

RATE GUIDE

A. GENERAL

This section contains a list of rate centers for the State of Maryland with V-H (vertical and horizontal) coordinates and instructions for determining airline mileages for long distance message telecommunications service and interexchange channels.

B. TERMS AND CONDITIONS

1. In general, each point in the State of Maryland is designated as a rate center except that certain small towns or communities are assigned adjacent rate centers with which they are closely associated for communication purposes or by community of interest.
2. For the purpose of determining airline mileages vertical and horizontal grid lines have been established across the State of Maryland. The spacing between adjacent vertical grid lines and between horizontal grid lines represents a distance of one coordinate unit. This unit is the square root of 0.1, expressed in statute miles. A vertical (V) and horizontal (H) coordinate is computed for each rate center from its latitude and longitude location by use of appropriate map-projection equations. A pair of V-H coordinates locates a rate center, for determining airline mileages, at a particular intersection of an established vertical grid line with an established horizontal grid line. The distance between any two rate centers is the airline mileage computed as explained in 5. following.
3. For long distance message telecommunications service and interexchange channels, the rate center for a point not listed in this section is the rate center for the central office to which the point is assigned for long distance message telecommunications service rate purposes.
4. The mileage for multipoint interexchange channel services is that combination of airline distances between rate centers which will produce the lowest total interexchange mileage charge.

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B. TERMS AND CONDITIONS (Cont'd)

5. Determination of Airline Mileages

a. Long Distance Message Telecommunications Service

To determine the rate distance between any two rate centers proceed as follows:

- (1) Obtain the "V" and "H" coordinates for each rate center.
- (2) Obtain the difference between the "V" coordinates of the two rate centers. Obtain the differences between the "H" coordinates.

Note: The difference is always obtained by subtracting the smaller coordinate from the larger coordinate.

- (3) Divide each of the differences obtained in (2) by three, rounding each quotient to the nearer integer.
- (4) Square these two integers and add the two squares.

If the sum of the squares is greater than 1777, divide the integers obtained in (3) by three and repeat step (4). Repeat this process until the sum of the squares obtained in (4) is less than 1778.

- (5) The number of successive divisions by three in steps (3) and (4) determines the value of "N". Multiply the final sum of the two squares obtained in step (4) by the multiplier specified in the following table for this value of "N" preceding"

<u>N</u>	<u>Multiplier</u>	<u>Minimum Rate Mileage</u>
1	0.9	-
2	8.1	41
3	72.9	121

- (6) Obtain square root of product in (5) and, with any resulting fraction, round up to the next higher integer. This is the message rate mileage except that when the mileage so obtained is less than the minimum rate mileage shown in (5) preceding, the minimum rate mileage corresponding to the "N" value is applicable.

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B. TERMS AND CONDITIONS (Cont'd)

5. Determination of Airline Mileages (Cont'd)

a. Long Distance Message Telecommunications Service (Cont'd)

Example:

The message rate distance is required between Hagerstown and Salisbury.

	<u>V</u>	<u>H</u>
(1) Hagerstown	5555	1772
Salisbury	<u>5578</u>	<u>1315</u>
(2) difference	23	457
(3) dividing each difference by three and rounding to nearer integer = 8 and 152		
(4) squaring integers and adding,	8 x 8	= 64
sum of squared integers	152 x 152	= <u>23,104</u> 23,168
(5) dividing integers in (3) by three and rounding = 3 and 51		
(6) squaring integers and adding,	3 x 3	= 9
sum of squared integers	51 x 51	= <u>2,601</u> 2,610
sum of squared integers is greater than 1777, so divide integers in (5) by three and repeat (6)		
(7) dividing integers in (5) by three and rounding = 1 and 17		
(8) squaring integers and adding,	1 x 1	= 1
sum of squared integers	17 x 17	= <u>289</u> 290

This sum of squared integers is less than 1778 and was obtained after three successive divisions by three; therefore, "N" = 3.

RATE GUIDE

B. TERMS AND CONDITIONS (Cont'd)

5. Determination of Airline Mileages (Cont'd)

a. Long Distance Message Telecommunications Service (Cont'd)

Example: (Cont'd)

$$\begin{array}{r} (9) \text{ Multiply final sum of squared integers by} \\ \text{factor 72.9 (corresponding to "N" = 3)} \end{array} \quad \begin{array}{r} 290 \\ \times 72.9 \\ \hline = 21,141.0 \end{array}$$

(10) Square root of 21,141.0 = 145 and a fraction, which is rounded up to 146 miles (fractional miles being considered full miles). The 146 miles is larger than the minimum of 121 rate miles applicable when "N" = 3, so the message rate mileage is 146 miles.

b. Interexchange Channels

To determine the rate distance between any two rate centers proceed as follows:

- (1) Obtain the "V" and "H" coordinates for each rate center.
- (2) Obtain the difference between the "V" coordinates of the two rate centers. Obtain the difference between the "H" coordinates.

Note: The difference is always obtained by subtracting the smaller coordinate from the larger coordinate.
- (3) Square each difference obtained in (2) above.
- (4) Add the squares of the "V" differences and "H" difference obtained in (3) above.
- (5) Divide the sum of the squares obtained in (4) above by ten. Round to the next higher integer if any fraction is obtained.

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B. TERMS AND CONDITIONS (Cont'd)

5. Determination of Airline Mileages (Cont'd)

b. Interexchange Channels (Cont'd)

(6) Obtain the square root of the result obtained in (5) above.

This is the rate distance in miles, (fractional miles being considered full miles).

Example:

The rate distance is required between Frederick and Salisbury.

	<u>V</u>	<u>H</u>
Frederick	5565	1700
Salisbury	<u>5578</u>	1315
difference	13	385
squared	169 + 148,225 = 148,394	
	<u>148,394</u>	
	10	= 14,839.4
	14,840	= 121.8 = 122 airline miles

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B. TERMS AND CONDITIONS (Cont'd)

6. List of Rate Centers

The columns following, headed "V" and "H", contain the vertical and horizontal coordinates for each rate center.

<u>Rate Center</u>	<u>V</u>	<u>H</u>	<u>Rate Center</u>	<u>V</u>	<u>H</u>
Aberdeen	5429	1540	Columbia	5548	1598
Accident	5707	1992	Crisfield	5670	1303
Annapolis	5555	1519	Crofton	5571	1544
Arbutus	5525	1575	Cumberland	5650	1916
Armiger- Gibson Island	5533	1545	Damascus	5569	1656
Ashton	5576	1613	Darlington	5408	1561
			Deal Island	5649	1339
Baltimore	5510	1575	Delmar	5558	1325
Bel Air	5442	1568	Denton	5507	1413
Berlin	5546	1258	Dundalk	5509	1557
Berwyn	5594	1578			
Bethesda	5614	1604	Easton	5551	1434
Bishopville	5527	1272	Edgewood	5457	1547
Bittinger	5702	1975	Elkridge	5535	1579
Bowie-Glen Dale	5586	1563	Elkton	5377	1508
Brandywine	5640	1532	Ellicott City	5534	1597
Brooklyn Park- Linthicum	5525	1565	Emmitsburg	5505	1724
Brunswick	5604	1717	Essex	5496	1563
Buckeystown	5583	1693			
			Fallston	5454	1565
Cambridge	5588	1408	Federalsburg	5535	1383
Capitol Heights	5614	1565	Flintstone	5623	1896
Cardiff	5409	1590	Fork	5462	1571
Catonsville	5528	1589	Frederick	5565	1700
Cecilton	5420	1486	Friendsville	5707	2008
Centreville	5503	1467	Frostburg	5666	1940
Chase	5475	1548			
Chesapeake City	5390	1494	Gaithersburg	5595	1637
Chestertown	5473	1488	Galena	5430	1478
Church Hill	5477	1468	Glen Burnie	5535	1560
Churchville	5428	1557	Glenwood	5546	1633
Clear Spring	5572	1802	Grantsville	5678	1979
Clinton	5633	1548	Greensboro	5489	1423
Cockeysville	5480	1603			

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B. TERMS AND CONDITIONS (Cont'd)

6. List of Rate Centers (Cont'd)

The columns following, headed "V" and "H", contain the vertical and horizontal coordinates for each rate center. (Cont'd)

<u>Rate Center</u>	<u>V</u>	<u>H</u>	<u>Rate Center</u>	<u>V</u>	<u>H</u>
Hagerstown	5555	1772	North Beach	5612	1486
Hampstead	5479	1645	North East	5391	1521
Hancock	5585	1842			
Havre de Grace	5414	1535	Oakland	5755	1979
Highfield	5519	1748	Ocean City	5532	1241
Hillsboro	5513	1435	Odenton	5558	1561
Hughesville	5664	1503	Oldtown	5656	1882
Hurlock	5555	1386	Oxford	5576	1435
Hyattsville	5605	1578	Oxon Hill	5636	1565
Indian Head	5689	1565	Parkton	5453	1624
			Parkville	5487	1571
Jarrettsville	5442	1596	Perryville	5411	1533
			Pikesville	5507	1600
Keedysville	5579	1750	Pocomoke	5627	1273
Kensington	5604	1605	Poolesville	5616	1667
Kitzmiller	5736	1944	Port Deposit	5406	1546
			Preston	5545	1404
La Plata	5684	1528	Prince Frederick	5643	1476
Laurel	5567	1584	Princess Anne	5614	1309
Layhill	5591	1608			
Leonardtown	5692	1451	Queenstown	5520	1473
Lexington Park- Great Mills	5688	1425	Randallstown	5516	1602
Lonaconing	5686	1937	Reistertown	5501	1626
			Ridge	5698	1392
Marion	5652	1298	Ridgely	5502	1429
Marlboro	5610	1534	Rising Sun	5384	1549
McCoole	5707	1923	Rock Hall	5502	1501
Mechanicsville	5676	1485	Rockville	5601	1624
Middletown	5573	1721			
Millersville	5556	1549	St. Michaels	5564	1456
Millington	5442	1463	Salisbury	5578	1315
Mount Airy	5549	1660	Severn	5542	1558
Mount Savage	5654	1938	Severna Park	5545	1537
Myersville	5564	1733	Sharptown	5557	1355
			Sherwood Forest	5552	1530
Nanjemoy	5721	1553	Silver Run	5481	1683
Nanticoke	5618	1348	Silver Spring	5603	1598
New Market	5558	1676	Smith Island	5691	1325
New Windsor	5514	1674	Smithsburg	5539	1752

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B. TERMS AND CONDITIONS (Cont'd)

6. List of Rate Centers (Cont'd)

The columns following, headed "V" and "H", contain the vertical and horizontal coordinates for each rate center. (Cont'd)

<u>Rate Center</u>	<u>V</u>	<u>H</u>	<u>Rate Center</u>	<u>V</u>	<u>H</u>
Snow Hill	5590	1263	Union Bridge	5516	1686
Solomons	5669	1431			
Sparks-Glencoe	5468	1611	Vienna	5578	1362
Sparrows Point	5513	1548			
Stevensville	5538	1492	Waldorf	5659	1531
Still Pond	5450	1499	Walkersville	5548	1700
Sudlersville	5455	1457	Warwick	5407	1474
Sykesville	5532	1632	Waterloo	5549	1583
			Westernport	5706	1937
Taneytown	5499	1697	West River	5589	1517
Thurmont	5528	1726	Westminster	5497	1662
Tilghman	5587	1463	Willards	5553	1293
Tompkinsville	5711	1501	Williamsport	5572	1780
Towson	5490	1586	Wingate	5633	1401
Trappe	5571	1418	Woodlawn	5516	1594
			Worthington	5499	1630