## NAME

**mbroutetime** – Program to output a list of the times when a survey passes the waypoints of a planned survey route.

## VERSION

Version 5.0

## SYNOPSIS

**mbroutetime –Rroutefile [–F***format* **–I***file* **–O***waypointtimefile* **–U***rangethreshold* **–H –V]**

## DESCRIPTION

**mbroutetime –**

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## OPTIONS

**–F** *format*
Sets the format for the input swath data using **MBIO** integer format identifiers. This program uses the **MBIO** library and will read any swath format supported by **MBIO**. A list of the swath data formats currently supported by **MBIO** and their identifier values is given in the **MBIO** manual page. Default: *format* = 11.

**–H** This "help" flag cause the program to print out a description of its operation and then exit immediately.

**–I** *filename*
Sets the input filename. If *format* > 0 (set with the **–F** option) then the swath data contained in *infile* is read and processed. If *format* < 0, then *infile* is assumed to be an ascii file containing a list of the input swath data files to be processed and their formats. The program will read the data in each one of these files. In the *infile* file, each data file should be followed by a data format identifier, e.g.:

```
datafile1 11
datafile2 24
```

This program uses the **MBIO** library and will read any swath format supported by **MBIO**. A list of the swath data formats currently supported by **MBIO** and their identifier values is given in the **MBIO** manual page. Default: *infile* = "datalist.mb-1".

**–V** The **–V** option causes **mbroutetime** to print out status messages.

## EXAMPLES

Suppose you are going to run the MBARI Mapping AUV on the Coaxial Segment of the Juan de Fuca Ridge. You have created a route file called Coaxial2009_1v3.rte using **mbgrdviz**. In order to create an MBARI AUV mission script for mission beginning with a spiral descent to an altitude of 50 m, followed by a survey run at a 75 m altitude, the following will suffice:

```
mbroutetime –I Coaxial2009_1v3.rte -A75/30/75 –B1 -G0 –MSL –N50
–R220/83/0.3 -O Coaxial2009_1v3.cfg -S1.5 –L30 –W100 –V
```

The resulting mission script has the following header:

```
# This MBARI Mapping AUV mission file has been generated
# by the MB-System program mbroutetime run by
```

```
# user <caress> on cpu <shepard> at <Thu Jul 30 11:36:47 PDT 2009>
#
# Mission Summary:
#    Route File:              Coaxial2009_1v3.rte
#    Mission File:            Coaxial2009_1v3.cfg
#    Distance:               79501.503455 (m)
#    Estimated Time:           57203 (s)  15.890 (hr)
#    Abort Time:              60067 (s)
#    Max battery life:         64800 (s)
#    Safety margin:            1800 (s)
#    Ascend time:              2932 (s)
#    Way Points:              44
#    Route Points:            550
#    Survey behavior:           WaypointDepth
#    Descent style:           Spiral descent
#    Mapping sonar control enabled:
#                        Multibeam enabled
#                          Multibeam receive gain:          83
#                          Multibeam transmit gain:         220
#                          Multibeam minimum range fraction: 0.3
#                        Subbottom enabled
#                        Low sidescan enabled
#                        High sidescan disabled
#
# Mission Parameters:
#    Vehicle Speed:           1.500000 (m/s) 2.915769 (knots)
#    Desired Vehicle Altitude: 75 (m)
#    Minimum Vehicle Altitude: 75 (m)
#    Abort Vehicle Altitude:   30 (m)
#    Maximum Vehicle Depth:    2525.307922 (m)
#    Abort Vehicle Depth:      2562.807922 (m)
#    Descent Vehicle Depth:    3 (m)
#    Spiral descent depth:     2324.917643 m
#    Spiral descent altitude:  50 m
#    Forward Looking Distance:  (m)
#    Waypoint Spacing:         100 (m)
#    GPS Duration:             600 (s)
#    Descend Rate:             0.417 (m/s)
#    Ascend Rate:              1 (m/s)
#    Initial descend Duration: 300 (s)
#    Setpoint Duration:        30 (s)
#
# The primary waypoints from the route file are:
#   <number> <longitude (deg)> <latitude (deg)> <topography (m)> <distance (m)> <type>
#   0 −129.588618 46.504590 −2384.917643 0.000000 3
#   1 −129.583151 46.507559 −2412.977865 533.709482 3
#   2 −129.569223 46.503420 −2548.389974 1697.143568 1
#   3 −129.566359 46.501080 −2494.963053 2037.557099 3
#   4 −129.548611 46.529852 −2539.510864 5512.537193 4
#   5 −129.551250 46.530628 −2562.807922 5732.537193 3
#   6 −129.568962 46.501924 −2531.034424 9199.497998 4
#   7 −129.571600 46.502699 −2519.138489 9419.497998 3
#   8 −129.553889 46.531404 −2547.114624 12886.458803 4
#   9 −129.556529 46.532180 −2514.533569 13106.458803 3
```

```
#   10 −129.574238 46.503475 −2470.815735 16573.419607 4
#   11 −129.576876 46.504250 −2444.596313 16793.419607 3
#   12 −129.559168 46.532956 −2521.781921 20260.380412 4
#   13 −129.561807 46.533732 −2537.382141 20480.380412 3
#   14 −129.579514 46.505026 −2429.459961 23947.341216 4
#   15 −129.582152 46.505801 −2412.764343 24167.341217 3
#   16 −129.564447 46.534508 −2545.397705 27634.302021 4
#   17 −129.567086 46.535284 −2534.068665 27854.302021 3
#   18 −129.584791 46.506576 −2398.283020 31321.262826 4
#   19 −129.587429 46.507352 −2390.671509 31541.262826 3
#   20 −129.569726 46.536059 −2489.889282 35008.223630 4
#   21 −129.572365 46.536835 −2465.280823 35228.223630 3
#   22 −129.590068 46.508127 −2389.067017 38695.184435 4
#   23 −129.592706 46.508902 −2409.290771 38915.184435 3
#   24 −129.575005 46.537610 −2466.533142 42382.145240 4
#   25 −129.577645 46.538386 −2491.371094 42602.145240 3
#   26 −129.595345 46.509677 −2397.609253 46069.106044 4
#   27 −129.597984 46.510452 −2413.315918 46289.106044 3
#   28 −129.580285 46.539161 −2499.048889 49756.066849 4
#   29 −129.582925 46.539937 −2523.030640 49976.066849 3
#   30 −129.600622 46.511227 −2443.481018 53443.027653 4
#   31 −129.603261 46.512002 −2419.008240 53663.027653 3
#   32 −129.585565 46.540712 −2518.522400 57129.988458 4
#   33 −129.588205 46.541487 −2498.521301 57349.988458 3
#   34 −129.605900 46.512777 −2450.386536 60816.949263 4
#   35 −129.608539 46.513552 −2473.623230 61036.949263 3
#   36 −129.590845 46.542262 −2487.422180 64503.910067 4
#   37 −129.593485 46.543038 −2491.040466 64723.910067 3
#   38 −129.611178 46.514327 −2472.610657 68190.870872 3
#   39 −129.606711 46.517999 −2485.114583 68723.704236 3
#   40 −129.557338 46.509809 −2488.398743 72619.152031 3
#   41 −129.550415 46.521262 −2545.285828 73998.189601 3
#   42 −129.600724 46.536447 −2470.920736 78209.372536 3
#   43 −129.606972 46.525648 −2443.988281 79501.503455 4
#
# A total of 550 mission points have been defined.
#
# Define Mission parameters:
#define MISSION_SPEED      1.500000
#define MISSION_DISTANCE   79501.503455
#define MISSION_TIME       57203
#define MISSION_TIMEOUT    60067
#define DEPTH_MAX          2525.307922
#define DEPTH_ABORT        2562.807922
#define ALTITUDE_DESIRED   75.000000
#define ALTITUDE_MIN       75.000000
#define ALTITUDE_ABORT     30.000000
#define GPS_DURATION       600
#define DESCENT_DEPTH      3.000000
#define SPIRAL_DESCENT_DEPTH      2324.917643
#define SPIRAL_DESCENT_ALTITUDE   50.000000
#define DESCEND_DURATION   300
#define SETPOINT_DURATION  30
#define GPSMINHITS         10
```

```
#define ASCENDRUDDER       3.000000
#define ASCENDPITCH       45.000000
#define ASCENDENDDEPTH     2.000000
#define DESCENDRUDDER      3.000000
#define DESCENDPITCH      -30.000000
#define MAXCROSSTRACKERROR 30
#define RESON_DURATION     6
#q
```

## SEE ALSO

**mbsystem**(1), **mbgrdviz**(1)

## BUGS

Perhaps.