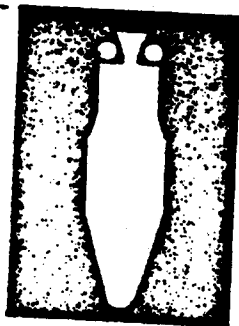


29 Aug 60

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IL 60 0000 2824



# SAMOS

A NATIONAL SATELLITE RECONNAISSANCE SYSTEM

PHOTOGRAPHIC  
ELECTRONIC

REQMTS PROVIDED BY:  
UNITED STATES INTELLIGENCE BOARD  
-SATELLITE INTELLIGENCE REQMTS COMMITTEE

DEVELOPMENT AGENCY  
UNITED STATES AIR FORCE

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DS 60-2887-A1

#91

# INTELLIGENCE REQUIREMENTS FOR SAMOS

## PRIORITY I

PHOTOGRAPHIC-LOCATION OF OPERATIONAL ICBM SITES

## PRIORITY II

- A. PHOTOGRAPHIC-DESCRIPTIVE INFORMATION ON HIGH PRIORITY TARGET LIST ITEMS
- B. ELINT-ANTI-BALLISTIC MISSILE RADARS, MISSILE TELEMETRY, EARTH TO SATELLITE TRANSMISSIONS

## PRIORITY III

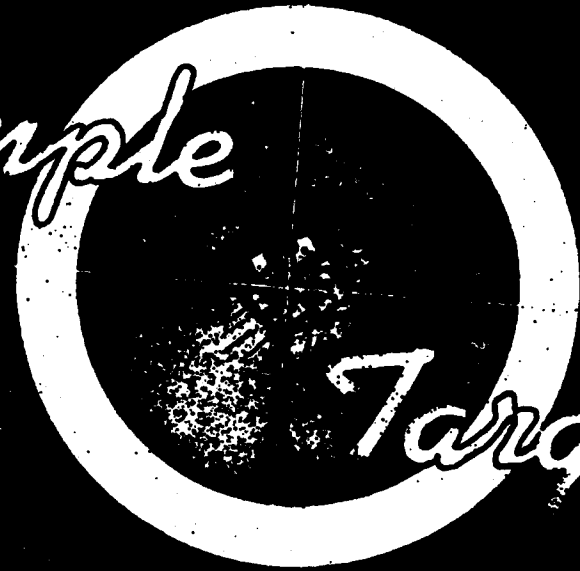
- A. PHOTOGRAPHIC-TECHNICAL CHARACTERISTICS OF HIGH PRIORITY LIST ITEMS
- B. ELINT-OTHER RADARS SUCH AS EARLY WARNING, AAA, GCI, SHORAN, SAM

## PRIORITY IV

COMINT- TO THE EXTENT DEVELOPMENT PROVES FEASIBLE

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*Example*



*Targets*

EXAMPLE OF TARGETS THAT MAY BE IDENTIFIED AT DIFFERENT GROUND RESOLUTION

100 ft  
CITIES, FORESTS, RAIL ALIGNMENT, INDUSTRIAL COMPLEXES, MAJOR MILITARY INSTALLATIONS, AND LARGE BODIES OF WATER.

20 ft  
COMPONENTS OF MILITARY INSTALLATIONS, AIRBASE RUNWAYS, SUBMARINE BASES, MAJOR SURFACE TO AIR MISSILE SITES, ATOMIC ENERGY INSTALLATIONS, BALLISTIC MISSILE SITES, SURFACED SUBMARINES, LARGE AIRCRAFT AND MISSILE LAUNCHING PADS, IDENTIFICATION OF MAJOR SOVIET NAVAL FORCES.

10 ft  
LARGE AIRCRAFT AND KNOWN MISSILE CARRYING SUBMARINES, LOCATING SPECIAL WEAPONS, ABOVE GROUND ICBM AND IRBM FACILITIES, CAPACITY OF MILITARY STORAGE FACILITIES, IDENTIFICATION OF NAVAL SHIPS BY TYPES.

5 ft  
DETAILED INFORMATION ON MOST MILITARY AND INDUSTRIAL INSTALLATIONS, ALL AIRCRAFT, GROUND FORCES EQUIPMENT AND DISPOSITION, LARGE MISSILES, AAA SITES, STRUCTURAL SHIPBOARD CONFIGURATIONS, LEVELS OF MILITARY ACTIVITY.

1 ft  
DETAILED TECHNICAL INFORMATION ON AIR, NAVAL AND GROUND FORCES EQUIPMENT AND INDUSTRIAL PRODUCTION PROCESSES

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# ORBITAL CAPABILITY

VEHICLE	WEIGHT ON ORBIT	
	AT 150 N. MILES ALTITUDE:	AT 261 N. MILES ALTITUDE:
THOR & AGENA B	2800 LBS	2600 LBS
ATLAS & AGENA B	6500 LBS	6200 LBS

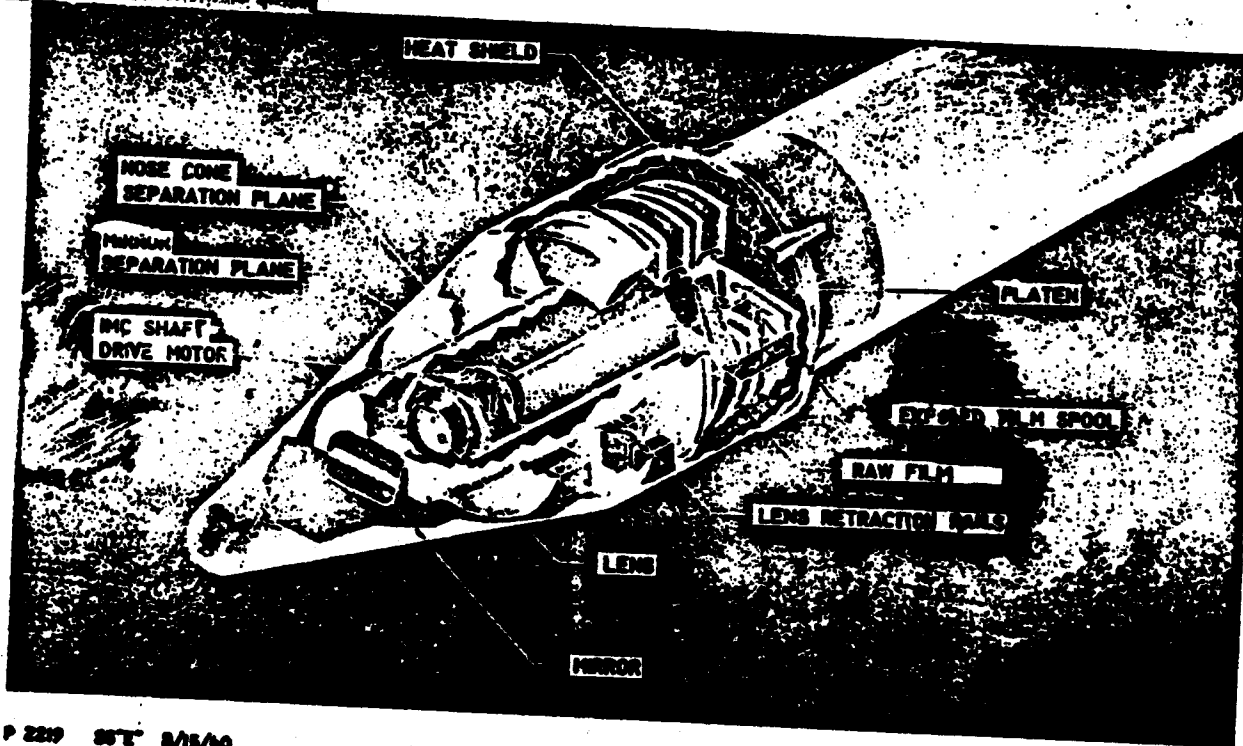
SYSTEM	WEIGHT ON ORBIT	
	AT 150 N. MILES ALTITUDE:	AT 261 N. MILES ALTITUDE:
E-5	5700 LBS	
E-1 / F-1		
F-2		4300 LBS
F-3		4100 LBS
E-2		4400 LBS
		4900 LBS

E-5 WEIGHT DISTRIBUTION					
AGENA EMPTY WEIGHT (1400 LBS)	ON ORBIT POWER SUPPLY SYSTEM	AVIONICS SYSTEM	COMM AND COMMAND SYSTEM	PAYLOAD AND RECOVERY SYSTEM (CAMERA & FILM - APPROX. 1000 Lbs)	SECRET AND ESPECIAL PROPPELLANTS

WEIGHT ON ORBIT - (IN THOUSANDS OF LBS)

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# SAMOS RECOVERY E5 CAMERA PAYLOAD

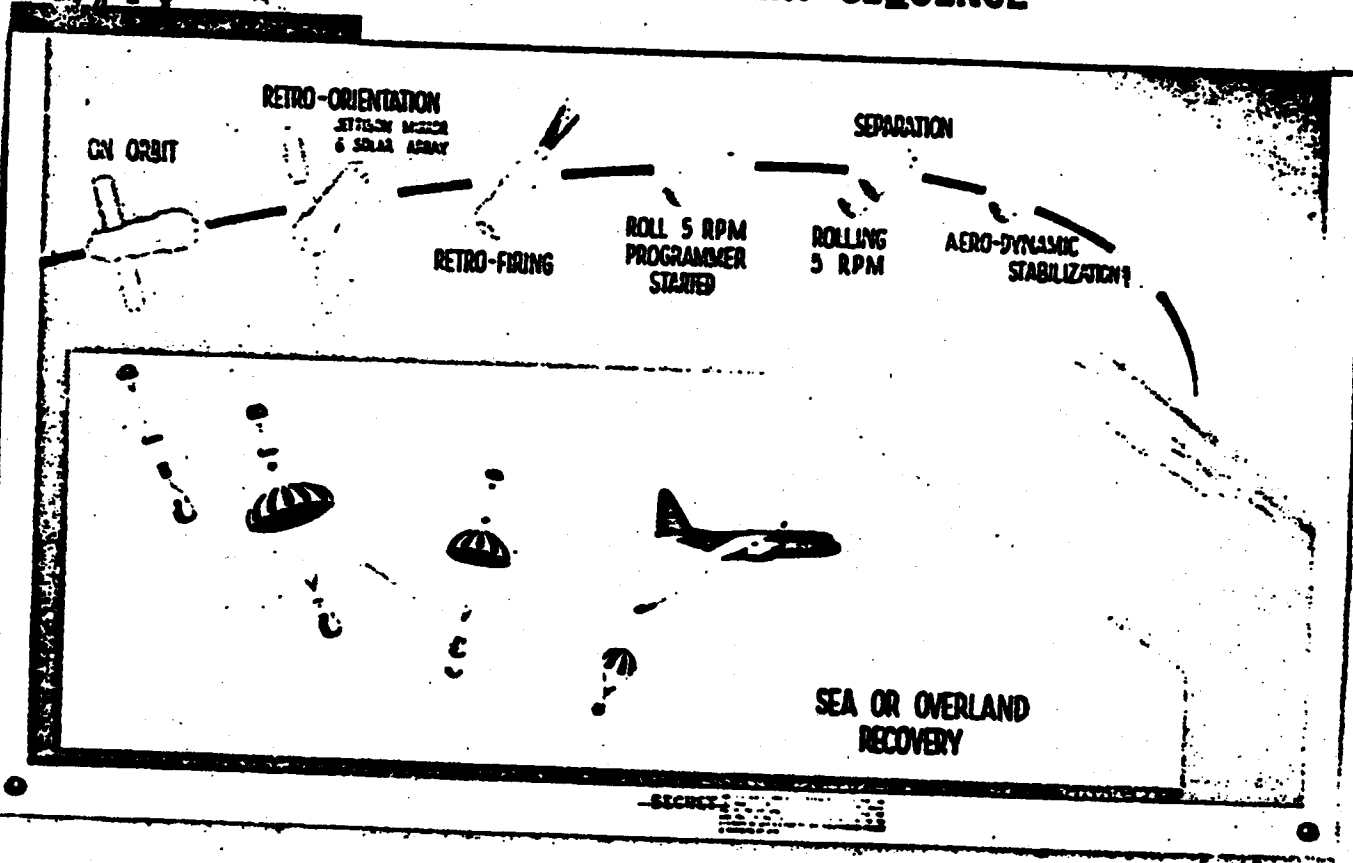


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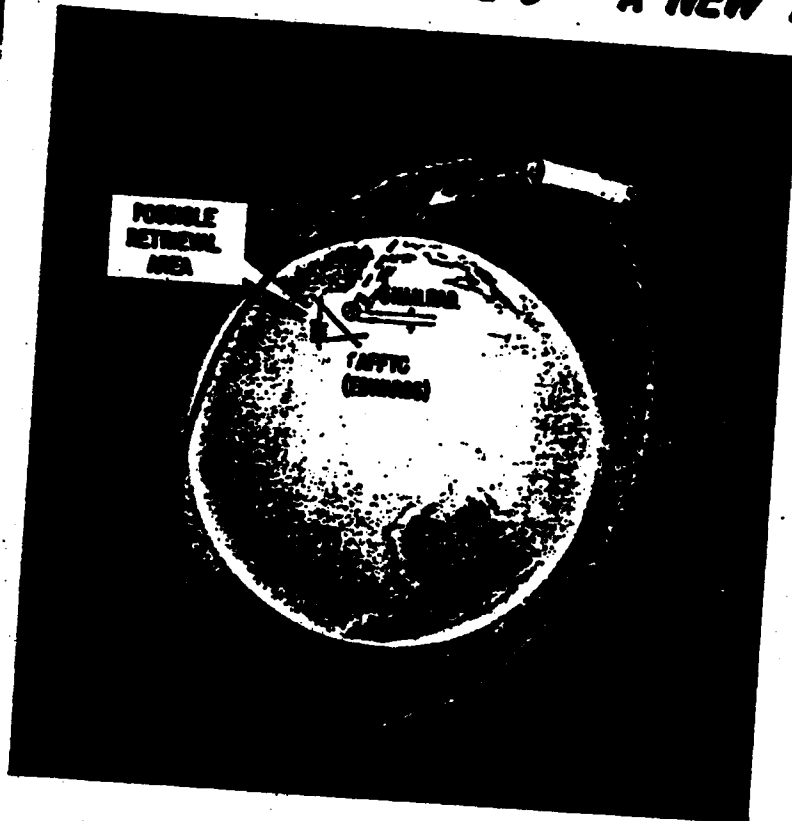
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# SAMOS E5 RECOVERY SEQUENCE



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**SAMOS E-6 — A NEW APPROACH**

AL 40-200-2000

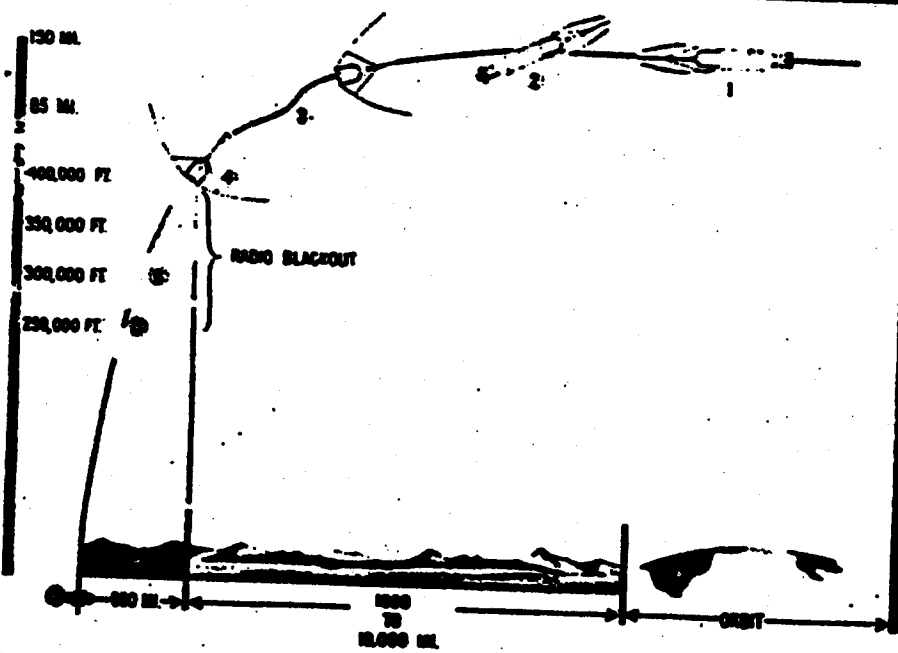
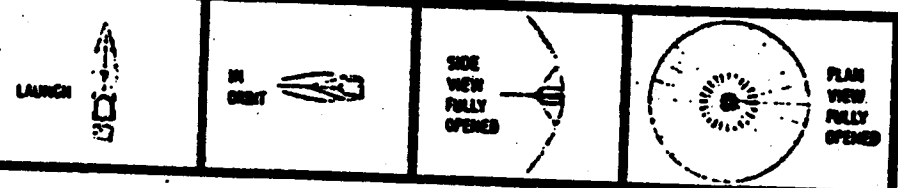


- RELIABILITY (SHORT LIFE)
- LARGE AREA COVERAGE
- HIGH RESOLUTION
- EARLY CAPABILITY
- PRECISE OVERLAND RETRIEVAL
- BROADENED CONTRACTOR BASE
- COMPATIBLE WITH DATA PROCESSING EQUIPMENT
- UTILIZE EXISTING GROUND FACILITIES

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**SAMOS E-6 - DRAG BRAKE RE-ENTRY SEQUENCE** IL 60 000 2000

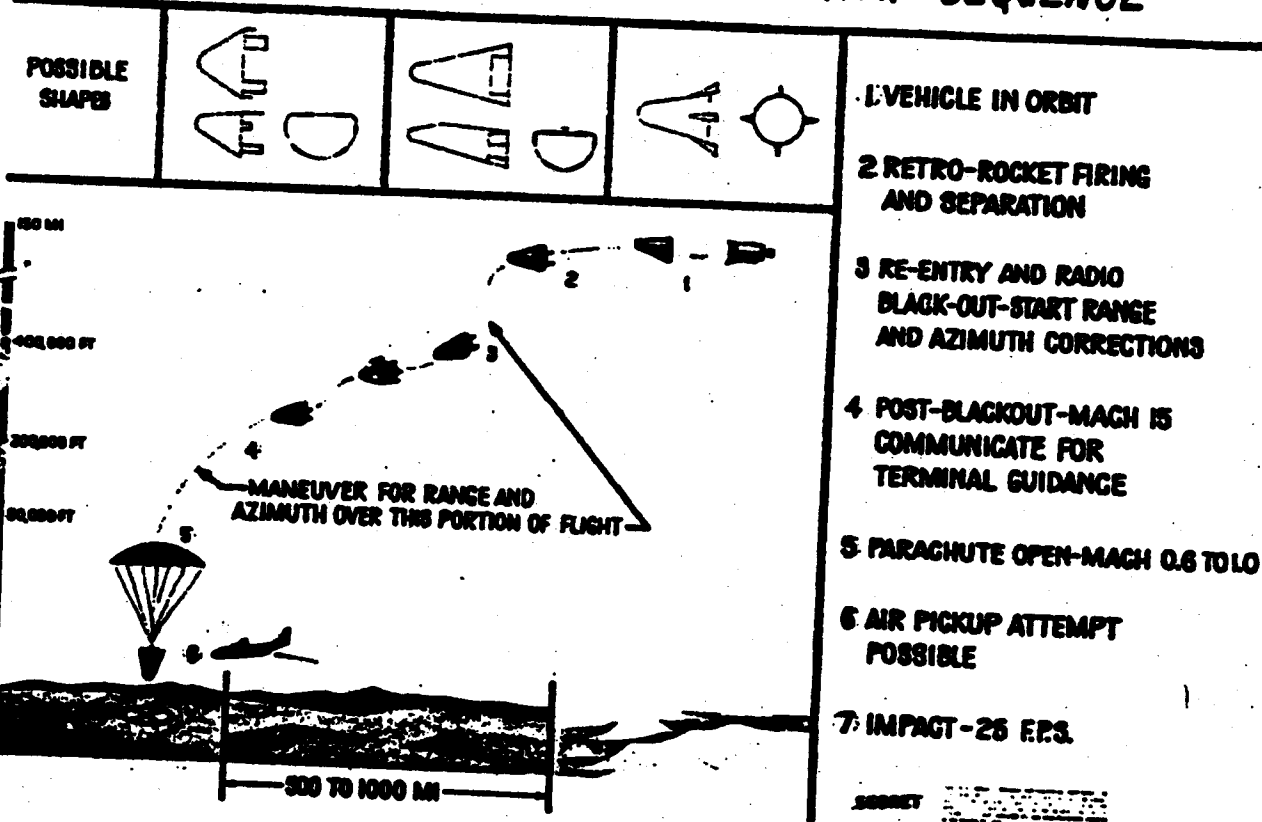


- ① VEHICLE IN ORBIT
- ② REORIENTATION, RETRO FIRING & SEPARATION
- ③ MODULATE FOR RANGE CORRECTION
- ④ FULL OPEN
- ⑤ PEAK HEATING
- ⑥ PEAK DECELERATION
- ⑦ LANDING - 40 F.P.S.

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## SAMOS E-6 - TYPICAL LIFT RE-ENTRY SEQUENCE



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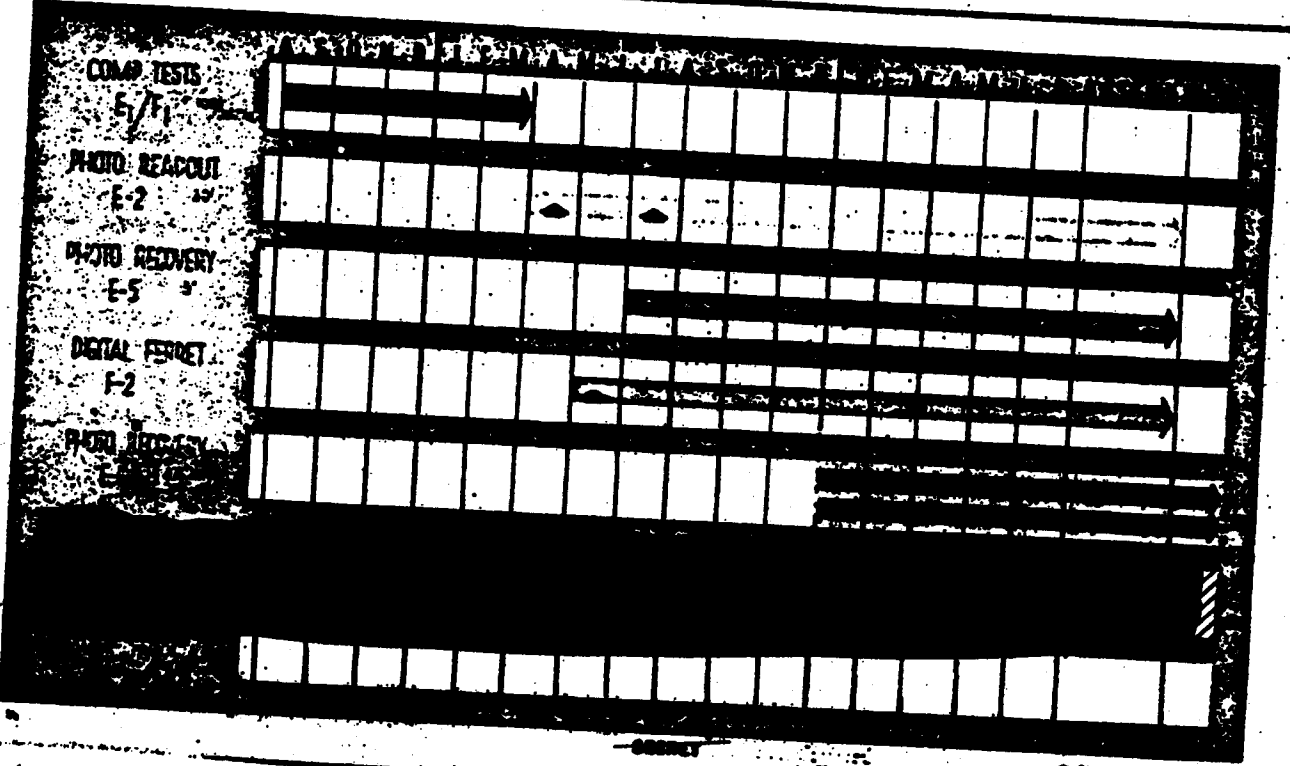


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# SAMOS LAUNCH SCHEDULE

11 AUG 60 DEV PLAN



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© SAMOSIC S-1015

CONFIDENTIAL

[REDACTED]

[REDACTED]

CONFIDENTIAL

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AL 60 0000 2002

## SUMMARY

### ELEMENTS OF SAMOS RESEARCH AND DEVELOPMENT PROGRAM

- RECOVERY

E-5 PHOTO 5' RESOLUTION \_\_\_\_\_ 7

E-8 PHOTO 5' RESOLUTION \_\_\_\_\_ 7

DIAGNOSTIC RECOVERY \_\_\_\_\_ 4

- READOUT

COMPONENT TESTS PHOTO-ELINT E-1/F-1 - 3

E-2 PHOTO 20' RESOLUTION \_\_\_\_\_ 2

F-2 ELINT DIGITAL \_\_\_\_\_ 1

24 PLUS 5 UNASSIGNED  
ATLAS/ACENA (THRU 1962)

- SPECIAL COMPONENT TESTS
- LAUNCHINGS FROM PT. ARGUELLO
- TRACKING STATIONS
  - WANDENBERG AND NEW BOSTON, INCL. READOUT
  - HAWAII AND ALASKA VHF ONLY
- CONTROL - SATELLITE TEST CENTER - SUNNYVALE
- DATA PROCESSING
  - DEVELOPMENT LABORATORY - DENVER
  - INTERIM PROCESSING OF R&D TAKE - SUNNYVALE
- RECOVERY CENTER - HAWAII

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# CHARACTERISTICS PHOTO PAYLOAD SYSTEMS

SYSTEM	DATA RETRIEVAL METHOD	RESOLUTION	SWATH WIDTH	OPERATING LIFE	MAX DAILY COVERAGE MILLION SQ NMI	TOTAL COVERAGE MILLION SQ NMI
E-1	READOUT	100'	87 NMI	10 DAYS	.57 (1 STA)	5.7
E-2	READOUT	20'	14.5 NMI	4 MOS	.033 (2 STA)	4.0
E-5	RECOVERY	5'	53 NMI	15-30 DA	0.6	4.9
E-6	RECOVERY	8'	200 NMI	5 DA	3.0	14.0

1010

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