

```

1850 LET JLON=G-INT G
1860 REM H=INT (G+1.0000001)
1870 REM ***SECOND LETTER A2****
1880 LET A2=LATD-2
1890 IF A2<36 THEN LET A2=A2+36
1900 IF A2=37 THEN LET A2=63
1910 REM ***FIRST NUMBER N1****
1920 LET A=LATH/80+LAT5/3600
1930 LET A2=A
1940 LET B=8-A
1950 LET N1=INT B
1960 IF A-(INT A)=0 THEN LET N1=
N1-1
1970 IF N1=8 THEN LET N1=7
1980 IF N2=8 THEN LET N1=N1+1
1990 REM ***LAST LETTER***
2000 LET C=A-INT A
2010 LET C=(C*3)
2020 LET JLAT=C-INT C
2030 LET Y=12
2040 IF JLAT<0.5 THEN LET Y=10
2050 LET K=C+1.0000001
2060 LET K=INT K
2070 IF K=4 THEN GOTO 2100
2080 GOTO 2120
2090 LET N1=N1-1
2100 LET K=1
2110 RETURN
2120 REM DRAW GRID
2130 CLS
2140 FAST
2150 FOR A=0 TO 4
2160 PLOT 19,H
2170 PLOT 44,A
2180 NEXT A
2190 FOR A=0 TO 63
2200 PLOT A,20
2210 PLOT A,13
2220 NEXT A
2230 SLOW
2240 RETURN
2250 LET FLON=INT (24+JLON)+20
2260 IF JLON<0.001 THEN LET FLON=
FLON-1
2270 IF JLON>0.9999 THEN LET FLON=
FLON+1
2280 LET FLAT=INT (15+JLAT)+14
2290 IF JLAT<0.001 THEN LET FLAT=
FLAT-1
2300 PRINT AT Y,13;CHR$ A1;CHR$
A2;N1;N2;CHR$ Z,(K,H)
2310 RETURN
2320 LET ALPHA=LAT

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2330 GOSUB 2870
2340 LET LATD=DEC
2350 LET LATH=MIN
2360 LET LAT5=SECS
2370 LET ALPHA=ABS LUN
2380 GOSUB 2870
2390 LET LUND=DEC
2400 LET LONH=MIN
2410 LET LONS=SECS
2420 RETURN
2430 REM PRINT
2440 PRINT AT 15,3;"LAT ";LATD;"
";LATH;" ";LAT5
2450 PRINT AT 16,3;"LON ";LOND;"
";LONH;" ";LONS;" ";E$
2460 RETURN
2470 REM PRINT
2480 PRINT AT 15,18;"LAT ";LATD;"
";LATH;" ";LAT5
2490 PRINT AT 16,18;"LON ";LOND;"
";LONH;" ";LONS;" ";E$
2500 RETURN
2510 PRINT AT 7,18;"LAT ";LATD;"
";LATH;" ";LAT5
2520 PRINT AT 8,18;"LON ";LOND;"
";LONH;" ";LONS;" ";E$
2530 RETURN
2540 PRINT AT 7,3;"LAT ";LATD;"
";LATH;" ";LAT5
2550 PRINT AT 8,3;"LON ";LOND;"
";LONH;" ";LONS;" ";E$
2560 RETURN
2570 REM FIND LAT
2580 LET LAT=40
2590 IF SHIFT=1 THEN LET LAT=14
2600 LET LAT=LAT+(A2-38)
2610 LET LAT=LAT+(7-INT ((N3-1)/
10))*.125
2620 IF K=1 THEN GOTO 2660
2630 LET LAT=LAT+.125/3
2640 IF K=2 THEN GOTO 2660
2650 LET LAT=LAT+.125/3
2660 RETURN
2670 REM FIND LON
2680 LET LON=0
2690 IF A1>57 THEN GOTO 2720
2700 LET LON=LON-2*(INT (A1)-38)
2710 GOTO 2730
2720 LET LON=LON+2*(91-(INT (A1)
+27))
2730 LET N3=N3-1
2740 LET Z=INT (N3/10)*10
2750 LET LON=LON-(N3-Z)*0.2
2760 IF H=1 THEN GOTO 2800

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2770 LET LON=LON-0.2/3
2780 IF H=2 THEN GOTO 2800
2790 LET LON=LON-0.2/3
2800 RETURN
2810 REM FLASHING POINT
2820 FOR A=0 TO 25
2830 UNPLOT FLON,FLAT
2840 PLOT FLON,FLAT
2850 NEXT A
2860 RETURN
2870 REM DEGREES CONVERSION
2880 LET TEMP=INT ALPHA
2890 LET DEG=TEMP
2900 LET MIN=(ALPHA-TEMP)*60
2910 LET TEMP=MIN
2920 LET MIN=INT MIN
2930 LET SECS=(TEMP-MIN)*60
2940 LET SECS=SECS+.5
2950 LET SECS=INT SECS
2960 IF SECS>60 THEN GOTO 2990
2970 IF MIN>60 THEN GOTO 3020
2980 GOTO 3040
2990 LET STCS=0
3000 LET MIN=MIN+1
3010 GOTO 2970
3020 LET MIN=0
3030 LET DEG=DEG+1
3040 RETURN
3050 REM ERROR
3060 PRINT
3070 PRINT
3080 PRINT "ERROR" OUT OF RAN
GE
3090 RETURN
3100 REM ERROR
3110 PRINT
3120 PRINT "ERROR" VALUE IN EXCE
SS OF 59
3130 RETURN
3140 CLS
3150 PRINT AT 5,1;"NOTE: -THERE I
S ANOTHER ORA LUCATOR
OF THE SAME CODE ABOVE 4
0 DEGREES LAT."
3160 PAUSE 250
3170 POKE 16437,225
3180 RETURN
3190 SAVE "FINDORAM"
3200 GOTO 0010
3210 PRINT UJA 32304
3220 PRINT PEEK 16404+255+PEEK 1
6405-16509
3230 REM ISSUE 2 :20 JAN 83

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Program B listing

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10 REM "DISTANCE, BEARING AND
CONTEST SCORE PROGRAM
11 REM "COPYRIGHT 80CEZ NOV 82
12 REM "ZX81+16K RAM
13 REM "PLEASE DO NOT COPY THIS
PROGRAM, BUT IF YOU DO
PLEASE SEND A DONATION OF
A POUND OR MORE FOR
ARISC VIA 80CEZ OTHER
FOR EVERY TAPE SOLD AT
FULL PRICE ONE POUND
WILL BE SENT TO ARISC
50 LET FUNC=PI/180
60 LET DA=0
70 LET DB=0
80 LET DC=0
90 LET NC=0
100 LET DX=0
110 FOR S=1 TO 5
120 PRINT AT 1+5,1;"80CEZ";AT 1
+5,7;"80CEZ"
130 PRINT AT 1+5,24;"80CEZ";AT
1+5,18;"80CEZ"
140 PRINT AT 20-5,24;"80CEZ";AT
20-5,18;"ARISC"
150 PRINT AT 20-5,1;"80CEZ";AT
20-5,7;"ARISC"
160 PRINT AT 11,1;"WELCOME TO T
HE ORA PROGRAM"
170 PRINT AT 1+5,7;" "
180 PRINT AT 1+5,18;" "
190 PRINT AT 20-5,24;" "
200 PRINT AT 20-5,1;" "
210 NEXT S
220 PAUSE 200
230 POKE 16437,255
240 CLS
250 FOR S=1 TO 10
260 LET K=20
270 PRINT AT K-5,4;"NAME OF CON
TEST?"
280 NEXT S
290 PRINT AT 21,2;"MAXIMUM OF 1
6 CHARACTERS"
300 INPUT N$
310 IF N$="" THEN GOTO 0300
320 IF LEN N$>16 THEN GOTO 0240
330 CLS
340 PRINT AT 11,1;"PLEASE INPUT
YOUR ORA CODE"
350 LET J$=" "
360 GOSUB 1500
370 GOSUB 1300
380 GOSUB 1220
390 CLS
400 PRINT AT 7,1;"BASE LOCATOR.
";L$
410 GOSUB 1890
420 LET ALPHA=L1
430 GOSUB 2260
440 PRINT "LAT ";DEG;" ";MIN;"
";SECS;"
450 LET ALPHA=L2
460 GOSUB 2260
470 PRINT "LONG ";ABS DEG;" ";M
IN;" ";SECS;" ";E$
480 LET LONG=L2
490 LET LAT=L1
500 PRINT "-----"
510 GOSUB 1040
520 GOSUB 1500
530 CLS
540 GOSUB 1300
550 GOSUB 1220
560 PRINT L$
570 PRINT
580 GOSUB 1890
590 LET ALPHA=L1
600 GOSUB 2260
610 PRINT "LAT ";DEG;" ";MIN;"
";SECS;"

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620 LET ALPHA=ABS L2
630 GOSUB 2260
640 PRINT "LONG ";ABS DEG;" ";
MIN;" ";SECS;" ";E$
650 PRINT
660 GOSUB 1130
670 LET U=0
680 LET U=INT (U+100)
690 LET U=U/100
700 LET U=U+.5
710 LET D=INT U
720 IF U>1 THEN LET U=0
730 PRINT "DIST=";U;" KM3"
740 IF U<0 THEN GOTO 0770
750 PRINT "BNG VOID SAME OR
A"
760 GOTO 0790
770 GOSUB 2440
780 PRINT "BEARING=";BNG
790 PRINT "R.S.G.B. SCORE=";
800 GOSUB 1830
810 PRINT AT 5,19;DD
820 LET DA=DA+D
830 LET DB=DB+D
840 LET DC=DC+D
850 PRINT
860 PRINT "-----"
870 PRINT "-----"
880 PRINT
890 PRINT
900 PRINT "TOTALS FOR THIS CONTE
ST"
910 PRINT "-----"
920 PRINT "-----"
930 PRINT
940 PRINT "I.R.A.U. ";DA;" "
";R.S.G.B. ";DC;" "
950 PRINT
960 PRINT
970 LET NC=NC+1
980 PRINT "NO OF CONTACTS ";NC
990 IF D>DX THEN LET JS=L$
1000 IF D>DX THEN LET DX=D
1010 PRINT "-----"
1020 PRINT "RHS TO ORA ";JS;"
GOTO 0500
1030 REM "FLASHING PROMPT"
1040 FOR L=1 TO 5
1050 PRINT AT 21,6;" "
1060 PRINT AT 21,6;" "
1070 PRINT AT 21,6;" "
1080 PRINT AT 21,6;" "
1090 NEXT L
1100 PRINT AT 21,6;"ENTER NEXT L
OCATOR"
1110 RETURN
1120 LET Z1=LAT+FUNC
1130 LET Z2=LONG+FUNC
1140 LET Z3=L1+FUNC
1150 LET Z4=L2+FUNC
1160 LET Z=COS (Z1)*COS (Z3)+COS
(Z4-Z2)
1170 LET Z=Z+(SIN (Z1)*SIN (Z3))
1180 LET Z=160*ACS (Z)/FUNC
1190 LET D=D+.1*850
1200 RETURN
1210 LET A$=L$(1)
1220 LET B$=L$(3 TO 4)
1230 LET C$=L$(5)
1240 LET L2=0
1250 IF A$="U" THEN GOTO 1290
1260 LET L2=L2-2*(CODE (A$)-38)
1270 GOTO 1300
1280 LET L2=L2+2*(91-(CODE (A$)+
27))
1290 LET Z=VAL (B$)-1
1300 LET Z1=INT (Z/10)*10
1310 LET L2=L2-(Z-Z1)*.2
1320 IF C$="F" OR C$="G" OR C$="
H" THEN GOTO 1370

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1340 LET L2=L2-.2/3
1350 IF C$="E" OR C$="J" OR C$="
" THEN GOTO 1370
1360 LET L2=L2-.2/3
1370 RETURN
1380 LET A$=L$(2)
1390 LET B$=L$(3 TO 4)
1400 LET C$=L$(5)
1410 LET L1=0
1420 IF A$="U" THEN GOTO 1440
1430 GOTO 1500
1440 PRINT AT 5,4;"IS THE STATIO
N N OR S OF
T"
1450 INPUT D$
1460 PRINT AT 3,11;D$
1470 PAUSE 50
1480 POKE 16437,255
1490 IF D$(1)="5" THEN LET L1=14
1500 LET L1=L1+(CODE (A$)-65+27)
1510 LET L1=L1+(7-INT ((VAL (B$)
-1)/10))*.125
1520 IF C$="E" OR C$="J" OR C$="
" THEN GOTO 1560
1530 LET L1=L1+.125/3
1540 IF C$="G" OR C$="U" OR C$="
" THEN GOTO 1560
1550 LET L1=L1+.125/3
1560 CLS
1570 RETURN
1580 INPUT L$
1590 REM TEST FOR 5 CHAR
1600 IF LEN (L$)>5 THEN GOSUB 1
920
1610 REM TEST FIRST CHAR
1620 LET E$=L$(1 TO 1)
1630 IF (CODE (E$))<37 OR (CODE
(E$))>64 THEN GOTO 1960
1640 REM TEST SECOND CHAR
1650 LET E$=L$(2)
1660 IF (CODE (E$))<37 OR (CODE
(E$))>64 THEN GOTO 1990
1670 REM TEST FOR VALID CHAR 3/4
1680 LET E$=L$(3)
1690 LET F$=L$(4)
1700 REM TEST FOR 00
1710 IF (CODE (E$))<28 AND (COD
E (F$))<28 THEN GOTO 2820
1720 REM TEST FOR 81 OR MORE
1730 IF (CODE (E$))<36 AND (COD
E (F$))<28 THEN GOTO 2860
1740 IF (CODE (E$))<27 OR (CODE
(F$))<27 THEN GOTO 2130
1750 IF (CODE (E$))<37 OR (CODE
(F$))<28 THEN GOTO 2180
1760 REM TEST ON LAST CHAR
1770 IF L$(5)="A" OR L$(5)="B" O
R L$(5)="C" OR L$(5)="D" THEN GO
TO 1820
1780 IF L$(5)="E" OR L$(5)="F" O
R L$(5)="G" OR L$(5)="H" OR L$(5)
="J" THEN GOTO 1820
1790 CLS
1800 REM ERROR FOUND
1810 GOTO 2160
1820 RETURN
1830 LET DD=1
1840 FOR A=50 TO 10000 STEP 50
1850 IF D=A THEN RETURN
1860 LET DD=DD+2
1870 PRINT AT 6,19;DD
1880 NEXT A
1890 LET B$="U"
1900 IF L2=0 THEN LET B$="E"
1910 RETURN
1920 CLS
1930 PRINT AT 5,1;" YOU I
NPUT CHARACTERS
ARE:
ZK11"
1940 PRINT
1950 GOTO 2160
1960 CLS
1970 PRINT "ERROR IN FIRST CHARR
ACTER MUST BE ALPHA I
E.A-Z"

```