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00001      *****
00002      *                                     *
00003      *                                     *
00004      *          NAM          PROD.      TEST          *
00005      *          *          D.R.W./D.N.S.          *
00006      *                                     *
00007      *RAM DEFS.
00008      015A      A POTVAL EQU      $015A      RJOY-X
00009      *POTVAL+1=      $015B      RJOY-Y
00010      *POTVAL+2=      $015C      LJOY-X
00011      *POTVAL+3=      $015D      LJOY-Y
00012      1000      A RJOY EQU      $1000
00013      1001      A LJOY EQU      $1001
00014      1002      A JOYCNT EQU     $1002
00015      1003      A TEMP EQU      $1003
00016      *TEMP+1=      $1004
00017      1005      A RELAY EQU      $1005
00018      1006      A KEYBRD EQU     $1006
00019      1007      A OPBYTE EQU     $1007
00020      1008      A CSIFLT EQU     $1008
00021      1009      A CSOFLT EQU     $1009
00022      100C      A POTLIM EQU     $100C
00023      *POTLIM+1=    $100D
00024      100E      A SNDFLG EQU     $100E
00025      100F      A SOUND EQU      $100F
00026      1010      A PRFLG EQU      $1010
00027      1011      A COMFLG EQU     $1011
00028      *
00029      0088      A CURADR EQU      $0088
00030      *CURADR+1=     $0089
00031      *
00032      *SYSTEM DEFS
00033      FF00      A P0A EQU          $FF00
00034      FF02      A P0B EQU          $FF02
00035      FF20      A P1A EQU          $FF20
00036      FF22      A P1B EQU          $FF22
00037      FF40      A P2 EQU           $FF40
00038      *
00039      *ROM ROUTINE DEFS.
00040      801B      A WRTLDR EQU        $801B      ENTRY VIA JUMP
00041      801E      A CBOUT EQU         $801E      TABLE
00042      8024      A CBIN EQU          $8024
00043      8027      A BITIN EQU         $8027
00044      8021      A CSRDON EQU        $8021
00045      8012      A JOYIN EQU         $8012
00046      800C      A SCROUT EQU        $800C
00047      8006      A POLCAT EQU        $8006
00048      *
00049      *SCREEN STRING POSITIONS.
00050      0403      A COMMR EQU          $0403
00051      0425      A TSTRES EQU        $0425
00052      0465      A RJOYR EQU         $0465
00053      0485      A LJOYR EQU         $0485
00054      04A5      A PRINR EQU          $04A5
00055      04C5      A KEYR EQU          $04C5
00056      04E5      A RLYR EQU          $04E5
00057      0505      A CASSIR EQU         $0505
00058      0525      A CASSOR EQU        $0525

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00059      0560      A KEYREQ EQU      $0560
00060      0580      A KEYLIN EQU      $0580
00061      0581      A POS1 EQU      KEYLIN+1
00062      05A0      A KEYEND EQU      KEYLIN+32
00063      0593      A POS0 EQU      POS1+18
00064      0595      A POSP EQU      POS0+2
00065      0597      A POSAT EQU      POSP+2
00066      0599      A POSLA EQU      POSAT+2
00067      059B      A POSEN EQU      POSLA+2
00068
00069      *
00069      *GENERAL DEFS.
00070      000D      A CR EQU      $0D
00071      0060      A SP EQU      $60
00072      0020      A REVSP EQU      $20
00073      0008      A LA EQU      $08
00074      1000      A MSEC EQU      $1000
00075      3FFF      A SYNDLY EQU      $3FFF
00076
00077A C000      *****
00078A C000 B6      ORG      $C000
00079A C003 7F      LDA      P1B
00080A C006 C6      CLR      P1B+1      REPROG. BIT1 & 0 FOR
00081A C008 F7      LDB      $$FB      OUTPUT (ONE BIT SND)
00082A C00B C6      STB      P1B
00083A C00D F7      A TESTLP LDB      $$34
00084A C010 8A      A      STB      P1B+1
00085A C012 B7      A      ORA      #1      MAKE SURE P'S LINE SET
00086A C015 C6      A      STA      P1B
00087A C017 8E      A      LDB      $$30
00088A C01A 4F      A      LDX      $$1000
00089A C01B A7      CLRA
00090A C01D 5A      A RAMCLR STA      0,X+
00091A C01E 26      DECB
00092A C020 8E      FB      C01B      BNE      RAMCLR
00093A C023 108E    C444      A      LDX      $SIGNON
00094A C027 BD      0425      A      LDY      $TSTRES
00095A C02A C6      C364      A      JSR      STRGOP      DISPLAY SIGN ON MESSAG
00096A C02C BD      01      A WT2SEC LDB      #1
00097A C02F 5A      C3C9      A WTQSEC JSR      TIMEOUT
00098A C030 26      DECB
00099A C032 F6      FA      C02C      BNE      WTQSEC
00100A C035 BD      FF20      A      LDB      P1A      CLEAR IRQA1
00101A C038 BD      C3EC      A      JSR      AWAITM      YOO-HOO I'M HERE
00102A C03B BD      C3C9      A      JSR      TIMEOUT
00103A C03E 5F      C3EC      A      JSR      AWAITM      WAIT FOR START
00104A C03F 108E    CLR B
00105A C043 8E      C08E      A      LDY      #DATA      COLOUR DATA
00106A C046 A6      0400      A      LDX      $$0400      SCREEN POS.
00107A C048 A7      A0      A COLBAR LDA      0,Y+      FORM BARS.
00108A C04A A7      80      A      STA      0,X+
00109A C04C A7      80      A      STA      0,X+
00110A C04E A7      80      A      STA      0,X+
00111A C050 5C      A      STA      0,X+
00112A C051 C1      INCB
00113A C053 26      08      A      CMPB      $$08      NEW COLOUR REQ'D?
00114A C055 108E    05      C05A      BNE      SKIP
00115A C059 5F      C08E      A      LDY      #DATA
00116A C05A 8C      0540      A SKIP CPX      $$0540      COLOUR BARS SET?

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00117A C05D 26 E7 C046 BNE C0LEAR
00118A C05F 86 01 A LDA #001
00119A C061 A7 80 A REVSET STA 0,X+
00120A C063 4C INCA
00121A C064 8C 055A A CPX #055A
00122A C067 26 F8 C061 BNE REVSET
00123A C069 86 20 A LDA #20
00124A C06B A7 80 A REVSP1 STA 0,X+
00125A C06D 8C 0560 A CPX #0560
00126A C070 26 F9 C06B BNE REVSP1
00127A C072 86 1B A LDA #1B
00128A C074 A7 80 A RCHSET STA 0,X+ DISPLAY REVERSE CHARS.
00129A C076 4C INCA
00130A C077 8C 0580 A CPX #0580
00131A C07A 26 F8 C074 BNE RCHSET
00132A C07C 108E C096 A LDY #STRING
00133A C080 8E 05A0 A LDX #05A0
00134A C083 A6 A0 A CHSET LDA 0,Y+
00135A C085 A7 80 A STA 0,X+
00136A C087 8C 05BE A CPX #05BE
00137A C08A 26 F7 C083 BNE CHSET
00138A C08C 20 28 C086 BRA WAITST
00139 *
00140A C0BE 9F A DATA FCB $9F,$BF,$CF,$AF,$EF,$FF,$DF,$8F
00141A C096 56 A STRING FCB $56,$49,$44,$45,$4F,$60,$4F,$4B
00142A C0A0 43 A FCB $43,$4F,$4C,$4F,$55,$52,$53,$6C
00143A C0AA 48 A FCB $48,$41,$52,$41,$43,$54,$45,$52
00144A C0B4 BF A FCB $8F,$8F
00145 *
00146 *WAIT FOR VIDEO SELECTION
00147A C0B6 BD C3BC A WAITST JSR AWAITM
00148A C0B9 C6 40 A LDB #40
00149A C0BB 5A VDELAY DECB DELAY TO MAKE SURE
00150A C0BC 26 FD C0BB BNE VDELAY MREADY IS RESET
00151 *PROCEED TO AUDIO OUTPUT
00152A C0BE BD C3D1 A JSR SCRILL
00153 *PROCEED TO SECOND VIDEO
00154A C0C1 BD C392 A JSR PPULSE READY FOR 2ND VIDEO
00155 *VIDEO SELECTED PROCEED TO SECOND AUDIO
00156A C0C4 BD C3BC A JSR AWAITM WAIT FOR 2ND AUDIO
00157A C0C7 BD C3D1 A JSR SCRILL
00158A C0CA BD C392 A JSR PPULSE SYNC AT THE END OF TES
00159 *AUDIO SELECTED AT THIS POINT PROCEED
00160 *TO JOYSTICK TESTS
00161A C0CD 8E 0400 A AUDEND LDX #0400 SET UP TO CLEAR THE
00162A C0D0 86 60 A LDA #SF SCREEN TO ALL GREEN.
00163A C0D2 A7 80 A CLSCRN STA 0,X+
00164A C0D4 8C 0600 A CPX #0600
00165A C0D7 26 F9 C0D2 BNE CLSCRN
00166A C0D9 108E 0425 A LDY #TSTRES DISPLAY "TEST RESULTS"
00167A C0DD 8E C47B A LDX #STRNG1
00168A C0E0 BD C364 A JSR STRGDP
00169A C0E3 BD C39E A JSR PREADY READY FOR JOYSTICK TES
00170 *AT THIS POINT PROD. UNIT IS NOW
00171 *READY TO ACCEPT JOYSTICK INPUTS
00172A C0E6 20 06 C0EE BRA JOYCHK
00173 *BELOW ARE THE LIMITS FOR THE READING
00174 *OF THE JOYSTICK INPUTS, THREE INPUTS

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00175          *LEVELS ARE SEQUENTIALLY PROVIDED AND
00176          *ALL FOR POTS. ARE SIMULTANEOUSLY READ
00177          *BY THE 'JOYIN' ROUTINE IN ROM.
00178          *
00179A C0E8      02      A POT1H  FCB      $02
00180A C0E9      00      A POT1L  FCB      $00
00181A C0EA      22      A POT2H  FCB      $22
00182A C0EB      1D      A POT2L  FCB      $1D
00183A C0EC      42      A POT3H  FCB      $42
00184A C0ED      3D      A POT3L  FCB      $3D
00185          *
00186A C0EE 8E      C0E8      A JOYCHK  LDX      #POT1H
00187A C0F1 BF      100C      A          STX      POTLIM      ADDR OF LIMITS
00188A C0F4 7F      1002      A          CLR      JOYCNT      ROUTINE CYCLE COUNT.
00189A C0F7 BD      C3BC      A POTRD   JSR      AWAITM      WAIT FOR V.SETUP.
00190A C0FA BD      8012      A          JSR      JOYIN       READ ALL JOYSTICK POTS
00191A C0FD BE      100C      A          LDX      POTLIM      X=POTLIMIT
00192A C100 BD      C328      A          JSR      POTCHK      CHECK LIMITS AND SET
00193A C103 BF      100C      A          STX      POTLIM      FAULT FLAGS IF REQ'D
00194A C106 BD      C39E      A          JSR      PREADY      GOT RESULTS READY
00195A C109 7D      1000      A          TST      RJOY
00196A C10C 2B      03      C111      BMI      RJOYER      IF NO ERROR THEN
00197A C10E BD      C392      A          JSR      PFULSE      RESPOND
00198A C111 BD      C320      A RJOYER  JSR      SYNC DY
00199A C114 BD      C3BC      A LJOYTX  JSR      AWAITM      AWAIT NEXT RES.REQ
00200A C117 7D      1001      A          TST      LJOY
00201A C11A 2B      03      C11F      BMI      LJOYER
00202A C11C BD      C392      A          JSR      PFULSE
00203A C11F BD      C320      A LJOYER  JSR      SYNC DY
00204A C122 7C      1002      A NXTJOY  INC      JOYCNT
00205A C125 B6      1002      A          LDA      JOYCNT
00206A C128 81      03      A          CMPA     #3
00207A C12A 26      CB      C0F7      BNE      POTRD
00208          *PRINTER TEST FOLLOWS
00209A C12C BD      C2AA      A PRTEST  JSR      REP1
00210A C12F BD      C3BC      A          JSR      AWAITM      START PRINTER TEST
00211A C132 86      01      A          LDA      #1
00212A C134 B7      FF02      A          STA      P0B
00213A C137 BD      C3AD      A NXTBIT  JSR      PSTALL      DELAY A BIT
00214A C13A BD      C39E      A          JSR      PREADY      SIGNAL BIT SET.
00215A C13D BD      C3AD      A          JSR      PSTALL
00216A C140 BD      C3BC      A          JSR      AWAITM      START BIT LOOP
00217A C143 78      FF02      A          ASL      P0B
00218A C146 26      EF      C137      BNE      NXTBIT
00219A C148 8E      1000      A          LDX      ##1000
00220A C14B 30      1F      A PRESWT  LEAX     -1,X      WAIT TO SYNC.
00221A C14D 26      FC      C14B      BNE      PRESWT
00222A C14F BD      C39E      A          JSR      PREADY      ASK FOR RESULT
00223A C152 BD      C386      A          JSR      RESLTM      READ RESULT
00224A C155 26      05      C15C      BNE      KBTEST
00225A C157 C6      80      A          LDB      ##80      SET ERROR FLAG
00226A C159 F7      1010      A          STB      PRFLG
00227          *KEYBOARD TEST NOW FOLLOWS
00228A C15C 108E 0560      A KBTEST  LDY      #KEYREQ      SET UP PROMPT
00229A C160 8E      C4D2      A          LDX      #STRNG9
00230A C163 BD      C364      A          JSR      STRGOF
00231A C166 BD      C2CB      A          JSR      REP2
00232A C169 BD      C3BC      A          JSR      AWAITM      KB TEST SYNC

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00233A	C16C	108E	0580	A	LDY	#KEYLIN	
00234A	C170	109F	88	A	STY	CURADR	
00235A	C173	BD	8006	A	NOKEY	JSR	POLCAT POLL KB
00236A	C176	26	0E	C183	BNE	CHK1	
00237A	C178	F6	FF21	A	LDB	P1A+1	LOOK FOR INCOMING
00238A	C17E	5D			TSTB		TEST END PULSE
00239A	C17C	2A	F5	C173	BPL	NOKEY	
00240A	C17E	F6	FF20	A	LDB	P1A	RESET IRQA1
00241A	C181	20	4D	C1D0	BRA	KEYRST	BRA OUT OF LOOP.
00242A	C183	8E	0581	A	CHK1	LDX	#KEYLIN+1
00243A	C186	81	31	A	CMPA	#'1	FIRST CHECK FOR NUMERI
00244A	C188	2D	1F	C1A9	BLT	CHKLA	VALUE
00245A	C18A	81	39	A	CMPA	#'9	
00246A	C18C	2F	2D	C1BB	BLE	DIGITS	RANGE 1-9 INCLUSIVE
00247A	C18E	81	4F	A	CMPA	#'0	NEXT CHECK FOR LETTERS
00248A	C190	26	05	C197	BNE	CHKP	IF NEXT LETTER 'O' THE
00249A	C192	8E	0593	A	LDX	#POSO	DELETE IT FROM SCREEN.
00250A	C195	20	29	C1C0	BRA	DELETE	
00251A	C197	81	50	A	CHKP	CMPA	#'P
00252A	C199	26	05	C1A0	BNE	CHKAT	
00253A	C19B	8E	0595	A	LDX	#POSP	
00254A	C19E	20	20	C1C0	BRA	DELETE	
00255A	C1A0	81	40	A	CHKAT	CMPA	#'@
00256A	C1A2	26	CF	C173	BNE	NOKEY	FAIL IF IT ISN'T @
00257A	C1A4	8E	0597	A	LDX	#POSAT	
00258A	C1A7	20	17	C1C0	BRA	DELETE	
00259A	C1A9	81	08	A	CHKLA	CMPA	#LA (LEFT ARROW)
00260A	C1AB	26	05	C1B2	BNE	CHKEN	
00261A	C1AD	8E	059A	A	LDX	#POSLA+1	
00262A	C1B0	20	0E	C1C0	BRA	DELETE	
00263A	C1B2	81	0D	A	CHKEN	CMPA	#CR 'ENTER' SHOULD BE LAST
00264A	C1B4	26	BD	C173	BNE	NOKEY	INPUT
00265A	C1B6	8E	059C	A	LDX	#POSEN+1	
00266A	C1B9	20	05	C1C0	BRA	DELETE	
00267A	C1BB	80	31	A	DIGITS	SUBA	#'1 CORRECT TO NUMERIC VAL
00268A	C1BD	48			ASLA		DOUBLE UP SINCE 2 CHAR
00269A	C1BE	30	86	A	LEAX	A,X	PER KEY AND CALC. POS
00270A	C1C0	86	20	A	DELETE	LDA	#REVSP (\$60)
00271A	C1C2	B7	0580	A	STA	KEYLIN	FILL IN FIRST AND LAST
00272A	C1C5	B7	059F	A	STA	KEYLIN+#1F	SPACE.
00273A	C1C8	A7	80	A	STA	0,X+	
00274A	C1CA	A7	80	A	STA	0,X+	
00275A	C1CC	A7	80	A	STA	0,X+	
00276A	C1CE	20	A3	C173	BRA	NOKEY	
00277A	C1D0	BD	C435	A	KEYRST	JSR	CHKLIN CHECK FOR CHAR. DELETI
00278A	C1D3	27	05	C1DA	BEQ	KEYREP	REPORT KEY RESULTS
00279A	C1D5	C6	80	A	LDB	##80	SET FAULT FLAG
00280A	C1D7	F7	1006	A	STB	KEYBRD	
00281A	C1DA	BD	C320	A	KEYREP	JSR	SYNCDY
00282A	C1DD	BD	C2DC	A		JSR	REP3
00283A	C1E0	BD	C39E	A		JSR	PREADY RESULTS READY
00284A	C1E3	7D	1006	A	TST	KEYBRD	ERROR ?
00285A	C1E6	2B	03	C1EB		BMI	KEYER
00286A	C1E8	BD	C392	A	KEYOK	JSR	PFULSE SEND PULSE IF OKAY
00287A	C1EB	BD	C320	A	KEYER	JSR	SYNCDY AND TIMEOUT TO SYNC
00288A	C1EE	BD	C39E	A	RLYCHK	JSR	PREADY READY TO
00289A	C1F1	86	3C	A	LDA	##3C	ENERGISE RELAY
00290A	C1F3	B7	FF21	A	STA	P1A+1	

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00291A C1F6 BD C320 A JSR SYNC DY WAIT FOR REALAY TO CLO
00292A C1F9 BD C39E A JSR PREADY RELAY CLOSED
00293A C1FC BD C3AD A JSR PSTALL
00294A C1FF BD C386 A JSR RESLTM WAIT FOR RELAY GOOD
00295A C202 26 05 C209 BNE RLYEND
00296A C204 C6 80 A LDB #80
00297A C206 F7 1005 A STB RELAY
00298A C209 86 34 A RLYEND LDA #34 DE-ENERGISE RELAY.
00299A C20B B7 FF21 A STA P1A+1
00300 *AT THIS POINT ERRORS ARE REPORTED TO AVOID
00301 *POSSIBLE HANGUP IN CASSETTE ROUTINES.
00302A C20E BD C2ED A CSTST JSR REP4
00303A C211 BD C3BC A JSR AWAITM READY FOR CASS. IP.
00304A C214 8E 2000 A NOIPF LDX #2000 READ IN CASSETTE INPUT
00305A C217 BF 1003 A STX TEMP STARTING AT $2000
00306A C21A BD 8021 A JSR CSRDON LEADER READ FIRST
00307A C21D BD 8024 A JSR CBIN AND DISCARDED.
00308A C220 BD 8027 A NXTIN JSR BITIN
00309A C223 46 RORA
00310A C224 81 3C A CMPA #3C CHECK SYNC BYTE
00311A C226 26 F8 C220 BNE NXTIN
00312A C228 BD 8024 A READ JSR CBIN READ FIRST DATA BYTE.
00313A C22B BE 1003 A LDX TEMP
00314A C22E A7 80 A STA 0,X+
00315A C230 8C 200F A CPX #200F HAVE ALL 16 BYTES BEEN
00316A C233 27 05 C23A BEQ JDONE READ?
00317A C235 BF 1003 A STX TEMP
00318A C238 20 EE C228 BRA READ
00319A C23A 86 0F A JDONE LDA #0F LAST DATA BYTE SHOULD
00320A C23C A1 82 A DATAK CMPA 0,-X BE $0F. COMPARE THE
00321A C23E 26 05 C245 BNE CSIPF BYTES READ ANDHSET
00322A C240 4A DECA FAULT FLAG IF IN
00323A C241 26 F9 C23C BNE DATAK ERROR.
00324A C243 20 05 C24A BRA CSRPT1
00325A C245 C6 80 A CSIPF LDB #80 SET CASS. INPUT FAULT
00326A C247 F7 1008 A STB CSIFLT FLAG.
00327A C24A BD C3BC A CSRPT1 JSR AWAITM GET IN SYNC
00328A C24D 7D 1008 A TST CSIFLT AND REPORT RESULT
00329A C250 2B 03 C255 BMI RXERR
00330A C252 BD C392 A JSR PPULSE SEND RX 'GOOD'
00331A C255 F6 FF20 A RXERR LDB P1A RESET IRQA1
00332A C258 BD C320 A JSR SYNC DY 'SEND' RX BAD
00333A C25B 86 34 A CASSTX LDA #34 DE-ENERGISE RLY.
00334A C25D B7 FF21 A STA P1A+1
00335A C260 BD C2FE A JSR CSREP1 DISP. RESULT OF RX
00336A C263 BD C3BC A JSR AWAITM
00337A C266 86 01 A LDA #01 JSR PSTALL
00338A C268 B7 1007 A STA OPBYTE JSR AWAITM.
00339A C26B BD C3C9 A JSR TIMOUT WAIT FOR MOTOR DELAY
00340A C26E BD C3C9 A JSR TIMOUT ON MASTER.
00341A C271 BD 801B A JSR WRTLDR WRITE LEADER.
00342A C274 86 3C A LDA #3C SEND SYNC BYTE.
00343A C276 BD 801E A JSR CBOUT
00344A C279 B6 1007 A LDA OPBYTE
00345A C27C BD 801E A SEND JSR CBOUT
00346A C27F 7C 1007 A INC OPBYTE
00347A C282 B6 1007 A LDA OPBYTE HAVE ALL BYTES BEEN SE
00348A C285 81 10 A CMPA #10 BEEN SENT?

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JSR PSTALL
JSR AWAITM.

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00349A C287 26 F3 C27C BNE SEND
00350A C289 BD C3C9 A JSR TIMEOUT
00351A C28C BD C39E A JSR PREADY READY FOR RESULT
00352A C28F BD C386 A JSR RESLTM
00353A C292 26 05 C299 BNE TSTEND
00354A C294 C6 B0 A CSOPF LDB ##80
00355A C296 F7 1009 A STB CSOFLT
00356A C299 BD C30F A TSTEND JSR CSREP2 REPORT LAST ERROR
00357A C29C 20 FE C29C TSTHLT BRA TSTHLT HANG UP AFTER TEST OVE
00358 *
00359A C29E 108E 0403 A COMERR LDY #COMMR
00360A C2A2 8E C45E A LDX #STRNG0
00361A C2A5 BD C364 A JSR STRGOP
00362A C2A8 20 F2 C29C BRA TSTHLT
00363 *
00364 *SUBROUTINES FOLLOW
00365 *
00366A C2AA 108E 0465 A REP1 LDY #RJOYR
00367A C2AE 8E C488 A LDX #STRNG2
00368A C2B1 BD C364 A JSR STRGOP
00369A C2B4 F6 1000 A LDB RJOY
00370A C2B7 BD C34F A JSR GDBAD
00371A C2BA 108E 0485 A LDY #LJOYR
00372A C2BE 8E C492 A LDX #STRNG3
00373A C2C1 BD C364 A JSR STRGOP
00374A C2C4 F6 1001 A LDB LJOY
00375A C2C7 BD C34F A JSR GDBAD
00376A C2CA 39 RTS
00377 *
00378A C2CB 108E 04A5 A REP2 LDY #PRINR
00379A C2CF 8E C48B A LDX #STRNG7
00380A C2D2 BD C364 A JSR STRGOP
00381A C2D5 F6 1010 A LDB PRFLG
00382A C2D8 BD C34F A JSR GDBAD
00383A C2DB 39 RTS
00384 *
00385A C2DC 108E 04C5 A REP3 LDY #KEYR
00386A C2E0 8E C4C3 A LDX #STRNG8
00387A C2E3 BD C364 A JSR STRGOP
00388A C2E6 F6 1006 A LDB KEYBRD
00389A C2E9 BD C34F A JSR GDBAD
00390A C2EC 39 RTS
00391 *
00392A C2ED 108E 04E5 A REP4 LDY #RLYR
00393A C2F1 8E C49C A LDX #STRNG4
00394A C2F4 BD C364 A JSR STRGOP
00395A C2F7 F6 1005 A LDB RELAY
00396A C2FA BD C34F A JSR GDBAD
00397A C2FD 39 RTS
00398 *
00399A C2FE 108E 0505 A CSREP1 LDY #CASSIR
00400A C302 8E C4A2 A LDX #STRNG5
00401A C305 BD C364 A JSR STRGOP
00402A C308 F6 1008 A LDB CSIFLT
00403A C30B BD C34F A JSR GDBAD
00404A C30E 39 RTS
00405 *
00406A C30F 108E 0525 A CSREP2 LDY #CASSOR

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00407A	C313	8E	C4AE	A	LDX	#STRNG6	
00408A	C316	BD	C364	A	JSR	STRGOF	
00409A	C319	F6	1009	A	LDB	CSDFLT	
00410A	C31C	BD	C34F	A	JSR	GDBAD	
00411A	C31F	39			RTS		
00412				*			
00413A	C320	8E	3FFF	A	SYNCDY	LDX	#SYNDLY
00414A	C323	30	1F	A	SWAIT	LEAX	-1,X
00415A	C325	26	FC	C323		BNE	SWAIT
00416A	C327	39			RTS		
00417				*			
00418A	C328	108E	015A	A	POTCHK	LDY	#POTVAL
00419A	C32C	CE	1000	A		LDU	#RJOY
00420A	C32F	8D	08	C339		BSR	COMPOT
00421A	C331	CE	1001	A		LDU	#LJOY
00422A	C334	8D	03	C339		BSR	COMPOT
00423A	C336	30	02	A		LEAX	2,X
00424A	C338	39			RTS		(X= POTLIMIT BASE)
00425				*			
00426A	C339	C6	02	A	COMPOT	LDB	#2
00427A	C33B	A6	A0	A	NXTPOT	LDA	0,Y+
00428A	C33D	A1	B4	A		CMPA	0,X
00429A	C33F	22	08	C349		BHI	JOYFLT
00430A	C341	A1	01	A		CMPA	1,X
00431A	C343	25	04	C349		BLO	JOYFLT
00432A	C345	5A			PSET	DECB	
00433A	C346	26	F3	C33B		BNE	NXTPOT
00434A	C348	39			RTS		
00435A	C349	86	80	A	JOYFLT	LDA	#B80
00436A	C34B	A7	C4	A		STA	0,U
00437A	C34D	20	F6	C345		BRA	PSET
00438				*			
00439A	C34F	5D			GDBAD	TSTB	
00440A	C350	2B	09	C35B		BMI	BAD
00441A	C352	8E	C512	A		LDX	#STRNGA
00442A	C355	31	A8 14	A		LEAY	20,Y
00443A	C358	8D	0A	C364		BSR	STRGOF
00444A	C35A	39			RTS		
00445A	C35B	8E	C517	A	BAD	LDX	#STRNGE
00446A	C35E	31	A8 14	A		LEAY	20,Y
00447A	C361	8D	01	C364		BSR	STRGOF
00448A	C363	39			RTS		
00449				*			
00450A	C364	109F	B8	A	STRGOF	STY	CURADR
00451A	C367	A6	80	A	NXTCH	LDA	0,X+
00452A	C369	81	0D	A		CMPA	#CR
00453A	C36B	27	05	C372		BEQ	STREND
00454A	C36D	BD	800C	A		JSR	SCROUT
00455A	C370	20	F5	C367		BRA	NXTCH
00456A	C372	39			STREND	RTS	
00457				*			
00458A	C373	8E	1000	A	TIMMHI	LDX	#MSEC
00459A	C376	30	1F	A	CHKMHI	LEAX	-1,X
00460A	C378	27	05	C37F		BEQ	TOUTH1
00461A	C37A	F6	FF21	A		LDB	F1A+1
00462A	C37D	2A	F7	C376		BPL	CHKMHI
00463A	C37F	F6	FF20	A	TOUTH1	LDB	F1A
00464A	C382	8C	0000	A		CPX	#0000

COMPARE LIMITS
AND SET FAULT FLAGS
AS REQUIRED.

(X= POTLIMIT BASE)

TWO POTS TO BE READ.
FETCH POT VALUE.
COMPARE HI

COMPARE LO

BOTH POTS READ?

SET FAULT FLAG
FOR THIS STICK.

B=80 IF BAD.

OUTPUT 'GOOD'
SET RESULT POS.

OUTPUT 'BAD'
SET RESULT POS.

SET REQUIRED CURSER

POSITION. STRING

DELIMITED BY CR

GET CR BITS

RESET IRQA1

00465A	C385	39			RTS		
00466				*			
00467A	C386	8D	EB	C373	RESLTM	BSR	TIMMHI
00468A	C388	39			RTS		
00469				*			
00470A	C389	F6	FF22	A	FLOW	LDB	P1B
00471A	C38C	C4	FE	A	ANDB	#\$FE	SET PB0 LOW
00472A	C38E	F7	FF22	A	STB	P1B	
00473A	C391	39			RTS		
00474				*			
00475A	C392	8E	0008	A	PPULSE	LDX	#\$08 SET PULSE WIDTH
00476A	C395	8D	F2	C389	BSR	FLOW	SEND LINE LOW
00477A	C397	30	1F	A	PWAIT	LEAX	-1,X WAIT FOR A BIT
00478A	C399	26	FC	C397	BNE	PWAIT	
00479A	C39B	8D	16	C383	BSR	PHIGH	RESTORE LINE HIGH
00480A	C39D	39			RTS		
00481				*			
00482A	C39E	8D	E9	C389	PREADY	BSR	FLOW
00483A	C3A0	8D	D1	C373	BSR	TIMMHI	TIMED OUT?
00484A	C3A2	26	07	C3AB	BNE	PRESET	NO, SO RESET LEVEL
00485A	C3A4	8D	0D	C383	BSR	PHIGH	RESTORE LEVEL
00486A	C3A6	32	62	A	LEAS	2+S	TIDY STACK
00487A	C3A8	7E	C29E	A	JMP	COMERR	BEFORE ABORTING
00488A	C3AB	8D	06	C383	PRESET	BSR	PHIGH
00489A	C3AD	C6	14	A	PSTALL	LDB	#20
00490A	C3AF	5A			PDELAY	DECB	AWAITING PROCESS
00491A	C3B0	26	FD	C3AF	BNE	PDELAY	SAME TIME AS MASTER
00492A	C3B2	39			RTS		
00493				*			
00494A	C3B3	F6	FF22	A	PHIGH	LDB	P1B
00495A	C3B6	CA	01	A	ORB	#1	SET LINE HIGH
00496A	C3B8	F7	FF22	A	STB	P1B	
00497A	C3BB	39			RTS		
00498				*			
00499A	C3BC	8D	CB	C389	AWAITM	BSR	FLOW SIGNAL WAIT STATE
00500A	C3BE	F6	FF21	A	AWM1	LDB	P1A+1 GET CR BITS
00501A	C3C1	2A	FB	C3BE	BPL	AWM1	
00502A	C3C3	F6	FF20	A		LDB	P1A RESET IRQA1
00503A	C3C6	8D	E3	C3AB	BSR	PRESET	AND RESET P'S LINE
00504A	C3C8	39			RTS		
00505				*			
00506A	C3C9	8E	FFFF	A	TIMOUT	LDX	#\$FFFF
00507A	C3CC	30	1F	A	TDELAY	LEAX	-1,X
00508A	C3CE	26	FC	C3CC	BNE	TDELAY	
00509A	C3D0	39			RTS		
00510				*			
00511A	C3D1	86	28	A	SCRILL	LDA	#\$28
00512A	C3D3	B7	100F	A		STA	SOUND
00513A	C3D6	8E	0030	A	TSTEND	LDX	#\$30
00514A	C3D9	BD	C400	A	TSTEND	JSR	NOTE
00515A	C3DC	86	10	A		LDA	#\$10
00516A	C3DE	B7	100F	A		STA	SOUND
00517A	C3E1	8E	0050	A		LDX	#\$50
00518A	C3E4	BD	C400	A		JSR	NOTE
00519A	C3E7	86	38	A		LDA	#\$38
00520A	C3E9	B7	100F	A		STA	SOUND
00521A	C3EC	8E	0010	A		LDX	#\$10
00522A	C3EF	BD	C400	A		JSR	NOTE

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00523A C3F2 86      16      A      LDA      #16
00524A C3F4 B7      100F     A      STA      SOUND
00525A C3F7 8E      0040     A      LDX      #40
00526A C3FA BD      C400     A      JSR      NOTE
00527A C3FD 20      D2       C3D1   A      BRA      SCRILL
00528A C3FF 39              MUTE   RTS
00529              *
00530A C400 BF      1003     A NOTE   STX      TEMP
00531A C403 86      02       A NOTES  LDA      #2
00532A C405 BA      FF22     A      ORA      P1B
00533A C408 B7      FF22     A      STA      P1B
00534A C40B B7      100E     A      STA      SNDFLG
00535A C40E BE      1003     A REPEAT  LDX      TEMP
00536A C411 30      1F       A NOTELP  LEAX     -1,X
00537A C413 26      FC       C411   A      BNE      NOTELP
00538A C415 B6      100E     A NOSTP   LDA      SNDFLG
00539A C418 27      E9       C403   A      BEQ      NOTES
00540A C41A B6      FF22     A      LDA      P1B
00541A C41D 84      FD       A      ANDA     #FD
00542A C41F B7      FF22     A      STA      P1B
00543A C422 7F      100E     A      CLR      SNDFLG      SOUND=DUARTION
00544A C425 7A      100F     A      DEC      SOUND      XREG=FITCH
00545A C428 27      0A       C434   A      BEQ      COMPL
00546A C42A 7D      FF21     A      TST      P1A+1      LOOK FOR INPUT
00547A C42D 2A      DF       C40E   A      BPL      REPEAT
00548A C42F F6      FF20     A      LDB      P1A      CLEAR IRQA1
00549A C432 32      62       A      LEAS     2,S
00550A C434 39              COMPL   RTS
00551              *
00552A C435 8E      0581     A CHKLIN  LDX      #POS1      CHECK THAT THE
00553A C438 86      20       A      LDA      #REVSP     LINE IS FILLED WITH
00554A C43A A1      80       A NXTPOS   CMPA     0,X+      SPACES OTHERWISE
00555A C43C 26      05       C443   A      BNE      KEYERR   KEYES NOT COMPLETE.
00556A C43E 8C      05A0     A      CPX      #KEYEND   Z=1 IF LINE COMPL.
00557A C441 26      F7       C43A   A      BNE      NXTPOS   ERASED
00558A C443 39              KEYERR  RTS
00559              *
00560A C444      AF      A SIGNON  FCB      $AF,$AF
00561A C446      20      A      FCC      / DRAGON 32 AUTO TEST /
00562A C45B      AF      A      FCB      $AF,$AF,CR
00563A C45E      BF      A STRNG0   FCB      $BF,$BF
00564A C460      43      A      FCC      /CONTACT LOST WITH MASTER/
00565A C478      BF      A      FCB      $BF,$BF
00566A C47A      0D      A      FCB      CR
00567A C47B      54      A STRNG1   FCC      /TEST RESULTS/
00568A C487      0D      A      FCB      CR
00569A C488      52      A STRNG2   FCC      /RJOYSTICK/
00570A C491      0D      A      FCB      CR
00571A C492      4C      A STRNG3   FCC      /LJOYSTICK/
00572A C49B      0D      A      FCB      CR
00573A C49C      52      A STRNG4   FCC      /RELAY/
00574A C4A1      0D      A      FCB      CR
00575A C4A2      43      A STRNG5   FCC      /CASS. INPUT/
00576A C4AD      0D      A      FCB      CR
00577A C4AE      43      A STRNG6   FCC      /CASS. OUTPUT/
00578A C4BA      0D      A      FCB      CR
00579A C4BB      50      A STRNG7   FCC      /PRINTER/
00580A C4C2      0D      A      FCB      CR

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00581A	C4C3	4B	A	STRNG8	FCC	/KEYBOARD LINES/
00582A	C4D1	0D	A		FCB	CR
00583A	C4D2	20	A	STRNG9	FCC	/ KEYBOARD TEST, ENTER THE KEY
00584A	C4F2	20	A		FCC	/ 1 2 3 4 5 6 7 8 9 0 P @ L A E
00585A	C511	0D	A		FCB	CR
00586A	C512	47	A	STRNGA	FCC	/GOOD/
00587A	C516	0D	A		FCB	CR
00588A	C517	BF	A	STRNGB	FCB	\$BF
00589A	C518	42	A		FCC	/BAD/
00590A	C51B	BF	A		FCB	\$BF
00591A	C51C	0D	A		FCB	CR
00592				*		
00593					END	

TOTAL ERRORS 00000---00000

TOTAL WARNINGS 00000---00000