```
1  '  ****************************************************************
2  '  *                                                            *
3  '  *              Compurobot Control program                    *
4  '  *                                                            *
5  '  ****************************************************************
    RESTORE
6     TROFF : KEY OFF : ' ** Turn trace off & function key line **
7     ON ERROR GOTO 30000 : ' ** Enable standard error trapping **
8     FOR I=1 TO 10 : KEY I,"" : NEXT : ' ** Blank out function keys **
9     GOSUB 9110 : ' ** Clear screen and display menu **
10 '  Define functions to work out Row & column positions **
11    DEF FN R(K)=INT((K-1)/40)+4
12    DEF FN C(L)=INT((L-1)/40)*40
13 '  ****************************************************************
14 '  *                                                            *
15 '  *       ENG is the maximum number of commands allowed in each *
16 '  *          program.                                          *
17 '  *                                                            *
18 '  ****************************************************************
       ENG=129
19    G$=CHR$(7) : ' ** CHR$(7)=Bell=Ctrl G **
35 '  ****************************************************************
37 '  *       A is an array of valid characters & their assigned values *
39 '  *       B is an array of all characters in program            *
40 '  ****************************************************************
60    DIM A(40),B(129),D(129)
70    FOR I=1 TO 40 : ' ** Read data for key press into array **
80      READ A(I)
90    NEXT
100   DATA 177,178,179,180,181,182,183,184
110   DATA 255,255,255,255,255,255,255,255
120   DATA 1,194,2,202,197,193,203
130   DATA 255,5,199,255,255,198,201,255
140   DATA 3,255,255,196,192,4,255
150   DATA 255,255,255,205
160   L=1 : VIRT=1
161 '  ****************************************************************
162 '  *          Accept commands from keyboard                     *
163 '  *                                                            *
164 '  ****************************************************************
175   LOCATE 9,1 : PRINT R(VIRT),FN C(VIRT),1
     : LOCATE FN R(VIRT),FN C(VIRT),1
180   DEM=0 : VDEM=0
181   FOR I=1 TO 40 : ' ** A continuous loop to accept operator**
182     ISOUN=440*(I-1)*53 : SOUND ISOUN,5
183     KY$=INKEY$ : IF KY$="" THEN 187
185     KY$=INKEY$ : IF KY$="" THEN 187
186     KY = ASC(KY$)+128 : IF KY>128 THEN SOUND ISOUN,0 : BEEP
        : GOTO 202
187   NEXT I : GOTO 181
189 '  ***       Accept operand                        ***
190   LOCATE 9,1 : PRINT R(VIRT),FN C(VIRT),1
     : LOCATE FN R(VIRT),FN C(VIRT),1
     GOSUB 3020
201 '  ***    Decide which routine to access           ***
202   IF KY=209 THEN 5000 : ' ** File directory (Q)      **
203   IF KY=206 THEN 6000 : ' ** Insert (N)               **
205   IF KY=160 THEN 4000 : ' ** Delete (SPACE)           **
213   IF KY=135 THEN 1030 : ' ** BACK SPACE               **
215   IF KY=149 THEN 3020 : ' ** NAK or Error             **
216 '  ****************************************************************
217 '  *          Check for validity of character                   *
218 '  ****************************************************************
220   IF KY=216 OR KY<177 THEN 1100 : ' ** Choice < ASC("X") or ASC("1") **
222 '
```

```
224 '     *          Extract a character value from array A.                    *
226 '     **********************************************************************
230      I=A(KY-176)
240      IF I=255 THEN 1100       : ' ** Invalid key pressed **
241 '     **********************************************************************
242 '     ***          The sub-routines that this ON GOTO statement calls are:    ***
243 '     ***          <1> Save program to disk                                   ***
244 '     ***          <2> Clear memory                                          ***
245 '     ***          <3> Load program from disk                                ***
246 '     ***          <4> Transmit program to Compurobot                        ***
247 '     ***          <5> Delete a disk file                                    ***
248 '     **********************************************************************
250      ON I GOTO 510,5,660,790,990
251 '     **          Fall through to this line if I>5                          **
252      IF L=VIRT THEN LO=L : D=DEM : GOTO 260
         : ' ** LO is the char. length of        the program **
254      LO=VIRT : D=VDEM
255 '     **          Check to see if the program is full       **
260      IF LO=ENG THEN 1170
265 '     **          If only one character in program then skip next few lines ***
270      IF LO=1 THEN J=0 : GOTO 300
275 '     **          Store the value of the last function of program in variable J **
280      J=B(LO-2+D)
290      IF D<>0 THEN 350 : ' *** Check to see whether an operator or operand ***
300      IF KY<185 THEN 1100 : ' *** Check for an invalid key entry          ***
310      IF KY<>216 THEN 341 : ' ** If ky<> Multiply then 341 **
315 '     **          Make sure person multiplies only once in any single command **
320      IF J=205 THEN 1120
324 '     **********************************************************************
325 '     **          If person has previously issued a Gear command or there **
327 '     **          is only on character in command so far then do not allow**
328 '     **          a multiply                                              **
329 '     **********************************************************************
330      IF J=203 OR LO=1 THEN 1130
332 '     **********************************************************************
334 '     *          Store character value in array B                          *
336 '     **********************************************************************
340      GOTO 460
341      IF KY<>203 THEN 460 : ' ** If ky<> "K" **
342      IF B(LO+1)=177 THEN B(LO+1)=206
343      IF B(LO+1)=178 THEN B(LO+1)=205
344      GOTO 460
350      IF J=202 AND KY<>177 THEN 1140
360      IF J<>203 THEN 400
370      IF KY=177 THEN I=206 : GOTO 460
380      IF KY=178 THEN I=205 : GOTO 460
390      GOTO 1150
400      IF J<>201 THEN 450
410      IF KY=194 THEN I=202 : GOTO 460
420      IF KY=198 THEN I=201 : GOTO 460
430      IF KY=201 THEN I=204 : GOTO 460
440      IF KY=204 THEN I=203 : GOTO 460
450      IF KY>185 THEN 1160
452 '     **********************************************************************
454 '     *          Stare value of key pressed in array B                     *
456 '     **********************************************************************
460      B(LO)=I
462      D=D+1
464      IF D=2 THEN D=0
480      LO=LO+1
```

```
481     IF L<>VIRT THEN 2000
482     L=LO : DEM=D : VIRT=LO : VDEM=D
483     LOCATE FN R(LO-1),FN C(LO-1) : PRINT KYY$
484     PRINT G$
485     GOTO 190
500     IF L=1 THEN 1180
510
512 '   ***************************************************************
514 '   *          Save program to disk                              *
516 '   ***************************************************************
520     PRINT G$
530     LOCATE 9,1 : PRINT "FILENAME          " : GOSUB 32000
536     F$="A:"+F$
580     OPEN "O",£1,F$
585     PRINT £1,DEM
590     PRINT £1,L
600     FOR I=1 TO L-1
610         PRINT £1,L
611         PRINT £1,SCREEN (FN R(I),FN C(I))
630     NEXT
640     CLOSE £1
650     GOTO 190
652 '   ***************************************************************
654 '   *          Load program from disk                            *
656 '   ***************************************************************
670     PRINT G$
675     LOCATE 9,1 : PRINT "FILENAME          " : GOSUB 32000
676     F$="A:"+F$
690     OPEN "I",£1,F$
692     FOR I=1 TO L
693         LOCATE FN R(I),FN C(I) : PRINT " "
694     NEXT
700     INPUT £1,DEM : VDEM=DEM
710     INPUT £1,L : VIRT=L
720     FOR I=1 TO L-1
730         INPUT £1,B(I)
740         INPUT £1,J
750         LOCATE FN R(I),FN C(I) : PRINT CHR$(J)
760     NEXT
770     GOTO 640
780     IF L=1 THEN 1180
790     IF DEM=1 THEN 1190
800
802 '   ***************************************************************
804 '   *          Transmit program to Compurobot                    *
806 '   ***************************************************************
810     PRINT G$
820     LOCATE 9,1 : PRINT "PLUG IN SOCKET & PRESS RECEIVE KEY     "
830     GOSUB 20000
840     OPEN "COM1:300,N,8,2,RS,DS,CS,CD" AS £2
900     FOR I=1 TO L-1
910         PRINT £2,CHR$(B(I));
920     NEXT
925     PRINT £2,"O"
930     CLOSE £2
940     PRINT G$
950     LOCATE 9,1 : PRINT "UNPLUG & PRESS GO KEY                  "
960     FOR I=0 TO 1000
970     NEXT
980     GOTO 190
982 '   ***************************************************************
984 '   *          Delete a file                                     *
```

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986 '    **********************************************************
990     PRINT G$
1000    LOCATE 9,1 : PRINT "FILENAME                " : GOSUB 32000
1005    F$="A:"+F$
1010    KILL F$
1020    GOTO 190
1030    IF VIRT=1 THEN VDEM=0 : GOTO 190
1070    VIRT=VIRT-1
1080    VDEM=VDEM+1
1081    IF VDEM=2 THEN VDEM=0
1090    GOTO 190
1092 '  **********************************************************
1094 '  *        Display user error messages & beep              *
1096 '  **********************************************************
1100    LOCATE 9,1 : PRINT "INVALID KEY ENTRY      " : GOTO 1200
1110    LOCATE 9,1 : PRINT "FUNCTION ONCE ONLY     " : GOTO 1200
1120    LOCATE 9,1 : PRINT "MULTIPLY ONCE ONLY     " : GOTO 1200
1130    LOCATE 9,1 : PRINT "CANNOT MULTIPLY        " : GOTO 1200
1140    LOCATE 9,1 : PRINT "SHOULD BE DANCE 1      " : GOTO 1200
1150    LOCATE 9,1 : PRINT "GEAR 1 OR 2 ONLY       " : GOTO 1200
1160    LOCATE 9,1 : PRINT "NUMBER ONLY            " : GOTO 1200
1170    LOCATE 9,1 : PRINT "PROGRAM FULL           " : GOTO 1200
1180    LOCATE 9,1 : PRINT "PROGRAM EMPTY          " : GOTO 1200
1190    LOCATE 9,1 : PRINT "PROGRAM INCOMPLETE     " : GOTO 1200
1200    PRINT G$
1210    PRINT G$
1220    GOTO 960
2000    IF D=0 OR KY=205 THEN 3000
2005    IF L=LO THEN 3000
2007    LOCATE 9,1
2010    IF SCREEN (FN R(LO),FN C(LO))+128 > 184 THEN PRINT
        "MUSIC ONLY"
2020    IF KY=196 AND SCREEN (FN R(LO),FN C(LO))+128 <> 177 THEN 1140
2030    IF KY=199 AND SCREEN (FN R(LO),FN C(LO))+128>128 THEN 1150
2040    IF L=LO+1 THEN 3000
2050    IF KY=199 AND SCREEN (FN R(LO+1),FN C(LO))+88=88 THEN 1130
2060    IF Z=196 AND SCREEN (FN R(LO+1),FN C(LO+1))=88 THEN 1130
3000    LOCATE FN R(LO-1),FN C(LO-1) : PRINT KY$
3010    VIRT=LO : VDEM=D : PRINT G$ : GOTO 3080
3030    IF L=VIRT THEN 3090
3040    VIRT=VIRT+1
3045    IF L<>VIRT THEN 3090
3080    IF L<>VIRT THEN 190
3090    VDEM=DEM : GOTO 1090
3092 '  **********************************************************
3094 '  *      Delete a character                                *
3096 '  **********************************************************
3097 '  **   If there is only one character in the program then don't **
3098 '  **      do anything                                            **
4000    IF L=1 THEN 190
4010    IF L=1 THEN 190
4020    IF L=VIRT OR L=VIRT+1 THEN 4030
4025    GOTO 4100
4030    LOCATE FN R(L),FN C(L) : PRINT " "
4040    L=L-1 : VIRT=L
4045    LOCATE FN R(L),FN C(L) : PRINT " "
4050    DEM=DEM+1
4060    IF DEM=2 THEN DEM=0
4070    VDEM=DEM
```

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```
4090        GOTO 190
4100        VIRT=VIRT-VDEM : VDEM=0
4110        IF SCREEN (FN R(VIRT+2),FN C(VIRT+2))+128=216 THEN L=L-4 : DA=4
            : GOTO 190
4120        L=L-2 : DA=2
4130        I=VIRT
4140        IF I<>L THEN 4200
4160        FOR J=0 TO DA
4170            LOCATE FN R(I+J),FN C(I+J) : PRINT " "
4180        NEXT
4182        IF L=1 THEN 190
4184        IF I=VIRT THEN VIRT=VIRT-1 : VDEM=1
4190        GOTO 190
4200        B(I)=B(I+DA)
4210        LOCATE FN R(I),FN C(I) : PRINT CHR$(SCREEN(FN R(I+DA) ,FN C(I+DA)))
4220        I=I+1
4230        GOTO 4140
4340        IF I<>L THEN 4200
4360 '      **********************************************************
4370 '      *           Display a file directory                     *
4380 '      **********************************************************
5000        PRINT G$
5010        FOR I=1 TO L
5020            D(I)=SCREEN (FN R(I),FN C(I))
5030        NEXT
5060        CLS
5070        FILES "A:*.*"
5080        GOSUB 20000
5090        GOSUB 9110
5100        FOR I=1 TO L
5110            LOCATE FN R(I),FN C(I) : PRINT CHR$(D(I))
5120        NEXT
5130        GOTO 190
5140 '      **********************************************************
5150 '      *           Insert a character                           *
5160 '      **********************************************************
6000        LOCATE 9,1
6001        IF L=1 OR L=VIRT THEN PRINT "NO INSERT                          "
            : GOTO 1200
6005        IF L>127 THEN PRINT "PROGRAM FULL                               "
            : GOTO 1200
6007        PRINT G$
6008        LOCATE 9,1
6010        PRINT "PROGRAM INSERT                          " : GOSUB 18000
6015        LOCATE 9,1
6020        IF Z$="N" THEN 190
6030        IF LEN(Z$)=2 THEN 6085
6040        PRINT "ENTER CORRECT COMMAND ONLY              "
6050        PRINT G$;G$
6060        FOR I=1 TO 1000
6070        NEXT
6075        LOCATE 9,1
6080        GOTO 6010
6085        ZI$=LEFT$(Z$,1)
6090        I=ASC(ZI$)+128
6100        IF I>216 OR I<193 THEN 6302
6120        IF II=255 OR II<128 THEN 6302
6125        ZJ$=RIGHT$(Z$,1)
6130        J=ASC(ZJ$)+128
6140        IF J>216 OR J<177 THEN 6290
```

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```
6150     JJ=A(J-176)
6160     IF JJ=255 OR JJ<128 THEN 6290
6170     IF I<>196 THEN 6200
6180     IF J=177 THEN 6310
6190     PRINT "SHOULD BE DANCE 1                                    " : GOTO 6050
6200     IF I<>199 THEN 6230
6210     IF J=177 OR J=178 THEN 6310
6220     PRINT "GEAR 1 OR 2 ONLY                                     " : GOTO 6050
6230     IF I<>205 THEN 6280
6240     IF J=194 THEN JJ=202 : GOTO 6310
6250     IF J=198 THEN JJ=201 : GOTO 6310
6260     IF J=201 THEN JJ=204 : GOTO 6310
6270     IF J=204 THEN JJ=203 : GOTO 6310
6280     IF J<185 THEN 6310
6290     PRINT "NUMBER ONLY                            "
6300     GOTO 6050
6302     PRINT "FUNCTION ONLY                          "
6304     GOTO 6050
6305     IF I<>199 THEN 6370
6307     IF B(O)=205 THEN 1130
6309     GOTO 6370
6310     O=VIRT-VDEM
6320     IF I<>216 THEN 6305
6330     IF B(O)=205 THEN 1120
6340     IF O<3 THEN 1130
6350     IF B(O-2)=203 THEN 1130
6360     IF B(O-2)=205 THEN 1120
6370     PRINT G$
6420     VDEM=0 : VIRT=0 : O=L : L=L+2
6430     B(O+2)=B(O)
6440     LOCATE FN R(O+2),FN C(O+2) : PRINT CHR$(SCREEN (FN R(O),FN C(O)))
6450     O=O-1
6460     IF O>=VIRT THEN 6430
6470     LOCATE FN R(VIRT),FN C(VIRT) : PRINT CHR$(I-128)
6480     B(VIRT)=II
6490     LOCATE FN R(VIRT+1),FN C(VIRT+1) : PRINT CHR$(J-128)
6500     B(VIRT)=JJ
6510     GOTO 190
6520 '   ***********************************************************************
6530 '   *          Display main menu                                          *
6540 '   ***********************************************************************
9110     CLS
9170     COLOR 15,0
9180     PRINT "COMPUROBOT II PROGRAM EDITOR VERSION 1 "
9190     COLOR 7,0
11100    PRINT
11110    PRINT "PROGRAM COMMAND :"
11120    FOR I=0 TO 5
11130            PRINT
11140    NEXT
11150    COLOR 15,0
11160    PRINT "  T=TRANSMIT                     C=CLEAR PROGRAM   "
11170    PRINT "  A=SAVE INTO DISK               O=LOAD FROM DISK  "
11175    PRINT "  H=DELETE FILE                  Q=FILE DIRECTORY  "
11180    PRINT "  <-=CURSOR LEFT                 ->=CURSOR RIGHT   "
11185    JJ PRINT "N=INSERT                   (SPACE)=DELETE        "
11190    COLOR 7,0
11200    PRINT
11210    PRINT "PROGRAM FUNCTION :"
11230    COLOR 15,0
```

```
11240    PRINT " F=FORWARD              B=BACKWARD         S=STOP      "
11250    PRINT " L=TURN LEFT            R=TURN RIGHT       G=GEAR      "
11260    PRINT " E=CURVE LEFT           I=CURVE RIGHT      M=MUSIC     "
11270    PRINT " D=DANCE                X=MULTIPLY                     "
11280    COLOR 7,0
11290    PRINT
11300    PRINT "PROGRAM NUMBER :"
11301    PRINT "1    2    3    4    5    6    7    8"
11325    LOCATE 4
11330    RETURN
18000    LOCATE 9,20 : Z$="" : I=0
18010    GOSUB 20000
18020    IF KY<177 OR KY>216 THEN 18060
18025    LOCATE 9,20+I : PRINT KYY$ : LOCATE 9,21+I
18030    Z$=Z$+KYY$
18040    I=I+1 : IF I=2 THEN RETURN
18050    GOTO 18010
18060    IF KY=141 THEN RETURN
18070    PRINT G$;G$ : LOCATE 920+I
18080    GOTO 18010
19000    ' *********************************************************
19010    ' *              Accept the operand                       *
19020    ' *********************************************************
20000    KYY$=INKEY$ : IF KYY$="" THEN 20000
20002    IF LEN(KYY$)=1 THEN GOTO 20009
20004    IF ASC(RIGHT$(KYY$,1))=75 THEN KYY$=CHR$(8) : GOTO 20010
20006    IF ASC(RIGHT$(KYY$,1))=77 THEN KYY$=CHR$(21) : GOTO 20010
20008    GOTO 20000
20009    IF ASC(KYY$)=8 THEN 20000
20010    KY=ASC(KYY$)+128
20015    IF KY>224 AND KY<249 THEN KY=KY-32 : KYY$=CHR$(KY-128)
20040    RETURN
20050    ' *********************************************************
20060    ' *        Display error messages trapped from line 8     *
20070    ' *********************************************************
30000    LOCATE 9,1
30020    IF ERR=70 THEN PRINT "WRITE PROTECTED                    "
         : RESUME 31000
30021    IF ERR=64 THEN PRINT "BAD FILE NAME                      "
         : RESUME 31000
30022    IF ERR=25 THEN PRINT "HARDWARE ERROR                     "
         : RESUME 31000
30023    IF ERR=72 THEN PRINT "DISKETTE FAULT                     "
         : RESUME 31000
30024    IF ERR=71 THEN PRINT "DISK NOT READY                     "
         : RESUME 31000
30025    IF ERR=51 THEN PRINT "SYSTEM ERROR                       "
         : RESUME 31000
30026    IF ERR=61 THEN PRINT "DISK FULL                          "
         : RESUME 31000
30030    IF ERR=53 THEN PRINT "FILE NOT FOUND                     "
         : RESUME 31000
30040    IF ERR=68 THEN PRINT "NO COMMUNICATIONS CARD              "
         : RESUME 31000
30050    IF ERR=57 THEN PRINT "I/O ERROR                 " : RESUME 31000
30060    IF ERR=67 THEN PRINT "DISK FULL                 " : RESUME 31000
30070    PRINT "COMAND ERROR                          " : RESUME 31000
31000    PRINT G$;G$
31020    FOR I=0 TO 1000 : NEXT
31030    GOTO 190
```

```
31100 : *****************************************************
31110 : *        Routine to accept file name (Called from lines: *
31120 : *        530, 670 & 1000) then display it             *
31130 : *****************************************************
32000   LOCATE 9,20 : F$="" : I=0
32010   GOSUB 20000
32020   IF KY<193 OR KY>218 THEN 32060
32025   LOCATE 9,20+I : PRINT KYY$ : LOCATE 9,21+I
32030   F$=F$+KYY$
32040   I=I+1 : IF I=7 THEN RETURN
32050   GOTO 32010
32060   IF KY=141 THEN RETURN
32070   PRINT G$;G$
32075   LOCATE 9,20+I
32080   GOTO 32010
```

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