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| DECUS NO. | 8-289 |
| TITLE | "ULKA" THE ULTIMATE KALEIDOSCOPE |
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| COMPANY | University of Alberta<br>Edmonton, Alberta, Canada |
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| SOURCE LANGUAGE | PAL-D |

# "ULKA" THE ULTIMATE KALEIDOSCOPE PROGRAM

DECUS Program Library Write-up

DECUS No. 8-289

## ABSTRACT

"ULKA" is a true kaleidoscope program for use on the LAB-8 Computer. Unlike other kaleidoscope programs "ULKA" is completely automatic, no user interaction being required to produce a dazzling array of patterns.

## LOADING

"ULKA" may be loaded with the Binary Loader or with the System Loader if using the Disk Monitor System. The program starts at location 200 and after starting runs automatically until stopped. If the Disk Monitor System is in use striking Control/C will cause a return to monitor.

## OPERATION

"ULKA" starts at a random point in its repertoire of more than sixteen million patterns and continues displaying patterns at random at a rate which is determined by the speed of the RC Clock in the AX08 Lab Peripheral. The RC Clock should be adjusted using the two controls on the front panel of the AX08 until the display is suitable.

```
ACC         0053
BRIGHT      6326
CIRCLE      0305
CLEAR       6357
CLOCK       0033
CLRK        6354
CYCLE       0265
DISPLA      0302
ENABLE      6346
END         0042
GARB        0225
GARB1       0350
GARB2       0351
KEY         0045
KOUNT       0347
KOUNTR      0044
LINK        0054
PATT        0262
SHOW        0317
SKRK        6341
SKXK        6321
SWITCH      0352
TEMP        0353
ULKA        0200
```

```
                            XLIST
                            /ULKA-THE ULTIMATE KALEIDOSCOPE.
                            /LAB-8 COMPUTER ONLY.
                            /START AT 200 USES INTERRUPT.
                            /SAVE ULKA!0-377;200(CR).
                            *200
0200   6032   ULKA,         KCC
0201   6601                 DCMA
0202   6042                 TCF
0203   6326                 BRIGHT
0204   6357                 CLEAR
0205   6022                 PCF
0206   2347                 ISZ KOUNT
0207   7000                 NOP
0210   6321                 SKXK
0211   5206                 JMP .-3
0212   1347                 TAD KOUNT
0213   3350                 DCA GARB1
0214   1350                 TAD GARB1
0215   7040                 CMA
0216   7012                 RTR
0217   3351                 DCA GARB2
```

```
0220   1377              TAD (1002
0221   6346              ENABLE
0222   6001              ION
0223   4225              JMS GARB
0224   5223              JMP .-1
0225   0000    GARB,     0
0226   4262              JMS PATT
0227   1350              TAD GARB1
0230   0376              AND ( 77
0231   7106              CLL RTL
0232   7006              RTL
0233   7006              RTL
0234   3353              DCA TEMP
0235   1350              TAD GARB1
0236   0375              AND ( 7700
0237   7112              CLL RTR
0240   7012              RTR
0241   7012              RTR
0242   1353              TAD TEMP
0243   3350              DCA GARB1
0244   1351              TAD GARB2
0245   0376              AND ( 77
0246   7106              CLL RTL
0247   7006              RTL
0250   7006              RTL
0251   3353              DCA TEMP
0252   1351              TAD GARB2
0253   0375              AND ( 7700
0254   7112              CLL RTR
0255   7012              RTR
0256   7012              RTR
0257   1353              TAD TEMP
0260   3351              DCA GARB2
0261   5625              JMP I GARB
0262   0000    PATT,     0
0263   1374              TAD (-15
0264   3347              DCA KOUNT
0265   1350    CYCLE,    TAD GARB1
0266   7104              CLL RTL
0267   7200              CLA
0270   1351              TAD GARB2
0271   7004              RTL
0272   3351              DCA GARB2
0273   1350              TAD GARB1
0274   7004              RTL
0275   3350              DCA GARB1
0276   4302              JMS DISPLA
0277   2347              ISZ KOUNT
0300   5265              JMP CYCLE
0301   5662              JMP I PATT
```

```
0302  0000  DISPLA,  0
0303  7240           CLA CMA
0304  3352           DCA SWITCH
0305  4317  CIRCLE,  JMS SHOW
0306  1350           TAD GARB1
0307  3353           DCA TEMP
0310  1351           TAD GARB2
0311  3350           DCA GARB1
0312  1353           TAD TEMP
0313  3351           DCA GARB2
0314  2352           ISZ SWITCH
0315  5702           JMP I DISPLA
0316  5305           JMP CIRCLE
0317  0000  SHOW,    0
0320  1350           TAD GARB1
0321  1373           TAD (377
0322  6303           6303
0323  7200           CLA
0324  1351           TAD GARB2
0325  1372           TAD (-377
0326  6317           6317
0327  7200           CLA
0330  1350           TAD GARB1
0331  7041           CIA
0332  1373           TAD (377
0333  6307           6307
0334  7200           CLA
0335  1351           TAD  GARB2
0336  7041           CIA
0337  1372           TAD (-377
0340  6317           6317
0341  7200           CLA
0342  1350           TAD GARB1
0343  1373           TAD (377
0344  6307           6307
0345  7200           CLA
0346  5717           JMP I SHOW
0347  0000  KOUNT,   0
0350  2525  GARB1,   2525
0351  5252  GARB2,   5252
0352  0000  SWITCH,  0
0353  0000  TEMP,    0
0372  7401
0373  0377
0374  7763
0375  7700
0376  0077
0377  1002
```

```
                         *0
0000  0000               0
0001  3053               DCA ACC
0002  7004               RAL
0003  3054               DCA LINK
0004  5020               JMP 20
                         *20
0020  6341               SKRK
0021  7410               SKP
0022  4033               JMS CLOCK
0023  6031               KSF
0024  7410               SKP
0025  4045               JMS KEY
0026  1054               TAD LINK
0027  7010               RAR
0030  1053               TAD ACC
0031  6001               ION
0032  5400               JMP I 0
0033  0000    CLOCK,     0
0034  6354               CLRK
0035  2044               ISZ KOUNTR
0036  5433               JMP I CLOCK
0037  2777               ISZ GARB1
0040  7410               SKP
0041  2776               ISZ GARB2
0042  7300    END,       CLA CLL
0043  5433               JMP I CLOCK
0044  0000    KOUNTR,    0
0045  0000    KEY,       0
0046  6036               KRB
0047  1175               TAD (-203
0050  7650               SNA CLA
0051  5574               JMP I (7600
0052  5445               JMP I KEY
0053  0000    ACC,       0
0054  0000    LINK,      0
0174  7600
0175  7575
0176  0351
0177  0350
```