

Data Set Catalog # 60

Alouette I Alosyn Data
62-049A-01C 6 tapes

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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 This inventory information is now no longer maintained in the DSCs, but is now managed in the inventory part of the NSSDC information system.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
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01				
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02				
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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

ALOUETTE 1

ALOSYN SCALED DATA

62-049A-01C

THIS DATA SET HAS BEEN RESTORED. THERE WERE ORIGINALLY SIX 7-TRACK, 556 BPI TAPES, WRITTEN IN BCD. THERE IS ONE RESTORED TAPE, WRITTEN IN EBCDIC. THE DR TAPE IS A 3480 CARTRIDGE AND THE DS TAPE IS 9-TRACK, 6250 BPI. THE ORIGINAL TAPES WERE CREATED ON THE MODCOMP COMPUTER. THE DR AND DS NUMBERS, ALONG WITH THE CORRESPONDING D NUMBERS AND TIME SPANS ARE AS FOLLOWS:

DR#	DS#	D#	FILES	TIME SPAN
DR002947	DS002947	D000384	1	09/29/62 - 04/30/63
		D000385	2	05/01/63 - 12/31/63
		D000877	3	01/01/64 - 08/31/64
		D006054	4	01/01/65 - 02/28/65
		D006055	5	03/01/65 - 04/30/65
		D006056	6	01/01/67 - 06/30/67

ALOUETTE 1

ALOSYN SCALED DATA

62-049A-01C

This data set has been restored. There were originally 6 7-track, 556 BPI written EBCDIC. There is one restored tape. The DR tape is a 3480 cartridge and the DS tape is 9-track, 6250 BPI. The original tapes were created on a MOD computer. The DR, DS, and DD numbers along with the time spans are given as follows:

DR #	DS #	DD #	FILES	TIME SPAN
-----	-----	-----	-----	-----
DR02947	DS02947	D-00384	1	09/29/62 - 04/30/63
		D-00385	2	05/01/63 - 12/31/63
		D-00877	3	01/01/64 - 08/31/64
		D-06054	4	01/01/65 - 02/28/65
		D-06055	5	03/01/65 - 04/30/65
		D-06056	6	01/01/67 - 06/30/67

62-049A-01C

Alouette 1 Alosy.. Data

First Set Consists of 3 tapes. All are 7 Track, BCD, 556 BPI, One File.

<u>D#</u>	<u>C#</u>	<u>Start Time</u>	<u>Stop Time</u>
D-00384	C-00173	09/29/62	04/30/63
D-00385	C-00174	05/01/63	12/31/63
D-00877	C-00515	01/01/64	08/31/64

Second Set consists of 3 tapes. All are 7 Track, BCD, 800 BPI, One File.

<u>D#</u>	<u>C#</u>	<u>Start Time</u>	<u>Stop Time</u>
D-06054	C-04954	01/01/65	02/28/65
D-06055	C-04933	03/01/65	04/30/65
D-06056	C-04956	01/01/67	06/30/67

62-049A-01C

FORMAT FOR ALOUETTE 1

IONOSPHERIC DATA ALOSYN

Resolute Bay, Canada	Hawaii, U.S.A.
College, Alaska	Fort Meyers, U.S.A.
Prince Albert, Canada	Quito, Ecuador
East Grand Forks, U.S.A.	Antofagasta, Chile
Ottawa, Canada	Port Stanley, Falkland Islands
St. Johns, Canada	Santiago, Chile
Winkfield, U.K.	Woomera, Australia

The symbols used in the tabulation are:

YR	Year
MD	Month
DY	Day of the month
GMT	GMT at which the record was taken, in hours, minutes, and seconds, with the minutes and seconds separated by a solidus. The time given is 30 ¹ / ₂ seconds before the occurrence of 0.5 Mc/s frequency marker.
LMT	Local Mean Time in hours and minutes
LONG	Longitude
LAT	Latitude
HGT	Height of satellite
CHI	Solar zenith angle, X
DIP	Angle of dip of earth's magnetic field at the satellite
FH	Gyrofrequency at the satellite, in Mc/s. The dip and gyrofrequency are calculated by using the set of 48 spherical harmonic coefficients determined by Jensen and Cain (epoch 1960).
JF0S	Ordinary wave frequency at the satellite, calculated from the observed extraordinary wave frequency. That is, JF0S is the plasma frequency at the satellite.
FXS	Observed extraordinary wave frequency at the satellite
FXS A	Accuracy of observation, according to the following code: <ol style="list-style-type: none">Estimated error less than .025 Mc/s.Estimated error less than .05 Mc/s.Estimated error less than .1 Mc/s.Magnitude of FXS less than tabulated value.Magnitude of FXS greater than tabulated value.
FOF2	Observed ordinary wave penetration frequency of the F2 layer
FOF2 A	Accuracy of observation according to the following code: <ol style="list-style-type: none">Estimated error less than .05 Mc/s.Estimated error less than .1 Mc/s.Estimated error less than .2 Mc/s.Magnitude of FOF2 less than tabulated value.Magnitude of FOF2 greater than tabulated value.
FOF2	Quality of the reflection trace at the ordinary wave penetration frequency according to the quality table.
JFOF2	Ordinary wave penetration frequency of the F2 layer, calculated from the observed FXF2. The gyrofrequency appropriate to a height of 300 kilometers is used for this calculation.

FXF2 Observed ordinary wave penetration frequency of the F2 layer
 FXF2 A Accuracy of observation, according to the FOF2 accuracy code
 FAF2 Q Quality of the reflection trace at the extraordinary wave penetration
 frequency of the quality table
 FES Maximum frequency of observation of sporadic E.
 FES Q Quality of sporadic E, according to the first row of the quality table
 G Strength of signal returned from the earth, according to the following
 code:
 1. Strong well defined echoes.
 2. Weak and intermittent echoes.
 3. Echoes not observed.
 KP 3 hourly Magnetic KP index

FORMAT

RECORDED 8	Col. 1	JFOS	Col. 44-47
Year	Col. 2-3	FXS	Col. 48-51
Month	Col. 4-5	A	Col. 52
Day	Col. 6-7	Q	Col. 53
Hour	Col. 8-9	FOF2	Col. 54-57
Minute	Col. 10-11	A	Col. 58
/-slash	Col. 12	Q	Col. 59
Second	Col. 13-14	JFOF2	Col. 60-64
LMT	Col. 15-18	FXF2	Col. 65-68
LONG	Col. 19-24	A	Col. 69
LAT	Col. 25-29	Q	Col. 70
ALT	Col. 30-33	FES	Col. 71-74
CHI	Col. 34-36	C	Col. 75-76
DIP	Col. 37-39	G	Col. 77-78
FE	Col. 40-43	KP	Col. 79-80

Col. 1 8 INDICATES SCALED IONOGRAMS (ALOSYN)

AM 23 1971

We wish to inform you, that as of February 24, 1971,
our new mailing address should read as follows:

Director-General,
Communications Research Centre,
Shirley Bay,
P.O. Box 490, Station "A",
Ottawa, Ontario.
K1N 6T5

DEPARTMENT OF COMMUNICATIONS



MINISTÈRE DES COMMUNICATIONS

COMMUNICATIONS RESEARCH CENTRE
CENTRE DE RECHERCHES SUR LES COMMUNICATIONS

APR 20 1971

SHIRLEY DAY
P.O. BOX 400
Station X
OTTAWA, ONT.
K1N 8T5

31 March, 1971

Mr. L. Knobach
NASA Space Science Data Centre
Goddard Space Flight Centre
Code 601
Greenbelt, Maryland 20771
U.S.A.

Dear Sir:

Enclosed are three magnetic tapes (9 track, 600 bpi, EBCDIC code) containing blocked Alosyn data from Alouette I satellite.

Tape # R613 - Alouette I Alosyn for the period January 1, 1965 to February 28, 1965

Tape # R614 - Alouette I Alosyn for the period March 1, 1965 to April 30, 1965

Tape # R615 - Alouette I Alosyn for the period January 1, 1967 to June 30, 1967

The first record on tape signifies the time period which the data covers. The data is then blocked, each block containing 40 records (each record is 80 characters long) this makes a total of 3200 characters. You should have a booklet describing the data format, but one is enclosed for your convenience.

We hope that this data will be of assistance to you.

Sincerely,

E. Hewens (Mrs.)

for Director-General

Encl.

EN/cm

G 2 0494-01C

AFN 2 137.

ALOSYN Data on Magnetic Tape

The ALOSYN data is available on digital magnetic tape for computer processing. The data is recorded in ^{decimal} BCD format, permitting almost any computer to read the tape. Data on a single tape contains all the ALOSYN data for a two month period (or four, or six month period, if desired).

Tape Format

1. Label:

The first record on a tape is an 80 character label giving the begin and end dates of data on tape. The format is given in Appendix A.

2. Data:

The ALOSYN data from an ionogram is a string of 80 characters, for convenience called an ALOSYN record, whose format is given in Appendix B. To conserve tape, 40 consecutive ALOSYN records are assembled to form a string of 3200 characters. The string of 3200 characters is written as one physical record on tape (one tape record). Thus, the data on tape consists of tape records 3200 characters long, each of which contains forty-80 character ALOSYN records. Further, a tape record contains only data for the same day. When the date changes, the remainder of the 3200 character record is filled with ^{decimal} BCD zeros. The next tape record begins with the first ALOSYN record for the new day. If, for example, there were 1023 ALOSYN records produced for a particular day, on tape this would consist of 26 tape records (each of which represent 40 ALOSYN records), plus one tape record

made up of 23 ALOSYN records followed by 17 dummy ALOSYN records containing ~~END~~ zeros. The next tape record would begin with the first ALOSYN record for the next day. An "end-of-file" is written after the last tape record.

Typically, a tape containing two months data has about 1000 tape records and will require about 5 minutes computer reading time. Less than 1/4 of the tape is used. (Density is 656 b.p.i.)

Since the tape does not contain a forward search, a potential user of the limitations in the data, use of the tapes is restricted to TSSNG members, who, by possessing ALOSYN books, will be aware of the restraints. Users desiring ALOSYN data on tape should supply the tape (or tapes), the periods for which data is requested, and the period desired on individual tapes. (A compromise is made between the storage of a lot of data (6 months, for example) on a single tape, and the computer time required to locate specific data on the tape.)

Periods for which data is available are

	1962	1963	1964
Jan - Feb		X	X
Mar - Apr		X	X
May - Jun		X	
Jul - Aug		X	
Sept - Oct	X	X	
Nov - Dec	X	X	

G.E.K. Lockwood - DRTE

Appendix A

The format for the 80 character tape is:

Char. Position	Function	Example
1 - 19	blanks	
20 - 35	BCD	ALOSYN DATA FROM
36	blank	
37 - 38	year	63
39 - 40	month	01
41 - 42	day	01
43	blank	
44 - 45	BCD	TO
46 - 51	blanks	
52 - 53	year	63
54 - 55	month	02
56 - 57	day	28
58 - 80	blanks	

APPENDIX B

Format for an ALOSYN record

Char. position	Function	Example	Format
1	constant integer	8 (always)	I1 or Ix
2 - 3	year	63	I2
4 - 5	month	04	I2
6 - 7	day	01	I2
8 - 9	hour	02	I2
10 - 11	minutes	40	I2
12	slash	/ (always)	Ix
13 - 14	seconds	56	I2
15 - 18	LMT	2100	I4
19 - 26	LONG	A-85.2	F6.1
25 - 29	LAT	A65.4	F5.1
30 - 33	hgt.	1032	I4
34 - 36	chi	103	I3
37 - 39	dip	A84	I3
40 - 43	gyrofreq.	1.07	F4.2
44 - 47	POS FN	0.40	F4.2
48 - 51	fxS	1.20	F4.2
52	fxS accuracy	2	I1
53	fxS quality	D	A1 or R1
54 - 57	f0F2	A4.2	F4.1
58	f0F2 accuracy	2	I1
59	f0F2 quality	D	A1 or R1

Appendix B (cont'd)

60 - 64	jfoP2	Δ4.73	F5.2
65 - 68	fXP2	Δ5.5	F4.1
69	fXP2 accuracy	4	II
70	fXP2 quality	6	A1 or R1
71 - 74	fEs	-0.Δ	F4.1
75	fEs quality	Δ	A1 or R1
76	ground echo	2	II
77 - 78	Kp	3+	A2 or R2 or II, A1 or II, F..
79 - 80	blanks	ΔΔ	2X

Note: the symbol Δ indicates a blank.

630430 0000 REC 1. LENGTH 84
 1.000-0. 0112713.500-0. 1200 862 929 744/162143-1 REC 2. LENGTH 3204
 1.030-0. 330 862 929 745/122148-149.2 49.11042126 660
 29.745/312150-148.9 48.01042127 550.910.461.1030-0. 0
 17.01042128 640.900.751.5040-0. 0 2.73 3.420-0. 330
 11.2030-0. 0 2.84 3.520-0. 330 862 929 746/272154-1
 1.720-0. 230 862 929 747/452156-147.8 44.01041131 620
 19.747/ 42157-147.5 42.91041132 610.870.471.5040-0. 0
 11.91041133 610.861.512.0040-0. 0 3.58 4.230-0. 230
 11.703A 6.53A 5.30 7.03A-0. 326 862 9291606/181101-
 .03A-0. 226 862 9291606/371103-76.0 40.41018 44.700
 91606/551104-75.4 41.41019 45.710.991.101.7030 6.32A
 2.51019 46.721.031.091.7030 6.138 6.73 6.738-0. 226
 81.6030 5.138 6.03 6.73H-0. 326 862 9291607/521108-
 .338-0. 226 862 9291608/111109-74.8 45.61021 49.741
 91608/291111-74.5 46.61022 50.741.020.961.6030 5.320
 7.61022 51.751.020.961.6030 5.320 5.31 6.020-0. 226
 61.6030 5.320 5.26 6.020-0. 226 862 9291609/251115-
 .920-0. 226 862 9291609/421117-75.2 50.61024 53.761
 91610/ 311119-72.8 51.71025 55.771.040.951.6030 4.420
 2.81026 55.781.040.831.5030 4.22D 4.440 5.120-0. 326
 51.6030 4.120 4.14 4.920-0. 226 862 9291610/591125-
 .820-0. 326 862 9291611/181127-71.1 55.81027 58.791
 91611/361129-70.6 56.81028 59.791.040.831.5030 3.720
 7.81029 60.801.040.831.5030 3.720 3.79 4.530-0. 226
 31.5030 3.72G 3.79 4.53G-0. 226 862 9291512/321137-
 .52G-0. 226 862 9291512/511140-68.3 60.81030 63.811
 91613/301143-67.6 51.91031 64.811.041.171.803G 4.520
 5.91021 49.731.031.071.7024 5.330 5.25 6.030-0. 326
 51.702A-0. 0 4.95 5.73A-0. 226 862 9291755/231112-1
 53A-0. 226 862 9291755/221117-99.6 51.11025 54.761
 91755/591121-98.8 53.11026 56.781.061.041.702A 4.120
 1.21026 57.781.071.041.7020 4.020 4.11 4.930-0. 226

1.702D 4.01B 3.95 4.72B-0. 226 862 9291941/221119-1 REC 3. LENGTH 3204
 63G-0. 238 862 9291941/ 311117-125.9 51.61025 54.721
 1941/591123-124.7 54.61027 57.741.031.071.7020 4.020
 1.71027 58.751.031.011.6530 3.730 3.84 4.630-0. 336
 1.6530 3.72D 3.73 4.520-0. 336 862 9291942/551130-1
 32A-0. 336 862 9291945/441160-116.6 68.61034 69.831
 1946/ 21204-115.5 67.51034 70.831.071.151.803G 4.23G
 .81037 77.871.070.811.503J-0. 0 2.60 3.43J-0. 236
 1.703G 3.33G 3.94 4.73G-0. 136 862 9291950/ 91410-
 53G-0. 236 862 9291950/431145-76.5 79.51040 85.871
 1951/ 51510 -70.2 79.91040 86.871.061.001.653G 3.83G
 .21041 87.861.040.951.603G 3.91G 3.86 4.62G-0. 236
 1.753G 4.22E 4.27 5.01E-0. 236 862 9291952/ 11624-
 730-0. 236 862 9291952/201650-45.6 80.51041 90.851
 1952/381714-39.7 80.31042 91.841.020.961.6030 4.32G
 1.11042 92.841.020.851.503G 3.520 3.47 4.230-0. 336
 1.5030 4.32D 4.31 4.92D-0. 256 862 9292125/531113-1
 120-0. 256 862 9292126/121115-152.9 50.31024 53.560
 2126/301116-152.5 51.31025 54.670.930.9.1.553A 4.120
 4.1025 55.680.941.031.603A 4.120 4.13 4.820-0. 256
 1.5530 4.12D 3.97 4.520-0. 256 862 9292127/241122-1
 53A-0. 256 862 9292127/451124-150.9 55.41027 58.700
 128/ 41126-150.4 56.41028 59.710.970.891.5030 3.720
 4.1028 60.720.980.881.5030-0. 0 3.58 4.230-0. 256
 .5030 3.520 3.43 4.120-0. 256 862 9292129/ 01134-1
 20-0. 256 862 9292129/181137-148.2 60.41030 63.741
 129/371140-147.5 61.41031 64.751.010.861.5030 3.520

3.46 4.220-0. 356 862 9292129/561143-146.8 52.41031 65 751.020.851.5030 3.120 3.25 4.02
862 9292130/141146-146.0 63.41032 66 761.020.851.5030 3.520 3.40 4.126-0. 256 862 92921
45.2 64.41032 67 771.030.781.4530-0. 0 3.46 4.126-0. 356 862 9292130/521154-146.3 85.4
.030.841.5030 3.430 3.34 4.126-0. 256 862 9292131/103158-143.4 66.31033 69 781.040.771.
3.34 4.126-0. 256 862 9292131/291202-142.3 57.31034 70 791.040.951.5030-0. 0 4.25 5.04
0000

862 9292131/481207-141.2 68.31034 71 801.040.831.5030-0. 0 3.38 4.136-0. 256 862 92921
40.0 69.21035 72 801.050.881.5536 3.126 3.23 4.026-0. 256 862 9292132/251218-138.6 70.1
.051.111.7536 3.526 3.58 4.326-0. 256 862 9292132/441224-137.1 71.01036 74 821.051.051.
3.48 4.226-0. 256 862 9292133/21231-13.5 71.91036 75 821.050.821.5030-0. 0 3.22 4.02
862 9292133/211239-133.6 72.81037 76 831.061.161.8030-0. 0 3.53 4.326-0. 256 862 92921
31.6 73.71037 77 841.060.931.6036 3.426 3.38 4.126-0. 256 862 9292133/581256-129.4 74.5
.060.871.5536-0. 0 3.37 4.126-0. 256 862 9292134/171307-126.9 75.31038 79 851.050.811.
3.32 4.126-0. 256 862 9292134/361318-124.1 76.11035 80 861.050.811.5030-0. 0 3.27 4.02
862 9292135/121344-117.7 77.51C39 82 871.050.811.5030-0. 0 4.24 5.046-0. 256 862 92921
10.2 78.71040 83 881.060.991.6536-0. 0 3.84 4.026-0. 256 862 9292136/51433-105.7 79.21
.060.561.3036 3.326 3.54 4.336-0. 256 862 9292136/241455-100.4 79.71040 85 891.050.821.
3.33 4.126-0. 256 862 9292136/431517 -94.8 80.11041 86 891.050.701.4036 3.226 3.23 4.026
862 9292137/11541 -89.1 80.31041 87 891.050.701.4036 3.226 3.24 4.026-0. 256 862 929213
82.8 80.51041 88 881.050.701.4036-0. 0 3.29 4.026-0. 256 862 9292137/391632 -76.4 80.51
.041.061.7036-0. 0 4.77 5.546-0. 256 862 9292137/571655 -70.4 80.41042 90 871.040.831.
4.11 4.836-0. 256 862 9292138/161722 -64.2 80.31042 91 861.041.061.7036 4.126 4.11 4.836
862 9292138/321742 -59.2 80.01042 92 861.041.392.0046-0. 0 4.77 5.546-0. 256 862 929213
53.0 79.61042 93 851.031.392.0046-0. 0 4.78 5.546-0. 356 862 9292141/232004 -24.3 74.11
.000.871.5030-0. 0 3.59 4.336-0. 356 862 9292141/422013 -22.1 73.31044102 800.990.761.4
3.90 4.630-0. 356 862 9292142/12021 -20.2 72.41044103 800.990.841.303A-0. 0 3.09 3.820
862 9292142/192028 -19.5 71.51044104 790.980.511.2030-0. 0 2.69 3.426-0. 356 862 929214
.970.891.5040-0. 0 3.16 3.830-0. 356 862 9292143/152046 -14.2 68.81044107 780.970.891.5
2.80 3.530-0. 356 862 9292143/32051 -13.0 67.81044108 770.960.901.5040-0. 0 2.81 3.530
862 9292143/532056 -11.9 66.81044109 760.960.901.5040-0. 0 1.77 2.55A-0. 356 862 929214
11.0 65.91044110 760.950.911.5040-0. 0 2.71 3.426-0. 356 862 9292144/302104 -10.0 64.91
.950.911.5040-0. 0 1.24 2.050-0. 356 862 9292153/152160 1.6 36.41039138 510.751.061.5
3.86 4.43A-0. 356 862 9292153/332201 1.8 35.41039138 500.741.071.5044 4.12A 3.77 4.33A
862 9292153/522202 2.0 34.71039139 480.731.071.5040 4.13A 3.87 4.43A-0. 356 862 9292155/252207
2.6 30.21037143 420.701.101.5040-0. 0 4.00 4.550-0. 356 862 9292155/442208 2.9 28.11037145 390.881.001.4
5.22 5.750-0. 356 862 9292313/341126-177.0 55.41028 59 680.930.811.4030-0. 0 3.58 4.22A
0000

862 9292313/531128-176.5 57.41028 60 680.948.921.5030-0. 0 3.63 4.330-0. 256 862 9292314
75.9 58.31029 61 690.950.791.4030-0. 0 3.52 4.230-0. 256 862 9292314/301133-175.3 59.410
.960.901.5030-0. 0 3.41 4.130-0. 256 862 9292314/491136-174.7 60.41030 63 710.970.781.40
3.61 4.320-0. 256 862 9292315/71139-174.1 61.31031 64 720.970.771.4030-0. 0 3.50 4.23E-
862 9292313/261142-173.4 62.41031 65 720.980.771.4030-0. 0 3.29 4.03E-0. 256 862 9292315
72.6 63.41032 66 730.990.701.3530-0. 0 3.49 4.226-0. 256 862 9292316/31149-171.8 64.310
.990.631.3030-0. 0 3.38 4.126-0. 356 862 9292316/221153-170.9 65.31033 68 751.000.751.40
3.27 4.026-0. 356 862 9292316/411157-169.9 66.31033 69 751.010.741.4030-0. 0 3.06 3.820-
862 9292316/591201-168.9 67.21034 70 761.010.851.5030-0. 0 3.26 4.026-0. 256 862 9292317
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