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M7300 Flight History & Missions

MSN #	PAYLOAD	LAUNCH	LIFE (mos)	
N/A	Hitch Hiker I	18-Mar-63	0	Map Van Allen Belt - host failed to achieve orbit
N/A	Hitch Hiker II	1-Jul-63	2	Map Van Allen Belt
7301	Pundit I	30-Oct-63	19	Directed Search for Soviet missile & space telemetry (TELINT)
7302	Pundit II	19-Dec-63	3	Dir Search for TELINT
7303	Pundit III	8-Oct-64	0	Dir Search for TELINT - booster did not achieve orbit
7304	Noah's Arc	6-Jul-64	1	General Search for Soviet ABM
N/A	Hitch Hiker III	14-Aug-64	15	Map Van Allen Belt - last non-covert P-11 launch
7305/06	Step13 / Plymouth Rock	23-Oct-64	4	Dir Search for Soviet ABM / Gen Search for ELINT
7307/08	Fanion I / Tripos I	25-Jun-65	20	
7309	Pundit IV	28-Apr-65	21	Directed Search for TELINT
7310/11	Leige / Plicat	14-May-66	0	
7312	Magnum	3-Aug-65	24	
7313	Weston	30-Sep-69	10	(Launch delayed 2 years) Directed Search for VHF COMINT
7314/15	Sampan I / Sousea I	16-Aug-66	14	Gen Sch X-Band / Gen Sch S-Band
7316/19	Slewto / Fanion III	9-May-67	3	
7317/18	Fanion II / Tripos II	16-Sep-66	4	
7320	Savant I	16-Jun-67	16	Directed Search for TELINT
7321	Facade	2-Nov-67	3	Gen Sch & TI for Sov ABM
7322/23	Lampan I/Sampan II	14-Mar-68	12	Gen Sch Sov ABM
7324	Tivoli I	24-Jan-68	14	Dir Sch & TI for Pulsed & CW
7325	Vampan	18-Sep-68	12	Electronic Order of Battle (EOB) & Gen Sch
7326/27	Tripos III / Sousea II	20-Jun-68	19	EOB and Gen Sch
7328/29	Lampan II/Sampan III	1-May-69	9	Gen Sch for Pulsed & CW
7330	Tivoli II	19-Mar-69	18	
7331	ASSIGNED TO VAMPAN II (CANCELLED) SAVANT II REPLACED IT (7336			
7332/33	Tripos IV / Sousea III	20-May-70	32	EOB and Gen Sch
7334	Tophat I	18-Nov-70	44	Dir Sch and DF locator of Tropo Comms
7335	Tivoli III	4-Mar-70	20	Dir Sch & TI for Pulsed & CW
7336	Savant II	22-Sep-69	20	Dir Sch for TELINT
7337	Arroyo	10-Sep-71	1	SCC 5469 Dir Sch for COMINT Microwave
7338	Ursala I	7-Jul-72	70	SCC 6096 EOB & Gen Sch for Pulsed & CW
7339	Mabeli	20-Jan-72	87	SCC 5772 Dir Sch & TI for ABM Radars
7340	Tophat II	10-Apr-74	70	SCC 7247 Dir Sch and DF locator of Tropo Comms & Burst Comms
7341	Raquel I	29-Oct-74	63	SCC 7498 Gen Sch, EOB, TI for Pulsed & CW
7342	Ursala II	10-Nov-73	61	SCC 6931 EOB & Gen Sch for Pulsed & CW
7343	Ursala III	8-Jul-76	95	SCC 9008 EOB & Gen Sch for Pulsed & CW
7344	Ursala IV	16-Mar-79	42	SCC 11306 EOB & Gen Sch for Pulsed & CW
7345	Raquel IA	16-Mar-78	123	SCC 10374 Gen Sch, EOB, TI for Pulsed & CW
7346	**Farrah I**	11-May-82	156+	SCC 13172 Gen Sch, EOB, TI, Dir Sch for Pulsed & CW
7347	**Farrah II**	25-Jun-84	132+	SCC 15071 Gen Sch, EOB, TI, Dir Sch for Pulsed & CW

25X1

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Checked | TITLE

TABLE I MISSION 7300 LAUNCHES

Approved | Model | Report No.

MSN	DATE	NAME	FREQ (MHz)	TARGET SIGNALS	TYPE (MOS)
7301	10/29/63	PUNDIT-I	61, 66, 71, 76	USSR TYPE B TLM	18
7302	12/21/63	PUNDIT-II	61, 66, 71, 76	USSR TYPE B TLM	23
7304	7/6/64	NOAHS ARK	1500-2500	ABM RADAR SEARCH	23
7303	10/8/64	PUNDIT-III	61, 66, 71, 76	USSR TYPE B TLM	0
7305	10/23/64	STEP-13	60-70		14 25X1
7306	"	PLYM. ROCK	500-1000	ABM SEARCH	14
7309	4/28/65	PUNDIT-IV	61, 66, 71, 76	USSR TYPE B TLM	21 25X1
7307	6/25/65	FANION-I	4800-5200		22
7308	"	TRIPOS-I	4000-8000	GENERAL RADAR SEARCH	22
7312	8/3/65	MAGNUM	155-165		21 25X1
7310	5/14/66	LEIGE	170-175		0
7311	"	PLICAT	156-163		0
7314	8/16/66	SAMPAN-I	2000-4000	GENERAL SEARCH/DF	14
7315	"	SOUSEA-I	8000-12000	RADAR GS/DF	14
7317	9/16/66	FANION-II	4800-5200		4 25X1
7318	"	TRIPOS-II	4000-8000	RADAR GS/DF	4
7319	5/9/67	FANION-III	4800-5200		3 25X1
7316	"	SLEWTD	156-163		3
7320	6/16/67	SAVANT-I	61-250	TEST RANGE TLM COPY	16
7321	11/2/67	FACADE	100-2200	ABM RADAR SEARCH	3
7324	1/24/68	TIVOLI-I	100-2400	ABM RADAR TI	15
7322	3/14/68	LAMPAN-I	1000-2000	ABM GS/DF	12
7323	"	SAMPAN-II	2000-4000	ABM GS/DF	12
7326	6/20/68	TRIPOS-III	4000-8000	ABM GS/DF	19
7327	"	SOUSEA-II	8000-12000	ABM GS/DF	19
7325	9/18/68	VAMPAN-I	100-1000	ABM GS/DF	12
7330	3/19/69	TIVOLI-II	1100-2200	ABM TI	19
7328	5/11/69	LAMPAN-II	1000-2000	ABM GS/DF	9
7329	"	SAMPAN-III	2000-4000	ABM GS/DF	9
7336	9/22/69	SAVANT-II	61-250	TEST RANGE TLM COPY	20
7313	9/30/69	WESTON	60-70/390-420		11 25X1
7331	3/4/70	TIVOLI-III	100-2200	ABM TI	20
7332	5/20/70	TRIPOS-IV	4000-8000	P&CW GS/EOB	22
7333	"	SOUSEA-III	8000-12000	P&CW GS/EOB	22
7334	11/18/17	TOPHAT-I	470-1000	COMINT MAPPER	45

1331 VAMPAN II NOT LAUNCHED

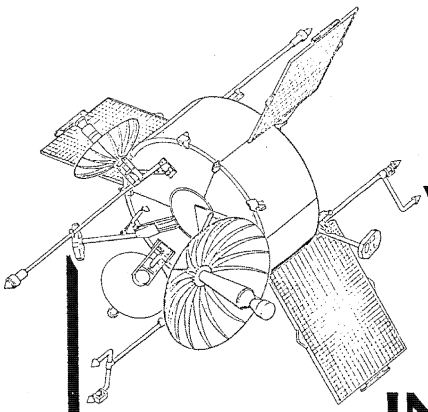
could be 7335 →

Prepared | NAME | DATE | LOCKHEED CORP. STRESS SHEET | Page | TEMP. | PERM.

Chec TABLE-II MISSION 7300/7200 LAUNCHES SINCE 1970 (TITLE) | Model

Approved | Report No.

MSN	DATE	NAME	FREQ. (GHz)	TARGET SIGNALS	LIFE (MOS)
7337	9/10/71	ARROYO	1.2-2.1/3.4-3.9	LOS TOWER MAPPING	1
7339	1/20/72	MABEL I	0.156 - 2.5	ABM MAINBEAM TI	88
7338	7/7/72	URSALA-I	2-12	P&CW GS/EOB	70
7342	11/10/73	URSALA-II	2-12	P&CW GS/EOB	61
7340	4/10/74	TOPHAT-II	0.47-1	COMINT MAPPER	72
7341	10/29/74	RAQUEL-I	4-18	P&CW GS/TI	63
7343	7/8/76	URSALA-III	2-12	P&CW GS/EOB	133
7345	3/16/78	RAQUEL-IA	4-18	P&CW GS/TI	113
7344	3/16/79	URSALA-IV	2-12	P&CW GS/EOB	35
7346	5/11/82	FARRAH-I	2-18	P&CW GS/EOB/TI	100+
7347	6/18/84	FARRAH-II	2-18	P&CW GS/EOB/TI	75+
			2-18	MBTI	
7241	6/17/80	LORRI-I	[redacted]		11 25X1
7242	4/18/86	LORRI-II	[redacted]	ABM MBTI	0 25X1
7243		GLORIA-I	[redacted]		15+25X1
7244		GLORIA-II	18-26	[redacted]	— 25X1
7245	92	CARRIE	0.1-0.8	COMINT MAPPER	—



INTRODUCTION

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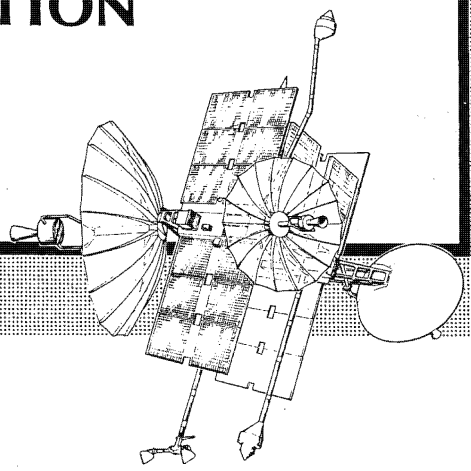

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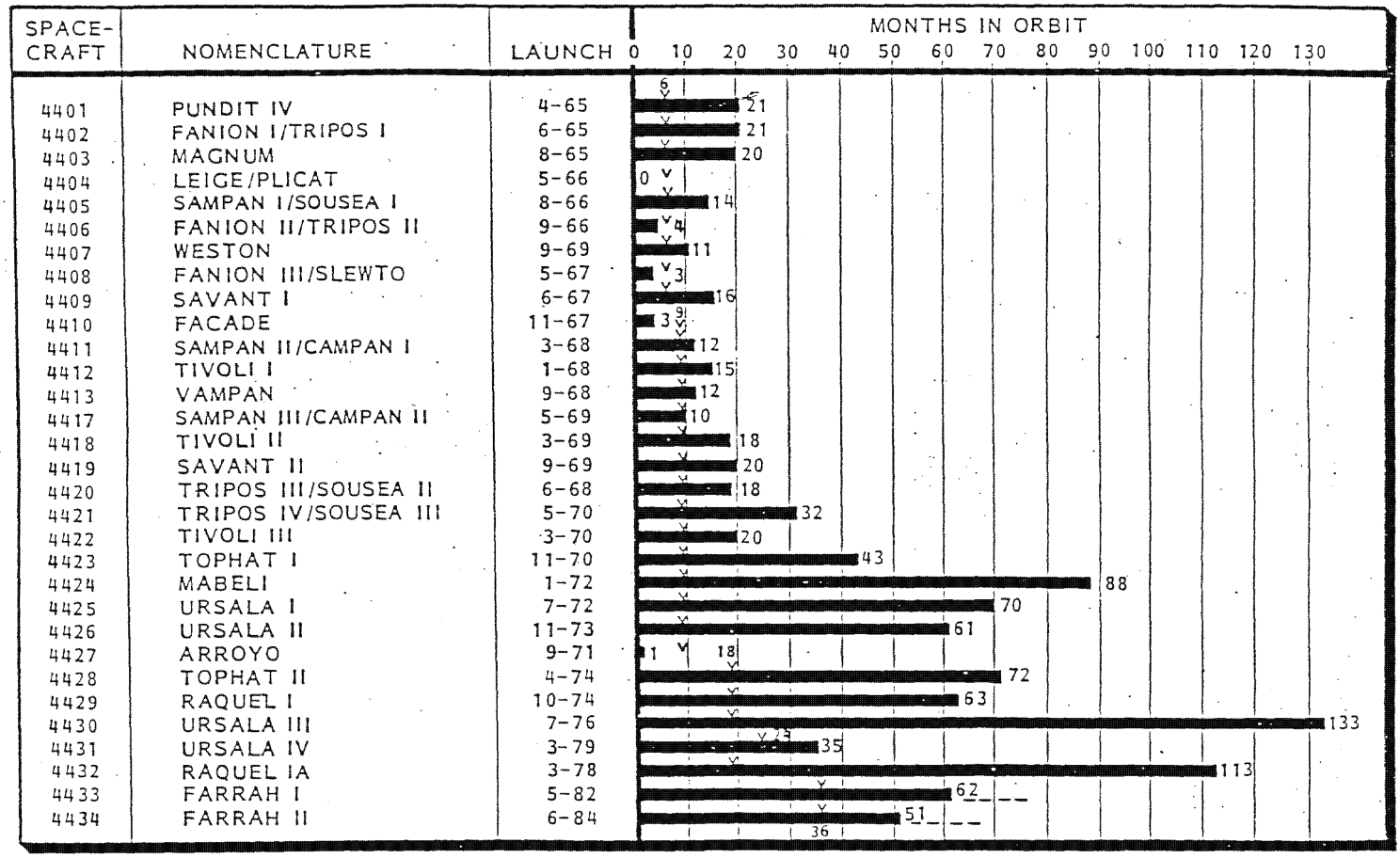

v = EXPECTED LIFE

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BIF003W/B-
Rev A

MISSION COLLECTION SUMMARY

25X1

LAUNCH YEAR	SATELLITE		MISSION	FREQUENCY RANGE – GHz (10 … 20, 26–42, 70–74, 82–96)
1963	4201	–	MAP INNER VAN ALLEN BELT	
	4001	PUNDIT I	SOVIET TELEMETRY	60 80 MHz
	4101	PUNDIT II	SOVIET TELEMETRY	60 80 MHz
1964	4301	NOAH'S ARC	GENERAL SEARCH (VHF)	150 550 MHz
	4202	–	MAP INNER VAN ALLEN BELT	
	4302	STEP 13	ANTISATELLITE RADAR SEARCH	150 230 MHz
1965	4401	PUNDIT IV	TELEMETRY	61 72 MHz
	4402	FANION/TRIPOS	[redacted]	
	4403	MAGNUM		100 250 MHz
1966	4404	LEIGE/PLICAT		153-178 MHz
	4405	SAMPAN/SOUSEA		
	4406	FANION/TRIPOS		
1967	4408	FANION/SLEWTO		153-163 MHz; 4900-5150 MHz
	4409	SAVANT	TELEMETRY	61-240 MHz
	4410	FACADE	ABM SEARCH	
1968	4412	TIVOLI	ABM/TI/SEARCH	
	4411	LAMPAN/SAMPAN	ABM/SEARCH	
	4420	TRIPOS/SOUSEA	SEARCH	
	4413	VAMPAN	ABM SEARCH	
1969	4418	TIVOLI	ABM TI	
	4417	LAMPAN/SAMPAN	ABM/SEARCH	
	4419	SAVANT	TELEMETRY	61-76 MHz, 142-248 MHz
	4407	WESTON	CW SEARCH	60-70 MHz; 360-420 MHz
1970	4422	TIVOLI	ABM/TI/SEARCH	
	4421	TRIPOS/SOUSEA	SEARCH	
	4423	TOPHAT I	CW SEARCH	450-1000 MHz
1971	4427	ARROYO	CW SEARCH	
1972	4424	MABELI	ABM TI	151-156, 387 526, 860-960 1500-2500 MHz
	4425	URSALA I	OPERATIONAL ELINT/SEARCH	
1973	4426	URSALA II	OPERATIONAL ELINT/SEARCH	
	4428	TOPHAT II	CW SEARCH	450 1000 MHz
1974	4429	RAQUEL I	TI/SEARCH	
1976	4430	URSALA III	OPERATIONAL ELINT/SEARCH	
1978	4432	RAQUEL IA	TI/SEARCH	
1979	4431	URSALA IV	OPERATIONAL ELINT/SEARCH	
1980	–	LORRI I	GS, DS, PULSE & CW	
1982	4433	FARRAH I	GS, DS, TI & EOB	
1984	4434	FARRAH II	GS, DS, TI & EOB	70-74 GHz
1986	–	LORRI II	GS, DS, PULSE, AND CW	80-180 MHz; 26 42 GHz; 82 96 GHz
[redacted]				

25X1

25X1

* PLANNED LAUNCH DATE

25X1

P-11 [redacted] Hardware History

Spacecraft Number	Payload Code Name	No. of Major Payload Boxes	Total Payload Box Weight (Pounds)	Total Payload Box Volume (Cubic Inches)	Solar Array Arrangement: No. Of Deployable Frames (by-Frame Type) 6	10	11	14	16	17	24	Number of Fixed Modules	Total Modules
4051	Van Allen Probe 3/18/65												
4201	6/26/63												
4001	Pundit 10/29/63												
4101	Pundit 12/21/63												
4301	Mockup 7/6/64												
4202	Van Allen 8/14 Launch												
	*no count												
4102	Pundit 10/8/64												
41302	10/23/64												
4401	Pundit IV 4/28/65	2	50.2	2212	2		2					18	52
4402	Fanion I/Tripos I 6/25	2	33.5	1521	3		2					16	56
4403	Magnum 8/3/65	2	39.3	2316	2		2					18	52
4404	Leige/Plicat 5/14/66	2*	39.7*	1728	3		2					12	52
4405	Sampan I/Sousea I 8/16	2	50.0	2281	4		2					17	63
4406	Fanion II/Tripos II 9/16/66	2	30.8	1279	3		2					16	56
	(200-290#)												
4407	Weston 9/30/69	3	71.96	2837	2		2					23	57
4408	Fanion III/Slewto 5/9/67	2	37.30	1570	3		2					24	64
4409	Savant I 6/16/67	2	46.80	2430	2	2	2					23	77
4410	Facade 11/2/67	2	53.90	2860	2	2	2					20	74
4411	Sampan II/Lampan I 3/14/68	2	66.50	2429	2	2	1					16	59
4412	Tivoli I 1/24/68	2	66.30	2840	2	2	2					19	73
4413	Vampan 9/18/68	2	64.70	2413	2	2	2					19	73
4417	Sampan III/Lampan II 5/1/69	3	85.10	2737			1	2	2			15	86
4418	Tivoli II 3/19/69	2	68.53	2840			2	2	2			13	95
4419	Savant II 9/22/69	2	55.77	2627			2	2	2			19	101
4420	Tripos III/Sousea II 6/20/68	2	71.30	2840	2	2	2					14	68
4421	Tripos IV/Sousea III 5/20/70	2	86.00	3352			2	2	2			16	98
4422	Tivoli III 3/4/70	2	80.74	3083			2	2	2			12	94
	(300-390#)												
4423	Tophat I 11/18/70	2	75.65	3367			2**	2**	2			14	95
4424	Mabeli 1/20/72	2	92.30	3338			2	2**	2			9	90
4425	Ursala I 7/7/72	2	103.60	3166			2	2**	2			9	90
4426	Ursala II 11/10/73	2	104.58	3166			2	2**	2			9	90
4427	Arroyo 11/9/10/71	3	82.90	3587			2	2**	2			7	89
4428	Tophat II 4/10/74	3	81.89	3454			2**	2**	2			10	90
	start Heavy (550#+) P-11's												
4429	Raquel I 10/29/74	2	135.47	4686						2	4(6)	6	136
4430	Ursala III 7/8/76	2	147.18	4686						2	4	10	140
4431	Ursala IV 5/26/79	2	146.63	4686						2	4	10	140
4432	Raquel IA 3/16/78	2	TBD	TBD						2	4	TBD	TBD
					8-7 mods, 24-9 mods							0	272

*Exclusive of Solar Array Experiment

**One solar module missing for each symbol

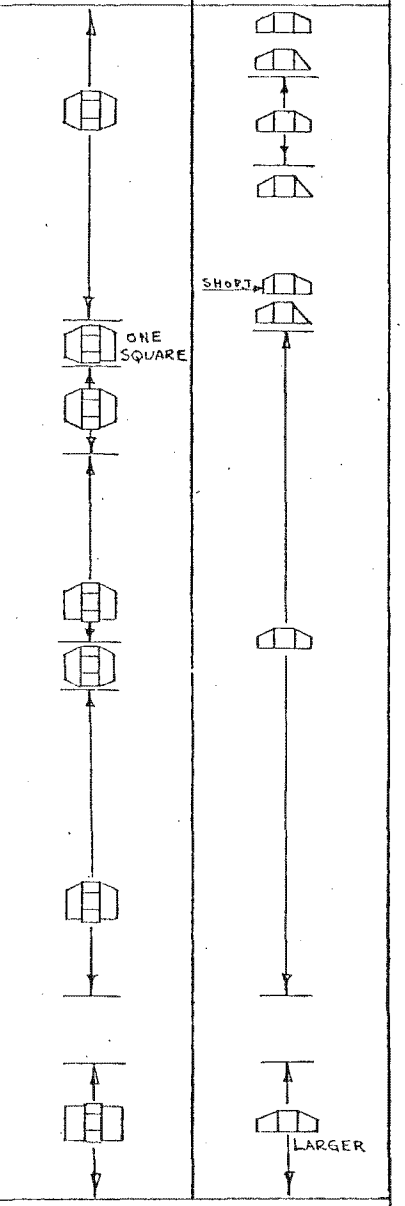
Lorri I 6/17/80
Lorri II 4/18/86
4433 Farrah 1 5/11/82
4434 Farrah 2 6/18/84

25X1

P-11 [redacted] Hardware History 25X1

Spacecraft Number	Launch Sequence	Launch Date	Host Program	Contract Number	On-Orbit Contract Period (Months)	On-Orbit Operational Life (Months)	Spacecraft Total Weight (Pounds)	Spacecraft Structural Volume (Cubic Inches)	Spacecraft Structural Type
4401	1	4/28/65	206	548	6	21	218.5	10834	L
4402	2	6/27/65	206	638	6	21	216.0	10592	ML
4403	3	8/3/65	206	638	6	20	205.2	10834	L
4404	4	5/14/66	206	638	6	0	224.2	10834	L
4405	5	8/16/66	206	638	6	14	267.0	10834	L
4406	6	9/16/66	206	638	6	4	223.6	10592	ML
4407	17	9/30/69	770	DP-1	0	11	248.2	10368	ML
4408	7	5/9/67	846	775	6	3	225.7	10592	ML
4409	8	6/16/67	846	775	6	16	242.5	11041	ML
4410	9	11/2/67	846	DP-1	9	3	228.4	10834	L
4411	11	3/14/68	846	DP-1	9	12	284.9	10834	L
4412	10	1/24/68	846	DP-1	9	15	275.0	10834	L
4413	13	9/18/68	846	DP-1	9	12	259.7	11232	ML
4417	15	5/1/69	846	DP-1	9	10	364.7	11647	H
4418	14	3/19/69	846	DP-1	9	18	333.6	11647	H
4419	16	9/22/69	846	DP-1	9	20	319.3	11647	H
4420	12	6/20/68	846	DP-1	9	18	278.7	10834	L
4421	19	5/20/70	846	P-2	9	32	333.4	11647	H
4422	18	3/4/70	846	P-2	9	20	343.5	11647	H
4423	20	11/18/70	846	P-2	9	43	333.5	11647	H
4424	22	1/20/72	467	P-2	9	88	380.1	11647	H
4425	23	7/7/72	467	P-2	9	70	390.9	11647	H
4426	24	11/10/73	467	P-2	9	61.5	393.2	11647	H
4427	21	9/10/71	846	P-2	9	1	375.3	11647	H
4428	25	4/10/74	467	PK-3	18	TBD	378.2	11647	H
4429	26	10/29/74	467	PK-3	18	TBD	541.9	13972	CI
4430	27	7/8/76	467	PK-3	18	TBD	565.5	13972	CI
4431	29	3/16/79	467	PK-3	24	TBD	590.6	13972	CI
4432	28	3/16/78	467	PK-3	18	TBD	590.9	13972	CI

Spacecraft Shape



TBD= To Be Determined

L= Light
ML= Modified Light
H= Heavy
CI= Cast Iron (Nickname)

P-11/[redacted] Hardware History

25X1

Spacecraft Number	Payload Code Name	No. of Major Payload Boxes	Total Payload Box Weight (Pounds)	Total Payload Box Volume (Cubic Inches)	Solar Array Arrangement								
					No. Of Deployable Frames (by Frame Type)							Number of Fixed Modules	Total Modules
					6	10	11	14	16	17	24		
4401	Pundit IV	2	50.2	2212	2		2					18	52
4402	Fanion I/Tripos I	2	33.5	1521	3		2					16	56
4403	Magnum	2	39.3	2316	2		2					18	52
4404	Leige/Plicat	2*	39.7*	1728	3		2					12	52
4405	Sampan I/Sousea I	2	50.0	2281	4		2					17	63
4406	Fanion II/Tripos II	2	30.8	1279	3		2					16	56
4407	Weston	3	71.96	2837	2		2					23	57
4408	Fanion III/Slewto	2	37.30	1570	3		2					24	64
4409	Savant I	2	46.80	2430	2	2	2					23	77
4410	Facade	2	53.90	2860	2	2	2					20	74
4411	Sampan II/Lampan I	2	66.50	2429	2	2	1					16	59
4412	Tivoli I	2	66.30	2840	2	2	2					19	73
4413	Vampan	2	64.70	2413	2	2	2					19	73
4417	Sampan III/Lampan II	3	85.10	2737			1	2	2			15	86
4418	Tivoli II	2	68.53	2840			2	2	2			13	95
4419	Savant II	2	55.77	2627			2	2	2			19	101
4420	Tripos III/Sousea II	2	71.30	2840	2	2	2					14	68
4421	Tripos IV/Sousea III	2	86.00	3352			2	2	2			16	98
4422	Tivoli III	2	80.74	3083			2	2	2			12	94
4423	Tophat I	2	75.65	3367			2**	2**	2			14	95
4424	Mabeli	2	92.30	3338			2	2**	2			9	90
4425	Ursala I	2	103.60	3166			2	2**	2			9	90
4426	Ursala II	2	104.58	3166			2	2**	2			9	90
4427	Arroyo	3	82.90	3587			2**	2**	2			7	89
4428	Tophat II	3	81.89	3454			2**	2**	2			10	90
4429	Raquel I	2	135.47	4686						2	4	6	136
4430	Ursala III	2	147.18	4686						2	4	10	140
4431	Ursala IV	2	149.45	4686						2	4	10	140
4432	Raquel IA	2	146.71	4686						2	4	6	136

*Exclusive of Solar Array Experiment

**One solar module missing for each symbol

P-11 [redacted] Hardware History 25X1

Spacecraft Number	Command System Designation	Control Programmer	Command Module	Telemetry/Command Unit	Receiver/ Demodulator	Decoders	Commutators			VCOs (External to P/L)	Command System Mod. Amps.	Data Conditioner	Timers					
													Single Event		Multiple Event			
															Ground Program.		Orbit Programmable		
							1 X 60	5 X 60	5 X 90				GV Type (Spin-Up)	GT Type & Oscillator	3 Deck	4 Deck	3 Deck	4 Deck	Dual
4401	Zombie	1			1	3	2			4	4	1	1	2		1			
4402		1			1	2	1			4	1		1	1		1			
4403		1			1	2	1			4	1		1	1		1			
4404		1			1	2	1			4	1		1	1		1			
4405		1			1	2	1			4	1		1	1		1			
4406		1			1	2	1			4	1		1	1		1			
4407	Uncle		1		1	1		1		4					1				
4408			1		1	1		1		3					1				
4409			1		1	1		1		3					1				
4410			1		1	1		1		3					1				
4411			1		1	1		1		4					1				
4412			1		1	1		1		4					1				
4413			1		1	1		1		4					1				
4417	Uncle		1		1	1		1		4							1		
4418			1		1	1			1	4							1		
4419			1		1	1			1	4							1		
4420			1		1	1		1		4							1		
4421			1		1	1			1	4							1		
4422			1		1	1			1	4								1	
4423	Uncle		1		1	1			1	4							1		
4424			1		1	1			1	4								1	
4425			1		1	1			1	4								1	
4426			1		1	1			1	4								1	
4427			1		1	1			1	4								1	
4428			1		1	1			1	4								1	
4429	SGLS			1	2	2													1
4430				1	2	2													1
4431				1	2	2													1
4432				1	2	2													1

P-11/[redacted] Hardware History 25X1

Spacecraft Number	Transmitters			Multiplexing System								Telemetry/Command Antennas							
	VHF	S-Band		VHF	S-Band							VHF		UHF		S-Band		SGLS	
	Agena Type	Varactor Tube Type	Solid State Type	4 Barrel (Transmit)	2 Barrel (Receive)	2 Barrel (Transmit)	3 Barrel (Transmit)	4 Barrel (Transmit)	RF Switch (Transmit)	RF Filter (Transmit)	RF Switch (Tran/Rec)	Command	Telemetry	-Y Command	+Y Command	-Y Telemetry	+Y Telemetry	-Y T/C-1	+Y T/C-2
4401	4			1								M	M						
4402	4			1								M	D						
4403	4			1								M	D						
4404	4			1								M	D						
4405	4			1								M	D						
4406	4			1								M	D						
4407	4			1									D	D					
4408	4	1		1									D	D		SC			
4409	1	2				1							D	D		SC			
4410	4			1									MGP	D					
4411	4			1									MGP	D					
4412	1	2				1							D	D		SC			
4413	4			1									MGP	M					
4417	4			1									MGP	M					
4418	1	2				1			1				D	M		SC			
4419	1	2				1			1	1			D	M		CS	CS		
4420	4			1									MGP	M					
4421		2				1			1	1				M		CS	CS		
4422		2				1			1	1				M		CS	CS		
4423		2	1				1		1	1				M		CS	CS		
4424		2	2					1	1						D	CS	CS		
4425			4					1	1						D	CS	CS		
4426			4					1	1						D	CS	CS		
4427		2	1				1		1						D	CS	CS		
4428			3				1		1					M		CS	CS		
4429			4		1			1			1							CS	CS
4430			4		1			1			1							CS	CS
4431			4		1			1			1							CS	CS
4432			4		1			1			1							CS	CS

M = Monopole D = Dipole MGP = Monopole with Ground Plane

SC = Slotted Cylinder CS = Conical Spiral

P-11 / [redacted] Hardware History

25X1

Spacecraft Number	Tape Recorders						Power Storage & Control System							Pyro System				
	150 KHz			1 MHz			Battery		PCU									
	← RI/RO Ratio →																	
	1/1	2/1	4/1	1/1	4/1	DIU	2 Electrode Type	3 Electrode Type	Single	Dual	Charge Control Unit	Power Dist.& Control Assy.	Ext. Current Monitors	Arm Plugs	Pyro Programmer	Pin Pullers	Spin-Up System Devices	$8\frac{1}{2}$" Diameter Orb. Boost Mot.	12" Diameter Orb. Boost Mot.
4401		1*	1*				1		1					1	1	2	C.G.	2	
4402			2*				1		1				1	1	1	3	C.G.	2	
4403	1*		1*				1		1					1	1	2	C.G.	2	
4404	1	2*					1		1					1	1	3	C.G.	2	
4405		2					1		1					1	1	4	C.G.	2	
4406			2				1		1					1	1	4	C.G.	2	
4407		2					1		1					1	1	2	C.G.	2	
4408	2				1		1		1					1	1	4	C.G.	1	
4409					2		1		1					1	1	3	2 S.R.	2	
4410		2					1		1					1	1	4	2 S.R.	2	
4411		2					1		1					1	1	6	2 S.R.	2	
4412					2		1		1					1	1	4	2 S.R.	2	
4413		2					1		1					1	1	4	2 S.R.	2	
4417		2					2			1			3	2	1	8	2 S.R.	2	
4418					2		2			1			3	2	1	5	2 S.R.	2	
4419				1	2		2			1			3	2	1	5	2 S.R.	2	
4420		2					1		1					2	1	7	2 S.R.	2	
4421					3		1		1				1	2	1	7	2 S.R.	2	
4422					3		2			1			3	2	1	5	2 S.R.	2	
4423		3					1		1					2	1	4	2 S.R.	2	
4424					3		1		1				1	2	1	6	2 S.R.	2	
4425					3		1		1				1	2	1	8	2 S.R.	2	
4426					3		1		1				1	2	1	8	2 S.R.	2	
4427			2				1		1					2	1	6	2 S.R.	2	
4428			3				2			1			3	2	1	4	2 S.R.	2	
4429					3			2		1	2	2	2	2	1	8	3 S.R.	1	1
4430					3			2		1	2	2	2	2	1	6	3 S.R.		2
4431					3**	3★		2		1	2	2	2	2	1	6	3 S.R.		2
4432					3**	3		2		1	2	2	2	2	1	8	3 S.R.		2

C.G = Cold Gas System (Gas Bottle, Pyro Valve, Tubing & 2 Nozzles
S.R. = Solid Propellant Spin Rockets
* 100KHz Bandwidth (8 Units)
** Type 38 Units
★ Units Are Cross-Strapped with Tape Recorders

P-11 [redacted] Hardware History

25X1

Spacecraft Number	Attitude Sensing and Control System									Miscellaneous Items						
	Sensors			ACS		SRCS		Balance Booms	Wobble Damper	Solar Array Experiment	TRG (External to Pay Loads)	Payload Pattern Gen.	Ascent Accelerometer	Erection Motors		
	Horizon Sensor	Sun Sensor	Shift Register	Coil	Control Unit	Coil	Control Unit							Payload Antennas	Balance Booms	Solar Panels
4401	1	1	0						1							
4402	1	1	1						1	1*						
4403	1	1	1						1							
4404	1	1	1						1	1**						
4405	1	1	1						1							
4406	1	3	1						1							
4407	1	1	1						1							
4408	1	3	1						1							
4409	1	1	1						1		1					
4410	1	1	1						1			1	2			
4411	1	3	1						1							
4412	1	1	1						1							
4413	1	3	1						1							
4417	1	3	1						1							
4418	1	3	1						1							
4419	1	2	1						1							
4420	1	3	1						1							
4421	1	3	1						1							
4422	1	2	1	1	1				1							
4423	1	3	1						1					2		
4424	1	3	1	1	1	1	1	2	1					3	2*	
4425	2	3	1	1	1	1	1		1					1		
4426	2	3	1	1	1	1	1		1					1		
4427	1	3	1	1	1			2	1					3	2*	
4428	2	3	1	1	1	1	1		1					2		
4429	2	4	Dual	Dual	2	1	1		1							6*
4430	2	4	Dual	Dual	2	1	1		1							6*
4431	2	4	Dual	Dual	2	1	1		1							6*
4432	2	4	Dual	Dual	2	1	1		1							6*

* = 4 Modules ** = 3 Modules *= Dual Type Motor

P-11 [redacted] Hardware History 25X1

Spacecraft Number	Payload Box Designations, Weights and Locations								
	Designation	Weight (Pounds)	Location	Designation	Weight (Pounds)	Location	Designation	Weight (Pounds)	Location
4401	A	Unk.	-Z Wing	B	Unk.	+Z Wing	Note: A + B = 50.2* lb. (4401)		
4402	A	21.0*		B	12.5*				
4403	A	20.0*		B	19.3*				
4404	A	18.4*		B	21.3*		S.A. Exp.	2.8*	+Z Wing
4405	A	32.0*		B	28.0*				
4406	A	21.0*	-Z Wing	B	10.0*	+Z Wing	AA	2.0*	-Z Wing
4407	A	29.9	-Z Wing	B	37.2	+Z Wing	C	4.8	-Z Wing
4408	A	32.5		B	14.8				
4409	A	26.5		B	20.3		Ext. TRG	1.0	+Z Wing
4410	A	27.1		B	26.8		Patt. Gen.	0.5	Motor Bay
4411	A	35.0		B	31.5				
4412	A	34.8		B	31.5				
4413	A	34.6	-Z Wing	B	30.0	+Z Wing			
4417	A	46.6	-Z Wing	B	36.5	+Z Wing	CA	0.3*	-Z Wing
4417	CB1	0.3*		CB2	0.3*		D	2.1	-X End Panel
4418	A	36.0		B	32.5				
4419	A	25.8		B	30.0				
4420	A	35.7		B	35.6				
4421	A	43.2		B	42.8				
4422	A	39.4	-Z Wing	B	41.3	+Z Wing			
4423	A	39.0	-Z Wing	B	36.7	+Z Wing			
4424	A	42.7		B	49.6				
4425	A	52.1		B	51.6		Iso.	4.6*	-Z Wing
4426	A	53.1		B	51.5		Iso.	4.6*	-Z Wing
4427	A	44.5		B	32.5		C	5.9	Motor Bay
4428	A	38.8	-Z Wing	B	35.6	+Z Wing	C	7.6	Top of +X Bay
4429	A	70.1	-Z Wing	B	65.4	+Z Wing			
4430	A	71.6		B	75.6				
4431	A	71.8		B	77.7		Enc.	4.5	-X End of +Z Wing
4432	A	72.5	-Z Wing	B	74.2	+Z Wing			

Unk. = Unknown S.A. Exp. = Solar Array Experiment
Ext. TRG = External (to P/L) Time Reference Generator
Patt. Gen. = Payload Pattern Generator

* = Approximate Weight
Enc. = Downlink Encryptor
Iso. = Sensor A Isolator

P-11 [redacted] Hardware History 25X1

Spacecraft Number	Payload Antenna Complement	
	Designator	Description
4401	A	Monopole (-Y Pointing)
	B	30" X 51" Windowshade, with Log Spiral Pattern (± Y Facing)
4402	A	3' Diameter, Unfurlable Flex Rib Dish (+X Orientation, Elevated 60° from -Y Axis)
	B	Pair of Slotted Waveguides, Mills Cross Form (+Z Orientation, Elevated 60° from -Y Axis)
4403	B	30" X 58.5" Windowshade, with Log Spiral Pattern (± Y Facing)
4404	A	Monopole (-Y Pointing)
	B1	Dual Flying Dipole, Acting as an Interferometer Pair (± Y Pointing)
	B2	Colinear Flying Dipole, Acting as an Interferometer Pair (± Y Pointing)
4405	A	3' Diameter, Unfurlable Flex Rib Dish (+X Orientation, Elevated 60° from -Y Axis)
	B1	Conical, Log Spiral Inhibit, Boom Mounted (+X Orientation, Elevated 60° from -Y Axis)
	B2	Conical, Log Spiral Inhibit, Boom Mounted (-X Orientation, Elevated 60° from +Y Axis)
	C	Flat, Log Spiral Inhibit, Attached to the B2 Boom (+Y Facing, with Resonant Damping Material on the -Y Side of the Spiral)
4406	A	3' Diameter, Unfurlable Flex Rib Dish (+X Orientation, Elevated 60° from -Y Axis)
	B	Pair of Slotted Waveguides, Mills Cross Form (+Z Orientation, Elevated 60° from -Y Axis)
4407	B1	Square, Wire-Wound, Unfurlable, Conical Log Spiral (-Y Pointing)
	B2	30" X 57" Windowshade, with Log Spiral Pattern (±Y Facing)
4408	A	Monopole (-Y Pointing)
	B	Pair of Slotted Waveguides, Mills Cross Form (+Z Orientation, Elevated 60° from -Y Axis)
	SLI-1	Small, Conical, Log Spiral Inhibit (Mounted on End of Deployable Element of B, and -Y Pointing)
	SLI-2	Small, Conical, Log Spiral Inhibit (Boom Mounted, and +Y Pointing)

(Continued)

Spacecraft Number	Designator	Payload Antenna Complement Description
4409	A	60" X 84" Windowshade, with Large, Log Spiral Pattern (± Y Facing)
4410	A1	30" X 57" Windowshade, with Log Spiral Pattern (± Y Facing)
	A2	Conical, Log Spiral, Boom Mounted (-Y Pointing)
4411	A	6' Diameter, Unfurlable Flex Rib Dish (+X Orientation, Elevated 60° from -Y Axis)
	B1	Conical, Log Spiral Inhibit, Boom Mounted (+X, -Z Orientation, Elevated 60° from -Y Axis)
	B2	Conical, Log Spiral Inhibit, Boom Mounted and +Z Pointing
4412	A1	Pair of Skewed, Conical Log Spirals, Operating as a Beam Shaper (+X, -Z Orientation, Elevated 35° from -Y Axis)
	A2	Large, Unfurlable, Conical, Log Spiral, Boom Mounted (-Z Orientation, Elevated 35° from -Y Axis)
	B	30" X 57" Windowshade, with Log Spiral Pattern (± Y Facing)
4413	A1	48" X 96" Windowshade, with 1 Large Log Spiral Pattern and 2 Smaller Log Spiral Patterns (All ± Y Facing) (The Large Pattern acts as an Interferometer Pair with A2, and the 2 Smaller Patterns also act as an Interferometer Pair)
	A2	48" X 48" Windowshade, with Large Log Spiral Pattern (± Y Facing)
4417	A	6' Diameter, Unfurlable Flex Rib Dish (+X Orientation, Elevated 60° from -Y Axis)
	B1	Conical Log Spiral Inhibit, Boom Mounted (+X, -Z Orientation, Elevated 60° from -Y Axis)
	B2	Conical Log Spiral Inhibit, Boom Mounted and +Z Pointing
4418	A1	Pair of Skewed, Conical Log Spirals, Operating as a Beam Shaper (+X, -Z Orientation, Elevated 35° From -Y Axis)
	A2	Large, Unfurlable, Conical Log Spiral, Boom Mounted (-Z Orientation, Elevated 35° from -Y Axis)
	B	30" X 57" Windowshade, with Log Spiral Pattern (± Y Facing)
	C1	Monopole (-Y Pointing)
	C2	Monopole (-Y Pointing)
4419	A	48" X 48" Windowshade, with Log Spiral Pattern (± Y Facing)

(Continued)

Spacecraft Number	Designator	Payload Antenna Complement Description
4420	A	3' Diameter, Unfurlable Flex Rib Dish (+X, -Z Orientation, Elevated $54\frac{1}{2}^{o}$ from -Y Axis)
	B	18" Diameter, Solid Dish, with Waveguide Feed (+Z Orientation, Elevated 53.3^{o} from -Y Axis)
	C1/D1	Conical and Waveguide Inhibits, Boom Mounted (C1 has -X Orientation, Elevated 55^{o} from +Y Axis, and D1 has -Z Orientation, Elevated 55^{o} from the +Y Axis)
	C2/D2	Conical and Waveguide Inhibits, Boom Mounted (C2 has +X Orientation, Elevated 55^{o} from -Y Axis, and D2 has +Z Orientation, Elevated 55^{o} from the -Y Axis)
4421	A	3' Diameter, Unfurlable Flex Rib Dish, Boom Mounted (-Z Orientation, Elevated 55.3^{o} from -Y Axis)
	B	18" Diameter, Solid Dish, with Waveguide Feed (+Z Orientation, Elevated 54.3^{o} from -Y Axis)
	C1/D1	Conical and Waveguide Inhibits, Boom Mounted (C1 has -Z Orientation, Elevated 55^{o} from -Y Axis, and D1 has -Z Orientation, Elevated 55^{o} from +Y Axis)
	C2/D2	Conical and Waveguide Inhibits, Boom Mounted (C2 has +Z Orientation, Elevated 55^{o} from the +Y Axis, and D2 has +Z Orientation, Elevated 55^{o} from the -Y Axis)
4422	A1	Same as A1 on 4418
	A2	Same as A2 on 4418
	B	Same as B on 4418
	C2	Same as C2 on 4418
4423	A1	Large, Unfurlable, Conical Log Spiral, Boom Mounted (With B1) (-Y Pointing, and Operates as an Interferometer Pair with A2)
	A2	Large, Unfurlable, Conical Log Spiral, Boom Mounted (With B2) (-Y Pointing, and Operates as an Interferometer Pair with A1)
	B1	Large, Unfurlable, Conical Log Spiral, Boom Mounted (With A1) (+Y Pointing, and Operates as an Interferometer Pair with B2)
	B2	Large, Unfurlable, Conical Log Spiral, Boom Mounted (With A2) (+Y Pointing, and Operates as an Interferometer Pair with B1)

(Continued)

Spacecraft Number	Designator	Payload Antenna Complement Description
4424	A1	Large, Wire-Wound, Unfurlable, Conical Log Spiral, Boom Mounted (-Y Pointing)
	A2	Unfurlable, Conical Log Spiral, Boom Mounted (-Y Pointing)
	A3	Wire-Wound, Conical Log Spiral, Boom Mounted (-Y Pointing)
	A4/A5	Pair of Conical Log Spiral Units, on a Common Boom and -Y Pointing (The Pair are RHCP and LHCP Wound, and Operate to Obtain Polarity and Power Amplitude Measurements)
4425	A	3' Diameter, Unfurlable Flex Rib Dish, Boom Mounted (-X Orientation, Elevated 55° from -Y Axis)
	B	6' Diameter, Unfurlable Flex Rib Dish (+X Orientation, Elevated 55° from -Y Axis)
	C1/D1	2 Sizes of Conical Log Spiral Inhibits, on a Common Boom (C1 has -X Orientation, Elevated 55° from -Y Axis, and D1 has +X Orientation, Elevated 55° from -Y Axis)
	C2/D2	2 Sizes of Conical Log Spiral Inhibits, on a Common Boom (C2 has +X Orientation, Elevated 55° from +Y Axis, and D2 has -X Orientation, Elevated 55° from +Y Axis)
4426	A	Same as A on 4425
	B	Same as B on 4425
	C1/D1	Same as C1/D1 on 4425
	C2/D2	Same as C2/D2 on 4425
4427	A	6' Diameter, Unfurlable Flex Rib Dish, Boom Mounted (-Y Pointing)
	BH	Pair of Small, Conical Log Spirals, on a Common Boom (-Y Pointing)
	BL	Pair of Large, Conical Log Spirals, on a Common Boom (-Y Pointing)
4428	A1	Same as A1 on 4423
	A2	Same as A2 on 4423
	B1	Same as B1 on 4423
	B2	Same as B2 on 4423
4429	A1	3' Diameter, Unfurlable Flex Rib Dish, Boom Mounted (-X Orientation, Elevated 45° from -Y Axis)
	A2	3' Diameter, Solid Dish, with Waveguide Feed (-Z Orientation, Elevated 45° from -Y Axis)

(4429 Continued on page 12)

Spacecraft Number	Payload Antenna Complement	
	Designator	Description
4429		(Continued)
	B	2' Diameter, Solid Dish, with Waveguide Feed (+Z Orientation, Elevated 45° from -Y Axis)
	C1/D1	Pair of Conical Log Spiral Inhibits, on a Common Boom (-Y Pointing)
	C2/D2	Pair of Conical Log Spiral Inhibits, on a Common Boom (+Y Pointing)
	E1/E2	Pair of Waveguide Inhibit Horns, on a Common Boom (± X Pointing)
4430	A	3' Diameter, Unfurlable Flex Rib Dish, Boom Mounted (-X Orientation, Elevated 55° from -Y Axis)
	B	6' Diameter, Unfurlable Flex Rib Dish (+X Orientation, Elevated 55° from -Y Axis)
	C1C3/D1	2 Sizes of Conical Log Spiral Inhibits and 1 Waveguide Horn Inhibit on a Common Boom Assembly. (C1 and C3 have -X Orientation, Elevated 55° from the -Y Axis, and D1 has +X Orientation, Elevated 55° from the -Y Axis)
	C2/D2	2 Sizes of Conical Log Spiral Inhibits, on a Common Boom Assembly. (C2 has +X Orientation, Elevated 55° from the +Y Axis, and D2 has -X Orientation, Elevated 55° from the +Y Axis)
4431	A	Same as A on 4430
	B	Same as B on 4430
	C1C3/D1	Same as C1C3/D1 on 4430
	C2/D2	Same as C2/D2 on 4430
4432	A1	Same as A1 on 4429
	A2	Same as A2 on 4429
	B	Same as B on 4429
	C1/D1	Same as C1/D1 on 4429
	C2/D2	Same as C2/D2 on 4429
	E1/E2	Same as E1/E2 on 4429

Feb. 24, 1977

MISSION HISTORY

Unit	Rqm'ts In Months	Start	Finish	Life (Mos.)	Remarks
4051	0	Mar 63	Mar 63	0	Agena did not orbit
4201	0	Jul 63	Sep 63	2	Power supply
4001	0	Oct 63	May 65	19	Re-entered/Still working
4101	0	Dec 63	Mar 64	3	Recorder
4301	0	Jul 64	Aug 64	1	Recorder
4202	0	Aug 64	Nov 65	15	Still operating when shut down
4102	0	Oct 64	Oct 64	0	Agena did not orbit
4302	0	Oct 64	Feb 65	4	Re-entered
4401	0	Apr 65	Jan 67	21	Vehicle terminated
4402	0	Jun 65	Mar 67	21	Recorders
4403	0	Aug 65	Jul 67	20	Recorders
4404	0	May 66	May 66	0	Failed
4405	0	Aug 66	Oct 67	14	Recorders
4406	0	Sep 66	Jan 67	4	Recorders
4408	0	May 67	Aug 67	3	No response
4409	0	Jun 67	Oct 68	16	Re-entered
4410	9	Nov 67	Feb 68	3	Payload failure
4412	9	Jan 68	Apr 69	15	Tape recorder failure
4411	9	Mar 68	Mar 69	12	Tape recorder failure
4420	9	Jun 68	Jan 70	18	Re-entered
4413	9	Sep 68	Sep 69	12	Re-entered
4418	9	Mar 69	Sep 70	17	Turned off
4417	9	May 69	Feb 70	10	Re-entered
4419	9	Sep 69	May 71	20	Re-entered
4407	0	Sep 69	Aug 70	11	Deactivated
4422	9	Feb 70	Nov 71	21	Re-entered
4421	9	May 70	Jan 73	32	Killed
4423	9	Nov 70	Jun 74	43	Deactivated
4427	9	Sep 71	Oct 71	1	Payload failed
4424	9	Jan 72		61	~~Operational~~
4425	9	Jul 72		55	~~Operational~~
4426	9	Nov 73		39	~~Operational~~
4428	18	Apr 74		34	~~Operational~~
4429	18	Oct 74		27	~~Operational~~
4430	18	Jul 75		20	Operational

LAUNCHES:
- 32 reached orbit (2 booster failures: 4051, 4102)
- 31 operated (4404 did not operate)

OPERATIONAL SUMMARY

Item	Initiation Date	End Date	Operational Readouts	Comments
4201	7/1/63	9/15/63	130	Terminated
4001	10/30/63	5/22/65	1502	MC
4101	12/19/63	3/9/64	231	TRF
4301	7/6/64	8/6/64	18	TRF
4202	8/4/64	11/1/65	359	MC
4302	10/23/64	2/23/65	490	MC
4401	4/28/65	1/25/67	2308	MC
4402	6/27/65	3/16/67	3385	MC
4403	8/3/65	7/28/67	3244	MC
4404	5/14/66	—	0	Short Circuit Failure
4405	8/16/66	10/15/67	2878	MC
4406	9/16/66	1/20/67	553	TRF
4408	5/9/67	8/11/67	872	No Response
4409	6/16/67	10/22/68	2255	RE
4410	11/2/67	2/9/68	837	PLF
4412	1/24/68	4/10/69	1714	TRF
4411	3/14/68	3/7/69	3068	TRF
4420	6/20/68	1/13/70	4645	RE
4413	9/18/68	9/28/69	3327	RE
4418	3/19/69	9/24/70	2656	No Response
4417	5/1/69	2/16/70	2308	RE
4419	9/22/69	5/16/71	3436	RE
4407	9/30/69	8/17/70	1032	K
4422	3/4/70	11/9/71	5355	RE
4421	5/20/70	1/27/73	4240	MC
4423	11/18/70	6/26/74	12854	MC
4427	9/10/71	11/11/71	190	PLF
4424	1/20/72	4/16/79	12634*	SO *
4425	7/7/72	5/6/78	9322*	SO *
4426	11/10/72	12/25/78	11104*	SO *
4428	4/10/74	—	12779*	SO *
4429	10/29/74	—	9414*	SO *
4430	7/8/76	—	1530*	SO *

* As of 1/11/77

25X1

TO: [redacted]

20 DECEMBER 1967

FROM: [redacted]

SUBJECT: P-989 VEHICLE NUMBERS Vs. OPERATION NUMBERS

THE FOLLOWING IS A LISTING OF ALL VEHICLES WITH THEIR OPERATIONAL NUMBERS USED DURING THEIR OPERATIONAL LIFE.

NOTE: THE OPERATIONAL NUMBERS ARE NOT NECESSARILY IN THE ORDER THEY WERE ASSIGNED.

VEHICLE NUMBER	OPERATIONAL NUMBER(S)
4051	DID NOT MAKE ORBIT
4201	4201 (Before OPS No. were assigned)
4001	2915
4101	1562
4301	4923
4202	3316
4102	DID NOT MAKE ORBIT
4302	5063
4401	6717, 2027, 7738
4402	6749, 7834, 8642
4403	6761, 1839, 1958, 3095, 8689, 8538
4404	6785
4405	8991, 6810, 2979, 1030
4406	6874, 8728
4407	1807 ~~HAS NOT LAUNCHED YET~~
4408	1967
4409	1873
4410	1587
4411	7076 ~~HAS NOT LAUNCHED YET~~
4412	6236 " " " "
4413	2014/8595 " " " "
4417	1721 " " " "
4418	2285 " " " "
4419	4710 " " " "
4420	5259 " " " "
4421	8520
4422	3628 3402
4423	6829

25X1 [redacted]

VEHICLE	OPER'TS	MSN	L/DATE	F/DATE	DUR.	REVS	P/L	NAME	REMARKS
4001	2915	7301	30Oct63	23May65	569/D	8923	P-11	Pundit-I	
4101	1562	7302	22Dec63	Mar64			P-11	Pundit-II	
4102	4972	7303	8Oct64	N/A	None	None	P-11	Pundit-III	
4301	4923	7304	6Jul64	Sep64				Noah's Ark	
4302	5063	7305/6	23Oct64	24Feb64	124/D		Step-13	Plymouth Rock	
4401	(6717,2027,7738)	7309	28Apr65	12Jan68			P-11	Pundit-IV	
4402	(6749,7834,8642)	7307/8	25Jun65	28Jul67	763/D	11,630	P-11	Fanion/Tripos	R/O stopped 16 Mar 67.
4403	(6761,1839,1958)	7312	3Aug65	29Jul67	725/D	11,047	P-11	Magnum	Data NG prior to R/238.R/O S/9May67
	(3095,8689,8538)								
4404	6785	7310/11	14Mar66	28Jul67	501/D		- - -	Leige/Plicat	Did not transmit P/Load data.
4405	(8991,6810,2979)	7314/5	16Aug66	5Dec67		7,221	P-11	Sampan/Sousea II	R/O stopped 15 Oct 67.
	(1030)								
4406	(6874,8728)	7317/18	16Sep66	Taco			P-11	Fanion II/Tripos	R/O Stopped 20 Jan 67.
4407(DC-R405)	1807	7313	30Sep69				P-11	Weston I	R/O stopped 17 Aug 70. Last R/O 4907
4408	1967	7316/19	9May67	8Nov67		1364	P-11	Slewto/FanionIII	R/O stopped 11 Aug 67.
4409	1873	7320	16Jun67				P-11	Savant	R/O stopped 22 Oct 68. R/7587
4410	1587	7321	2Nov67	Taco 2/68			P-11	Facade	R/O on H/L LK 1 & 2 stopped 19 Jan68 R/O on H/L LK 3 & 4 stopped 7 Feb 68
4411	7076	7322/3	14Mar68				P-11	Lampan/SampanII	R/O stopped 7 Mar 69 - R/O R/5464.
4412	6236	7324	24Jan68				P-11	Tivoli	R/O stopped 13 Apr 69 - R/O R/6793
4413	8595	7325	17Sep68				P-11	Vampan III	R/O stopped 27 Sep 69 - R/O R/5749
4417	1721	7328/9	1May69					LampanII/Sampan	R/O stopped 16 Feb 70.
4418	2285	7330	19Mar69	(Bird down 12/6/71 - R/15,313)				Tivoli II	R/O stopped 24 Sep 70 - R/O R/8459.
4419	4710	7336	22Sep69					Savant II II	R/O stopped 16 May 71 - R/O R/9193.
4420	5259	7326/7	19Jun68				P-11	TriposIII/SouseaIII	R/O stopped 11 Jan 70 - R/O R/8813
4421	8520	7332/3	Jan70					TriposIV/Sousea	R/O stopped Mar 72.
4422	3402	7335	4Mar70					Tivoli III	R/O stopped 10 Nov 71 -R/O R/9551
4423	6829	7334	18Nov70					TopHat I	R/O stopped Aug 74.
4424	7719	7339	1Oct71					Mabeli - I	
4425	7803	7338	7Jul72					Ursala I	R/O stopped May 78.
4426	7705	7342	10Nov73					Ursala II	R/O stopped 26 Dec 78.
4427	7681	7337	1Jul71					Arroyo I	R/O stopped 8 Aug 73.

VEHICLE	OPER'TS	MSN	L/DATE	F/DATE	DUR.	REVS	P/L	NAME		REMARKS			
4428	6935	7340	10Apr74					TopHat III					
4429	6239	7341	29Oct74					Raquel I					
4430	5366	7343	9Jul76					Ursala III					
4431	6675	7344	16Mar79					URSALA IV					
4432	7858	7345	17Mar78					Raquel-III					
8066	L-3123	7241	18Jun80					Lori					
4433	6553	7346	11May82					Farrah I					
4434	4774	7347	25Jun84					Farrah II		L-11:47L			

25X1

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VEHICLE	OPER'TS	MSN	L/DATE	F/DATE	DUR.	REVS	T/P/L	NAME		REMARKS			
1635	4750				12/D	210	110/849	2-Bits					
1636	4779	4603	30Mar67		12/D	205	110/849	4-Bits					
1634	4696	4642	9May67		12/D	245	110/849	2-Bits					
1633	3559	4605	13Jun67		12/D	- - -	110/849	2-Bits					
1637	4827	- - -	4Aug67	23Aug67	19/D	245	110/849	4-Bits					
1641	5089	4308	15Sep67		- -	245	110/849	4-Bits					
1639	0562	- - -	2Nov67		- -	- -	110/849	4-Bits					
4760	5000	- - -	5Dec67	17Dec67	12/D	179	110	4-Bits					
1642	1001	4609	9Dec67		15/D	225	846	4-Bits					
1640	2243	4613	24Jan68				846	4-Bits					
1638	4849		14Mar68				846	4-Bits					
4713	5057	4312	13Mar68				110	5-Bits					
4763	5105	4313	17Apr68				110	4-Bits					
1643	1419		1May68				846	4-Bits					
4764	5138	4314	5Jun68				110	5-Bits					
1645	5343		21Jun68				846	5-Bits					
1644	5955		7Aug68				846	4-Bits					
4765	5187	4315	6Aug68	10Aug68	4/D	81	110	5-Bits					

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VEHICLE	OPER'TS	MSN	L/DATE	F/DATE	DUR.	REVS	T/P/L	NAME	REMARKS
2354	3231	7210	11Jan64	30Jan64	- -	- -	NLR	Hayloft HI	
2355	3762	- -	21Dec64	26Dec64	- -	- -	P-40	Snooper	
2701	4988	- -	9Mar65	- -	- -	- -	- -	Oscar	
2702	8411	7010	16Jul65	9Sep65	56/D	770	P-19/Ail-BD		
		7158							
		7226							
2703	5473/1439	7160	9Feb66	6Sep66	210/D	3177	AiL-Setter		
		7228							
2705	5873	7159							Cancelled
2731	1584	7161	29Dec66	9May67	132/D		Multi-Group Setter		
2732	1879	7162	24Jul67				Multi-Group Setter-DSU		7162 & Donkey stopped Feb 68
		7230							7230 stopped R/O 17 Dec 67.
		7231							
2733	1965	7232	17Jan67						
		7163							
2734	0964	7233	Oct68				Thresher		
	8281	7164					Reaper-DSU		
2735	8285	7165	Jul69				Thresher		
		7234					Reaper		
2736	8329	7166	Aug70				Thresher		
		7235					Reaper		
2737	8373	7167					Thresher		
		7236					Reaper		
		7240					Harvester		
827	7092		Aug68	Aug68	20/D				

Approved for Release: 2024/08/06 C05098681

~~SECRET~~ NOFORN INTERIM

INTERDEPARTMENTAL COMMUNICATION

DESTROY NO LATER THAN [redacted]

TO	Distribution	DEPT./ ORGN.	BLDG./ ZONE	PLANT/ FAC.	DATE	May 13, 1981
FROM	[redacted]	DEPT./ ORGN. 68-20	BLDG./ ZONE 152	PLANT/ FAC. 1	EXT.	32426

SUBJECT PROGRAM HISTORY DOCUMENT

It has been requested that we submit a document relating to the history of this Program. Along this line, I am looking for photographs of the following spacecraft:

25X1

Vehicle #	Vehicle Name
4051	Hitch Hiker I
4201	Hitch Hiker II
4001	Pundit I
4101	Pundit II
4301	Noah's Arc
4202	Hitch Hiker III
4302	Step 13 & Plymouth Rock "L"
4401	Pundit IV
4403	Magnum
4404	Leige/Plicat
4406	Fanion II/Tripos II
4411	Sampan II/Lampan I
4428	Tophat II

If you have a photograph of any of the listed spacecraft, please loan same to [redacted] so that she can get a copy made for this document. 25X1

Thank you.

[redacted] - Technical

VBH/sk

~~SECRET~~ [redacted] NOFORN INTERIM 25X1

~~SECRET E~~ WORKING MATERIAL

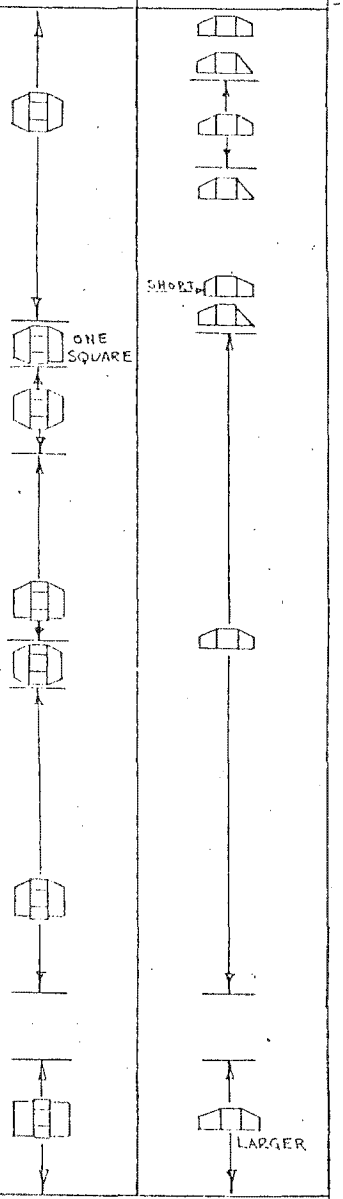
25X1

P-11 [redacted] Hardware History

Spacecraft Number	Launch Sequence	Launch Date	Host Program	Contract Number	On-Orbit Contract Period (Months)	On-Orbit Operational Life (Months)	Spacecraft Total Weight (Pounds)	Spacecraft Structural Volume (Cubic Inches)	Spacecraft Structural Type
4401	1	4/28/65	206	548	6	21	218.5	10834	L
4402	2	6/27/65	206	638	6	21	216.0	10592	ML
4403	3	8/3/65	206	638	6	20	205.2	10834	L
4404	4	5/14/66	206	638	6	0	224.2	10834	L
4405	5	8/16/66	206	638	6	14	267.0	10834	L
4406	6	9/16/66	206	638	6	4	223.6	10592	ML
4407	17	9/30/69	770	DP-1	0	11	248.2	10368	ML
4408	7	5/9/67	846	775	6	3	225.7	10592	ML
4409	8	6/16/67	846	775	6	16	242.5	11041	ML
4410	9	11/2/67	846	DP-1	9	3	228.4	10834	L
4411	11	3/14/68	846	DP-1	9	12	284.9	10834	L
4412	10	1/24/68	846	DP-1	9	15	275.0	10834	L
4413	13	9/18/68	846	DP-1	9	12	259.7	11232	ML
4417	15	5/1/69	846	DP-1	9	10	364.7	11647	H
4418	14	3/19/69	846	DP-1	9	18	333.6	11647	H
4419	16	9/22/69	846	DP-1	9	20	319.3	11647	H
4420	12	6/20/68	846	DP-1	9	18	278.7	10834	L
4421	19	5/20/70	846	P-2	9	32	333.4	11647	H
4422	18	3/4/70	846	P-2	9	20	343.5	11647	H
4423	20	11/18/70	846	P-2	9	43	333.5	11647	H
4424	22	1/20/72	467	P-2	9	TBD	380.1	11647	H
4425	23	7/7/72	467	P-2	9	TBD	390.9	11647	H
4426	24	11/10/73	467	P-2	9	TBD	393.2	11647	H
4427	21	9/10/71	846	P-2	9	1	375.3	11647	H
4428	25	4/10/74	467	PK-3	18	TBD	378.2	11647	H
4429	26	10/29/74	467	PK-3	18	TBD	541.9	13972	CI
4430	27	TBD	467	PK-3	18	TBD	555.4*	13972	CI
4431	TBD	TBD	467*	PK-3	18	TBD	TBD	13972	CI
4432	TBD	TBD	467*	PK-3	18	TBD	TBD	13972	CI

Spacecraft Shape

Plan View | + X End View



TBD= To Be Determined
*= Tentative
L= Light
ML= Modified Light
H= Heavy
CI= Cast Iron (Nick Name)

~~SECRET E~~ WORKING MATERIAL

P-11 [ ] Hardware History

25X1

Spacecraft Number	Payload Code Name	No. of Major Payload Boxes	Total Payload Box Weight (Pounds)	Total Payload Box Volume (Cubic Inches)	Solar Array Arrangement: No. Of Deployable Frames (by-Frame Type) 6	10	11	14	16	17	24	Number of Fixed Modules	Total Modules
4401	Pundit IV	2	50.2	2212	2		2					18	52
4402	Fanion I/Tripos I	2	33.5	1521	3		2					16	56
4403	Magnum	2	39.3	2316	2		2					18	52
4404	Leige/Plicat	2*	39.7*	1728	3		2					12	52
4405	Sampan I/Sousea I	2	50.0	2281	4		2					17	63
4406	Fanion II/Tripos II	2	30.8	1279	3		2					16	56
4407	Weston	3	71.96	2837	2		2					23	57
4408	Fanion III/Slewto	2	37.30	1570	3		2					24	64
4409	Savant I	2	46.80	2430	2	2	2					23	77
4410	Facade	2	53.90	2860	2	2	2					20	74
4411	Sampan II/Lampan I	2	66.50	2429	2	2	1					16	59
4412	Tivoli I	2	66.30	2840	2	2	2					19	73
4413	Vampan	2	64.70	2413	2	2	2					19	73
4417	Sampan III/Lampan II	3	85.10	2737			1	2	2			15	86
4418	Tivoli II	2	68.53	2840			2	2	2			13	95
4419	Savant II	2	55.77	2627			2	2	2			19	101
4420	Tripos III/Sousea II	2	71.30	2840	2	2	2					14	68
4421	Tripos IV/Sousea III	2	86.00	3352			2	2	2			16	98
4422	Tivoli III	2	80.74	3083			2	2	2			12	94
4423	Tophat I	2	75.65	3367			2**	2**	2			14	95
4424	Mabeli	2	92.30	3338			2	2**	2			9	90
4425	Ursala I	2	103.60	3166			2	2**	2			9	90
4426	Ursala II	2	104.58	3166			2	2**	2			9	90
4427	Arroyo	3	82.90	3587			2	2	2			7	89
4428	Tophat II	3	81.89	3454			2**	2**	2			10	90
4429	Raquel I	2	135.47	4686						2	4	6	136
4430	Ursala III	2	147.18	4686						2	4	10	140
4431	Ursala IV	2	146.63	4686						2	4	10	140
4432	Raquel IA	2	TBD	TBD						2	4	TBD	TBD

*Exclusive of Solar Array Experiment

**One solar module missing for each symbol

~~SECRET E~~

WORKING MATERIAL

25X1

P-11 [redacted] Hardware History

Spacecraft Number	Command System Designation	Control Programmer	Command Module	Telemetry/Command Unit	Receiver/ Demodulator	Decoders	Commutators: 1 X 60	Commutators: 5 X 60	Commutators: 5 X 90	VCOs (External to P/L)	Command System Mod. Amps.	Data Conditioner	Timers: Single Event: GV Type (Spin-Up)	Timers: Single Event: CT Type & Oscillator	Timers: Multiple Event: Ground Program: 3 Deck	Timers: Multiple Event: Ground Program: 4 Deck	Timers: Multiple Event: Orbit Programmable: 3 Deck	Timers: Multiple Event: Orbit Programmable: 4 Deck	Timers: Multiple Event: Orbit Programmable: Dual
4401	Zombie	1			1	3	2			4	4	1	1	2		1			
4402		1			1	2	1			4	1		1	1		1			
4403		1			1	2	1			4	1		1	1		1			
4404		1			1	2	1			4	1		1	1		1			
4405		1			1	2	1			4	1		1	1		1			
4406		1			1	2	1			4	1		1	1		1			
4407	Uncle		1		1	1		1		4					1				
4408			1		1	1		1		3					1				
4409			1		1	1		1		3					1				
4410			1		1	1		1		3					1				
4411			1		1	1		1		4					1				
4412			1		1	1		1		4					1				
4413			1		1	1		1		4					1				
4417	Uncle		1		1	1		1		4							1		
4418			1		1	1			1	4							1		
4419			1		1	1			1	4							1		
4420			1		1	1		1		4							1		
4421			1		1	1			1	4							1		
4422			1		1	1			1	4								1	
4423	Uncle		1		1	1			1	4							1		
4424			1		1	1			1	4								1	
4425			1		1	1			1	4								1	
4426			1		1	1			1	4								1	
4427			1		1	1			1	4								1	
4428			1		1	1			1	4								1	
4429	SCLS			1	2	2													1
4430				1	2	2													1
4431				1	2	2													1
4432				1	2	2													1

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WORKING MATERIAL

~~SECRET~~ E

WORKING MATERIAL

25X1

P-11 [redacted] Hardware History

Spacecraft Number	Transmitters			Multiplexing System								Telemetry/Command Antennas							
	VHF	S-Band		VHF	S-Band							VHF		UHF		S-Band		SGLS	
	Agena Type	Varactor Tube Type	Solid State Type	4 Barrel (Transmit)	2 Barrel (Receive)	2 Barrel (Transmit)	3 Barrel (Transmit)	4 Barrel (Transmit)	RF Switch (Transmit)	RF Filter (Transmit)	RF Switch (Tran/Rec)	Command	Telemetry	-Y Command	+Y Command	-Y Telemetry	+Y Telemetry	-Y T/C-1	+Y T/C-2
4401	4			1								M	M						
4402	4			1								M	D						
4403	4			1								M	D						
4404	4			1								M	D						
4405	4			1								M	D						
4406	4			1								M	D						
4407	4			1									D	D					
4408	4	1		1									D	D		SC			
4409	1	2				1							D	D		SC			
4410	4			1									MGP	D					
4411	4			1									MGP	D					
4412	1	2				1							D	D		SC			
4413	4			1									MGP	M					
4417	4			1									MGP	M					
4418	1	2				1			1				D	M		SC			
4419	1	2				1			1	1			D	M		CS	CS		
4420	4			1									MGP	M					
4421		2				1			1	1				M		CS	CS		
4422		2				1			1	1				M		CS	CS		
4423		2	1				1		1	1				M		CS	CS		
4424		2	2					1	1						D	CS	CS		
4425			4					1	1						D	CS	CS		
4426			4					1	1						D	CS	CS		
4427		2	1				1		1						D	CS	CS		
4428			3				1		1					M		CS	CS		
4429			4		1			1			1							CS	CS
4430			4		1			1			1							CS	CS
4431			4		1			1			1							CS	CS
4432			4		1			1			1							CS	CS

M = Monopole D = Dipole MGP = Monopole with Ground Plane

SC = Slotted Cylinder CS = Conical Spiral

~~SECRET~~ E

WORKING MATERIAL

~~SECRET~~ E

WORKING MATERIAL

P-11 Hardware History

25X1

Spacecraft Number	Tape Recorders					Power Storage & Control System								Pyro System				
	150 KHz			1 MHz		Battery		PCU										
	← RI/RO Ratio →																	
	1/1	2/1	4/1	1/1	4/2/1	2 Electrode Type	3 Electrode Type	Single	Dual	Charge Control Unit	Power Dist. & Control Assy.	Ext. Current Monitors	Arm Plugs	Pyro Programmer	Pin Pullers	Spin-Up System Devices	$8\frac{1}{2}$" Diameter Orb. Boost Mot.	12" Diameter Orb. Boost Mot.
4401		1*	1*			1		1					1	1	2	C.G.	2	
4402		■	2*			1		1					1	1	3	C.G.	2	
4403	1*	■	1*			1		1					1	1	2	C.G.	2	
4404	1	2*				1		1					1	1	3	C.G.	2	
4405		2				1		1					1	1	4	C.G.	2	
4406			2			1		1					1	1	4	C.G.	2	
4407		2				1		1					1	1	2	C.G.	2	
4408			2		1	1		1					1	1	4	C.G.	1	
4409					2	1		1					1	1	3	2 S.R.	2	
4410		2				1		1					1	1	4	2 S.R.	2	
4411		2				1		1					1	1	6	2 S.R.	2	
4412					2	1		1					1	1	4	2 S.R.	2	
4413		2				1		1					1	1	4	2 S.R.	2	
4417		2				2			1			3	2	1	8	2 S.R.	2	
4418					2	2			1			3	2	1	5	2 S.R.	2	
4419				1	2	2			1			3	2	1	5	2 S.R.	2	
4420		2				1		1					2	1	7	2 S.R.	2	
4421					3	1		1				1	2	1	7	2 S.R.	2	
4422					3	2			1	1		3	2	1	5	2 S.R.	2	
4423		3				1		1					2	1	4	2 S.R.	2	
4424					3	1		1				1	2	1	6	2 S.R.	2	
4425					3	1		1				1	2	1	8	2 S.R.	2	
4426					3	1		1				1	2	1	8	2 S.R.	2	
4427			2			1		1					2	1	6	2 S.R.	2	
4428			3			2			1			3	2	1	4	2 S.R.	2	
4429					3		2		1	2	2	2	2	1	8	3 S.R.	1	1
4430					3		2		1	2	2	2	2	1	6	3 S.R.		2
4431					3		2		1	2	2	2	2	1	6	3 S.R.		2
4432					3		2		1	2	2	2	2	1	8	3 S.R.		2

C. G. = Cold Gas System (Gas Bottle, Pyro Valve, Tubing and 2 Nozzles)

S. R. = Solid Propellant Spin Rockets

* 100 KHz Bandwidth (8 Units)

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WORKING MATERIAL

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25X1

P-11 [redacted] Hardware History

Spacecraft Number	Attitude Control System									Miscellaneous Items						
	Sensors			ACS		SRCS		Balance Booms	Wobble Damper	Solar Array Experiment	TRG (External to Pay Loads)	Payload Pattern Gen.	Ascent Accelerometer	Erection Motors		
	Horizon Sensor	Sun Sensor	Shift Register	Coil	Control Unit	Coil	Control Unit							Payload Antennas	Balance Booms	Solar Panels
4401	1	1	0						1							
4402	1	1	1						1	1*						
4403	1	1	1						1							
4404	1	1	1						1	1**						
4405	1	1	1						1							
4406	1	3	1						1							
4407	1	1	1						1							
4408	1	3	1						1							
4409	1	1	1						1		1					
4410	1	1	1						1			1	2			
4411	1	3	1						1							
4412	1	1	1						1							
4413	1	3	1						1							
4417	1	3	1						1							
4418	1	3	1						1							
4419	1	2	1						1							
4420	1	3	1						1							
4421	1	3	1						1							
4422	1	2	1	1	1				1							
4423	1	3	1						1					2		
4424	1	3	1	1	1	1	1	2	1					3	2*	
4425	2	3	1	1	1	1	1		1					1		
4426	2	3	1	1	1	1	1		1					1		
4427	1	3	1	1	1			2	1					3	2*	
4428	2	3	1	1	1	1	1		1					2		
4429	2	4	Dual	Dual	2	1	1		1							6*
4430	2	4	Dual	Dual	2	1	1		1							6*
4431	2	4	Dual	Dual	2	1	1		1							6*
4432	2	4	Dual	Dual	2	1	1		1							6*

* = 4 Modules ** = 3 Modules *= Dual Type Motor

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P-11 Hardware History

25X1

Spacecraft Number	Payload Box Designations, Weights and Locations								
	Designation	Weight (Pounds)	Location	Designation	Weight (Pounds)	Location	Designation	Weight (Pounds)	Location
4401	A	Unk.	-Z Wing	B	Unk.	+Z Wing	Note: A + B = 50.2* lb. (4401)		
4402	A	21.0*		B	12.5*				
4403	A	20.0*		B	19.3*				
4404	A	18.4*		B	21.3*		S.A. Exp.	2.8*	+Z Wing
4405	A	32.0*		B	28.0*				
4406	A	21.0*	-Z Wing	B	10.0*	+Z Wing	AA	2.0*	-Z Wing
4407	A	29.9	-Z Wing	B	37.2	+Z Wing	C	4.8	-Z Wing
4408	A	32.5		B	14.8				
4409	A	26.5		B	20.3		Ext. TRG	1.0	+Z Wing
4410	A	27.1		B	26.8		Patt. Gen.	0.5	Motor Bay
4411	A	35.0		B	31.5				
4412	A	34.8		B	31.5				
4413	A	34.6	-Z Wing	B	30.0	+Z Wing			
4417	A	46.6	-Z Wing	B	36.5	+Z Wing	CA	0.3*	-Z Wing
4417	CB1	0.3*		CB2	0.3*		D	2.1	-X End Panel
4418	A	36.0		B	32.5				
4419	A	25.8		B	30.0				
4420	A	35.7		B	35.6				
4421	A	43.2		B	42.8				
4422	A	39.4	-Z Wing	B	41.3	+Z Wing			
4423	A	39.0	-Z Wing	B	36.7	+Z Wing			
4424	A	42.7		B	49.6				
4425	A	52.1		B	51.6		Iso.	4.6*	-Z Wing
4426	A	53.1		B	51.5		Iso.	4.6*	-Z Wing
4427	A	44.5		B	32.5		C	5.9	Motor Bay
4428	A	38.8	-Z Wing	B	35.6	+Z Wing	C	7.6	Top of +X Bay
4429	A	70.1	-Z Wing	B	65.4	+Z Wing			
4430	A	71.6		B	75.6				
4431	A	71.1		B	75.5		TBD	TBD	TBD
4432	A	TBD	-Z Wing	B	TBD	+Z Wing			

Unk. = Unknown S.A. Exp. = Solar Array Experiment * = Approximate Weight
Ext. TRG = External (To Payload) Time Reference Generator
Patt. Gen. = Payload Pattern Generator Iso. = Sensor A Isolator

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P-11 [redacted] Hardware History

25X1

Spacecraft Number	Payload Antenna Complement	
	Designator	Description
4401	A	Monopole (-Y Pointing)
	B	30" X 51" Windowshade, with Log Spiral Pattern (± Y Facing)
4402	A	3' Diameter, Unfurlable Flex Rib Dish (+X Orientation, Elevated 60° from -Y Axis)
	B	Pair of Slotted Waveguides, Mills Cross Form (+Z Orientation, Elevated 60° from -Y Axis)
4403	B	30" X 58.5" Windowshade, with Log Spiral Pattern (± Y Facing)
4404	A	Monopole (-Y Pointing)
	B1	Dual Flying Dipole, Acting as an Interferometer Pair (± Y Pointing)
	B2	Colinear Flying Dipole, Acting as an Interferometer Pair (± Y Pointing)
4405	A	3' Diameter, Unfurlable Flex Rib Dish (+X Orientation, Elevated 60° from -Y Axis)
	B1	Conical, Log Spiral Inhibit, Boom Mounted (+X Orientation, Elevated 60° from -Y Axis)
	B2	Conical, Log Spiral Inhibit, Boom Mounted (-X Orientation, Elevated 60° from +Y Axis)
	C	Flat, Log Spiral Inhibit, Attached to the B2 Boom (+Y Facing, with Resonant Damping Material on the -Y Side of the Spiral)
4406	A	3' Diameter, Unfurlable Flex Rib Dish (+X Orientation, Elevated 60° from -Y Axis)
	B	Pair of Slotted Waveguides, Mills Cross Form (+Z Orientation, Elevated 60° from -Y Axis)
4407	B1	Square, Wire-Wound, Unfurlable, Conical Log Spiral (-Y Pointing)
	B2	30" X 57" Windowshade, with Log Spiral Pattern (±Y Facing)
4408	A	Monopole (-Y Pointing)
	B	Pair of Slotted Waveguides, Mills Cross Form (+Z Orientation, Elevated 60° from -Y Axis)
	SLI-1	Small, Conical, Log Spiral Inhibit (Mounted on End of Deployable Element of B, and -Y Pointing)
	SLI-2	Small, Conical, Log Spiral Inhibit (Boom Mounted, and +Y Pointing)

(Continued)

P-11 Hardware History

25X1

Spacecraft Number	Payload Antenna Complement	
	Designator	Description
4409	A	60" X 84" Windowshade, with Large, Log Spiral Pattern (± Y Facing)
4410	A1	30" X 57" Windowshade, with Log Spiral Pattern (± Y Facing)
	A2	Conical, Log Spiral, Boom Mounted (-Y Pointing)
4411	A	6' Diameter, Unfurlable Flex Rib Dish (+X Orientation, Elevated 60° from -Y Axis)
	B1	Conical, Log Spiral Inhibit, Boom Mounted (+X, -Z Orientation, Elevated 60° from -Y Axis)
	B2	Conical, Log Spiral Inhibit, Boom Mounted and +Z Pointing
4412	A1	Pair of Skewed, Conical Log Spirals, Operating as a Beam Shaper (+X, -Z Orientation, Elevated 35° from -Y Axis)
	A2	Large, Unfurlable, Conical, Log Spiral, Boom Mounted (-Z Orientation, Elevated 35° from -Y Axis)
	B	30" X 57" Windowshade, with Log Spiral Pattern (± Y Facing)
4413	A1	48" X 96" Windowshade, with 1 Large Log Spiral Pattern and 2 Smaller Log Spiral Patterns (All ± Y Facing) (The Large Pattern acts as an Interferometer Pair with A2, and the 2 Smaller Patterns also act as an Interferometer Pair)
	A2	48" X 48" Windowshade, with Large Log Spiral Pattern (± Y Facing)
4417	A	6' Diameter, Unfurlable Flex Rib Dish (+X Orientation, Elevated 60° from -Y Axis)
	B1	Conical Log Spiral Inhibit, Boom Mounted (+X, -Z Orientation, Elevated 60° from -Y Axis)
	B2	Conical Log Spiral Inhibit, Boom Mounted and +Z Pointing
4418	A1	Pair of Skewed, Conical Log Spirals, Operating as a Beam Shaper (+X, -Z Orientation, Elevated 35° From -Y Axis)
	A2	Large, Unfurlable, Conical Log Spiral, Boom Mounted (-Z Orientation, Elevated 35° from -Y Axis)
	B	30" X 57" Windowshade, with Log Spiral Pattern (± Y Facing)
	C1	Monopole (-Y Pointing)
	C2	Monopole (-Y Pointing)
4419	A	48" X 48" Windowshade, with Log Spiral Pattern (± Y Facing)

(Continued)

Spacecraft Number	Designator	Payload Antenna Complement Description
4420	A	3' Diameter, Unfurlable Flex Rib Dish (+X, -Z Orientation, Elevated 54½° from -Y Axis)
	B	18" Diameter, Solid Dish, with Waveguide Feed (+Z Orientation, Elevated 53.3° from -Y Axis)
	C1/D1	Conical and Waveguide Inhibits, Boom Mounted (C1 has -X Orientation, Elevated 55° from +Y Axis, and D1 has -Z Orientation, Elevated 55° from the +Y Axis)
	C2/D2	Conical and Waveguide Inhibits, Boom Mounted (C2 has +X Orientation, Elevated 55° from -Y Axis, and D2 has +Z Orientation, Elevated 55° from the -Y Axis)
4421	A	3' Diameter, Unfurlable Flex Rib Dish, Boom Mounted (-Z Orientation, Elevated 55.3° from -Y Axis)
	B	18" Diameter, Solid Dish, with Waveguide Feed (+Z Orientation, Elevated 54.3° from -Y Axis)
	C1/D1	Conical and Waveguide Inhibits, Boom Mounted (C1 has -Z Orientation, Elevated 55° from -Y Axis, and D1 has -Z Orientation, Elevated 55° from +Y Axis)
	C2/D2	Conical and Waveguide Inhibits, Boom Mounted (C2 has +Z Orientation, Elevated 55° from the +Y Axis, and D2 has +Z Orientation, Elevated 55° from the -Y Axis)
4422	A1	Same as A1 on 4418
	A2	Same as A2 on 4418
	B	Same as B on 4418
	C2	Same as C2 on 4418
4423	A1	Large, Unfurlable, Conical Log Spiral, Boom Mounted (With B1) (-Y Pointing, and Operates as an Interferometer Pair with A2)
	A2	Large, Unfurlable, Conical Log Spiral, Boom Mounted (With B2) (-Y Pointing, and Operates as an Interferometer Pair with A1)
	B1	Large, Unfurlable, Conical Log Spiral, Boom Mounted (With A1) (+Y Pointing, and Operates as an Interferometer Pair with B2)
	B2	Large, Unfurlable, Conical Log Spiral, Boom Mounted (With A2) (+Y Pointing, and Operates as an Interferometer Pair with B1)

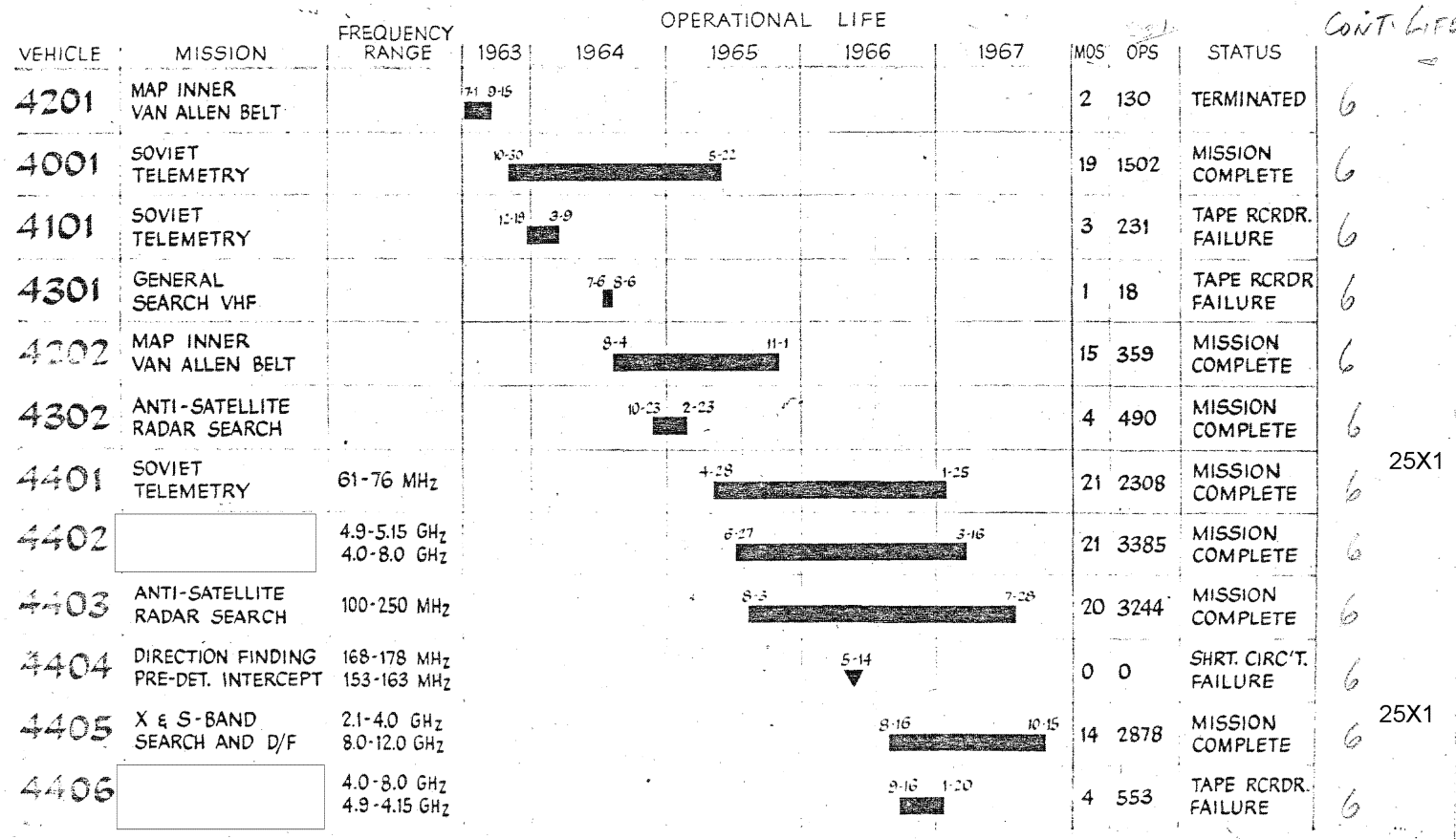
(Continued)

Spacecraft Number	Payload Antenna Complement	
	Designator	Description
4424	A1	Large, Wire-Wound, Unfurlable, Conical Log Spiral, Boom Mounted (-Y Pointing)
	A2	Unfurlable, Conical Log Spiral, Boom Mounted (-Y Pointing)
	A3	Wire-Wound, Conical Log Spiral, Boom Mounted (-Y Pointing)
	A4/A5	Pair of Conical Log Spiral Units, on a Common Boom and -Y Pointing (The Pair are RHCP and LHCP Wound, and Operate to Obtain Polarity and Power Amplitude Measurements)
4425	A	3' Diameter, Unfurlable Flex Rib Dish, Boom Mounted (-X Orientation, Elevated 55° from -Y Axis)
	B	6' Diameter, Unfurlable Flex Rib Dish (+X Orientation, Elevated 55° from -Y Axis)
	C1/D1	2 Sizes of Conical Log Spiral Inhibits, on a Common Boom (C1 has -X Orientation, Elevated 55° from -Y Axis, and D1 has +X Orientation, Elevated 55° from -Y Axis)
	C2/D2	2 Sizes of Conical Log Spiral Inhibits, on a Common Boom (C2 has +X Orientation, Elevated 55° from +Y Axis, and D2 has -X Orientation, Elevated 55° from +Y Axis)
4426	A	Same as A on 4425
	B	Same as B on 4425
	C1/D1	Same as C1/D1 on 4425
	C2/D2	Same as C2/D2 on 4425
4427	A	6' Diameter, Unfurlable Flex Rib Dish, Boom Mounted (-Y Pointing)
	BH	Pair of Small, Conical Log Spirals, on a Common Boom (-Y Pointing)
	BL	Pair of Large, Conical Log Spirals, on a Common Boom (-Y Pointing)
4428	A1	Same as A1 on 4423
	A2	Same as A2 on 4423
	B1	Same as B1 on 4423
	B2	Same as B2 on 4423
4429	A1	3' Diameter, Unfurlable Flex Rib Dish, Boom Mounted (-X Orientation, Elevated 45° from -Y Axis)
	A2	3' Diameter, Solid Dish, with Waveguide Feed (-Z Orientation, Elevated 45° from -Y Axis)

(4429 Continued on page 12)

Spacecraft Number	Payload Antenna Complement	
	Designator	Description
4429		(Continued)
	B	2' Diameter, Solid Dish, with Waveguide Feed (+Z Orientation, Elevated 45° from -Y Axis)
	C1/D1	Pair of Conical Log Spiral Inhibits, on a Common Boom (-Y Pointing)
	C2/D2	Pair of Conical Log Spiral Inhibits, on a Common Boom (+Y Pointing)
	E1/E2	Pair of Waveguide Inhibit Horns, on a Common Boom (± X Pointing)
4430	A	3' Diameter, Unfurlable Flex Rib Dish, Boom Mounted (-X Orientation, Elevated 55° from -Y Axis)
	B	6' Diameter, Unfurlable Flex Rib Dish (+X Orientation, Elevated 55° from -Y Axis)
	C1/D1	2 Sizes of Conical Log Spiral Inhibits, on a Common Boom (C1 has -X Orientation, Elevated 55° from -Y Axis, and D1 has +X Orientation, Elevated 55° from -Y Axis)
	C2/D2	2 Sizes of Conical Log Spiral Inhibits, on a Common Boom (C2 has +X Orientation, Elevated 55° from +Y Axis, and D2 has -X Orientation, Elevated 55° from +Y Axis)
4431	A	Same as A on 4430
	B	Same as B on 4430
	C1/D1	Same as C1/D1 on 4430
	C2/D2	Same as C2/D2 on 4430
4432	A1	Same as A1 on 4429
	A2	Same as A2 on 4429
	B	Same as B on 4429
	C1/D1	Same as C1/D1 on 4429
	C2/D2	Same as C2/D2 on 4429
	E1/E2	Same as E1/E2 on 4429

FLIGHT SUMMARY



VEHICLE	MISSION	FREQUENCY RANGE	MOS	OPS	STATUS	CONT. LIFE
4201	MAP INNER VAN ALLEN BELT		2	130	TERMINATED	6
4001	SOVIET TELEMETRY		19	1502	MISSION COMPLETE	6
4101	SOVIET TELEMETRY		3	231	TAPE RCRDR. FAILURE	6
4301	GENERAL SEARCH VHF		1	18	TAPE RCRDR FAILURE	6
4202	MAP INNER VAN ALLEN BELT		15	359	MISSION COMPLETE	6
4302	ANTI-SATELLITE RADAR SEARCH		4	490	MISSION COMPLETE	6
4401	SOVIET TELEMETRY	61-76 MHz	21	2308	MISSION COMPLETE	6
4402		4.9-5.15 GHz 4.0-8.0 GHz	21	3385	MISSION COMPLETE	6
4403	ANTI-SATELLITE RADAR SEARCH	100-250 MHz	20	3244	MISSION COMPLETE	6
4404	DIRECTION FINDING PRE-DET. INTERCEPT	168-178 MHz 153-163 MHz	0	0	SHRT. CIRC'T. FAILURE	6
4405	X & S-BAND SEARCH AND D/F	2.1-4.0 GHz 8.0-12.0 GHz	14	2878	MISSION COMPLETE	6
4406		4.0-8.0 GHz 4.9-4.15 GHz	4	553	TAPE RCRDR. FAILURE	6

25X1

25X1

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25X1

FLIGHT SUMMARY

Cont. Life

VEHICLE	MISSION	FREQUENCY RANGE	OPERATIONAL LIFE 1967	1968	1969	1970	1971	MOS	OPS	STATUS	
4402		4.9-5.15 GHz 154-162 MHz	5-9 8-11					3	872	NO RESPONSE	9
4406	SOVIET TELEMETRY	60-62 164-166 65-67 180-182 70-72 239-241 75-77 MHz	6-16		10-22			16	2255	RE-ENTERED	9
4410	GENERAL SEARCH SOV. ABM & AES RDR.	2.50-2200 MHz	11-2 2-9					3	837	PAYLOAD FAILURE	9
4412	DIR. SEARCH & PRE-D. T. ANAL of ABM-AES RDR	0.1-4.0 GHz	1-24		4-10			15	1714	TAPE RCRDR FAILURE	9
4414	GENERAL SEARCH SOV. ABM & AES RDR.	2.1-4.0 GHz 1.0-2.0 GHz	3-14		3-7			12	3068	TAPE RCRDR FAILURE	9
4420	GENERAL SEARCH & EOB	4.0-8.0 GHz 8.0-12.0 GHz	6-20		1-13			18	4645	RE-ENTERED	9
4413	GENERAL SEARCH SOV. ABM & AES RDR.	0.1-1.0 GHz	9-18		9-28			12	3327	RE-ENTERED	9
4416	DIR. SEARCH & PRE-D T. ANAL of ABM-AES RDR.	0.5 4.0 GHz	3-19		9-24			18	2656	DORMANT	9
4417	GENERAL SEARCH SOV. ABM & AES RDR	2.1-4.0 GHz 1.0-2.0 GHz	5-1		2-16			10	2308	RE-ENTERED	9
4419	SOVIET TELEMETRY	61-76, MHz 145-248 MHz	9-22				5-16	20	3436	RE-ENTERED	9
4407	DIR. SEARCH of COMM. MICROWAVE	60-70 MHz 360-420 MHz	9-30		8-17			11	1032	KILLED	9

25X1

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FLIGHT SUMMARY

VEHICLE	MISSION	FREQ RANGE	OPERATIONAL LIFE (1970 1971 1972 1973 1974 1975)	MOS	OPS	STATUS
4422	GENERAL SEARCH AND DIRECTED SEARCH - SOV ABM & AES RADARS	50-4020 MHz	3-4 to 11-9	20	5355	RE-ENTERED
4421	GENERAL SEARCH AND EOB MISSION FOR PULSED RADARS	4000-8000 MHz 8000-12000 MHz	5-20	32	4240	MISSION COMPLETE
4423	LOCATION & TECHNICAL INTELL., TROPOSPHERIC SCATTER COMM. LINKS	450-1000 MHz	11-18	43	12854	MISSION COMPLETE
4427	MICROWAVE LOCATOR DETERMINE FREQUENCY FORMAT, BEAM DIRECTN.	1.2-2.2 GHz 3.4-3.9 GHz	9-10 11-11	1	190	P/L FAILED
4424	ABMR DIRECTED SEARCH & TECH. INTELLIGENCE POLARIZATION & POWER	151-165 MHz 387-526 MHz 860-960 MHz 1500-2500 MHz	1-20	~~87~~ 88	9834	OPERATIONAL
4425	GENERAL SEARCH & EOB FOR PULSED & CW RADARS	2000-12000 MHz	7-7	~~82~~ 71	7433	OPERATIONAL
4426	GENERAL SEARCH & EOB FOR PULSED & CW RADARS	2000-12000 MHz	11-10	~~45~~ 62	4742	OPERATIONAL

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FLIGHT SUMMARY

VEHICLE	MISSION	FREQ RANGE	OPERATIONAL LIFE 1974	1975	1976	1977	1978	1979	MOS	OPS	STATUS
4428	LOCATION & TECHNICAL INTELL. TROPOSPHERIC SCATTER COMM LINKS	450-1000 MHz	4-10 →						18 ~~40~~	4978	OPERATIONAL
4429	GENERAL SEARCH & TECHNICAL INTELL ON PULSE & CW EMITTERS	4-18 GHz	10-29 →						11 ~~24~~	1723	OPERATIONAL

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NOT RELEASED DESTROY NO LATER THAN _