3	A5	29		LDA TXTTAB+1
0852	B5E5	69	00		ADC #0
0853	B5E7	85	2B		STA VARTAB+1
0854	B5E9	20	22 B6	RUNC	JSR STXTPT
0855	B5EC	A9	00		LDA #0
0856	B5EE	D0	31	CLEAR	BNE STKRTS
0857	B5F0	A5	34	CLEARC	LDA MEMSIZ
0858	B5F2	A4	35		LDY MEMSIZ+1
0859	B5F4	85	30		STA FRETOP
0860	B5F6	84	31		STY FRETOP+1
0861	B5F8	A9	00		LDA #0
0862	B5FA	85	0D		STA DSDSC
0863	B5FC	20	E7 FF		JSR CCALL
0864	B5FF	A5	2A		LDA VARTAB
0865	B601	A4	2B		LDY VARTAB+1
0866	B603	85	2C		STA ARYTAB
0867	B605	84	2D		STY ARYTAB+1
0868	B607	85	2E		STA STREND
0869	B609	84	2F		STY STREND+1
0870	B60B	20	B7 B7	FLOAD	JSR RESTOR
0871	B60E	A2	16	STKINI	LDX #TEMPST
0872	B610	86	13		STX TEMPPT
0873	B612	68			PLA
0874	B613	A8			TAY
0875	B614	68			PLA
0876	B615	A2	FA		LDX #STKEND-257
0877	B617	9A			TXS
0878	B618	48			PHA
0879	B619	98			TYA
0880	B61A	48			PHA
0881	B61B	A9	00		LDA #0
0882	B61D	85	3B		STA OLDTXT+1
0883	B61F	85	0A		STA SUBFLG
0884	B621	60		STKRTS	RTS
0885	B622	18		STXTPT	CLC
0886	B623	A5	28		LDA TXTTAB
0887	B625	69	FF		ADC #255
0888	B627	85	77		STA TXTPTR

LINE# LOC CODE LINE

```

0889 B629 A5 29          LDA TXTTAB+1
0890 B62B 69 FF          ADC #255
0891 B62D 85 78          STA TXTPTR+1
0892 B62F 60             RTS
0893 B630                .FIL CODE3
0894 B630                ;*****CODE3*****
0895 B630 90 06          LIST BCC GOLST
0896 B632 F0 04          BEQ GOLST
0897 B634 C9 AB          CMP #MINUTK
0898 B636 D0 E9          BNE STKRTS
0899 B638 20 F6 BB       GOLST JSR LINGET
0900 B63B 20 A3 B5       JSR FNDLIN
0901 B63E 20 76 00       JSR CHRGET
0902 B641 F0 0C          BEQ LSTEND
0903 B643 C9 AB          CMP #MINUTK
0904 B645 D0 8A          BNE FLNRTS
0905 B647 20 70 00       JSR CHRGET
0906 B64A 20 F6 BB       JSR LINGET
0907 B64D D0 82          BNE FLNRTS
0908 B64F 68             LSTEND PLA
0909 B650 68             PLA
0910 B651 A5 11          LDA LINNUM
0911 B653 05 12          ORA LINNUM+1
0912 B655 D0 06          BNE LIST4
0913 B657 A9 FF          LDA #255
0914 B659 85 11          STA LINNUM
0915 B65B 85 12          STA LINNUM+1
0916 B65D A0 01          LIST4 LDY #1
0917 B65F 84 09          STY DORES
0918 B661 B1 5C          LDA (LOWTR)Y
0919 B663 F0 43          BEQ GRODY
0920 B665 20 E1 FF       JSR ISCNTC
0921 B668 20 DF BA       JSR CRDO
0922 B66B CB             INY
0923 B66C B1 5C          LDA (LOWTR)Y
0924 B66E AA             TAX
0925 B66F CB             INY
0926 B670 B1 5C          LDA (LOWTR)Y
0927 B672 C5 12          CMP LINNUM+1
0928 B674 D0 04          BNE TSTDUN
0929 B676 E4 11          CPX LINNUM
0930 B678 F0 02          BEQ TYPLIN
0931 B67A B0 2C          TSTDUN BCS GRODY
0932 B67C 84 46          TYPLIN STY LSTPNT
0933 B67E 20 83 CF       JSR LINPRT
0934 B681 A9 20          LDA #'
0935 B683 A4 46          PRIT4 LDY LSTPNT
0936 B685 29 7F          AND #127
0937 B687 20 46 BB       PLOOP JSR OUTDO
0938 B68A C9 22          CMP #34
0939 B68C D0 06          BNE PLOOP1
0940 B68E A5 09          LDA DORES
0941 B690 49 FF          EOR #@377
0942 B692 85 09          STA DORES
0943 B694 CB             PLOOP1 INY

```

LINE# LOC CODE LINE

```

0944 B695 F0 11      BEQ GRODY
0945 B697 B1 5C      LDA (LOWTR)Y
0946 B699 D0 10      BNE QPLOP
0947 B69B AB         TAY
0948 B69C B1 5C      LDA (LOWTR)Y
0949 B69E AA         TAX
0950 B69F CB         INY
0951 B6A0 B1 5C      LDA (LOWTR)Y
0952 B6A2 B6 5C      STX LOWTR
0953 B6A4 B5 5D      STA LOWTR+1
0954 B6A6 D0 B5      BNE LIST4
0955 B6A8 4C FF B3    GRODY JMP READY
0956 B6AB 10 DA      QPLOP BPL PLOOP
0957 B6AD C9 FF      CMP #PI
0958 B6AF F0 D6      BEQ PLOOP
0959 B6B1 24 09      BIT DORES
0960 B6B3 30 D2      BMI PLOOP
0961 B6B5 AA         TAX
0962 B6B6 B4 46      STY LSTPNT
    
```

```

0964 B6B8 A0 B0      LDY #>RESLST
0965 B6BA B4 20      STY INDEX1+1
0966 B6BC A0 B2      LDY #<RESLST
0967 B6BE B4 1F      STY INDEX1
0968 B6C0 A0 00      LDY #0
0969 B6C2 0A         ASL A
0970 B6C3 F0 10      BEQ PRIT3B
    
```

```

0972 B6C5           ;POINT INDEX1 AT START OF WORD
0973 B6C5 CA        RESRCH DEX
0974 B6C6 10 0C      BPL PRIT3
0975 B6C8 E6 1F      RESCR1 INC INDEX1
0976 B6CA D0 02      BNE RESCR2
0977 B6CC E6 20      INC INDEX1+1
0978 B6CE B1 1F      RESCR2 LDA (INDEX1)Y
0979 B6D0 10 F6      BPL RESCR1
0980 B6D2 30 F1      BMI RESRCH
    
```

```

0982 B6D4           ;LIST WORD INDEXING BY Y
0983 B6D4 CB        PRIT3 INY
0984 B6D5 B1 1F      PRIT3B LDA (INDEX1)Y
0985 B6D7 30 AA      BMI PRIT4
0986 B6D9 20 46 BB   JSR OUTDO
0987 B6DC D0 F6      BNE PRIT3
    
```

```

0989 B6DE A9 80      FOR   LDA #128
0990 B6E0 B5 0A      STA SUBFLG
    
```

LINE# LOC CODE LINE

0991	B6E2	20	30	B9		JSR LET
0992	B6E5	20	22	B3		JSR FNDFOR
0993	B6E8	D0	05			BNE NOTOL
0994	B6EA	8A				TXA
0995	B6EB	69	0F			ADC #FORSIZ-3
0996	B6ED	AA				TAX
0997	B6EE	9A				TXS
0998	B6EF	68			NOTOL	PLA
0999	B6F0	68				PLA
1000	B6F1	A9	09			LDA #B+ADDPRC
1001	B6F3	20	93	B3		JSR GETSTK
1002	B6F6	20	91	BB		JSR DATAN
1003	B6F9	18				CLC
1004	B6FA	98				TYA
1005	B6FB	65	77			ADC TXTPTR
1006	B6FD	48				PHA
1007	B6FE	A5	78			LDA TXTPTR+1
1008	B700	69	00			ADC #0
1009	B702	48				PHA
1010	B703	A5	37			LDA CURLIN+1
1011	B705	48				PHA
1012	B706	A5	36			LDA CURLIN
1013	B708	48				PHA
1014	B709	A9	A4			LDA #TDTK
1015	B70B	20	F7	BE		JSR SYNCHR
1016	B70E	20	B7	BD		JSR CHKNUM
1017	B711	20	B4	BD		JSR FRMNUM
1018	B714	A5	63			LDA FACSGN
1019	B716	09	7F			ORA #127
1020	B718	25	5F			AND FACHO
1021	B71A	B5	5F			STA FACHO
1022	B71C	A9	27			LDA #<LDFONE
1023	B71E	A0	B7			LDY #>LDFONE
1024	B720	B5	1F			STA INDEX1
1025	B722	B4	20			STY INDEX1+1
1026	B724	4C	41	BE		JMP FORPSH
1027	B727	A9	F2		LDFONE	LDA #<FONE
1028	B729	A0	CA			LDY #>FONE
1029	B72B	20	D8	CC		JSR MOVFM
1030	B72E	20	76	00		JSR CHRGET
1031	B731	C9	A9			CMP #STEPTK
1032	B733	D0	06			BNE ONEON
1033	B735	20	70	00		JSR CHRGET
1034	B738	20	B4	BD		JSR FRMNUM
1035	B73B	20	61	CD	ONEON	JSR SIGN
1036	B73E	20	32	BE		JSR PUSHF
1037	B741	A5	47			LDA FORPNT+1
1038	B743	48				PHA
1039	B744	A5	46			LDA FORPNT
1040	B746	48				PHA
1041	B747	A9	B1			LDA #FORTK
1042	B749	48				PHA
1043	B74A					.FIL CODE4

LINE# LOC CODE LINE

1045	B74A	20 E1	FF	NEWSTT	JSR	ISCNTC
1046	B74D	A5 77			LDA	TXTPTR
1047	B74F	A4 78			LDY	TXTPTR+1
1048	B751	C0 02			CPY	#BUFPAG
1049	B753	F0 04			BEG	DIRCON
1050	B755	B5 3A			STA	OLDTXT
1051	B757	B4 3B			STY	OLDTXT+1
1052	B759	A0 00		DIRCON	LDY	#0
1053	B75B	B1 77			LDA	(TXTPTR)Y
1054	B75D	D0 46			BNE	MORSTS
1055	B75F	A0 02			LDY	#2
1056	B761	B1 77			LDA	(TXTPTR)Y
1057	B763	18			CLC	
1058	B764	D0 03			BNE	DIRCN1
1059	B766	4C E2	B7		JMP	ENDCON
1060	B769	C8		DIRCN1	INY	
1061	B76A	B1 77			LDA	(TXTPTR)Y
1062	B76C	B5 36			STA	CURLIN
1063	B76E	C8			INY	
1064	B76F	B1 77			LDA	(TXTPTR)Y
1065	B771	B5 37			STA	CURLIN+1
1066	B773	98			TYA	
1067	B774	65 77			ADC	TXTPTR
1068	B776	B5 77			STA	TXTPTR
1069	B778	90 02			BCC	GONE
1070	B77A	E6 78			INC	TXTPTR+1
1071	B77C	20 70	00	GONE	JSR	CHRGET
1072	B77F	20 B5	B7		JSR	GONE3
1073	B782	4C 4A	B7		JMP	NEWSTT
1074	B785	F0 3E		GONE3	BEG	ISCRTS
1075	B787	E9 80		GONE2	SBC	#ENDTK
1076	B789	90 17			BCC	GLET
1077	B78B	C9 23			CMP	#SCRATK-ENDTK+1
1078	B78D	90 06			BCC	GONE4
1079	B78F	C9 4B			CMP	#GOTK-ENDTK
1080	B791	90 16			BCC	SNERR1
1081	B793	E9 28			SBC	#GOTK-SCRATK-1
1082	B795	0A		GONE4	ASL	A
1083	B796	A8			TAY	
1084	B797	B9 01	B0		LDA	STMDSP+1, Y
1085	B79A	48			PHA	
1086	B79B	B9 00	B0		LDA	STMDSP, Y
1087	B79E	48			PHA	
1088	B79F	4C 70	00		JMP	CHRGET
1089	B7A2	4C 30	B9	GLET	JMP	LET
1090	B7A5	C9 3A		MORSTS	CMP	#':
1091	B7A7	F0 D3			BEG	GONE
1092	B7A9	4C 00	BF	SNERR1	JMP	SNERR
1094	B7AC	20 76	00	GO	JSR	CHRGOT
1095	B7AF	A9 A4			LDA	#TOTK
1096	B7B1	20 F7	BE		JSR	SYNCHR
1097	B7B4	4C 30	BB		JMP	GOTO

LINE# LOC CODE LINE

1098	B7B7	38	RESTOR	SEC
1099	B7B8	A5 28		LDA TXTTAB
1100	B7BA	E9 01		SBC #1
1101	B7BC	A4 29		LDY TXTTAB+1
1102	B7BE	B0 01		BCS RESFIN
1103	B7C0	88		DEY
1104	B7C1	85 3E	RESFIN	STA DATPTR
1105	B7C3	84 3F		STY DATPTR+1
1106	B7C5	60	ISCRTS	RTS
1107	B7C6	B0 01	STOP	BCS STOPC
1108	B7C8	18	END	CLC
1109	B7C9	D0 3C	STOPC	BNE CONTRT
1110	B7CB	A5 77		LDA TXTPTR
1111	B7CD	A4 78		LDY TXTPTR+1
1112	B7CF	A6 37		LDX CURLIN+1
1113	B7D1	E8		INX
1114	B7D2	F0 0C		BEG DIRIS
1115	B7D4	B5 3A		STA OLDTXT
1116	B7D6	B4 3B		STY OLDTXT+1
1117	B7D8	A5 36	STPEND	LDA CURLIN
1118	B7DA	A4 37		LDY CURLIN+1
1119	B7DC	B5 38		STA OLDLIN
1120	B7DE	B4 39		STY OLDLIN+1
1121	B7E0	68	DIRIS	PLA
1122	B7E1	68		PLA
1123	B7E2	A9 1B	ENDCON	LDA #<BRKTX
1124	B7E4	A0 B3		LDY #>BRKTX
1125	B7E6	90 03		BCC GORDY
1126	B7E8	4C F4 B3		JMP ERRFIN
1127	B7EB	4C FF B3	GORDY	JMP READY
1128	B7EE	D0 17	CONT	BNE CONTRT
1129	B7F0	A2 DB		LDX #ERRCN
1130	B7F2	A4 3B		LDY OLDTXT+1
1131	B7F4	D0 03		BNE *+5
1132	B7F6	4C CF B3		JMP ERROR
1133	B7F9	A5 3A		LDA OLDTXT
1134	B7FB	B5 77		STA TXTPTR
1135	B7FD	B4 78		STY TXTPTR+1
1136	B7FF	A5 38		LDA OLDLIN
1137	B801	A4 39		LDY OLDLIN+1
1138	B803	B5 36		STA CURLIN
1139	B805	B4 37		STY CURLIN+1
1140	B807	60	CONTRT	RTS
1141	B808	D0 03	RUN	BNE *+5
1142	B80A	4C E9 B5		JMP RUNC
1143	B80D	20 F0 B5		JSR CLEARC
1144	B810	4C 27 B8		JMP RUNC2
1145	B813	A9 03	GOSUB	LDA #3
1146	B815	20 93 B3		JSR GETSTK
1147	B818	A5 78		LDA TXTPTR+1
1148	B81A	48		PHA
1149	B81B	A5 77		LDA TXTPTR
1150	B81D	48		PHA
1151	B81E	A5 37		LDA CURLIN+1
1152	B820	48		PHA

LINE# LOC CODE LINE

1153	B821	A5	36		LDA	CURLIN
1154	B823	48			PHA	
1155	B824	A9	8D		LDA	#GOSUTK
1156	B826	48			PHA	
1157	B827	20	76 00	RUNC2	JSR	CHRGOT
1158	B82A	20	30 B8		JSR	GOTO
1159	B82D	4C	4A B7		JMP	NEWSTT
1160	B830	20	F6 B8	GOTO	JSR	LINGET
1161	B833	20	94 B8		JSR	REMN
1162	B836	A5	37		LDA	CURLIN+1
1163	B838	C5	12		CMP	LINNUM+1
1164	B83A	B0	0B		BCS	LUK4IT
1165	B83C	98			TYA	
1166	B83D	38			SEC	
1167	B83E	65	77		ADC	TXTPTR
1168	B840	A6	78		LDX	TXTPTR+1
1169	B842	90	07		BCC	LUKALL
1170	B844	E8			INX	
1171	B845	B0	04		BCS	LUKALL
1172	B847	A5	28	LUK4IT	LDA	TXTTAB
1173	B849	A6	29		LDX	TXTTAB+1
1174	B84B	20	A7 B5	LUKALL	JSR	FNDLNC
1175	B84E	90	1E		BCC	USERR
1176	B850	A5	5C		LDA	LOWTR
1177	B852	E9	01		SBC	#1
1178	B854				.	FIL CODE5

LINE# LOC CODE LINE

1180	B854	B5 77		STA TXTPTR
1181	B856	A5 5D		LDA LOWTR+1
1182	B858	E9 00		SBC #0
1183	B85A	B5 78		STA TXTPTR+1
1184	B85C	60	GORTS	RTS
1185	B85D	D0 FD	RETURN	BNE GORTS
1186	B85F	A9 FF		LDA #255
1187	B861	B5 47		STA FORPNT+1
1188	B863	20 22 B3		JSR FNDFOR
1189	B866	9A		TXS
1190	B867	C9 8D		CMP #GOSUTK
1191	B869	F0 0B		BEQ RETU1
1192	B86B	A2 16		LDX #ERRRG
1193	B86D	2C		.BYT #2C
1194	B86E	A2 5A	USERR	LDX #ERRRUS
1195	B870	4C CF B3		JMP ERROR
1196	B873	4C 00 BF	SNERR2	JMP SNERR
1197	B876	68	RETU1	PLA
1198	B877	68		PLA
1199	B878	B5 36		STA CURLIN
1200	B87A	68		PLA
1201	B87B	B5 37		STA CURLIN+1
1202	B87D	68		PLA
1203	B87E	B5 77		STA TXTPTR
1204	B880	68		PLA
1205	B881	B5 78		STA TXTPTR+1
1206	B883	20 91 B8	DATA	JSR DATAN
1207	B886	98	ADDON	TYA
1208	B887	18		CLC
1209	B888	65 77		ADC TXTPTR
1210	B88A	B5 77		STA TXTPTR
1211	B88C	90 02		BCC REMRTS
1212	B88E	E6 78		INC TXTPTR+1
1213	B890	60	REMRTS	RTS
1214	B891	A2 3A	DATAN	LDX #':
1215	B893	2C		.BYT #2C
1216	B894	A2 00	REMN	LDX #0
1217	B896	B6 03		STX CHARAC
1218	B898	A0 00		LDY #0
1219	B89A	B4 04		STY ENDCHR
1220	B89C	A5 04	EXCHQT	LDA ENDCHR
1221	B89E	A6 03		LDX CHARAC
1222	B8A0	B5 03		STA CHARAC
1223	B8A2	B6 04		STX ENDCHR
1224	B8A4	B1 77	REMER	LDA (TXTPTR)Y
1225	B8A6	F0 E8		BEQ REMRTS
1226	B8A8	C5 04		CMP ENDCHR
1227	B8AA	F0 E4		BEQ REMRTS
1228	B8AC	C8		INY
1229	B8AD	C9 22		CMP #34
1230	B8AF	D0 F3		BNE REMER
1231	B8B1	F0 E9		BEQ EXCHQT
1232	B8B3	20 98 BD	IF	JSR FRMEVL
1233	B8B6	20 76 00		JSR CHRGT
1234	B8B9	C9 89		CMP #GOTOTK

LINE# LOC CODE LINE

1235	B8BB	F0 05		BEG	OKGOTO
1236	B8BD	A9 A7		LDA	#THENTK
1237	B8BF	20 F7 BE		JSR	SYNCHR
1238	B8C2	A5 5E	OKGOTO	LDA	FACEXP
1239	B8C4	D0 05		BNE	DOCOND
1240	B8C6	20 94 B8	REM	JSR	REMN
1241	B8C9	F0 B8		BEG	ADDON
1242	B8CB	20 76 00	DOCOND	JSR	CHRGOT
1243	B8CE	B0 03		BCS	DOCO
1244	B8D0	4C 30 B8		JMP	GOTO
1245	B8D3	4C 85 B7	DOCO	JMP	GONE3
1246	B8D6	20 D4 C8	ONGOTO	JSR	GETBYT
1247	B8D9	48		PHA	
1248	B8DA	C9 8D		CMP	#GOSUTK
1249	B8DC	F0 04		BEG	ONGLOP
1250	B8DE	C9 89	SNERR3	CMP	#GOTOTK
1251	B8E0	D0 91		BNE	SNERR2
1252	B8E2	C6 62	ONGLOP	DEC	FACLO
1253	B8E4	D0 04		BNE	DNGLP1
1254	B8E6	68		PLA	
1255	B8E7	4C 87 B7		JMP	GONE2
1256	B8EA	20 70 00	ONGLP1	JSR	CHRGET
1257	B8ED	20 F6 B8		JSR	LINGET
1258	B8F0	C9 2C		CMP	#44
1259	B8F2	F0 EE		BEG	ONGLOP
1260	B8F4	68		PLA	
1261	B8F5	60	ONGRTS	RTS	
1262	B8F6	A2 00	LINGET	LDX	#0
1263	B8F8	B6 11		STX	LINNUM
1264	B8FA	B6 12		STX	LINNUM+1
1265	B8FC	B0 F7	MORLIN	BCS	ONGRTS
1266	B8FE	E9 2F		SBC	#*2F
1267	B900	B5 03		STA	CHARAC
1268	B902	A5 12		LDA	LINNUM+1
1269	B904	B5 1F		STA	INDEX
1270	B906	C9 19		CMP	#25
1271	B908	B0 D4		BCS	SNERR3
1272	B90A	A5 11		LDA	LINNUM
1273	B90C	0A		ASL	A
1274	B90D	26 1F		ROL	INDEX
1275	B90F	0A		ASL	A
1276	B910	26 1F		ROL	INDEX
1277	B912	65 11		ADC	LINNUM
1278	B914	B5 11		STA	LINNUM
1279	B916	A5 1F		LDA	INDEX
1280	B918	65 12		ADC	LINNUM+1
1281	B91A	B5 12		STA	LINNUM+1
1282	B91C	06 11		ASL	LINNUM
1283	B91E	26 12		ROL	LINNUM+1
1284	B920	A5 11		LDA	LINNUM
1285	B922	65 03		ADC	CHARAC
1286	B924	B5 11		STA	LINNUM
1287	B926	90 02		BCC	NXTLGC
1288	B928	E6 12		INC	LINNUM+1
1289	B92A	20 70 00	NXTLGC	JSR	CHRGET

LINE# LOC CODE LINE

1290	B92D	4C	FC	B8		JMP	MORLIN
1291	B930	20	2B	C1	LET	JSR	PTRGET
1292	B933	85	46			STA	FORPNT
1293	B935	84	47			STY	FORPNT+1
1294	B937	A9	B2			LDA	##B2
1295	B939	20	F7	BE		JSR	SYNCHR
1296	B93C	A5	08			LDA	INTFLG
1297	B93E	48				PHA	
1298	B93F	A5	07			LDA	VALTYP
1299	B941	48				PHA	
1300	B942	20	98	BD		JSR	FRMEVL
1301	B945	68				PLA	
1302	B946	2A				ROL	A
1303	B947	20	8A	BD		JSR	CHKVAL
1304	B94A	D0	18			BNE	COPSTR
1305	B94C	68				PLA	
1306	B94D	10	12		QINTGR	BPL	COPFLT
1307	B94F	20	51	CD		JSR	ROUND
1308	B952	20	EA	C2		JSR	AYINT
1309	B955	A0	00			LDY	#0
1310	B957	A5	61			LDA	FACMO
1311	B959	91	46			STA	(FORPNT)Y
1312	B95B	C8				INY	
1313	B95C	A5	62			LDA	FACLO
1314	B95E	91	46			STA	(FORPNT)Y
1315	B960	60				RTS	
1316	B961	4C	06	CD	COPFLT	JMP	MOVVF
1317	B964	68			COPSTR	PLA	
1318	B965	A4	47		INPCOM	LDY	FORPNT+1
1319	B967	C0	D0			CPY	#>ZERO
1320	B969	D0	4F			BNE	GETSPT
1321	B96B	20	8B	C7		JSR	FREFAC
1322	B96E	C9	06			CMP	#6
1323	B970	D0	40			BNE	FCERR2
1324	B972	A0	00			LDY	#0
1325	B974	84	5E			STY	FACEXP
1326	B976	84	63			STY	FACSGN
1327	B978					.	FIL CODE6

LINE# LOC CODE LINE

1329	B978	B4 6E	TIMELP	STY FBUFPT	
1330	B97A	20 AB B9		JSR TIMNUM	
1331	B97D	20 18 CC		JSR MUL10	
1332	B980	E6 6E		INC FBUFPT	
1333	B982	A4 6E		LDY FBUFPT	
1334	B984	20 AB B9		JSR TIMNUM	
1335	B987	20 42 CD		JSR MOVAF	
1336	B98A	AA		TAX	
1337	B98B	F0 05		BEG NDM6	
1338	B98D	E8		INX	
1339	B98E	8A		TXA	
1340	B98F	20 23 CC		JSR FINML6	
1341	B992	A4 6E	NOML6	LDY FBUFPT	
1342	B994	C8		INY	
1343	B995	C0 06		CPY #6	
1344	B997	D0 DF		BNE TIMELP	
1345	B999	20 18 CC		JSR MUL10	
1346	B99C	20 D1 CD		JSR QINT	
1347	B99F	A2 02		LDX #2	
1348	B9A1	78		SEI	
1349	B9A2	B5 60	TIMEST	LDA FACMOH, X	
1350	B9A4	95 8D		STA CTIMR, X	
1351	B9A6	CA		DEX	
1352	B9A7	10 F9		BPL TIMEST	
1353	B9A9	58		CLI	
1354	B9AA	60		RTS	
1355	B9AB	B1 1F	TIMNUM	LDA (INDEX)Y	
1356	B9AD	20 7D 00		JSR QNUM	
1357	B9B0	90 03		BCC GOTNUM	
1358	B9B2	4C 73 C3	FCERR2	JMP FCERR	
1359	B9B5	E9 2F	GOTNUM	SBC ##2F	
1360	B9B7	4C B4 CE		JMP FINLOG	
1361	B9BA	A0 02	GETSPT	LDY #2	
1362	B9BC	B1 61		LDA (FACMO)Y	
1363	B9BE				; SPECIAL CASE FOR DS\$ TEMP
1364	B9BE	C5 0F	DSKX0	CMP DSDESC+2	; CHECK FOR DS\$
1365	B9C0	D0 12		BNE DSKX2	; ? SPECIAL CASE
1366	B9C2	48		PHA	; TEST FOR DS\$ TEMP
1367	B9C3	88		DEY	
1368	B9C4	A5 0D		LDA DSDESC	; CHK FOR ZERO LENGTH
1369	B9C6	F0 0A		BEG DSKX1	
1370	B9C8	B1 61		LDA (FACMO)Y	; CHK LOWER
1371	B9CA	C5 0E		CMP DSDESC+1	
1372	B9CC	D0 04		BNE DSKX1	
1373	B9CE	68		PLA	; RESTORE ACCUM
1374	B9CF	4C F6 B9		JMP COPY	; BRA
1375	B9D2	68	DSKX1	PLA	; RESTORE ACCUM
1376	B9D3	C8		INY	; RESTORE Y
1377	B9D4				;
1378	B9D4	C5 31	DSKX2	CMP FRETOP+1	
1379	B9D6	90 17		BCC DNTCPY	; NOMOVE IF IN PROG
1380	B9D8	D0 07		BNE QVARIA	
1381	B9DA	88		DEY	
1382	B9DB	B1 61		LDA (FACMO)Y	
1383	B9DD	C5 30		CMP FRETOP	

LINE# LOC CODE LINE

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1384 B9DF 90 0E          BCC DNTCPY          ;NOMOVE IF IN PRDG
1385 B9E1 A4 62          QVARIA LDY FACLO
1386 B9E3 C4 2B          CPY VARTAB+1
1387 B9E5 90 08          BCC DNTCPY
1388 B9E7 D0 0D          BNE COPY
1389 B9E9 A5 61          LDA FACMD
1390 B9EB C5 2A          CMP VARTAB
1391 B9ED B0 07          BCS COPY
1392 B9EF A5 61          DNTCPY LDA FACMD
1393 B9F1 A4 62          LDY FACMD+1
1394 B9F3 4C 13 BA      JMP COPYC
1395 B9F6 A0 00          COPY LDY #0
1396 B9F8 B1 61          LDA (FACMD)Y
1397 B9FA 20 9E C5      JSR STRINI
1398 B9FD A5 4D          LDA DSCPNT
1399 B9FF A4 4E          LDY DSCPNT+1
1400 BA01 85 6C          STA STRNG1
1401 BA03 84 6D          STY STRNG1+1
1402 BA05 20 8C C7      JSR MOVINS
1403 BA08          ; FIX TO FRE GET STRINGS
1404 BA08 A5 6C          LDA STRNG1          ; RESTORE .A & .Y
1405 BA0A A4 6D          LDY STRNG1+1
1406 BA0C 20 11 C8      JSR FRETMS          ; FRE THE TEMP STRING
1407 BA0F          ;
1408 BA0F A9 5E          LDA #<DSCTMP
1409 BA11 A0 00          LDY #>DSCTMP
1410 BA13 85 4D          COPYC STA DSCPNT
1411 BA15 84 4E          STY DSCPNT+1
1412 BA17 85 1F          STA INDEX          ; INDEX POINTS TO NEW
1413 BA19 84 20          STY INDEX+1        ; DESCRIPTOR
1414 BA1B 20 11 C8      JSR FRETMS
1415 BA1E          ;
1416 BA1E          ; FIX THE STRINGS BY FLAGGING THE
1417 BA1E          ; OLD STRING AS GARBAGE AND THE NEW
1418 BA1E          ; STRING BY POINTING IT TO ITS
1419 BA1E          ; NEW DESCRIPTOR
1420 BA1E          ;
1421 BA1E 20 4E BA      JSR STRADJ          ; SET UP NEW STRING
1422 BA21 90 0B          BCC COPY00          ; LEAVE IT ALONE
1423 BA23 A0 00          LDY ##00
1424 BA25 A5 46          LDA FORPNT          ; PUT IN BACKWARDS LINK
1425 BA27 91 1F          STA (INDEX),Y
1426 BA29 C8          INY
1427 BA2A A5 47          LDA FORPNT+1
1428 BA2C 91 1F          STA (INDEX),Y
1429 BA2E          ;
1430 BA2E A5 46          COPY00 LDA FORPNT          ; FIX OLD STRING
1431 BA30 85 1F          STA INDEX
1432 BA32 A5 47          LDA FORPNT+1
1433 BA34 85 20          STA INDEX+1
1434 BA36 20 4E BA      JSR STRADJ          ; POINT TO OLD STRING
1435 BA39 90 09          BCC COPY01          ; IN TEXT DO NOT FIX
1436 BA3B 88          DEY                ; RESTORE Y
1437 BA3C A9 FF          LDA ##FF           ; GARBAGE FLAG
1438 BA3E 91 1F          STA (INDEX),Y

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LINE# LOC CODE LINE

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1439 BA40 8B          DEY
1440 BA41 8A          TXA
1441 BA42 91 1F      STA (INDEX),Y    ; STORE LENGTH
1442 BA44             ;
1443 BA44 A0 02      COPY01 LDY #02
1444 BA46 B1 4D      COPY02 LDA (DSCPNT),Y ; SET THE DESCRIPTOR
1445 BA48 91 46      STA (FORPNT),Y
1446 BA4A 88          DEY
1447 BA4B 10 F9      BPL COPY02
1448 BA4D 60          RTS

1450 BA4E             ;
1451 BA4E             ; SUBROUTINE STRADJ TAKES THE POINTER
1452 BA4E             ; INDEX WHICH POINTS TO A DESCRIPTOR
1453 BA4E             ; AND INDEXES TO THE DESCRIPTORS
1454 BA4E             ; STRING DATA.
1455 BA4E             ; IF THE STRING IS BELOW FRETOP
1456 BA4E             ; (NO ACTION TO TAKE) WE RETURN
1457 BA4E             ; WITH THE CARRY CLEAR.
1458 BA4E             ; ELSE WE RETURN WITH THE POINTER
1459 BA4E             ; SET TO THE LINK BYTES IN THE STRING
1460 BA4E             ; THE LENGTH IN ACC AND THE CARRY SET
1461 BA4E             ;
1462 BA4E A0 00      STRADJ LDY #00
1463 BA50 B1 1F      LDA (INDEX),Y    ; PUSH LENGTH ON STACK
1464 BA52 48          PHA
1465 BA53 FO 30      BEQ ADJ01        ; LENGTH 0 DO NOTHING
1466 BA55 C8          INY
1467 BA56 B1 1F      LDA (INDEX),Y    ; LO BYTE TO X
1468 BA58 AA          TAX
1469 BA59 C8          INY
1470 BA5A B1 1F      LDA (INDEX)Y      ; HI BYTE IN A
1471 BA5C 30 27      BMI ADJ01        ; PREVENTS WRITING ABOVE $8000
1472 BA5E C9 B0      CMP #>ROMLOC
1473 BA60 B0 23      BCS ADJ01
1474 BA62 C5 31      CMP FRETOP+1     ; IF BELOW FRETOP
1475 BA64 90 1F      BCC ADJ01        ; THEN RETURN TO CALLER
1476 BA66 D0 04      BNE ADJ
1477 BA68 E4 30      CPX FRETOP
1478 BA6A 90 19      BCC ADJ01
1479 BA6C C5 0F      → ADJ  CMP DDESC+2
1480 BA6E D0 04      BNE ADJ02        ; FIX
1481 BA70 E4 0E      CPX DDESC+1
1482 BA72 FO 11      BEQ ADJ01
1483 BA74 86 1F      ADJ02 STX INDEX    ; OK: SET POINTER
1484 BA76 85 20      STA INDEX+1
1485 BA78 68          PLA                ; GET BACK LENGTH
1486 BA79 AA          TAX                ; INTO X ALSO
1487 BA7A 18          CLC
1488 BA7B 65 1F      ADC INDEX
1489 BA7D 85 1F      STA INDEX

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LINE# LOC CODE LINE

1490	BA7F	90	02		BCC	ADJ00	
1491	BAB1	E6	20		INC	INDEX+1	
1492	BAB3	38		ADJ00	SEC		; CARRY SET
1493	BAB4	60			RTS		
1494	BAB5	68		ADJ01	PLA		; CLEAN UP STACK
1495	BAB6	18			CLC		
1496	BAB7	60			RTS		

1498	BABB	20	BE	BA	PRINTN	JSR	CMD	
1499	BABB	4C	B4	BB		JMP	IDDONE	
1500	BABE	20	D4	CB	.CMD	JSR	GETBYT	
1501	BA91	F0	05			BEG	SAVEIT	PRINT#N, <CR>
1502	BA93	A9	2C			LDA	#44	
1503	BA95	20	F7	BE		JSR	SYNCHR	
1504	BA98	08			SAVEIT	PHP	-	
1505	BA99	20	C9	FF		JSR	COOUT	←
1506	BA9C	B6	10			STX	CHANNL	
1507	BA9E	28				PLP		
1508	BA9F	4C	A8	BA		JMP	PRINT	
1509	BAA2	20	20	BB	STRDON	JSR	STRPRT	
1510	BAA5	20	76	00	NEWCHR	JSR	CHRGDT	
1511	BAAB	F0	35		PRINT	BEG	CRDO	✓
1512	BAAA	F0	43		PRINTC	BEG	PRTRTS	
1513	BAAC	C9	A3			CMP	#TABTK	
1514	BAAE	F0	4D			BEG	TABER	
1515	BAB0	C9	A6			CMP	#SPCTK	
1516	BAB2	18				CLC		
1517	BAB3	F0	48			BEG	TABER	
1518	BAB5	C9	2C			CMP	#44	
1519	BAB7	F0	37			BEG	COMPRT	
1520	BAB9	C9	3B			CMP	#59	
1521	BABB	F0	55			BEG	NOTABR	
1522	BABD	20	98	BD		JSR	FRMEVL	
1523	BAC0	24	07			BIT	VALTYP	
1524	BAC2	30	DE			BMI	STRDON	
1525	BAC4	20	93	CF		JSR	FOUT	
1526	BAC7	20	B0	C5		JSR	STRLIT	
1527	BACA	20	20	BB		JSR	STRPRT	
1528	BACD	20	3A	BB		JSR	OUTSPC	
1529	BAD0	D0	D3			BNE	NEWCHR	
1530	BAD2	A9	00		FININL	LDA	#0	
1531	BAD4	9D	00	02		STA	BUF, X	
1532	BAD7					ZZ5=BUF-1		
1533	BAD7	A2	FF			LDX	#<ZZ5	
1534	BAD9	A0	01			LDY	#>ZZ5	
1535	BADB	A5	10			LDA	CHANNL	
1536	BADD	D0	10			BNE	PRTRTS	
1537	BADF	A9	0D		CRDO	LDA	#13	
1538	BAE1	20	46	BB		JSR	OUTDO	
1539	BAE4	A5	10			LDA	CHANNL	
1540	BAE6	10	05			BPL	CRFIN	; CR ONLY

* = \$BFI 0

PATCH	PHA
	LDA DSDDESC
	BEG PC 0
	PLA
	CMP DSDDESC+2
	BNE PC 1
	JMP ADJ+4
PC 0	PLA
PC 1	JMP ADJ 0 2

* = \$BAGC

ADJ	JMP PATCH
	NOF

LINE# LOC CODE LINE

1541	BAEB	A9	OA		LDA	##0A		;LINE FEED
1542	BAEA	20	46	BB	JSR	OUTDO		
1543	BAED	49	FF		CRFIN	EOR	#255	
1544	BAEF	60			PRTRTS	RTS		
1545	BAFO	A5	C6		COMPRT	LDA	TRMPOS	
1546	BAF2				NCMPOS	=@36		
1547	BAF2	38				SEC		
1548	BAF3	E9	OA		MORCO1	SBC	#CLMWID	
1549	BAF5	B0	FC			BCS	MORCO1	
1550	BAF7	49	FF			EOR	#255	
1551	BAF9	69	01			ADC	#1	
1552	BAFB	D0	10			BNE	ASPAC	
1553	BAFD	08			TABER	PHP		
1554	BAFE	20	D1	CB		JSR	GTBYTC	
1555	BB01	C9	29			CMP	#41	
1556	BB03	D0	59			BNE	SNERR4	
1557	BB05	28				PLP		
1558	BB06	90	06			BCC	XSPAC	
1559	BB08	8A				TXA		
1560	BB09	E5	C6			SBC	TRMPOS	
1561	BB0B	90	05			BCC	NOTABR	
1562	BB0D	AA			ASPAC	TAX		
1563	BB0E	E8			XSPAC	INX		
1564	BB0F	CA			XSPAC2	DEX		
1565	BB10	D0	06			BNE	XSPAC1	
1566	BB12	20	70	00	NOTABR	JSR	CHRGET	
1567	BB15	4C	AA	BA		JMP	PRINTC	
1568	BB18					.FIL	CODE7	

LINE# LOC CODE LINE

1570	BB1B	20 3A BB	XSPAC1	JSR	OUTSPC
1571	BB1B	D0 F2		BNE	XSPAC2
1572	BB1D	20 B0 C5	STRDUT	JSR	STRLIT
1573	BB20	20 B8 C7	STRPRT	JSR	FREFAC
1574	BB23	AA		TAX	
1575	BB24	A0 00		LDY	#0
1576	BB26	EB		INX	
1577	BB27	CA	STRPR2	DEX	
1578	BB28	F0 C5		BEG	PRTRTS
1579	BB2A	B1 1F		LDA	(INDEX)Y
1580	BB2C	20 46 BB		JSR	OUTDO
1581	BB2F	CB		INY	
1582	BB30	C9 0D		CMP	#13
1583	BB32	D0 F3		BNE	STRPR2
1584	BB34	20 ED BA		JSR	CRFIN
1585	BB37	4C 27 BB		JMP	STRPR2
1586	BB3A		OUTSPC		
1587	BB3A	A5 10		LDA	CHANNL
1588	BB3C	F0 03		BEG	CRTSKP
1589	BB3E	A9 20		LDA	#'
1590	BB40	2C		.BYT	\$2C
1591	BB41	A9 1D	CRTSKP	LDA	#29
1592	BB43	2C		.BYT	\$2C
1593	BB44	A9 3F	OUTGST	LDA	#'?
1594	BB46	20 D2 FF	OUTDO	JSR	OUTCH
1595	BB49	29 FF	OUTRTS	AND	#255
1596	BB4B	60		RTS	
1597	BB4C	A5 0B	TRMNOK	LDA	INPFLG
1598	BB4E	F0 11		BEG	TRMND1
1599	BB50	30 04		BMI	GETDTL
1600	BB52	A0 FF		LDY	#255
1601	BB54	D0 04		BNE	STCURL
1602	BB56	A5 3C	GETDTL	LDA	DATLIN
1603	BB58	A4 3D		LDY	DATLIN+1
1604	BB5A	B5 36	STCURL	STA	CURLIN
1605	BB5C	B4 37		STY	CURLIN+1
1606	BB5E	4C 00 BF	SNERR4	JMP	SNERR
1607	BB61	A5 10	TRMND1	LDA	CHANNL
1608	BB63	F0 05		BEG	DOAGIN
1609	BB65	A2 BF		LDX	#ERRBD
1610	BB67	4C CF B3		JMP	ERROR
1611	BB6A	A9 07	DOAGIN	LDA	#<TRYAGN
1612	BB6C	A0 BD		LDY	#>TRYAGN
1613	BB6E	20 1D BB		JSR	STROUT
1614	BB71	A5 3A		LDA	OLDTXT
1615	BB73	A4 3B		LDY	OLDTXT+1
1616	BB75	B5 77		STA	TXTPTR
1617	BB77	84 78		STY	TXTPTR+1
1618	BB79	60		RTS	
1619	BB7A	20 CF C4	GET	JSR	ERRDIR
1620	BB7D	C9 23		CMP	#'#
1621	BB7F	D0 10		BNE	GETTTY
1622	BB81	20 70 00		JSR	CHRGET
1623	BB84	20 D4 CB		JSR	GETBYT
1624	BB87	A9 2C		LDA	#44

LINE# LOC CODE LINE

1625	BBB9	20 F7 BE		JSR SYNCHR
1626	BBBC	20 C6 FF		JSR COIN
1627	BBBF	B6 10		STX CHANNL
1628	BB91			ZZ2=BUF+1
1629	BB91	A2 01		GETTTY LDX #<ZZ2
1630	BB93			ZZ3=BUF+2
1631	BB93	A0 02		LDY #>ZZ3
1632	BB95	A9 00		LDA #0
1633	BB97	8D 01 02		STA BUF+1
1634	BB9A	A9 40		LDA #64
1635	BB9C	20 0B BC		JSR INPC01
1636	BB9F	A6 10		LDX CHANNL
1637	BBA1	D0 13		BNE IORELE
1638	BBA3	60		RTS
1639	BBA4	20 D4 CB	INPUTN	JSR GETBYT
1640	BBA7	A9 2C		LDA #44
1641	BBA9	20 F7 BE		JSR SYNCHR
1642	BBAC	20 C6 FF		JSR COIN
1643	BBAF	B6 10		STX CHANNL
1644	BBB1	20 CD BB		JSR NOTQTI
1645	BBB4	A5 10	IODONE	LDA CHANNL
1646	BBB6	20 CC FF	IORELE	JSR CCCHN
1647	BBB9	A2 00		LDX #0
1648	BBBB	B6 10		STX CHANNL
1649	BBBD	60		RTS
1650	BBBE	C9 22	INPUT	CMP #34
1651	BBC0	D0 0B		BNE NOTQTI
1652	BBC2	20 B5 BE		JSR STRTXT
1653	BBC5	A9 3B		LDA #59
1654	BBC7	20 F7 BE		JSR SYNCHR
1655	BBCA	20 20 BB		JSR STRPRT
1656	BBCD	20 CF C4	NOTQTI	JSR ERRDIR
1657	BBD0	A9 2C		LDA #44
1658	BBD2	8D FF 01		STA BUF-1
1659	BBD5	20 F5 BB	GETAGN	JSR GINLIN
1660	BBDB	A5 10		LDA CHANNL
1661	BBDA	F0 0C		BEQ BUFFUL
1662	BBDC	A5 96		LDA CSTAT
1663	BBDE	29 03		AND #03
1664	BBE0	F0 06		BEQ BUFFUL
1665	BBE2	20 B4 BB		JSR IODONE
1666	BBE5	4C 83 BB		JMP DATA
1667	BBEB	AD 00 02	BUFFUL	LDA BUF
1668	BBEB	D0 1C		BNE INPCON
1669	BBED	A5 10		LDA CHANNL
1670	BBEF	D0 E4		BNE GETAGN
1671	BBF1	18		CLC
1672	BBF2	4C D8 B7		JMP STPEND
1673	BBF5	A5 10	GINLIN	LDA CHANNL
1674	BBF7	D0 06		BNE GINLIN
1675	BBF9	20 44 BB		JSR OUTGST
1676	BBFC	20 3A BB		JSR OUTSPC
1677	BBFF	4C E2 B4	GINLIN	JMP INLIN
1678	BC02	A6 3E	READ	LDX DATPTR
1679	BC04	A4 3F		LDY DATPTR+1

; STOP FOR TIMEOUTS#####

LINE# LOC CODE LINE

1680	BC06	A9		.BYT \$A9
1681	BC07	98		TYA
1682	BC08	2C		.BYT \$2C
1683	BC09	A9 00	INPCDN	LDA #0
1684	BC0B	85 0B	INPCD1	STA INPFLG
1685	BC0D	86 40		STX INPPTR
1686	BC0F	84 41		STY INPPTR+1
1687	BC11	20 2B C1	INLOOP	JSR PTRGET
1688	BC14	85 46		STA FORPNT
1689	BC16	84 47		STY FORPNT+1
1690	BC18	A5 77		LDA TXTPTR
1691	BC1A	A4 78		LDY TXTPTR+1
1692	BC1C	85 48		STA VARTXT
1693	BC1E	84 49		STY VARTXT+1
1694	BC20	A6 40		LDX INPPTR
1695	BC22	A4 41		LDY INPPTR+1
1696	BC24	86 77		STX TXTPTR
1697	BC26	84 78		STY TXTPTR+1
1698	BC28	20 76 00		JSR CHRGET
1699	BC2B	D0 20		BNE DATBK1
1700	BC2D	24 0B		BIT INPFLG
1701	BC2F	50 0C		BVC QDATA
1702	BC31	20 E4 FF		JSR CGETL
1703	BC34	8D 00 02		STA BUF
1704	BC37		ZZ4=BUF-1	
1705	BC37	A2 FF		LDX #<ZZ4
1706	BC39	A0 01		LDY #>ZZ4
1707	BC3B	D0 0C		BNE DATBK
1708	BC3D	30 75	QDATA	BMI DATLOP
1709	BC3F	A5 10		LDA CHANNL
1710	BC41	D0 03		BNE GETNTH
1711	BC43	20 44 BB		JSR OUTGST
1712	BC46	20 F5 BB	GETNTH	JSR QINLIN
1713	BC49	86 77	DATBK	STX TXTPTR
1714	BC4B	84 78		STY TXTPTR+1
1715	BC4D			.FIL CODEB

LINE# LOC CODE LINE

1717	BC4D	20 70 00	DATBK1	JSR CHRGET
1718	BC50	24 07		BIT VALTYP
1719	BC52	10 31		BPL NUMINS
1720	BC54	24 0B		BIT INPFLG
1721	BC56	50 09		BVC SETQUT
1722	BC58	E8		INX
1723	BC59	86 77		STX TXTPTR
1724	BC5B	A9 00		LDA #0
1725	BC5D	85 03		STA CHARAC
1726	BC5F	F0 0C		BEG RESETC
1727	BC61	85 03	SETQUT	STA CHARAC
1728	BC63	C9 22		CMP #34
1729	BC65	F0 07		BEG NOWGET
1730	BC67	A9 3A		LDA #' :
1731	BC69	85 03		STA CHARAC
1732	BC6B	A9 2C		LDA #44
1733	BC6D	18	RESETC	CLC
1734	BC6E	85 04	NOWGET	STA ENDCHR
1735	BC70	A5 77		LDA TXTPTR
1736	BC72	A4 7B		LDY TXTPTR+1
1737	BC74	69 00		ADC #0
1738	BC76	90 01		BCC NOWGE1
1739	BC78	C8		INY
1740	BC79	20 B6 C5	NOWGE1	JSR STRLT2
1741	BC7C	20 18 C9		JSR ST2TXT
1742	BC7F	20 65 B9		JSR INPCOM
1743	BC82	4C 8D BC		JMP STRDN2
1744	BC85	20 29 CE	NUMINS	JSR FIN
1745	BC88	A5 08		LDA INTFLG
1746	BC8A	20 4D B9		JSR GINTGR
1747	BC8D	20 76 00	STRDN2	JSR CHRGET
1748	BC90	F0 07		BEG TRMOK
1749	BC92	C9 2C		CMP #44
1750	BC94	F0 03		BEG **5
1751	BC96	4C 4C BB		JMP TRMNOK
1752	BC99	A5 77	TRMOK	LDA TXTPTR
1753	BC9B	A4 7B		LDY TXTPTR+1
1754	BC9D	85 40		STA INPPTR
1755	BC9F	84 41		STY INPPTR+1
1756	BCA1	A5 48		LDA VARTXT
1757	BCA3	A4 49		LDY VARTXT+1
1758	BCA5	85 77		STA TXTPTR
1759	BCA7	84 7B		STY TXTPTR+1
1760	BCA9	20 76 00		JSR CHRGET
1761	BCAC	F0 2C		BEG VAREND
1762	BCAE	20 F5 BE		JSR CHKCOM
1763	BCB1	4C 11 BC		JMP INLOOP
1764	BCB4	20 91 BB	DATLOP	JSR DATAN
1765	BCB7	C8		INY
1766	BCB8	AA		TAX
1767	BCB9	D0 12		BNE NOWLIN
1768	BCBB	A2 2A		LDX #ERR0D
1769	BCBD	C8		INY
1770	BCBE	B1 77		LDA (TXTPTR)Y
1771	BCC0	F0 6B		BEG ERR0D5

LINE# LOC CODE LINE

1772	BCC2	C8		INY
1773	BCC3	B1 77		LDA (TXTPTR)Y
1774	BCC5	B5 3C		STA DATLIN
1775	BCC7	C8		INY
1776	BCC8	B1 77		LDA (TXTPTR)Y
1777	BCCA	C8		INY
1778	BCCB	B5 3D		STA DATLIN+1
1779	BCCD	B1 77	NOWLIN	LDA (TXTPTR)Y
1780	BCCF	AA		TAX
1781	BCD0	20 86 B8		JSR ADDON
1782	BCD3	E0 83		CPX #DATATK
1783	BCD5	D0 DD		BNE DATLOP
1784	BCD7	4C 4D BC		JMP DATBK1
1785	BCDA	A5 40	VAREND	LDA INPPTR
1786	BCDC	A4 41		LDY INPPTR+1
1787	BCDE	A6 08		LDX INPFLG
1788	BCE0	10 03		BPL VARYO
1789	BCE2	4C C1 B7		JMP RESFIN
1790	BCE5	A0 00	VARYO	LDY #0
1791	BCE7	B1 40		LDA (INPPTR)Y
1792	BCE9	F0 08		BEQ INPRTS
1793	BCEB	A5 10		LDA CHANNL
1794	BCED	D0 07		BNE INPRTS
1795	BCEF	A9 F7		LDA #<EXIGNT
1796	BCF1	A0 BC		LDY #>EXIGNT
1797	BCF3	4C 1D BB		JMP STRDUT
1798	BCF6	60	INPRTS	RTS
1799	BCF7	3F 45	EXIGNT	.BYT '?EXTRA IGNORED'
1800	BD05	0D		.BYT \$D
1801	BD06	00		.BYT 0
1802	BD07	3F 52	TRYAGN	.BYT '?REDD FROM START'
1803	BD17	0D		.BYT \$D
1804	BD18	00		.BYT 0
1805	BD19	D0 04	NEXT	BNE GETFOR
1806	BD1B	A0 00		LDY #0
1807	BD1D	F0 03		BEQ STXFOR
1808	BD1F	20 2B C1	GETFOR	JSR PTRGET
1809	BD22	B5 46	STXFOR	STA FORPNT
1810	BD24	B4 47		STY FORPNT+1
1811	BD26	20 22 B3		JSR FNDFOR
1812	BD29	F0 04		BEQ HAVFOR
1813	BD2B	A2 00		LDX #ERRNF
1814	BD2D	F0 66	ERRG05	BEQ ERRG04
1815	BD2F	9A	HAVFOR	TXS
1816	BD30	8A		TXA
1817	BD31	18		CLC
1818	BD32	69 04		ADC #4
1819	BD34	48		PHA
1820	BD35	69 06		ADC #5+ADDPRC
1821	BD37	B5 21		STA INDEX2
1822	BD39	68		PLA
1823	BD3A	A0 01		LDY #1
1824	BD3C	20 D8 CC		JSR MOVFM
1825	BD3F	BA		TSX
1826	BD40	BD 09 01		LDA ADDPRC+264, X

LINE# LOC CODE LINE

1827	BD43	85	63		STA FACS GN
1828	BD45	A5	46		LDA FORPNT
1829	BD47	A4	47		LDY FORPNT+1
1830	BD49	20	9D	C9	JSR FADD
1831	BD4C	20	06	CD	JSR MOVVF
1832	BD4F	A0	01		LDY #1
1833	BD51	20	93	CD	JSR FCOMP N
1834	BD54	BA			TSX
1835	BD55	38			SEC
1836	BD56	FD	09	01	SBC ADDPRC+264, X
1837	BD59	F0	17		BEQ LOOPDN
1838	BD5B	BD	0F	01	LDA 269+ADDP RC+ADDP RC, X
1839	BD5E	85	36		STA CURLIN
1840	BD60	BD	10	01	LDA 270+ADDP RC+ADDP RC, X
1841	BD63	85	37		STA CURLIN+1
1842	BD65	BD	12	01	LDA 272+ADDP RC+ADDP RC, X
1843	BD68	85	77		STA TXTPTR
1844	BD6A	BD	11	01	LDA 271+ADDP RC+ADDP RC, X
1845	BD6D	85	78		STA TXTPTR+1
1846	BD6F	4C	4A	B7	NEWSG0 JMP NEWSTT
1847	BD72	8A			LOOPDN TXA
1848	BD73	69	11		ADC #15+ADDP RC+ADDP RC
1849	BD75	AA			TAX
1850	BD76	9A			TXS
1851	BD77	20	76	00	JSR CHRGT
1852	BD7A	C9	2C		CMP #44
1853	BD7C	D0	F1		BNE NEWSG0
1854	BD7E	20	70	00	JSR CHRGET
1855	BD81	20	1F	BD	JSR GETFOR
1856	BD84	20	98	BD	FRMNUM JSR FRMEVL
1857	BD87	18			CHKNUM CLC
1858	BD88	24			.BYT \$24
1859	BD89	38			CHKSTR SEC
1860	BD8A	24	07		CHKVAL BIT VALTYP
1861	BD8C				.FIL CODE9

LINE# LOC CODE LINE

1863	BD8C	30	03		BMI	DOCSTR	
1864	BD8E	B0	03		BCS	CHKERR	
1865	BD90	60		CHKOK	RTS		
1866	BD91	B0	FD	DOCSTR	BCS	CHKOK	
1867	BD93	A2	A3	CHKERR	LDX	#ERRTM	
1868	BD95	4C	CF	B3	ERRGD4	JMP	ERROR
1869	BD98	A6	77	FRMEVL	LDX	TXTPTR	
1870	BD9A	D0	02		BNE	FRMEV1	
1871	BD9C	C6	78		DEC	TXTPTR+1	
1872	BD9E	C6	77	FRMEV1	DEC	TXTPTR	
1873	BDA0	A2	00		LDX	#0	
1874	BDA2	24			.BYT	#24	
1875	BDA3	48		LPOPER	PHA		
1876	BDA4	8A			TXA		
1877	BDA5	48			PHA		
1878	BDA6	A9	01		LDA	#1	
1879	BDA8	20	93	B3	JSR	GETSTK	
1880	BDAB	20	81	BE	JSR	EVAL	
1881	BDAE	A9	00		LDA	#0	
1882	BDB0	B5	4A		STA	OPMASK	
1883	BDB2	20	76	00	TSTOP	JSR	CHRGOT
1884	BDB5	38		LOPREL	SEC		
1885	BDB6	E9	B1		SBC	#GREATK	
1886	BDB8	90	17		BCC	ENDREL	
1887	BDBA	C9	03		CMP	#LESSTK-GREATK+1	
1888	BDBC	B0	13		BCS	ENDREL	
1889	BDBE	C9	01		CMP	#1	
1890	BDC0	2A			ROL	A	
1891	BDC1	49	01		EOR	#1	
1892	BDC3	45	4A		EOR	OPMASK	
1893	BDC5	C5	4A		CMP	OPMASK	
1894	BDC7	90	61		BCC	SNERR5	
1895	BDC9	B5	4A		STA	OPMASK	
1896	BDCB	20	70	00	JSR	CHRGET	
1897	BDCE	4C	B5	BD	JMP	LOPREL	
1898	BDD1	A6	4A	ENDREL	LDX	OPMASK	
1899	BDD3	D0	2C		BNE	FINREL	
1900	BDD5	B0	7F		BCS	GOP	
1901	BDD7	69	07		ADC	#GREATK-PLUSTK	
1902	BDD9	90	7B		BCC	GOP	
1903	BDDB	65	07		ADC	VALTYP	
1904	BDDD	D0	03		BNE	*+5	
1905	BDDF	4C	4F	C7	JMP	CAT	
1906	BDE2	69	FF		ADC	##FF	
1907	BDE4	85	1F		STA	INDEX1	
1908	BDE6	0A			ASL	A	
1909	BDE7	65	1F		ADC	INDEX1	
1910	BDE9	A8			TAY		
1911	BDEA	68		QPREC	PLA		
1912	BDEB	D9	94	B0	CMP	OPTAB, Y	
1913	BDEE	B0	6B		BCS	GCHNUM	
1914	BDF0	20	87	BD	JSR	CHKNUM	
1915	BDF3	48		DOPREC	PHA		
1916	BDF4	20	1A	BE	NEGPRC	JSR	DOPRE1
1917	BDF7	68			PLA		

LINE# LOC CODE LINE

1918	BDFB	A4	48		LDY	OPPTR	
1919	BDFA	10	17		BPL	QPREC1	
1920	BDFC	AA			TAX		
1921	BDFD	F0	5A		BEQ	QOPGO	
1922	BDFF	D0	63		BNE	PULSTK	
1923	BE01	46	07	FINREL	LSR	VALTYP	
1924	BE03	8A			TXA		
1925	BE04	2A			ROL	A	
1926	BE05	A6	77		LDX	TXTPTR	
1927	BE07	D0	02		BNE	FINRE2	
1928	BE09	C6	78		DEC	TXTPTR+1	
1929	BE0B	C6	77	FINRE2	DEC	TXTPTR	
1930	BE0D	A0	1B		LDY	#PTDORL-OPTAB	
1931	BE0F	85	4A		STA	OPMASK	
1932	BE11	D0	D7		BNE	QPREC	
1933	BE13	D9	94	BO	QPREC1	CMP	OPTAB, Y
1934	BE16	B0	4C		BCS	PULSTK	
1935	BE18	90	D9		BCC	DOPREC	
1936	BE1A	B9	96	BO	DOPRE1	LDA	OPTAB+2, Y
1937	BE1D	48			PHA		
1938	BE1E	B9	95	BO	LDA	OPTAB+1, Y	
1939	BE21	48			PHA		
1940	BE22	20	2D	BE	JSR	PUSHF1	
1941	BE25	A5	4A		LDA	OPMASK	
1942	BE27	4C	A3	BD	JMP	LPOPER	
1943	BE2A	4C	00	BF	SNERR5	JMP	SNERR
1944	BE2D	A5	63		PUSHF1	LDA	FACSGN
1945	BE2F	BE	94	BO	LDX	OPTAB, Y	
1946	BE32	A8			PUSHF	TAY	
1947	BE33	68			PLA		
1948	BE34	85	1F		STA	INDEX1	
1949	BE36	68			PLA		
1950	BE37	85	20		STA	INDEX1+1	
1951	BE39	98			TYA		
1952	BE3A	48			PHA		
1953	BE3B	E6	1F		INC	INDEX1	; FIX 10/19/79
1954	BE3D	D0	02		BNE	FORPSH	;
1955	BE3F	E6	20		INC	INDEX1+1	
1956	BE41	20	51	CD	FORPSH	JSR	ROUND
1957	BE44	A5	62		LDA	FACLO	
1958	BE46	48			PHA		
1959	BE47	A5	61		LDA	FACMO	
1960	BE49	48			PHA		
1961	BE4A	A5	60		LDA	FACMOH	
1962	BE4C	48			PHA		
1963	BE4D	A5	5F		LDA	FACHO	
1964	BE4F	48			PHA		
1965	BE50	A5	5E		LDA	FACEXP	
1966	BE52	48			PHA		
1967	BE53	6C	1F	00		JMP	(INDEX1)
1968	BE56	A0	FF		QOP	LDY	#255
1969	BE58	68			PLA		
1970	BE59	F0	23		QOPGO	BEQ	QOPRTS
1971	BE5B	C9	64		QCHNUM	CMP	#100
1972	BE5D	F0	03		BEQ	UNPSTK	

LINE# LOC CODE LINE

1973	BE5F	20	87	BD		JSR	CHKNUM
1974	BE62	84	48		UNPSTK	STY	OPPTR
1975	BE64	68			PULSTK	PLA	
1976	BE65	4A				LSR	A
1977	BE66	85	0C			STA	DOMASK
1978	BE68	68				PLA	
1979	BE69	85	66			STA	ARGEXP
1980	BE6B	68				PLA	
1981	BE6C	85	67			STA	ARGHD
1982	BE6E	68				PLA	
1983	BE6F	85	68			STA	ARGMOH
1984	BE71	68				PLA	
1985	BE72	85	69			STA	ARGMO
1986	BE74	68				PLA	
1987	BE75	85	6A			STA	ARGLO
1988	BE77	68				PLA	
1989	BE78	85	6B			STA	ARGSGN
1990	BE7A	45	63			EOR	FACSGN
1991	BE7C	85	6C			STA	ARISGN
1992	BE7E	A5	5E		GOPRTS	LDA	FACEXP
1993	BE80	60			UNPRTS	RTS	
1994	BE81	A9	00		EVAL	LDA	#0
1995	BE83	85	07			STA	VALTYP
1996	BE85	20	70	00	EVAL0	JSR	CHRGET
1997	BE88	80	03			BCS	EVAL2
1998	BE8A	4C	29	CE	EVAL1	JMP	FIN
1999	BE8D	20	86	C1	EVAL2	JSR	ISLETC
2000	BE90	80	7B			BCS	ISVJMP
2001	BE92	C9	FF			CMP	#PI
2002	BE94	D0	0F			BNE	QDOT
2003	BE96	A9	A0			LDA	#<PIVAL
2004	BE98	A0	BE			LDY	#>PIVAL
2005	BE9A	20	D8	CC		JSR	MOVFM
2006	BE9D	4C	70	00		JMP	CHRGET
2007	BEA0	82			PIVAL	.BYT	@202
2008	BEA1	49				.BYT	@111
2009	BEA2	0F				.BYT	@017
2010	BEA3	DA				.BYT	@332
2011	BEA4	A1				.BYT	@241
2012	BEA5	C9	2E		QDOT	CMP	#'
2013	BEA7	F0	E1			BEQ	EVAL1
2014	BEA9	C9	AB			CMP	#MINUTK
2015	BEAB	F0	58			BEQ	DOMIN
2016	BEAD	C9	AA			CMP	#PLUSTK
2017	BEAF	F0	D4			BEQ	EVAL0
2018	BEB1	C9	22			CMP	#34
2019	BEB3	D0	0F			BNE	EVAL3
2020	BEB5	A5	77		STRTXT	LDA	TXTPTR
2021	BEB7	A4	78			LDY	TXTPTR+1
2022	BEB9	69	00			ADC	#0
2023	BEBB	90	01			BCC	STRTX2
2024	BEBD	C8				INY	
2025	BEBE	20	80	C5	STRTX2	JSR	STRLIT
2026	BEC1	4C	18	C9		JMP	ST2TXT
2027	BEC4	C9	AB		EVAL3	CMP	#NOTTK

LINE# LOC CODE LINE

2028	BEC6	D0	13		BNE	EVAL4	
2029	BEC8	A0	18		LDY	#24	
2030	BECA	D0	3B		BNE	GONPRC	
2031	BECC	20	EA	C2	NOTOP	JSR	AYINT
2032	BECF	A5	62		LDA	FACLO	
2033	BED1	49	FF		EOR	#255	
2034	BED3	A8			TAY		
2035	BED4	A5	61		LDA	FACMO	
2036	BED6	49	FF		EOR	#255	
2037	BED8	4C	BC	C4	JMP	GIVAYF	
2038	BEDB	C9	A5		EVAL4	CMP	#FNTK
2039	BEDD	D0	03		BNE	++5	
2040	BEDF	4C	1D	C5	JMP	FNDQER	
2041	BEE2	C9	B4		CMP	#ONEFUN	
2042	BEE4	90	03		BCC	PARCHK	
2043	BEE6	4C	47	C0	JMP	ISFUN	
2044	BEE9	20	F2	BE	PARCHK	JSR	CHKOPN
2045	BEEC	20	98	BD	JSR	FRMEVL	
2046	BEEF	A9	29		CHKCLS	LDA	#41
2047	BEF1	2C			.	BYT	\$2C
2048	BEF2	A9	28		CHKOPN	LDA	#40
2049	BEF4	2C			.	BYT	\$2C
2050	BEF5	A9	2C		CHKCOM	LDA	#44
2051	BEF7	A0	00		SYNCHR	LDY	#0
2052	BEF9	D1	77		CMP	(TXTPTR)	Y
2053	BEFB	D0	03		BNE	SNERR	
2054	BEFD	4C	70	00	JMP	CHRGET	
2055	BF00	A2	10		SNERR	LDX	#ERRSN
2056	BF02	4C	CF	B3	JMP	ERROR	
2057	BF05	A0	15		DOMIN	LDY	#21
2058	BF07	68			GONPRC	PLA	
2059	BF08	68			PLA		
2060	BF09	4C	F4	BD	JMP	NEGPRC	

2062	BF0C	00			CKSMBO	.	BYT	0	
2063	BF0D	4C	BC	BF	ISVJMP	JMP	ISVAR		
2064	BF10							***124	
2065	BF8C							.FIL	CODE10

LINE# LOC CODE LINE

2067	BF8C	20 2B C1	ISVAR	JSR PTRGET	
2068	BF8F	85 61	ISVRET	STA FACMO	
2069	BF91	B4 62		STY FACLO	
2070	BF93	A5 42		LDA VARNAM	
2071	BF95	A4 43		LDY VARNAM+1	
2072	BF97	A6 07		LDX VALTYP	
2073	BF99	F0 39		BEG GOOD	
2074	BF9B	A2 00		LDX #0	
2075	BF9D	B6 6D		STX FACOV	
2076	BF9F	A6 62		LDX FACLO	; IS IT AN ARRAY?
2077	BFA1		ZZB	=3000+OFFSET	
2078	BFA1	E0 8B		CPX #>ZZB	; ABOVE BASIC?
2079	BFA3	90 2E		BCC STRRTS	; AN ARRAY. . .
2080	BFA5	C9 54		CMP #'T	
2081	BFA7	D0 18		BNE ISVDS	
2082	BFA9	C0 C9		CPY #*C9	
2083	BFAB	D0 14		BNE ISVDS	
2084	BFAD	20 03 CO		JSR GETTIM	
2085	BFBO	B4 5B		STY TENEXP	
2086	BFB2	8B		DEY	
2087	BFB3	B4 6E		STY FBUFPT	
2088	BFB5	A0 06		LDY #6	
2089	BFB7	B4 5A		STY DECCNT	
2090	BFB9	A0 24		LDY #FDCEND-FOUTBL	
2091	BFBB	20 1E DO		JSR FOUTIM	
2092	BFBE	4C 98 C5		JMP TIMSTR	
2093	BFC1	C9 44	ISVDS	CMP #'D	
2094	BFC3	D0 0E		BNE STRRTS	
2095	BFC5	C0 D3		CPY #*D3	
2096	BFC7	D0 0A		BNE STRRTS	
2097	BFC9	20 FC BF		JSR CHKDS	
2098	BFCC	A5 0E		LDA DSDESC+1	
2099	BFCE	A4 0F		LDY DSDESC+2	
2100	BFDO	4C 80 C5		JMP STRLIT	
2101	BFDB	60	STRRTS	RTS	
2102	BFDB	A6 0B	GOODD	LDX INTFLG	
2103	BFDB	10 0D		BPL GOODDD	
2104	BFDB	A0 00		LDY #0	
2105	BFDA	B1 61		LDA (FACMO)Y	
2106	BFDC	AA		TAX	
2107	BFDD	C8		INY	
2108	BFDE	B1 61		LDA (FACMO)Y	
2109	BFEO	AB		TAY	
2110	BFE1	8A		TXA	
2111	BFE2	4C BC C4		JMP GIVAYF	
2112	BFE5	A6 62	GOODDD	LDX FACLO	; AN ARRAY?
2113	BFE7	E0 8B		CPX #>ZZB	
2114	BFE9	90 55		BCC GOMOVF	
2115	BFEB	C9 54		CMP #'T	
2116	BFED	D0 20		BNE GSTATV	
2117	BFEB	C0 49		CPY #'I	
2118	BFF1	D0 4D		BNE GOMOVF	
2119	BFF3	20 03 CO		JSR GETTIM	
2120	BFF6	9B		TYA	
2121	BFF7	A2 A0		LDX #160	

LINE# LOC CODE LINE

2122	BFF9	4C 85 CD		JMP FLOATB
2123	BFFC			ZZ7=CTIMR-2
2124	BFFC	A5 0D	CHKDS	LDA DSDESC
2125	BFFE	D0 D3		BNE STRRTS
2126	C000	4C BD FF		JMP READDS
2127	C003	A9 8B	GETTIM	LDA #<ZZ7
2128	C005	A0 00		LDY #>ZZ7
2129	C007	7B		SEI
2130	C008	20 D8 CC		JSR MOVFM
2131	C00B	5B		CLI
2132	C00C	84 5F		STY FACHD
2133	C00E	60		RTS
2134	C00F	C9 53	QSTATV	CMP #'S
2135	C011	D0 09		BNE QDSAV
2136	C013	C0 54		CPY #'T
2137	C015	D0 05		BNE QDSAV
2138	C017	A5 96		LDA CSTAT
2139	C019	4C 72 CD		JMP FLOAT
2140	C01C	C9 44	QDSAV	CMP #'D
2141	C01E	D0 20		BNE GOMOVF
2142	C020	C0 53		CPY #'S
2143	C022	D0 1C		BNE GOMOVF
2144	C024	20 FC BF		JSR CHKDS
2145	C027	A0 00		LDY #0
2146	C029	B1 0E		LDA (DSDESC+1)Y
2147	C02B	29 0F		AND #F
2148	C02D	0A		ASL A
2149	C02E	85 09		STA GARBFL
2150	C030	0A		ASL A
2151	C031	0A		ASL A
2152	C032	65 09		ADC GARBFL
2153	C034	85 09		STA GARBFL
2154	C036	C8		INY
2155	C037	B1 0E		LDA (DSDESC+1)Y
2156	C039	29 0F		AND #F
2157	C03B	65 09		ADC GARBFL
2158	C03D	4C 72 CD		JMP FLOAT
2159	C040	A5 61	GOMOVF	LDA FACMO
2160	C042	A4 62		LDY FACMO+1
2161	C044	4C D8 CC		JMP MOVFM
2162	C047	0A	ISFUN	ASL A
2163	C048	48		PHA
2164	C049	AA		TAX
2165	C04A	20 70 00		JSR CHRGET
2166	C04D	E0 8F		CPX #LASNUM+LASNUM-255
2167	C04F	90 20		BCC OKNORM
2168	C051	20 F2 BE		JSR CHKOPN
2169	C054	20 98 BD		JSR FRMEVL
2170	C057	20 F5 BE		JSR CHKCOM
2171	C05A	20 89 BD		JSR CHKSTR
2172	C05D	68		PLA
2173	C05E	AA		TAX
2174	C05F	A5 62		LDA FACMO+1
2175	C061	48		PHA
2176	C062	A5 61		LDA FACMO

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2177	C064	48			PHA
2178	C065	8A			TXA
2179	C066	48			PHA
2180	C067	20	D4	CB	JSR GETBYT
2181	C06A	68			PLA
2182	C06B	AB			TAY
2183	C06C	8A			TXA
2184	C06D	48			PHA
2185	C06E	4C	76	CO	JMP FINGO
2186	C071	20	E9	BE	OKNORM JSR PARCHK
2187	C074	68			FLA
2188	C075	AB			TAY
2189	C076	B9	FE	AF	FINGO LDA FUNDSP-ONEFUN-ONEFUN+256, Y
2190	C079	85	52		STA JMPER+1
2191	C07B	B9	FF	AF	LDA FUNDSP-ONEFUN-ONEFUN+257, Y
2192	C07E	85	53		STA JMPER+2
2193	C080	20	51	00	JSR JMPER
2194	C083	4C	87	BD	JMP CHKNUM
2195	C086	A0	FF		OROP LDY #255
2196	C08B	2C			.BYT #2C
2197	C089	A0	00		ANDOP LDY #0
2198	C08B	84	05		STY COUNT
2199	C08D	20	EA	C2	JSR AYINT
2200	C090	A5	61		LDA FACMO
2201	C092	45	05		EOR COUNT
2202	C094	85	03		STA INTEGR
2203	C096	A5	62		LDA FACLO
2204	C098	45	05		EOR COUNT
2205	C09A	85	04		STA INTEGR+1
2206	C09C	20	32	CD	JSR MOVFA
2207	C09F	20	EA	C2	JSR AYINT
2208	C0A2	A5	62		LDA FACLO
2209	C0A4	45	05		EOR COUNT
2210	C0A6	25	04		AND INTEGR+1
2211	C0AB	45	05		EOR COUNT
2212	C0AA	AB			TAY
2213	C0AB	A5	61		LDA FACMO
2214	C0AD	45	05		EOR COUNT
2215	C0AF	25	03		AND INTEGR
2216	C0B1	45	05		EOR COUNT
2217	C0B3	4C	BC	C4	JMP GIVAYF
2218	C0B6	20	8A	BD	DOREL JSR CHKVAL
2219	C0B9	B0	13		BCS STRCMP
2220	C0BB	A5	6B		LDA ARGSGN
2221	C0BD	09	7F		ORA #127
2222	C0BF	25	67		AND ARGHD
2223	C0C1	85	67		STA ARGHD
2224	C0C3	A9	66		LDA #<ARGEXP
2225	C0C5	A0	00		LDY #>ARGEXP
2226	C0C7	20	91	CD	JSR FCOMP
2227	COCA	AA			TAX
2228	COCB	4C	01	C1	JMP GCOMP
2229	COCE	A9	00		STRCMP LDA #0
2230	COD0	85	07		STA VALTYP
2231	COD2	C6	4A		DEC OPMASK

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2232	COD4	20	BB	C7		JSR	FREFAC
2233	COD7	85	5E			STA	DSCTMP
2234	COD9	86	5F			STX	DSCTMP+1
2235	CODB	84	60			STY	DSCTMP+2
2236	CODD	A5	69			LDA	ARGMD
2237	CODF	A4	6A			LDY	ARGMD+1
2238	COE1	20	BC	C7		JSR	FRETMP
2239	COE4	86	69			STX	ARGMD
2240	COE6	84	6A			STY	ARGMD+1
2241	COE8	AA				TAX	
2242	COE9	38				SEC	
2243	COEA	E5	5E			SBC	DSCTMP
2244	COEC	F0	08			BEG	STASGN
2245	COEE	A9	01			LDA	#1
2246	COF0	90	04			BCC	STASGN
2247	COF2	A6	5E			LDX	DSCTMP
2248	COF4	A9	FF			LDA	##FF
2249	COF6	85	63		STASGN	STA	FACSGN
2250	COF8	A0	FF			LDY	#255
2251	COFA	E8				INX	
2252	COFB	CB			NXTCMP	INX	
2253	COFC	CA				DEX	
2254	COFD	D0	07			BNE	GETCMP
2255	COFF	A6	63			LDX	FACSGN
2256	C101	30	0F		QCOMP	BMI	DOCMP
2257	C103	18				CLC	
2258	C104	90	0C			BCC	DOCMP
2259	C106	B1	69		GETCMP	LDA	(ARGMD)Y
2260	C108					.	FIL CODE11
2261	C108					;	*****CODE11*****
2262	C108	D1	5F			CMP	(DSCTMP+1)Y
2263	C10A	F0	EF			BEG	NXTCMP
2264	C10C	A2	FF			LDX	##FF
2265	C10E	B0	02			BCS	DOCMP
2266	C110	A2	01			LDX	#1
2267	C112	E8			DOCMP	INX	
2268	C113	8A				TXA	
2269	C114	2A				ROL	A
2270	C115	25	0C			AND	DOMASK
2271	C117	F0	02			BEG	GOFL0T
2272	C119	A9	FF			LDA	##FF
2273	C11B	4C	72	CD	GOFL0T	JMP	FLOAT
2274	C11E	20	F5	BE	DIM3	JSR	CHKCOM
2275	C121	AA			DIM	TAX	
2276	C122	20	30	C1		JSR	PTRGT1
2277	C125	20	76	00		JSR	CHRG0T
2278	C128	D0	F4			BNE	DIM3
2279	C12A	60				RTS	
2280	C12B	A2	00		PTRGET	LDX	#0
2281	C12D	20	76	00		JSR	CHRG0T
2282	C130	86	06		PTRGT1	STX	DIMFLG
2283	C132	85	42		PTRGT2	STA	VARNAM
2284	C134	20	76	00		JSR	CHRG0T
2285	C137	20	B6	C1		JSR	ISLETC
2286	C13A	B0	03			BCS	PTRGT3

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2287	C13C	4C	00	BF	INTERR	JMP	SNERR
2288	C13F	A2	00		PTRGT3	LDX	#0
2289	C141	86	07			STX	VALTYP
2290	C143	86	08			STX	INTFLG
2291	C145	20	70	00		JSR	CHRGET
2292	C148	90	05			BCC	ISSEC
2293	C14A	20	86	C1		JSR	ISLETC
2294	C14D	90	0B			BCC	NOSEC
2295	C14F	AA			ISSEC	TAX	
2296	C150	20	70	00	EATEM	JSR	CHRGET
2297	C153	90	FB			BCC	EATEM
2298	C155	20	86	C1		JSR	ISLETC
2299	C158	B0	F6			BCC	EATEM
2300	C15A	C9	24		NOSEC	CMP	#'\$
2301	C15C	D0	06			BNE	NOTSTR
2302	C15E	A9	FF			LDA	##FF
2303	C160	85	07			STA	VALTYP
2304	C162	D0	10			BNE	TURNON
2305	C164	C9	25		NOTSTR	CMP	#'%
2306	C166	D0	13			BNE	STRNAM
2307	C168	A5	0A			LDA	SUBFLG
2308	C16A	D0	D0			BNE	INTERR
2309	C16C	A9	80			LDA	#128
2310	C16E	85	08			STA	INTFLG
2311	C170	05	42			ORA	VARNAM
2312	C172	85	42			STA	VARNAM
2313	C174	8A			TURNON	TXA	
2314	C175	09	80			ORA	#128
2315	C177	AA				TAX	
2316	C178	20	70	00		JSR	CHRGET
2317	C17B	86	43		STRNAM	STX	VARNAM+1
2318	C17D	38				SEC	
2319	C17E	05	0A			ORA	SUBFLG
2320	C180	E9	28			SBC	#40
2321	C182	D0	03			BNE	**+5
2322	C184	4C	FC	C2		JMP	ISARY
2323	C187	A0	00			LDY	#0
2324	C189	84	0A			STY	SUBFLG
2325	C18B	A5	2A			LDA	VARTAB
2326	C18D	A6	2B			LDX	VARTAB+1
2327	C18F	86	5D		STXFND	STX	LOWTR+1
2328	C191	85	5C		LOPFND	STA	LOWTR
2329	C193	E4	2D			CPX	ARYTAB+1
2330	C195	D0	04			BNE	LOPFN
2331	C197	C5	2C			CMP	ARYTAB
2332	C199	F0	25			BEQ	NOTFNS
2333	C19B	A5	42		LOPFN	LDA	VARNAM
2334	C19D	D1	5C			CMP	(LOWTR)Y
2335	C19F	D0	0B			BNE	NOTIT
2336	C1A1	A5	43			LDA	VARNAM+1
2337	C1A3	C8				INY	
2338	C1A4	D1	5C			CMP	(LOWTR)Y
2339	C1A6	D0	03			BNE	NXTPTR
2340	C1A8	4C	B9	C2		JMP	FINPTR
2341	C1AB	88			NXTPTR	DEY	

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2342	C1AC	18	NOTIT	CLC	
2343	C1AD	A5 5C		LDA LOWTR	
2344	C1AF	69 07		ADC #6+ADDPRC	
2345	C1B1	90 DE		BCC LOPFND	
2346	C1B3	E8		INX	
2347	C1B4	D0 D9		BNE STXFND	
2348	C1B6	C9 41	ISLETC	CMP #'A	
2349	C1B8	90 05		BCC ISLRTS	
2350	C1BA	E9 5B		SBC ##5B	
2351	C1BC	38		SEC	
2352	C1BD	E9 A5		SBC #e245	
2353	C1BF	60	ISLRTS	RTS	
2354	C1C0	68	NOTFNS	PLA	
2355	C1C1	48		PHA	
2356	C1C2		ZZ6=ISVRET-1		
2357	C1C2	C9 8E		CMP #<ZZ6	
2358	C1C4	D0 05		BNE NOTEVL	
2359	C1C6	A9 C9	LDZR	LDA #<ZERO	
2360	C1C8	A0 D0		LDY #>ZERO	
2361	C1CA	60		RTS	
2362	C1CB	A5 42	NOTEVL	LDA VARNAM	
2363	C1CD	A4 43		LDY VARNAM+1	
2364	C1CF	C9 54		CMP #'T	
2365	C1D1	D0 08		BNE QSTAVR	
2366	C1D3	C0 C9		CPY #e311	
2367	C1D5	F0 EF		BEQ LDZR	
2368	C1D7	C0 49		CPY #e111	
2369	C1D9	D0 03		BNE QSTAVR	
2370	C1DB	4C 00	BF	GOBADV	JMP SNERR
2371	C1DE	C9 53		QSTAVR	CMP #'S
2372	C1E0	D0 04			BNE QDSVAR
2373	C1E2	C0 54			CPY #'T
2374	C1E4	F0 F5			BEQ GOBADV
2375	C1E6	C9 44	QDSVAR	CMP #'D	; DISK STATUS?
2376	C1E8	D0 08		BNE VAROK	
2377	C1EA	C0 53		CPY #'S	
2378	C1EC	F0 ED		BEQ GOBADV	; CANNOT MODIFY DS
2379	C1EE	C0 D3		CPY ##D3	
2380	C1F0	F0 E9		BEQ GOBADV	; CANNOT MODIFY DS#
2381	C1F2	A5 2C	VAROK	LDA ARYTAB	
2382	C1F4	A4 2D		LDY ARYTAB+1	
2383	C1F6	85 5C		STA LOWTR	
2384	C1F8	84 5D		STY LOWTR+1	
2385	C1FA	A5 2E		LDA STREND	
2386	C1FC	A4 2F		LDY STREND+1	
2387	C1FE	85 57		STA HIGHTR	
2388	C200	84 58		STY HIGHTR+1	
2389	C202	18		CLC	
2390	C203	69 07		ADC #6+ADDPRC	
2391	C205	90 01		BCC NOTEVE	
2392	C207	C8		INY	
2393	C208	85 55	NOTEVE	STA HIGHDS	
2394	C20A	84 56		STY HIGHDS+1	
2395	C20C	20 50	B3	JSR BLTU	
2396	C20F	A5 55		LDA HIGHDS	

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2397 C211 A4 56          LDY HIGHDS+1
2398 C213 CB           INY
2399 C214 B5 2C          STA ARYTAB
2400 C216 B4 2D          STY ARYTAB+1
2401 C218 B5 55          STA ARYPNT          ;SET POINTER TO ARRAYS
2402 C21A B4 56          STY ARYPNT+1
2403 C21C A5 55          ARYVA2 LDA ARYPNT
2404 C21E A6 56          LDX ARYPNT+1
2405 C220 E4 2F          ARYVA3 CPX STREND+1      ;END OF ARRAYS ?
2406 C222 D0 04          BNE ARYVGO
2407 C224 C5 2E          CMP STREND
2408 C226 F0 75          BEQ ARYDON          ;FINISHED...
2409 C228 B5 1F          ARYVGO STA INDEX1          ;PARSE THE ARRAY
2410 C22A B6 20          STX INDEX1+1
2411 C22C A0 00          LDY #1-ADDPRC
2412 C22E B1 1F          LDA (INDEX1),Y      ;ARRAY NAME
2413 C230 AA           TAX
2414 C231 CB           INY
2415 C232 B1 1F          LDA (INDEX1),Y      ;NAME 2ND CHAR
2416 C234 08           PHP                 ;SAVE STATUS REG
2417 C235 CB           INY
2418 C236 B1 1F          LDA (INDEX1),Y      ;POINT TO NEXT ARRAY
2419 C238 65 55          ADC ARYPNT
2420 C23A B5 55          STA ARYPNT
2421 C23C C8           INY
2422 C23D B1 1F          LDA (INDEX1),Y
2423 C23F 65 56          ADC ARYPNT+1
2424 C241 B5 56          STA ARYPNT+1
2425 C243 2B           PLP                 ;RESTORE STATUS
2426 C244 10 D6          BPL ARYVA2          ;NOT A STRING TYPE
2427 C246 8A           TXA
2428 C247 30 D3          BMI ARYVA2          ;NOT A STRING ARRAY
2429 C249 C8           INY                 ;OK WE HAVE A STRING ARRAY
2430 C24A B1 1F          LDA (INDEX1),Y
2431 C24C A0 00          LDY #00
2432 C24E 0A           ASL A
2433 C24F 69 05          ADC #5
2434 C251 65 1F          ADC INDEX1
2435 C253 B5 1F          STA INDEX1
2436 C255 90 02          BCC ARYGET
2437 C257 E6 20          INC INDEX1+1
2438 C259 A6 20          ARYGET LDX INDEX1+1      ;PARSE ARRAY
2439 C25B E4 56          CPX ARYPNT+1        ;DONE WITH THIS ARRAY ?
2440 C25D D0 04          BNE GOGO
2441 C25F C5 55          CMP ARYPNT
2442 C261 F0 BD          BEQ ARYVA3          ;YES...
2443 C263 A0 00          GOGO  LDY #00         ;PROCESS STRING POINTER
2444 C265 B1 1F          LDA (INDEX1),Y
2445 C267 F0 27          BEQ DVARTS          ;NO STRING... GO ON...
2446 C269 CB           INY
2447 C26A 1B           CLC
2448 C26B 71 1F          ADC (INDEX1),Y
2449 C26D B5 57          STA HIGHTR
2450 C26F AA           TAX                 ;SAVE IS X FOR CHECK
2451 C270 CB           INY

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2452 C271 B1 1F          LDA (INDEX1),Y
2453 C273 69 00          ADC #00           ;ADJUST HIGH BYTE
2454 C275 85 58          STA HIGHTR+1
2455 C277 C5 31          CMP FRETOP+1     ;NO FIX IF BELOW FRETOP
2456 C279 90 15          BCC DVARTS
2457 C27B D0 04          BNE GOGD1
2458 C27D E4 30          CPX FRETOP
2459 C27F 90 0F          BCC DVARTS
2460 C281                                     ;FIX BACKWARDS POINTER BY ADDING
2461 C281                                     ;MOVE LENGTH TO IT
2462 C281 A0 00          GOGD1 LDY #00
2463 C283 B1 57          LDA (HIGHTR),Y
2464 C285 69 06          ADC #6+ADDPRC-1 ;CARRY SET (CAREFUL)
2465 C287 91 57          STA (HIGHTR),Y
2466 C289 C8              INY
2467 C28A B1 57          LDA (HIGHTR),Y
2468 C28C 69 00          ADC #00
2469 C28E 91 57          STA (HIGHTR),Y ;DONE WITH THIS STR.
2470 C290                ;FIX THE NEXT STRING IN THE ARRAY
2471 C290 A9 03          DVARTS LDA #STRSIZ ;BUMP BY FOUR6
2472 C292 18              CLC
2473 C293 C5 1F          ADC INDEX1
2474 C295 85 1F          STA INDEX1
2475 C297 90 C0          BCC ARYGET
2476 C299 E6 20          INC INDEX1+1
2477 C29B D0 BC          BNE ARYGET     ;BRANCH ALWAYS
2478 C29D                ;
2479 C29D A0 00          ARYDON LDY #0
2480 C29F A5 42          LDA VARNAM
2481 C2A1 91 5C          STA (LOWTR)Y
2482 C2A3 C8              INY
2483 C2A4 A5 43          LDA VARNAM+1
2484 C2A6 91 5C          STA (LOWTR)Y
2485 C2A8 A9 00          LDA #0
2486 C2AA C8              INY
2487 C2AB 91 5C          STA (LOWTR)Y
2488 C2AD C8              INY
2489 C2AE 91 5C          STA (LOWTR)Y
2490 C2B0 C8              INY
2491 C2B1 91 5C          STA (LOWTR)Y
2492 C2B3 C8              INY
2493 C2B4 91 5C          STA (LOWTR)Y
2494 C2B6 C8              INY
2495 C2B7 91 5C          STA (LOWTR)Y
2496 C2B9 A5 5C          FINPTR LDA LOWTR
2497 C2BB 18              CLC
2498 C2BC 69 02          ADC #2
2499 C2BE A4 5D          LDY LOWTR+1
2500 C2C0 90 01          BCC FINNOW
2501 C2C2 C8              INY
2502 C2C3 85 44          FINNOW STA VARPNT
2503 C2C5 84 45          STY VARPNT+1
2504 C2C7 60              RTS
2505 C2C8 A5 05          FMAPTR LDA COUNT
2506 C2CA 0A              ASL A

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2507	C2CB	69	05		ADC #5
2508	C2CD	65	5C		ADC LOWTR
2509	C2CF	A4	5D		LDY LOWTR+1
2510	C2D1	90	01		BCC JSRGM
2511	C2D3	CB			INY
2512	C2D4	85	55	JSRGM	STA ARYPNT
2513	C2D6	84	56		STY ARYPNT+1
2514	C2D8	60			RTS
2515	C2D9				.FIL CODE12
2516	C2D9				;*****CODE12*****
2517	C2D9	90			N32768 .BYT 144,128,0,0
2517	C2DA	80			
2517	C2DB	00			
2517	C2DC	00			
2518	C2DD	20	70	00	INTIDX JSR CHRGET
2519	C2E0	20	98	BD	JSR FRMEVL
2520	C2E3	20	87	BD	POSINT JSR CHKNUM
2521	C2E6	A5	63		LDA FACSGN
2522	C2E8	30	0D		BMI NONONO
2523	C2EA	A5	5E	AYINT	LDA FACEXP
2524	C2EC	C9	90		CMP #144
2525	C2EE	90	09		BCC QINTGD
2526	C2F0	A9	D9		LDA #<N32768
2527	C2F2	A0	C2		LDY #>N32768
2528	C2F4	20	91	CD	JSR FCOMP
2529	C2F7	D0	7A	NONONO	BNE FCERR
2530	C2F9	4C	D1	CD	QINTGD JMP QINT
2531	C2FC	A5	06	ISARY	LDA DIMFLG
2532	C2FE	05	08		ORA INTFLG
2533	C300	48			PHA
2534	C301	A5	07		LDA VALTYP
2535	C303	48			PHA
2536	C304	A0	00		LDY #0
2537	C306	98		INDLOP	TYA
2538	C307	48			PHA
2539	C308	A5	43		LDA VARNAM+1
2540	C30A	48			PHA
2541	C30B	A5	42		LDA VARNAM
2542	C30D	48			PHA
2543	C30E	20	DD	C2	JSR INTIDX
2544	C311	68			PLA
2545	C312	85	42		STA VARNAM
2546	C314	68			PLA
2547	C315	85	43		STA VARNAM+1
2548	C317	68			PLA
2549	C318	A8			TAY
2550	C319	BA			TSX
2551	C31A	BD	02	01	LDA 258, X
2552	C31D	48			PHA
2553	C31E	BD	01	01	LDA 257, X
2554	C321	48			PHA
2555	C322	A5	61		LDA INDICE
2556	C324	9D	02	01	STA 258, X
2557	C327	A5	62		LDA INDICE+1
2558	C329	9D	01	01	STA 257, X

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2559	C32C	C8		INY
2560	C32D	20 76	00	JSR CHRGT
2561	C330	C9 2C		CMP #44
2562	C332	F0 D2		BEG INDLOP
2563	C334	84 05		STY COUNT
2564	C336	20 EF	BE	JSR CHKCLS
2565	C339	68		PLA
2566	C33A	85 07		STA VALTYP
2567	C33C	68		PLA
2568	C33D	85 08		STA INTFLG
2569	C33F	29 7F		AND #127
2570	C341	85 06		STA DIMFLG
2571	C343	A6 2C		LDX ARYTAB
2572	C345	A5 2D		LDA ARYTAB+1
2573	C347	86 5C		LOPFDA STX LOWTR
2574	C349	85 5D		STA LOWTR+1
2575	C34B	C5 2F		CMP STREND+1
2576	C34D	D0 04		BNE LOPFDV
2577	C34F	E4 2E		CPX STREND
2578	C351	F0 39		BEG NOTFDD
2579	C353	A0 00		LOPFDV LDY #0
2580	C355	B1 5C		LDA (LOWTR)Y
2581	C357	C8		INY
2582	C358	C5 42		CMP VARNAM
2583	C35A	D0 06		BNE NMARY1
2584	C35C	A5 43		LDA VARNAM+1
2585	C35E	D1 5C		CMP (LOWTR)Y
2586	C360	F0 16		BEG GOTARY
2587	C362	C8		NMARY1 INY
2588	C363	B1 5C		LDA (LOWTR)Y
2589	C365	18		CLC
2590	C366	65 5C		ADC LOWTR
2591	C368	AA		TAX
2592	C369	C8		INY
2593	C36A	B1 5C		LDA (LOWTR)Y
2594	C36C	65 5D		ADC LOWTR+1
2595	C36E	90 D7		BCC LOPFDA
2596	C370	A2 6B		BSERR LDX #ERRBS
2597	C372	2C		.BYT #2C
2598	C373	A2 35		FCERR LDX #ERRFC
2599	C375	4C CF	B3	ERRG03 JMP ERROR
2600	C378	A2 78		GOTARY LDX #ERRDD
2601	C37A	A5 06		LDA DIMFLG
2602	C37C	D0 F7		BNE ERRG03
2603	C37E	20 C8	C2	JSR FMAPTR
2604	C381	A5 05		LDA COUNT
2605	C383	A0 04		LDY #4
2606	C385	D1 5C		CMP (LOWTR)Y
2607	C387	D0 E7		BNE BSERR
2608	C389	4C 15	C4	JMP GETDEF
2609	C38C	20 C8	C2	NOTFDD JSR FMAPTR
2610	C38F	20 A0	B3	JSR REASON
2611	C392	A0 00		LDY #0
2612	C394	84 6F		STY CURTOL+1
2613	C396	A2 05		LDX #5

LINE# LOC CODE LINE

2614	C398	A5	42		LDA	VARNAM	
2615	C39A	91	5C		STA	(LOWTR)Y	
2616	C39C	10	01		BPL	NOTFLT	
2617	C39E	CA			DEX		
2618	C39F	CB		NOTFLT	INX		
2619	C3A0	A5	43		LDA	VARNAM+1	
2620	C3A2	91	5C		STA	(LOWTR)Y	
2621	C3A4	10	02		BPL	STOMLT	
2622	C3A6	CA			DEX		
2623	C3A7	CA			DEX		
2624	C3A8	B6	6E	STOMLT	STX	CURTOL	
2625	C3AA	A5	05		LDA	COUNT	
2626	C3AC	CB			INX		
2627	C3AD	CB			INX		
2628	C3AE	CB			INX		
2629	C3AF	91	5C		STA	(LOWTR)Y	
2630	C3B1	A2	0B	LOPPTA	LDA	#11	
2631	C3B3	A9	00		LDA	#0	
2632	C3B5	24	06		BIT	DIMFLG	
2633	C3B7	50	0B		BVC	NOTDIM	
2634	C3B9	68			PLA		
2635	C3BA	18			CLC		
2636	C3BB	69	01		ADC	#1	
2637	C3BD	AA			TAX		
2638	C3BE	68			PLA		
2639	C3BF	69	00		ADC	#0	
2640	C3C1	CB		NOTDIM	INX		
2641	C3C2	91	5C		STA	(LOWTR)Y	
2642	C3C4	CB			INX		
2643	C3C5	BA			TXA		
2644	C3C6	91	5C		STA	(LOWTR)Y	
2645	C3C8	20	77	C4	JSR	UMULT	
2646	C3CB	B6	6E		STX	CURTOL	
2647	C3CD	B5	6F		STA	CURTOL+1	
2648	C3CF	A4	1F		LDY	INDEX	
2649	C3D1	C6	05		DEC	COUNT	
2650	C3D3	D0	DC		BNE	LOPPTA	
2651	C3D5	65	56		ADC	ARYPNT+1	
2652	C3D7	B0	5D		BCS	OMERR1	
2653	C3D9	B5	56		STA	ARYPNT+1	
2654	C3DB	AB			TAY		
2655	C3DC	BA			TXA		
2656	C3DD	65	55		ADC	ARYPNT	
2657	C3DF	90	03		BCC	GREASE	
2658	C3E1	CB			INX		
2659	C3E2	F0	52		BEQ	OMERR1	
2660	C3E4	20	A0	B3	GREASE	JSR	REASON
2661	C3E7	B5	2E		STA	STREND	
2662	C3E9	B4	2F		STY	STREND+1	
2663	C3EB	A9	00		LDA	#0	
2664	C3ED	E6	6F		INC	CURTOL+1	
2665	C3EF				.FIL	CODE13	

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2667	C3EF	A4 6E		LDY CURTOL
2668	C3F1	F0 05		BEG DECCUR
2669	C3F3	88	ZERITA	DEY
2670	C3F4	91 55		STA (ARYPNT)Y
2671	C3F6	D0 FB		BNE ZERITA
2672	C3F8	C6 56	DECCUR	DEC ARYPNT+1
2673	C3FA	C6 6F		DEC CURTOL+1
2674	C3FC	D0 F5		BNE ZERITA
2675	C3FE	E6 56		INC ARYPNT+1
2676	C400	38		SEC
2677	C401	A5 2E		LDA STREND
2678	C403	E5 5C		SBC LOWTR
2679	C405	A0 02		LDY #2
2680	C407	91 5C		STA (LOWTR)Y
2681	C409	A5 2F		LDA STREND+1
2682	C40B	CB		INY
2683	C40C	E5 5D		SBC LOWTR+1
2684	C40E	91 5C		STA (LOWTR)Y
2685	C410	A5 06		LDA DIMFLG
2686	C412	D0 62		BNE DIMRTS
2687	C414	CB		INY
2688	C415	B1 5C	GETDEF	LDA (LOWTR)Y
2689	C417	85 05		STA COUNT
2690	C419	A9 00		LDA #0
2691	C41B	85 6E		STA CURTOL
2692	C41D	85 6F	INLPNM	STA CURTOL+1
2693	C41F	CB		INY
2694	C420	68		PLA
2695	C421	AA		TAX
2696	C422	85 61		STA INDICE
2697	C424	68		PLA
2698	C425	85 62		STA INDICE+1
2699	C427	D1 5C		CMP (LOWTR)Y
2700	C429	90 0E		BCC INLPN2
2701	C42B	D0 06		BNE BSERR7
2702	C42D	CB		INY
2703	C42E	8A		TXA
2704	C42F	D1 5C		CMP (LOWTR)Y
2705	C431	90 07		BCC INLPN1
2706	C433	4C 70 C3	BSERR7	JMP BSERR
2707	C436	4C CD B3	OMERR1	JMP OMERR
2708	C439	CB	INLPN2	INY
2709	C43A	A5 6F	INLPN1	LDA CURTOL+1
2710	C43C	05 6E		ORA CURTOL
2711	C43E	18		CLC
2712	C43F	F0 0A		BEG ADDIND
2713	C441	20 77 C4		JSR UMULT
2714	C444	8A		TXA
2715	C445	65 61		ADC INDICE
2716	C447	AA		TAX
2717	C448	98		TYA
2718	C449	A4 1F		LDY INDEX1
2719	C44B	65 62	ADDIND	ADC INDICE+1
2720	C44D	86 6E		STX CURTOL
2721	C44F	C6 05		DEC COUNT

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2722	C451	D0 CA		BNE INLPNM
2723	C453	B5 6F		STA CURTOL+1
2724	C455	A2 05		LDX #5
2725	C457	A5 42		LDA VARNAM
2726	C459	10 01		BPL NOTFL1
2727	C45B	CA		DEX
2728	C45C	A5 43	NOTFL1	LDA VARNAM+1
2729	C45E	10 02		BPL STDML1
2730	C460	CA		DEX
2731	C461	CA		DEX
2732	C462	B6 25	STOML1	STX ADDEND
2733	C464	A9 00		LDA #0
2734	C466	20 80 C4		JSR UMULTD
2735	C469	BA		TXA
2736	C46A	65 55		ADC ARYPNT
2737	C46C	B5 44		STA VARPNT
2738	C46E	9B		TYA
2739	C46F	65 56		ADC ARYPNT+1
2740	C471	B5 45		STA VARPNT+1
2741	C473	AB		TAY
2742	C474	A5 44		LDA VARPNT
2743	C476	60	DIMRTS	RTS
2744	C477	B4 1F	UMULT	STY INDEX
2745	C479	B1 5C		LDA (LOWTR)Y
2746	C47B	B5 25		STA ADDEND
2747	C47D	8B		DEY
2748	C47E	B1 5C		LDA (LOWTR)Y
2749	C480	B5 26	UMULTD	STA ADDEND+1
2750	C482	A9 10		LDA #16
2751	C484	B5 5A		STA DECCNT
2752	C486	A2 00		LDX #0
2753	C488	A0 00		LDY #0
2754	C48A	BA	UMULTC	TXA
2755	C48B	0A		ASL A
2756	C48C	AA		TAX
2757	C48D	9B		TYA
2758	C48E	2A		ROL A
2759	C48F	AB		TAY
2760	C490	B0 A4		BCS OMERR1
2761	C492	06 6E		ASL CURTOL
2762	C494	26 6F		ROL CURTOL+1
2763	C496	90 0B		BCC UMLCNT
2764	C49B	1B		CLC
2765	C499	BA		TXA
2766	C49A	65 25		ADC ADDEND
2767	C49C	AA		TAX
2768	C49D	9B		TYA
2769	C49E	65 26		ADC ADDEND+1
2770	C4A0	AB		TAY
2771	C4A1	B0 93		BCS OMERR1
2772	C4A3	C6 5A	UMLCNT	DEC DECCNT
2773	C4A5	D0 E3		BNE UMULTC
2774	C4A7	60	UMLRTS	RTS
2775	C4AB	A5 07	FRE	LDA VALTYP
2776	C4AA	F0 03		BEQ NOFREF

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2777	C4AC	20	B8	C7		JSR	FREFAC
2778	C4AF	20	6A	C6	NOFREF	JSR	GARBA2
2779	C4B2	38				SEC	
2780	C4B3	A5	30			LDA	FRETOP
2781	C4B5	E5	2E			SBC	STREND
2782	C4B7	A8				TAY	
2783	C4B8	A5	31			LDA	FRETOP+1
2784	C4BA	E5	2F			SBC	STREND+1
2785	C4BC	A2	00		GIVAYF	LDX	#0
2786	C4BE	86	07			STX	VALTYP
2787	C4C0	85	5F			STA	FACHD
2788	C4C2	84	60			STY	FACHD+1
2789	C4C4	A2	90			LDX	#144
2790	C4C6	4C	7A	CD		JMP	FLOATS
2791	C4C9	A4	C6		PDS	LDY	TRMPOS
2792	C4CB	A9	00		SNGFLT	LDA	#0
2793	C4CD	F0	ED			BEQ	GIVAYF
2794	C4CF	A6	37		ERRDIR	LDX	CURLIN+1
2795	C4D1	EB				INX	
2796	C4D2	D0	A2			BNE	DIMRTS
2797	C4D4	A2	95			LDX	#ERRID
2798	C4D6	2C				.BYT	\$2C
2799	C4D7	A2	E9		ERRGUF	LDX	#ERRUF
2800	C4D9	4C	CF	B3		JMP	ERROR
2801	C4DC	20	0A	C5	DEF	JSR	GETFNM
2802	C4DF	20	CF	C4		JSR	ERRDIR
2803	C4E2	20	F2	BE		JSR	CHKOPN
2804	C4E5	A9	80			LDA	#128
2805	C4E7	85	0A			STA	SUBFLG
2806	C4E9	20	2B	C1		JSR	PTRGET
2807	C4EC	20	87	BD		JSR	CHKNUM
2808	C4EF	20	EF	BE		JSR	CHKCLS
2809	C4F2	A9	B2			LDA	##B2
2810	C4F4	20	F7	BE		JSR	SYNCHR
2811	C4F7	48				PHA	
2812	C4F8	A5	45			LDA	VARPNT+1
2813	C4FA	48				PHA	
2814	C4FB	A5	44			LDA	VARPNT
2815	C4FD	48				PHA	
2816	C4FE	A5	78			LDA	TXTPTR+1
2817	C500					.FIL	CODE14

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2819	C500	48		PHA
2820	C501	A5 77		LDA TXTPTR
2821	C503	48		PHA
2822	C504	20 83 B8		JSR DATA
2823	C507	4C 78 C5		JMP DEFFIN
2824	C50A	A9 A5	GETFNM	LDA #FNTR
2825	C50C	20 F7 BE		JSR SYNCHR
2826	C50F	09 80		ORA #128
2827	C511	85 0A		STA SUBFLG
2828	C513	20 32 C1		JSR PTRGT2
2829	C516	85 48		STA DEFPNT
2830	C518	84 4C		STY DEFPNT+1
2831	C51A	4C 87 BD		JMP CHKNUM
2832	C51D	20 0A C5	FNDOR	JSR GETFNM
2833	C520	A5 4C		LDA DEFPNT+1
2834	C522	48		PHA
2835	C523	A5 4B		LDA DEFPNT
2836	C525	48		PHA
2837	C526	20 E9 BE		JSR PARCHK
2838	C529	20 87 BD		JSR CHKNUM
2839	C52C	68		PLA
2840	C52D	85 4B		STA DEFPNT
2841	C52F	68		PLA
2842	C530	85 4C		STA DEFPNT+1
2843	C532	A0 02		LDY #2
2844	C534	B1 4B		LDA (DEFPNT)Y
2845	C536	85 44		STA VARPNT
2846	C538	AA		TAX
2847	C539	C8		INY
2848	C53A	B1 4B		LDA (DEFPNT)Y
2849	C53C	F0 99		BEQ ERRGUF
2850	C53E	85 45		STA VARPNT+1
2851	C540	C8		INY
2852	C541	B1 44	DEFSTF	LDA (VARPNT)Y
2853	C543	48		PHA
2854	C544	88		DEY
2855	C545	10 FA		BPL DEFSTF
2856	C547	A4 45		LDY VARPNT+1
2857	C549	20 0A CD		JSR MOVMF
2858	C54C	A5 78		LDA TXTPTR+1
2859	C54E	48		PHA
2860	C54F	A5 77		LDA TXTPTR
2861	C551	48		PHA
2862	C552	B1 4B		LDA (DEFPNT)Y
2863	C554	85 77		STA TXTPTR
2864	C556	C8		INY
2865	C557	B1 4B		LDA (DEFPNT)Y
2866	C559	85 78		STA TXTPTR+1
2867	C55B	A5 45		LDA VARPNT+1
2868	C55D	48		PHA
2869	C55E	A5 44		LDA VARPNT
2870	C560	48		PHA
2871	C561	20 84 BD		JSR FRMNUM
2872	C564	68		PLA
2873	C565	85 4B		STA DEFPNT

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2874	C567	68		PLA
2875	C568	85	4C	STA DEFPNT+1
2876	C56A	20	76 00	JSR CHRGOT
2877	C56D	F0	03	BEG **5
2878	C56F	4C	00 BF	JMP SNERR
2879	C572	68		PLA
2880	C573	85	77	STA TXTPTR
2881	C575	68		PLA
2882	C576	85	78	STA TXTPTR+1
2883	C578	A0	00	DEFFIN LDY #0
2884	C57A	68		PLA
2885	C57B	91	4B	STA (DEFPNT)Y
2886	C57D	68		PLA
2887	C57E	C8		INY
2888	C57F	91	4B	STA (DEFPNT)Y
2889	C581	68		PLA
2890	C582	C8		INY
2891	C583	91	4B	STA (DEFPNT)Y
2892	C585	68		PLA
2893	C586	C8		INY
2894	C587	91	4B	STA (DEFPNT)Y
2895	C589	68		PLA
2896	C58A	C8		INY
2897	C58B	91	4B	STA (DEFPNT)Y
2898	C58D	60		RTS
2899	C58E	20	87 BD	STRD JSR CHKNUM
2900	C591	A0	00	LDY #0
2901	C593	20	95 CF	JSR FOUTC
2902	C596	68		PLA
2903	C597	68		PLA
2904	C598	A9	FF	TIMSTR LDA #<LOFBUF
2905	C59A	A0	00	LDY #>LOFBUF
2906	C59C	F0	12	BEG STRLIT
2907	C59E	A6	61	STRINI LDX FACMD
2908	C5A0	A4	62	LDY FACMD+1
2909	C5A2	86	4D	STX DSCPNT
2910	C5A4	84	4E	STY DSCPNT+1
2911	C5A6	20	1D C6	STRSPA JSR GETSPA
2912	C5A9	86	5F	STX DSCTMP+1
2913	C5AB	84	60	STY DSCTMP+2
2914	C5AD	85	5E	STA DSCTMP
2915	C5AF	60		RTS
2916	C5B0	A2	22	STRLIT LDX #34
2917	C5B2	86	03	STX CHARAC
2918	C5B4	86	04	STX ENDCHR
2919	C5B6	85	6C	STRLT2 STA STRNG1
2920	C5B8	84	6D	STY STRNG1+1
2921	C5BA	85	5F	STA DSCTMP+1
2922	C5BC	84	60	STY DSCTMP+2
2923	C5BE	A0	FF	LDY #255
2924	C5C0	C8		STRGET INY
2925	C5C1	B1	6C	LDA (STRNG1)Y
2926	C5C3	F0	0C	BEG STRF11
2927	C5C5	C5	03	CMP CHARAC
2928	C5C7	F0	04	BEG STRFIN

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2929	C5C9	C5 04		CMP	ENDCHR	
2930	C5CB	D0 F3		BNE	STRGET	
2931	C5CD	C9 22	STRFIN	CMP	#34	
2932	C5CF	F0 01		BEG	STRF12	
2933	C5D1	18	STRF11	CLC		
2934	C5D2	84 5E	STRF12	STY	DSCTMP	
2935	C5D4	9B		TYA		
2936	C5D5	65 6C		ADC	STRNG1	
2937	C5D7	85 6E		STA	STRNG2	
2938	C5D9	A6 6D		LDX	STRNG1+1	
2939	C5DB	90 01		BCC	STRST2	
2940	C5DD	EB		INX		
2941	C5DE	86 6F	STRST2	STX	STRNG2+1	
2942	C5E0	A5 6D		LDA	STRNG1+1	
2943	C5E2	F0 04		BEG	STRCP	
2944	C5E4	C9 02		CMP	#BUFFAG	
2945	C5E6	D0 0B		BNE	PUTNEW	
2946	C5E8	9B	STRCP	TYA		
2947	C5E9	20 9E C5		JSR	STRINI	
2948	C5EC	A6 6C		LDX	STRNG1	
2949	C5EE	A4 6D		LDY	STRNG1+1	
2950	C5F0	20 9A C7		JSR	MOVSTR	
2951	C5F3	A6 13	PUTNEW	LDX	TEMPPT	
2952	C5F5	E0 1F		CPX	#TEMPST+STRSIZ+STRSIZ+STRSIZ	
2953	C5F7	D0 05		BNE	PUTNW1	
2954	C5F9	A2 CB		LDX	#ERRST	
2955	C5FB	4C CF B3	ERRG02	JMP	ERROR	
2956	C5FE	A5 5E	PUTNW1	LDA	DSCTMP	
2957	C600	95 00		STA	0, X	
2958	C602	A5 5F		LDA	DSCTMP+1	
2959	C604	95 01		STA	1, X	
2960	C606	A5 60		LDA	DSCTMP+2	
2961	C608	95 02		STA	2, X	
2962	C60A	A0 00		LDY	#0	
2963	C60C	86 61		STX	FACMD	
2964	C60E	84 62		STY	FACMD+1	
2965	C610	84 6D		STY	FACDV	
2966	C612	8B		DEY		
2967	C613	84 07		STY	VALTYP	
2968	C615	86 14		STX	LASTPT	
2969	C617	EB		INX		
2970	C618	EB		INX		
2971	C619	EB		INX		
2972	C61A	86 13		STX	TEMPPT	
2973	C61C	60		RTS		
2974	C61D	46 09	GETSPA	LSR	GARBFL	
2975	C61F	AA	TRYAG2	TAX		; SAVE IN X ALSO
2976	C620	F0 3B		BEG	GETRTS	; LENGTH OF 0 NO GO...
2977	C622	4B		PHA		; SAVE A (LENGTH) ON STACK
2978	C623	A5 30		LDA	FRETOP	; LO BYTE
2979	C625	3B		SEC		; FOR SUBTRACT
2980	C626	E9 02		SBC	#2	; MINUS 2 (LINK BYTES)
2981	C628	A4 31		LDY	FRETOP+1	
2982	C62A	B0 01		BCS	TRYAG3	
2983	C62C	BB		DEY		

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2984	C62D	85	1F	TRYAG3	STA INDEX1	;SAVE FOR LATER
2985	C62F	84	20		STY INDEX1+1	
2986	C631	8A			TXA	
2987	C632	49	FF		EOR #255	
2988	C634	38			SEC	
2989	C635	65	1F		ADC INDEX1	
2990	C637	B0	01		BCS TRYAG4	
2991	C639	88			DEY	
2992	C63A	C4	2F	TRYAG4	CPY STREND+1	
2993	C63C	90	1D		BCC GARBAG	
2994	C63E	D0	04		BNE STRFRE	
2995	C640	C5	2E		CMP STREND	
2996	C642	90	17		BCC GARBAG	
2997	C644	85	32	STRFRE	STA FRESFPC	
2998	C646	84	33		STY FRESFPC+1	
2999	C648	A0	01		LDY #01	;FLAG STRING AS GARB.
3000	C64A	A9	FF		LDA #FF	
3001	C64C	91	1F		STA (INDEX1),Y	;FLAG
3002	C64E	88			DEY	
3003	C64F	68			PLA	;LENGTH
3004	C650	91	1F		STA (INDEX1),Y	
3005	C652	A6	32		LDX FRESFPC	
3006	C654	A4	33		LDY FRESFPC+1	
3007	C656	86	30		STX FRETOP	
3008	C658	84	31		STY FRETOP+1	
3009	C65A	60		GETRTS	RTS	
3010	C65B	A2	4D	GARBAG	LDX #ERROM	;OUT OF MEMORY
3011	C65D	A5	09		LDA GARBFL	
3012	C65F	30	9A		BMI ERRG02	
3013	C661	20	6A C6		JSR GARBA2	
3014	C664	38			SEC	
3015	C665	66	09		ROR GARBFL	
3016	C667	68			PLA	
3017	C668	D0	B5		BNE TRYAG2	
3018	C66A				.FIL GRBCOL	

LINE# LOC CODE LINE

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3020 C66A                ;*****
3021 C66A                ;*
3022 C66A                ;* THIS ROUTINE LOOKS FOR AND
3023 C66A                ;* SQUASHES OUT ANY UNUSED STRING
3024 C66A                ;* SPACE IT FINDS. THUS RETURNING
3025 C66A                ;* THE SPACE FOR FUTURE USE BY
3026 C66A                ;* THE STRING ROUTINES.
3027 C66A                ;* GARBA2 IS CALLED ONLY WHEN
3028 C66A                ;* BASIC NEED SPACE OF A FRE
3029 C66A                ;* INSTRUCTION IS USED.
3030 C66A                ;*
3031 C66A                ;*****
3032 C66A                ;*
3033 C66A A0 00          GARBA2 LDY ##00           ;SET UP FLAG
3034 C66C B4 55                STY HIGHDS
3035 C66E A5 34                LDA MEMSIZ           ;START AT TOP OF RAM
3036 C670 A4 35                LDY MEMSIZ+1
3037 C672 B5 5C                STA GRBTOP           ;SET BOTH POINTERS
3038 C674 B5 4B                STA GRBPNT
3039 C676 B5 32                STA FRESPC
3040 C678 B4 5D                STY GRBTOP+1
3041 C67A B4 4C                STY GRBPNT+1
3042 C67C B4 33                STY FRESPC+1
3043 C67E                ;
3044 C67E                ; DO WHILE (GRBPNT <> FRETOP)
3045 C67E                ;
3046 C67E C4 31          GLOOP CPY FRETOP+1       ;END OF STRINGS ?
3047 C680 90 7E                BCC GRBEND
3048 C682 D0 06                BNE COLOO
3049 C684 C5 30                CMP FRETOP
3050 C686 F0 78                BEQ GRBEND
3051 C688 90 76                BCC GRBEND
3052 C68A                ;
3053 C68A                ; IF .A = ##FF THEN STRING IS GARBAGE
3054 C68A                ;
3055 C68A A6 55          COLOO LDX HIGHDS           ;CHECK FLAG
3056 C68C 30 05                BMI COLOOB
3057 C68E A9 02                LDA ##02
3058 C690 20 35 C7          JSR MOVTOP
3059 C693 20 24 C7          COLOOB JSR SKIP2A
3060 C696 A0 01                LDY ##01
3061 C698 B1 4B                LDA (GRBPNT),Y       ;GARBAGE ?
3062 C69A C9 FF                CMP ##FF
3063 C69C D0 0B                BNE COLO1           ;NO A GOOD STRING
3064 C69E 8B                COLOOA DEY           ;BACK UP TO LENGTH
3065 C69F B1 4B                LDA (GRBPNT),Y
3066 C6A1 20 26 C7          JSR MOVVNT           ;MOVE GRBPNT TO NEXT
3067 C6A4 38                SEC
3068 C6A5 66 55                ROR HIGHDS           ;SET FLAG FOR SQUASH
3069 C6A7 D0 D5                BNE GLOOP           ;(JMP) GO GET MORE
3070 C6A9                ;
3071 C6A9                ; ELSE
3072 C6A9                ;
3073 C6A9 20 44 C7          COLO1 JSR SETINX :POINT INDEX TO DESC
3074 C6AC A6 55                LDY HIGHDS           ;IF ON DO SQUASH

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LINE# LOC CODE LINE

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3075 C6AE 10 53          BPL COLO3
3076 C6B0 46 55          LSR HIGHDS      ; RESET FLAG
3077 C6B2                ;
3078 C6B2                ; MOVE A STRING OVER GARBAGE
3079 C6B2                ;
3080 C6B2 A0 00          COLO2 LDY ##00      ; MOVE THE LINK BYTES
3081 C6B4 B1 4B          LDA (GRBPNT),Y
3082 C6B6 91 5C          STA (GRBTOP),Y
3083 C6B8 CB             INY
3084 C6B9 B1 4B          LDA (GRBPNT),Y
3085 C6BB 91 5C          STA (GRBTOP),Y
3086 C6BD                ;
3087 C6BD 8B             DEY      ; GET LENGTH OF STRING
3088 C6BE B1 1F          LDA (INDEX1),Y
3089 C6C0 AA             TAX
3090 C6C1 20 35 C7       JSR MOVTOP      ; MOVE TOP POINTER
3091 C6C4 85 32          STA FRESPEC     ; SAVE IN FRESPEC
3092 C6C6 84 33          STY FRESPEC+1
3093 C6C8 8A             TXA
3094 C6C9 20 26 C7       JSR MOVPTNT     ; MOVE GRBPNT
3095 C6CC 8A             TXA      ; PUT LENGTH-1 IN .Y
3096 C6CD AB             TAY
3097 C6CE 8B             GLOP1 DEY
3098 C6CF B1 4B          LDA (GRBPNT),Y
3099 C6D1 91 5C          STA (GRBTOP),Y
3100 C6D3 CA             DEX
3101 C6D4 D0 FB          BNE GLOP1
3102 C6D6                ;
3103 C6D6 A0 02          COLO2B LDY ##02      ; FIX THE DESCRIPTOR
3104 C6D8 B9 5B 00       LDA GRBTOP-1,Y
3105 C6DB 91 1F          STA (INDEX1),Y
3106 C6DD 8B             DEY
3107 C6DE D0 FB          BNE COLO2B
3108 C6E0 A5 4B          LDA GRBPNT      ; CHECK POINTER
3109 C6E2 A4 4C          LDY GRBPNT+1
3110 C6E4 C4 31          CPY FRETOP+1
3111 C6E6 90 1B          BCC GRBEND
3112 C6E8 D0 06          BNE COLO2A
3113 C6EA C5 30          CMP FRETOP
3114 C6EC F0 12          BEQ GRBEND
3115 C6EE 90 10          BCC GRBEND
3116 C6F0 20 1F C7       COLO2A JSR SKIP2      ; SKIP LINK BYTES
3117 C6F3 A0 01          LDY ##01      ; IS IT GARBAGE ?
3118 C6F5 B1 4B          LDA (GRBPNT),Y
3119 C6F7 C9 FF          CMP ##FF
3120 C6F9 F0 A3          BEQ COLO0A
3121 C6FB 20 44 C7       JSR SETINX     ; RETURNS N SET
3122 C6FE 30 B2          BMI COLO2
3123 C700 4C 16 C7       GRBEND JMP ENDGRB
3124 C703                ;
3125 C703 A0 00          COLO3 LDY ##00      ; SKIP OVER GOOD STRINGS
3126 C705 B1 1F          LDA (INDEX1),Y
3127 C707 AA             TAX
3128 C708 20 35 C7       JSR MOVTOP
3129 C70B 85 32          STA FRESPEC

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LINE# LOC CODE LINE

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3130 C70D 84 33          STY FRESPC+1
3131 C70F 8A           TXA
3132 C710 20 26 C7     JSR MOVPT
3133 C713 4C 7E C6     JMP GLOOP
3134 C716                ;
3135 C716                ; DONE FIX FRETOP & FRESPC
3136 C716                ;
3137 C716 A5 32        ENDGRB LDA FRESPC
3138 C718 A4 33        LDY FRESPC+1
3139 C71A 85 30        STA FRETOP
3140 C71C 84 31        STY FRETOP+1
3141 C71E 60           RTS
3142 C71F                ;
3143 C71F                ; SUBROUTINES USED FOR GARBAGE COLLECTION
3144 C71F                ;
3145 C71F A9 02        SKIP2 LDA #02           ; SKIP POINTERS PAST
3146 C721 20 35 C7     JSR MOVTOP          ; THE LINK BYTES IN
3147 C724 A9 02        SKIP2A LDA #02          ; THE STRING DATA
3148 C726                ;
3149 C726 49 FF        MOVPT EOR #255          ; COMP AND ADD
3150 C728 38           SEC
3151 C729 65 4B        ADC GRBPNT
3152 C72B A4 4C        LDY GRBPNT+1
3153 C72D B0 01        BCS MOV00
3154 C72F 88           DEY
3155 C730 85 4B        MOV00 STA GRBPNT
3156 C732 84 4C        STY GRBPNT+1
3157 C734 60           RTS
3158 C735                ;
3159 C735 49 FF        MOVTOP EOR #255          ; COMP AND ADD
3160 C737 38           SEC
3161 C738 65 5C        ADC GRBTOP
3162 C73A A4 5D        LDY GRBTOP+1
3163 C73C B0 01        BCS MOV01
3164 C73E 88           DEY
3165 C73F 85 5C        MOV01 STA GRBTOP
3166 C741 84 5D        STY GRBTOP+1
3167 C743 60           RTS
3168 C744                ;
3169 C744 A0 01        SETINX LDY #01           ; SET INDEX1 AS POINTER
3170 C746 B1 4B        SET00 LDA (GRBPNT),Y      ; TO THE LENGTH BYTE IN
3171 C748 99 1F 00     STA INDEX1,Y
3172 C74B 88           DEY
3173 C74C 10 FB        BPL SET00
3174 C74E 60           RTS
3175 C74F                .FIL CODE15

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LINE# LOC CODE LINE

3177	C74F	A5	62	CAT	LDA FACLO
3178	C751	48			PHA
3179	C752	A5	61		LDA FACMO
3180	C754	48			PHA
3181	C755	20	81 BE		JSR EVAL
3182	C758	20	89 BD		JSR CHKSTR
3183	C75B	68			PLA
3184	C75C	85	6C		STA STRNG1
3185	C75E	68			PLA
3186	C75F	85	6D		STA STRNG1+1
3187	C761	A0	00		LDY #0
3188	C763	B1	6C		LDA (STRNG1)Y
3189	C765	18			CLC
3190	C766	71	61		ADC (FACMO)Y
3191	C768	90	05		BCC SIZEOK
3192	C76A	A2	80		LDX #ERRLS
3193	C76C	4C	CF B3		JMP ERROR
3194	C76F	20	9E C5	SIZEOK	JSR STRINI
3195	C772	20	8C C7		JSR MOVINS
3196	C775	A5	4D		LDA DSCPNT
3197	C777	A4	4E		LDY DSCPNT+1
3198	C779	20	BC C7		JSR FRETMP
3199	C77C	20	9E C7		JSR MOVDO
3200	C77F	A5	6C		LDA STRNG1
3201	C781	A4	6D		LDY STRNG1+1
3202	C783	20	BC C7		JSR FRETMP
3203	C786	20	F3 C5		JSR PUTNEW
3204	C789	4C	B2 BD		JMP TSTOP
3205	C78C	A0	00	MOVINS	LDY #0
3206	C78E	B1	6C		LDA (STRNG1)Y
3207	C790	48			PHA
3208	C791	CB			INY
3209	C792				.FIL CODE16

LINE# LOC CODE LINE

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3211 C792 B1 6C          LDA (STRNG1)Y
3212 C794 AA           TAX
3213 C795 CB           INY
3214 C796 B1 6C          LDA (STRNG1)Y
3215 C798 AB           TAY
3216 C799 6B           PLA
3217 C79A 86 1F         MOVSTR STX INDEX
3218 C79C 84 20         STY INDEX+1
3219 C79E AB           MOVDO TAY
3220 C79F F0 0A         BEQ MVDONE
3221 C7A1 4B           PHA
3222 C7A2 8B           MOVLP DEY
3223 C7A3 B1 1F          LDA (INDEX)Y
3224 C7A5 91 32         STA (FRESPC)Y
3225 C7A7 9B           TYA
3226 C7A8 D0 F8         BNE MOVLP
3227 C7AA 6B           PLA
3228 C7AB 1B           MVDONE CLC
3229 C7AC 65 32         ADC FRESPC
3230 C7AE 85 32         STA FRESPC
3231 C7B0 90 02         BCC MVSTRT
3232 C7B2 E6 33         INC FRESPC+1
3233 C7B4 60           MVSTRT RTS
3234 C7B5 20 89 BD       FRESTR JSR CHKSTR
3235 C7B8 A5 61         FREFAC LDA FACMO
3236 C7BA A4 62         LDY FACMO+1
3237 C7BC 85 1F         FRETMP STA INDEX
3238 C7BE 84 20         STY INDEX+1
3239 C7C0 20 11 CB       JSR FRETMS ; CHECK DESC. IF LAST
3240 C7C3 D0 39         BNE FRE02 ; ONE THEN SCRATCH IT
3241 C7C5 20 4E BA       JSR STRADJ ; INDEX POINTS TO LINK
3242 C7C8 90 34         BCC FRE02 ; LITERAL NO FIX
3243 C7CA 8B           DEY ; .Y=1
3244 C7CB A9 FF         LDA #FF ; FLAG STRING AS GARBAGE
3245 C7CD 91 1F         STA (INDEX),Y
3246 C7CF 8B           DEY
3247 C7D0 8A           TXA
3248 C7D1 91 1F         STA (INDEX),Y ; PUT IN LENGTH
3249 C7D3 4B           PHA ; SAVE LENGTH ON STACK
3250 C7D4 ;
3251 C7D4 49 FF         EOR #255 ; PUT INDEX BACK
3252 C7D6 3B           SEC ; TO FIRST BYTE
3253 C7D7 65 1F         ADC INDEX
3254 C7D9 A4 20         LDY INDEX+1
3255 C7DB B0 01         BCS RES00
3256 C7DD 8B           DEY
3257 C7DE 85 1F         RES00 STA INDEX
3258 C7E0 84 20         STY INDEX+1
3259 C7E2 AA           TAX ; LD INTO X
3260 C7E3 6B           PLA ; PULL LENGTH FROM STACK
3261 C7E4 C4 31         CPY FRETOP+1 ; TEST FOR EQ TO FRETOP
3262 C7E6 D0 39         BNE FRERTS
3263 C7E8 E4 30         CPX FRETOP
3264 C7EA D0 35         BNE FRERTS
3265 C7EC ;

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LINE# LOC CODE LINE

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3266 C7EC ;STRING WAS LAST INTO STRING SPACE
3267 C7EC ;SAVE GARBAGE COLLECTION SOME TIME
3268 C7EC ;BY FREEING UP. (LENGTH + 2)
3269 C7EC ;
3270 C7EC 48 PHA ;SAVE LENGTH ON STACK
3271 C7ED 38 SEC ;PLUS ONE
3272 C7EE 65 30 ADC FRETOP
3273 C7F0 85 30 STA FRETOP
3274 C7F2 90 02 BCC FREO1
3275 C7F4 E6 31 INC FRETOP+1
3276 C7F6 E6 30 FREO1 INC FRETOP ;+ ONE MORE
3277 C7F8 D0 02 BNE FREPLA
3278 C7FA E6 31 INC FRETOP+1
3279 C7FC 68 FREPLA PLA ;PULL LENGTH OFF STACK
3280 C7FD 60 RTS
3281 C7FE A0 00 FREO2 LDY #00 ;SET UP X,Y,A AND INDEX
3282 C800 B1 1F LDA (INDEX),Y ;LENGTH
3283 C802 48 PHA ;ON STACK
3284 C803 C8 INY
3285 C804 B1 1F LDA (INDEX),Y ;PIONTER LO
3286 C806 AA TAX
3287 C807 C8 INY
3288 C808 B1 1F LDA (INDEX),Y ;POINTER HI
3289 C80A AB TAY
3290 C80B 86 1F STX INDEX
3291 C80D 84 20 STY INDEX+1
3292 C80F 68 PLA ;GET BACK LENGTH
3293 C810 60 RTS
3294 C811 C4 15 FRETMS CPY LASTPT+1
3295 C813 D0 0C BNE FRERTS
3296 C815 C5 14 CMP LASTPT
3297 C817 D0 08 BNE FRERTS
3298 C819 85 13 STA TEMPPT
3299 C81B E9 03 SBC #STRSIZ
3300 C81D 85 14 STA LASTPT
3301 C81F A0 00 LDY #0
3302 C821 60 FRERTS RTS
3303 C822 20 D7 CB CHRD JSR CONINT
3304 C825 8A TXA
3305 C826 48 PHA
3306 C827 A9 01 LDA #1
3307 C829 20 A6 C5 JSR STRSPA
3308 C82C 68 PLA
3309 C82D A0 00 LDY #0
3310 C82F 91 5F STA (DSCTMP+1)Y
3311 C831 68 PLA
3312 C832 68 PLA
3313 C833 4C F3 C5 JMP PUTNEW
3314 C836 20 97 CB LEFTD JSR PREAM
3315 C839 D1 4D CMP (DSCPNT)Y
3316 C83B 98 TYA
3317 C83C 90 04 RLEFT BCC RLEFT1
3318 C83E B1 4D LDA (DSCPNT)Y
3319 C840 AA TAX
3320 C841 98 TYA

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LINE# LOC CODE LINE

3321	C842	48		RLEFT1	PHA
3322	C843	8A		RLEFT2	TXA
3323	C844	48		RLEFT3	PHA
3324	C845	20	A6 C5		JSR STRSPA
3325	C848	A5	4D		LDA DSCPNT
3326	C84A	A4	4E		LDY DSCPNT+1
3327	C84C	20	BC C7		JSR FRETMP
3328	C84F	68			PLA
3329	C850	A8			TAY
3330	C851	68			PLA
3331	C852	18			CLC
3332	C853	65	1F		ADC INDEX
3333	C855	85	1F		STA INDEX
3334	C857	90	02		BCC PULMOR
3335	C859	E6	20		INC INDEX+1
3336	C85B	98		PULMOR	TYA
3337	C85C	20	9E C7		JSR MOVDO
3338	C85F	4C	F3 C5		JMP PUTNEW
3339	C862	20	97 C8	RIGHTD	JSR PREAM
3340	C865	18			CLC
3341	C866	F1	4D		SBC (DSCPNT)Y
3342	C868	49	FF		EOR #255
3343	C86A	4C	3C C8		JMP RLEFT
3344	C86D	A9	FF	MIDD	LDA #255
3345	C86F	B5	62		STA FACLO
3346	C871	20	76 00		JSR CHRGT
3347	C874	C9	29		CMP #41
3348	C876	F0	06		BEQ MID2
3349	C878	20	F5 BE		JSR CHKCOM
3350	C87B	20	D4 C8		JSR GETBYT
3351	C87E	20	97 C8	MID2	JSR PREAM
3352	C881	F0	4B		BEQ GDFUC
3353	C883	CA			DEX
3354	C884	8A			TXA
3355	C885	48			PHA
3356	C886	18			CLC
3357	C887	A2	00		LDX #0
3358	C889	F1	4D		SBC (DSCPNT)Y
3359	C88B	B0	B6		BCS RLEFT2
3360	C88D	49	FF		EOR #255
3361	C88F	C5	62		CMP FACLO
3362	C891	90	B1		BCC RLEFT3
3363	C893	A5	62		LDA FACLO
3364	C895	B0	AD		BCS RLEFT3
3365	C897	20	EF BE	PREAM	JSR CHKCLS
3366	C89A	68			PLA
3367	C89B	A8			TAY
3368	C89C	68			PLA
3369	C89D	85	52		STA JMPER+1
3370	C89F	68			PLA
3371	C8A0	68			PLA
3372	C8A1	68			PLA
3373	C8A2	AA			TAX
3374	C8A3	68			PLA
3375	C8A4	85	4D		STA DSCPNT

LINE# LOC CODE LINE

3376	CBA6	68			PLA
3377	CBA7	85	4E		STA DSCPNT+1
3378	CBA9	A5	52		LDA JMPER+1
3379	CBAB	48			PHA
3380	CBAC	98			TYA
3381	CBAD	48			PHA
3382	CBAE	A0	00		LDY #0
3383	CBBO	8A			TXA
3384	CBB1	60			RTS
3385	CBB2	20	B8	C8	LEN JSR LEN1
3386	CBB5	4C	CB	C4	JMP SNGFLT
3387	CBB8	20	B5	C7	LEN1 JSR FRESTR
3388	CBBB	A2	00		LDX #0
3389	CBBD	86	07		STX VALTYP
3390	CBBF	AB			TAY
3391	CBC0	60			RTS
3392	CBC1	20	B8	C8	ASC JSR LEN1
3393	CBC4	F0	08		BEG GOFUC
3394	CBC6	A0	00		LDY #0
3395	CBC8	B1	1F		LDA (INDEX1)Y
3396	CBCA	AB			TAY
3397	CBCB	4C	CB	C4	JMP SNGFLT
3398	CBCE	4C	73	C3	GOFUC JMP FCERR
3399	CBD1	20	70	00	GTBYTC JSR CHRGET
3400	CBD4				.FIL CODE17
3401	CBD4				; 'CODE17'
3402	CBD4	20	84	BD	GETBYT JSR FRMNUM
3403	CBD7	20	E3	C2	CONINT JSR POSINT
3404	CBD A	A6	61		LDX FACMD
3405	CBD C	DO	F0		BNE GOFUC
3406	CBD E	A6	62		LDX FACLO
3407	CBE0	4C	76	00	JMP CHRGET
3408	CBE3	20	B8	C8	VAL JSR LEN1
3409	CBE6	DO	03		BNE **5
3410	CBE8	4C	2D	CA	JMP ZEROFC
3411	CBE B	A6	77		LDX TXTPTR
3412	CBE D	A4	78		LDY TXTPTR+1
3413	CBE F	86	6E		STX STRNG2
3414	C8F1	84	6F		STY STRNG2+1
3415	C8F3	A6	1F		LDX INDEX1
3416	C8F5	86	77		STX TXTPTR
3417	C8F7	18			CLC
3418	C8F8	65	1F		ADC INDEX1
3419	C8FA	85	21		STA INDEX2
3420	C8FC	A6	20		LDX INDEX1+1
3421	C8FE	86	78		STX TXTPTR+1
3422	C900	90	01		BCC VAL2
3423	C902	E8			INX
3424	C903	86	22		VAL2 STX INDEX2+1
3425	C905	A0	00		LDY #0
3426	C907	B1	21		LDA (INDEX2)Y
3427	C909	48			PHA
3428	C90A	98			TYA
3429	C90B	91	21		STA (INDEX2)Y
3430	C90D	20	76	00	JSR CHRGET

LINE# LOC CODE LINE

3431	C910	20 29	CE		JSR FIN
3432	C913	68			PLA
3433	C914	A0 00			LDY #0
3434	C916	91 21			STA (INDEX2)Y
3435	C918	A6 6E		ST2TXT	LDX STRNG2
3436	C91A	A4 6F			LDY STRNG2+1
3437	C91C	86 77			STX TXTPTR
3438	C91E	84 78			STY TXTPTR+1
3439	C920	60		VALRTS	RTS
3440	C921	20 84	BD	GETNUM	JSR FRMNUM
3441	C924	20 2D	C9		JSR GETADR
3442	C927	20 F5	BE	COMBYT	JSR CHKCOM
3443	C92A	4C D4	C8		JMP GETBYT
3444	C92D	A5 63		GETADR	LDA FACSGN
3445	C92F	30 9D			BMI GOFUC
3446	C931	A5 5E			LDA FACEXP
3447	C933	C9 91			CMP #145
3448	C935	B0 97			BCS GOFUC
3449	C937	20 D1	CD		JSR QINT
3450	C93A	A5 61			LDA FACMO
3451	C93C	A4 62			LDY FACMO+1
3452	C93E	84 11			STY POKER
3453	C940	85 12			STA POKER+1
3454	C942	60			RTS
3455	C943	A5 12		PEEK	LDA POKER+1
3456	C945	48			PHA
3457	C946	A5 11			LDA POKER
3458	C948	48			PHA
3459	C949	20 2D	C9		JSR GETADR
3460	C94C	A0 00			LDY #0
3461	C94E	B1 11		GETCON	LDA (POKER)Y
3462	C950	AB			TAY
3463	C951	68		DOSGFL	PLA
3464	C952	85 11			STA POKER
3465	C954	68			PLA
3466	C955	85 12			STA POKER+1
3467	C957	4C CB	C4		JMP SNGFLT
3468	C95A	20 21	C9	POKE	JSR GETNUM
3469	C95D	8A			TXA
3470	C95E	A0 00			LDY #0
3471	C960	91 11			STA (POKER)Y
3472	C962	60			RTS
3473	C963	20 21	C9	FNWAIT	JSR GETNUM
3474	C966	86 46			STX ANDMSK
3475	C968	A2 00			LDX #0
3476	C96A	20 76	00		JSR CHRGT
3477	C96D	F0 03			BEG STORDO
3478	C96F	20 27	C9		JSR COMBYT
3479	C972	86 47		STORDO	STX EDRMSK
3480	C974	A0 00			LDY #0
3481	C976	B1 11		WAITER	LDA (POKER)Y
3482	C978	45 47			EOR EDRMSK
3483	C97A	25 46			AND ANDMSK
3484	C97C	F0 F8			BEG WAITER
3485	C97E	60		ZERRTS	RTS

LINE# LOC CODE LINE

3486	C97F	A9 C7	FADDH	LDA #<FHALF
3487	C981	A0 D0		LDY #>FHALF
3488	C983	4C 9D C9		JMP FADD
3489	C986	20 C2 CB	FSUB	JSR CONUPK
3490	C989	A5 63	FSUBT	LDA FACSGN
3491	C98B	49 FF		EOR #@377
3492	C98D	85 63		STA FACSGN
3493	C98F	45 6B		EOR ARGSGN
3494	C991	85 6C		STA ARISGN
3495	C993	A5 5E		LDA FACEXP
3496	C995	4C A0 C9		JMP FADDT
3497	C998	20 CF CA	FADD5	JSR SHIFTR
3498	C99B	90 3C		BCC FADD4
3499	C99D	20 C2 CB	FADD	JSR CONUPK
3500	C9A0	D0 03	FADDT	BNE **5
3501	C9A2	4C 32 CD		JMP MOVFA
3502	C9A5	A6 6D		LDX FACOV
3503	C9A7	86 53		STX OLDOV
3504	C9A9	A2 66		LDX #ARGEXP
3505	C9AB	A5 66		LDA ARGEXP
3506	C9AD	AB	FADDC	TAY
3507	C9AE	F0 CE		BEQ ZERRTS
3508	C9B0	38		SEC
3509	C9B1	E5 5E		SBC FACEXP
3510	C9B3	F0 24		BEQ FADD4
3511	C9B5	90 12		BCC FADDA
3512	C9B7	84 5E		STY FACEXP
3513	C9B9	A4 6B		LDY ARGSGN
3514	C9BB	84 63		STY FACSGN
3515	C9BD	49 FF		EOR #@377
3516	C9BF	69 00		ADC #0
3517	C9C1	A0 00		LDY #0
3518	C9C3	84 53		STY OLDOV
3519	C9C5	A2 5E		LDX #FAC
3520	C9C7	D0 04		BNE FADD1
3521	C9C9	A0 00	FADDA	LDY #0
3522	C9CB	84 6D		STY FACOV
3523	C9CD	C9 F9	FADD1	CMP #F9
3524	C9CF	30 C7		BMI FADD5
3525	C9D1	AB		TAY
3526	C9D2	A5 6D		LDA FACOV
3527	C9D4	56 01		LSR 1, X
3528	C9D6	20 E6 CA		JSR ROLSHF
3529	C9D9	24 6C	FADD4	BIT ARISGN
3530	C9DB	10 57		BPL FADD2
3531	C9DD	A0 5E		LDY #FACEXP
3532	C9DF	E0 66		CPX #ARGEXP
3533	C9E1	F0 02		BEQ SUBIT
3534	C9E3	A0 66		LDY #ARGEXP
3535	C9E5	38	SUBIT	SEC
3536	C9E6	49 FF		EOR #@377
3537	C9E8	65 53		ADC OLDOV
3538	C9EA	85 6D		STA FACOV
3539	C9EC	B9 04 00		LDA 3+ADDPKC, Y
3540	C9EF	F5 04		SBC 3+ADDPKC, X

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3541	C9F1	B5	62		STA FACLO
3542	C9F3	B9	03	00	LDA ADDPRC+2, Y
3543	C9F6	F5	03		SBC 2+ADDPRC, X
3544	C9FB	B5	61		STA FACMD
3545	C9FA	B9	02	00	LDA 2, Y
3546	C9FD	F5	02		SBC 2, X
3547	C9FF	B5	60		STA FACMDH
3548	CA01	B9	01	00	LDA 1, Y
3549	CA04	F5	01		SBC 1, X
3550	CA06	B5	5F		STA FACHD
3551	CA08	B0	03		FADFLT BCS NORMAL
3552	CA0A	20	7D	CA	JSR NEGFAC
3553	CA0D	A0	00		NORMAL LDY #0
3554	CA0F	98			TYA
3555	CA10	18			CLC
3556	CA11	A6	5F		NORM3 LDX FACHD
3557	CA13	D0	4A		BNE NORM1
3558	CA15	A6	60		LDX FACHD+1
3559	CA17	B6	5F		STX FACHD
3560	CA19	A6	61		LDX FACMDH+1
3561	CA1B				.FIL CODE1B

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3563	CA1B	86	60		STX FACMOH
3564	CA1D	A6	62		LDX FACMO+1
3565	CA1F	86	61		STX FACMO
3566	CA21	A6	6D		LDX FACOV
3567	CA23	86	62		STX FACLO
3568	CA25	84	6D		STY FACOV
3569	CA27	69	08		ADC #@10
3570	CA29			ADDPR2	=ADDPRC+ADDPRC
3571	CA29			ADDPR4	=ADDPR2+ADDPR2
3572	CA29			ADDPR8	=ADDPR4+ADDPR4
3573	CA29	C9	20		CMP #@30+ADDPR8
3574	CA2B	D0	E4		BNE NORM3
3575	CA2D	A9	00	ZEROF1	LDA #0
3576	CA2F	85	5E	ZEROF1	STA FACEXP
3577	CA31	85	63	ZEROML	STA FACSGN
3578	CA33	60			RTS
3579	CA34	65	53	FADD2	ADC OLDQV
3580	CA36	85	6D		STA FACOV
3581	CA38	A5	62		LDA FACLO
3582	CA3A	65	6A		ADC ARGLO
3583	CA3C	85	62		STA FACLO
3584	CA3E	A5	61		LDA FACMO
3585	CA40	65	69		ADC ARGMO
3586	CA42	85	61		STA FACMO
3587	CA44	A5	60		LDA FACMOH
3588	CA46	65	68		ADC ARGMOH
3589	CA48	85	60		STA FACMOH
3590	CA4A	A5	5F		LDA FACHO
3591	CA4C	65	67		ADC ARGHO
3592	CA4E	85	5F		STA FACHO
3593	CA50	4C	6C	CA	JMP SQUEEZ
3594	CA53	69	01	NORM2	ADC #1
3595	CA55	06	6D		ASL FACOV
3596	CA57	26	62		ROL FACLO
3597	CA59	26	61		ROL FACMO
3598	CA5B	26	60		ROL FACMOH
3599	CA5D	26	5F		ROL FACHO
3600	CA5F	10	F2	NORM1	BPL NORM2
3601	CA61	38			SEC
3602	CA62	E5	5E		SBC FACEXP
3603	CA64	B0	C7		BCS ZEROF1
3604	CA66	49	FF		EOR #@377
3605	CA68	69	01		ADC #1
3606	CA6A	85	5E		STA FACEXP
3607	CA6C	90	0E	SQUEEZ	BCC RNDRTS
3608	CA6E	E6	5E	RNDSHF	INC FACEXP
3609	CA70	F0	42		BEG OVERR
3610	CA72	66	5F		ROR FACHO
3611	CA74	66	60		ROR FACMOH
3612	CA76	66	61		ROR FACMO
3613	CA78	66	62		ROR FACLO
3614	CA7A	66	6D		ROR FACOV
3615	CA7C	60		RNDRTS	RTS
3616	CA7D	A5	63	NEGFAC	LDA FACSGN
3617	CA7F	49	FF		EOR #@377

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3618	CAB1	85 63		STA FACS6N
3619	CAB3	A5 5F	NEGFCH	LDA FACHD
3620	CAB5	49 FF		EOR #0377
3621	CAB7	85 5F		STA FACHD
3622	CAB9	A5 60		LDA FACMOH
3623	CAB8	49 FF		EOR #0377
3624	CABD	85 60		STA FACMOH
3625	CABF	A5 61		LDA FACMO
3626	CA91	49 FF		EOR #0377
3627	CA93	85 61		STA FACMO
3628	CA95	A5 62		LDA FACLO
3629	CA97	49 FF		EOR #0377
3630	CA99	85 62		STA FACLO
3631	CA9B	A5 6D		LDA FACOV
3632	CA9D	49 FF		EOR #0377
3633	CA9F	85 6D		STA FACOV
3634	CAA1	E6 6D		INC FACOV
3635	CAA3	D0 0E		BNE INCFRT
3636	CAA5	E6 62	INCFAC	INC FACLO
3637	CAA7	D0 0A		BNE INCFRT
3638	CAA9	E6 61		INC FACMO
3639	CAAB	D0 06		BNE INCFRT
3640	CAAD	E6 60		INC FACMOH
3641	CAAF	D0 02		BNE INCFRT
3642	CAB1	E6 5F		INC FACHD
3643	CAB3	60	INCFRT	RTS
3644	CAB4	A2 45	OVERR	LDX #ERROV
3645	CAB6	4C CF B3		JMP ERROR
3646	CAB9	A2 22	MULSHF	LDX #RESHO-1
3647	CABB	B4 04	SHFTR2	LDY 3+ADDPRC, X
3648	CABD	B4 6D		STY FACOV
3649	CABF	B4 03		LDY 3, X
3650	CAC1	94 04		STY 4, X
3651	CAC3	B4 02		LDY 2, X
3652	CAC5	94 03		STY 3, X
3653	CAC7	B4 01		LDY 1, X
3654	CAC9	94 02		STY 2, X
3655	CACB	A4 65		LDY BITS
3656	CACD	94 01		STY 1, X
3657	CACF	69 08	SHIFTR	ADC #010
3658	CAD1	30 E8		BMI SHFTR2
3659	CAD3	F0 E6		BEG SHFTR2
3660	CAD5	E9 08		SBC #010
3661	CAD7	AB		TAY
3662	CADB	A5 6D		LDA FACOV
3663	CADA	B0 14		BCS SHFTRT
3664	CADC	16 01	SHFTR3	ASL 1, X
3665	CADE	90 02		BCC SHFTR4
3666	CAE0	F6 01		INC 1, X
3667	CAE2	76 01	SHFTR4	ROR 1, X
3668	CAE4	76 01		ROR 1, X
3669	CAE6	76 02	ROLSHF	ROR 2, X
3670	CAE8	76 03		ROR 3, X
3671	CAEA	76 04		ROR 4, X
3672	CAEC	6A		ROR A

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3673	CAED	CB	INY
3674	CAEE	DO EC	BNE SHFTR3
3675	CAFO	18	SHFTRT CLC
3676	CAF1	60	RTS
3677	CAF2	81	FONE .BYT @201,0,0,0,0
3677	CAF3	00	
3677	CAF4	00	
3677	CAF5	00	
3677	CAF6	00	
3678	CAF7	03	LOGCN2 .BYT 3,@177,@136,@126
3678	CAF8	7F	
3678	CAF9	5E	
3678	CAFA	56	
3679	CAF8	CB	.BYT @313,@171,@200,@23
3679	CAFC	79	
3679	CAFD	80	
3679	CAFE	13	
3680	CAFF	9B	.BYT @233,@13,@144,@200
3680	CB00	0B	
3680	CB01	64	
3680	CB02	80	
3681	CB03	76	.BYT @166,@70,@223,@26
3681	CB04	38	
3681	CB05	93	
3681	CB06	16	
3682	CB07	82	.BYT @202,@70,@252,@73,@40
3682	CB08	38	
3682	CB09	AA	
3682	CB0A	3B	
3682	CB0B	20	
3683	CB0C	80	SQR05 .BYT @200,@65,4,@363,@64
3683	CB0D	35	
3683	CB0E	04	
3683	CB0F	F3	
3683	CB10	34	
3684	CB11	81	SQR20 .BYT @201,@65,@4,@363,@64
3684	CB12	35	
3684	CB13	04	
3684	CB14	F3	
3684	CB15	34	
3685	CB16	80	NEGHLF .BYT @200,@200,0,0,0
3685	CB17	80	
3685	CB18	00	
3685	CB19	00	
3685	CB1A	00	
3686	CB1B	80	LOG2 .BYT @200,@61,@162,@27,@370
3686	CB1C	31	
3686	CB1D	72	
3686	CB1E	17	
3686	CB1F	F8	
3687	CB20		.FIL CODE19

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3689	CB20	20 61	CD	LOG	JSR SIGN
3690	CB23	F0 02			BEQ LOGERR
3691	CB25	10 03			BPL LOG1
3692	CB27	4C 73	C3	LOGERR	JMP FCERR
3693	CB2A	A5 5E		LOG1	LDA FACEXP
3694	CB2C	E9 7F			SBC #@177
3695	CB2E	48			PHA
3696	CB2F	A9 80			LDA #@200
3697	CB31	85 5E			STA FACEXP
3698	CB33	A9 0C			LDA #<SQR05
3699	CB35	A0 CB			LDY #>SQR05
3700	CB37	20 9D	C9		JSR FADD
3701	CB3A	A9 11			LDA #<SQR20
3702	CB3C	A0 CB			LDY #>SQR20
3703	CB3E	20 45	CC		JSR FDIV
3704	CB41	A9 F2			LDA #<FONE
3705	CB43	A0 CA			LDY #>FONE
3706	CB45	20 86	C9		JSR FSUB
3707	CB48	A9 F7			LDA #<LOGCN2
3708	CB4A	A0 CA			LDY #>LOGCN2
3709	CB4C	20 D7	D1		JSR POLYX
3710	CB4F	A9 16			LDA #<NEGHLF
3711	CB51	A0 CB			LDY #>NEGHLF
3712	CB53	20 9D	C9		JSR FADD
3713	CB56	68			PLA
3714	CB57	20 B4	CE		JSR FINLOG
3715	CB5A	A9 1B		MULLN2	LDA #<LOG2
3716	CB5C	A0 CB			LDY #>LOG2
3717	CB5E	20 C2	CB	FMULT	JSR CONUPK
3718	CB61	D0 03		FMULTT	BNE **+5
3719	CB63	4C C1	CB		JMP MULTRT
3720	CB66	20 ED	CB		JSR MULDIV
3721	CB69	A9 00			LDA #0
3722	CB6B	85 23			STA RESHO
3723	CB6D	85 24			STA RESMOH
3724	CB6F	85 25			STA RESMO
3725	CB71	85 26			STA RESLO
3726	CB73	A5 6D			LDA FACOV
3727	CB75	20 8F	CB		JSR MLTPLY
3728	CB78	A5 62			LDA FACLO
3729	CB7A	20 8F	CB		JSR MLTPLY
3730	CB7D	A5 61			LDA FACMO
3731	CB7F	20 8F	CB		JSR MLTPLY
3732	CB82	A5 60			LDA FACMOH
3733	CB84	20 8F	CB		JSR MLTPLY
3734	CB87	A5 5F			LDA FACHO
3735	CB89	20 94	CB		JSR MLTPL1
3736	CB8C	4C C5	CC		JMP MOVFR
3737	CB8F	D0 03		MLTPLY	BNE **+5
3738	CB91	4C B9	CA		JMP MULSHF
3739	CB94	4A		MLTPL1	LSR A
3740	CB95	09 80			ORA #@200
3741	CB97	AB		MLTPL2	TAY
3742	CB98	90 19			BCC MLTPL3
3743	CB9A	1B			CLC

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3744	CB9B	A5 26		LDA RESLO
3745	CB9D	65 6A		ADC ARGLO
3746	CB9F	85 26		STA RESLO
3747	CBA1	A5 25		LDA RESMO
3748	CBA3	65 69		ADC ARGMO
3749	CBA5	85 25		STA RESMO
3750	CBA7	A5 24		LDA RESMOH
3751	CBA9	65 68		ADC ARGMOH
3752	CBAB	85 24		STA RESMOH
3753	CBAD	A5 23		LDA RESHO
3754	CBAF	65 67		ADC ARGHO
3755	CBB1	85 23		STA RESHO
3756	CBB3	66 23	MLTPL3	ROR RESHO
3757	CBB5	66 24		ROR RESMOH
3758	CBB7	66 25		ROR RESMO
3759	CBB9	66 26		ROR RESLO
3760	CBBB	66 6D		ROR FACOV
3761	CBBD	98		TYA
3762	CBBE	4A		LSR A
3763	CBBF	D0 D6		BNE MLTPL2
3764	CBC1	60	MULTRT	RTS
3765	CBC2	85 1F	CONUPK	STA INDEX1
3766	CBC4	84 20		STY INDEX1+1
3767	CBC6	A0 04		LDY #4
3768	CBC8	B1 1F		LDA (INDEX1)Y
3769	CBCA	85 6A		STA ARGLO
3770	CBCC	88		DEY
3771	CBCD	B1 1F		LDA (INDEX)Y
3772	CBCF	85 69		STA ARGMO
3773	CBD1	88		DEY
3774	CBD2	B1 1F		LDA (INDEX1)Y
3775	CBD4	85 68		STA ARGMOH
3776	CBD6	88		DEY
3777	CBD7	B1 1F		LDA (INDEX1)Y
3778	CBD9	85 6B		STA ARGSGN
3779	CBDB	45 63		EOR FACSGN
3780	CBDD	85 6C		STA ARISGN
3781	CBDF	A5 6B		LDA ARGSGN
3782	CBE1	09 80		DRA #@200
3783	CBE3	85 67		STA ARGHO
3784	CBE5	88		DEY
3785	CBE6	B1 1F		LDA (INDEX1)Y
3786	CBE8	85 66		STA ARGEXP
3787	CBEA	A5 5E		LDA FACEXP
3788	CBEC	60		RTS
3789	CBED	A5 66	MULDIV	LDA ARGEXP
3790	CBEF	F0 1F	MLDEXP	BEQ ZEREMV
3791	CBF1	18		CLC
3792	CBF2	65 5E		ADC FACEXP
3793	CBF4	90 04		BCC TRYOFF
3794	CBF6	30 1D		BMI GOOVER
3795	CBF8	18		CLC
3796	CBF9	2C		.BYT #2C
3797	CBFA	10 14	TRYOFF	BPL ZEREMV
3798	CBFC	69 80		ADC #@200

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3799	CBFE	85	5E		STA	FACEXP	
3800	CC00	D0	03		BNE	**+5	
3801	CC02	4C	31	CA	JMP	ZEROML	
3802	CC05	A5	6C		LDA	ARISGN	
3803	CC07	85	63		STA	FACSGN	
3804	CC09	60			RTS		
3805	CC0A	A5	63	MLDVEX	LDA	FACSGN	
3806	CC0C	49	FF		EOR	#e377	
3807	CC0E	30	05		BMI	GOOVER	
3808	CC10	68		ZEREMV	PLA		
3809	CC11	68			PLA		
3810	CC12	4C	2D	CA	JMP	ZEROFC	
3811	CC15	4C	B4	CA	GOOVER	JMP	OVERR
3812	CC18	20	42	CD	MUL10	JSR	MOVAF
3813	CC1B	AA			TAX		
3814	CC1C	F0	10		BEQ	MUL10R	
3815	CC1E	18			CLC		
3816	CC1F	69	02		ADC	#2	
3817	CC21	B0	F2		BCS	GOOVER	
3818	CC23	A2	00	FINML6	LDX	#0	
3819	CC25	B6	6C		STX	ARISGN	
3820	CC27	20	AD	C9	JSR	FADD	
3821	CC2A	E6	5E		INC	FACEXP	
3822	CC2C	F0	E7		BEQ	GOOVER	
3823	CC2E	60		MUL10R	RTS		
3824	CC2F	B4		TENC	.BYT	e204,e40,0,0,0	
3824	CC30	20					
3824	CC31	00					
3824	CC32	00					
3824	CC33	00					
3825	CC34	20	42	CD	DIV10	JSR	MOVAF
3826	CC37	A9	2F		LDA	#TENC	
3827	CC39	A0	CC		LDY	#>TENC	
3828	CC3B	A2	00		LDX	#0	
3829	CC3D	B6	6C	FDIVF	STX	ARISGN	
3830	CC3F	20	DB	CC	JSR	MOVFM	
3831	CC42	4C	48	CC	JMP	FDIVT	
3832	CC45	20	C2	CB	FDIV	JSR	CONUPK
3833	CC48	F0	76	FDIVT	BEQ	DVOERR	
3834	CC4A	20	51	CD	JSR	ROUND	
3835	CC4D	A9	00		LDA	#0	
3836	CC4F	38			SEC		
3837	CC50	E5	5E		SBC	FACEXP	
3838	CC52	B5	5E		STA	FACEXP	
3839	CC54	20	ED	CB	JSR	MULDIV	
3840	CC57	E6	5E		INC	FACEXP	
3841	CC59	F0	BA		BEQ	GOOVER	
3842	CC5B	A2	FC		LDX	#\$FC	
3843	CC5D	A9	01		LDA	#1	
3844	CC5F	A4	67	DIVIDE	LDY	ARGHO	
3845	CC61	C4	5F		CPY	FACHO	
3846	CC63	D0	10		BNE	SAVQUO	
3847	CC65	A4	68		LDY	ARGMOH	
3848	CC67	C4	60		CPY	FACMOH	
3849	CC69	D0	0A		BNE	SAVQUO	

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3850	CC6B	A4 69		LDY ARGMO
3851	CC6D	C4 61		CPY FACMO
3852	CC6F	D0 04		BNE SAVQUO
3853	CC71	A4 6A		LDY ARGLO
3854	CC73	C4 62		CPY FACLO
3855	CC75	08	SAVQUO	PHP
3856	CC76	2A		ROL A
3857	CC77	90 09		BCC QSHFT
3858	CC79	EB		INX
3859	CC7A	95 26		STA RESLO, X
3860	CC7C	F0 32		BEG LD100
3861	CC7E	10 34		BPL DIVNRM
3862	CC80	A9 01		LDA #1
3863	CC82	28	QSHFT	PLP
3864	CC83	80 0E		BCS DIVSUB
3865	CC85	06 6A	SHFARG	ASL ARGLO
3866	CC87	26 69		ROL ARGMO
3867	CC89	26 68		ROL ARGMOH
3868	CC8B	26 67		ROL ARGHO
3869	CC8D	80 E6		BCS SAVQUO
3870	CC8F	30 CE		BMI DIVIDE
3871	CC91	10 E2		BPL SAVQUO
3872	CC93	AB	DIVSUB	TAY
3873	CC94	A5 6A		LDA ARGLO
3874	CC96	E5 62		SBC FACLO
3875	CC98	85 6A		STA ARGLO
3876	CC9A	A5 69		LDA ARGMO
3877	CC9C	E5 61		SBC FACMO
3878	CC9E	85 69		STA ARGMO
3879	CCA0	A5 68		LDA ARGMOH
3880	CCA2	E5 60		SBC FACMOH
3881	CCA4	85 68		STA ARGMOH
3882	CCA6	A5 67		LDA ARGHO
3883	CCAB	E5 5F		SBC FACHO
3884	CCAA	85 67		STA ARGHO
3885	CCAC	98		TYA
3886	CCAD	4C 85 CC		JMP SHFARG
3887	CCB0	A9 40	LD100	LDA #@100
3888	CCB2	D0 CE		BNE QSHFT
3889	CCB4	0A	DIVNRM	ASL A
3890	CCB5	0A		ASL A
3891	CCB6	0A		ASL A
3892	CCB7	0A		ASL A
3893	CCB8	0A		ASL A
3894	CCB9	0A		ASL A
3895	CCBA	85 6D		STA FACOV
3896	CCBC	28		PLP
3897	CCBD	4C C5 CC		JMP MOVFR
3898	CCCO	A2 85	DVOERR	LDX #ERRDVD
3899	CCC2	4C CF B3		JMP ERROR
3900	CCC5			.FIL CODE20

LINE# LOC CODE LINE

3902	CCC5	A5 23	MOVFR	LDA RESHO
3903	CCC7	85 5F		STA FACHO
3904	CCC9	A5 24		LDA RESMOH
3905	CCCB	85 60		STA FACMOH
3906	CCCD	A5 25		LDA RESMO
3907	CCCF	85 61		STA FACMO
3908	CCD1	A5 26		LDA RESLO
3909	CCD3	85 62		STA FACLO
3910	CCD5	4C 0D CA		JMP NDRMAL
3911	CCD8	85 1F	MOVFM	STA INDEX1
3912	CCDA	84 20		STY INDEX1+1
3913	CCDC	A0 04		LDY #3+ADDPRC
3914	CCDE	B1 1F		LDA (INDEX1)Y
3915	CCE0	85 62		STA FACLO
3916	CCE2	88		DEY
3917	CCE3	B1 1F		LDA (INDEX1)Y
3918	CCE5	85 61		STA FACMO
3919	CCE7	88		DEY
3920	CCE8	B1 1F		LDA (INDEX1)Y
3921	CCEA	85 60		STA FACMOH
3922	CCEC	88		DEY
3923	CCED	B1 1F		LDA (INDEX1)Y
3924	CCEF	85 63		STA FACSGN
3925	CCF1	09 80		ORA #@200
3926	CCF3	85 5F		STA FACHO
3927	CCF5	88		DEY
3928	CCF6	B1 1F		LDA (INDEX1)Y
3929	CCF8	85 5E		STA FACEXP
3930	CCFA	84 6D		STY FACDV
3931	CCFC	60		RTS
3932	CCFD	A2 59	MOV2F	LDX #TEMPF2
3933	CCFF	2C		.BYT \$2C
3934	CD00	A2 54	MOV1F	LDX #TEMPF1
3935	CD02	A0 00		LDY #0
3936	CD04	F0 04		BEQ MOVMF
3937	CD06	A6 46	MOVVF	LDX FORPNT
3938	CD08	A4 47		LDY FORPNT+1
3939	CD0A	20 51 CD	MOVFM	JSR ROUND
3940	CD0D	86 1F		STX INDEX1
3941	CDOF	84 20		STY INDEX1+1
3942	CD11	A0 04		LDY #3+ADDPRC
3943	CD13	A5 62		LDA FACLO
3944	CD15	91 1F		STA (INDEX)Y
3945	CD17	88		DEY
3946	CD18	A5 61		LDA FACMO
3947	CD1A	91 1F		STA (INDEX)Y
3948	CD1C	88		DEY
3949	CD1D	A5 60		LDA FACMOH
3950	CD1F	91 1F		STA (INDEX)Y
3951	CD21	88		DEY
3952	CD22	A5 63		LDA FACSGN
3953	CD24	09 7F		ORA #@177
3954	CD26	25 5F		AND FACHO
3955	CD28	91 1F		STA (INDEX)Y
3956	CD2A	88		DEY

LINE# LOC CODE LINE

3957	CD2B	A5 5E		LDA	FACEXP
3958	CD2D	91 1F		STA	(INDEX)Y
3959	CD2F	84 6D		STY	FACOV
3960	CD31	60		RTS	
3961	CD32	A5 6B	MOVFA	LDA	ARGSGN
3962	CD34	85 63	MOVFA1	STA	FACSGN
3963	CD36	A2 05		LDX	#4+ADDPRC
3964	CD38	B5 65	MOVFAL	LDA	ARGEXP-1, X
3965	CD3A	95 5D		STA	FACEXP-1, X
3966	CD3C	CA		DEX	
3967	CD3D	D0 F9		BNE	MOVFAL
3968	CD3F	86 6D		STX	FACOV
3969	CD41	60		RTS	
3970	CD42	20 51 CD	MOVAF	JSR	ROUND
3971	CD45	A2 06	MOVEF	LDX	#5+ADDPRC
3972	CD47	B5 5D	MOVAF1	LDA	FACEXP-1, X
3973	CD49	95 65		STA	ARGEXP-1, X
3974	CD4B	CA		DEX	
3975	CD4C	D0 F9		BNE	MOVAF1
3976	CD4E	86 6D		STX	FACOV
3977	CD50	60	MOVRTS	RTS	
3978	CD51	A5 5E	ROUND	LDA	FACEXP
3979	CD53	F0 FB		BEQ	MOVRTS
3980	CD55	06 6D		ASL	FACOV
3981	CD57	90 F7		BCC	MOVRTS
3982	CD59	20 A5 CA	INCRND	JSR	INCFAC
3983	CD5C	D0 F2		BNE	MOVRTS
3984	CD5E	4C 6E CA		JMP	RNDSHF
3985	CD61	A5 5E	SIGN	LDA	FACEXP
3986	CD63	F0 09		BEQ	SIGNRT
3987	CD65	A5 63	FCSIGN	LDA	FACSGN
3988	CD67	2A	FCOMP	ROL	A
3989	CD68	A9 FF		LDA	##FF
3990	CD6A	B0 02		BCS	SIGNRT
3991	CD6C	A9 01		LDA	#1
3992	CD6E	60	SIGNRT	RTS	
3993	CD6F	20 61 CD	SGN	JSR	SIGN
3994	CD72	85 5F	FLOAT	STA	FACHO
3995	CD74	A9 00		LDA	#0
3996	CD76	85 60		STA	FACHO+1
3997	CD78	A2 88		LDX	##210
3998	CD7A	A5 5F	FLOATS	LDA	FACHO
3999	CD7C	49 FF		EOR	##377
4000	CD7E	2A		ROL	A
4001	CD7F	A9 00	FLOATC	LDA	#0
4002	CD81	85 62		STA	FACLO
4003	CD83	85 61		STA	FACMO
4004	CD85	86 5E	FLOATB	STX	FACEXP
4005	CD87	85 6D		STA	FACOV
4006	CD89	85 63		STA	FACSGN
4007	CD8B	4C 08 CA		JMP	FADFLT
4008	CD8E	46 63	ABS	LSR	FACSGN
4009	CD90	60		RTS	
4010	CD91	85 21	FCOMP	STA	INDEX2
4011	CD93	84 22	FCOMP	STY	INDEX2+1

LINE# LOC CODE LINE

4012	CD95	A0	00	LDY #0
4013	CD97	B1	21	LDA (INDEX2)Y
4014	CD99	C8		INY
4015	CD9A	AA		TAX
4016	CD9B	F0	C4	BEG SIGN
4017	CD9D	B1	21	LDA (INDEX2)Y
4018	CD9F	45	63	EOR FACSGN
4019	CDA1	30	C2	BMI FCSIGN
4020	CDA3	E4	5E	CPX FACEXP
4021	CDA5	D0	21	BNE FCOMPC
4022	CDA7	B1	21	LDA (INDEX2)Y
4023	CDA9	09	80	ORA #@200
4024	CDAB	C5	5F	CMP FACHD
4025	CDAD	D0	19	BNE FCOMPC
4026	CDAF	C8		INY
4027	CDB0	B1	21	LDA (INDEX2)Y
4028	CDB2	C5	60	CMP FACMOH
4029	CDB4	D0	12	BNE FCOMPC
4030	CDB6	C8		INY
4031	CDB7	B1	21	LDA (INDEX2)Y
4032	CDB9	C5	61	CMP FACMO
4033	CDBB	D0	0B	BNE FCOMPC
4034	CDBD	C8		INY
4035	CDBE	A9	7F	LDA #@177
4036	CDCO	C5	6D	CMP FACOV
4037	CDC2	B1	21	LDA (INDEX2)Y
4038	CDC4	E5	62	SBC FACLD
4039	CDC6	F0	28	BEG QINTRT
4040	CDC8	A5	63	FCOMPC LDA FACSGN
4041	CDCA	90	02	BCC FCOMPD
4042	CDCC	49	FF	EOR #@377
4043	CDCE	4C	67 CD	FCOMPD JMP FCOMPS
4044	CDD1			.FIL CODE21

LINE# LOC CODE LINE

4046	CDD1	A5 5E	QINT	LDA FACEXP
4047	CDD3	F0 4A		BEG CLRFAF
4048	CDD5	38		SEC
4049	CDD6	E9 A0		SBC #ADDP8+@230
4050	CDD8	24 63		BIT FACSGN
4051	CDDA	10 09		BPL QISHFT
4052	CDDC	AA		TAX
4053	CDDD	A9 FF		LDA #@377
4054	CDDF	85 65		STA BITS
4055	CDE1	20 83 CA		JSR NEGFCH
4056	CDE4	8A		TXA
4057	CDE5	A2 5E	QISHFT	LDX #FAC
4058	CDE7	C9 F9		CMP ##F9
4059	CDE9	10 06		BPL QINT1
4060	CDEB	20 CF CA		JSR SHIFTR
4061	CDEE	84 65		STY BITS
4062	CDFO	60	QINTRT	RTS
4063	CDF1	AB	QINT1	TAY
4064	CDF2	A5 63		LDA FACSGN
4065	CDF4	29 80		AND #@200
4066	CDF6	46 5F		LSR FACHO
4067	CDF8	05 5F		ORA FACHO
4068	CDFA	85 5F		STA FACHO
4069	CDFC	20 E6 CA		JSR ROLSHF
4070	CDFF	84 65		STY BITS
4071	CE01	60		RTS
4072	CE02	A5 5E	INT	LDA FACEXP
4073	CE04	C9 A0		CMP #ADDP8+@230
4074	CE06	B0 20		BCS INTRTS
4075	CE08	20 D1 CD		JSR QINT
4076	CE0B	84 6D		STY FACQV
4077	CE0D	A5 63		LDA FACSGN
4078	CE0F	84 63		STY FACSGN
4079	CE11	49 80		EDR #@200
4080	CE13	2A		ROL A
4081	CE14	A9 A0		LDA #@230+B
4082	CE16	85 5E		STA FACEXP
4083	CE18	A5 62		LDA FACLO
4084	CE1A	85 03		STA INTEGR
4085	CE1C	4C 08 CA		JMP FADFLT
4086	CE1F	85 5F	CLRFAF	STA FACHO
4087	CE21	85 60		STA FACMOH
4088	CE23	85 61		STA FACMO
4089	CE25	85 62		STA FACLO
4090	CE27	AB		TAY
4091	CE28	60	INTRTS	RTS
4092	CE29	A0 00	FIN	LDY #@0
4093	CE2B	A2 0A		LDX #@11+ADDP8
4094	CE2D	94 5A	FINZLP	STY DECCNT, X
4095	CE2F	CA		DEX
4096	CE30	10 FB		BPL FINZLP
4097	CE32	90 0F		BCC FIND@Q
4098	CE34	C9 2D		CMP #'-
4099	CE36	D0 04		BNE QPLUS
4100	CE38	86 64		STX SGNFLG

LINE# LOC CODE LINE

4101	CE3A	FO 04		BEG	FINC
4102	CE3C	C9 2B	QPLUS	CMP	#'+
4103	CE3E	DO 05		BNE	FIN1
4104	CE40	20 70 00	FINC	JSR	CHRGET
4105	CE43	90 5B	FINDGG	BCC	FINDIG
4106	CE45	C9 2E	FIN1	CMP	#'
4107	CE47	FO 2E		BEG	FINDP
4108	CE49	C9 45		CMP	#'E
4109	CE4B	DO 30		BNE	FINE
4110	CE4D	20 70 00		JSR	CHRGET
4111	CE50	90 17		BCC	FNEDG1
4112	CE52	C9 AB		CMP	#MINUTK
4113	CE54	FO 0E		BEG	FINEC1
4114	CE56	C9 2D		CMP	#'-
4115	CE58	FO 0A		BEG	FINEC1
4116	CE5A	C9 AA		CMP	#PLUSTK
4117	CE5C	FO 0B		BEG	FINEC
4118	CE5E	C9 2B		CMP	#'+
4119	CE60	FO 04		BEG	FINEC
4120	CE62	DO 07		BNE	FINEC2
4121	CE64	66 5D	FINEC1	ROR	EXPSGN
4122	CE66	20 70 00	FINEC	JSR	CHRGET
4123	CE69	90 5C	FNEDG1	BCC	FINEDG
4124	CE6B	24 5D	FINEC2	BIT	EXPSGN
4125	CE6D	10 0E		BPL	FINE
4126	CE6F	A9 00		LDA	#0
4127	CE71	38		SEC	
4128	CE72	E5 5B		SBC	TENEXP
4129	CE74	4C 7F CE		JMP	FINE1
4130	CE77	66 5C	FINDP	ROR	DPTFLG
4131	CE79	24 5C		BIT	DPTFLG
4132	CE7B	50 C3		BVC	FINC
4133	CE7D	A5 5B	FINE	LDA	TENEXP
4134	CE7F	38	FINE1	SEC	
4135	CE80	E5 5A		SBC	DECCNT
4136	CE82	B5 5B		STA	TENEXP
4137	CE84	FO 12		BEG	FINGNG
4138	CE86	10 09		BPL	FINMUL
4139	CE88	20 34 CC	FINDIV	JSR	DIV10
4140	CE8B	E6 5B		INC	TENEXP
4141	CE8D	DO F9		BNE	FINDIV
4142	CE8F	FO 07		BEG	FINGNG
4143	CE91	20 18 CC	FINMUL	JSR	MUL10
4144	CE94	C6 5B		DEC	TENEXP
4145	CE96	DO F9		BNE	FINMUL
4146	CE98	A5 64	FINGNG	LDA	SONFLG
4147	CE9A	30 01		BMI	NEGXQS
4148	CE9C	60		RTS	
4149	CE9D	4C 4B D1	NEGXQS	JMP	NEGOP
4150	CEA0	48	FINDIG	PHA	
4151	CEA1	24 5C		BIT	DPTFLG
4152	CEA3	10 02		BPL	FINDG1
4153	CEA5	E6 5A		INC	DECCNT
4154	CEA7	20 18 CC	FINDG1	JSR	MUL10
4155	CEAA	6B		PLA	

LINE# LOC CODE LINE

4156	CEAB	38		SEC
4157	CEAC	E9	30	SBC #'0
4158	CEAE	20	B4 CE	JSR FINLOG
4159	CEB1	4C	40 CE	JMP FINC
4160	CEB4	48		FINLOG PHA
4161	CEB5	20	42 CD	JSR MOVAF
4162	CEB8	68		PLA
4163	CEB9	20	72 CD	JSR FLOAT
4164	CEBC	A5	6B	LDA ARGSGN
4165	CEBE	45	63	EOR FACSGN
4166	CECO	85	6C	STA ARISGN
4167	CEC2	A6	5E	LDX FACEXP
4168	CEC4	4C	A0 C9	JMP FADDT
4169	CEC7	A5	5B	FINEDG LDA TENEXP
4170	CEC9	C9	0A	CMP #@12
4171	CECB	90	09	BCC MLEX10
4172	CECD	A9	64	LDA #@144
4173	CECF	24	5D	BIT EXPSGN
4174	CED1	30	11	BMI MLEXMI
4175	CED3	4C	B4 CA	JMP OVERR
4176	CED6	0A		MLEX10 ASL A
4177	CED7	0A		ASL A
4178	CED8	18		CLC
4179	CED9	65	5B	ADC TENEXP
4180	CEDB	0A		ASL A
4181	CEDC	18		CLC
4182	CEDD	A0	00	LDY #0
4183	CEDF	71	77	ADC (TXTPTR)Y
4184	CEE1	38		SEC
4185	CEE2	E9	30	SBC #'0
4186	CEE4	85	5B	MLEXMI STA TENEXP
4187	CEE6	4C	66 CE	JMP FINEC
4188	CEE9			.FIL CODE22

LINE# LOC CODE LINE

4190	CEE9	9B			
4190	CEEA	3E			
4190	CEEB	BC			
4190	CEEC	1F			
4190	CEED	FD			
4191	CEEE	9E			
4191	CEEF	6E			
4191	CEFO	6B			
4191	CEF1	27			
4191	CEF2	FD			
4192	CEF3	9E			
4192	CEF4	6E			
4192	CEF5	6B			
4192	CEF6	2B			
4192	CEF7	00			

N0999 .BYT @233, @76, @274, @37, @375

N9999 .BYT @236, @156, @153, @47, @375

NMIL .BYT @236, @156, @153, @50, 0

4194	CEF8	00			
4195	CEF9				

CKSMCO .BYT 0
*==+127

4197	CF7B	A9	0D		
4198	CF7A	A0	B3		
4199	CF7C	20	90	CF	
4200	CF7F	A5	37		
4201	CF81	A6	36		
4202	CF83	B5	5F		
4203	CF85	B6	60		
4204	CF87	A2	90		
4205	CF89	3B			
4206	CF8A	20	7F	CD	
4207	CF8D	20	93	CF	
4208	CF90	4C	1D	BB	
4209	CF93	A0	01		
4210	CF95	A9	20		
4211	CF97	24	63		
4212	CF99	10	02		
4213	CF9B	A9	2D		
4214	CF9D	99	FF	00	
4215	CFA0	B5	63		
4216	CFA2	B4	6E		
4217	CFA4	C8			
4218	CFA5	A9	30		
4219	CFA7	A6	5E		
4220	CFA9	D0	03		
4221	CFAB	4C	BA	DO	
4222	CFAE	A9	00		
4223	CFB0	E0	80		
4224	CFB2	F0	02		
4225	CFB4	B0	09		
4226	CFB6	A9	F3		

INPRT	LDA	#<INTXT
	LDY	#>INTXT
	JSR	STROU2
	LDA	CURLIN+1
	LDX	CURLIN
LINPRT	STA	FACHD
	STX	FACHD+1
	LDX	@220
	SEC	
	JSR	FLOATC
	JSR	FOUT
STROU2	JMP	STROUT
FOUT	LDY	#1
FOUTC	LDA	#'
	BIT	FACSGN
	BPL	FOUT1
	LDA	#'-
FOUT1	STA	FBUFFR-1, Y
	STA	FACSGN
	STY	FBUFPY
	INY	
	LDA	#'0
	LDX	FACEXP
	BNE	++5
	JMP	FOUT19
	LDA	#0
	CPX	@200
	BEQ	FOUT37
	BCS	FOUT7
FOUT37	LDA	#<NMIL

LINE# LOC CODE LINE

4227	CFB8	A0 CE		LDY #>NMIL
4228	CFBA	20 5E CB		JSR FMULT
4229	CFBD	A9 F7		LDA #250-ADDPR2-ADDPRC
4230	CFBF	85 5A	FOUT7	STA DECCNT
4231	CFC1	A9 EE	FOUT4	LDA #<N9999
4232	CFC3	A0 CE		LDY #>N9999
4233	CFC5	20 91 CD		JSR FCOMP
4234	CFC8	F0 1E		BEG BIGGES
4235	CFCA	10 12		BPL FOUT9
4236	CFCC	A9 E9	FOUT3	LDA #<N0999
4237	CFCE	A0 CE		LDY #>N0999
4238	CFD0	20 91 CD		JSR FCOMP
4239	CFD3	F0 02		BEG FOUT38
4240	CFD5	10 0E		BPL FOUT5
4241	CFD7	20 18 CC	FOUT38	JSR MUL10
4242	CFDA	C6 5A		DEC DECCNT
4243	CFDC	D0 EE		BNE FOUT3
4244	CFDE	20 34 CC	FOUT9	JSR DIV10
4245	CFE1	E6 5A		INC DECCNT
4246	CFE3	D0 DC		BNE FOUT4
4247	CFE5	20 7F C9	FOUT5	JSR FADDH
4248	CFE8	20 D1 CD	BIGGES	JSR GINT
4249	CFEB	A2 01		LDX #1
4250	CFED	A5 5A		LDA DECCNT
4251	CFEF	18		CLC
4252	CFF0	69 0A		ADC #ADDPR2+ADDPRC+7
4253	CFF2	30 09		BMI FOUTPI
4254	CFF4	C9 0B		CMP #ADDPR2+ADDPRC+@10
4255	CFF6	B0 06		BCS FOUT6
4256	CFF8	69 FF		ADC #\$FF
4257	CFFA	AA		TAX
4258	CFFB	A9 02		LDA #2
4259	CFFD	38	FOUTPI	SEC
4260	CFFE	E9 02	FOUT6	SBC #2
4261	D000	85 5B		STA TENEXP
4262	D002	86 5A		STX DECCNT
4263	D004	8A		TXA
4264	D005	F0 02		BEG FOUT39
4265	D007	10 13		BPL FOUT8
4266	D009	A4 6E	FOUT39	LDY FBUFPT
4267	D00B	A9 2E		LDA #'.
4268	D00D	CB		INY
4269	D00E	99 FF 00		STA FBUFFR-1, Y
4270	D011	8A		TXA
4271	D012	F0 06		BEG FOUT16
4272	D014	A9 30		LDA #'0
4273	D016	CB		INY
4274	D017	99 FF 00		STA FBUFFR-1, Y
4275	D01A	84 6E	FOUT16	STY FBUFPT
4276	D01C	A0 00	FOUT8	LDY #0
4277	D01E	A2 80	FOUTIM	LDX #@200
4278	D020	A5 62	FOUT2	LDA FACLO
4279	D022	18		CLC
4280	D023	79 CF D0		ADC FOUTBL+2+ADDPRC, Y
4281	D026	85 62		STA FACLO

LINE# LOC CODE LINE

4282	D028	A5 61		LDA FACMO
4283	D02A	79 CE DO		ADC FOUTBL+1+ADDPRC, Y
4284	D02D	85 61		STA FACMO
4285	D02F	A5 60		LDA FACMOH
4286	D031	79 CD DO		ADC FOUTBL+1, Y
4287	D034	85 60		STA FACMOH
4288	D036	A5 5F		LDA FACHO
4289	D038	79 CC DO		ADC FOUTBL, Y
4290	D03B	85 5F		STA FACHO
4291	D03D	EB		INX
4292	D03E	B0 04		BCS FOUT41
4293	D040	10 DE		BPL FOUT2
4294	D042	30 02		BMI FOUT40
4295	D044	30 DA	FOUT41	BMI FOUT2
4296	D046	8A	FOUT40	TXA
4297	D047	90 04		BCC FOUTYP
4298	D049	49 FF		EOR #@377
4299	D04B	69 0A		ADC #@12
4300	D04D	69 2F	FOUTYP	ADC #@57
4301	D04F	CB		INX
4302	D050	CB		INX
4303	D051	CB		INX
4304	D052	CB		INX
4305	D053	84 44		STY FDECPT
4306	D055	A4 6E		LDY FBUFPY
4307	D057	CB		INX
4308	D058	AA		TAX
4309	D059	29 7F		AND #@177
4310	D05B	99 FF 00		STA FBUFFR-1, Y
4311	D05E	C6 5A		DEC DECCNT
4312	D060	D0 06		BNE STXBUF
4313	D062	A9 2E		LDA #'.
4314	D064	CB		INX
4315	D065	99 FF 00		STA FBUFFR-1, Y
4316	D068	84 6E	STXBUF	STY FBUFPY
4317	D06A	A4 44		LDY FDECPT
4318	D06C	8A		TXA
4319	D06D	49 FF		EOR #@377
4320	D06F	29 80		AND #@200
4321	D071	AA		TAX
4322	D072	C0 24		CPY #FDCEND-FOUTBL
4323	D074	F0 04		BEQ FOULDY
4324	D076	C0 3C		CPY #TIMEND-FOUTBL
4325	D078	D0 A6		BNE FOUT2
4326	D07A	A4 6E	FOULDY	LDY FBUFPY
4327	D07C	B9 FF 00	FOUT11	LDA FBUFFR-1, Y
4328	D07F	88		DEY
4329	D080	C9 30		CMP #'0
4330	D082	F0 F8		BEQ FOUT11
4331	D084	C9 2E		CMP #'.
4332	D086	F0 01		BEQ FOUT12
4333	D088	CB		INX
4334	D089	A9 2B	FOUT12	LDA #'+
4335	D08B	A6 5B		LDX TENEXP
4336	D08D	F0 2E		BEQ FOUT17

LINE# LOC CODE LINE

4337	D0BF	10	08	BPL	FOUT14
4338	D091	A9	00	LDA	#0
4339	D093	38		SEC	
4340	D094	E5	5B	SBC	TENEXP
4341	D096	AA		TAX	
4342	D097			.FIL	CODE23

LINE# LOC CODE LINE

4344	D097	A9 2D		LDA #'-
4345	D099	99 01 01	FOUT14	STA FBUFFR+1, Y
4346	D09C	A9 45		LDA #'E
4347	D09E	99 00 01		STA FBUFFR, Y
4348	DOA1	8A		TXA
4349	DOA2	A2 2F		LDX #e57
4350	DOA4	3B		SEC
4351	DOA5	EB	FOUT15	INX
4352	DOA6	E9 0A		SBC #e12
4353	DOA8	B0 FB		BCS FOUT15
4354	DOAA	69 3A		ADC #e72
4355	DOAC	99 03 01		STA FBUFFR+3, Y
4356	DOAF	8A		TXA
4357	DOB0	99 02 01		STA FBUFFR+2, Y
4358	DOB3	A9 00		LDA #0
4359	DOB5	99 04 01		STA FBUFFR+4, Y
4360	DOB8	F0 08		BEQ FOUT20
4361	DOBA	99 FF 00	FOUT19	STA FBUFFR-1, Y
4362	DOBD	A9 00	FOUT17	LDA #0
4363	DOBF	99 00 01		STA FBUFFR, Y
4364	DOC2	A9 00	FOUT20	LDA #<FBUFFR
4365	DOC4	A0 01		LDY #>FBUFFR
4366	DOC6	60		RTS
4367	DOC7	80	FHALF	.BYT e200, 0
4367	DOC8	00		
4368	DOC9	00	ZERO	.BYT 0, 0, 0
4368	DOCA	00		
4368	DOCB	00		
4369	DOCC	FA	FOUTBL	.BYT e372, e12, e37, 0, 0
4369	DOCD	0A		
4369	DOCE	1F		
4369	DOCF	00		
4369	DOD0	00		
4370	DOD1	98		.BYT e230, e226, e200, e377
4370	DOD2	96		
4370	DOD3	B0		
4370	DOD4	FF		
4371	DOD5	F0		.BYT e360, e275, e300, 0
4371	DOD6	BD		
4371	DOD7	C0		
4371	DOD8	00		
4372	DOD9	01		.BYT 1, e206, e240, e377
4372	DODA	B6		
4372	DODB	A0		
4372	DODC	FF		
4373	DODD	FF		.BYT e377, e330, e360, 0, 0
4373	DODE	DB		
4373	DODF	F0		
4373	DOE0	00		
4373	DOE1	00		
4374	DOE2	03		.BYT 3, e350, e377, e377
4374	DOE3	EB		
4374	DOE4	FF		
4374	DOE5	FF		
4375	DOE6	FF		.BYT e377, e234, 0, 0, 0, e12

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4375	DOE7	9C		
4375	DOE8	00		
4375	DOE9	00		
4375	DOEA	00		
4375	DOEB	0A		
4376	DOEC	FF	. BYT @377, @377, @377, @377	
4376	DOED	FF		
4376	DOEE	FF		
4376	DOEF	FF		
4377	DOF0	FF	FDCEND . BYT @377, @337, @12, @200	
4377	DOF1	DF		
4377	DOF2	0A		
4377	DOF3	80		
4378	DOF4	00	. BYT 0, 3, @113, @300, @377	
4378	DOF5	03		
4378	DOF6	4B		
4378	DOF7	CO		
4378	DOF8	FF		
4379	DOF9	FF	. BYT @377, @163, @140, 0, 0	
4379	DOFA	73		
4379	DOFB	60		
4379	DOFC	00		
4379	DOFD	00		
4380	DOFE	0E	. BYT @16, @20, @377, @377	
4380	DOFF	10		
4380	D100	FF		
4380	D101	FF		
4381	D102	FD	. BYT @375, @250, 0, 0, 0, @74	
4381	D103	AB		
4381	D104	00		
4381	D105	00		
4381	D106	00		
4381	D107	3C		
4382	D108		TIMEND	
4383	D108	20 42 CD	SQR JSR MOVAF	
4384	D10B	A9 C7	LDA #<FHALF	
4385	D10D	A0 D0	LDY #>FHALF	
4386	D10F	20 DB CC	JSR MOVFM	
4387	D112	F0 70	FPWRT BEQ EXP	
4388	D114	A5 66	LDA ARGEXP	
4389	D116	D0 03	BNE FPWRT1	
4390	D118	4C 2F CA	JMP ZEROF1	
4391	D11B	A2 4B	FPWRT1 LDX #<TEMPF3	
4392	D11D	A0 00	LDY #>TEMPF3	
4393	D11F	20 0A CD	JSR MOVFM	
4394	D122	A5 6B	LDA ARGSGN	
4395	D124	10 0F	BPL FPWR1	
4396	D126	20 02 CE	JSR INT	
4397	D129	A9 4B	LDA #<TEMPF3	
4398	D12B	A0 00	LDY #>TEMPF3	
4399	D12D	20 91 CD	JSR FCOMP	
4400	D130	D0 03	BNE FPWR1	
4401	D132	9B	TYA	
4402	D133	A4 03	LDY INTEGR	
4403	D135	20 34 CD	FPWR1 JSR MOVFA1	

LINE# LOC CODE LINE

4404	D138	98		TYA
4405	D139	48		PHA
4406	D13A	20	20 CB	JSR LDG
4407	D13D	A9	4B	LDA #<TEMPF3
4408	D13F	A0	00	LDY #>TEMPF3
4409	D141	20	5E CB	JSR FMULT
4410	D144	20	84 D1	JSR EXP
4411	D147	68		PLA
4412	D148	4A		LSR A
4413	D149	90	0A	BCC NEGRTS
4414	D14B	A5	5E	NEGOP LDA FACEXP
4415	D14D	F0	06	BEQ NEGRTS
4416	D14F	A5	63	LDA FACSGN
4417	D151	49	FF	EOR #@377
4418	D153	85	63	STA FACSGN
4419	D155	60		NEGRTS RTS
4420	D156			.FIL CODE24

LINE# LOC CODE LINE

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4422 D156 81          LOGEB2 . BYT @201, @70, @252, @73, @51
4422 D157 38
4422 D158 AA
4422 D159 3B
4422 D15A 29
4423 D15B 07          EXPCON . BYT 7, @161, @64, @130, @76
4423 D15C 71
4423 D15D 34
4423 D15E 58
4423 D15F 3E
4424 D160 56          . BYT @126, @164, @26, @176
4424 D161 74
4424 D162 16
4424 D163 7E
4425 D164 B3          . BYT @263, @33, @167, @57
4425 D165 1B
4425 D166 77
4425 D167 2F
4426 D168 EE          . BYT @356, @343, @205, @172
4426 D169 E3
4426 D16A 85
4426 D16B 7A
4427 D16C 1D          . BYT @35, @204, @34, @52
4427 D16D 84
4427 D16E 1C
4427 D16F 2A
4428 D170 7C          . BYT @174, @143, @131, @130
4428 D171 63
4428 D172 59
4428 D173 58
4429 D174 0A          . BYT @12, @176, @165, @375
4429 D175 7E
4429 D176 75
4429 D177 FD
4430 D178 E7          . BYT @347, @306, @200, @61
4430 D179 C6
4430 D17A 80
4430 D17B 31
4431 D17C 72          . BYT @162, @30, @20, @201
4431 D17D 1B
4431 D17E 10
4431 D17F 81
4432 D180 00          . BYT 0, 0, 0, 0
4432 D181 00
4432 D182 00
4432 D183 00
4433 D184 A9 56       EXP   LDA #<LOGEB2
4434 D186 A0 D1       LDY #>LOGEB2
4435 D188 20 5E CB   JSR FMULT
4436 D188 A5 6D       LDA FACOV
4437 D18D 69 50       ADC #@120
4438 D18F 90 03       BCC STOLD
4439 D191 20 59 CD   JSR INCRND
4440 D194             . FIL CODE25
4441 D194             ; CODE25

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LINE# LOC CODE LINE

4442	D194	85 53	STOLD	STA OLDOV
4443	D196	20 45 CD		JSR MOVEF
4444	D199	A5 5E		LDA FACEXP
4445	D19B	C9 88		CMP #@210
4446	D19D	90 03		BCC EXP1
4447	D19F	20 0A CC	GOMLDV	JSR MLDVEX
4448	D1A2	20 02 CE	EXP1	JSR INT
4449	D1A5	A5 03		LDA INTEGR
4450	D1A7	18		CLC
4451	D1A8	69 81		ADC #@201
4452	D1AA	F0 F3		BEG GOMLDV
4453	D1AC	38		SEC
4454	D1AD	E9 01		SBC #1
4455	D1AF	48		PHA
4456	D1B0	A2 05		LDX #4+ADDP RC
4457	D1B2	B5 66	SWAPLP	LDA ARGEXP, X
4458	D1B4	B4 5E		LDY FACEXP, X
4459	D1B6	95 5E		STA FACEXP, X
4460	D1B8	94 66		STY ARGEXP, X
4461	D1BA	CA		DEX
4462	D1BB	10 F5		BPL SWAPLP
4463	D1BD	A5 53		LDA OLDOV
4464	D1BF	85 6D		STA FACOV
4465	D1C1	20 89 C9		JSR FSUBT
4466	D1C4	20 4B D1		JSR NEGOP
4467	D1C7	A9 5B		LDA #<EXPCON
4468	D1C9	A0 D1		LDY #>EXPCON
4469	D1CB	20 ED D1		JSR POLY
4470	D1CE	A9 00		LDA #0
4471	D1D0	85 6C		STA ARISGN
4472	D1D2	68		PLA
4473	D1D3	20 EF CB		JSR MLDEXP
4474	D1D6	60		RTS
4475	D1D7	85 6E	POLYX	STA POLYPT
4476	D1D9	84 6F		STY POLYPT+1
4477	D1DB	20 00 CD		JSR MOV1F
4478	D1DE	A9 54		LDA #TEMPF1
4479	D1E0	20 5E CB		JSR FMULT
4480	D1E3	20 F1 D1		JSR POLY1
4481	D1E6	A9 54		LDA #<TEMPF1
4482	D1E8	A0 00		LDY #>TEMPF1
4483	D1EA	4C 5E CB		JMP FMULT
4484	D1ED	85 6E	POLY	STA POLYPT
4485	D1EF	84 6F		STY POLYPT+1
4486	D1F1	20 FD CC	POLY1	JSR MOV2F
4487	D1F4	B1 6E		LDA (POLYPT)Y
4488	D1F6	85 64		STA DEGREE
4489	D1F8	A4 6E		LDY POLYPT
4490	D1FA	C8		INY
4491	D1FB	98		TYA
4492	D1FC	D0 02		BNE POLY3
4493	D1FE	E6 6F		INC POLYPT+1
4494	D200	85 6E	POLY3	STA POLYPT
4495	D202	A4 6F		LDY POLYPT+1
4496	D204	20 5E CB	POLY2	JSR FMULT

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4497	D207	A5 6E		LDA POLYPT
4498	D209	A4 6F		LDY POLYPT+1
4499	D20B	18		CLC
4500	D20C	69 05		ADC #4+ADDPRC
4501	D20E	90 01		BCC POLY4
4502	D210	C8		INY
4503	D211	B5 6E	POLY4	STA POLYPT
4504	D213	84 6F		STY POLYPT+1
4505	D215	20 9D C9		JSR FADD
4506	D218	A9 59		LDA #<TEMPF2
4507	D21A	A0 00		LDY #>TEMPF2
4508	D21C	C6 64		DEC DEGREE
4509	D21E	D0 E4		BNE POLY2
4510	D220	60		RTS
4511	D221	98	RMULC	.BYT @230,@65,@104,@172
4511	D222	35		
4511	D223	44		
4511	D224	7A		
4512	D225	68	RADDC	.BYT @150,@50,@261,@106
4512	D226	28		
4512	D227	B1		
4512	D228	46		
4513	D229	20 61 CD	RND	JSR SIGN
4514	D22C	30 2E		BMI RND1
4515	D22E	D0 17		BNE QSETNR
4516	D230	AD 44 EB		LDA CHTIM
4517	D233	85 5F		STA FACHO
4518	D235	AD 48 EB		LDA CHTIM+4
4519	D238	85 60		STA FACMOH
4520	D23A	AD 45 EB		LDA CHTIM+1
4521	D23D	85 61		STA FACMO
4522	D23F	AD 49 EB		LDA CHTIM+5
4523	D242	85 62		STA FACLO
4524	D244	4C 6C D2		JMP STRNEX
4525	D247	A9 88	QSETNR	LDA #<RNDX
4526	D249	A0 00		LDY #>RNDX
4527	D24B	20 D8 CC		JSR MOVFM
4528	D24E	A9 21		LDA #<RMULC
4529	D250	A0 D2		LDY #>RMULC
4530	D252	20 5E CB		JSR FMULT
4531	D255	A9 25		LDA #<RADDC
4532	D257	A0 D2		LDY #>RADDC
4533	D259	20 9D C9		JSR FADD
4534	D25C	A6 62	RND1	LDX FACLO
4535	D25E	A5 5F		LDA FACHO
4536	D260	85 62		STA FACLO
4537	D262	86 5F		STX FACHO
4538	D264	A6 60		LDX FACMOH
4539	D266	A5 61		LDA FACMO
4540	D268	85 60		STA FACMOH
4541	D26A	86 61		STX FACMO
4542	D26C	A9 00	STRNEX	LDA #0
4543	D26E	85 63		STA FACSGN
4544	D270	A5 5E		LDA FACEXP
4545	D272	85 6D		STA FACOV

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4546	D274	A9	80		LDA #@200
4547	D276	85	5E		STA FACEXP
4548	D278	20	0D	CA	JSR NORMAL
4549	D27B	A2	88		LDX #<RNDX
4550	D27D	A0	00		LDY #>RNDX
4551	D27F	4C	0A	CD	GMOVMF JMP MOVMF
4552	D282	A9	FE	COS	LDA #<PI2
4553	D284	A0	D2		LDY #>PI2
4554	D286	20	9D	C9	JSR FADD
4555	D289	20	42	CD	SIN JSR MOVAF
4556	D28C	A9	03		LDA #<TWOPI
4557	D28E	A0	D3		LDY #>TWOPI
4558	D290	A6	6B		LDX ARGSGN
4559	D292	20	3D	CC	JSR FDIVF
4560	D295	20	42	CD	JSR MOVAF
4561	D298	20	02	CE	JSR INT
4562	D29B	A9	00		LDA #0
4563	D29D	85	6C		STA ARISGN
4564	D29F	20	89	C9	JSR FSUBT
4565	D2A2	A9	08		LDA #<FR4
4566	D2A4	A0	D3		LDY #>FR4
4567	D2A6	20	86	C9	JSR FSUB
4568	D2A9	A5	63		LDA FACSGN
4569	D2AB	48			PHA
4570	D2AC	10	0D		BPL SIN1
4571	D2AE	20	7F	C9	JSR FADDH
4572	D2B1	A5	63		LDA FACSGN
4573	D2B3	30	09		BMI SIN2
4574	D2B5	A5	0C		LDA TANSGN
4575	D2B7	49	FF		EOR ##FF
4576	D2B9	85	0C		STA TANSGN
4577	D2BB	20	4B	D1	SIN1 JSR NEGOP
4578	D2BE	A9	08		SIN2 LDA #<FR4
4579	D2C0	A0	D3		LDY #>FR4
4580	D2C2	20	9D	C9	JSR FADD
4581	D2C5	68			PLA
4582	D2C6	10	03		BPL SIN3
4583	D2C8	20	4B	D1	JSR NEGOP
4584	D2CB	A9	0D		SIN3 LDA #<SINCON
4585	D2CD	A0	D3		LDY #>SINCON
4586	D2CF	4C	D7	D1	JMP POLYX
4587	D2D2	20	00	CD	TAN JSR MOV1F
4588	D2D5	A9	00		LDA #0
4589	D2D7	85	0C		STA TANSGN
4590	D2D9	20	89	D2	JSR SIN
4591	D2DC	A2	4B		LDX #<TEMPF3
4592	D2DE	A0	00		LDY #>TEMPF3
4593	D2E0	20	7F	D2	JSR GMOVMF
4594	D2E3	A9	54		LDA #<TEMPF1
4595	D2E5	A0	00		LDY #>TEMPF1
4596	D2E7	20	D8	CC	JSR MOVFM
4597	D2EA	A9	00		LDA #0
4598	D2EC	85	63		STA FACSGN
4599	D2EE	A5	0C		LDA TANSGN
4600	D2F0	20	FA	D2	JSR COSC

LINE# LOC CODE LINE

4601	D2F3	A9 4B		LDA #<TEMPF3
4602	D2F5	A0 00		LDY #>TEMPF3
4603	D2F7	4C 45 CC		JMP FDIV
4604	D2FA	48	COSC	PHA
4605	D2FB	4C BB D2		JMP SIN1
4606	D2FE	81	PI2	.BYT @201, @111, @17, @332, @242
4606	D2FF	49		
4606	D300	0F		
4606	D301	DA		
4606	D302	A2		
4607	D303	83	TWOPI	.BYT @203, @111, @17, @332, @242
4607	D304	49		
4607	D305	0F		
4607	D306	DA		
4607	D307	A2		
4608	D308	7F	FR4	.BYT @177, 0, 0, 0, 0
4608	D309	00		
4608	D30A	00		
4608	D30B	00		
4608	D30C	00		
4609	D30D	05	SINCON	.BYT 5, @204, @346, @32, @55
4609	D30E	84		
4609	D30F	E6		
4609	D310	1A		
4609	D311	2D		
4610	D312	1B		.BYT @33, @206, @50, @7, @373
4610	D313	86		
4610	D314	28		
4610	D315	07		
4610	D316	FB		
4611	D317	F8		.BYT @370, @207, @231, @150, @211
4611	D318	87		
4611	D319	99		
4611	D31A	68		
4611	D31B	89		
4612	D31C	01		.BYT 1, @207, @43, @65, @337, @341
4612	D31D	87		
4612	D31E	23		
4612	D31F	35		
4612	D320	DF		
4612	D321	E1		
4613	D322	86		.BYT @206, @245, @135, @347, @50, @203
4613	D323	A5		
4613	D324	5D		
4613	D325	E7		
4613	D326	28		
4613	D327	83		
4614	D328	49		.BYT @111, @17, @332, @242
4614	D329	0F		
4614	D32A	DA		
4614	D32B	A2		
4615	D32C	A5 63	ATN	LDA FACSGN
4616	D32E	48		PHA
4617	D32F	10 03		BPL ATN1
4618	D331	20 4B D1		JSR NEGOP

LINE# LOC CODE LINE

4619	D334	A5 5E	ATN1	LDA FACEXP	
4620	D336	48		PHA	
4621	D337	C9 81		CMP #@201	
4622	D339	90 07		BCC ATN2	
4623	D33B	A9 F2		LDA #<FONE	
4624	D33D	A0 CA		LDY #>FONE	
4625	D33F	20 45 CC		JSR FDIY	
4626	D342	A9 5C	ATN2	LDA #<ATNCON	
4627	D344	A0 D3		LDY #>ATNCON	
4628	D346	20 D7 D1		JSR POLYX	
4629	D349	68		PLA	
4630	D34A	C9 81		CMP #@201	
4631	D34C	90 07		BCC ATN3	
4632	D34E	A9 FE		LDA #<PI2	
4633	D350	A0 D2		LDY #>PI2	
4634	D352	20 86 C9		JSR FSUB	
4635	D355	68	ATN3	PLA	
4636	D356	10 03		BPL ATN4	
4637	D358	4C 4B D1		JMP NEGOP	
4638	D35B	60	ATN4	RTS	
4639	D35C	0B	ATNCON	.BYT @13,@166,@263,@203	
4639	D35D	76			
4639	D35E	B3			
4639	D35F	83			
4640	D360	BD		.BYT @275,@323,@171,@36,@364	
4640	D361	D3			
4640	D362	79			
4640	D363	1E			
4640	D364	F4			
4641	D365	A6		.BYT @246,@365,@173,@203,@374	
4641	D366	F5			
4641	D367	7B			
4641	D368	83			
4641	D369	FC			
4642	D36A	B0		.BYT @260,@20	
4642	D36B	10			
4643	D36C	7C		.BYT @174,@14,@37,@147,@312	
4643	D36D	0C			
4643	D36E	1F			
4643	D36F	67			
4643	D370	CA			
4644	D371	7C		.BYT @174,@336,@123,@313,@301	
4644	D372	DE			
4644	D373	53			
4644	D374	CB			
4644	D375	C1			
4645	D376	7D		.BYT @175,@24,@144,@160,@114	
4645	D377	14			
4645	D378	64			
4645	D379	70			
4645	D37A	4C			
4646	D37B	7D		.BYT @175,@267,@352,@121,@172	
4646	D37C	B7			
4646	D37D	EA			
4646	D37E	51			

LINE# LOC CODE LINE

4646	D37F	7A	
4647	D380	7D	. BYT @175, @143, @60, @210, @176
4647	D381	63	
4647	D382	30	
4647	D383	88	
4647	D384	7E	
4648	D385	7E	. BYT @176, @222, @104, @231, @72
4648	D386	92	
4648	D387	44	
4648	D388	99	
4648	D389	3A	
4649	D38A	7E	. BYT @176, @114, @314, @221, @307
4649	D38B	4C	
4649	D38C	CC	
4649	D38D	91	
4649	D38E	C7	
4650	D38F	7F	. BYT @177, @252, @252, @252, @23
4650	D390	AA	
4650	D391	AA	
4650	D392	AA	
4650	D393	13	
4651	D394	81	. BYT @201, 0, 0, 0, 0
4651	D395	00	
4651	D396	00	
4651	D397	00	
4651	D398	00	
4652	D399		. FIL CODE26

LINE# LOC CODE LINE

```

4654 D399 E6 77      INITAT INC CHRGET+7
4655 D39B D0 02      BNE CHDGT
4656 D39D E6 78      INC CHRGET+8
4657 D39F AD 60 EA    CHDGT  LDA 60000
4658 D3A2 C9 3A      CMP #'
4659 D3A4 B0 0A      BCS CHDRTS
4660 D3A6 C9 20      CMP #'
4661 D3A8 F0 EF      BEQ INITAT
4662 D3AA 38          SEC
4663 D3AB E9 30      SBC #'0
4664 D3AD 38          SEC
4665 D3AE E9 D0      SBC ##$D0
4666 D3B0 60          CHDRTS RTS
4667 D3B1 80          .BYT 128,79,199,82,88
4667 D3B2 4F
4667 D3B3 C7
4667 D3B4 52
4667 D3B5 58
4668 D3B6 A2 FB      INIT  LDX #STKEND-256
4669 D3B8 9A          TXS
4670 D3B9 A9 4C      LDA #76
4671 D3BB 85 51      STA JMPER
4672 D3BD 85 00      STA USRPOK
4673 D3BF A9 73      LDA #<FCERR
4674 D3C1 A0 C3      LDY #>FCERR
4675 D3C3 85 01      STA USRPOK+1
4676 D3C5 84 02      STY USRPOK+2
4677 D3C7 A2 1C      LDX #RNDX+4-CHRGET
4678 D3C9 BD 98 D3    MOVCHG LDA INITAT-1, X
4679 D3CC 95 6F      STA CHRGET-1, X
4680 D3CE CA          DEX
4681 D3CF D0 F8      BNE MOVCHG
4682 D3D1 A9 03      LDA #STRSIZ
4683 D3D3 85 50      STA FOUR6
4684 D3D5 8A          TXA
4685 D3D6 85 65      STA BITS
4686 D3D8 85 10      STA CHANNL
4687 D3DA 85 15      STA LASTPT+1
4688 D3DC 85 0D      STA DSDESC
4689 D3DE 48          PHA
4690 D3DF E8          INX
4691 D3E0 8E FD 01    STX BUF-3
4692 D3E3 8E FC 01    STX BUF-4
4693 D3E6 A2 16      LDX #TEMPST
4694 D3E8 86 13      STX TEMPPT
4695 D3EA A0 04      LDY #>RAMLOC
4696 D3EC 85 28      STA TXTTAB
4697 D3EE 84 29      STY TXTTAB+1
4698 D3F0 85 11      STA LINNUM
4699 D3F2 84 12      STY LINNUM+1
4700 D3F4 AB          TAY

4702 D3F5          ; CREATE RAM INITIALIZATION IF NEEDED
4703 D3F5 A9 80      LDA #>OFFSET
4704 D3F7 D0 07      BNE LOOPMM

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LINE# LOC CODE LINE

```

4705 D3F9 A9 00          LDA #<CROMLOC
4706 D3FB A0 B0          LDY #>ROMLOC
4707 D3FD 4C 1B D4          JMP USEDEF
4708 D400 E6 11          LOOPMM INC LINNUM
4709 D402 D0 04          BNE LOOPM1
4710 D404 E6 12          INC LINNUM+1
4711 D406 30 0F          BMI USEDEC
4712 D408 A9 55          LOOPM1 LDA #B5
4713 D40A 91 11          STA (LINNUM)Y
4714 D40C D1 11          CMP (LINNUM)Y
4715 D40E D0 07          BNE USEDEC
4716 D410 0A           ASL A
4717 D411 91 11          STA (LINNUM)Y
4718 D413 D1 11          CMP (LINNUM)Y
4719 D415 F0 E9          BEQ LOOPMM
4720 D417 A5 11          USEDEC LDA LINNUM
4721 D419 A4 12          LDY LINNUM+1
4722 D41B 85 34          USEDEF STA MEMSIZ
4723 D41D 84 35          STY MEMSIZ+1
4724 D41F 85 30          STA FRETOP
4725 D421 84 31          STY FRETOP+1
4726 D423 A0 00          LDY #0
4727 D425 98           TYA
4728 D426 91 28          STA (TXTTAB)Y
4729 D428 E6 28          INC TXTTAB
4730 D42A A9 A4          LDA #<PATCH2 ; NEW HEADER#####
4731 D42C A0 DE          LDY #>PATCH2 ; #####
4732 D42E 20 1D BB          JSR STROUT
4733 D431 A5 34          LDA MEMSIZ
4734 D433 38           SEC
4735 D434 E5 28          SBC TXTTAB
4736 D436 AA           TAX
4737 D437 A5 35          LDA MEMSIZ+1
4738 D439 E5 29          SBC TXTTAB+1
4739 D43B 20 83 CF          JSR LINPRT
4740 D43E A9 4B          LDA #<WORDS
4741 D440 A0 D4          LDY #>WORDS
4742 D442 20 1D BB          JSR STROUT
4743 D445 20 D4 B5          JSR SCRATCH
4744 D448 4C FF B3          JMP READY
4745 D44B 20 42          WORDS .BYT ' BYTES FREE', 13, 0
4746 D458 23 23          FRESM .BYT '### COMMODORE BASIC ###'
4747 D46F 0D           .BYT 13, 13, 0
4748 D472           LASTWR
4749 D472           .END

```

ERRORS = 0000

SYMBOL TABLE

SYMBOL VALUE

ABS	CD8E	ADDEND	0025	ADDFRS	B348	ADDIND	C44B
ADDON	B886	ADDFR2	0002	ADDFR4	0004	ADDFR8	0008
ADDFRC	0001	ADJ	BA6C	ADJ00	BAB3	ADJ01	BAB5
ADJ02	BA74	AFFRTS	B5C7	ANDMSK	0046	ANDOP	C0B9
APPEND	FFAB	ARGEXP	0066	ARGHD	0067	ARGLO	006A
ARGMO	0069	ARGMOH	006B	ARGSGN	006B	ARISGN	006C
ARYDON	C29D	ARYGET	C259	ARYPNT	0055	ARYTAB	002C
ARYVA2	C21C	ARYVA3	C220	ARYVGO	C22B	ASC	CBC1
ASPAC	BB0D	ATN	D32C	ATN1	D334	ATN2	D342
ATN3	D355	ATN4	D35B	ATNCON	D35C	AYINT	C2EA
BACKUP	FFA5	BIGGES	CFE8	BITS	0065	BLT1	B374
BLTLP	B380	BLTU	B350	BLTUC	B357	BRKTX	B31B
BSERR	C370	BSERR7	C433	BUF	0200	BUFFUL	BBE8
BUFLN	0051	BUFOFS	0200	BUFPAG	0002	BUFPTR	006E
CAT	C74F	CCALL	FFE7	CCCHN	FFCC	CCLDS	FFC3
CGETL	FFE4	CHANNL	0010	CHARAC	0003	CHDGOT	D39F
CHDRTS	D3B0	CHEAD	B4BF	CHKCLS	BEEF	CHKCOM	BEF5
CHKDS	BFFC	CHKERR	BD93	CHKNUM	BD87	CHKOK	BD90
CHKOPN	BEF2	CHKSTR	BD89	CHKVAL	BD8A	CHRD	C822
CHRGET	0070	CHRGOT	0076	CHRRTS	0087	CHTIM	E844
CINCH	FFCF	CKSMBO	BF0C	CKSMCO	CEF8	CLEAR	B5EE
CLEARC	B5F0	CLMWID	000A	CLOAD	FFD5	CLRFAC	CE1F
CLSCHN	FFCC	CMD	BABE	CMPFOR	B33C	CMPSPC	B50D
COIN	FFC6	COLOO	C68A	COLOOA	C69E	COLOOB	C693
COL01	C6A9	COL02	C682	COL02A	C6F0	COL02B	C6DB
COL03	C703	COLECT	FFA2	COLIS	B567	COMBYT	C927
COMPRT	BAF0	CONCAT	FF93	CONINT	C8D7	CONT	B7EE
CONTRT	BB07	CONUPK	CBC2	COOUT	FFC9	COPEM	FFC0
COPFLT	B961	COPSTR	B964	COPY	B9F6	COPY00	BA2E
COPY01	BA44	COPY02	BA46	COPYC	BA13	COS	D282
COSC	D2FA	COUNT	0005	CRDO	BADF	CRDONE	B599
CRFIN	BAED	CRTSKP	BB41	CRUNCH	B4FB	CSAVE	FFDB
CSTAT	0096	CSYS	FFDE	CTIMR	008D	CURLIN	0036
CURTOL	006E	CVERF	FFDB	CZLOOP	B4C7	DATA	B8B3
DATAN	B891	DATATK	0083	DATBK	BC49	DATBK1	BC4D
DATLIN	003C	DATLOP	BCB4	DATPTR	003E	DCAT	FFB4
DCLOSE	FF99	DCOPY	FFAB	DECBLT	B38B	DECCNT	005A
DECCUR	C3F8	DEF	C4DC	DEFFIN	C578	DEFPNT	004B
DEFSTF	C541	DEGREE	0064	DIM	C121	DIM3	C11E
DIMFLG	0006	DIMRTS	C476	DIRCAT	FFB4	DIRCN1	B769
DIRCON	B759	DIRIS	B7E0	DIV10	CC34	DIVIDE	CC5F
DIVNRM	CCB4	DIVSUB	CC93	DLOAD	FFB1	DNTCPY	B9EF
DOAGIN	BB6A	DOCMP	C112	DOCO	B8D3	DOCOND	B8CB
DOCSTR	BD91	DOMASK	000C	DOMIN	BF05	DOPEN	FF96
DOPRE1	BE1A	DOPREC	BDF3	DOREL	COB6	DORES	0009
DOSGFL	C951	DPTFLG	005C	DSAVE	FFAE	DSCPNT	004D
DSCTMP	005E	DSDESC	000D	DSKX0	B9BE	DSKX1	B9D2
DSKX2	B9D4	DVOERR	CCC0	DVARTS	C290	EATEM	C150
END	B7CB	ENDCHR	0004	ENDCON	B7E2	ENDGRB	C716
ENDREL	BDD1	ENDTK	0080	EORMSK	0047	EPGN	005D
EQU LTK	00B2	ERR	B306	ERRBD	00BF	ERRBS	006B
ERRCN	00DB	ERRCRD	B3DA	ERRDD	007B	ERRDIR	C4CF
ERRDVO	00B5	ERRFC	0035	ERRFIN	B3F4	ERRG02	C5FB
ERRG03	C375	ERRG04	BD95	ERRG05	BD2D	ERRGUF	C4D7
ERRID	0095	ERRLS	00B0	ERRNF	0000	ERR0D	002A

SYMBOL TABLE

SYMBOL VALUE

ERROR	004D	ERROR	B3CF	ERROV	0045	ERRRG	0016
ERRSN	0010	ERRST	00C8	ERRTAB	B20D	ERRTM	00A3
ERRUF	00E9	ERRUS	005A	EVAL	BE81	EVAL0	BE85
EVAL1	BE8A	EVAL2	BE8D	EVAL3	BEC4	EVAL4	BEDB
EXCHGT	B89C	EXIGNT	BCF7	EXP	D184	EXP1	D1A2
EXPCON	D15B	EXPSGN	005D	FAC	005E	FACEXP	005E
FACHO	005F	FACLO	0062	FACMO	0061	FACMOH	0060
FACOV	006D	FACSGN	0063	FADD	C99D	FADD1	C9CD
FADD2	CA34	FADD4	C9D9	FADD5	C998	FADDA	C9C9
FADD3	C9AD	FADDH	C97F	FADDT	C9A0	FADFLT	CA08
FBUFFR	0100	FBUFFT	006E	FCERR	C373	FCERR2	B9B2
FCOMP	CD91	FCOMPC	CD68	FCOMPD	CDCE	FCOMPN	CD93
FCOMPS	CD67	FCSIGN	CD65	FDCEND	DOF0	FDECPT	0044
FDIV	CC45	FDIVF	CC3D	FDIVT	CC48	FFLOOP	B327
FFRTS	B34F	FHALF	DOC7	FIN	CE29	FIN1	CE45
FINC	CE40	FINDG1	CEA7	FINDGQ	CE43	FINDIG	CEA0
FINDIV	CE88	FINDP	CE77	FINE	CE7D	FINE1	CE7F
FINEC	CE66	FINEC1	CE64	FINEC2	CE6B	FINEDG	CEC7
FINGO	C076	FINI	B4AD	FININ1	B4F8	FININL	BAD2
FINLQ	CEB4	FINML6	CC23	FINMUL	CE91	FINNOW	C2C3
FINPTR	C2B9	FINGNG	CE98	FINRE2	BE0B	FINREL	BE01
FINZLP	CE2D	FLINRT	B5D0	FLNRTS	B5D1	FLOAD	B60B
FLOAT	CD72	FLOATB	CD85	FLOATC	CD7F	FLOATS	CD7A
FMAPTR	C2C8	FMULT	CB5E	FMULTT	CB61	FNDFOR	B322
FNDLIN	B5A3	FNDLNC	B5A7	FNDLQ1	B5BE	FNDQER	C51D
FNEDG1	CE69	FNTK	00A5	FNWAIT	C963	FONE	CAF2
FOR	B6DE	FORMAT	FF9F	FORPNT	0046	FORPSH	BE41
FORSIZ	0012	FORTK	00B1	FOULDY	D07A	FOUR6	0050
FOUT	CF93	FOUT1	CF9D	FOUT11	D07C	FOUT12	D089
FOUT14	D099	FOUT15	DOA5	FOUT16	DO1A	FOUT17	DOBD
FOUT19	DO8A	FOUT2	DO20	FOUT20	DOC2	FOUT3	CFCC
FOUT37	CFB6	FOUT38	CFD7	FOUT39	DO09	FOUT4	CFC1
FOUT40	D046	FOUT41	D044	FOUT5	CFE5	FOUT6	CFFE
FOUT7	CFBF	FOUT8	DO1C	FOUT9	CFDE	FOUTBL	DOCC
FOUTC	CF95	FOUTIM	DO1E	FOUTPI	CFFD	FOUTYP	D04D
FPWR1	D135	FPWRT	D112	FPWRT1	D11B	FR4	D308
FRE	C4A8	FRE01	C7F6	FRE02	C7FE	FREFAC	C7B8
FREMES	D458	FREPLA	C7FC	FREPTS	C821	FRESPC	0032
FRESTR	C7B5	FRETMP	C7BC	FRETMS	C811	FRETOP	0030
FRMEV1	BD9E	FRMEVL	BD98	FRNUM	BDB4	FSUB	C986
FSUBT	C989	FUNDSP	B066	GARBA2	C66A	GARBAG	C65B
GARBFL	0009	GET	BB7A	GETADR	C92D	GETAGN	BBD5
GETBPT	B552	GETBYT	CBDA	GETCMP	C106	GETCON	C94E
GETDEF	C415	GETDTL	B856	GETERR	B3E0	GETFNM	C50A
GETFOR	BD1F	GETNTH	BC46	GETNUM	C921	GETRTS	C65A
GETSPA	C61D	GETSPT	B9BA	GETSTK	B393	GETTIM	C003
GETTYP	BB91	GINLIN	BBFF	GIVAYF	C4BC	GLET	B7A2
GLOOP	C67E	GLOP1	C6CE	GMOVMF	D27F	GO	B7AC
GOBADV	C1DB	GOFLOT	C11B	GOFUC	C8CE	GOGO	C263
GOGO1	C281	GOLST	B638	GOMLDV	D19F	GOMOVF	C040
GONE	B77C	GONE2	B787	GONE3	B785	GONE4	B795
GONPRC	BF07	GODO	BFD4	GODOOD	BFE5	GOOVER	CC15
GORDY	B7EB	GORTS	B85C	GOSUB	BB13	GOSUTK	008D
GOTARY	C378	GOTK	00CB	GOTNUM	B9B5	GOTO	B830
GOTOTK	0089	GRBEND	C700	GRBPNT	004B	GRBTOP	005C

SYMBOL TABLE

SYMBOL VALUE

GREASE	C3E4	GREATK	00B1	GRODY	B6A8	GTBYTC	C8D1
HAVFOR	BD2F	HIGHDS	0055	HIGHTR	0057	IF	B8B3
INCFAC	CAA5	INCFRT	CAB3	INCHR	FFCF	INCRND	CD59
INDEX	001F	INDEX1	001F	INDEX2	0021	INDICE	0061
INDLOP	C306	INIT	D3B6	INITAT	D399	INLIN	B4E2
INLINC	B4E4	INLOOP	BC11	INLPN1	C43A	INLPN2	C439
INLPNM	C41D	INPCO1	BC0B	INPCOM	B965	INPCON	BC09
INPFLG	000B	INPPTR	0040	INPRT	CF78	INPRTS	BCF6
INPUT	BBBE	INPUTN	BBA4	INT	CE02	INTEGR	0003
INTERR	C13C	INTFLG	0008	INTIDX	C2DD	INTRTS	CE2B
INTXT	B30D	IODONE	BBB4	IORELE	BBB6	ISARY	C2FC
ISCNTC	FFE1	ISCRTS	B7C5	ISFUN	C047	ISLETC	C1B6
ISLRTS	C1BF	ISSEC	C14F	ISVAR	BF8C	ISVDS	BFC1
ISVJMP	BF0D	ISVRET	BF8F	JMPER	0051	JSRGM	C2D4
KLOOP	B501	KLOOP1	B523	LASNM	00C7	LASTPT	0014
LASTWR	D472	LD100	CCB0	LDFONE	B727	LDZR	C1C6
LEFTD	C836	LEN	C8B2	LEN1	C8B8	LESSTK	00B3
LET	B930	LINGET	B8F6	LINLEN	002B	LINNUM	0011
LINPRT	CF83	LIST	B630	LIST4	B65D	LNKPRG	B4B6
LNKRTS	B4E1	LOFBUF	00FF	LOG	CB20	LOG1	CB2A
LOG2	CB1B	LOGCN2	CAF7	LOGEB2	D156	LOGERR	CB27
LOOPDN	BD72	LOOPM1	D408	LOOPMM	D400	LOPFDA	C347
LOPFDV	C353	LOPFN	C19B	LOPFND	C191	LOPPTA	C3B1
LOPREL	BDB5	LOWDS	005A	LOWTR	005C	LPOPER	BDA3
LSTEND	B64F	LSTPNT	0046	LUK4IT	B847	LUKALL	B84B
MAIN	B406	MAIN1	B41F	MEMSIZ	0034	MID2	C87E
MIDD	C86D	MINUTK	00AB	MLDEXP	CBEF	MLDVEX	CCOA
MLEX10	CED6	MLEXM1	CEE4	MLDOP	B462	MLTPL1	CB94
MLTPL2	CB97	MLTPL3	CBB3	MLTPLY	CB8F	MORCO1	BAF3
MOREN1	B384	MORLIN	B8FC	MORSTS	B7A5	MOV00	C730
MOV01	C73F	MOV1F	CD00	MOV2F	CCFD	MOVAF	CD42
MOVAF1	CD47	MOVCHG	D3C9	MOVDD	C79E	MOVEF	CD45
MOVFA	CD32	MOVFA1	CD34	MOVFAL	CD38	MOVFM	CCD8
MOVFR	CCC5	MOVINS	C78C	MOVLP	C7A2	MOVMF	CD0A
MOVVPNT	C726	MOVRTS	CD50	MOVSTR	C79A	MOVTOP	C735
MOVVF	CD06	MUL10	CC18	MUL10R	CC2E	MULDIV	CBED
MULLN2	CB5A	MULSHF	CAB9	MULTRT	CB01	MUSTCR	B52B
MVDONE	C7AB	MVSTRT	C7B4	NO999	CEE9	N3276B	C2D9
N9999	CEEE	NCMPOS	001E	NEGFAC	CA7D	NEGFCH	CA83
NEGHLF	CB16	NEGDP	D14B	NEGPRC	BDF4	NEGRTS	D155
NEGTAB	BOA9	NEGQ8S	CE9D	NEWCHR	BAA5	NEWSGO	BD6F
NEWSTT	B74A	NEXT	BD19	NMARY1	C362	NMIL	CEF3
NODATT	B569	NODEL	B470	NODELC	B48B	NOFREF	C4AF
NOML6	B992	NONONO	C2F7	NORM1	CA5F	NORM2	CA53
NORM3	CA11	NORMAL	CA0D	NOSEC	C15A	NOTABR	BB12
NOTDIM	C3C1	NOTEVE	C208	NOTEVL	C1CB	NOTFDD	C38C
NOTFL1	C45C	NOTFLT	C39F	NOTFNS	C1C0	NOTIT	C1AC
NOTOL	B6EF	NOTOP	BECC	NOTGTI	BBCD	NOTSTR	C164
NOTTAB	BOAC	NOTTK	00A8	NOWGE1	BC79	NOWGET	BC6E
NOWLIN	BCCD	NTHIS	B580	NTHIS1	B584	NTHIS2	B58D
NUMINS	BC85	NUMLEV	0017	NXTCMP	COFB	NXTLGC	B92A
NXTPTR	C1AB	OFFSET	8000	OKGOTO	BBC2	OKNORM	C071
OLDLIN	003B	OLD0V	0053	OLDTXT	003A	OMERR	B3CD
OMERR1	C436	ONEFUN	00B4	ONEON	B73B	ONGLOP	B8E2
ONGLP1	BBEA	ONGOTO	B8D6	ONGRTS	B8F5	OPMASK	004A

SYMBOL TABLE

SYMBOL VALUE

OPPTR	0048	OPTAB	B094	OROP	C086	OUTCH	FFD2
OUTDO	BB46	OUTGST	BB44	OUTRTS	BB49	OUTSPC	BB3A
OVERR	CAB4	PARCHK	BEE9	PATCH2	DEA4	PEEK	C943
PI	00FF	PI2	D2FE	PIVAL	BEA0	PLOOP	B687
PLOOP1	B694	PLUSTK	00AA	POKE	C95A	POKER	0011
POLY	D1ED	POLY1	D1F1	POLY2	D204	POLY3	D200
POLY4	D211	POLYPT	006E	POLYX	D1D7	POS	C4C9
POSINT	C2E3	PREAM	CB97	PRINT	BAA8	PRINTC	BAAA
PRINTK	0099	PRINTN	BAB8	PRIT3	B6D4	PRIT3B	B6D5
PRIT4	B683	PRTRTS	BAEF	PTDORL	BOAF	PTRGET	C12B
PTRGT1	C130	PTRGT2	C132	PTRGT3	C13F	PULMOR	CB5B
PULSTK	BE64	PUSHF	BE32	PUSHF1	BE2D	PUTNEW	C5F3
PUTNW1	C5FE	QCHNUM	BE5B	QCOMP	C101	QDATA	BC3D
QDECT1	B45A	QDOT	BEA5	QDSAV	C01C	QDSVAR	C1E6
QINLIN	BBF5	QINT	CDD1	QINT1	CDF1	QINTG0	C2F9
QINTGR	B94D	QINTRT	CDF0	QISHFT	CDE5	QNUM	007D
QOP	BE56	QOPGO	BE59	QOPRTS	BE7E	QPLOP	B6AB
QPLUS	CE3C	QPREC	BDEA	QPREC1	BE13	QSETNR	D247
QSHFT	CC82	QSTATV	COOF	QSTAVR	C1DE	QVARIA	B9E1
RADDC	D225	RAML0C	0400	READ	BC02	READDS	FFBD
READY	B3FF	REARTS	B3CC	REASAV	B3AE	REASON	B3A0
REASTO	B3B9	RECORD	FF9C	REDDY	B312	REM	B8C6
REMER	B8A4	REMN	B890	REMRTS	B890	REMTK	008F
RENAME	FFB7	RES00	C7DE	RESCON	B544	RESCR1	B6C8
RESCR2	B6CE	RESER	B53D	RESETC	BC6D	RESFIN	B7C1
RESHO	0023	RESLO	0026	RESLST	BOB2	RESMO	0025
RESMOH	0024	RESRCH	B6C5	RESTOR	B7B7	RETU1	B876
RETURN	B85D	RIGHTD	C862	RLEFT	C83C	RLEFT1	C842
RLEFT2	C843	RLEFT3	C844	RMULC	D221	RND	D229
RND1	D25C	RNDRTS	CA7C	RNDSHF	CA6E	RNDX	0088
ROLSHF	CAE6	ROMLOC	B000	ROUND	CD51	RUN	B808
RUNC	B5E9	RUNC2	BB27	SAVEIT	BA98	SAVQUO	CC75
SCRATC	FFBA	SCRATH	B5D2	SCRATK	00A2	SCR7CH	B5D4
SET00	C746	SETINX	C744	SETGUT	BC61	SGN	CD6F
SGNFLG	0064	SHFARG	CC85	SHFTR2	CABB	SHFTR3	CADC
SHFTR4	CAE2	SHFTRT	CAFO	SHIFTR	CACF	SIGN	CD61
SIGNRT	CD6E	SIN	D289	SIN1	D2BB	SIN2	D2BE
SIN3	D2CB	SINCON	D30D	SIZE	0052	SIZEOK	C76F
SKIP2	C71F	SKIP2A	C724	SNERR	BF00	SNERR1	B7A9
SNERR2	B873	SNERR3	B8DE	SNERR4	BB5E	SNERR5	BE2A
SNGFLT	C4CB	SPCTK	00A6	SQR	D108	SQR05	C80C
SQR20	CB11	SQUEEZ	CA6C	ST2TXT	C918	STASGN	COF6
STCURL	BB5A	STEPTK	00A9	STKEND	01FB	STKINI	B60E
STKR7S	B621	STMDSP	B000	STOLD	D194	STOLOP	B4A5
STOML1	C462	STOMLT	C3AB	STOP	B7C6	STOPC	B7C9
STORDO	C972	STPEND	B7DB	STR1	B570	STRADJ	BA4E
STRCMP	COCE	STRCP	C5E8	STRD	C58E	STRDN2	BC8D
STRDON	BAA2	STREND	002E	STRF11	C5D1	STRF12	C5D2
STRFIN	C5CD	STRFRE	C644	STRGET	C5C0	STRINI	C59E
STRLIT	C5B0	STRLT2	C5B6	STRNAM	C17B	STRNEX	D26C
STRNG	B579	STRNG1	006C	STRNG2	006E	STROU2	CF90
STROUT	BB1D	STRPR2	BB27	STRPRT	BB20	STRRTS	BFD3
STRSIZ	0003	STRSPA	C5A6	STRST2	C5DE	STRTX2	BEBE
STRXT	BE85	STUFFH	B554	STXBUF	D068	STXFND	C18F
STXFOR	BD22	STXTPT	B622	SUBFLG	000A	SUBIT	C9E5

SYMBOL TABLE

SYMBOL VALUE

SWAPLP	D1B2	SYNCHR	BEF7	TABER	BAFD	TABTK	00A3
TAN	D2D2	TANSGN	000C	TEMPF1	0054	TEMPF2	0059
TEMPF3	004B	TEMPPT	0013	TEMPST	0016	TENC	CC2F
TENEXP	005B	THENTK	00A7	TIMELP	B978	TIMEND	D108
TIMEST	B9A2	TIMNUM	B9AB	TIMSTR	C59B	TOTK	00A4
TRMNO1	BB61	TRMNOK	BB4C	TRMOK	BC99	TRMPOS	00C6
TRYAG2	C61F	TRYAG3	C62D	TRYAG4	C63A	TRYAGN	BD07
TRYMOR	B3AA	TRYOFF	CBFA	TSTDUN	B67A	TSTOP	BDB2
TURNON	C174	TWOPI	D303	TXTPTR	0077	TXTTAB	002B
TYPERR	B3ED	TYPLIN	B67C	UMLCNT	C4A3	UMLRTS	C4A7
UMULT	C477	UMULTC	C48A	UMULTD	C480	UNPRTS	BE80
UNPSTK	BE62	USEDEC	D417	USEDEF	D41B	USERR	BB6E
USRLOC	B06C	USRPOK	0000	VAL	CBE3	VAL2	C903
VALRTS	C920	VALTYP	0007	VAREND	BCDA	VARNAM	0042
VAROK	C1F2	VARPNT	0044	VARTAB	002A	VARTXT	004B
VARYO	BCE5	WAITER	C976	WORDS	D44B	XSPAC	BB0E
XSPAC1	BB1B	XSPAC2	BB0F	ZEREMV	CC10	ZERITA	C3F3
ZERO	DOC9	ZEROF1	CA2F	ZEROF2	CA2D	ZEROML	CA31
ZERRTS	C97E	ZZ1	01FF	ZZ2	0201	ZZ3	0202
ZZ4	01FF	ZZ5	01FF	ZZ6	BF8E	ZZ7	008B
ZZB	BBB8						

END OF ASSEMBLY

