DATA SET CATALOG #18

INTERIM DATA SET CATALOG
EXPLORER 28 TRAJECTORY

65-042A-00G 4 tapes

Table of Contents



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## 1. INTRODUCTION:

The documentation for this data set was originally on paper, kept in NSSDC's Data Set Catalogs (DSCs). The paper documentation in the Data Set Catalogs have been made into digital images, and then collected into a single PDF file for each Data Set Catalog. The inventory information in these DSCs is current as of July 1, 2004. This inventory information is now no longer maintained in the DSCs, but is now managed in the inventory part of the NSSDC information system. The information existing in the DSCs is now not needed for locating the data files, but we did not remove that inventory information.

The offline tape datasets have now been migrated from the original magnetic tape to Archival Information Packages (AIP's).

A prior restoration may have been done on data sets, if a requestor of this data set has questions; they should send an inquiry to the request office to see if additional information exists.

2. ERRATA/CHANGE LOG:

NOTE: Changes are made in a text box, and will show up that way when displayed on screen with a PDF reader.

***When printing, special settings may be required to make the text box appear on the printed output.***

| Version | Date | Person | Page | Description of Change |
|---|---|---|---|---|
| 01 | | | | |
| 02 | | | | |

3 LINKS TO RELEVANT INFORMATION IN THE ONLINE NSSDC INFORMATION SYSTEM:

http://nssdc.gsfc.nasa.gov/nmc/

[NOTE: This link will take you to the main page of the NSSDC Master Catalog. There you will be able to perform searches to find additional information]

4. CATALOG MATERIALS:

a. Associated Documents To find associated documents you will need to know the document ID number and then click here. http://nssdcftp.gsfc.nasa.gov/miscellaneous/documents/

b. Core Catalog Materials

XXNO 00379

IMP-C

S ECLIPTIC & MSPHERIC EPHEMERIS TAPE

65-042A-00G

THIS DATA SET HAS BEEN RESTORED. THERE WERE ORIGINALLY FOUR 7-TRACK, 800 BPI TAPES WRITTEN IN BINARY. THERE ARE TWO RESTORED TAPES. THE TIME SPANS COULD NOT BE VERIFIED. THE DR TAPES ARE 3480 CARTRIDGES AND THE DS TAPES ARE 9-TRACK, 6250 BPI. THE ORIGINAL TAPES WERE CREATED ON AN IBM 7094 COMPUTER AND WERE RESTORED ON THE MRS SYSTEM. THE DR AND DS NUMBERS ALONG WITH THE CORRESPONDING D NUMBERS AND TIME SPANS ARE AS FOLLOWS:

| DR# | DS# | D# | FILES | TIME SPAN |
|---|---|---|---|---|
| DR004687 | DS004687 | D001797 | 1 | 05/29/65 - 02/10/66 (a) |
| | | D001798 | 2 | 02/10/66 - 07/31/66 (b) |
| | | D001799 | 3 | 07/31/66 - 03/18/67 (c) |
| DR004688 | DS004688 | D001800 | 1 | 03/18/67 - 05/11/67 |

(a) D001797 - ONE READ ERROR, REC 186, FILE 1
(b) D001798 - 3 ERRORS, REC. 1233, 1621, 3104, FILE 1
(c) D001799 - 17 ERRORS, REC. 104, 977, 11141, 11162, 11280, 11469, 11490, 11552, 11702, 11708, 11722, 11729, 11735, 11736, 11742, 11762, 11803

65-042A-00G

EXPLORER 28 TRAJECTORY

Tape #1 - D-1458 (unmerged)

Partial Listing

of beginning and end

5-25-65 to 8-3-65

4 tapes

May 31, 1972

To: Data Repository

From: ADP Services JPJ

Subject: Release of data tapes (RB0059)

Please release the 'DD' tapes and copies of the following data sets:

63-046A-00D, 00E, and 00F

64-060A-00D, 00E, and 00F

65-042A-00D, 00E, and 00F

These data sets have been sucessfully merged into the 00G data set.

| 63-046A-00D -00E - 00F | | 64-060A-00D -00E -00F | |
|---|---|---|---|
| DD00295 | DC00128 | DD00300 | DC00132 |
| DD00296 | DC00129 | DD00301 | DC00130 |
| DD05564 | DC03912 | DD00302 | DC00131 |
| DD00293 | DC03911 | DD00303 | |
| DD05565 | | DD00297 | |
| DD00294 | | DD00298 | |
| DD00339 | | DD00299 | |
| DD00340 | | DD00343 | |
| DD01517 | | DD00341 | |
| DD01518 | | DD00342 | |
| DD01519 | | DD01525 | |
| DD01520 | | DD01526 | DD01523 |
| DD01516 | | DD01527 | DD01524 |
| DD01521 | | DD01533 | DD01522 |

65-042A-00D -00E -00F

| | | | |
|---|---|---|---|
| DD01464 | DD01482 | DD01506 | DC01072 |
| DD01470 | DD02897 | DD01497 | |
| DD01476 | DD01483 | DD01507 | |
| DD01465 | DD02896 | DD01498 | |
| DD01466 | DD01479 | DD01508 | |
| DD01477 | DD01484 | DD01509 | |
| DD01467 | DD01480 | DD01667 | |
| DD01478 | DD02898 | DD01499 | |
| DD01468 | DD01485 | DD01510 | |
| DD01458 | DD01481 | | |
| DD01469 | DD01500 | | |
| DD01459 | DD01511 | | |
| DD01460 | DD01501 | | |
| DD01471 | DD01512 | | |
| DD01472 | DD01502 | | |
| DD01461 | DD01513 | | |
| DD01473 | DD01503 | | |
| DD01462 | DD01514 | | |
| DD01474 | DD01504 | | |
| DD01463 | DD01495 | | |
| DD01475 | DD01505 | | |
| DD01486 | DD01496 | | |

65-042A-00D Explorer 28, Ephemeris (Inertial - Unmerged)
65-042A-00E Explorer 28, Ephemeris (Inertial - Merged)

## Theoretical Field and Parameters
## Definition of Symbols Used in the Printout

| | |
|---|---|
| M(-69.,11.7) | - Longitude and co-latitude of the earth magnetic dipole in rotating geocentric coordinates measured in degrees. |
| SA(125.1,-22.8) | - Right ascension and declination in degrees of the satellite spin axis. |
| SUN(X,Y) | - Right ascension and declination in degrees of the sun. |
| THETA | - The angle in degrees between the celestial inertial X-axis and the rotating geocentric X-axis. |

| | |
|---|---|
| DY, HR, MN | - Day count of year, hour and minutes of day. |
| GLAT, GLONG | - Geodetic latitude and longitude in degrees of satellite. |
| ELEV | - Elevation in kilometers of satellite. |
| MLAT, MLONG | - Geomagnetic latitude and longitude in degrees of satellite. |
| BN, BE, BV | - North, east and vertical components of the earth magnetic field (vertical is positive towards the earth) at probe position. |
| B | - Magnitude of field at probe position. |
| BPER, BPAR | - Payload coordinate decomposition of field into components perpendicular and parallel to the spin axis. |
| ALPHA | - The angle in degrees between the spin axis and the field vector. |
| PSI | - The angle in degrees between BPER and the perpendicular-to-the-spin-axis component of the satellite sun vector. |
| SUNA | - The angle in degrees between the probe spin axis and the satellite sun vector. |
| XI, YI, ZI | - Celestial inertial coordinates in earth radii of the satellite. |

The format for items 5 (DY) through 20 (ZI) respectively on the master orbital trajectory data tape is: FORMAT (1X, 3I3, 2F7.2, F8.0, 2F6.1, 6F8.1, 3F6.1, 3F6.2).

The first four items are not included on the data tape.

IMP-C TRAJ, FROM 05/29/65 TO 06/03/65 DEFINITIVE BEGIN C
END DATE= 65 6 3

149 12 10 13.36 -48.39 397. 24.2 22.1 22778.1 -6517.5 20206.2 31138.6 18070.4
18.0 32.6 0.57 0.37 0.24

149 12 15 0.12 -29.22 1243. 9.1 40.4 15747.8 -5024.7 1969.2 14646.9 15217.3
16.7 32.6 0.90 0.79 0.00

149 12 20 -9.98 -15.17 2520. -2.9 52.8 9255.4 -2777.9 -3206.0 10181.2 9840.5
22.6 32.6 0.76 1.15 -0.24

149 12 25 -16.94 -4.69 4006. -11.5 61.7 5632.5 -1582.1 -3602.9 6870.8 5394.8
15.8 32.6 0.57 1.45 -0.47

149 12 30 -21.65 3.31 5576. -17.6 68.4 3659.1 -995.8 -3058.2 4871.7 3051.4
2.1 32.6 0.37 1.70 -0.69

149 12 35 -24.90 9.54 7167. -22.0 73.6 2511.0 -679.6 -2459.6 3580.0 1917.3
47.1 32.6 0.16 1.92 -0.89

149 12 40 -27.19 14.46 8748. -25.2 77.8 1800.7 -489.6 -1964.7 2709.7 1366.2
31.2 32.6 -0.05 2.11 -1.08

149 12 45 -28.84 18.39 10306. -27.6 81.1 1339.2 -366.4 -1580.1 2103.4 1075.1
17.5 32.6 -0.26 2.28 -1.26

149 12 50 -30.06 21.57 11835. -29.4 83.9 1026.9 -282.2 -1284.9 1658.8 896.4
07.9 32.6 -0.47 2.43 -1.43

149 12 55 -30.98 24.15 13332. -30.8 86.1 808.1 -222.7 -1057.6 1349.5 769.5
00.6 32.6 -0.67 2.56 -1.59

149 13 0 -31.67 26.25 14796. -31.9 88.0 650.1 -179.3 -880.9 1109.4 670.5
95.4 32.6 -0.88 2.69 -1.74

149 13 5 -32.20 27.95 16229. -32.8 89.5 533.0 -146.9 -742.1 925.4 589.6
91.5 32.6 -1.08 2.80 -1.89

149 13 10 -32.61 29.34 17632. -33.5 90.7 444.2 -122.2 -631.7 781.8 521.
88.7 32.6 -1.27 2.90 -2.03

149 13 15 -32.93 30.45 19006. -34.0 91.7 375.4 -103.1 -542.8 667.9 463.
86.4 32.6 -1.47 3.00 -2.16

149 13 20 -33.18 31.34 20353. -34.5 92.5 321.2 -88.0 -470.4 576.7 413.
84.7 32.6 -1.65 3.09 -2.29

149 13 25 -33.37 32.04 21673. -34.8 93.2 277.8 -75.9 -410.9 501.7 371.
83.4 32.6 -1.84 3.18 -2.42

149 13 30 -33.52 32.56 22969. -35.0 93.6 242.6 -66.1 -361.4 440.2 334.
82.3 32.6 -2.03 3.26 -2.54

149 13 35 -33.64 32.95 24241. -35.2 94.0 213.6 -58.0 -319.9 389.1 302.
81.4 32.6 -2.21 3.33 -2.66

149 13 40 -33.72 33.20 25491. -35.4 94.2 189.5 -51.4 -284.9 346.0 274.
80.7 32.6 -2.39 3.40 -2.77

149 13 45 -33.79 33.35 26720. -35.5 94.3 169.3 -45.8 -255.1 309.6 249.
80.2 32.6 -2.55 3.47 -2.88

```
                BEGIN DATE= 65  5 29      REC     1. LENGTH   132
256.2 31138.6 18070.4-25358.9 144.5 3   REC     2. LENGTH   132
969.2 15646.9 15217.3 -6749.4 113.9     REC     3. LENGTH   132
206.0 10181.2  9840.5  2611.7  75.1     REC     4. LENGTH   132
602.9  6870.8  5394.8  4254.9  51.7     REC     5. LENGTH   132
058.2  4871.7  3051.4  3797.7  38.8     REC     6. LENGTH   132
459.6  3580.0  1917.3  3023.3  32.4 3   REC     7. LENGTH   132
964.7  2709.7  1366.2  2340.0  30.3 3   REC     8. LENGTH   132
1680.1 2103.4  1075.1  1807.8  30.7 3   REC     9. LENGTH   132
1284.9 1658.8   896.4  1407.6  32.5 3   REC    10. LENGTH   132
1057.6 1349.5   769.5  1108.6  34.8 3   REC    11. LENGTH   132
-880.9 1109.4   670.5   883.9  37.2 2   REC    12. LENGTH   132
-742.1  925.4   589.4   713.5  39.6 2   REC    13. LENGTH   132
-631.7  781.8   521.3   582.6  41.8 2   REC    14. LENGTH   132
-542.8  667.9   463.5   481.0  43.9 2   REC    15. LENGTH   132
-470.4  576.3   413.9   401.0  45.9 2   REC    16. LENGTH   132
-410.9  501.7   371.3   337.4  47.7 2   REC    17. LENGTH   132
-361.4  440.2   334.4   286.3  49.4 2   REC    18. LENGTH   132
-319.9  389.1   302.4   244.8  51.0 2   REC    19. LENGTH   132
-284.9  346.0   274.4   210.8  52.5 2   REC    20. LENGTH   132
-255.1  309.6   249.9   182.7  53.8 2   REC    21. LENGTH   132
```

```
149 13 50 -33.83  33.40  27929. -35.5  94.4   152.2   -41.0  -229.5  278.4   228.
79.7  32.6 -2.74  3.53 -2.99

149 13 55 -33.86  33.36  29119. -35.5  94.3   137.6   -37.0  -207.4  251.6   209.
79.4  32.6 -2.91  3.59 -3.10

149 14  0 -33.88  33.25  30290. -35.5  94.2   125.0   -33.6  -188.2  228.3   192.
79.1  32.6 -3.08  3.65 -3.20

149 14  5 -33.88  33.06  31445. -35.5  94.0   114.0   -30.6  -171.4  208.1   177.
78.8  32.6 -3.24  3.70 -3.30

149 14 10 -33.88  32.81  32583. -35.4  93.8   104.5   -28.0  -156.6  190.4   164.
78.7  32.6 -3.41  3.76 -3.40

149 14 15 -33.87  32.51  33704. -35.4  93.5    96.1   -25.7  -143.7  174.8   152.
78.6  32.6 -3.57  3.81 -3.50

149 14 20 -33.86  32.15  34811. -35.3  93.1    88.8   -23.7  -132.1  160.9   141.
78.5  32.6 -3.73  3.85 -3.59

149 14 25 -33.84  31.75  35903. -35.2  92.7    82.2   -21.9  -121.9  148.6   131.
78.4  32.6 -3.89  3.90 -3.69

149 14 30 -33.81  31.30  36981. -35.1  92.3    76.4   -20.3  -112.7  137.7   122.
78.4  32.6 -4.04  3.94 -3.78

149 14 35 -33.78  30.82  38046. -34.9  91.8    71.2   -18.9  -104.5  127.8   114.
78.4  32.6 -4.20  3.99 -3.87

149 14 40 -33.75  30.30  39098. -34.8  91.3    66.5   -17.6   -97.1  119.0   107.
78.4  32.6 -4.35  4.03 -3.96

149 14 45 -33.71  29.74  40137. -34.7  90.8    62.3   -16.5   -90.4  111.0   100.
78.5  32.6 -4.50  4.07 -4.04

149 14 50 -33.68  29.15  41164. -34.5  90.2    58.5   -15.5   -84.3  103.8    94.
78.5  32.6 -4.65  4.10 -4.13

149 14 55 -33.64  28.54  42180. -34.4  89.6    55.0   -14.5   -78.8   97.2    89.
78.6  32.6 -4.80  4.14 -4.21

149 15  0 -33.60  27.90  43184. -34.2  89.0    51.9   -13.7   -73.8   91.3    84.
78.7  32.6 -4.95  4.18 -4.30

149 15  5 -33.56  27.23  44178. -34.0  88.4    49.0   -12.9   -69.3   85.8    79.
78.8  32.6 -5.09  4.21 -4.38

149 15 10 -33.51  26.54  45161. -33.8  87.7    46.4   -12.2   -65.1   80.8    75.
79.0  32.6 -5.23  4.24 -4.46

149 15 15 -33.47  25.83  46134. -33.6  87.0    43.9   -11.5   -61.2   76.2    71.
79.1  32.6 -5.38  4.27 -4.54

149 15 20 -33.43  25.10  47097. -33.5  86.3    41.7   -10.9   -57.7   72.0    67.
79.2  32.6 -5.52  4.30 -4.62

149 15 25 -33.38  24.35  48051. -33.3  85.6    39.7   -10.4   -54.4   68.1    64.
79.4  32.6 -5.66  4.33 -4.69

149 15 30 -33.34  23.58  48995. -33.1  84.9    37.8    -9.9   -51.4   64.5    60.
```

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 29.5 | 278.4 | 228.3 | 159.2 | 55.1 | 2 | REC | 22. LENGTH | 132 |
| 07.4 | 251.6 | 209.3 | 139.6 | 56.3 | 2 | REC | 23. LENGTH | 132 |
| 88.2 | 228.3 | 192.4 | 122.9 | 57.4 | 2 | REC | 24. LENGTH | 132 |
| 71.4 | 208.1 | 177.4 | 109.8 | 58.5 | 2 | REC | 25. LENGTH | 132 |
| 56.6 | 190.4 | 164.0 | 96.7 | 59.5 | 2 | REC | 26. LENGTH | 132 |
| 43.7 | 174.8 | 152.0 | 86.3 | 60.4 | 2 | REC | 27. LENGTH | 132 |
| 32.1 | 160.9 | 141.2 | 77.3 | 61.3 | 2 | REC | 28. LENGTH | 132 |
| 21.9 | 148.6 | 131.4 | 69.4 | 62.2 | 2 | REC | 29. LENGTH | 132 |
| 12.7 | 137.7 | 122.6 | 62.6 | 63.0 | 2 | REC | 30. LENGTH | 132 |
| 04.8 | 127.8 | 114.6 | 56.6 | 63.7 | 2 | REC | 31. LENGTH | 132 |
| 97.1 | 119.0 | 107.4 | 51.3 | 64.5 | 2 | REC | 32. LENGTH | 132 |
| 90.4 | 111.0 | 100.7 | 46.6 | 65.2 | 2 | REC | 33. LENGTH | 132 |
| 84.3 | 103.8 | 94.7 | 42.5 | 65.8 | 2 | REC | 34. LENGTH | 132 |
| 78.8 | 97.2 | 89.1 | 38.8 | 66.5 | 2 | REC | 35. LENGTH | 132 |
| 73.8 | 91.3 | 84.1 | 35.5 | 67.1 | 2 | REC | 36. LENGTH | 132 |
| 69.3 | 85.8 | 79.4 | 32.6 | 67.7 | 2 | REC | 37. LENGTH | 132 |
| 65.1 | 80.8 | 75.1 | 29.9 | 68.3 | 2 | REC | 38. LENGTH | 132 |
| 61.2 | 76.2 | 71.1 | 27.5 | 68.8 | 2 | REC | 39. LENGTH | 132 |
| 57.7 | 72.0 | 67.4 | 25.4 | 69.3 | 2 | REC | 40. LENGTH | 132 |
| 54.4 | 68.1 | 64.0 | 23.5 | 69.9 | 2 | REC | 41. LENGTH | 132 |
| 51.4 | 64.5 | 60.8 | 21.7 | 70.4 | 2 | REC | 42. LENGTH | 132 |

```
97.8  32.6-14.73  5.18 -9.15

 149 22 35 -30.35 -65.95 109612. -18.7   3.4    4.9    -0.1    -3.2    5.8
97.8  32.6-14.81  5.18 -9.19

 149 22 40 -30.33 -66.41 110178. -18.6   2.4    4.8    -0.0    -3.2    5.8
97.9  32.6-14.90  5.18 -9.22

 149 22 45 -30.30 -67.56 110742. -18.6   1.3    4.7    -0.0    -3.1    5.7
97.9  32.6-14.98  5.18 -9.26

 149 22 50 -30.28 -68.71 111304. -18.6   0.3    4.7     0.0    -3.1    5.6
98.0  32.6-15.07  5.18 -9.30

 149 22 55 -30.26 -69.87 111863. -18.5  -0.8    4.6     0.0    -3.0    5.5
98.0  32.6-15.15  5.18 -9.34

 149 23  0 -30.23 -71.02 112420. -18.5  -1.8    4.5     0.0    -3.0    5.4
98.0  32.6-15.24  5.18 -9.37

 149 23  5 -30.21 -72.18 112975. -18.5  -2.9    4.5     0.1    -3.0    5.4
98.0  32.6-15.32  5.18 -9.41

 149 23 10 -30.18 -73.34 113528. -18.5  -4.0    4.4     0.1    -2.9    5.3
98.0  32.6-15.40  5.18 -9.45
```

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| .2 | 5.8 | 5.8 | -0.9 | 99.3 | 2 | REC | 127. LENGTH | 132 |
| .2 | 5.8 | 5.7 | -1.0 | 99.6 | 2 | REC | 128. LENGTH | 132 |
| .1 | 5.7 | 5.6 | -1.0 | 100.0 | 2 | REC | 129. LENGTH | 132 |
| .1 | 5.6 | 5.5 | -1.0 | 100.3 | 2 | REC | 130. LENGTH | 132 |
| .0 | 5.5 | 5.4 | -1.0 | 100.6 | 2 | REC | 131. LENGTH | 132 |
| .0 | 5.4 | 5.3 | -1.0 | 100.9 | 2 | REC | 132. LENGTH | 132 |
| .0 | 5.4 | 5.3 | -1.0 | 101.2 | 2 | REC | 133. LENGTH | 132 |
| .9 | 5.3 | 5.2 | -1.1 | 101.5 | 2 | REC | 134. LENGTH | 132 |

215 10 45 -25.77 63.12 235159. -33.2 127.0 0.5 -0.1 -0.6 0.8
46.2 73.3-34.03 2.28-16.46

215 10 50 -25.76 61.85 235310. -33.0 125.7 0.5 -0.1 -0.6 0.8
46.5 73.3-34.05 2.26-16.46

215 10 55 -25.74 60.66 235460. -32.8 124.4 0.5 -0.1 -0.6 0.8
46.7 73.3-34.08 2.25-16.47

215 11 0 -25.73 59.44 235610. -32.6 123.1 0.5 -0.1 -0.6 0.8
47.0 73.3-34.10 2.24-16.47

215 11 5 -25.72 58.21 235760. -32.4 121.8 0.5 -0.1 -0.6 0.8
47.2 73.3-34.13 2.22-16.47

215 11 10 -25.70 56.98 235909. -32.1 120.6 0.5 -0.1 -0.6 0.8
47.5 73.3-34.16 2.21-16.47

215 11 15 -25.69 55.75 236057. -31.9 119.3 0.5 -0.1 -0.6 0.8
47.7 73.4-34.18 2.20-16.48

215 11 20 -25.66 54.52 236204. -31.7 118.0 0.5 -0.1 -0.6 0.8
48.0 73.4-34.21 2.18-16.48

215 11 25 -25.67 53.29 236352. -31.4 116.7 0.5 -0.1 -0.6 0.8
48.3 73.4-34.23 2.17-16.48

| | | | | | |
|---|---|---|---|---|---|
| -0.6 | 0.8 | 0.8 | -0.2 106.5 3 | REC | 1. LENGTH 132 |
| -0.6 | 0.8 | 0.8 | -0.2 106.4 3 | REC | 2. LENGTH 132 |
| -0.6 | 0.8 | 0.8 | -0.2 106.3 3 | REC | 3. LENGTH 132 |
| -0.6 | 0.8 | 0.7 | -0.2 106.3 3 | REC | 4. LENGTH 132 |
| -0.6 | 0.8 | 0.7 | -0.2 106.2 3 | REC | 5. LENGTH 132 |
| -0.6 | 0.8 | 0.7 | -0.2 106.1 3 | REC | 6. LENGTH 132 |
| -0.6 | 0.8 | 0.7 | -0.2 106.0 3 | REC | 7. LENGTH 132 |
| -0.6 | 0.8 | 0.7 | -0.2 105.9 3 | REC | 8. LENGTH 132 |
| -0.6 | 0.8 | 0.7 | -0.2 105.9 3 | REC | 9. LENGTH 132 |