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CATALOGUE OF SATELLITE OBSERVATIONS

No. C-24

Prepared by D. V. Mechau

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CATALOGUE OF SATELLITE OBSERVATIONS, NO. C-24

Prepared by D. V. Mechau[1]

INTRODUCTION

The Smithsonian Astrophysical Observatory has tracking responsibility for a certain number of satellites, the responsibility and number being governed by requirements of the National Aeronautics and Space Administration (NASA). Observations of these satellites, of other satellites whose orbits are of unusual interest for analysis, and of satellites which have offered challenge to optical tracking techniques, are usually published.

The particular satellites covered by this report and the periods during which the observations were made are specified in the table of contents.

The observations of Satellites 1960 Omicron and 1960 Sigma were made in cooperation with the U. S. Air Force to test the lights carried aboard these satellites which were programmed to turn on over selected SAO Baker-Nunn stations.

Listings also contain observations made by U. S. and foreign observatories, military installations, Phototrack stations, and miscellaneous observers. A number of observations have been received from the National Space Surveillance Control Center (NSSCC), under an arrangement involving an exchange of observations of artificial earth satellites. Minitrack and Doppler data received by SAO are not included.

Units

The date given lists the month and day of the observation; the time (U. T.) is given in hours, minutes, and seconds; right ascension is in hours, minutes, and seconds; declination, azimuth, and altitude are in degrees, minutes, and seconds; azimuth is measured from north through east; the range is in kilometers.

An explanation of the Index Number appears on pages 3 and 4.

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EXPLANATION OF INDEX NUMBER

The index number in the column to the extreme right consists of six digits. The first digit indicates the precision of the time of the observation; the second and third digits, the precision of position; the fourth digit, the coordinate system and corrections; the fifth digit, the equator and equinox; the sixth digit, the type of instrumentation used in making the observation.

Precision of Time (1st digit)

Code number	Standard error in timing (σ_t)	Code number	Standard error in timing (σ_t)
0	No estimate	5	$.02^s < \sigma_t \leqslant .05^s$
1	$\sigma_t \leqslant .0003^s$	6	$.05^s < \sigma_t \leqslant .2^s$
2	$.0003^s < \sigma_t \leqslant .002^s$	7	$.2^s < \sigma_t \leqslant .5^s$
3	$.002^s < \sigma_t \leqslant .005^s$	8	$.5^s < \sigma_t \leqslant 2^s$
4	$.005^s < \sigma_t \leqslant .02^s$	9	$\sigma_t > 2^s$

Precision of Position (2nd and 3rd digits)

Code number*	Standard error in direction (σ_D)	Code number*	Standard error in direction (σ_D)	Code number*	Standard error in direction (σ_D)
00	No estimate	17	$16''.5 < \sigma_D \leqslant 17''.5$	34	$2'.7 < \sigma_D \leqslant 3'.5$
01	$\sigma_D \leqslant 1''.5$	18	$17''.5 < \sigma_D \leqslant 18''.5$	35	$3'.5 < \sigma_D \leqslant 4'.4$
02	$1''.5 < \sigma_D \leqslant 2''.5$	19	$18''.5 < \sigma_D \leqslant 19''.5$	36	$4'.4 < \sigma_D \leqslant 5'.8$
03	$2''.5 < \sigma_D \leqslant 3''.5$	20	$19''.5 < \sigma_D \leqslant 20''.5$	37	$5'.8 < \sigma_D \leqslant 7'.5$
04	$3''.5 < \sigma_D \leqslant 4''.5$	21	$20''.5 < \sigma_D \leqslant 22''$	38	$7'.5 < \sigma_D \leqslant 9'.7$
05	$4''.5 < \sigma_D \leqslant 5''.5$	22	$22'' < \sigma_D \leqslant 23''.5$	39	$9'.7 < \sigma_D \leqslant 13'$
06	$5''.5 < \sigma_D \leqslant 6''.5$	23	$23''.5 < \sigma_D \leqslant 26''$	40	$13' < \sigma_D \leqslant 17'$
07	$6''.5 < \sigma_D \leqslant 7''.5$	24	$26'' < \sigma_D \leqslant 29''$	41	$17' < \sigma_D \leqslant 22'$
08	$7''.5 < \sigma_D \leqslant 8''.5$	25	$29'' < \sigma_D \leqslant 33''$	42	$22' < \sigma_D \leqslant 28'$
09	$8''.5 < \sigma_D \leqslant 9''.5$	26	$33'' < \sigma_D \leqslant 38''$	43	$28' < \sigma_D \leqslant 37'$
10	$9''.5 < \sigma_D \leqslant 10''.5$	27	$38'' < \sigma_D \leqslant 45''$	44	$37' < \sigma_D \leqslant 49'$
11	$10''.5 < \sigma_D \leqslant 11''.5$	28	$45'' < \sigma_D \leqslant 54''$	45	$49' < \sigma_D \leqslant 1^\circ.1$
12	$11''.5 < \sigma_D \leqslant 12''.5$	29	$54'' < \sigma_D \leqslant 1'.1$	46	$1^\circ.1 < \sigma_D \leqslant 1^\circ.4$
13	$12''.5 < \sigma_D \leqslant 13''.5$	30	$1'.1 < \sigma_D \leqslant 1'.3$	47	$1^\circ.4 < \sigma_D \leqslant 1^\circ.8$
14	$13''.5 < \sigma_D \leqslant 14''.5$	31	$1'.3 < \sigma_D \leqslant 1'.7$	48	$1^\circ.8 < \sigma_D \leqslant 2^\circ.4$
15	$14''.5 < \sigma_D \leqslant 15''.5$	32	$1'.7 < \sigma_D \leqslant 2'.1$	49	$2^\circ.4 < \sigma_D$
16	$15''.5 < \sigma_D \leqslant 16''.5$	33	$2'.1 < \sigma_D \leqslant 2'.7$		

* For electronic instruments, these code numbers (2nd and 3rd digits of the index in table 6) are increased by 50.

Coordinate System and Corrections (4th digit)

Code number	Coordinate System
0	Right ascension and declination corrected for refraction or not known to be corrected.
1	Azimuth and altitude corrected for refraction.
2	Right ascension and declination not corrected for refraction.
3	Azimuth and altitude not corrected for refraction or not known to be corrected.

Equator and Equinox (5th digit)

Code number	Equator and Equinox
0	Of date given
1	1855.0
2	1875.0
3	1900.0
4	1950.0

Type of Instrumentation (6th digit)

Code number	Optical Observations	Code number	Electronic Observations
0	Naked eye and binoculars, visual.	0	Minitrack Mark 1.
1	Standard Moonwatch telescope, visual.	1	Minitrack Mark 2.
2	Apogee telescope, astronomical refractor or reflector, theodolite, visual.	2	Interferometer observations from radio observatories.
3	Baker-Nunn camera, photographic.	3	Doppler observations from radio observatories.
4	Small missile telecamera, tracking cameras with focal length 20 inches or greater, photographic.	4	Microlock.
5	Cinetheodolite, tracking cameras with focal length less than 20 inches, photographic.	5	Doppler observations from communications systems.
6	Harvard meteor camera (Super-Schmidt) photographic.	6	Doppler observations from missile ranges.
7	Stationary telescope or camera with focal length equal to or less than 10 inches, photographic.	7	Radar.
8	Stationary telescope or camera with focal length greater than 10 inches, photographic.	8	Unused digit.
9	Other instruments, or instrument unknown.	9	Miscellaneous.

1960 BETA 1

OBS NO	STATION	STA NO	DATE	TIME	R. A.	DECL.	AZIMUTH	ALTITUDE	RANGE	INDEX
50019	POTSDAM, GER.	2729	9 14	19 54 37.6	20 27 30	17 14				834049
50020	POTSDAM, GER.	2729	9 14	19 54 51.3	20 55 00	17 20				834049
50021	POTSDAM, GER.	2729	9 16	19 50 16.0	18 57 48	16 36				834049
50022	POTSDAM, GER.	2729	9 16	19 51 14.1	20 58 06	16 16				834049
50023	POTSDAM, GER.	2729	9 18	19 46 30.6	18 52 42	13 04				834049
50024	POTSDAM, GER.	2729	9 18	19 47 15.8	20 18 36	10 52				834049
50025	POTSDAM, GER.	2729	9 21	18 49 02.1	18 07 24	11 57				834049
50026	POTSDAM, GER.	2729	9 21	18 50 06.2	20 02 18	7 38				834049
50027	POTSDAM, GER.	2729	9 21	18 50 46.4	21 04 24	4 11				834049

1960 BETA 1

ADDITIONS TO OBSERVATION LISTINGS PREVIOUSLY PUBLISHED IN SAO SPECIAL REPORTS FOR THE YEAR 1960.

OBS NO	STATION	STA NO	DATE	TIME	R. A.	DECL.	AZIMUTH	ALTITUDE	RANGE	INDEX
50001	POTSDAM, GER.	2729	4 20	2 08 29.4	16 58 48	16 33				834009
50002	POTSDAM, GER.	2729	4 20	2 09 29.8	18 50 18	16 47				834009
50003	POTSDAM, GER.	2729	4 25	1 09 30.3	16 10 24	18 19				834009
50004	POTSDAM, GER.	2729	4 25	1 10 14.6	17 33 48	15 43				834009
50005	POTSDAM, GER.	2729	4 29	1 04 59.9	16 24 48	2 58				834009
50006	POTSDAM, GER.	2729	4 29	1 05 49.5	17 27 48	- 1 19				834009
50007	POTSDAM, GER.	2729	5 01	22 23 23.6	13 28 48	19 19				834009
50008	POTSDAM, GER.	2729	5 01	22 24 22.4	15 23 48	17 09				834009
50009	POTSDAM, GER.	2729	5 02	21 30 08.8	13 07 24	17 40				834009
50010	POTSDAM, GER.	2729	5 02	21 31 44.0	15 51 12	15 34				834009
50011	POTSDAM, GER.	2729	5 03	20 36 56.2	12 47 00	13 34				834009
50012	POTSDAM, GER.	2729	5 03	20 38 54.4	15 43 36	13 39				834009
50013	POTSDAM, GER.	2729	5 04	21 27 15.7	13 10 06	19 41				834009
50014	POTSDAM, GER.	2729	5 04	21 29 06.1	16 05 12	11 32				834009
50015	POTSDAM, GER.	2729	5 05	20 34 03.6	12 49 54	18 59				834009
50016	POTSDAM, GER.	2729	5 05	20 35 55.6	15 41 48	13 31				834009
50017	POTSDAM, GER.	2729	5 06	21 24 43.7	13 55 42	12 43				834009
50018	POTSDAM, GER.	2729	5 06	21 25 42.0	15 20 00	7 46				834009

1960 BETA 1

CORRECTIONS TO OBSERVATION LISTINGS PREVIOUSLY PUBLISHED IN SAO SPECIAL REPORTS FOR THE YEAR 1960.

OBS NO	STATION	STA NO	DATE	TIME	R. A.	DECL.	AZIMUTH	ALTITUDE	RANGE	INDEX
00049	LAREDO'RADAR, TEXAS	4012	4 07	18 34 29			357 00	53 18	824	895307
00262	SACRAMENTO, CAL.	8517	4 12	12 16 58.2			0 00	50 01		641301
00264	SACRAMENTO, CAL.	8517	4 13	11 23 13.0			0 00	74 07		641301
00267	SACRAMENTO, CAL.	8517	4 14	12 14 33.4			0 00	35 27		641301
00199	SACRAMENTO, CAL.	8517	4 26	10 14 06.9			0 00	29 33		641301
00367	TERRE HAUTE, IND.	8127	4 29	2 27 36.2			140	49 45		845302
00371	SACRAMENTO, CAL.	8517	4 29	5 49 12.8			0 00	61 37		641301
00377	SACRAMENTO, CAL.	8517	4 30	4 55 15.7			180 00	86 14		641301
00468	LAREDO'RADAR, TEXAS	4012	5 13	21 40 40.25			283 24	52 30	902	895307
00515	LAREDO'RADAR, TEXAS	4012	5 23	17 58 33.5			321 00	63 06	791	895307
00513	LAREDO'RADAR, TEXAS	4012	5 24	1 00 19.0			34 54	38 18	1117	895307
00514	LAREDO'RADAR, TEXAS	4012	5 24	1 00 34.0			34 54	38 18	1115	895307
00543	LAREDO'RADAR, TEXAS	4012	5 26	0 57 28.0			40 12	75 48	774	895307
00544	LAREDO'RADAR, TEXAS	4012	5 26	0 57 41.0			40 12	75 48	711	895307

1960 BETA 2

OBS NO	STATION	STA NO	DATE	TIME	R. A.	DECL.	AZIMUTH	ALTITUDE	RANGE	INDEX
10160	SAN FERNANDO'BN, SP.	9004	9 02	2 56 56.50	13 04 06	76 11				434013

OBS NO	STATION	STA NO	DATE	TIME	R. A.	DECL.	AZIMUTH	ALTITUDE	RANGE	INDEX
10161	SAN FERNANDO'BN, SP.	9004	9 02	4 41 57.80	5 31 36	71 27				434013
10162	SAN FERNANDO'BN, SP.	9004	9 03	3 48 32.20	7 52 18	75 02				434013
30227	N. CANTON, OHIO	8565	9 03	8 44 39.2	22 32 00	70 18				845043
30228	N. CANTON, OHIO	8565	9 03	8 46 37.8	5 43 30	42 09				845043
30229	WICHITA, KAN.	0028	9 03	10 26 37.2	2 38 41	68 39				845043
30230	WICHITA, KAN.	0028	9 03	10 26 38.8	2 45 39	68 20				845043
30231	WICHITA, KAN.	0028	9 03	10 26 39.0	2 45 34	68 19				845043
10165	SHIRAZ'BN, IRAN	9008	9 05	0 30 24.48	6 05 12	62 50				434013
10163	SAN FERNANDO'BN, SP.	9004	9 05	3 46 13.20	4 48 54	59 25				434013
30234	ALBUQUERQUE, N.M.	0041	9 05	10 23 00.5	5 42	65 48				845043
10164	SAN FERNANDO'BN, SP.	9004	9 06	4 36 21.20	1 00 42	9 17				434013
10168	MAUI'BN, HAWAII	9012	9 06	5 46 37.08	19 45 00	10 03				434013
10167	JUPITER'BN, FLA.	9010	9 06	9 36 28.09	4 27 30	30 50				434013
10211	NAINI TAL-BN, INDIA	9006	9 06	14 02 58.99	19 16 42	-28 16				434023
10169	SAN FERNANDO'BN, SP.	9004	9 06	20 44 02.40	19 13 42	- 1 13				434013
10212	NAINI TAL-BN, INDIA	9006	9 06	22 49 35.36	3 32 48	13 31				434013
10213	SHIRAZ-BN, IRAN	9008	9 07	0 27 45.16	2 43 42	33 39				434013
10172	MAUI'BN, HAWAII	9012	9 07	6 36 59.67	14 29 12	52 31				434013
10170	NAINI TAL'BN, INDIA	9006	9 07	14 54 38.98	16 58 54	50 59				434013
10171	SHIRAZ'BN, IRAN	9008	9 07	16 33 29.24	17 37 18	45 27				434013
30241	CHINA LAKE, CAL.	0098	9 08	4 09 47.4			325 36 00	81 23 24		641303
30242	SACRAMENTO, CAL.	8517	9 08	4 09 55.2	21 05 12	17 13				641013
10174	MAUI'BN, HAWAII	9012	9 08	5 43 40.05	15 57 24	47 00				434013
10175	SAN FERNANDO'BN, SP.	9004	9 08	20 41 43.10	17 49 12	42 00				434013
30244	N. CANTON, OHIO	8536	9 09	1 39 51.3	19 25	17 00				641034
30246	ROCHESTER, N.Y.	8564	9 09	1 40 49.4	19 35 42	16 15				845033
30274	KAGOSHIMA, JAPAN	0218	9 09	11 34 53	14 38	76 30				845002
10186	MAUI'BN, HAWAII	9012	9 09	15 22 25.70	0 29 54	-26 41				434023
10182	SHIRAZ'BN, IRAN	9008	9 09	16 31 23.36	14 19 12	72 37				434013
10176	SAN FERNANDO'BN, SP.	9004	9 09	19 48 46.70	19 35 36	21 42				434013
10177	SAN FERNANDO'BN, SP.	9004	9 09	21 32 46.40	13 55 42	70 06				434013
30249	WICHITA, KAN.	0028	9 10	2 27 34.2	19 13 32	55 06				845043
30250	SACRAMENTO, CAL.	8517	9 10	4 06 38.4	18 27 54	45 47				641013
10185	MAUI'BN, HAWAII	9012	9 10	5 41 49.27	13 04 30	68 42				434013
10181	AREQUIPA'BN, PERU	9007	9 10	9 41 16.85	6 54 42	27 07				434013
30275	ASAHIKAWA, JAPAN	0201	9 10	10 44 48	19 45	27				845002
10183	SHIRAZ'BN, IRAN	9008	9 10	15 37 50.30	16 56 36	62 40				434013
10178	SAN FERNANDO'BN, SP.	9004	9 10	20 39 43.80	15 52 24	78 00				434013
30251	ST. LOUIS, MO.	0140	9 11	1 35 26.7	18 51 12	42 42				845033
30253	MILWAUKEE, WISC.	0074	9 11	1 36 01.4	18 58 30	16 11				641004
30254	MILWAUKEE, WISC.	0074	9 11	1 36 02	19 01 48	16 30				641004
30252	ST. LOUIS, MO.	0140	9 11	1 36 21.8	21 39 30	51 45				845033
30255	SACRAMENTO, CAL.	8517	9 11	3 13 24.7	19 20 00	19 43				641013
30256	SACRAMENTO, CAL.	8517	9 11	4 57 43.4	13 50 24	79 42				641013
10180	SAN FERNANDO'BN, SP.	9004	9 11	19 46 17.20	18 19 24	64 12				434013
30258	DENVER, COLO.	8582	9 12	2 23 21			330 15 00	82 30		845303
10187	OLIFANTSFNTN'BN,S.AF	9002	9 12	3 03 11.80	6 09 36	25 45				434013
30259	CHINA LAKE, CAL.	0098	9 12	4 05 33.7			0 00	27 52 48		641303
50075	SPOKANE, WASH.	8142	9 12	4 05 34.9	19 37 34	23 21				845002
10189	AREQUIPA'BN, PERU	9007	9 12	9 38 37.78	4 49 24	- 5 29				434013
10188	SAN FERNANDO'BN, SP.	9004	9 12	20 37 11.30	11 16 30	78 32				434013
30260	TERRE HAUTE, IND.	8127	9 13	1 33 56.6			0	48 20		845303
30261	STATE COLLEGE, PA.	0060	9 13	1 35 33.6			346 24	42 48		845303
30262	ROCHESTER, N.Y.	8564	9 13	1 36 09.4	20 58 30	75 30				845033
10191	SAN FERNANDO'BN, SP.	9004	9 13	21 27 32.30	11 24 06	69 28				434013
30264	N. CANTON, OHIO	8584	9 14	0 41 38.9	19 00 30	68 56				845033
30266	MILWAUKEE, WISC.	0074	9 14	2 23 42			0	48 36		641303
30267	ST. LOUIS, MO.	0140	9 14	2 23 45.6	11 04 30	78 15				845032
10193	AREQUIPA'BN, PERU	9007	9 14	9 35 43.79	1 22 30	-39 10				434023
10192	SAN FERNANDO'BN, SP.	9004	9 14	20 34 32.20	9 52 00	74 40				434013
30268	N. CANTON, OHIO	8544	9 15	1 32 41.4	5 09	85 45				845032
10195	VILLA DOLORES'BN,ARG	9011	9 15	8 47 11.15	6 23 36	- 0 27				434013
10203	TOKYO'BN, JAPAN	9005	9 15	11 29 51.00	7 58 48	73 03				434013
10198	WOOMERA'BN, AUSTR.	9003	9 16	19 30 39.59	3 43 12	-35 02				434023
10201	SAN FERNANDO'BN, SP.	9004	9 16	20 32 13.80	7 54 06	74 14				434013
10197	OLIFANTSFNTN'BN,S.AF	9002	9 17	2 05 41.30	5 22 42	-41 02				434023
10204	VILLA DOLORES'BN,ARG	9011	9 17	8 43 46.37	3 45 18	-26 32				434023
10199	WOOMERA'BN, AUSTR.	9003	9 17	18 38 33.88	6 41 00	-23 22				434023
10202	SAN FERNANDO'BN, SP.	9004	9 17	19 39 06.70	5 59 24	74 41				434013
10205	VILLA DOLORES'BN,ARG	9011	9 18	7 51 54.41	6 42 30	-19 20				434013
10200	WOOMERA'BN, AUSTR.	9003	9 18	19 28 02.20	0 43 54	-61 35				434023
10206	WOOMERA'BN, AUSTR.	9003	9 19	18 35 25.89	4 54 18	-60 53				434023
10207	SAN FERNANDO'BN, SP.	9004	9 19	19 36 29.30	5 34 24	72 42				434013
30278	YOKKAICHI, JAPAN	0258	9 20	10 29 19	6 59	81				845002
10208	SAN FERNANDO'BN, SP.	9004	9 20	20 27 21.40	4 55 12	74 05				434013
10210	VILLA DOLORES'BN,ARG	9011	9 21	8 38 37.64	22 15 30	-66 51				434023
10209	SAN FERNANDO'BN, SP.	9004	9 21	19 33 41.40	5 26 30	73 45				434013

OBS NO	STATION	STA NO	DATE	TIME	R. A.	DECL.	AZIMUTH	ALTITUDE	RANGE	INDEX
30283	YATSUSHIRO, JAPAN	0272	9 28	10 20 10			0 00	38 00		845302
30282	YATSUSHIRO, JAPAN	0272	9 29	11 12 53			180 00	52 00		845302
50068	STALINABAD, USSR	1047	9 29	14 23 06.0	16 23 30	52 30				845009
50067	STALINABAD, USSR	1047	9 29	14 23 12.0	15 57 00	58 54				845009
50066	STALINABAD, USSR	1047	9 29	14 23 43.0	15 46 00	62 48				845009
30281	MUSASHINO, JAPAN	0233	9 30	10 18 47.8			225	43 30		845302
50064	LAREDO'RADAR, TEX.	4012	10 01	1 08 28.5			13 06	36 06	1087	895307
50065	LAREDO'RADAR, TEX.	4012	10 01	17 13 28.5			204 48 00	63 18 00	817	895307
50069	LAREDO'RADAR, TEX.	4012	10 04	0 12 24			10 30	41 30	990	895307
30279	TOWNSVILLE, AUSTR.	8578	10 09	9 25 50.4			77 21	84 35		845302
30280	TOWNSVILLE, AUSTR.	8578	10 09	9 25 52.7			92 25	83 53		845302
50071	LAREDO'RADAR, TEX.	4012	10 15	20 27 22.0			316 30 00	64 24 00	770	895307

1960 BETA 2

ADDITIONS TO OBSERVATION LISTINGS PREVIOUSLY PUBLISHED IN SAO SPECIAL REPORTS FOR THE YEAR 1960.

OBS NO	STATION	STA NO	DATE	TIME	R. A.	DECL.	AZIMUTH	ALTITUDE	RANGE	INDEX
50076	POTSDAM, GER.	2729	4 19	1 20 18.0	16 28 42	1 40				834009
50077	POTSDAM, GER.	2729	4 19	1 21 54.5	18 48 48	8 40				834009
50078	POTSDAM, GER.	2729	4 20	2 11 00.3	17 02 00	16 48				834009
50079	POTSDAM, GER.	2729	4 20	2 13 00.6	20 16 12	13 40				834009
50080	POTSDAM, GER.	2729	4 25	1 12 51.3	16 11 18	18 07				834009
50081	POTSDAM, GER.	2729	4 25	1 14 28.6	18 49 12	10 14				834009
50082	POTSDAM, GER.	2729	5 01	22 27 52.0	13 24 00	19 17				834009
50083	POTSDAM, GER.	2729	5 01	22 28 38.9	14 57 24	18 32				834009
50084	POTSDAM, GER.	2729	5 02	21 34 52.5	13 07 30	18 10				834009
50085	POTSDAM, GER.	2729	5 02	21 36 22.0	15 45 18	16 16				834009
50086	POTSDAM, GER.	2729	6 28	23 32 50.2	18 49 54	5 01				834009
50087	POTSDAM, GER.	2729	6 28	23 34 39.9	21 47 18	10 59				834009
50088	POTSDAM, GER.	2729	7 01	22 36 59.8	18 08 06	8 04				834009
50089	POTSDAM, GER.	2729	7 01	22 38 37.6	20 53 42	12 08				834009
50090	POTSDAM, GER.	2729	7 04	23 25 07.1	19 09 12	14 48				834009
50091	POTSDAM, GER.	2729	7 04	23 26 39.8	21 36 06	6 53				834009

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CORRECTIONS TO OBSERVATION LISTINGS PREVIOUSLY PUBLISHED IN SAO SPECIAL REPORTS FOR THE YEAR 1960.

OBS NO	STATION	STA NO	DATE	TIME	R. A.	DECL.	AZIMUTH	ALTITUDE	RANGE	INDEX
00199	SACRAMENTO, CAL.	8517	4 13	11 24 45.9			0 00	73 17		641301
00206	SACRAMENTO, CAL.	8517	4 16	12 13 55.2			0 00	29 00		641301
00079	VILLA DOLORES'BN.,ARG	9011	4 19	23 55 25.96	6 37 36	-36 48				434023
00269	TERRE HAUTE, IND.	8127	4 29	2 31 39.4			140	52 45		845302
00219	SACRAMENTO, CAL.	8517	5 02	4 57 44.2			0 00	52 42		641301
00384	LAREDO'RADAR, TEXAS	4012	5 23	18 07 42.5			322 06	53 36	867	895307
00385	LAREDO'RADAR, TEXAS	4012	5 23	18 07 58.0			322 06	53 36	8722	895307
00382	LAREDO'RADAR, TEXAS	4012	5 24	1 09 33.0			36 06	44 12	1020	895307
00383	LAREDO'RADAR, TEXAS	4012	5 24	1 09 47.75			36 06	44 12	1019	895307
00412	LAREDO'RADAR, TEXAS	4012	5 26	1 07 08.5			40 12	90 00	757	895307
00413	LAREDO'RADAR, TEXAS	4012	5 26	1 07 21.5			40 12	90 00	756	895307
00429	LAREDO'RADAR, TEXAS	4012	5 31	14 29 35			136 54	67 54	745	895307
00430	LAREDO'RADAR, TEXAS	4012	5 31	14 29 48.5			136 54	67 54	741	895307
00489	LAREDO'RADAR, TEX.	4012	6 22	14 06 58.5			35 00	36 42	1082	895307
00580	LAREDO'RADAR, TEXAS	4012	6 30	3 26 10.5			171 48	50 36	939	895307
00581	LAREDO'RADAR, TEXAS	4012	6 30	3 26 28.5			171 48	50 36	893	895307
50001	LAREDO'RADAR, TEXAS	4012	7 01	2 32 58			150 00	29 06	1339	895307
50002	LAREDO'RADAR, TEXAS	4012	7 01	2 33 20			150 00	29 06	1296	895307

OBS NO	STATION	STA NO	DATE	TIME	R. A.	DECL.	AZIMUTH	ALTITUDE	RANGE	INDEX
50185	POTSDAM, GER.	2729	7 07	22 38 31.1	20 42 18	- 1 16				834009
50186	POTSDAM, GER.	2729	7 07	22 40 07.8	22 38 54	7 04				834009
50187	POTSDAM, GER.	2729	7 08	0 16 44.1	20 41 06	29 01				834009
50188	POTSDAM, GER.	2729	7 08	0 18 53.6	0 50 18	21 41				834009
50189	POTSDAM, GER.	2729	7 09	21 54 55.8	19 07 24	- 5 07				834009
50190	POTSDAM, GER.	2729	7 09	21 56 48.2	21 31 06	6 13				834009
50191	POTSDAM, GER.	2729	7 09	23 33 40.2	19 29 48	28 49				834009
50192	POTSDAM, GER.	2729	7 09	23 35 56.0	0 06 06	23 16				834009
50193	POTSDAM, GER.	2729	7 10	1 12 44.9	21 39 06	38 38				834009
50194	POTSDAM, GER.	2729	7 10	1 14 19.0	0 54 54	19 05				834009
50195	POTSDAM, GER.	2729	7 11	22 50 26.1	18 48 48	29 47				834009
50196	POTSDAM, GER.	2729	7 11	22 52 54.4	23 40 00	22 39				834009
50197	POTSDAM, GER.	2729	7 12	0 28 45.4	18 33 48	37 35				834009
50198	POTSDAM, GER.	2729	7 12	0 31 27.6	0 33 54	15 45				834009
50199	POTSDAM, GER.	2729	7 12	22 28 48.4	18 48 42	31 09				834009
50200	POTSDAM, GER.	2729	7 12	22 30 41.9	22 51 00	26 00				834009
50201	POTSDAM, GER.	2729	7 13	0 07 07.1	18 37 18	38 31				834009
50202	POTSDAM, GER.	2729	7 13	0 08 50.8	23 12 48	26 00				834009
50203	POTSDAM, GER.	2729	7 13	22 06 48.4	18 02 06	29 58				834009
50204	POTSDAM, GER.	2729	7 13	22 09 11.6	22 54 18	24 07				834009
50205	POTSDAM, GER.	2729	7 13	23 45 22.2	18 32 30	38 58				834009
50206	POTSDAM, GER.	2729	7 13	23 48 07.2	0 04 54	14 00				834009
50207	POTSDAM, GER.	2729	7 14	1 24 00.4	19 48 18	8 45				834009
50208	POTSDAM, GER.	2729	7 14	1 26 14.6	23 12 12	- 8 59				834009
50209	POTSDAM, GER.	2729	7 16	21 00 53.2	17 24 42	32 01				834009
50210	POTSDAM, GER.	2729	7 16	21 02 39.3	21 19 30	28 17				834009
50211	POTSDAM, GER.	2729	7 16	22 39 53.2	19 17 36	38 55				834009
50212	POTSDAM, GER.	2729	7 16	22 42 09.6	23 08 18	13 55				834009
50213	POTSDAM, GER.	2729	7 18	21 56 02.2	20 17 24	33 07				834009
50214	POTSDAM, GER.	2729	7 18	21 57 48.5	22 33 42	13 19				834009
50215	POTSDAM, GER.	2729	7 18	23 33 22.6	18 02 42	10 12				834009
50216	POTSDAM, GER.	2729	7 18	23 35 19.5	21 02 36	- 4 55				834009
50217	POTSDAM, GER.	2729	7 19	21 32 58.9	18 01 18	39 18				834009
50218	POTSDAM, GER.	2729	7 19	21 35 26.9	22 12 36	13 43				834009
50219	POTSDAM, GER.	2729	7 19	23 11 11.0	17 58 54	9 25				834009
50220	POTSDAM, GER.	2729	7 19	23 12 46.2	20 26 12	- 3 04				834009
50221	POTSDAM, GER.	2729	7 22	20 25 34.2	17 12 36	39 07				834009
50222	POTSDAM, GER.	2729	7 22	20 27 15.5	20 36 06	20 58				834009
50223	POTSDAM, GER.	2729	7 23	21 40 00.7	15 08 42	14 25				834009
50224	POTSDAM, GER.	2729	7 23	21 42 42.1	19 11 12	- 2 40				834009
50225	POTSDAM, GER.	2729	7 24	21 18 56.8	17 14 54	6 27				834009
50226	POTSDAM, GER.	2729	7 24	21 19 13.2	17 47 30	3 37				834009
50227	POTSDAM, GER.	2729	7 27	21 48 19.9	16 15 12	-14 10				834009
50228	POTSDAM, GER.	2729	7 27	21 49 09.0	16 55 18	-19 00				834009

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OBS NO	STATION	STA NO	DATE	TIME	R. A.	DECL.	AZIMUTH	ALTITUDE	RANGE	INDEX
50153	POTSDAM, GER.	2729	5 02	2 03 48.7	17 56 30	30 48				834009
50154	POTSDAM, GER.	2729	5 02	2 05 52.6	22 09 30	22 51				834009
50155	POTSDAM, GER.	2729	5 04	1 38 22.8	18 27 12	36 31				834009
50156	POTSDAM, GER.	2729	5 04	1 39 30.5	21 06 18	28 50				834009
50157	POTSDAM, GER.	2729	5 05	1 25 18.8	17 56 48	38 16				834009
50158	POTSDAM, GER.	2729	5 05	1 26 19.8	20 37 30	30 21				834009
50159	POTSDAM, GER.	2729	5 06	1 10 50.5	13 42 30	23 40				834009
50160	POTSDAM, GER.	2729	5 06	1 14 13.3	21 34 30	21 00				834009
50161	POTSDAM, GER.	2729	5 07	0 57 33.2	13 10 24	22 31				834009
50162	POTSDAM, GER.	2729	5 07	1 00 58.2	21 07 36	21 07				834009
50163	POTSDAM, GER.	2729	5 08	0 43 35.0	13 17 36	27 09				834009
50164	POTSDAM, GER.	2729	5 08	0 45 59.8	20 15 00	27 50				834009
50165	POTSDAM, GER.	2729	5 09	0 31 40.8	14 02 24	34 27				834009
50166	POTSDAM, GER.	2729	5 09	0 34 08.0	20 37 24	20 58				834009
50167	POTSDAM, GER.	2729	5 09	2 10 21.5	14 56 18	19 10				834009
50168	POTSDAM, GER.	2729	5 09	2 12 20.5	19 25 42	7 20				834009
50169	POTSDAM, GER.	2729	5 11	0 04 31.3	13 25 06	33 09				834009

OBS NO	STATION	STA NO	DATE	TIME	R. A.	DECL.	AZIMUTH	ALTITUDE	RANGE	INDEX
50170	POTSDAM, GER.	2729	5 11	0 05 50.0	18 03 00	33 49				834009
50171	POTSDAM, GER.	2729	5 13	23 24 39.5	18 15 48	20 04				834009
50172	POTSDAM, GER.	2729	5 13	23 24 55.4	18 38 00	16 22				834009
50173	POTSDAM, GER.	2729	5 15	22 54 52.7	13 43 48	26 47				834009
50174	POTSDAM, GER.	2729	5 15	22 55 54.0	16 57 30	18 07				834009
50175	POTSDAM, GER.	2729	5 16	21 00 41.4	12 52 24	33 35				834009
50176	POTSDAM, GER.	2729	5 16	21 02 56.5	18 28 42	15 40				834009
50177	POTSDAM, GER.	2729	5 18	20 33 33.9	16 32 24	26 52				834009
50178	POTSDAM, GER.	2729	5 18	20 34 19.0	17 41 12	17 31				834009
50179	POTSDAM, GER.	2729	5 18	22 10 58.6	12 18 36	17 16				834009
50180	POTSDAM, GER.	2729	5 18	22 11 59.2	15 02 42	11 25				834009
50181	POTSDAM, GER.	2729	5 22	21 11 07.8	11 19 06	5 21				834009
50182	POTSDAM, GER.	2729	5 22	21 13 02.1	15 25 12	- 9 13				834009
50183	POTSDAM, GER.	2729	5 23	20 55 50.0	11 04 42	2 34				834009
50184	POTSDAM, GER.	2729	5 23	20 57 56.4	15 18 12	-12 49				834009

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OBS NO	STATION	STA NO	DATE	TIME	R. A.	DECL.	AZIMUTH	ALTITUDE	RANGE	INDEX
50024	POTSDAM, GER.	2729	7 26	21 45 26.8	16 35 48	1 55				834009
50025	POTSDAM, GER.	2729	7 26	21 47 16.2	18 47 24	-10 43				834009
50026	POTSDAM, GER.	2729	9 26	18 47 41.1	17 27 18	19 38				834049
50027	POTSDAM, GER.	2729	9 26	18 48 54.7	21 52 42	31 04				834049
50028	POTSDAM, GER.	2729	9 28	18 32 32.4	18 10 18	33 23				834049
50029	POTSDAM, GER.	2729	9 28	18 33 49.6	23 15 06	27 37				834049
50030	POTSDAM, GER.	2729	9 29	18 24 42.0	18 01 00	34 59				834049
50031	POTSDAM, GER.	2729	9 29	18 25 43.7	22 14 42	31 01				834049
50032	POTSDAM, GER.	2729	9 29	18 26 16.0	23 35 12	22 26				834049
50033	POTSDAM, GER.	2729	10 02	18 01 21.4	19 17 36	31 55				834049
50034	POTSDAM, GER.	2729	10 02	18 02 20.0	22 24 42	17 10				834049
50035	POTSDAM, GER.	2729	10 02	18 02 44.3	23 02 24	11 43				834049
50036	POTSDAM, GER.	2729	10 04	17 45 29.7	19 25 54	19 17				834049
50037	POTSDAM, GER.	2729	10 04	17 46 32.1	21 59 12	5 55				834049
50038	POTSDAM, GER.	2729	11 07	4 29 31.0	8 12 24	39 44				834049

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ADDITIONS TO OBSERVATION LISTINGS PREVIOUSLY PUBLISHED IN SAO SPECIAL REPORTS FOR THE YEAR 1960.

OBS NO	STATION	STA NO	DATE	TIME	R. A.	DECL.	AZIMUTH	ALTITUDE	RANGE	INDEX
50001	POTSDAM, GER.	2729	5 05	1 34 43.0	17 17 24	39 27				834009
50002	POTSDAM, GER.	2729	5 05	1 36 11.9	21 02 36	29 29				834009
50003	POTSDAM, GER.	2729	5 06	1 32 05.2	17 27 12	41 46				834009
50004	POTSDAM, GER.	2729	5 06	1 33 57.1	21 30 06	23 28				834009
50005	POTSDAM, GER.	2729	5 07	1 29 40.3	18 31 12	39 53				834009
50006	POTSDAM, GER.	2729	5 07	1 31 00.2	21 08 48	23 41				834009
50007	POTSDAM, GER.	2729	5 09	1 23 50.8	17 38 36	34 43				834009
50008	POTSDAM, GER.	2729	5 09	1 25 24.4	20 40 00	16 32				834009
50009	POTSDAM, GER.	2729	5 16	21 39 54.9	14 18 06	39 47				834009
50010	POTSDAM, GER.	2729	5 18	21 33 34.3	14 42 24	32 55				834009
50011	POTSDAM, GER.	2729	5 18	21 34 41.6	17 25 12	17 17				834009
50012	POTSDAM, GER.	2729	7 14	0 41 24.9	21 22 30	33 05				834009
50013	POTSDAM, GER.	2729	7 14	0 42 33.9	23 41 00	19 19				834009
50014	POTSDAM, GER.	2729	7 19	0 13 27.2	20 52 54	- 0 48				834009
50015	POTSDAM, GER.	2729	7 19	0 14 35.8	22 14 48	- 8 49				834009
50016	POTSDAM, GER.	2729	7 19	22 27 17.8	19 17 36	36 52				834009
50017	POTSDAM, GER.	2729	7 19	22 29 27.8	22 41 48	11 58				834009
50018	POTSDAM, GER.	2729	7 20	0 06 57.7	19 34 18	- 0 26				834009
50019	POTSDAM, GER.	2729	7 20	0 08 23.5	21 22 12	-10 24				834009
50020	POTSDAM, GER.	2729	7 22	22 09 57.2	18 48 48	17 41				834009

OBS NO	STATION	STA NO	DATE	TIME	R. A.	DECL.	AZIMUTH	ALTITUDE	RANGE	INDEX
50021	POTSDAM, GER.	2729	7 22	22 10 46.5	20 13 42	9 46				834009
50022	POTSDAM, GER.	2729	7 23	22 04 11.6	18 45 48	10 34				834009
50023	POTSDAM, GER.	2729	7 23	22 05 23.4	20 25 42	0 32				834009

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OBS NO	STATION	STA NO	DATE	TIME	R. A.	DECL.	AZIMUTH	ALTITUDE	RANGE	INDEX
00017	MUSASHINO, JAPAN	0233	4 22	18 04 39.0			135	49 30		845301
00049	WALNUT CREEK, CAL.	8535	5 04	11 11 11.6	4 59 00	67 10				845004
00069	HANOVER'E, GER.	0702	5 07	1 28 35	16 33 00	41 20				845012

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OBS NO	STATION	STA NO	DATE	TIME	R. A.	DECL.	AZIMUTH	ALTITUDE	RANGE	INDEX
30037	EVANSTON	0149	6 26	2 00 16.2			26 30	7 48		845302
30038	EVANSTON	0149	6 27	4 46 50.8			38 00	79		845302
30034	KAGOSHIMA	0218	6 30	13 51 22	15 18	72				845002
30033	YATSUSHIRO	0272	6 30	13 52 25			357 00	61 00		845302
30035	KAGOSHIMA	0218	7 05	12 28 49	18 38	40 48				845002
30036	KAGOSHIMA	0218	7 05	12 28 54	18 39	38 24				845002
10013	WOOMERA-BN	9003	7 19	19 30 19.19	7 07 42	-46 30				434023
10014	WOOMERA-BN	9003	7 19	19 33 50.43	5 56 54	-11 39				434013
50015	ASCENSION, M 12	5900	7 28	18 02 00			344 48	7 18		895307
50016	ASCENSION, M 12	5900	7 28	18 03 00			346 06	12 42		895307
50017	ASCENSION, M 12	5900	7 28	18 04 00			348 06	12 48		895307
50018	ASCENSION, M 12	5900	7 28	18 05 00			352 06	30 36		895307
50019	ASCENSION, M 12	5900	7 28	18 06 00			1 54	48 18		895307
50020	ASCENSION, M 12	5900	7 28	18 07 00			54 06	70 42		895307
50021	ASCENSION, M 12	5900	7 28	18 07 30			108 30	66 42		895307
50022	ASCENSION, M 12	5900	7 28	18 08 00			131 30	54 00		895307
50023	ASCENSION, M 12	5900	7 28	18 09 00			145 30	33 36		895307
50024	ASCENSION, M 12	5900	7 28	18 10 00			150 18	21 06		895307
50025	ASCENSION, M 12	5900	7 28	18 11 00			152 48	73 00		895307
30019	ALBUQUERQUE, N.M.	8579	8 03	10 38 35.1			89	21 30		845303
30021	CHINA LAKE, CAL.	0098	8 06	11 27 02.3			170 36 36	32 10 12		641303
16001	HARVESTUA, NORWAY	9115	8 13	23 38 54.86	2 38 06	14 30				434013
16002	HARVESTUA, NORWAY	9115	8 14	1 08 07.25	19 32 12	31 53				434013
30030	MADISON, WISC.	0148	8 15	7 18 20.0	3 16 48	18 54				845042
30029	MADISON, WISC.	0148	8 15	7 18 57.8	3 46 24	23 57				845042
30031	MADISON, WISC.	0148	8 15	9 04 39.5	10 31 12	76 00				845042
50026	LAREDO'RADAR, TEX.	4012	8 19	18 32 35.3			272 54	18 48	1400	895307
50010	RODEWISCH, GER.	2733	8 20	0 54 05.3	23 44 06	38 36				834009
50014	SPOKANE, WASH.	8142	9 08	5 47 57.0	9 19 13	76 36				845009
50073	POTSDAM, GER.	2729	9 08	21 01 01.5	17 42 36	41 34				834049
50074	POTSDAM, GER.	2729	9 08	21 02 10.1	17 50 00	67 34				834049
50075	POTSDAM, GER.	2729	9 08	21 03 01.4	18 48 30	86 49				834049
50076	POTSDAM, GER.	2729	9 08	21 04 10.9	5 41 00	72 00				834049
50077	POTSDAM, GER.	2729	9 09	20 44 35.7	17 40 06	35 32				834049
50078	POTSDAM, GER.	2729	9 09	20 45 27.7	17 47 24	56 46				834049
50079	POTSDAM, GER.	2729	9 09	20 46 15.4	18 05 30	71 56				834049
50080	POTSDAM, GER.	2729	9 09	20 47 17.0	5 14 42	72 01				834049
50081	POTSDAM, GER.	2729	9 11	20 09 51.7	17 29 42	30 55				834049
50008	FARNHAM, ENG.	8048	9 11	20 10 12.4	22 32 18	46 04				845009
50082	POTSDAM, GER.	2729	9 11	20 10 51.4	17 48 42	51 55				834049
50083	POTSDAM, GER.	2729	9 11	20 12 00.0	19 19 48	78 29				834049
50084	POTSDAM, GER.	2729	9 11	20 13 15.9	4 05 48	73 59				834049
50085	POTSDAM, GER.	2729	9 12	19 52 21.6	17 19 42	20 19				834049
50086	POTSDAM, GER.	2729	9 12	19 54 09.2	17 57 12	56 05				834049
30032	CHINA LAKE, CAL.	0098	9 13	4 18 35.8			310 13 48	28 03 00		641303
50027	LAREDO'RADAR, TEX.	4012	9 13	11 34 54.0			131 00	40 18	945	895307
50087	POTSDAM, GER.	2729	9 13	19 36 04.2	17 24 54	28 35				834049

OBS NO	STATION	STA NO	DATE	TIME	R. A.	DECL.	AZIMUTH	ALTITUDE	RANGE	INDEX
50009	FARNHAM, ENG.	8048	9 13	19 36 43.2	22 40 00	43 36				845009
50028	LAREDO'RADAR, TEX.	4012	9 17	10 24 24.2			15 54	35 30	1048	895307
16003	HARVESTUA, NORWAY	9115	9 18	19 58 40.15	16 45 54	66 51				434013
16004	HARVESTUA, NORWAY	9115	9 18	19 58 52.16	16 56 30	72 01				434013
16005	HARVESTUA, NORWAY	9115	9 18	19 59 00.17	17 06 54	75 23				434013
50040	RIGA, USSR	1040	10 12	18 29 11.7	15 10 00	69 54				845009
50041	RIGA, USSR	1040	10 12	18 30 00.6	21 56 00	71 24				845009
50042	UFA, USSR	1057	10 13	16 30 52.3	14 31 42	58 48				845009
50043	UFA, USSR	1057	10 13	16 31 01.9	14 07 00	69 36				845009
50044	UFA, USSR	1057	10 14	16 14 11.2	14 28 00	63 36				845009
50045	UFA, USSR	1057	10 14	16 15 01.3	8 13 00	75 00				845009
50029	LAREDO'RADAR, TEX.	4012	10 17	3 46 52.5			142 48 00	41 18 00	886	895307
50046	SARATOV, USSR	1044	10 17	15 21 43.9			180 00	28 12		845309
50047	IAKUTSK, USSR	1066	10 18	10 01 21.2	19 11 30	41 24				845009
30024	ROCHESTER, N.Y.	8564	10 18	23 38 05.4	3 29 06	42 48				845034
50048	BLAGOVESTCHENSK,USSR	1010	10 19	9 46 08.9	3 29 00	57 42				845009
50049	BLAGOVESTCHENSK,USSR	1010	10 19	9 48 30.7	1 28 00	18 00				845009
50054	TCHITA, USSR	1064	10 20	11 12 13.9	22 54 00	56 00				845009
50055	TCHITA, USSR	1064	10 20	11 12 24.1	23 01 48	49 48				845009
50050	SVERDLOVSK, USSR	1045	10 20	14 33 49.8	18 25 00	59 00				845009
50052	ORENBURGH, USSR	1063	10 20	14 33 51.1	4 44 00	75 48				845009
50053	ORENBURGH, USSR	1063	10 20	14 34 00.3	3 50 00	73 54				845009
50051	SVERDLOVSK, USSR	1045	10 20	14 35 06.6	21 41 00	27 42				845009
50030	LAREDO'RADAR, TEX.	4012	10 26	1 11 10.5			101 36	29 18	1111	895307
50031	LAREDO'RADAR, TEX.	4012	10 28	0 34 27.0			26 30 00	25 48 00	1230	895307
50032	LAREDO'RADAR, TEX.	4012	10 28	15 18 27			259 42	42 06	1301	895307
50033	LAREDO'RADAR, TEX.	4012	10 29	0 20 11.3			93 42 00	24 54 00	1211	895307
50034	LAREDO'RADAR, TEX.	4012	11 01	14 10 40			243 12	49 36	1193	895307
50035	LAREDO'RADAR, TEX.	4012	11 02	13 53 39			237 54	51 06	1178	895307
50036	LAREDO'RADAR, TEX.	4012	11 04	13 19 48			226 00	53 36	1120	895307
50037	LAREDO'RADAR, TEX.	4012	11 07	23 12 21.0			284 00 00	29 30 00	1190	895307
50056	EREVAN, USSR	1018	11 12	2 42 34.2	6 28 54	55 36				845009
50057	EREVAN, USSR	1018	11 12	2 42 43.7	6 32 30	59 42				845009
30025	CINCINNATI, OHIO	0050	11 12	11 11 33.5			306 00	61 06		845302
50060	BLAGOVESTCHENSK,USSR	1010	11 12	21 25 20.0	16 07 00	68 00				845009
50061	EREVAN, USSR	1018	11 13	2 25 40.3	6 41 42	57 06				845009
50062	EREVAN, USSR	1018	11 13	2 25 45.3	6 42 42	59 30				845009
50058	EREVAN, USSR	1018	11 14	2 08 22.1	6 38 54	47 42				845009
50059	EREVAN, USSR	1018	11 14	2 08 25.7	6 42 36	49 24				845009
50063	BLAGOVESTCHENSK,USSR	1010	11 14	20 48 41.3	7 40 00	28 48				845009
50064	VOLOGDA, USSR	1014	11 17	3 04 42.9	7 40 30	34 48				845009
50065	VOLOGDA, USSR	1014	11 17	3 05 04.9	8 07 30	44 00				845009
50088	POTSDAM, GER.	2729	11 17	4 44 11.2	5 16 06	25 10				834049
50089	POTSDAM, GER.	2729	11 17	4 45 17.4	4 58 00	48 47				834049
50011	POTSDAM, GER.	2729	11 17	4 46 01.5	4 04 42	69 06				834009
50012	POTSDAM	2729	11 17	4 46 38.0	1 39 00	80 05				834049
50013	POTSDAM, GEP.	2729	11 17	4 46 53.0	23 04 00	84 12				834009
10010	WOOMERA'BN, AUSTR.	9003	11 17	16 04 01.46	20 42 54	-74 36				834023
10011	WOOMERA'BN, AUSTR.	9003	11 17	16 06 06.27	3 44 30	-80 47				834023
10012	WOOMERA'BN, AUSTR.	9003	11 17	16 07 48.00	6 25 30	-56 19				834023
10004	WOOMERA'BN, AUSTR.	9003	11 18	15 48 19.02	22 58 00	-84 13				434023
10005	WOOMERA'BN, AUSTR.	9003	11 18	15 49 27.93	5 19 30	-78 18				434023
10006	WOOMERA'BN, AUSTR.	9003	11 18	15 50 11.86	6 13 12	-67 44				434023
50066	SYKTYVKAR, USSR	1049	11 20	2 15 46.3	7 28 00	51 42				845009
50067	SYKTYVKAR, USSR	1049	11 20	2 16 05.6	8 12 00	60 30				845009
50068	IAKUTSK, USSR	1066	11 24	21 31 17.0	1 12 00	75 18				845009
50038	LAREDO'RADAR, TEX.	4012	11 26	17 49 36.8			14 00	36 00	984	895307
50039	LAREDO'RADAR, TEX.	4012	12 07	5 43 52.5			242 12 00	47 06 00	1098	895307
10007	WOOMERA'BN, AUSTR.	9003	12 11	11 04 58.52	23 37 06	-31 01				434023
50001	BLAGOVESTCHENSK,USSR	1010	12 11	21 57 58.0	14 04 00	70 00				845009
50002	BLAGOVESTCHENSK,USSR	1010	12 11	21 59 11.9	14 43 00	27 12				845009
10008	VILLA DOLORES'BN,ARG	9011	12 12	0 41 47.12	0 49 36	25 18				434013
50003	BLAGOVESTCHENSK,USSR	1010	12 12	21 39 40.9	2 55 00	73 12				845009
50004	BLAGOVESTCHENSK,USSR	1010	12 12	21 41 21.7	14 36 30	55 00				845009
50005	EREVAN, USSR	1018	12 13	21 23 27.8	15 50 00	85 24				845009
50006	EREVAN, USSR	1018	12 13	21 25 21.6	14 44 00	24 00				845009
50069	NOVOSIBIRSK, USSR	1035	12 16	0 13 47.4	10 57 30	20 00				845009

OBS NO	STATION	STA NO	DATE	TIME	R. A.	DECL.	AZIMUTH	ALTITUDE	RANGE	INDEX
10009	CURACAO'BN. N.W.I.	9009	12 16	23 27 14.19	4 42 24	-27 58				434023
50072	LAREDO-RADAR, TEX.	4012	12 22	12 11 34.5			324 24 00	47 00 00	940	895307
30026	ROCHESTER, N.Y.	8564	12 26	0 26 52.4	23 12 42	11 21				845013
30027	ROCHESTER, N.Y.	5050	12 26	0 26 55.0	23 13 36	12 31				845013
30028	ROCHESTER, N.Y.	8564	12 27	23 54 13.6	0 13 24	48 10				845013
50070	BLAGOVESTCHENSK,USSR	1010	12 29	9 48 46.1	3 11 00	30 36				845009
50071	BLAGOVESTCHENSK,USSR	1010	12 29	9 49 14.0	4 11 00	38 00				845009

OBS NO	STATION	STA NO	DATE	TIME	R. A.	DECL.	AZIMUTH	ALTITUDE	RANGE	INDEX
50035	PRINCE ALBERT-RADAR	4450	6 22	7 31 20			277	34 30	1500	895307
50036	PRINCE ALBERT-RADAR	4450	6 22	7 31 40			273	35 40	1440	895307
50037	PRINCE ALBERT-RADAR	4450	6 22	7 32 00			265	36 30	1380	895307
50038	PRINCE ALBERT-RADAR	4450	6 22	7 32 20			258 15	38 00	1350	895307
50039	PRINCE ALBERT-RADAR	4450	6 22	7 32 40			251	38 10	1325	895307
50040	PRINCE ALBERT-RADAR	4450	6 22	7 33 00			243 10	38 20	1320	895307
50041	PRINCE ALBERT-RADAR	4450	6 22	7 33 20			235 20	37 20	1305	895307
50042	PRINCE ALBERT-RADAR	4450	6 22	7 33 40			228 40	36 40	1350	895307
50043	PRINCE ALBERT-RADAR	4450	6 22	7 34 00			221 30	35 00	1425	895307
50044	PRINCE ALBERT-RADAR	4450	6 22	7 34 20			216 10	32 50	1470	895307
50045	PRINCE ALBERT-RADAR	4450	6 22	7 34 40			210 10	31 20	1515	895307
50046	PRINCE ALBERT-RADAR	4450	6 22	7 35 00			206	29 10	1545	895307
50047	PRINCE ALBERT-RADAR	4450	6 22	7 35 20			201	26 50	1620	895307
50048	PRINCE ALBERT-RADAR	4450	6 22	7 35 40			197	24 30	1680	895307
50049	PRINCE ALBERT-RADAR	4450	6 22	7 36 00			193 40	22 10	1800	895307
50050	PRINCE ALBERT-RADAR	4450	6 22	7 36 20			190 30	20 10	1875	895307
50051	PRINCE ALBERT-RADAR	4450	6 22	7 36 40			188 20	18 10	1955	895307
50052	PRINCE ALBERT-RADAR	4450	6 22	7 37 00			185 50	16 10	2100	895307
50053	PRINCE ALBERT-RADAR	4450	6 22	7 37 20			184	14 25	2175	895307
50056	PRINCE ALBERT-RADAR	4450	6 22	7 37 40			182 53	13 45	2265	895307
30050	MIYAZAKI	0230	6 22	16 07 34	17 30	67				845002
30033	CHINA LAKE	0098	6 23	7 15 56.7			359 45 00	21 52 48		641303
30028	SAPPORO	0245	6 23	14 06 01	20 15	15				845002
30065	CHINA LAKE	0098	6 24	6 59 01.1			0 00	20 42 00		641303
30029	ALBUQUERQUE	0041	6 24	7 02 29.7	15 52	70				845033
30023	ALBUQUERQUE, N.M.	0041	6 24	7 02 37	16 12	68 36				845033
30034	ALBUQUERQUE	0041	6 24	7 02 42	16 16	68 12				845033
30001	CHINA LAKE, CAL.	0098	6 24	8 44 06.4			293 59 24	20 40 12		641303
30035	CHINA LAKE	0098	6 24	8 44 09.5			293 59 24	20 40 12		641303
30036	ALBUQUERQUE	0041	6 25	6 45 44.4	16 40	70				845033
30037	ALBUQUERQUE	0041	6 25	6 45 46.41	16 36	70 45				845033
30002	ALBUQUERQUE, N.M.	0041	6 25	6 45 50.8	16 40	70				845033
30008	DAYTON, OHIO	8557	6 26	4 44 48.5	12 24	77 18				845003
30038	DAYTON	8557	6 26	4 44 54.6	12 24	77 18				845043
30009	DAYTON, OHIO	8557	6 26	4 47 06.1			59 36	74 12		845303
30039	DAYTON	8557	6 26	4 47 11.8			59 36	74 12		845303
30010	DAYTON, OHIO	8557	6 26	4 47 29.1			91 45	71 18		845303
30040	DAYTON	8557	6 26	4 47 34.4			92 03	71 06		845303
50055	SPOKANE	8142	6 26	6 25 04.0			0	63 15 36		845302
50002	SPOKANE, WASH.	8142	6 26	6 25 09.4			0	63 19 12		845302
30042	ALBUQUERQUE	8579	6 26	6 29 18.1			0 00	59 54		845303
30003	ALBUQUERQUE, N.M.	8579	6 26	6 29 24.3			0 00	59 54		845303
30004	CHINA LAKE, CAL.	0098	6 26	8 10 31.2			296 52 48	22 01 12		641303
30051	YATSUSHIRO	0272	6 26	14 58 04			330 00	66 00		845302
30069	CINCINNATI	0050	6 27	4 30 27.5			74 30	67		845302
30024	CINCINNATI, OHIO	0050	6 27	4 30 35			74 30	67		845302
30007	CHINA LAKE, CAL.	0098	6 27	6 08 09.8			0 00	17 14 24		641303
30043	ALBUQUERQUE	8579	6 27	6 12 11.6			0 00	53 42		845303
30005	ALBUQUERQUE, N.M.	8579	6 27	6 12 20.2			0 00	53 42		845303
30006	CHINA LAKE, CAL.	0098	6 27	7 53 32.9			298 28 12	22 34 48		641303
30044	CHINA LAKE	0098	6 27	7 53 40.4			298 28 12	22 34 48		641303
30045	STATE COLLEGE	0060	6 28	4 13 36.0			267	74 30		845302
30011	STATE COLLEGE, PA.	0060	6 28	4 13 48.0			264	75		845302
30046	CHINA LAKE	0098	6 28	5 54 55.0			51 10 48	30 37 12		641303
30012	CHINA LAKE, CAL.	0098	6 28	5 55 03.9			51 10 48	30 37 12		641303
30048	ALBUQUERQUE	8579	6 28	5 55 07.4			0 00	48 06		845303
30014	ALBUQUERQUE, N.M.	8579	6 28	5 55 16.9			0 00	48 12		845303
30047	CHINA LAKE	0098	6 28	7 36 41.0			300 12 36	23 04 12		641303
30013	CHINA LAKE, CAL.	0098	6 28	7 36 49.9			300 12 36	23 04 12		641303
30052	STATE COLLEGE	0060	6 29	3 57 04.1			267	77		845302
30053	STATE COLLEGE	0060	6 29	3 57 13.2			263	80		845302
30015	ALBUQUERQUE, N.M.	8579	6 29	5 38 13.7			0 00	44 12		845303
30016	CINCINNATI, OHIO	8555	6 30	3 39 36			40	57		845302

OBS NO	STATION	STA NO	DATE	TIME	R. A.	DECL.	AZIMUTH	ALTITUDE	RANGE	INDEX
30041	ALBUQUERQUE	8579	7 01	5 03 53.5			0 00	36 24		845303
30017	ALBUQUERQUE, N.M.	8579	7 01	5 04 08.4			0 00	36 48		845303
30018	CHINA LAKE, CAL.	0098	7 01	6 46 06.2			305 35 24	24 42 36		641303
30066	CHINA LAKE	0098	7 01	6 46 19.3			305 35 24	24 42 36		641303
30031	KAGOSHIMA	0218	7 01	13 34 34	16 30	69 06				845002
30030	KAGOSHIMA	0218	7 01	13 34 45	16 57	65 30				845002
30054	YATSUSHIRO	0272	7 01	13 36 17			0 00	57 00		845302
30055	MITAKA	0229	7 02	11 33 45.1			41 06	24 36		845303
30056	KONKO	0224	7 02	13 18 51	16 15	30				845002
30058	KAGOSHIMA	0218	7 03	13 00 46	16 18	79 06				845002
30057	YATSUSHIRO	0272	7 03	13 01 00			0 00	40 30		845302
30059	KAGOSHIMA	0218	7 03	13 01 19	17 31	68 06				845002
30060	KONKO	0224	7 03	13 01 55	16 09	34 24				845002
30032	KAGOSHIMA	0218	7 03	13 02 11	18 28	38 54				845002
30061	YATSUSHIRO	0272	7 03	13 02 24			0 00	44 30		845302
30020	KAGOSHIMA, JAPAN	0218	7 03	13 02 29	18 26	38 36				845002
30063	DAYTON	8557	7 04	2 27 05.0			349 42	24 24		845302
30062	KAGOSHIMA	0218	7 04	12 45 42	18 34	38 48				845002
30064	ROANOKE	0073	7 06	15 22 48	18 21 00	37 09				845002
30019	CHINA LAKE, CAL.	0098	7 07	5 08 02.6			243 42 36	60 31 48		641303
30049	KAGOSHIMA	0218	7 12	12 12 13	11 48	5 06				845002
30067	KAGOSHIMA	0218	7 14	11 40 58	11 56	1 12				845002
10007	WOOMERA'BN, AUSTR.	9003	7 22	20 23 07.29	23 08 12	-56 30				434023
10008	WOOMERA'BN, AUSTR.	9003	7 22	20 27 26.51	2 36 24	22 04				434013
30068	SYDNEY	0602	7 28	8 04 46.0	15 32	-27 48				845042
10006	WOOMERA'BN, AUSTR.	9003	7 29	9 29 29.64	9 39 48	-51 36				434023
30021	DENVER, COLO.	8582	8 03	11 06 24.0			112 00	36 00		845303
30022	CHINA LAKE, CAL.	0098	8 06	11 25 18.5			170 36 36	30 21 36		641303
30026	MADISON, WISC.	0148	8 13	7 54 21.7	3 53 30	25 27				845042
30027	MADISON, WISC.	0148	8 15	7 22 08.5	3 41 36	23 57				845042
50004	LAREDO'RADAR, TEX.	4012	8 19	18 34 42.0			272 54	18 48	1611	895307
50005	LAREDO'RADAR, TEX.	4012	8 23	17 24 21.3			278 06	25 18	1363	895307
50029	POTSDAM, GER.	2729	9 12	19 49 36.2	17 58 36	46 37				834049
50030	POTSDAM, GER.	2729	9 12	19 50 15.3	18 35 12	62 17				834049
50031	POTSDAM, GER.	2729	9 13	19 32 28.0	17 53 48	42 22				834049
50032	POTSDAM, GER.	2729	9 13	19 33 23.3	18 52 12	64 00				834049
50003	SPOKANE, WASH.	8142	9 14	4 01 28.1	19 30 35	87 25				845009
50033	POTSDAM, GER.	2729	9 14	19 15 32.9	17 57 18	43 02				834049
50034	POTSDAM, GER.	2729	9 14	19 16 25.7	19 01 06	63 37				834049
50018	PETROZAVODSK, USSR	1038	10 07	18 10 49.4	22 55 00	65 00				845009
50017	VOLOGDA, USSR	1014	10 07	18 10 50.1	16 21 00	75 18				845009
50019	ARKHANGELSK, USSR	1004	10 08	16 10 32.9	0 29	53 36				845009
50020	ARKHANGELSK, USSR	1004	10 08	16 12 28.7	1 08 48	20 48				845009
50021	MOSKVA, USSR	1072	10 08	17 54 44.8	5 20 30	70 12				845009
50022	ULJANOVSK, USSR	1071	10 19	14 48 16.7	6 52 30	74 06				845009
50023	EREVAN, USSR	1018	10 24	15 12 51.2	1 17 30	45 18				845009
50024	EREVAN, USSR	1018	10 24	15 12 57.3	1 14 06	42 48				845009
50025	LVOV, USSR	1031	10 24	16 52 16.0	17 55 00	45 00				845009
50026	LVOV, USSR	1031	10 24	16 53 32.9	20 33 00	14 30				845009
50006	LAREDO'RADAR, TEX.	4012	10 28	15 09 26.5			249 12	47 36	1210	895307
50007	LAREDO'RADAR, TEX.	4012	10 31	14 18 19.5			233 30 00	52 36 00	1136	895307
50008	LAREDO'RADAR, TEX.	4012	11 04	13 10 00.5			205 36	55 24	1098	895307
50009	LAREDO'RADAR, TEX.	4012	11 07	23 02 13.5			292 24 00	34 42 00	1020	895307
50010	LAREDO'RADAR, TEX.	4012	11 19	19 36 43			0 24	41 18	895	895307
50013	LAREDO'RADAR, TEX.	4012	12 07	5 29 10			212 24	52 42	1038	895307
50011	LAREDO'RADAR, TEX.	4012	12 10	4 37 43			192 30	51 48	1018	895307
50012	LAREDO'RADAR, TEX.	4012	12 10	15 20 36.0			289 00 00	34 00 00	1063	895307
50014	LAREDO'RADAR, TEX.	4012	12 15	13 54 41.3			312 42 00	44 18 00	903	895307
50001	LAREDO'RADAR, TEX.	4012	12 19	12 45 56.3			338 30 00	46 30 00	883	895307
30025	ROCHESTER, N.Y.	8564	12 20	10 44 16.4	9 26 18	24 19				845013
50015	LAREDO'RADAR, TEX.	4012	12 22	11 54 19.5			356 24 00	44 06 00	945	895307

OBS NO	STATION	STA NO	DATE	TIME	R. A.	DECL.	AZIMUTH	ALTITUDE	RANGE	INDEX
50016	LAREDO*RADAR, TEX.	4012	12 23	2 41 20.5			319 48 00	20 30 00	1620	895307

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OBS NO	STATION	STA NO	DATE	TIME	R. A.	DECL.	AZIMUTH	ALTITUDE	RANGE	INDEX
30001	CHINA LAKE, CAL.	0098	6 23	7 11 16.8			0 00 00	19 33 00		641303
30010	SACRAMENTO, CAL.	8517	6 23	7 12 20	23 58	66 36				641042
30002	SACRAMENTO, CAL.	8517	6 23	7 13 54.3	22 24 00	42 21				641013
30004	MIZUKAIDO, JAPAN	0231	6 23	14 00 00			45 00	35 00		845302
30003	SENDAI, JAPAN	0246	6 23	14 00 19	21 33	38				845002
30005	CHINA LAKE, CAL.	0098	6 24	6 49 54.6			0 00	16 58 48		641303
30012	SACRAMENTO, CAL.	8517	6 24	8 34 45.6	13 33	37 48				641042
30006	CHINA LAKE, CAL.	0098	6 24	8 35 31.7			293 59 24	24 40 12		641303
30011	SACRAMENTO, CAL.	8517	6 24	8 35 37.2	14 23 00	30 16				641013
30009	HANNOVER, GER.	8601	6 24	22 01 35.0	16 55 30	62 26				845042
30015	HANNOVER, GER.	8069	6 24	22 02 34.4	18 22 30	29 36				845002
30007	SACRAMENTO, CAL.	8517	6 25	6 32 06.7	22 14 18	36 32				641013
30099	SACRAMENTO, CAL.	8517	6 25	6 32 36.0	22 14	30 24				641042
30014	ALBUQUERQUE HS, N.M.	0041	6 25	6 33 02.5	19 41	73 12				845032
30009	ALBUQUERQUE, N.M.	0041	6 25	6 33 08	19 43	72 12				845032
30008	SACRAMENTO, CAL.	8517	6 25	8 13 58.9	13 23 30	42 00				641043
30035	DAYTON, OHIO	8557	6 26	2 44 07.3			38 00	13 30		845303
30036	DAYTON, OHIO	8557	6 26	4 28 17.8			0 00	38 00		845303
30037	DAYTON, OHIO	8557	6 26	4 30 24.5			60 30	54 40		845303
50019	SPOKANE, WASH.	8142	6 26	6 07 22.6			0	46 47 24		845302
30020	ALBUQUERQUE, N.M.	8579	6 26	6 10 41.4			0 00	33 18		845302
30021	SACRAMENTO, CAL.	8517	6 26	6 11 01.3	22 12 24	36 42				641013
30022	SACRAMENTO, CAL.	8517	6 26	6 12 56.4	21 38 12	14 02				641013
30023	CHINA LAKE, CAL.	0098	6 26	7 53 14.3			305 03 36	27 19 48		641303
30130	HANNOVER, GER.	8601	6 26	21 19 52.7	18 24 00	59 06				845042
30038	DAYTON, OHIO	8557	6 27	2 23 45.8			37 00	11 54		845303
30039	DAYTON, OHIO	8557	6 27	4 06 50.2			1 24	33 00		845303
30024	CINCINNATI, OHIO	0050	6 27	4 09 21			55 30	47		845302
30040	DAYTON, OHIO	8557	6 27	4 09 25.4	20 40 06	45 08				845001
30041	DAYTON, OHIO	8557	6 27	4 11 59.0			103 49	36 14		845303
50020	SPOKANE, WASH.	8142	6 27	5 46 06.9	3 36 15	84 04				845002
30025	ALBUQUERQUE, N.M.	8579	6 27	5 49 20			0 00	27 00		845302
30026	SACRAMENTO, CAL.	8517	6 27	5 49 48.7	22 09 18	37 01				641013
30034	CHINA LAKE, CAL.	0098	6 27	5 50 18.6			48 36 00	22 23 24		641303
30027	SACRAMENTO, CAL.	8517	6 27	5 50 28.8	21 54 54	30 04				641013
30028	SACRAMENTO, CAL.	8517	6 27	5 50 49.6	21 41 48	23 45				641013
30029	SACRAMENTO, CAL.	8517	6 27	5 51 30.4	21 35 36	18 22				641013
30042	DAYTON, OHIO	8557	6 27	5 51 34.2			275 49	22 05		845303
30043	DAYTON, OHIO	8557	6 27	5 52 26.5	14 12	13 45				845043
30030	SACRAMENTO, CAL.	8517	6 27	7 32 17.0	13 44 18	50 10				641013
30031	SACRAMENTO, CAL.	8517	6 27	7 32 32.6	14 11 30	47 34				641012
30032	SACRAMENTO, CAL.	8517	6 27	7 33 27.0	15 37 48	32 54				641013
30033	CHINA LAKE, CAL.	0098	6 27	7 33 36.8			290 28 48	43 11 24		641303
30044	ALBUQUERQUE, N.M.	8579	6 28	5 27 53.0			0 00	23 12		845303
30045	SACRAMENTO, CAL.	8517	6 28	5 28 47.6	22 05 12	37 12				641013
30050	CHINA LAKE, CAL.	0098	6 28	5 29 10.6			47 19 48	20 10 48		641303
30046	SACRAMENTO, CAL.	8517	6 28	5 29 55.1	21 39 42	24 53				641013
30047	SACRAMENTO, CAL.	8517	6 28	5 30 25.5	21 31 48	19 54				641013
30048	SACRAMENTO, CAL.	8517	6 28	7 11 35.9	14 27 54	53 13				641013
30051	CHINA LAKE, CAL.	0098	6 28	7 12 35.2			298 18 36	47 42 36		641303
30049	SACRAMENTO, CAL.	8517	6 28	7 12 37.4	16 11 06	34 30				641013
30142	KANSAS CITY	0036	6 29	3 37 44.8			35 36	22 18		845303
30143	KANSAS CITY	0036	6 29	3 38 51.5			35 36	22 30		845302
50021	SPOKANE, WASH.	8142	6 29	5 03 38.0			0	34 41 24		845309
50022	SPOKANE, WASH.	8142	6 29	6 51 13.2			210 24	33 24		845309
30052	SACRAMENTO, CAL.	8517	6 29	6 51 19.0	16 13 18	46 26				641013
30053	SACRAMENTO, CAL.	8517	6 29	6 51 28.8	16 27 12	42 29				641013
30054	SACRAMENTO, CAL.	8517	6 29	6 51 36.5	16 38 00	39 21				641013
30055	CINCINNATI, OHIO	0050	6 30	4 49 40			262 30	36		845302
30056	SACRAMENTO, CAL.	8517	6 30	6 29 53.7	16 07 24	60 14				641013
30057	SACRAMENTO, CAL.	8517	6 30	6 30 13.0	16 39 18	53 08				641013
30058	SACRAMENTO, CAL.	8517	6 30	6 30 49.9	17 24 30	37 15				641013
30059	SACRAMENTO, CAL.	8517	6 30	6 30 52.4	17 27 24	35 54				641013
30060	ALBUQUERQUE, N.M.	8579	7 01	4 23 42.0			0 00	14 12		845303
50024	SPOKANE, WASH.	8142	7 01	6 07 52.7			239 00	50 36		845309
30061	SACRAMENTO, CAL.	8517	7 01	6 09 32.3	17 43 24	47 38				641013
30062	SACRAMENTO, CAL.	8517	7 01	6 09 56.1	18 02 18	36 19				641013
50023	SPOKANE, WASH.	8142	7 01	6 11 09.2			177 00	20 42		845309
30064	DAYTON, OHIO	8557	7 02	2 24 13.5			59 00	28 24		845303
30063	DAYTON, OHIO	8557	7 02	4 06 51.3			284 00	40 40		845303
50025	SPOKANE, WASH.	8142	7 02	5 48 53.2			180	32 46 48		845309

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30065	SACRAMENTO, CAL.	8517	7 02	5 48 54.2	18 29 12	38 47				641013
30066	SACRAMENTO, CAL.	8517	7 02	5 49 09.9	18 34 30	31 32				641013
30067	SACRAMENTO, CAL.	8517	7 02	5 49 39.8	18 41 24	19 17				641013
30068	SACRAMENTO, CAL.	8517	7 02	5 49 48.8	18 44 18	15 48				641013
30072	ASAHIKAWA, JAPAN	0201	7 02	12 33 21	14 35	27				845002
10001	TOKYO-BN	9005	7 02	12 34 12.80	16 28 00	66 37				434013
30071	MITAKA, JAPAN	0229	7 02	12 34 29.4			6 36	65 00		845303
30073	SENDAI, JAPAN	0246	7 02	12 34 44	16 34	36				845002
30074	KONKO, JAPAN	0224	7 02	12 34 52			60 00	43 30		845302
30075	HIGASHIMATSUYAMA, JAP	0210	7 02	12 35 04.5	17 39	42 36				845003
30078	ASAHIKAWA, JAPAN	0201	7 03	12 12 24	14 53	30				845002
30076	MITAKA, JAPAN	0229	7 03	12 13 15.4			14 18	56 18		845302
10002	TOKYO'BN, JAPAN	9005	7 03	12 14 57.00	18 32 12	22 26				434013
30077	KONKO, JAPAN	0224	7 03	12 15 09			90 00	32 00		845302
30069	DAYTON, OHIO	8557	7 04	3 22 44.1			318 36	25 30		845302
30070	DAYTON, OHIO	8557	7 04	3 26 47.0			209 24	55 42		845302
30079	SAPPORO, JAPAN	0245	7 04	11 51 25	15 37	40 48				845002
30141	ROANOKE	0073	7 05	16 15	35 18	83 12				845002
30144	ROANOKE	0073	7 06	16 22 12	3 33 00	82 15				845002
30080	MITAKA, JAPAN	0229	7 08	12 12 31.7			257 00	29 00		845302
30082	KAGOSHIMA, JAPAN	0218	7 09	11 51 31	14 59	47				845002
30081	MIYAZAKI, JAPAN	0230	7 09	11 53 28	16 25	- 7				845002
10003	TOKYO'BN, JAPAN	9005	7 10	11 28 13.30	10 15 00	39 12				434013
30083	KAGOSHIMA, JAPAN	0218	7 10	11 30 23	15 35	55				845002
30086	KAGOSHIMA, JAPAN	0218	7 10	11 31 58	16 54	9 36				845002
30084	MIYAZAKI, JAPAN	0230	7 10	11 32 12	16 40	1 12				845002
30087	KAGOSHIMA, JAPAN	0218	7 10	11 33 43	17 33	-22 06				845002
30085	MIYAZAKI, JAPAN	0230	7 10	11 33 49	17 19	-25 00				845002
30090	KAGOSHIMA, JAPAN	0218	7 11	11 09 44	16 37 30	49 00				845002
30089	KONKO, JAPAN	0224	7 11	11 10 05	15 20	13 42				845002
30091	KAGOSHIMA, JAPAN	0218	7 11	11 11 18	17 26	3 54				845002
30088	NAGOYA, JAPAN	0236	7 11	11 11 44			180	35		845302
30092	KAGOSHIMA, JAPAN	0218	7 11	11 12 14	17 39	-13 00				845002
30093	KAGOSHIMA, JAPAN	0218	7 12	10 50 25	17 44	3 18				845002
30095	KAGOSHIMA, JAPAN	0218	7 13	12 10 28	11 12	6 18				845002
30094	KAGOSHIMA, JAPAN	0218	7 13	12 13 13	12 31	-23 24				845002
30096	KAGOSHIMA, JAPAN	0218	7 14	11 52 41	12 41	-28 06				845002
30097	KAGOSHIMA, JAPAN	0218	7 14	11 53 43	13 08	-37 36				845002
30098	KAGOSHIMA, JAPAN	0218	7 15	11 31 13	12 28	-23 42				845002
10004	WOOMERA-BN	9003	7 18	19 37 26.89	7 33 12	-48 51				434023
10005	WOOMERA-BN	9003	7 18	19 41 07.78	6 10 00	-13 50				434013
50029	LAREDO'RADAR, TEX.	4012	7 30	23 09 54.5			272 30	20 42	1611	895307
50026	LAREDO-RADAR	4012	8 01	22 27 47.3			277 54	28 00	1345	895307
50027	LAREDO'RADAR, TEX.	4012	8 02	20 25 12.5			78 06	15 42	1828	895307
50028	LAREDO'RADAR, TEX.	4012	8 02	22 06 42.8			282 06	32 18	1228	895307
50031	POTSDAM, GER.	2729	8 10	1 58 22.3	3 23 54	8 00				834009
50032	POTSDAM, GER.	2729	8 10	1 58 44.7	3 42 30	11 24				834009
50033	POTSDAM, GER.	2729	8 10	1 59 10.1	4 02 06	14 36				834009
50034	RODEWISCH, GER.	2733	8 11	1 36 37.6	3 07 54	4 48				834009
50035	RODEWISCH, GER.	2733	8 11	1 36 48.3	3 14 42	6 00				834009
30136	KAGOSHIMA, JAPAN	0218	8 13	17 46 20.0	23 44	66 30				845002
30135	SAPPORO, JAPAN	0245	8 13	17 50 00	22 10	70				845002
50036	RODEWISCH, GER.	2733	8 14	2 16 58.5	0 04 36	32 12				834009
50037	RODEWISCH, GER.	2733	8 14	2 17 30	0 18 18	36 36				834009
30137	YATSUSHIRO, JAPAN	0272	8 14	17 26 27			18 00	42 00		845302
30138	MUSASHINO, JAPAN	0233	8 15	17 05 14.4			315	57		845302
30140	HIGASHIMATSUYAMA, JAP	0210	8 15	17 06 02.7	21 39	68 12				845003
30139	SAPPORO, JAPAN	0245	8 15	17 07 34	23 23	62				845002
50038	LAREDO'RADAR, TEX.	4012	8 24	16 06 54.0			7 24	42 24	911	895307
50049	FARNHAM, ENG.	8048	9 04	22 01 09.6	23 13 06	58 54				845009
50039	LAREDO'RADAR, TEX.	4012	9 15	11 49 46.7			280 12	27 54	1270	895307
50040	LAREDO'RADAR, TEX.	4012	9 17	11 07 27.2			292 42	35 18	1062	895307
50041	LAREDO'RADAR, TEX.	4012	9 18	0 03 58.5			167 54	55 12	1172	895307
16001	HARVESTUA, NORWAY	9115	9 18	20 36 12.44	13 43 30	74 01				434013
16002	HARVESTUA, NORWAY	9115	9 18	20 36 16.44	13 29 12	75 17				434013
16003	HARVESTUA, NORWAY	9115	9 18	20 36 24.45	12 51 00	77 35				434013
16004	HARVESTUA, NORWAY	9115	9 26	21 14 23.56	6 16 42	70 16				434013
16005	HARVESTUA, NORWAY	9115	9 26	21 14 27.56	6 04 24	69 01				434013

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16006	HARVESTUA, NORWAY	9115	9 26	21 14 31.56	5 52 54	67 38				434013
50052	PULKOVO, USSR	1039	10 01	17 46 54.7	12 13 06	55 12				845009
50053	PULKOVO, USSR	1039	10 01	17 47 58.5	9 38 18	68 30				845009
50050	VOLOGDA, USSR	1014	10 01	17 50 30.0	5 11 00	59 24				845009
50051	RIGA, USSR	1040	10 01	19 30 50.2	12 08 30	57 18				845009
50058	PULKOVO, USSR	1039	10 03	17 05 27.8	9 37	67 30				845009
50056	VOLOGDA, USSR	1014	10 03	17 06 24.7	10 27 30	64 36				845009
50059	PULKOVO, USSR	1039	10 03	17 06 31.9	3 55 30	50 24				845009
50057	VOLOGDA, USSR	1014	10 03	17 07 15.4	7 24 54	68 42				845009
50054	UFA, USSR	1057	10 03	17 09 04.6	9 20 00	63 48				845009
50055	UFA, USSR	1057	10 03	17 09 52.3	7 06 00	62 06				845009
50060	TARTU, USSR	1051	10 03	18 51 16.1	4 13 30	53 12				845009
50061	RIGA, USSR	1040	10 07	19 09 37.8	6 50 00	88 36				845009
50042	LAREDO'RADAR, TEX.	4012	10 08	5 27 11			14 06	36 54	913	895307
50062	KRASNOIARSK, USSR	1026	10 08	13 44 34.9	4 03	53 36				845009
50069	PULKOVO, USSR	1039	10 08	17 02 56.8	11 37 30	55 36				845009
50065	ARKHANGELSK, USSR	1004	10 08	17 03 18.4	14 42 18	40 42				845009
50070	PULKOVO, USSR	1039	10 08	17 04 44.3	5 31 00	71 36				845009
50063	KAZAN, USSR	1076	10 08	17 06 52.8	9 12	77 18				845009
50066	ARKHANGELSK, USSR	1004	10 08	17 07 17.1	23 57	25 00				845009
50064	KAZAN, USSR	1076	10 08	17 07 26.8	4 56	74 12				845009
50067	IAKUTSK, USSR	1066	10 09	11 40 57.5	16 57 00	56 48				845009
50068	IAKUTSK, USSR	1066	10 09	11 42 14.6	21 45 00	49 00				845009
50043	LAREDO'RADAR, TEX.	4012	10 11	4 26 12.0			94 36 00	23 42 00	1250	895307
50071	RIGA, USSR	1040	10 12	17 23 17.9	8 15 12	72 42				845009
50072	RIGA, USSR	1040	10 12	17 24 17.0	3 38 00	64 36				845009
50030	FARNHAM, ENG.	8048	10 12	19 06 28.6	4 54 18	53 24				845009
50073	SVERDLOVSK, USSR	1045	10 13	15 23 36.7	0 52 54	50 54				845009
50077	RIGA, USSR	1040	10 13	17 01 55.0	8 36 00	69 30				845009
50076	KAZAN, USSR	1076	10 13	17 05 10.9	17 43	53 48				845009
50075	KAZAN, USSR	1020	10 13	17 05 28.7	18 32 00	52 12				845009
50074	NOVOSIBIRSK, USSR	1035	10 13	20 41 58.5	2 36	54 42				845009
50078	SVERDLOVSK, USSR	1045	10 14	15 02 07.7	1 14 00	60 12				845009
50079	SVERDLOVSK, USSR	1045	10 14	15 02 18.2	1 08 00	50 00				845009
50080	TARTU, USSR	1051	10 14	16 41 46.3	3 28 30	73 12				845009
50081	TARTU, USSR	1051	10 14	16 42 47.1	1 33 00	48 30				845009
50101	PULKOVO, USSR	1039	10 16	15 59 30.4	2 03 00	81 24				845009
50082	IAKUTSK, USSR	1066	10 17	10 35 39.3	16 42 00	34 12				845009
50083	BLAGOVESTCHENSK,USSR	1010	10 17	10 37 33.1	7 22 00	80 54				845009
50084	BLAGOVESTCHENSK,USSR	1010	10 17	10 38 56.0	1 18 00	51 24				845009
50085	IRKUTSK, USSR	1079	10 17	12 16 57.4	16 55	81 48				845009
50086	IRKUTSK, USSR	1079	10 17	12 17 29.6	22 08	71 48				845009
50095	MOSKVA, USSR	1072	10 17	15 40 02.1	2 34 30	62 30				845009
50089	ULJANOVSK, USSR	1071	10 17	15 40 12.1	12 37 30	76 30				845009
50096	MOSKVA, USSR	1072	10 17	15 40 23.4	1 57 18	54 30				845009
50087	SARATOV, USSR	1044	10 17	15 40 36.1			182 48	35 36		845309
50088	SARATOV, USSR	1044	10 17	15 41 46.4			219 54	43 06		845309
50099	OMSK, USSR	1037	10 18	13 38 14.4	0 55 00	86 48				845009
50100	OMSK, USSR	1037	10 18	13 39 53.8	0 02 24	34 18				845009
50097	VOLOGDA, USSR	1014	10 18	15 18 21.9	22 17 30	78 12				845009
50098	VOLOGDA, USSR	1014	10 18	15 19 34.6	23 30 00	39 24				845009
50104	PULKOVO, USSR	1039	10 18	17 01 26.7	18 48 00	32 30				845009
50105	PULKOVO, USSR	1039	10 18	17 01 33.9	19 02 30	30 48				845009
50102	KIEV, USSR	1023	10 18	17 03 01.1	23 14 00	75 06				845009
50103	KIEV, USSR	1023	10 18	17 03 03.6	23 18 06	73 42				845009
50106	BLAGOVESTCHENSK,USSR	1010	10 19	9 55 47.8	3 11 00	66 24				845009
50107	BLAGOVESTCHENSK,USSR	1010	10 19	9 56 30.6	1 48 00	50 36				845009
50108	IRKUTSK, USSR	1079	10 19	11 38 03.8	1 21	43 18				845009
50111	NOVOSIBIRSK, USSR	1035	10 19	13 17 06.4	13 40 00	52 30				845009
50117	OMSK, USSR	1037	10 19	13 17 58.1	0 27 00	56 24				845009
50118	OMSK, USSR	1037	10 19	13 18 22.4	0 16 12	44 18				845009
50113	NOVOSIBIRSK, USSR	1035	10 19	13 18 40.9	20 15 36	63 18				845009
50112	NOVOSIBIRSK, USSR	1035	10 19	13 18 44.2	14 11 42	56 30				845009
50114	NOVOSIBIRSK, USSR	1035	10 19	13 19 38.4	22 15	32 00				845009
50115	NOVOSIBIRSK, USSR	1035	10 19	13 19 38.6	22 15	32 00				845009
50116	NOVOSIBIRSK, USSR	1035	10 19	13 20 43.0	22 45	1 30				845009
50119	LVOV, USSR	1031	10 19	16 40 21.7	6 16 00	70 24				845009
50120	LVOV, USSR	1031	10 19	16 41 27.3	2 45 30	58 24				845009
50109	TCHERNOVITSY, USSR	1062	10 19	16 41 38.3	3 32	63 12				845009
50110	TCHERNOVITSY, USSR	1062	10 19	16 42 19.0	2 17 12	50 06				845009
50121	BLAGOVESTCHENSK,USSR	1010	10 20	9 33 45.4	6 22 00	70 30				845009
50122	SVERDLOVSK, USSR	1045	10 20	14 38 44.0	18 54 00	42 48				845009
50123	SVERDLOVSK, USSR	1045	10 20	14 41 30.3	22 19 00	- 6 30				845009
50126	KOMSOMOLSK, USSR	1025	10 23	8 31 16.1	6 57 24	78 54				845009
50127	KOMSOMOLSK, USSR	1025	10 23	8 31 41.2	3 07 36	77 18				845009
50128	IRKUTSK, USSR	1079	10 24	11 34 05.9	15 34 30	35 54				845009
50129	IRKUTSK, USSR	1079	10 24	11 34 42.5	16 39 30	31 18				845009
50124	EREVAN, USSR	1018	10 24	15 00 08.8	1 20 00	45 12				845009
50125	EREVAN, USSR	1018	10 24	15 00 34.5	1 01 12	35 12				845009

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50135	LVOV, USSR	1031	10 24	16 40 09.6	19 58 00	27 30				845009
50136	LVOV, USSR	1031	10 24	16 40 17.0	20 11 00	24 06				845009
50132	IRKUTSK, USSR	1079	10 25	11 17 31.2	19 18 42	15 00				845009
50130	BLAGOVESTCHENSK,USSR	1010	10 26	9 13 25.1	21 21 00	6 54				845009
50131	BLAGOVESTCHENSK,USSR	1010	10 26	9 14 07.5	21 43 30	- 5 00				845009
50137	IRKUTSK, USSR	1079	10 26	10 52 51.0	17 31 30	34 36				845009
50138	IRKUTSK, USSR	1079	10 26	10 53 12.4	18 20 00	29 18				845009
50140	ACHKHABAD, USSR	1006	10 26	14 18 19.5	14 10 00	70 18				845009
50139	ACHKHABAD, USSR	1006	10 26	14 18 28.9	15 18 00	74 18				845009
50141	ACHKHABAD, USSR	1006	10 26	14 18 43.8	18 55 00	72 48				845009
50142	ACHKHABAD, USSR	1006	10 26	14 22 51.9	21 59 54	24 48				845009
50143	EREVAN, USSR	1018	10 27	15 40 17.8	17 32 12	9 30				845009
50144	EREVAN, USSR	1018	10 27	15 40 22.2	17 37 24	8 00				845009
50145	ABASTUMANI, USSR	1003	11 12	2 53 20.1	5 32 48	26 54				845009
50146	ABASTUMANI, USSR	1003	11 12	2 55 08.3	4 29 00	72 30				845009
50044	LAREDO'RADAR, TEX.	4012	11 12	21 56 04.5			278 48	26 12	1260	895307
50152	TACHKENT, USSR	1052	11 13	0 51 29.7	5 25 00	47 36				845009
50153	TACHKENT, USSR	1052	11 13	0 51 55.4	5 22 30	56 42				845009
50154	EREVAN, USSR	1018	11 13	2 33 06.3	4 39 30	52 06				845009
50155	EREVAN, USSR	1018	11 13	2 33 09.9	4 37 48	53 00				845009
50156	ULAN UDE, USSR	1056	11 13	22 52 37.9	5 39 12	50 00				845009
50149	EREVAN, USSR	1018	11 14	2 11 54.4	5 02 06	54 18				845009
50150	EREVAN, USSR	1018	11 14	2 12 12.5	4 53 54	61 54				845009
50148	ORENBURGH, USSR	1063	11 14	2 13 59.6	5 57 30	20 12				845009
50147	ORENBURGH, USSR	1063	11 14	2 14 07.2	5 58 00	48 00				845009
50151	ULJANOVSK, USSR	1071	11 14	2 14 38.2	8 54 48	28 18				845009
30100	SACRAMENTO, CAL.	8517	11 14	12 18 44.8	10 16 30	40 07				641013
50158	ULAN UDE, USSR	1056	11 14	22 31 52.3	5 59 30	63 42				845009
50159	ULAN UDE, USSR	1056	11 14	22 32 36.9	21 22 00	76 54				845009
50162	SAMARKAND, USSR	1043	11 15	0 09 38.5	6 46 42	46 30				845009
50160	EREVAN, USSR	1018	11 15	1 50 24.2	5 33 30	47 48				845009
50161	EREVAN, USSR	1018	11 15	1 50 43.3	5 35 00	56 24				845009
50157	ORENBURGH, USSR	1063	11 15	1 54 11.3	6 23 30	56 00				845009
30101	SACRAMENTO, CAL.	8517	11 16	13 23 46.0			0 00	11 10		641304
50167	ABAKAN, USSR	1001	11 16	23 31 15.6	5 03 00	41 12				845009
50168	KRASNOIARSK, USSR	1026	11 16	23 31 45.1	5 43 00	39 12				845009
50169	KRASNOIARSK, USSR	1026	11 16	23 33 30.6	23 30	89 12				845009
50163	ORENBURGH, USSR	1063	11 17	1 12 01.4	7 58 00	61 06				845009
50164	SVERDLOVSK, USSR	1045	11 17	1 12 22.4	7 07 30	27 12				845009
50165	SVERDLOVSK, USSR	1045	11 17	1 12 32.6	7 25 12	31 54				845009
50170	VOLOGDA, USSR	1014	11 17	2 53 56.6	6 52 00	15 54				845009
50171	VOLOGDA, USSR	1014	11 17	2 55 40.0	8 34 12	53 42				845009
50166	SYKTYVKAR, USSR	1049	11 17	3 16 36.7	7 31 30	16 06				845009
50172	VOLOGDA, USSR	1014	11 19	2 12 55.7	8 24 42	40 18				845009
50173	VOLOGDA, USSR	1014	11 19	2 13 37.2	10 14 48	54 06				845009
50045	LAREDO'RADAR, TEX.	4012	11 19	19 27 21.5			359 12	43 30	868	895307
50174	IAKUTSK, USSR	1066	11 25	20 26 45.4	2 30 00	82 18				845009
50046	LAREDO'RADAR, TEX.	4012	12 07	14 48 43.5			25 36 00	29 06 00	1177	895307
50003	ULAN'UDE, USSR	1056	12 10	23 48 35.5	10 01 06	-22 24				845009
50004	ULAN'UDE, USSR	1056	12 10	23 49 00.1	11 14 42	-24 42				845009
50002	BLAGOVESTCHENSK,USSR	1010	12 11	21 45 01.8	10 29 00	84 36				845009
50005	VILNIUS, USSR	1012	12 12	21 24 06.4	14 57 00	75 18				845009
50006	BLAGOVESTCHENSK,USSR	1010	12 12	21 25 34.1	14 42 00	26 54				845009
50007	BLAGOVESTCHENSK,USSR	1010	12 13	21 02 18.6	20 31 00	80 36				845009
50008	BLAGOVESTCHENSK,USSR	1010	12 13	21 03 32.7	15 10 00	50 06				845009
50017	UFA, USSR	1057	12 15	1 45 36.9	10 25 00	49 06				845009
50018	UFA, USSR	1057	12 15	1 45 42.8	10 40 06	50 00				845009
50014	ASHKHABAD, USSR	1006	12 15	1 47 37.6	20 44 00	69 18				845009
50015	ASHKHABAD, USSR	1006	12 15	1 49 16.6	17 08 00	49 48				845009
50011	SAMARKAND, USSR	1043	12 15	1 49 20.1	11 42 18	74 00				845009
50016	ASHKHABAD, USSR	1006	12 15	1 49 26.0	17 00 00	47 06				845009
50012	SAMARKAND, USSR	1043	12 15	1 50 07.6	13 20 30	48 48				845009
50013	SAMARKAND, USSR	1043	12 15	1 50 12.2	13 24 12	45 24				845009
50047	LAREDO'RADAR, TEX.	4012	12 15	3 01 27			164 24	45 00	1100	895307
50009	NIKOLAEV, USSR	1077	12 15	3 27 42.0	22 17 36	86 00				845009
50010	NIKOLAEV, USSR	1077	12 15	3 29 45.4	14 34 54	7 42				845009
50175	EREVAN, USSR	1018	12 16	3 09 32.3	9 35 00	68 30				845009
50176	EREVAN, USSR	1018	12 16	3 10 05.5	11 31 48	55 00				845009
30103	CINCINNATI, OHIO	0050	12 18	9 11 42	16 24 30	25 56				845004
30104	CINCINNATI, OHIO	0050	12 18	10 54 41			55 18	50 12		845302
30102	SACRAMENTO, CAL.	8517	12 18	12 35 35.8	16 37 42	39 14				641013
50001	LAREDO'RADAR, TEX.	4012	12 19	12 17 31.5			8 42 00	41 24 00	931	895307
30105	SACRAMENTO, CAL.	8517	12 19	13 59 25.4	11 06 54	-16 08				641013
30107	CINCINNATI, OHIO	0050	12 22	0 36 03.2			168 12	25 24		845302

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30106	CHINA LAKE, CAL.	0098	12 22	2 16 50.8			135 55 12	23 45 36		641303
50048	LAREDO'RADAR, TEX.	4012	12 23	1 53 17.5			232 36 00	18 36 00	1772	895307
30108	N. CANTON, OHIO	8565	12 23	23 55 55.0	2 49 15	- 4 15				845013
30109	CHINA LAKE, CAL.	8588	12 24	1 35 45.0			109 19 48	19 49 48		845303
30110	CHINA LAKE, CAL.	8588	12 24	3 18 18.7			263 28 48	35 19 12		845303
30131	ALBUQUERQUE, N.MEX.	8534	12 25	1 14 35.7	2 17 00	- 4 24				845042
30132	ALBUQUERQUE, N.MEX.	8534	12 25	1 15 58.5	3 47 12	22 00				845042
30111	CHINA LAKE, CAL.	8588	12 25	2 58 25.1			302 59 24	49 13 12		845303
30112	CINCINNATI, OHIO	0050	12 25	23 13 26.7			111 00	22 54		845302
30113	N. CANTON, OHIO	8565	12 26	0 56 32.9	21 13 24	14 57				845013
50182	SAMARKAND, USSR	1043	12 27	14 06 49.2	22 28 54	54 24				845009
50183	SAMARKAND, USSR	1043	12 27	14 07 52.1	0 03 42	83 36				845009
30114	CINCINNATI, OHIO	0050	12 28	0 14 49.0			304 36	51 00		845302
30120	N. CANTON, OHIO	8565	12 28	0 16 01.2	20 34 40	58 25				845013
30115	ROCHESTER, N.Y.	8564	12 28	0 16 26.8	20 29 12	46 10				845012
30116	ROCHESTER, N.Y.	8564	12 28	0 16 52.2	20 02 36	56 01				845013
30117	SACRAMENTO, CAL.	8517	12 28	1 54 50.2	1 58 36	22 22				641013
30118	SACRAMENTO, CAL.	8517	12 28	1 55 02.1	2 16 54	27 02				641013
30119	SACRAMENTO, CAL.	8517	12 28	1 55 09.5	2 28 30	29 47				641013
30133	ALBUQUERQUE, N.MEX.	8534	12 28	1 56 00.8	19 35 00	48 24				845042
30134	ALBUQUERQUE, N.MEX.	8534	12 28	1 56 03.8	19 32 48	49 12				845043
50180	UJGOROD, USSR	1055	12 28	17 09 31.2	23 07 30	14 12				845009
50181	UJGOROD, USSR	1055	12 28	17 11 06.4	0 50 00	60 54				845009
30121	SACRAMENTO, CAL.	8517	12 29	1 33 29.5	2 05 06	14 36				641013
30122	SACRAMENTO, CAL.	8517	12 29	1 33 42.1	2 22 24	19 14				641013
50178	BLAGOVESTCHENSK,USSR	1010	12 29	10 03 14.1	23 05 00	9 00				845009
50179	BLAGOVESTCHENSK,USSR	1010	12 29	10 04 31.1	0 02 00	41 48				845009
50177	SAMARKAND, USSR	1043	12 29	13 21 51.7	23 50 54	42 30				845009
30123	CINCINNATI, OHIO	0050	12 29	23 32 52.5			301 54	68 48		845302
30124	N. CANTON, OHIO	8536	12 30	23 12 54	4 50	81 06				641042
30125	SACRAMENTO, CAL.	8517	12 31	2 34 52.0	19 10 48	37 55				641013
30126	SACRAMENTO, CAL.	8517	12 31	2 35 13.2	18 55 00	43 31				641013
30127	CHINA LAKE, CAL.	8588	12 31	2 35 23.3			313 00 00	14 13 48		845303

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30002	N. CANTON, OHIO	8559	11 04	9 52 52.9	17 20 15	73 07				845002
10010	WOOMERA'BN, AUSTR.	9003	11 04	11 09 02.65	21 05 12	-30 50				434023
30005	ADELAIDE, AUSTR.	0600	11 04	11 09 21.2			304 15	54 05		845303
10011	WOOMERA'BN, AUSTR.	9003	11 04	11 10 29.54	22 24 18	-15 57				434013
30009	WOOMERA, AUSTR.	0603	11 04	11 10 34.7			330 18	71 12		845302
10012	WOOMERA'BN, AUSTR.	9003	11 04	11 11 22.17	23 08 54	- 5 04				434013
30001	WICHITA, KAN.	0028	11 04	11 48 18.7	16 30 00	71 19				845002
50001	LAREDO'RADAR,TEX.	4012	11 04	13 47 42			32 10	40 10	1464	895307
50002	LAREDO'RADAR,TEX.	4012	11 04	15 46 29			232 60	44 20	1775	895307
10001	OLIFANTSFNTN'BN,S.AF	9002	11 04	18 42 35.69	21 47 36	-21 09				434013
10002	OLIFANTSFNTN'BN,S.AF	9002	11 04	18 43 08.02	22 17 12	-14 19				434013
30003	PRETORIA, S.AFR.	8575	11 04	18 43 24.0			314 24	70 12		845303
10003	OLIFANTSFNTN'BN,S.AF	9002	11 04	18 43 50.17	22 54 54	- 4 30				434013
10019	AREQUIPA'BN, PERU	9007	11 05	0 19 40.00	2 08 00	-58 00				434023
50003	LAREDO'RADAR, TEX.	4012	11 05	4 21 10.5			128 30 00	6 36 00	2096	895307
10199	WOOMERA-BN, AUSTR.	9003	11 05	11 35 30.66	20 13 48	-10 21				434013
10200	WOOMERA-BN, AUSTR.	9003	11 05	11 37 10.50	21 15 24	4 44				434013
10201	WOOMERA-BN, AUSTR.	9003	11 05	11 39 18.56	22 37 48	25 36				434013
30006	DENVER, COLO.	8582	11 05	12 13 39.6			18 06	34 54		845303
30007	KANSAS CITY, MO.	0036	11 05	12 14 32	11 47	67 30				845002
30004	PRETORIA, S.AFR.	8575	11 05	17 11 37.6			141 36	50 36		845303
10202	OLIFANTSFNTN-BN,S.AF	9002	11 05	19 08 11.83	20 10 18	- 7 58				434013
10203	OLIFANTSFNTN-BN,S.AF	9002	11 05	19 09 07.42	20 40 24	0 33				434013
10204	OLIFANTSFNTN-BN,S.AF	9002	11 05	19 10 23.57	21 24 42	14 06				434013
10016	TOKYO'BN, JAPAN	9005	11 05	19 44 15.30	17 17 48	70 58				434013
10017	TOKYO'BN, JAPAN	9005	11 05	19 44 21.00	17 01 30	70 09				434013
10018	TOKYO'BN, JAPAN	9005	11 05	19 44 25.00	16 50 06	69 33				434013
10020	VILLA DOLORES'BN,ARG	9011	11 06	0 40 56.71	18 38 24	-27 48				434023
10021	VILLA DOLORES'BN,ARG	9011	11 06	0 44 42.51	20 49 12	- 4 49				434013
10022	VILLA DOLORES'BN,ARG	9011	11 06	0 45 25.86	21 17 42	2 08				434013
10023	VILLA DOLORES'BN,ARG	9011	11 06	0 46 00.25	21 40 24	7 53				434013
10013	WOOMERA'BN, AUSTR.	9003	11 06	12 01 34.26	19 43 18	0 05				434013
10014	WOOMERA'BN, AUSTR.	9003	11 06	12 03 46.11	20 36 54	15 56				434013
10015	WOOMERA'BN, AUSTR.	9003	11 06	12 05 10.18	21 14 00	27 05				434013
10004	OLIFANTSFNTN'BN,S.AF	9002	11 06	17 35 43.10	19 44 24	-55 24				434023
10005	OLIFANTSFNTN'BN,S.AF	9002	11 06	17 38 49.00	22 59 12	-32 11				434023
10006	OLIFANTSFNTN'BN,S.AF	9002	11 06	17 40 19.20	0 07 48	-12 05				434013
10007	TOKYO'BN, JAPAN	9005	11 06	20 11 15.80	15 29 12	77 53				434013
10008	TOKYO'BN, JAPAN	9005	11 06	20 11 25.70	14 59 42	74 58				434013

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30008	MITAKA, JAPAN	0229	11 06	20 11 43.0			25 12	33 36		845302
10009	TOKYO'BN, JAPAN	9005	11 06	20 12 04.70	14 08 00	62 27				434013
10024	WOOMERA'BN, AUSTR.	9003	11 07	10 31 11.35	20 11 48	-24 57				434023
10025	WOOMERA'BN, AUSTR.	9003	11 07	10 32 32.71	21 12 24	-13 07				434013
10026	WOOMERA'BN, AUSTR.	9003	11 07	10 35 17.86	23 07 24	15 23				434013
10027	WOOMERA'BN, AUSTR.	9003	11 08	10 56 58.07	19 14 12	-11 47				434013
30010	CHATTANOOGA, TENN.	0062	11 08	11 51 59			23	69		845301
10028	SAN FERNANDO'BN, SP.	9004	11 09	4 30 43.50	14 51 36	59 43				434013
10029	SAN FERNANDO'BN, SP.	9004	11 09	4 30 45.50	14 48 30	59 14				434013
10030	ORGAN PASS'BN, N.M.	9001	11 09	12 02 53.58	19 23 00	78 46				434013
10031	ORGAN PASS'BN, N.M.	9001	11 09	12 03 41.35	15 33 00	73 13				434013
10063	VILLA DOLORES'BN,ARG	9011	11 10	0 34 04.64	19 51 48	13 56				434013
10064	VILLA DOLORES'BN,ARG	9011	11 10	0 35 55.47	20 35 36	27 01				434013
30011	CHINA LAKE, CAL.	0098	11 10	12 27 33.2			0 00 00	28 45 00		641303
10032	ORGAN PASS'BN, N.M.	9001	11 10	12 31 41.00	11 55 06	48 36				434013
10033	ORGAN PASS'BN, N.M.	9001	11 10	12 33 38.50	12 39 42	6 50				434013
10038	TOKYO'BN, JAPAN	9005	11 10	20 00 49.50	7 34 24	65 34				434013
30026	MITAKA, JAPAN	0229	11 10	20 01 30.6			34 42	69 06		845303
10039	TOKYO'BN, JAPAN	9005	11 10	20 01 42.40	10 13 00	46 46				434013
10040	NAINI TAL'BN, INDIA	9006	11 10	23 47 03.18	13 40 06	65 51				434013
10041	NAINI TAL'BN, INDIA	9006	11 10	23 48 00.89	13 18 54	47 30				434013
10048	SHIRAZ'BN, IRAN	9008	11 11	1 40 05.91	8 05 30	63 51				434013
30012	CHINA LAKE, CAL.	8588	11 11	12 55 03.3			0 08 24	59 49 12		845303
10050	CURACAO'BN, N.W.I.	9009	11 11	23 38 14.47	1 54 36	-38 21				434023
10051	CURACAO'BN, N.W.I.	9009	11 11	23 39 11.24	1 24 30	-46 40				434023
10042	NAINI TAL'BN, INDIA	9006	11 12	0 12 29.51	4 43 00	69 04				434013
10043	NAINI TAL'BN, INDIA	9006	11 12	0 15 13.82	11 22 12	25 29				434013
10049	SHIRAZ'BN, IRAN	9008	11 12	2 07 04.24	9 38 00	45 00				434013
30013	CINCINNATI, OHIO	0050	11 12	9 34 02	12 10 18	23 19				845004
10034	ORGAN PASS'BN, N.M.	9001	11 12	11 26 45.64	13 50 00	68 00				434013
10035	ORGAN PASS'BN, N.M.	9001	11 12	11 27 41.73	13 06 24	48 50				434013
30014	CINCINNATI, OHIO	0050	11 12	11 29 45	6 59 24	- 5 16				845004
10046	AREQUIPA'BN, PERU	9007	11 12	23 58 31.30	20 03 42	- 1 39				434013
10047	AREQUIPA'BN, PERU	9007	11 13	0 00 40.66	21 20 12	23 54				434013
30015	DENVER, COLO.	8582	11 13	11 53 44.7			178 48	51 12		845303
10052	MAUI'BN, HAWAII	9012	11 13	15 42 07.85	11 49 06	63 19				434013
10053	MAUI'BN, HAWAII	9012	11 13	15 43 23.70	12 20 48	38 13				434013
10056	TOKYO'BN, JAPAN	9005	11 13	19 23 46.30	7 29 54	47 56				434013
30027	MITAKA, JAPAN	0229	11 13	19 24 06.7			39 54	84 12		845302
10044	NAINI TAL'BN, INDIA	9006	11 13	23 08 47.06	5 30 00	89 27				434013
10045	NAINI TAL'BN, INDIA	9006	11 13	23 10 01.16	12 25 24	57 34				434013
10060	JUPITER'BN, FLA.	9010	11 14	10 27 30.08	6 58 42	62 15				434013
10061	JUPITER'BN, FLA.	9010	11 14	10 28 24.98	9 22 42	45 24				434013
10062	JUPITER'BN, FLA.	9010	11 14	10 29 57.98	11 02 42	10 18				434013
10036	ORGAN PASS'BN, N.M.	9001	11 14	11 53 32.16	9 19 12	62 38				434013
10037	ORGAN PASS'BN, N.M.	9001	11 14	11 53 54.17	10 08 48	52 48				434013
30016	WALNUT CREEK, CAL.	8535	11 14	12 18 42.4	19 46 00	7 00				845004
10054	ORGAN PASS'BN, N.M.	9001	11 14	12 19 03.10	4 39 06	32 35				434013
10055	ORGAN PASS'BN, N.M.	9001	11 14	12 21 49.30	9 11 48	- 6 38				434013
30030	KASHIWABARA, JAPAN	0222	11 14	19 48 35	8 40	8				845002
30029	KONKO, JAPAN	0224	11 14	19 50 09	8 12	21				845002
10057	TOKYO'BN, JAPAN	9005	11 14	19 50 40.90	6 40 24	2 13				434013
30028	MITAKA, JAPAN	0229	11 14	19 50 45.5			223 00	46 48		845303
10068	CURACAO'BN, N.W.I.	9009	11 14	23 04 43.67	2 34 12	0 41				434013
10058	NAINI TAL'BN, INDIA	9006	11 14	23 36 02.56	7 12 00	52 16				434013
10059	NAINI TAL'BN, INDIA	9006	11 14	23 37 14.29	9 46 06	24 50				434013
10067	CURACAO'BN, N.W.I.	9009	11 14	23 59 29.22	23 35 36	-51 12				434023
10065	SHIRAZ'BN, IRAN	9008	11 15	1 29 26.18	7 58 54	34 10				434013
10066	SHIRAZ'BN, IRAN	9008	11 15	1 29 53.77	8 50 48	23 30				434013
10071	SAN FERNANDO'BN, SP.	9004	11 15	5 13 24.50	6 39 18	7 59				434013
10072	SAN FERNANDO'BN, SP.	9004	11 15	5 13 28.50	6 46 36	6 54				434013
10069	JUPITER'BN, FLA.	9010	11 15	10 54 09.61	5 49 54	17 38				434013
10070	JUPITER'BN, FLA.	9010	11 15	10 55 07.03	7 07 06	3 52				434013
10073	TOKYO-BN, JAPAN	9005	11 15	20 17 31.50	6 21 36	18 00				434013
10078	CURACAO'BN, N.W.I.	9009	11 15	23 28 52.56	23 48 18	-11 49				434013
10074	NAINI TAL'BN, INDIA	9006	11 16	0 01 56.35	5 11 42	16 40				434013
10075	NAINI TAL'BN, INDIA	9006	11 16	0 02 59.16	6 19 36	3 38				434013
10076	SAN FERNANDO'BN, SP.	9004	11 16	5 39 24.40	5 23 30	- 7 33				434013
10077	SAN FERNANDO'BN, SP.	9004	11 16	5 40 15.10	6 16 42	-16 09				434013
30019	PUEBLA, MEX.	0900	11 16	11 19 07.2	9 33 36	70 25				845043
30017	WALNUT CREEK, CAL.	8535	11 16	13 10 25.3	6 14 15	-16 27				845003
30018	WALNUT CREEK, CAL.	8535	11 16	13 11 03.6	6 54 30	-22 33				845003
30020	PUEBLA, MEX.	0900	11 17	1 49 33.4	23 08 42	4 46				845043
30021	PUEBLA, MEX.	0900	11 17	11 47 46.7	8 58 36	- 4 15				845043
30022	PUEBLA, MEX.	0900	11 17	11 47 58.6	9 14 12	- 8 33				845043
10088	MAUI'BN, HAWAII	9012	11 18	6 01 23.63	20 39 48	24 26				434023
10082	JUPITER'BN, FLA.	9010	11 18	10 16 54.35	5 29 30	- 0 30				434013
10083	JUPITER'BN, FLA.	9010	11 18	10 18 04.41	6 51 24	-17 06				434013
10084	JUPITER'BN, FLA.	9010	11 18	10 19 28.73	8 19 54	-31 52				434023
10085	JUPITER'BN, FLA.	9010	11 19	23 16 40.82	22 55 30	-38 04				434023
10086	JUPITER'BN, FLA.	9010	11 19	23 17 56.00	23 47 12	-28 01				434023
10081	CURACAO'BN, N.W.I.	9009	11 19	23 18 38.78	20 43 00	46 08				434013

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10087	JUPITER*BN, FLA.	9010	11 19	23 20 38.47	1 48 12	- 2 02				434013
10079	ORGAN PASS*BN, N.M.	9001	11 20	1 13 30.90	1 08 18	-17 02				434013
50004	LAREDO*RADAR, TEX.	4012	11 20	1 13 32			137 54	50 24	1095	895307
10080	TOKYO*BN, JAPAN	9005	11 20	8 45 42.10	1 47 54	-12 20				434013
10089	CURACAO*BN, N.W.I.	9009	11 20	23 46 01.22	18 24 48	72 53				434013
10091	JUPITER*BN, FLA.	9010	11 20	23 46 31.33	0 35 00	15 24				434013
10092	JUPITER*BN, FLA.	9010	11 20	23 47 27.77	1 51 06	26 47				434013
30023	CINCINNATI, OHIO	0050	11 21	1 14 52.7	21 31 00	-24 32				845004
10093	MAUI*BN, HAWAII	9012	11 21	5 24 27.41	20 02 00	48 47				434013
10090	TOKYO*BN, JAPAN	9005	11 21	9 11 35.80	1 01 24	- 4 40				434013
30031	QUEZON CITY, PH.IS.	0500	11 21	11 00 34			293	27		845302
10094	MAUI*BN, HAWAII	9012	11 21	15 22 37.86	6 49 12	-42 51				434023
10096	JUPITER*BN, FLA.	9010	11 22	0 11 35.27	20 31 54	21 41				434013
10097	JUPITER*BN, FLA.	9010	11 22	0 12 23.96	21 15 00	39 04				434013
30024	STATE COLLEGE, PA.	8594	11 22	0 12 53.7			196 18	27 42		845303
10098	JUPITER*BN, FLA.	9010	11 22	0 13 38.43	23 42 54	63 22				434013
10095	ORGAN PASS*BN, N.M.	9001	11 22	2 06 47.10	23 10 12	36 54				434013
10099	NAINI TAL*BN, INDIA	9006	11 22	13 21 42.67	22 38 24	37 03				434013
30025	MILWAUKEE, WISC.	0198	11 23	0 38 55.8	22 47	-17 00				641013
10102	JUPITER*BN, FLA.	9010	11 23	0 39 44.00	18 31 12	64 30				434013
10100	ORGAN PASS*BN, N.M.	9001	11 23	2 32 32.00	19 30 30	40 51				434013
10101	AREQUIPA*BN, PERU	9007	11 23	8 46 30.23	11 42 30	26 28				434013
10105	JUPITER*BN, FLA.	9010	11 23	23 06 53.39	21 27 48	2 13				434013
10106	JUPITER*BN, FLA.	9010	11 23	23 08 25.38	23 13 36	25 58				434013
10107	JUPITER*BN, FLA.	9010	11 23	23 10 30.15	2 19 42	43 30				434013
50005	LAREDO*RADAR, TEX.	4012	11 24	0 57 10			309 30	67 48	1010	895307
30032	PUEBLA, MEX.	0900	11 24	1 04 04.5	6 50 00	87 00				845043
10103	TOKYO*BN, JAPAN	9005	11 24	8 33 40.30	0 09 12	4 36				434013
10104	NAINI TAL*BN, INDIA	9006	11 24	14 14 34.83	17 37 48	52 19				434013
30033	DALLAS, TEX.	0129	11 25	1 30 52.2	19 09 36	65 48				845013
10113	MAUI*BN, HAWAII	9012	11 25	5 14 54.74	17 04 30	61 08				434013
10110	NAINI TAL*BN, INDIA	9006	11 25	12 42 46.64	20 13 54	27 19				434013
10108	SAN FERNANDO*BN, SP.	9004	11 25	18 22 50.70	23 00 18	18 37				434013
30034	BILOXI, MISS.	0090	11 26	0 01 12			0	56 12		845302
30037	TERRE HAUTE, IND.	8127	11 26	0 01 39.8			180 15	63 25		845303
10112	JUPITER*BN, FLA.	9010	11 26	0 01 41.98	22 41 00	61 09				434013
30035	N. CANTON, OHIO	8559	11 26	0 03 18.1	22 48 53	28 36				845033
30036	DAYTON, OHIO	8557	11 26	0 06 18.0			55 31	57 25		845303
10111	NAINI TAL*BN, INDIA	9006	11 26	13 10 28.23	18 22 00	60 54				434013
30040	WALNUT CREEK, CAL.	8535	11 27	2 20 16.3	22 32 00	44 36				845034
30041	WALNUT CREEK, CAL.	8535	11 27	2 20 16.8	22 34 45	44 51				845034
30055	YATSUSHIRO, JAPAN	0272	11 27	9 49 43			0 00	26 42		845302
30054	KAGOSHIMA, JAPAN	0218	11 27	9 51 21.5	17 46	51 48				845002
30053	YATSUSHIRO, JAPAN	0272	11 27	9 52 48			0 00	26 18		845302
10109	TOKYO*BN, JAPAN	9005	11 27	9 53 11.30	17 34 00	61 23				434013
30038	WALNUT CREEK, CAL.	8535	11 28	2 46 23.5	19 22 45	55 04				845003
10115	TOKYO*BN, JAPAN	9005	11 28	8 21 55.00	21 21 48	42 03				434013
10114	WOOMERA*BN, AUSTR.	9003	11 28	18 26 24.39	10 40 12	15 13				434013
10118	JUPITER*BN, FLA.	9010	11 28	23 21 39.90	17 17 42	36 19				434013
10119	JUPITER*BN, FLA.	9010	11 28	23 23 06.07	17 06 00	54 08				434013
10116	ORGAN PASS*BN, N.M.	9001	11 29	1 17 26.89	17 45 06	61 58				434013
30042	DENVER, COLO.	8592	11 29	1 19 32.4			0 00	58 45 00		845303
30039	KANSAS CITY, MO.	0036	11 29	1 20 22.8			322	36 18		845303
10117	AREQUIPA*BN, PERU	9007	11 29	7 31 55.92	11 13 18	1 00				434013
10120	SAN FERNANDO*BN, SP.	9004	11 29	18 10 57.80	19 28 48	46 32				434013
10122	ORGAN PASS*BN, N.M.	9001	11 30	1 43 37.76	16 37 48	54 32				434013
10121	AREQUIPA*BN, PERU	9007	11 30	7 56 53.56	8 32 30	- 4 28				434013
10124	SAN FERNANDO*BN, SP.	9004	11 30	18 38 27.60	17 22 24	70 39				434013
10125	OLIFANTSPNTN*BN,S.AF	9002	12 01	0 51 32.46	9 34 00	24 35				434013
10131	TOKYO*BN, JAPAN	9005	12 01	9 42 09.30	15 38 36	64 08				434013
10126	WOOMERA*BN, AUSTR.	9003	12 01	17 48 28.10	10 05 30	8 43				434013
10127	SAN FERNANDO*BN, SP.	9004	12 01	19 05 22.70	15 10 24	71 02				434013
30043	DENVER, COLO.	8592	12 02	0 41 38.1			0 00	53 00		845303
30079	MADISON, WISC.	0148	12 02	0 44 09.15	18 42 00	72 18				845042
30080	MADISON, WISC.	0148	12 02	0 44 13.3	18 42 00	74 00				845042
10132	VILLA DOLORES*BN,ARG	9011	12 02	6 56 50.52	10 07 48	13 18				434013
10133	VILLA DOLORES*BN,ARG	9011	12 03	7 23 21.29	9 19 24	- 6 30				434013
30056	YATSUSHIRO, JAPAN	0272	12 03	10 38 05			357 30	11 42		845302
10130	SAN FERNANDO*BN, SP.	9004	12 03	18 00 08.00	16 45 12	67 31				434013
10128	WOOMERA*BN, AUSTR.	9003	12 03	18 41 24.23	7 15 30	-39 35				434023
10129	WOOMERA*BN, AUSTR.	9003	12 04	17 10 07.27	9 19 36	5 33				434013
10134	WOOMERA*BN, AUSTR.	9003	12 05	17 36 48.77	8 17 54	-25 47				434023
30044	SACRAMENTO, CAL.	8517	12 06	2 25 18.2			0 00	24 46		641304
10135	VILLA DOLORES*BN,ARG	9011	12 06	6 45 18.75	8 47 24	-17 55				434013
30057	YATSUSHIRO, JAPAN	0272	12 06	9 56 04			0 00	10 18		845302
10136	WOOMERA*BN, AUSTR.	9003	12 06	18 03 28.23	6 25 54	-52 59				434023
30083	MADISON, WISC.	0148	12 07	0 58 45.8	17 11 00	65 51				845042

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10137	VILLA DOLORES'BN,ARG	9011	12 07	7 11 40.13	6 51 06	-45 45				434023
10139	WOOMERA'BN, AUSTR.	9003	12 07	16 32 45.54	9 31 42	-12 41				434013
10138	WOOMERA'BN, AUSTR.	9003	12 07	18 29 30.39	4 15 36	-53 04				434023
30045	DENVER, COLO.	8592	12 08	1 23 39.0			0 00	27 15 00		845303
10141	VILLA DOLORES'BN,ARG	9011	12 08	7 38 14.13	4 42 24	-56 31				434023
10140	WOOMERA'BN, AUSTR.	9003	12 08	16 58 13.77	6 52 42	-32 33				434023
30081	MADISON, WISC.	0148	12 08	23 55 03.0	8 00 00	86 54				845042
10142	WOOMERA'BN, AUSTR.	9003	12 09	17 25 07.81	5 01 24	-59 56				434023
10145	SAN FERNANDO'BN, SP.	9004	12 09	18 43 31.30	10 21 00	73 17				434013
30082	MADISON, WISC.	0148	12 10	0 21 36.8	9 59 00	88 30				845042
30046	CINCINNATI, OHIO	0050	12 10	0 22 18.5	13 04 18	78 04				845004
30078	CHINA LAKE, CAL.	8588	12 10	2 14 57.4			9 31 48	18 13 48		845303
50006	LAREDO'RADAR, TEX.	4012	12 10	4 17 58			26 30	64 00	480	895307
50008	BRATISLAVA'P, CZECH.	5702	12 10	17 16 29.8	1 03 00	53 00				634042
10143	WOOMERA'BN, AUSTR.	9003	12 11	16 20 38.64	7 09 30	-56 55				434023
10144	WOOMERA'BN, AUSTR.	9003	12 11	18 19 18.54	1 51 06	-73 48				434023
30047	DENVER, COLO.	8592	12 13	1 38 29.0			0 00	40 00		845303
30048	DENVER, COLO.	8592	12 13	1 38 53.4			12 18	41 45 00		845303
10146	TOKYO'BN, JAPAN	9005	12 13	9 09 31.90	8 16 00	74 50				434013
30049	TERRE HAUTE, IND.	8127	12 14	0 11 06.9			25 00	41 00		845302
30050	CHINA LAKE, CAL.	0098	12 14	2 03 40.8			20 42 00	25 24 36		641303
10147	WOOMERA'BN, AUSTR.	9003	12 14	17 40 40.49	0 36 18	-72 08				434023
10148	SAN FERNANDO'BN, SP.	9004	12 14	18 58 56.70	5 35 30	74 11				434013
30051	TERRE HAUTE, IND.	8127	12 15	0 37 09.4			0	59 37		845303
30052	CHINA LAKE, CAL.	0098	12 15	2 29 04.4			353 07 48	32 07 12		641303
50007	LAREDO'RADAR, TEX.	4012	12 15	2 34 59.5			33 30	44 24	698	895307
10149	WOOMERA'BN, AUSTR.	9003	12 15	16 07 59.92	1 41 06	-62 48				434023
10150	WOOMERA'BN, AUSTR.	9003	12 15	18 07 41.82	0 00 30	-73 59				434023
30058	DENVER, COLO.	8592	12 16	1 00 06.8			0 00	46 45 00		845303
10159	VILLA DOLORES'BN,ARG	9011	12 16	5 16 43.69	2 23 12	-70 58				434023
10160	VILLA DOLORES'BN,ARG	9011	12 16	7 15 00.92	0 40 24	-67 38				434023
10152	WOOMERA'BN, AUSTR.	9003	12 16	16 34 52.08	0 28 00	-65 56				434023
30074	ALBUQUERQUE, N.M.	8534	12 17	1 26 43.9	0 50 00	85 00				845043
30075	ALBUQUERQUE, N.M.	8534	12 17	1 26 50.8	2 04 24	83 18				845043
10161	VILLA DOLORES'BN,ARG	9011	12 17	5 43 20.86	0 19 06	-70 26				434023
10163	SHIRAZ'BN, IRAN	9008	12 17	14 36 45.05	6 07 24	61 30				434013
10153	WOOMERA'BN, AUSTR.	9003	12 17	17 02 21.27	22 51 00	-72 47				434023
30059	TERRE HAUTE, IND.	8127	12 17	23 58 50.7			0	74 00		845303
10156	JUPITER'BN, FLA.	9010	12 17	23 59 15.22	16 32 00	71 00				434013
10157	JUPITER'BN, FLA.	9010	12 18	0 00 12.97	16 08 00	81 30				434013
10158	JUPITER'BN, FLA.	9010	12 18	0 01 17.95	5 58 00	81 01				434013
10155	SHIRAZ'BN, IRAN	9008	12 18	15 03 24.06	4 08 06	56 24				434013
30060	ST. LOUIS, MO.	0140	12 19	0 25 24.8	0 22 12	22 16				845012
30061	ST. LOUIS, MO.	0140	12 19	0 25 28.0	0 27 54	20 06				845012
30062	CINCINNATI, OHIO	0050	12 19	0 25 57.2	23 00 12	6 27				845004
10164	VILLA DOLORES'BN,ARG	9011	12 19	4 39 34.49	15 32 00	-84 10				434023
10165	VILLA DOLORES'BN,ARG	9011	12 19	6 37 33.67	21 53 12	-75 39				434023
30004	KAGOSHIMA, JAPAN	0218	12 19	9 33 28	4 33	43 00				845002
10167	TOKYO'BN, JAPAN	9005	12 19	9 50 25.60	22 03 00	5 01				434013
30071	MITAKA, JAPAN	0229	12 19	9 51 05.1			219 12	40 24		845303
30072	KAGOSHIMA, JAPAN	0218	12 19	9 52 24	1 41	66 36				845002
30063	ROCHESTER, N.Y.	8564	12 19	22 55 42.2	23 31 42	17 00				845013
30064	ROCHESTER, N.Y.	5050	12 19	22 55 47.3	23 40 24	16 12				845013
30070	STATE COLLEGE, PA.	8603	12 19	22 55 49.2			177 30	83 42		845302
10170	MAUI'BN, HAWAII	9012	12 20	4 38 09.09	5 46 42	54 35				434013
10168	VILLA DOLORES'BN,ARG	9011	12 20	5 04 58.52	22 38 48	-71 33				434023
10169	VILLA DOLORES'BN,ARG	9011	12 20	7 04 10.38	22 11 30	-76 03				434023
10176	NAINI TAL'BN, INDIA	9006	12 20	14 02 18.44	21 29 54	6 12				434013
10166	SAN FERNANDO'BN, SP.	9004	12 20	19 38 48.50	21 14 18	- 5 34				434013
10171	ORGAN PASS'BN, N.M.	9001	12 21	1 15 00.30	21 55 00	55 58				434013
30076	ALBUQUERQUE, N.M.	8534	12 21	1 15 48.1	0 10 48	20 00				845043
10172	ORGAN PASS'BN, N.M.	9001	12 21	1 15 51.17	0 15 18	43 00				434013
30077	ALBUQUERQUE, N.M.	8534	12 21	1 15 57.4	0 47 12	17 36				845043
30065	DENVER, COLO.	8592	12 21	1 16 16.5			180 00	35 36		845303
30066	DENVER, COLO.	8592	12 21	1 16 36.3			172 54	31 21 00		845303
30067	SAN ANTONIO, TEX.	0089	12 21	1 18 27.5	0 44 00	1 15				845012
30073	MITAKA, JAPAN	0229	12 21	8 46 03.1			221 06	75 54		845303
10173	SAN FERNANDO'BN, SP.	9004	12 21	18 09 18.80	0 44 12	17 31				434013
10174	SAN FERNANDO'BN, SP.	9004	12 21	18 09 32.80	1 03 54	12 24				434013
10175	SAN FERNANDO'BN, SP.	9004	12 21	18 09 40.80	1 14 00	9 40				434013
30068	ALBUQUERQUE HS, N.M.	0041	12 22	1 41 32.5	21 58	- 3 54				845033
10177	SAN FERNANDO'BN, SP.	9004	12 22	18 34 25.60	21 31 54	4 38				434013
10178	SAN FERNANDO'BN, SP.	9004	12 22	18 34 44.50	21 55 54	- 0 05				434013
10179	SAN FERNANDO'BN, SP.	9004	12 22	18 34 48.50	22 01 12	- 1 07				434013
30069	SAN JOSE, CAL.	8573	12 23	2 03 52.5			180	32 42 00		845304
10180	ORGAN PASS'BN, N.M.	9001	12 23	2 08 04.66	21 25 30	-16 23				434013
10181	MAUI'BN, HAWAII	9012	12 23	5 56 29.74	21 15 18	-13 47				434013
10182	MAUI'BN, HAWAII	9012	12 23	5 56 47.92	21 20 00	-18 54				434013
10183	MAUI'BN, HAWAII	9012	12 23	5 57 16.26	21 50 42	-27 00				434023
10184	WOOMERA'BN, AUSTR.	9003	12 23	13 46 25.51	22 08 00	-73 05				434023

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10185	VILLA DOLORES'BN,ARG	9011	12 26	7 48 35.85	13 18 24	-57 13				434023
10187	VILLA DOLORES'BN,ARG	9011	12 27	2 15 54.63	21 09 00	-69 32				434023
10188	VILLA DOLORES'BN,ARG	9011	12 27	2 16 29.77	19 00 30	-78 37				434023
10186	WOOMERA'BN, AUSTR.	9003	12 28	18 00 52.26	11 53 18	-64 02				434023
10189	WOOMERA'BN, AUSTR.	9003	12 29	18 28 37.23	11 08 30	-34 03				434023
10192	VILLA DOLORES'BN,ARG	9011	12 30	1 36 48.58	20 36 00	-58 45				434023
10193	VILLA DOLORES'BN,ARG	9011	12 30	1 37 40.24	18 41 36	-72 05				434023
10190	SAN FERNANDO'BN, SP.	9004	12 30	6 11 17.10	15 26 12	- 8 05				434013
10197	VILLA DOLORES'BN,ARG	9011	12 30	7 33 25.36	7 00 00	-62 57				434023
10198	VILLA DOLORES'BN,ARG	9011	12 30	7 40 09.54	12 42 48	- 1 48				434013
10191	CURACAO'BN, N.W.I.	9009	12 30	9 47 24.02	14 16 06	-13 06				434013

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10001	CURACAO'BN, N.W.I.	9009	11 19	8 51 04.53	10 54 36	51 05				434013
50001	LAREDO'RADAR, TEX.	4012	11 20	1 09 37.5			137 54	50 24	1155	895307
50002	LAREDO'RADAR, TEX.	4012	11 30	22 06 59.0			138 54 00	63 48 00	1491	895307
50006	SPOKANE, WASH.	8142	11 30	1 43 36.4			180	53 21 00		845309
50003	LAREDO'RADAR, TEX.	4012	12 07	4 46 14			33 54	33 24	728	895307
50005	LAREDO'RADAR, TEX.	4012	12 09	5 38 11.3			232 06 00	19 06 00	1094	895307
50004	LAREDO'RADAR, TEX.	4012	12 10	4 06 53			32 48	47 24	581	895307
50007	LAREDO'RADAR, TEX.	4012	12 13	18 38 59.5			45 18 00	82 30 00	1510	895307
30001	YATSUSHIRO, JAPAN	0272	12 16	10 11 19			0 00	31 06		845302
30002	SAN JOSE, CAL.	8573	12 21	2 54 55.8			180	16 18 00		845304
30003	SAN JOSE, CAL.	8573	12 24	2 12 45.9			180	13 00 00		845304

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10033	CURACAO'BN, N.W.I.	9009	11 13	5 50 49.99	4 07 06	11 38				434013
10034	CURACAO'BN, N.W.I.	9009	11 13	5 51 01.46	4 08 12	16 35				434013
10035	CURACAO'BN, N.W.I.	9009	11 13	5 51 05.44	4 08 24	18 20				434013
10036	CURACAO'BN, N.W.I.	9009	11 13	5 51 09.42	4 08 36	20 02				434013
10037	CURACAO'BN, N.W.I.	9009	11 13	5 51 11.41	4 08 48	20 55				434013
10038	CURACAO'BN, N.W.I.	9009	11 13	5 51 13.41	4 09 06	21 45				434013
10039	CURACAO'BN, N.W.I.	9009	11 13	5 51 24.61	4 10 00	26 30				434013
10040	CURACAO'BN, N.W.I.	9009	11 13	5 51 26.60	4 10 18	27 21				434013
10041	CURACAO'BN, N.W.I.	9009	11 13	5 51 32.57	4 10 42	29 48				434013
50001	LAREDO'RADAR, TEX.	4012	11 13	7 31 30.8			100 12	48 18	1163	895307
50002	LAREDO'RADAR, TEX.	4012	11 13	9 09 08.0			286 36	16 42	2010	895307
10042	CURACAO'BN, N.W.I.	9009	11 14	5 57 10.23	2 35 12	15 56				434013
10043	CURACAO'BN, N.W.I.	9009	11 14	5 57 18.23	2 34 36	19 05				434013
10044	CURACAO'BN, N.W.I.	9009	11 14	5 57 25.00	2 33 48	21 34				434013
10045	CURACAO'BN, N.W.I.	9009	11 14	5 57 29.00	2 33 18	23 06				434013
10046	CURACAO'BN, N.W.I.	9009	11 14	5 57 31.97	2 33 12	23 53				434013
10047	CURACAO'BN, N.W.I.	9009	11 14	5 57 32.96	2 32 48	24 36				434013
10048	CURACAO'BN, N.W.I.	9009	11 14	5 57 34.95	2 32 48	25 25				434013
10049	CURACAO'BN, N.W.I.	9009	11 14	5 57 38.93	2 32 12	26 52				434013
10050	CURACAO'BN, N.W.I.	9009	11 14	5 57 52.84	2 30 30	31 57				434013
10001	ORGAN PASS'BN, N.M.	9001	11 14	7 38 04.67	7 33 06	0 49				434013
10002	ORGAN PASS'BN, N.M.	9001	11 14	7 38 08.66	7 35 06	1 48				434013
10003	ORGAN PASS'BN, N.M.	9001	11 14	7 38 10.66	7 36 06	2 17				434013
10004	ORGAN PASS'BN, N.M.	9001	11 14	7 38 12.66	7 37 06	2 48				434013
30004	LAS CRUCES, N.M.	0042	11 14	7 38 14	7 47	3 50				845003
10005	ORGAN PASS'BN, N.M.	9001	11 14	7 38 24.45	7 43 18	5 49				434013
10006	ORGAN PASS'BN, N.M.	9001	11 14	7 38 26.45	7 44 24	6 21				434013
10007	ORGAN PASS'BN, N.M.	9001	11 14	7 38 28.45	7 45 30	6 52				434013
10008	ORGAN PASS'BN, N.M.	9001	11 14	7 38 30.55	7 46 42	7 25				434013
10009	ORGAN PASS'BN, N.M.	9001	11 14	7 38 32.55	7 47 48	7 55				434013
10010	ORGAN PASS'BN, N.M.	9001	11 14	7 38 34.45	7 48 54	8 28				434013
10011	ORGAN PASS'BN, N.M.	9001	11 14	9 16 09.29	0 43 30	23 29				434013
10012	ORGAN PASS'BN, N.M.	9001	11 14	9 16 14.29	0 41 12	24 25				434013

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10013	ORGAN PASS'BN, N.M.	9001	11 14	9 16 24.56	0 34 42	27 05				434013
10014	ORGAN PASS'BN, N.M.	9001	11 14	9 16 28.56	0 32 30	28 05				434013
10015	ORGAN PASS'BN, N.M.	9001	11 14	9 16 32.71	0 29 48	29 04				434013
10016	ORGAN PASS'BN, N.M.	9001	11 14	9 16 36.71	0 27 24	29 59				434013
10017	ORGAN PASS'BN, N.M.	9001	11 14	9 17 12.25	0 02 30	37 36				434013
10018	ORGAN PASS'BN, N.M.	9001	11 14	9 17 28.04	23 50 24	41 05				434013
10019	ORGAN PASS'BN, N.M.	9001	11 14	9 17 32.04	23 47 00	41 54				434013
10056	NAINI TAL'BN, INDIA	9006	11 14	20 31 09.38	0 03 48	50 41				434013
10020	SAN FERNANDO'BN, SP.	9004	11 15	1 22 31.78	10 54 48	65 35				434013
10021	SAN FERNANDO'BN, SP.	9004	11 15	1 22 35.78	11 04 12	65 46				434013
10022	SAN FERNANDO'BN, SP.	9004	11 15	1 22 39.78	11 13 00	65 55				434013
10058	SAN FERNANDO-BN, SP.	9004	11 15	1 22 43.8	11 22 00	65 58				434013
10059	SAN FERNANDO-BN, SP.	9004	11 15	1 22 47.8	11 30 48	66 03				434013
10023	SAN FERNANDO'BN, SP.	9004	11 15	1 22 51.78	11 39 24	66 02				434013
10024	SAN FERNANDO'BN, SP.	9004	11 15	1 22 55.78	11 47 48	66 02				434013
10025	SAN FERNANDO'BN, SP.	9004	11 15	1 22 59.78	11 55 48	65 59				434013
10026	SAN FERNANDO'BN, SP.	9004	11 15	1 23 03.78	12 04 48	65 55				434013
10027	SAN FERNANDO'BN, SP.	9004	11 15	1 23 07.78	12 11 06	65 50				434013
10028	SAN FERNANDO'BN, SP.	9004	11 15	1 23 11.79	12 18 42	65 44				434013
10051	CURACAO'BN, N.W.I.	9009	11 15	6 04 53.48	0 55 06	51 44				434013
10052	CURACAO'BN, N.W.I.	9009	11 15	6 04 57.48	0 53 12	52 36				434013
10053	CURACAO'BN, N.W.I.	9009	11 15	6 05 01.47	0 51 24	53 22				434013
10054	CURACAO'BN, N.W.I.	9009	11 15	6 05 18.60	0 42 18	56 39				434013
10055	JUPITER'BN, FLA.	9010	11 15	6 09 05.20	9 35 00	65 18				434013
50004	LAREDO'RADAR, TEX.	4012	11 24	5 51 30.3			91 06	26 30	1164	895307
50005	LAREDO'RADAR, TEX.	4012	11 26	17 07 53.3			85 18	16 30	682	895307
50006	LAREDO'RADAR, TEX.	4012	11 28	16 41 12.5			122 00	6 06	1308	895307
50007	LAREDO'RADAR, TEX.	4012	11 28	18 17 06			232 42	2 12	1885	895307
50008	LAREDO'RADAR, TEX.	4012	12 01	5 48 39.3			300 18	40 12	634	895307
50009	LAREDO'RADAR, TEX.	4012	12 01	15 45 51.0			77 18	2 18	1640	895307
50010	LAREDO'RADAR, TEX.	4012	12 01	17 21 42.0			251 42	20 42	833	895307
30011	ADELAIDE, AUSTR.	8528	12 06	11 22 57.6	6 36	-16 54				845002
50011	LAREDO'RADAR, TEX.	4012	12 06	15 15 42.8			48 48 00	5 00 00	1522	895307
50012	LAREDO'RADAR, TEX.	4012	12 07	4 56 18.5			353 18	7 48	1213	895307
30012	ADELAIDE, AUSTR.	8528	12 07	10 53 22.8	6 45	-10				845002
30013	ADELAIDE, AUSTR.	8528	12 07	12 27 42.7	23 49	-12 12				845002
50013	LAREDO'RADAR, TEX.	4012	12 08	15 47 52.5			4 36 00	26 06 00	770	895307
50014	LAREDO'RADAR, TEX.	4012	12 09	15 15 07.5			95 42 00	23 30 00	898	895307
50015	LAREDO'RADAR, TEX.	4012	12 10	4 47 54			301 42	12 42	900	895307
50016	LAREDO'RADAR, TEX.	4012	12 10	16 12 48.8			247 18 00	20 36 00	1048	895307
30014	ADELAIDE, AUSTR.	8528	12 11	11 40 40.1	0 39	-16 48				845002
30015	ADELAIDE, AUSTR.	8528	12 12	10 59 15.5	5 51	-33 42				845002
30007	WOOMERA, AUSTR.	0603	12 12	11 00 48.9			85 42	24 48		845302
50017	LAREDO'RADAR, TEX.	4012	12 15	2 48 31.5			76 48	4 30	1144	895307
50018	LAREDO'RADAR, TEX.	4012	12 15	4 22 07.3			301 24	3 36	1250	895307
50020	LAREDO'RADAR, TEX.	4012	12 15	14 07 59.3			92 06 00	14 42 00	1265	895307
50019	LAREDO'RADAR, TEX.	4012	12 15	15 37 26.3			318 54 00	5 00 00	1835	895307
50021	LAREDO'RADAR, TEX.	4012	12 16	14 45 56.3			350 30 00	10 00 00	1400	895307
50022	LAREDO'RADAR, TEX.	4012	12 16	14 47 51.0			347 12 00	38 18 00	658	895307
50023	LAREDO'RADAR, TEX.	4012	12 16	14 49 51.8			183 54 00	48 00 00	609	895307
50024	LAREDO'RADAR, TEX.	4012	12 16	14 51 50.0			177 36 00	15 18 00	1342	895307
50025	LAREDO'RADAR, TEX.	4012	12 21	3 08 36.0			256 36 00	5 54 00	795	895307
50026	LAREDO'RADAR, TEX.	4012	12 24	2 32 18.8			339 54 00	11 12 00	822	895307
30009	ROCHESTER, N.Y.	8564	12 28	11 53 25.7	7 12	22 24				845012
50027	LAREDO'RADAR, TEX.	4012	12 28	13 26 37			273 30 00	18 00 00	745	895307
50028	LAREDO'RADAR, TEX.	4012	12 28	13 28 36			217 30 00	9 30 00	1170	895307
30010	SACRAMENTO, CAL.	8517	12 28	14 53 15.7	8 39 12	- 1 46				641042
50029	LAREDO'RADAR, TEX.	4012	12 29	13 00 06			338 36 00	5 36 00	1125	895307
30016	ALBUQUERQUE HS, N.M.	8534	12 29	13 00 41.0	16 00 24	5 12				845002
30008	ALBUQUERQUE, N.M.	8534	12 29	13 01 14.0	15 29 12	-19 24				845041
50030	LAREDO'RADAR, TEX.	4012	12 29	13 04 57.5			190 00 00	4 12 00	1240	895307
30018	SACRAMENTO, CAL.	8517	12 29	14 27 46.5	8 43 18	7 00				641012
30019	SACRAMENTO, CAL.	8517	12 29	14 28 29.4	10 06 06	-23 06				641013
30020	CHATTANOOGA, TENN.	0062	12 31	1 10 25			278	23		845303

OBS NO	STATION	STA NO	DATE	TIME	R. A.	DECL.	AZIMUTH	ALTITUDE	RANGE	INDEX
50024	LAREDO*RADAR, TEX.	4012	12 08	6 51 41			83 42	21 48	1372	895307
50025	LAREDO*RADAR, TEX.	4012	12 08	8 26 22			297 42	22 48	1374	895307
10047	MAUI*BN, HAWAII	9012	12 08	11 30 22.12	4 14 18	9 19				434013
10048	MAUI*BN, HAWAII	9012	12 08	11 30 26.13	4 13 42	11 43				434013
10049	MAUI*BN, HAWAII	9012	12 08	11 30 28.13	4 13 18	12 59				434013
10051	MAUI*BN, HAWAII	9012	12 08	11 30 37.11	4 11 36	18 14				434013
10050	MAUI*BN, HAWAII	9012	12 08	11 30 39.11	4 11 06	19 38				434013
10055	MAUI*BN, HAWAII	9012	12 08	11 30 41.11	4 10 36	20 54				434013
10052	MAUI*BN, HAWAII	9012	12 08	11 30 43.11	4 10 12	22 06				434013
10053	MAUI*BN, HAWAII	9012	12 08	11 30 45.11	4 09 42	23 20				434013
10054	MAUI*BN, HAWAII	9012	12 08	11 30 57.40	4 06 30	30 57				434013
50001	LAREDO*RADAR, TEX.	4012	12 08	19 53 33.5			256 42 00	3 00 00	1457	895307
10056	SAN FERNANDO*BN, SP.	9004	12 09	1 37 55.10	4 10 18	34 26				434013
10038	SAN FERNANDO*BN, SP.	9004	12 09	1 38 01.14	4 06 36	38 27				434013
10039	SAN FERNANDO*BN, SP.	9004	12 09	1 38 03.14	4 05 00	39 47				434013
10040	SAN FERNANDO*BN, SP.	9004	12 09	1 38 05.14	4 03 36	41 06				434013
10041	SAN FERNANDO*BN, SP.	9004	12 09	1 38 07.14	4 01 54	42 25				434013
10042	SAN FERNANDO*BN, SP.	9004	12 09	1 38 09.14	4 00 24	43 45				434013
10043	SAN FERNANDO*BN, SP.	9004	12 09	1 38 11.14	3 58 42	45 02				434013
10044	SAN FERNANDO*BN, SP.	9004	12 09	1 38 20.46	3 49 54	50 59				434013
10045	SAN FERNANDO*BN, SP.	9004	12 09	1 38 22.46	3 47 36	52 13				434013
10046	SAN FERNANDO*BN, SP.	9004	12 09	1 38 24.45	3 45 12	53 30				434013
10057	SAN FERNANDO*BN, SP.	9004	12 09	1 38 28.50	3 40 30	55 52				434013
10002	TOKYO*BN, JAPAN	9005	12 09	15 40 17.80	5 31 30	26 35				434013
10003	TOKYO*BN, JAPAN	9005	12 09	15 40 19.80	5 31 48	28 01				434013
10004	TOKYO*BN, JAPAN	9005	12 09	15 40 21.80	5 32 06	29 30				434013
10005	TOKYO*BN, JAPAN	9005	12 09	15 40 23.80	5 32 24	31 01				434013
10006	TOKYO*BN, JAPAN	9005	12 09	15 40 30.80	5 33 24	36 11				434013
10007	TOKYO*BN, JAPAN	9005	12 09	15 40 32.80	5 33 54	37 43				434013
10008	TOKYO*BN, JAPAN	9005	12 09	15 40 34.80	5 34 06	39 15				434013
10009	TOKYO*BN, JAPAN	9005	12 09	15 40 36.80	5 34 24	40 42				434013
10010	TOKYO*BN, JAPAN	9005	12 09	15 40 38.80	5 34 48	42 11				434013
10011	TOKYO*BN, JAPAN	9005	12 09	15 40 46.10	5 36 06	47 32				434013
10012	TOKYO*BN, JAPAN	9005	12 09	15 40 48.10	5 36 48	49 02				434013
10013	TOKYO*BN, JAPAN	9005	12 09	15 40 50.10	5 37 12	50 28				434013
10014	TOKYO*BN, JAPAN	9005	12 09	15 40 52.10	5 37 30	51 54				434013
10015	TOKYO*BN, JAPAN	9005	12 09	15 40 54.10	5 38 12	53 18				434013
10016	TOKYO*BN, JAPAN	9005	12 09	15 40 56.10	5 38 42	54 42				434013
50002	LAREDO*RADAR, TEX.	4012	12 09	19 18 15.8			236 42 00	17 00 00	815	895307
10037	AREQUIPA*BN, PERU	9007	12 10	5 29 17.14	2 32 24	- 1 50				434013
30001	W. PALM BEACH, FLA.	0016	12 10	5 41 37.5			59 18	36 00		845303
10018	TOKYO*BN, JAPAN	9005	12 10	15 05 01.90	9 16 06	24 38				434013
10019	TOKYO*BN, JAPAN	9005	12 10	15 05 11.10	9 28 18	28 44				434013
10020	TOKYO*BN, JAPAN	9005	12 10	15 05 13.10	9 31 00	29 36				434013
10022	TOKYO*BN, JAPAN	9005	12 10	15 05 17.10	9 36 36	31 20				434013
10023	TOKYO*BN, JAPAN	9005	12 10	15 05 19.10	9 39 24	32 07				434013
10024	TOKYO*BN, JAPAN	9005	12 10	15 05 21.10	9 42 18	33 00				434013
10025	TOKYO*BN, JAPAN	9005	12 10	15 05 23.10	9 45 06	33 46				434013
10026	TOKYO*BN, JAPAN	9005	12 10	15 05 25.10	9 48 12	34 35				434013
10027	TOKYO*BN, JAPAN	9005	12 10	15 05 27.10	9 51 12	35 23				434013
10028	TOKYO*BN, JAPAN	9005	12 10	15 05 29.10	9 54 12	36 10				434013
10029	TOKYO*BN, JAPAN	9005	12 10	15 05 31.10	9 57 18	36 54				434013
10030	TOKYO*BN, JAPAN	9005	12 10	15 05 33.10	10 00 18	37 40				434013
10031	TOKYO*BN, JAPAN	9005	12 10	15 05 35.10	10 03 24	38 25				434013
10032	TOKYO*BN, JAPAN	9005	12 10	15 05 37.10	10 06 36	39 06				434013
10033	TOKYO*BN, JAPAN	9005	12 10	15 05 39.10	10 09 54	39 50				434013
10034	TOKYO*BN, JAPAN	9005	12 10	15 05 41.10	10 13 12	40 34				434013
50003	LAREDO*RADAR, TEX.	4012	12 10	18 40 29.3			353 00 00	21 30 00	618	895307
10035	NAINI TAL*BN, INDIA	9006	12 10	19 45 32.08	1 24 18	57 43				434013
10036	NAINI TAL*BN, INDIA	9006	12 10	19 45 40.09	1 09 30	60 10				434013
50026	LAREDO*RADAR, TEX.	4012	12 15	18 42 00.8			251 42 00	6 18 00	1140	895307
50027	LAREDO*RADAR, TEX.	4012	12 17	17 20 59.3			29 48 00	13 24 00	824	895307
50028	LAREDO*RADAR, TEX.	4012	12 17	17 22 52.5			109 24 00	20 48 00	610	895307
50029	LAREDO*RADAR, TEX.	4012	12 17	17 24 49.5			148 18 00	5 42 00	1285	895307
50030	LAREDO*RADAR, TEX.	4012	12 19	17 34 07.5			330 42 00	18 36 00	722	895307
50031	LAREDO*RADAR, TEX.	4012	12 21	4 50 11.3			81 12 00	10 12 00	1548	895307
50032	LAREDO*RADAR, TEX.	4012	12 23	4 58 35.3			131 12 00	20 42 00	1064	895307
50033	LAREDO*RADAR, TEX.	4012	12 23	5 00 31.8			131 12 00	20 42 00	912	895307
50034	LAREDO*RADAR, TEX.	4012	12 23	5 02 27.0			131 12 00	20 42 00	1429	895307
50035	LAREDO*RADAR, TEX.	4012	12 29	15 11 38.5			88 36 00	7 06 00	1240	895307
50036	LAREDO*RADAR, TEX.	4012	12 29	16 43 54			293 24 00	9 06 00	1330	895307
50037	LAREDO*RADAR, TEX.	4012	12 29	16 46 06			247 48 00	10 36 00	1320	895307
50038	LAREDO*RADAR, TEX.	4012	12 29	16 48 20.5			217 36 00	4 06 00	1930	895307
50039	LAREDO*RADAR, TEX.	4012	12 31	15 14 30.5			34 30 00	17 12 00	970	895307
50040	LAREDO*RADAR, TEX.	4012	12 31	15 16 43.5			108 54 00	24 24 00	820	895307
50041	LAREDO*RADAR, TEX.	4012	12 31	15 18 53.5			146 06 00	9 12 00	1503	895307

NOTICE

This series of Special Reports was instituted under the supervision of Dr. F. L. Whipple, Director of the Astrophysical Observatory of the Smithsonian Institution, shortly after the launching of the first artificial earth satellite on October 4, 1957. Contributions come from the Staff of the Observatory. First issued to ensure the immediate dissemination of data for satellite tracking, the Reports have continued to provide a rapid distribution of catalogues of satellite observations, orbital information, and preliminary results of data analyses prior to formal publication in the appropriate journals.

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