

Dispatch Utilities User Guide

Dispatch Utilities

User Guide

ADaM – Version 2.0.4

Sunrise – Sunset – Version 2.0.1

Computer Aided Navigation – Version 2.0.1



Dispatch Utilities User Guide

Contents	
1.0 Introduction	3
2.0 Common Functionality	3
2.1 Buttons	3
2.2 Sorting	3
3.0 Dispatch Utilities	3
3.1 ADaM	3
3.2 Sunrise-Sunset	5
3.3 CAN	5
4.0 ADaM	5
4.1 Aircraft Database	6
4.2 Airport Database	8
4.3 Flight Manager	10
4.2 Flight Manager Output Form	12
4.3 Distance Tables	17
5.0 CAN	18
5.1 Main Menu	19
5.2 CAN Input Form	20
5.3 CAN Results	21
5.4 CAN Database	22
6.0 Sunrise-Sunset	23
6.1 Main Menu	24
6.2 Sunrise-Sunset Input Form	25
6.3 Sunrise-Sunset Output Form	26

Dispatch Utilities User Guide

1.0 Introduction

The Dispatch Utilities Program contains the Adam, Sunrise-Sunset, and Can programs.

2.0 Common Functionality

2.1 The following functionalities are found through out Dispatch Utilities.

2.2 Buttons

Buttons	Function
Add	Allows data entry into database. Will insert record at the end of the file
Delete	Allows the user to select a desired record and delete it from the database.
Refresh	Refreshes the view of the screen by moving the cursor to the first record in the database.
Update	After making changes to an existing record, click the Update button to save the changes.
Close	Clicking the Close button will close the database.

2.3 Sorting

No	FAA #	A/C Type	RG	Location	APD	Vendor	Phone
----	-------	----------	----	----------	-----	--------	-------

The buttons located at the top of each of the databases (i.e. Aircraft, Airport, and Flight Manager) can be clicked on to sort the database or output in ascending or descending order.

3.0 Dispatch Utilities

Dispatch Utilities contain three programs, ADaM, Sunrise-Sunset, and CAN.

3.1 ADaM

ADaM, the Aviation Data Manager, consists of four management programs to facilitate aircraft dispatching. The main part of the system is the Flight Manager program, which permits the evaluation of alternative flight itineraries for diverse aircraft in terms of distance, time, and cost

Dispatch Utilities User Guide

information. The Airport File Management and Aircraft File Management programs allow you to update the databases of aircraft and airport data. The Distance program generates tables of distances between all airport pairs.

Flight Manager

This routine allows you a great deal of flexibility in comparing alternative routes and aircraft. The routine will evaluate Great Circle distances and the cost and time of single and multiple leg flight itineraries.

The Flight Manager can be used to simply retrieve Great Circle distances between airports and to make cost, time, and distance comparisons between alternative flight routes and aircraft. Five options allow you to either specify the sequence of intermediate stops or to enumerate them and have the program optimize the routing by minimizing flight distance. You may also omit specifying the aircraft's origin, and compare alternative itineraries for aircraft in the aircraft file, originating at the assigned bases.

Aircraft may be selected for comparison in three ways. You may select individual aircraft from the aircraft file, create new opportunity aircraft, or use the program to select all aircraft meeting certain constraints. Where opportunity aircraft are identified, you must specify their current location, speed and hourly flight rate, to generate meaningful output.

Once the flight itinerary and aircraft have been selected for analysis, the Flight Manager can generate a summary table comparing cost, time, and distance for each aircraft identified. If further detail is desired, you may use a scheduling option to identify departure, arrival, and ground delay times for each leg of a particular flight.

Airport File Manager

This routine is used to update the airport database, DU through addition, deletion, or modification of individual airport records. Each airport record contains the airport designator, city, state, and geographic coordinates, as well as an indicator of runway capability. You may also attach a brief comment to any airport record.

Aircraft File Manager

This program serves to update the aircraft database, DU by additions, deletions, or modifications of individual records of available aircraft. Each record includes information on the aircraft itself (FAA No., type, speed, category, capacity, etc), the vendor (name, telephone number), and the aircraft location and cost information. Records are ordered by aircraft record number.

Dispatch Utilities User Guide

Distance Computation

This program will generate tables of Great Circle distances between all airport pairs in the airport database, or by inputting the Latitude and Longitude of the Airports.

3.2 Sunrise-Sunset

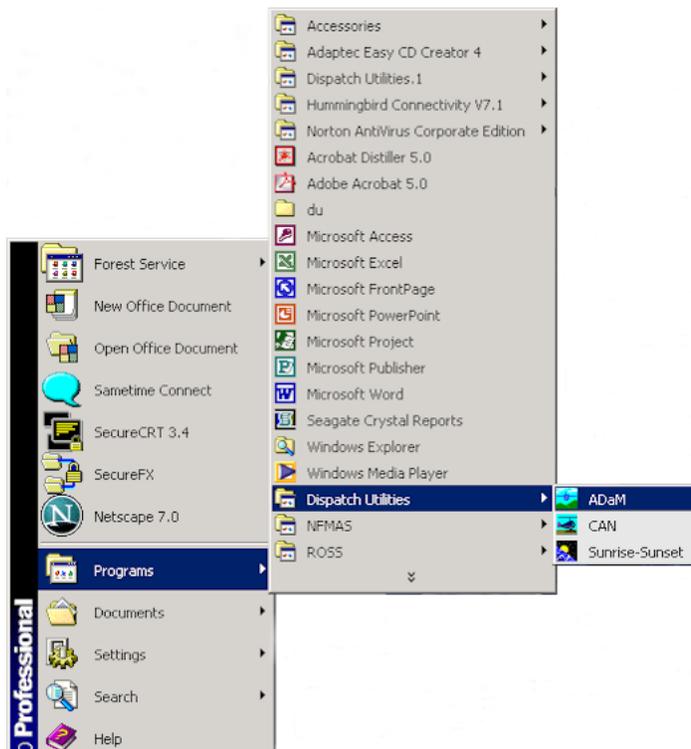
This program computes the time of sunrise and sunset. Adopted from program developed by Rodger W. Sinnott to calculate the times of sunrise and sunset on any given date, it is accurate to the minute within several centuries of the present. It correctly describes what happens in the arctic and Antarctic region, where the sun may not rise or set on a given date.

3.3 CAN

CAN – Computer Aided Navigation will convert latitudes and longitudes to a valid legal description for the following fifteen western states: Arizona, California, Colorado, Idaho, Kansas, Montana, Nebraska, New Mexico, Nevada, Oregon, South Dakota, Utah and Wyoming.

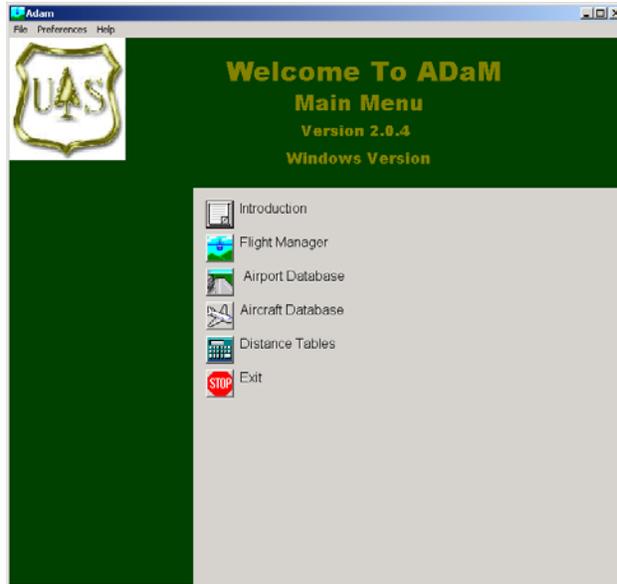
4.0 ADaM

To start Dispatch Utilities, click on Start, Program, Dispatch Utilities.



Dispatch Utilities User Guide

Select the ADaM icon, highlighting it. Clicking the left mouse button will start the ADaM program, opening the ADaM Main Menu.



From the Main Menu, the user may view the introduction, start Flight Manager, view the Airport Database or the Aircraft Database, or calculate Distance Tables.

4.1 Aircraft Database

The Aircraft Database is populated with a small set of aircraft and will have to be customized for each unit. To open the Aircraft Database, click on the Aircraft Database button. The Aircraft Database screen will open.

Add	Del	No/FAA #	A/C Type	RIG Location	APD	Vendor	Phone	Category	Engine	Runway	Passenger	W
		1 6988B	BARON	OS BORSE - ID	BOJ	ACCESS AIR	200-309-9906	S	M	0	5	
		2 725AC	C-210 TURBO	OS BORSE - ID	BOJ	ACCESS AIR	200-309-9906	S	J	0	5	
		3 068S	LEAR 31	OS BORSE - ID	BOJ	ACCESS AIR	200-309-9906	S	M	0	6	
		4 986S	KING AIR 300	OS BORSE - ID	BOJ	ACCESS AIR	200-309-9906	S	M	0	9	
		5 607W	KAZO	OS BORSE - ID	BOJ	ACCESS AIR	200-309-9906	S	M	0	10	
		6 6698B	C-210 TURBO	OS BORSE - ID	BOJ	CONVIAN AVIATION	200-343-1042	S	S	0	5	
		7 929V	C-20K STATION	OS BORSE - ID	BOJ	CONVIAN AVIATION	200-343-1042	S	C	0	5	
		8 202T	CHEY II	OS BORSE - ID	BOJ	CONVIAN AVIATION	200-343-1042	S	M	0	6	
		9 498M	CHEY II	OS BORSE - ID	BOJ	CONVIAN AVIATION	200-343-1042	S	M	0	7	
		10 528M	CHEY II	OS BORSE - ID	BOJ	CONVIAN AVIATION	200-343-1042	S	M	0	7	
		11 361AS	LEAR 35	OS BORSE - ID	BOJ	CONVIAN AVIATION	200-343-1042	S	M	0	8	
		12 87V	CHEY III	OS BORSE - ID	BOJ	CONVIAN AVIATION	200-343-1042	S	M	0	8	
		13 104C	KAIR 60	FS BORSE - ID	BOJ	ID-NIC	200-307-5622	S	M	0	6	
		14 7148A	KAIR 90	FC BORSE - ID	BOJ	ID-NIC	200-307-5622	S	M	0	6	
		15 107C	KAIR 200	FS BORSE - ID	BOJ	ID-NIC	200-307-5622	S	M	0	8	
		16 696J	TRAMP CITEER	OS BORSE - ID	BOJ	MARSH	1992 044L 70	S	M	0	4	
		17 1953U	C-20K	OS BORSE - ID	BOJ	SAWTOOTH FLYING	200-342-7888	S	T	0	5	
		18 703H	B737-200 AZWAY	FC BORSE - ID	BOJ	SILVER PACIFIC	SPD 044L 22	L	M	0	100	
		19 1498K	C-20K	OS BORSE - ID	BOJ	SP AIRCRAFT	200-303-3323	S	S	0	5	
		20 479B	C-20K STATION	OS BORSE - ID	BOJ	SP AIRCRAFT	200-303-3323	S	S	0	5	
		21 796WZ	C-20K STATION	OS BORSE - ID	BOJ	SP AIRCRAFT	200-303-3323	S	S	0	5	
		22 8273M	C-210 TURBO	OS BORSE - ID	BOJ	SP AIRCRAFT	200-303-3323	S	S	0	5	
		23 634B	KAIR 200	OS BORSE - ID	BOJ	TURBO AIR	200-343-3300	S	M	0	8	
		24 9096C	KAIR 60	OS BORSE - ID	BOJ	TURBO AIR	200-343-3300	S	M	0	8	
		25 100E	CESSNA CITATM	FS BORSE - ID	BOJ	USPS	200-307-5622	S	M	0	6	
		26 899RL	CESSNA 310	OS BORSE - ID	BOJ	VERDE AVIATION	200-303-8070	S	M	0	6	
		27 786WA	METRO II	OS BORSE - ID	BOJ	WESTERN AIR DOPR	200-343-2796	S	M	0	0	
		28 789WA	METRO II	OS BORSE - ID	BOJ	WESTERN AIR DOPR	200-343-2796	S	M	0	0	
		29 762WA	METRO II	OS BORSE - ID	BOJ	WESTERN AIR DOPR	200-343-2796	S	M	0	0	
		30 787WA	METRO II	OS BORSE - ID	BOJ	WESTERN AIR DOPR	200-343-2796	S	M	0	0	
		31 762WA	METRO II	OS BORSE - ID	BOJ	WESTERN AIR DOPR	200-343-2796	S	M	0	0	
		32 787WA	C-402	OS BORSE - ID	BOJ	WESTERN AIR DOPR	200-343-2796	S	M	0	0	
		33 7947U	C-402	OS BORSE - ID	BOJ	WESTERN AIR DOPR	200-343-2796	S	M	0	0	

Dispatch Utilities User Guide

Field Name	Description
No.	A computer generated number counting the entries into the aircraft table.
FAA #	FAA Tail Number for the aircraft.
A/C Type	Make and model of the aircraft
RG	Forest Service Region
Location	Base location of aircraft, City, state
A/P	Airport designator for home base of the aircraft
Vendor	Vendor of flight service, contract or owner of the aircraft
Phone	Area code and local telephone number of the vendor
Category	S='Small' – less than 40 passenger or equivalent fixed wing L = 'Large' – 40+ passenger or equivalent fixed wing aircraft H = Rotary wing aircraft T = Air tanker F = Float Plane
Engine	S = Single engine M = Multiple engine
Runway	Numerical descriptor of runway capability required for landing and takeoff, consistent with value in AP DATA file.
Pax	Passenger capacity of aircraft
Weight	Weight capacity of aircraft in pounds
Volume	Volume capacity of aircraft in cubic feet
Knots	Block speed of aircraft in nautical miles per hour
Flight Cost	Hourly flight cost (xxxx.xx), dollars/hour
SBY Cost	Hourly standby cost (xxxx.xx), dollars/hour
On Cost	Overnight cost (xxx.xx), dollars
Description	A user defined field that can be used locally. For instance, type2 can be entered for Type II helicopters. Then when Flight Manager is run, the user can retrieve only aircraft with the "type2" description. In the DOS version of ADaM, users often entered a sequence number for like aircraft. Using the sequence numbers from the DOS version will allow users to select certain groups of aircraft for like jobs.

To enter a new aircraft, click on the "Add" button. The database will open, inserting a new record at the end. Click on the "Update" button to save the changes.

Dispatch Utilities User Guide

To print the Aircraft Database, click on File on the top menu bar. Select Printer Setup, select the desired printer and set the paper to landscape. Click OK. Click File and Print to print the Aircraft Database.

Changes to the Airport Database can also be made in Sunrise-Sunset.

4.2 Airport Database

The Airport Database is populated with FAA data. To open the Airport Database, click on the Airport Database button. The Airport Database will display.

No	APD	Lat(Deg)	Lat(Min)	Lng(Deg)	Lng(Min)	Runway	Comments	City
1	MDY	28	12	177	23			SAND ISLAND
2	ADK	51	53	176	39			ADAK ISLAND
3	AKA	52	13	174	12			ATKA
4	GAM	63	46	171	44			GAMBELL
5	SVA	63	41	170	30			SAVONONGA
6	SNP	57	10	170	13			ST PAUL ISLAND
7	PBV	56	35	169	40			ST GEORGE
8	JON	16	44	169	32			JOHNSTON ISLAND
9	DM2	65	46	168	57			DIOMEDE
10	IKO	52	57	168	51			NIKOLSKI
11	IWK	65	37	168	6			WALES
12	TNC	65	34	167	55			TIN CITY
13	AK98	65	38	167	29			BUCK CREEK
14	AK45	65	27	167	11			LOST RIVER
15	LSR	65	24	167	10			LOST RIVER
16	AK23	53	58	166	53			DUTCH HARBOR
17	KPC	65	15	166	52			PORT CLARENCE
18	PH0	68	21	166	48			POINT HOPE
19	DUT	53	54	166	33			UNALASKA
20	KTS	65	20	166	28			BREVIG MISSION
21	K54	65	14	166	20			TELLER
22	MYU	60	22	166	16			MEKORYUK
23	HPB	61	31	166	9			HOOPER BAY
24	3Z1	64	50	166	8			FEATHER RIVER
25	LUR	68	53	166	7			CAPE LISBURNE
26	SHH	66	15	166	5			SHISHMAREF
27	CZF	61	47	166	2			CAPE ROMANZOF
28	VAK	61	32	165	35			CHEVAK
29	SCM	61	51	165	34			SCAMMON BAY

Dispatch Utilities User Guide

Field Name	Description
No.	Entry number in the Airport Data file, use for reference; this number may change consequent to certain file updates.
A/P	Airport designator (max 4 characters)
Lat(Deg)	Latitude, North, of airport (dd mm)
Lng(Deg)	Longitude, West, or airport (ddd mm)
Runway	Numerical descriptor of airport runway capability, consistent with requirements assigned to aircraft.
Comment	
City	City or town in which airport is located
ST	State in which airport is located
NS	North/South
EW	East/West

To enter a new airport, click on the “Add” button. The database will open, inserting a new record at the end. Click on the “Update” button to save the changes.

To print the Airport Database, click on File on the top menu bar. Select Printer Setup, select the desired printer and set the paper to landscape. Click OK. Click File and Print to print the Aircraft Database.

Changes to the Airport Database can also be made in Sunrise-Sunset.

Dispatch Utilities User Guide

4.3 Flight Manager Input

From the Flight Manager Form the user can enter the category, engine, Passenger/Weight, the A/C Type, Aircraft Description, and the selected route.

To define a specific flight, select an origin, Specific or Random.

The Specific Origin allows the user to set the origin they wish to use for the itinerary for the flight. Using the Random Origin, allows the application to set the origin based on the location of each aircraft.

Next, choose the number of intermediate stops along the trip. The user can choose from 0 to 5 stops.

Pick an order sequence or unordered sequence. In an ordered sequence the program calculates the distance and time in the order the user inputs the intermediate stops. In an unordered sequence the program calculates the most efficient route to take.

Enter the different options to sort and choose the aircraft for the itinerary. In the Category box, the user can choose from a Small plane, Large plane, Helicopter, Floatplane or Tanker plane. In the Engine box, the user can choose whether he/she wants a single or multiple engine aircraft. In the passenger/weight box, the user enters a value form 1 to 5000. Numbers

Dispatch Utilities User Guide

from 1 to 399 are considering number of passengers, and a number from 400 to 5000 are in weight. In the A/C type box, the user can enter a specific type of plane he/she would like to use. In the Description box the user can enter user identified aircraft. For instance, when a user is specifically looking for Type II helicopters, the user can enter "type2" in the description box. The application will then select only those aircraft with "type2" in the description box in the aircraft database. The user can select as many or as few of the options he/she chooses.

Fifth step is to set the origin, destination, and stops he/she requires. The stops can be entered by typing in the 3-letter VOR, or by clicking on the button next to the box and choosing the VOR from the table. After entering the VOR hit Enter and the cursor will move to the next VOR entry.

Airports can be added to the Airport Database on the fly through Flight Manager.

- While in Flight Manager, click on Edit on the top toolbar.
- This will launch the airport database screen for input of the new airport.
- Fill in all the fields (APD, Latitude and Longitude are required).
- After the fields are entered, click the Add button.

Origin		Destination	
44	121	43	116
15	9	34	13

After completing these steps the user is ready to click on the calculate button to calculate and view the itinerary.

Dispatch Utilities User Guide

4.2 Flight Manager Output

The screenshot shows a window titled "Results" with a green header area containing the UAS logo and the text "Results of Flight Manager". Below the header, there is a "Close" button and flight information: Origin: 44:15 121:9, Destination: 43:34 116:13, Selected Route: RDM To BOI, Distance: 217.52. A table lists four aircraft options with columns for No, SEQNo, FAANo, ACType, Vendor, Phone, Base, Knots, and RateHr. The first row is highlighted. Below the table is a "Selected Aircraft Detail" section with a "Print" button and a summary table.

No	SEQNo	FAANo	ACType	Vendor	Phone	Base	Knots	RateHr
1	83	10RF	UH 1H	IDAHO HELICOPTER	CWN2L	*RDM	104	\$872.00
2	85	314CR	B-214	RIVER CITY	CWN2S	*RDM	123	\$1,392.00
3	104	66HJ	B-205	HELI JET	EXC2S	*RDM	104	\$824.00
4	105	911VR	B-212	ROGERS	EXC2S	*RDM	101	\$959.00

Selected Route	RDM to BOI	Total
Distance	217.52	218
Time	2:5	02:05
Fit. Cost	1823.82	1823.8

The Results of Flight Manager form displays the results.

The highlighted line in the first table is the active live. The output in the bottom table reflects the output from the active line.

Dispatch Utilities User Guide

Origin: 44:15 121:9
Destination: 43:34 116:13

Selected Route: RDM To BOI
217.52
Distance: 217.52

No	SEQNo	FAANo	ACType	Vendor	Phone	Base	Knots	RateHr
1	83	10RF	UH 1H	IDAHO HELICOPTER	CWN2L	*RDM	104	\$872.00
2	85	314CR	B-214	RIVER CITY	CWN2S	*RDM	123	\$1,392.00
3	104	66HJ	B-205	HELI JET	EXC2S	*RDM	104	\$824.00
4	105	911VR	B-212	ROGERS	EXC2S	*RDM	101	\$959.00

Selected Aircraft Detail: Print

Selected Route	RDM to BOI	Total
Distance	217.52	218
Time	2:5	02:05
Fit. Cost	1823.82	1823.8

The first table can be sorted by clicking on any of the fields. In this case the RateHr field is selected and the output will be sorted in ascending order.

Dispatch Utilities User Guide

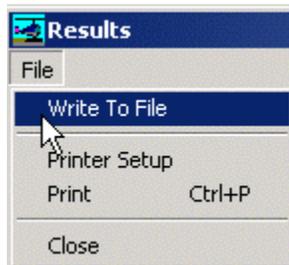
The screenshot shows a window titled "Results" with a menu bar containing "File". On the left is a logo with "UAS" inside a shield. The main area has a green header "Results of Flight Manager". Below it, a "Close" button is on the left. The flight details are: Origin: 44:15 121:9, Destination: 43:34 116:13, Selected Route: RDM To BOI, Distance: 217.52. A table lists aircraft options:

No	SEQNo	FAANo	ACType	Vendor	Phone	Base	Knots	RateHr
3	104	66HJ	B-205	HELI JET	EXC2S	*RDM	104	\$824.00
1	83	10RF	UH 1H	IDAHO HELICOPTER	CWN2L	*RDM	104	\$872.00
4	105	911VR	B-212	ROGERS	EXC2S	*RDM	101	\$959.00
2	85	314CR	B-214	RIVER CITY	CWN2S	*RDM	123	\$1,392.00

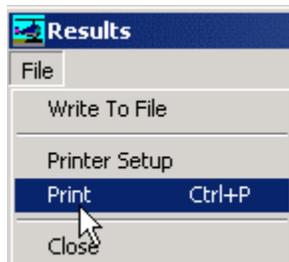
Below the table is a "Selected Aircraft Detail:" section with a "Print" button. It contains a summary table:

Selected Route	RDM to BOI	Total
Distance	217.52	218
Time	2:5	02:05
Fit. Cost	1723.43	1723.41

The output now reflects the sorted RateHr field in ascending order. The program will save the output in the sorted order in the report.



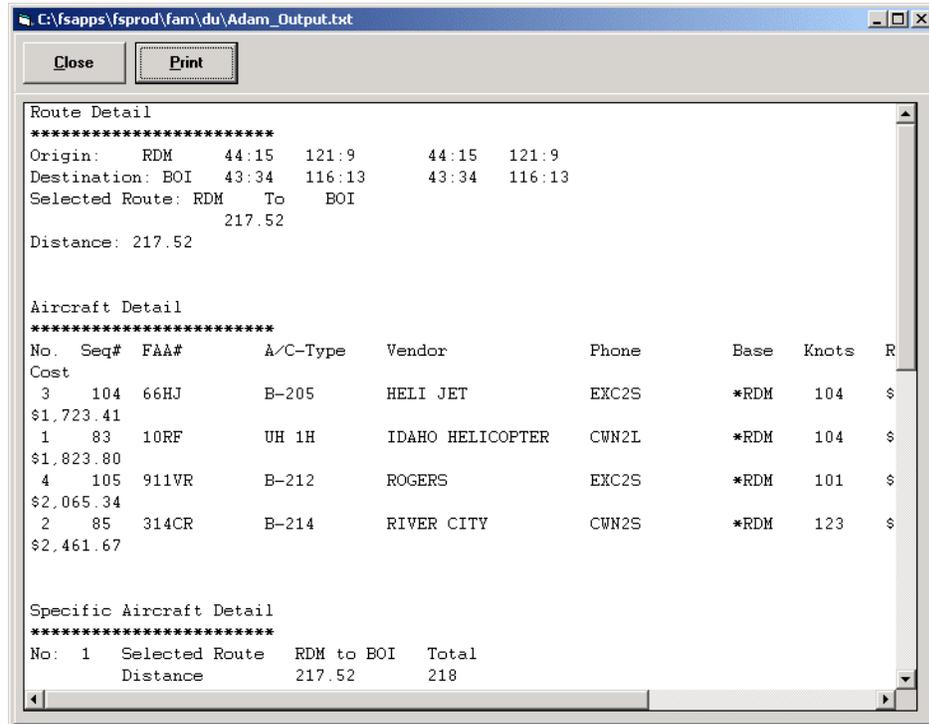
To save the output click on File, Write to File.



Dispatch Utilities User Guide

To print the results, click on “File,” then select Printer setup, make sure the printer is set up to print Landscape. After the printer is set, click “File,” then select Print and follow the instructions.

To print the output click on File, Print. The following screen will display.



```
C:\fsapps\fsprod\fam\du\Adam_Output.txt
Close Print
Route Detail
*****
Origin:   RDM   44:15  121:9   44:15  121:9
Destination: BOI  43:34  116:13  43:34  116:13
Selected Route: RDM To BOI
                217.52
Distance: 217.52

Aircraft Detail
*****
No.  Seq#  FAA#   A/C-Type  Vendor      Phone      Base  Knots  R
Cost
3     104   66HJ    B-205     HELI JET    EXC2S     *RDM  104   $
$1,723.41
1     83     10RF    UH 1H     IDAHO HELICOPTER  CWN2L     *RDM  104   $
$1,823.80
4     105   911VR   B-212     ROGERS      EXC2S     *RDM  101   $
$2,065.34
2     85     314CR   B-214     RIVER CITY  CWN2S     *RDM  123   $
$2,461.67

Specific Aircraft Detail
*****
No: 1 Selected Route RDM to BOI Total
      Distance      217.52      218
```

Click the Print button to print the output.

If the output does not print landscape, the file Adam_Output.txt can be printed using Notepad. Adam_Output.txt is located at c:\fsapps\fsprd\fam\du.

Dispatch Utilities User Guide

Origin: 44:15 121:9
Destination: 43:34 116:13

Selected Route: RDM To BOI
217.52
Distance: 217.52

No	SEQNo	FAANo	ACType	Vendor	Phone	Base	Knots	RateHr
1	83	10RF	UH 1H	IDAHO HELICOPTER	CWN2L	*RDM	104	\$872.00
2	85	314CR	B-214	RIVER CITY	CWN2S	*RDM	123	\$1,392.00
3	104	66HJ	B-205	HELI JET	EXC2S	*RDM	104	\$824.00
4	105	911VR	B-212	ROGERS	EXC2S	*RDM	101	\$959.00

Selected Aircraft Detail:

Selected Route	RDM to BOI	Total
Distance	217.52	218
Time	2:5	02:05
Fit. Cost	1823.82	1823.8

Print

Clicking on the Print button in the Selected Aircraft Detail will produce a report that contains the data displayed on the screen for the highlighted aircraft.

Dispatch Utilities User Guide

4.3 Distance Tables

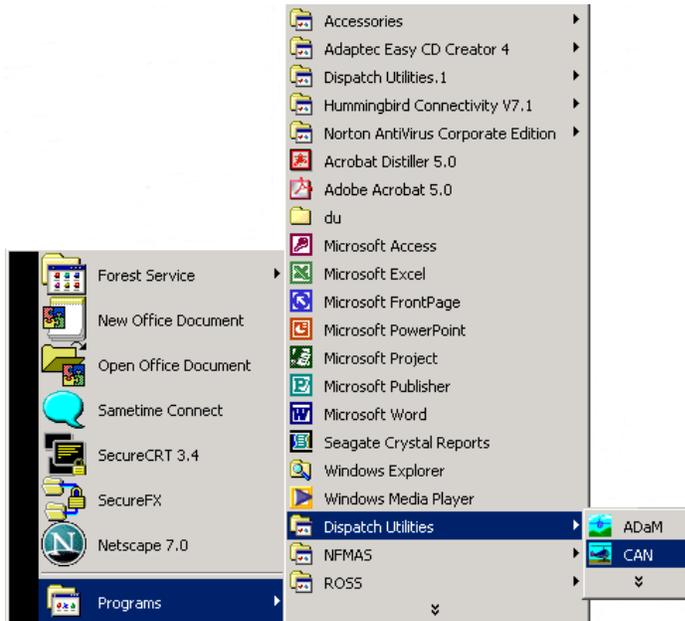
The Distance Tables form is used to calculate the nautical miles between any two given latitudes and longitudes. You can select the two points by typing in the three-letter VOR code, choosing the VOR out of the lookup table, or by entering the Lat. and Long. for the two points. After the user has the points selected he/she can click on the Calculate button and it will calculate the distance and display the distance between the two points.

The screenshot shows a software window titled "Distance Form" with a menu bar containing "File", "Calculate", and "Help". The window features a green header with the "UAS" logo and the text "Distance Calculations". On the left side, there are three buttons: "Calculate", "Clear", and "Close". The main area contains several input fields and controls:

- "# of Stops" section with radio buttons for 0, 1, 2, 3, 4, and 5. The "0" option is selected.
- "Origin" dropdown menu showing "BOI".
- "Destination" dropdown menu showing "DEN".
- Two 2x2 grids of input fields for coordinates. The first grid (Origin) has values 43, 116, 34, and 13. The second grid (Destination) has values 39, 104, 52, and 40.
- "Total Flying Distance (In Nautical Miles)" field with the value 563.3.
- "Leg 1 Dist:" field with the value 563.30.

Dispatch Utilities User Guide

5.0 CAN



To start CAN, click Start, Programs, Dispatch Utilities, CAN.

Various Federal and local agencies use the Computer Aided Navigation (CAN) program. The Windows based version with a GUI interface replaces the current MS-DOS version. The program displays the 13 nearest VOR, ATB, Heli bases along with their azimuth and distance away from the inputted point. The program converts legal locations to latitude and longitude and visa versa. All calculations are done using the '*middle latitude sailing formulas*'.

Dispatch Utilities User Guide

5.1 CAN Main Menu

The Main Menu is a switch box to open all the other forms. From the menu you can open the Can Program, the Can Databases, the Preference Table, and Help.



Dispatch Utilities User Guide

5.2 CAN Input Form

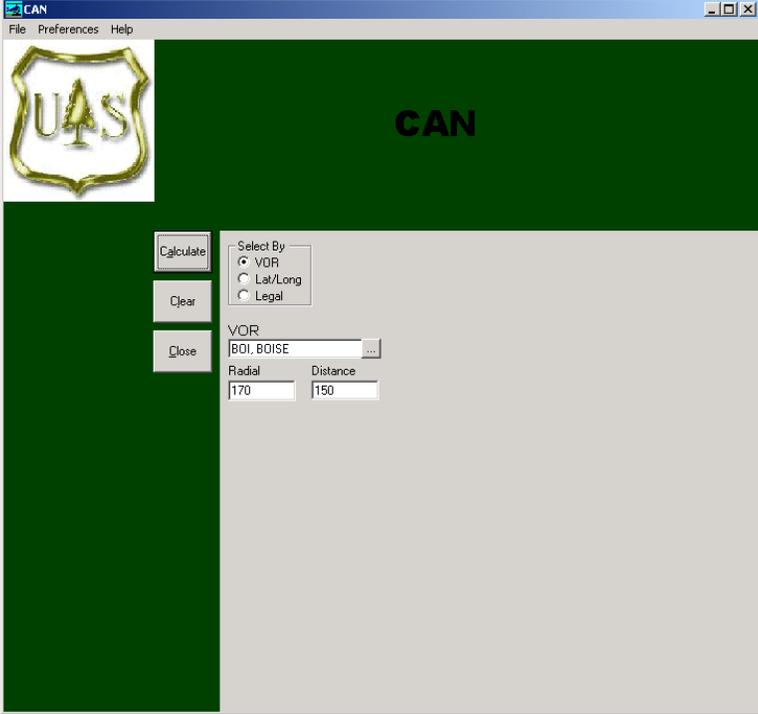
The CAN form is used to input the fields to be used in the calculation. The first step is to select which Format you want to enter the data in. You can choose to enter the data in the form of the VOR with its radians and distance, Legal, or Lat./Long. Second step is to input the data.

If you selected VOR, you need to enter the VOR, Radian, and Distance of the center point.

If you selected Lat./Long, you need to enter the Latitude in degrees and minutes, and the Longitude in degrees and minutes of the center point.

If you selected Legal, you need to enter the Legal for the center point. Legal must be in the form T/R/S.

The final step is to click the calculate button to perform the calculations.



The screenshot shows a software window titled "CAN" with a menu bar containing "File", "Preferences", and "Help". On the left side, there is a logo for "UAS" (Utah Air Services) featuring a shield with the letters "UAS" inside. The main area of the window has a dark green header with the word "CAN" in white. Below the header, there are three buttons: "Calculate", "Clear", and "Close". To the right of these buttons is a "Select By" section with three radio button options: "VOR" (which is selected), "Lat/Long", and "Legal". Below the "Select By" section, there is a "VOR" section with a text input field containing "B01, BOISE" and a dropdown arrow. Underneath this, there are two input fields: "Radial" with the value "170" and "Distance" with the value "150".

Dispatch Utilities User Guide

5.3 CAN Results

Legal
37N47E14M NV

Latitude
41 : 5

Longitude
116 : 38.2

VOR
BOI

Radial
170

Distance
150

VOR			AFT			HEL		
VOR	Rad	Dist	VOR	Rad	Dist	VOR	Rad	Dist
TWF	213	127.00	TWF	212	127.00	PRV	164	237.00
BOI	170	150.00	BOI	170	150.00	KSL	172	237.00
PIH	224	208.00	PIH	224	211.00	SLS	155	279.00
SLC	258	211.00	MYL	168	230.00	RDM	115	260.00
MYL	167	222.00	LGD	147	259.00	INA	185	281.00
BKE	149	231.00	GVL	165	292.00	GVL	165	292.00
IDA	219	250.00	CRG	162	310.00	ORO	164	325.00
LKT	187	261.00	WYS	211	325.00	HAM	180	329.00
DBS	212	266.00	MSO	180	366.00	BTM	195	343.00
RDM	115	280.00	HLN	195	389.00	MAM	212	350.00
JAC	223	303.00	GJT	274	390.00	MSO	180	366.00
BPI	237	305.00	COE	160	402.00	HLN	195	389.00

To print, click on File and Print.

Dispatch Utilities User Guide

5.4 CAN Databases

The CAN Database form is used to update the VOR table, States table, and Meridian Table. The Factors table and Half table are **READ ONLY** in this form.

To switch from table to table use the option buttons at the top of the grid.

- **Adding a record**, click on the “Add” button, the program takes you to a new record. Input the record and when all finished click off the record or click to add a new record, this saves the current record.
- **Deleting a record**, highlight the row(s) and then click on the “Delete” button and click “OK” when asked are you sure you want to delete this record.
- **Editing a record**, click in the field that you are wishing to edit and type in the correction then click outside the row, or click the update button.
- **Printing a table**, click on “File” select print. Choose the option buttons for the tables you wish to view or print and then click the “OK” button.

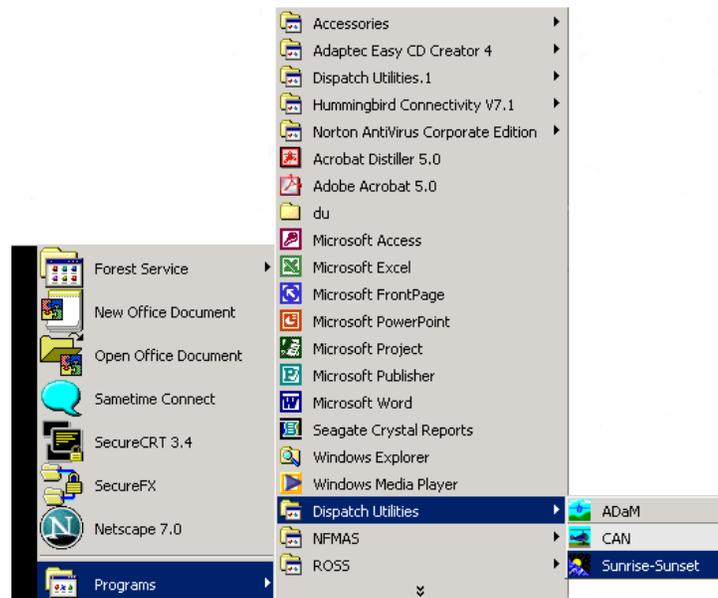
ID	VOR	City	Latitude(Deg)	Latitude(Min)	Longitude(Deg)	Longitude(Min)
1	ABQ	ALBUQUERQUE	35	2.6	106	48.9
2	ALW	WALLA WALLA	46	5.2	118	17.5
3	BIL	BILLINGS	45	48.5	108	37.4
4	BIL	BILLINGS	45	48.5	108	37.4
5	BJC	JEFFCO	39	54.5	105	6.9
6	BKE	BAKER, OR	44	50.4	117	48.4
7	BOI	BOISE	43	33.9	116	13.5
8	BOI	BOISE	43	33.9	116	13.5
9	BPI	BIG PINEY	42	34.8	110	6.5
10	BTM	BUTTE	45	57.2	112	29.8
11	BYG	BUFFALO WY	44	22.9	106	43.3
12	BZN	BOZEMAN	45	47	111	9.3
13	COD	CODY	44	37.2	108	57.8
14	COE	COEUR D'ALENE	47	46.5	116	49.2
15	COE	COEUR D'ALENE	47	46.5	116	49.2
16	COE	COEUR D'ALENE	47	46.5	116	49.2
17	COS	CO. SPRINGS	38	48.7	104	42.7
18	CPN	COPPERTOWN VOR	46	2	112	44.8
19	CPR	CASPER	43	5.5	106	16.6
20	CRA	CROW AGENCY	45	36.6	107	27.1
21	CRG	CRAIGMONT	46	14.8	116	28.8
22	CTB	CUT BANK	48	33.9	112	20.5
23	CYS	CHEYENNE	41	12.7	104	46.3
24	DBS	DUBOIS ID	44	5.3	112	12.5
25	DGW	DOUGLAS WY	42	40.6	105	13.5
26	DIK	DICKINSON	46	51.6	102	46.4
27	DLN	DILLON	45	14.9	112	32.8
28	DRO	DURANGO	37	9.1	107	45.2
29	DRI	DRI	46	20.2	112	11.1

Dispatch Utilities User Guide

6.0 Sunrise-Sunset

The Sunrise-sunset program computes the time of sunrise and sunset given a specific VOR or latitude and longitude. Adopted from program developed by Rodger W. Sinnott to calculate the times of sunrise and sunset on any given date, it is accurate to the minute within several centuries of the present. It correctly describes what happens in the arctic and antarctic regions, where the sun may not rise or set on a given date.

Computations are made using algorithms published by the U.S. Navel Observatory. This calculation/algorithm was published in Sky and Telescope for August 1994, page 84.

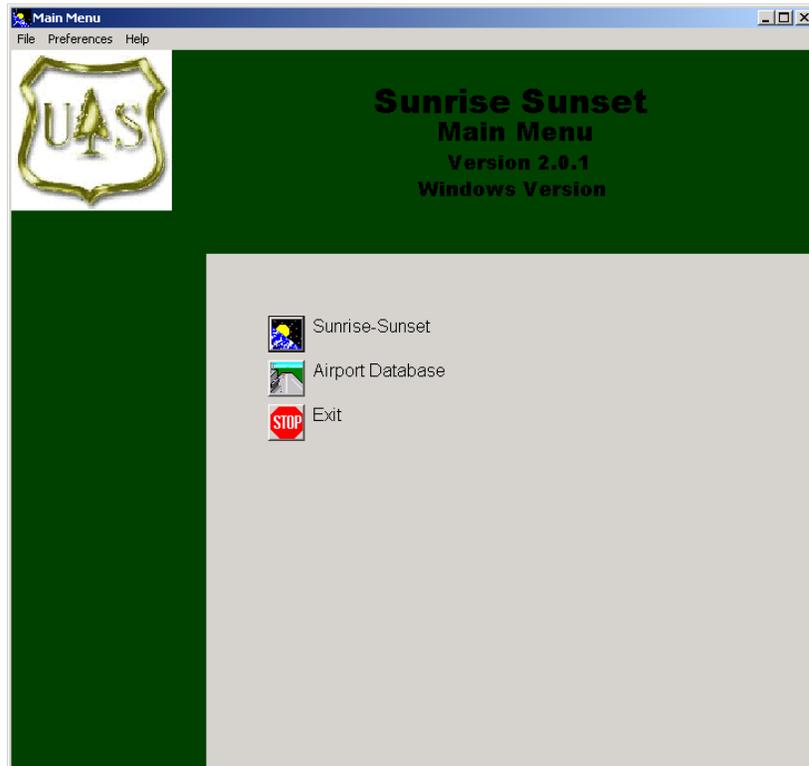


To start Sunrise-Sunset, click Start, Programs, Dispatch Utilities, Sunrise-Sunset.

Dispatch Utilities User Guide

6.1 Sunrise-Sunset Main Menu

The Main Menu is a switch box to open all the other forms. From the menu you can open the Sunrise-Sunset form, Location Database, Preference table, and Help.



Dispatch Utilities User Guide

6.2 Sunrise-Sunset Input Form

The screenshot shows a software window titled "Sunrise-Sunset" with a menu bar (File, Edit, Help) and a logo on the left. The main area has a dark green background with the text "Sunrise Sunset". Below this is a light gray form with the following fields and controls:

- Airport/Heliport: BOI
- Latitude: 43 Degrees, 34 Minutes
- Longitude: 116, 13
- Time Zone: MDT (dropdown menu)
- Start date: 06/06/2003 (calendar icon)
- Finish date: 06/06/2003 (calendar icon)
- Lat Direction: North, South
- Lng Direction: West, East

On the left side of the form, there are three buttons: Calculate, Clear, and Close.

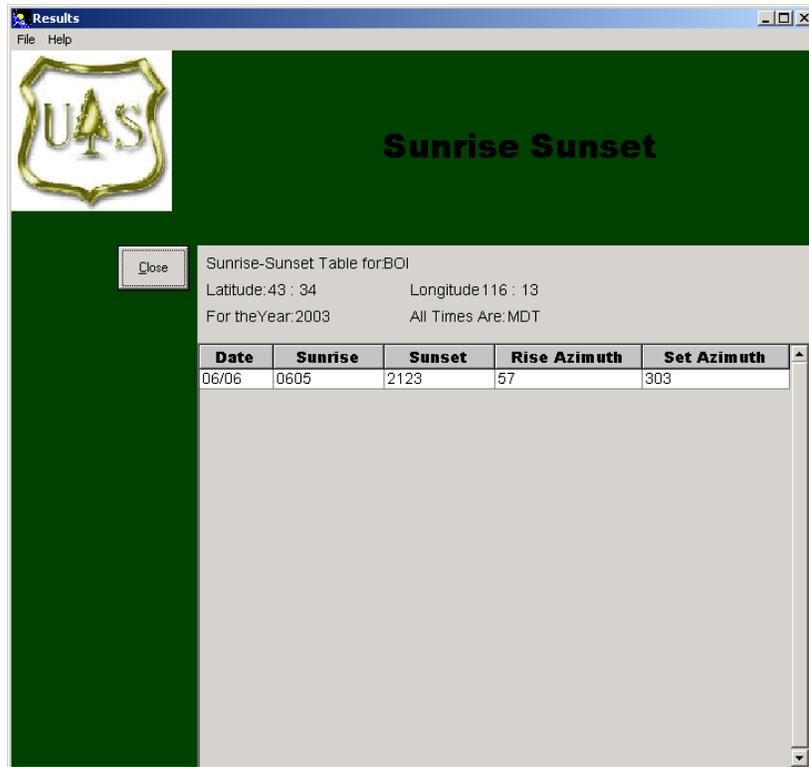
The SRSS form is used to input the required data to perform the sunrise-sunset calculations.

The first step is to enter either the VOR or the Lat./Long. The program only requires one or the other. Then enter the Time Zone.

Next enter the start and finish date for the program to calculate. The dates must begin and end within the same year. You can also input the date by selecting it out of the popup calendar. The date will automatically be set to the current date when the program is opened.

6.3 Sunrise-Sunset Output Form

Dispatch Utilities User Guide



To print the output form, click on File, Print.