

TR72-49
EP2123-2
1 DECEMBER 1972

APOLLO
INERTIAL INSTRUMENT - BLOCK II IRIG
SEMI-ANNUAL
PERFORMANCE DATA
SUMMARY

NASA CONTRACT NAS9-10356

Submitted by



Delco Electronics

General Motors Corporation
- Santa Barbara Operations
Santa Barbara, California

T. L. AUSTON
MIT/MSO

APOLLO
INERTIAL INSTRUMENT — BLOCK II IRIG
SEMI-ANNUAL
PERFORMANCE DATA
SUMMARY

1 December 1972

TR72-49
EP2123-2

NASA Contract NAS9-10356

Submitted by
Delco Electronics Division
Santa Barbara Operations
Santa Barbara, California 93017 |

TABLE OF CONTENTS

SECTION	TITLE	PAGE
I	INTRODUCTION	1
II	IMU LOCATION AND INSTRUMENT ASSIGNMENT	2
	A. IRIG Status and Location	2
	B. IMU Location and Instrument Assignment	6
III	LIST OF ABBREVIATIONS	8
	A. IRIG Data Codes	8
	B. System Data Codes	10
	C. IRIG Performance Characteristics	12
	D. General	14
	E. Serial Number Designations	16
IV	BLOCK II IRIG COMPONENT DATA SUMMARIES	17

SECTION I

INTRODUCTION

This document presents a summary of test data for Apollo IRIG's current to the date listed at the upper right corner of each page.

Any additions or corrections noted by the user should be forwarded to Mr. M. Lynn, Department 40, Delco Electronics Division, General Motors Corporation, Santa Barbara, California, 93017.

SECTION II

IMU LOCATION AND INSTRUMENT ASSIGNMENT

A. IRIG STATUS AND LOCATION

PART NUMBER	SERIAL NUMBER	SITE	ASSIGNED UNITS			STATUS/REMARKS
			POS	IMU	SYSTEM	
2021500-111	3C-6	FRC	Z	3/LM	604	F8-Iron Bird testing
111	4C-28	Delco	Z	LRN/CM		Mod I rebuild
081	6A 2	Delco	Y	LRN/CM		(MIT Preamp)
111	7C 8	Delco				Engineering evaluation
111	7C 19	Delco				B/R Storage
031	7A 22	MIT				Drift instability
111	7A 27	FRC	X	18	DFCS-2	Flight (F-8c)
111	7C 33	Delco	Y	34/CM		
111	7B 34	FRC	Z	32	DFCS-1	Iron Bird
111	7A 41	GAC	Y	PP1/LM		
111	7A 52†	Delco	X	45/CM	206	Launched Apollo 10, recovered
111	7C 54	Delco				B/R Storage
111	7C 60	Delco				Launched, recovered (IMU-14),
111	7A 69†	FRC	Z	18	DFCS-2	Flight (F-8c)
051	7A 73	FRC	X	3/LM	604	F8-Iron Bird testing
111	7A 85†	FRC	Y	18	DFCS-2	Launched, returned (IMU 8, Apollo 7),
111	7C 91	FRC	X	32	DFCS-1	Flight (F-8c)
111	7A 106	Delco				Iron Bird
111	7C 109	Delco	X	10/CM	207	Engineering test, Storage test
111	7A 112	Delco	Y	10/CM	207	Eng Lab
051	7A 114	MIT				Eng Lab
111	7A 120	Delco				B/R Storage
111	7A 122	NOR				S/N Retired

† Unit Flown

PART NUMBER	SERIAL NUMBER	SITE	ASSIGNED UNITS			STATUS/REMARKS
			POS	IMU	SYSTEM	
2021500-111	7A 123	Delco	Z	10/CM	207	Eng Lab
111	7A 128†	Delco	Y	45/CM	206	Launched 18 May 1969, Apollo 10, recovered
111	7A 134	Delco	X	PP1/LM	201	
111	7A 135	NR	X	4/CM		
111	7C 136	Delco	Z	PP1/LM		
111	7C 143	Delco				B/R Storage
111	7B 144	Delco				B/R Storage
111	7B 150	Delco	X	34/CM		
111	7C 162	Delco				B/R Storage
111	7C 163	Delco				B/R Storage
111	7B 174	NR	Y	4/CM	201	
111	7A 176	Delco				B/R Storage
111	7C 185	Delco				B/R Storage
111	7B 189	Delco	Z	34/CM		
111	7C 190†	Delco	Z	45/CM	206	Launched Apollo 10, recovered
111	7B 192	NR	Z	4/CM	201	
111	7A 195	Delco				B/R Storage
111	7C 203	Delco				
111	7C 206	FRC	Y	32	DFCS-1	Iron Bird
151	8A 101	KSC	Z	39/LM		LM Prime Spare, Apollo 17
151	8A 102	KSC	Y	39/LM		LM Prime Spare, Apollo 17
151	8A 103†	KSC	X	44/CM	205	SKY LAB II
151	8B 104†	KSC	Z	44/CM	205	SKY LAB II
151	8A 105†	Delco				Float Freedom Problem, B/R Storage
151	8A 109†	Delco	Z	30/CM		Launched, recovered, Apollo 14
151	8A 114†	Delco	X	30/CM		Launched, recovered, Apollo 13
151	8A 115†	Delco	Y	30/CM		Launched, recovered, Apollo 13
151	8A 117†	Delco				Launched 26 July 1971, Apollo 15, B/R Storage
151	8A 119†	Delco				Launched 26 July 1971, Apollo 15, B/R Storage
151	8A 120	KSC	Z	20/CM	218	Prime CM, Apollo 17
151	8A 121	KSC	X	20/CM	218	Prime CM, Apollo 17
151	8A 125	Delco	Y	44/CM	205	Launched 26 July 1971, Apollo 15; SKYLAB-II

†Units Flown

PART NUMBER	SERIAL NUMBER	SITE	ASSIGNED UNITS			STATUS/REMARKS
			POS	IMU	SYSTEM	
2021500-151	8A 128	KSC	Y	20/CM	218	Prime CM, Apollo 17
151	8A 130	KSC	X	38/LM	613	Prime LM, Apollo 17
151	8A 131	KSC	Z	38/LM	613	Prime LM, Apollo 17
151	8A 134	KSC	Y	38/LM	613	Prime LM, Apollo 17
151	8A 136	Delco	Y	9/CM		
151	8A 141	KSC	X	39/LM		LM Prime Spare, Apollo 17
151	8A 142	Delco	X	9/CM		
151	8A 143	Delco	Z	9/CM		
181	8A 204	KSC	Z	22/CM		CM Prime Spare, Apollo 17
181	8A 205	KSC	X	22/CM		CM Prime Spare, Apollo 17
181	8A 206	KSC	Y	22/CM		CM Prime Spare, Apollo 17
181	8A 207	Delco	Z	28/LM		LM B/U Spare, Apollo 17
181	8A 208	Delco	X	28/LM		LM B/U Spare, Apollo 17
181	8A 209	Delco	Y	28/LM		LM B/U Spare, Apollo 17
181	8A 210†	Delco	Z	31/CM		Launched, recovered, Apollo 16
						CM B/U Spare, Apollo 17
181	8A 211†	Delco	X	31/CM		Launched, recovered, Apollo 16
						CM B/U Spare, Apollo 17
181	8A 212†	Delco	Y	31/CM		Launched, recovered, Apollo 16
						CM B/U Spare, Apollo 17
181	8A 213	Delco				B/R Storage
181	8A 214	Delco				B/R Storage
2021500-161	9A-6	Delco				For Assignment
2021500-171	9A-7	Delco	Z	24/CM		
2021500-171	9A-11	Delco				B/R Storage
2021500-171	9A-12	Delco				B/R Storage
2021500-171	9A-13	Delco				B/R Storage
2021500-171	9A-14	NR	Y	25/CM	213	
2021500-171	9A-20	Delco				Testing
2021500-171	9A-22	NR	Z	25/CM	213	
2021602-081	9A-23	Delco				Hold - Not accepted.
2021500-171	9A-24	Delco				For assignment - B/R Storage
2021500-171	9A-25	Delco				For assignment
2021500-171	9A-28	Delco				B/R Storage

† Units Flown

PART NUMBER	SERIAL NUMBER	SITE	ASSIGNED UNITS			STATUS/REMARKS
			POS	IMU	SYSTEM	
2021500-171	9A-33	Delco				For assignment
2021500-171	9A-40	NR	X	25/CM	213	
2021500-171	9A-41	Delco	Y	24/CM		
2021500-171	9A-42	Delco	X	24/CM		
2021500-191	10A-1	Delco				For assignment – B/R Storage Awaiting wheel review after qualification test
2021500-191	10A-2	Delco				
2021602-121	10A-7	Delco				11-09 Testing

B. IMU LOCATION AND INSTRUMENT ASSIGNMENT

BLOCK II ACTIVE -

IMU S/N	SYSTEM S/N	VEHICLE	SITE	IRIG S/N			PIPA S/N		
				X	Y	Z	X	Y	Z
9	DFCS-2 218 CM/SP	F-8 CM-114	Delco	8A142	8A136	8A143	2AP219R	2AP189	2AP209
18			FRC	7A27	7A85†	7A69†	3AP322R	3AP315	2AP233
20			KSC	8A121	8A128	8A120	2AP195	2AP140R	2AP238
22			KSC	8A205	8A206	8A204	2AP180	2AP269R	2AP252
24	213 LM/SP	CM/113	Delco	9A42	9A41	9A7	2AP165	2AP284R	2AP267
25			NR	9A40	9A14	9A22	2AP110R	2AP276	2AP282
28			Delco	8A208	8A209	8A207	3AP323	2AP215	2AP105R
29†			Delco						
30	CM/SP DFCS-1	Iron Bird	Delco	8A114†	8A115†	8A109†	3AP325	2AP261	2AP148
31			Delco	8A211†	8A212†	8A210†	2AP82R	2AP264R	2AP91R
32			FRC	7C91	7C206	7B34	2AP78A	2AP295†	3AP321†
34			Delco	7B150	7C33	7B189	3AP333	3AP334	3AP335
35	613 LM/SP	LM-12	Delco				3AP337	2AP139	2AP175
36			Delco				2AP296	3AP316	3AP327
37			Delco				2AP79A	2AP123R	3AP318
38			KSC	8A130	8A134	8A131	2AP262	2AP206	3AP339
39	205 CM-116	CM-106	KSC	8A141	8A102	8A101	2AP293R	3AP313	2AP241
44			KSC	8A103†	8A125†	8B104†	2AP186	3AP307	3AP326
45†			Delco	7A52†	7A128†	7C190	2AP201	2AP268	2AP275
47†			Delco						
48†	217	CM-112	Delco						
Block II MIT System									
2	200		MIT	814*	100A*	102*	2AP131	2AP126	2AP108
SV	Servo		MIT	84*	86B*	94*			
6	600		MIT	99A*	92*	PPDI**	2AP204	2AP125	2AP151

† Systems flown or flown units. * MIT-built IRIG's **Nortronics-built IRIG

BLOCK II INACTIVE —

IMU S/N	SYSTEM S/N	VEHICLE	SITE	IRIG S/N			PIPA S/N		
				X	Y	Z	X	Y	Z
LRN	NA		Delco	7A169	6A2	4C 28	2AP146	2AP149	2AP152
PP1	-		GAC	7A134	7A41	7C136	2AP130	2AP133	2AP132
PP2	NA		MSC	6A21	7A76	7A68	2AP190	2AP224	2AP187
1			MSC	6A22	6A20	6A16	2AP127	2AP137	2AP128
2	602		Delco	7A5	7A24	7A3	2AP143	2AP157	2AP160
3	604		FRC	7A73	7A175	3C6	2AP194	2AP158	2AP156
4	201		NR	7A135	7B174	7B192	2AP142	2AP145	2AP298
5	202	CM-098	Delco	7A4	7A193	7A12	2AP155	2AP161	2AP167
6+	603	LM-1	Expended	7A103	7A132	7A81	2AP168	2AP163	2AP213
7+	214	CM-110	Delco						
8+	204	CM-101	Delco				2AP176	2AP212	2AP184
10	207		Delco	7C109	7A112	7A123			
11+	609	LM-5	Expended	8A110	8A108	8A106	2AP196	2AP249	2AP286R
12+	614	LM-10	Expended	8A201	8A203	8A202	2AP172	2AP171	2AP292
13+	610	LM-7	Expended	8A129	8A127	8A132	2AP192	2AP210	2AP200
14+	209	CM-104	Delco						
15+	607	LM-6	Expended	8A113	8A118	8A116	2AP164	2AP177	2AP198
17+	210	CM-107	NR	4C18	4C1	4C26	3AP317R	3AP308R	3AP341
19+	605	LM-3	Expended	7A98	7A83	7A130	2AP289	2AP285	2AP237
21+	611	LM-8	Expended	8C124	8A139	8A122	2AP222	2AP92R	2AP228
23+	208	CM-103	Delco						
26	608	LM-2	Delco	7C147	7A84	7A148	2AP230	3AP314	2AP283
27+	606	LM-4	Expended	7A107	7A204	7A53	3AP310	2AP291	2AP290
33+	615	LM-11	Expended	8A138	8A135	8A137	2AP272	3AP338	2AP294
46+	211	CM-108	Delco						

+ Systems flown or flown units