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## Press Kit

Project

Intelsat V-F

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### Contents



(NASA-News-Release-83-77) INTELSAT COMMUNICATIONS SATELLITE SCHEDULED FOR LAUNCH (National Aeronautics and Space Administration) 8 p	N83-25742
CSCL 22B	Unclas 00/15 11913

GENERAL RELEASE..... 1

ATLAS CENTAUR LAUNCH VEHICLE STATISTICS..... 4

LAUNCH OPERATIONS..... 5

LAUNCH SEQUENCE FOR INTELSAT V-F..... 6

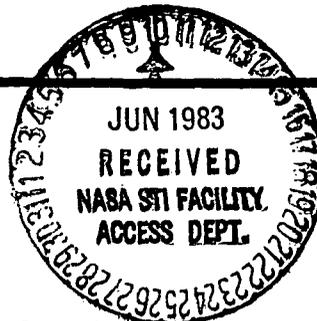
THE NASA INTELSAT TEAM..... 7

CONTRACTORS..... 8

May 13, 1983

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## INTELSAT COMMUNICATIONS SATELLITE SCHEDULED FOR LAUNCH

Intelsat V-F, the sixth of a new series of nine international telecommunications satellites owned and operated by the 105-nation International Telecommunications Satellite Organization (Intelsat), is scheduled to be launched by the NASA Kennedy Space Center on board an Atlas Centaur launch vehicle no earlier than May 19, 1983, from Cape Canaveral, Fla.

The five earlier Intelsat Vs were successfully launched by NASA in December 1980, May 1981, December 1981, March 1982 and September 1982.

Intelsat V-F weighs 1,996 kilograms (4,400 pounds) at launch and has almost double the communications capability of early satellites in the Intelsat series -- 12,000 voice circuits and two color television channels.

May 13, 1983

This will also be the first Intelsat to incorporate a maritime communication system for ship to shore communications. It will be positioned in geosynchronous orbit over the Atlantic Ocean as a major path Intelsat satellite to provide communications services between Europe and North America.

Intelsat V satellites are built by the Ford Aerospace and Communications Corp., Palo Alto, Calif., using system components developed by firms in the United Kingdom, France, the Federal Republic of Germany, Italy and Japan.

The International Telecommunications Satellite Organization is headquartered in Washington, D.C. NASA is reimbursed for all costs of the Atlas Centaur and launch services under the provisions of a launch services agreement.

The Atlas Centaur (AC-61) will place the Intelsat V-F into a highly elliptical transfer orbit 166.8 kilometers perigee altitude by 35,807.4 km apogee altitude (103.6 by 22,253.5 miles). It is from this orbit at apogee that a solid propellant rocket motor attached to the satellite will be fired to circularize the orbit at geosynchronous altitude over the equator. At that altitude, because the speed of the satellite in orbit matches the rotational speed of the earth, the satellite remains in position over one spot.

NASA's Lewis Research Center, Cleveland, Ohio, has management responsibility for Atlas Centaur development and operation. Intelsat V-F marks the 100th launch by engineers of Lewis Research Center. NASA's Kennedy Space Center, Fla., is assigned vehicle checkout and launch responsibility once the Atlas Centaur reaches Cape Canaveral.

Overall direction of the NASA expendable launch vehicle program is vested in the Office of Space Flight in Washington, D.C.

(END OF GENERAL RELEASE; BACKGROUND INFORMATION FOLLOWS.)

## ATLAS CENTAUR LAUNCH VEHICLE STATISTICS

Intelsat V-F will be launched by the Atlas Centaur, NASA's standard launch vehicle for intermediate weight payloads. The launch vehicle has the following general characteristics:

Height: 40.8 meters (134 feet) including nose fairing

Diameter: 3.05 m (10 ft.)

Total Liftoff Weight: 148,285 kg (326,907 lb.)  
including spacecraft

Liftoff Thrust: 1,936,196.6 newtons (435,296 lb.) sea level

### Atlas Stage

The Atlas stage consists of the booster section (one-half stage) and the sustainer/vernier section (first stage). The Atlas is manufactured by General Dynamics/Convair, San Diego, Calif., using the MA-5 engine system supplied by Rocketdyne Division of Rockwell International, Canoga Park, Calif. The MA-5 system consists of two booster engines, one sustainer engine and two vernier engines. The Atlas stage has the following characteristics:

Height: 22 m (69.5 ft.)

Diameter: 3.05 m (10 ft.)

Propellants: RP-2 kerosene for fuel and liquid oxygen  
(LOX) as the oxidizer

Thrust: Total Booster: 1,679,120 N (377,500 lb.) sea level  
Sustainer: 266,880 N (60,000 lb.)  
Total Vernier: 4,074.4 N (916 lb.)

Total Liftoff Thrust: 1,950,074.3 N (433,416 lb.)

### Centaur Stage

The Centaur (second stage) is manufactured by General Dynamics/Convair, using the RL-10 engines built by Pratt and Whitney Aircraft Group, West Palm Beach, Fla. This stage has the following characteristics:

Height: 9.1 m (30 ft.)

Diameter: 3.05 m (10 ft.)

Propellants: Liquid hydrogen for fuel and liquid oxygen  
for the oxidizer.

Thrust: 146,784 N (33,000 lb.) vacuum

## LAUNCH OPERATIONS

Intelsat V is scheduled to be launched aboard Atlas Centaur 61 from Pad A of NASA's Launch Complex 36, Cape Canaveral Air Force Station, Fla.

The Atlas and Centaur stages of the launch vehicle arrived at the Cape on Nov. 10, 1982. The Atlas stage was erected on the pad on Nov. 12, the interstage adapter on Nov. 13, and the Centaur stage was mated to the vehicle on Nov. 16. The flight events demonstration test, a comprehensive electrical test of the launch vehicle, was undertaken on March 14.

Intelsat arrived at Hangar AO at the Cape on Dec. 8 where the spacecraft's electrical systems were tested and the vehicle's three earth sensors and two solar wings were installed. The satellite was moved to Satellite Assembly and Encapsulation Building No. 2 in the KSC Industrial Area on April 28. Intelsat underwent additional checkout in SAEF-2 and the apogee kick motor was installed on May 2. The satellite was enclosed in its protective fairing on May 15 and the spacecraft was mated with the launch vehicle on May 16 at the pad.

**LAUNCH SEQUENCE FOR INTELSAT V-F**

Flight Events	Time (seconds)	Velocity (km/hr)	Velocity (mph)	Range (kilometers/miles)	Range (kilometers/miles)	Altitude (kilometers/miles)
Liftoff	.0	0	0	.0	.0	.0
BECO	136.0	8,706	5,410	76.9	47.8	55.7
Booster Pack Jettison	139.1	8,796	5,466	83.7	52.0	58.7
Insulation Panel Jettison	161.0	9,329	5,797	134.5	83.5	78.7
Nose Fairing Jettison	205.9	10,798	6,710	252.6	157.0	113.3
SECO	256.7	13,239	8,226	415.1	257.9	144.4
Atlas/Centaur Separation	258.7	13,244	8,230	422.2	262.4	145.5
MES-1	265.2	13,214	8,211	445.4	276.7	148.8
MECO-1	576.0	26,788	16,645	2,026.9	1,259.5	164.1
MES-2	1,413.8	26,834	16,674	8,124.4	5,048.3	159.3
MECO-2	1,508.6	35,362	21,973	8,909.4	5,536.1	176.4
Spacecraft Separation	1,643.6	35,004	21,751	10,176.8	6,323.6	286.7
Reorient Centaur	1,658.6					
Start Blowdown	1,823.6					
End Blowdown	2,073.6					

-more-

**THE NASA INTELSAT TEAM**

**NASA Headquarters**

Lt. Gen. James A. Abrahamson	Associate Administrator for Space Flight
Joseph B. Mahon	Director, Expendable Launch Vehicles
F. R. Schmidt	Manager, Atlas Centaur Launch Vehicle

**Lewis Research Center**

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Dr. John Klineberg	Deputy Director
Lawrence J. Ross	Director, Space Flight Systems
John Gibb	Atlas/Centaur Project Manager
S. V. Szabo Jr.	Chief, Space Transportation Engineering Division
Richard E. Orzechowski	Intelsat Mission Project Engineer

**Kennedy Space Center**

Richard G. Smith	Director
Thomas S. Walton	Director, Cargo Operations
Charles D. Gay	Director, Expendable Vehicle Operations
D.C. Sheppard	Chief, Automated Payloads Division
James L. Womack	Chief, Atlas-Centaur Operations Division
Larry Kruse	Spacecraft Coordinator

CONTRACTORS

General Dynamics/Convair  
San Diego, Calif.

Atlas Centaur launch vehicle

Honeywell Aerospace Division  
St. Petersburg, Fla.

Centaur guidance inertial  
measurement group

Pratt and Whitney  
Aircraft Group  
West Palm Beach, Fla.

Centaur RL-10 engines

Teledyne Industries, Inc.  
Northridge, Calif.

Digital computer unit/PCM  
telemetry

Rocketdyne Division  
Rockwell International Corp.  
Canoga Park, Calif.

MA-5 propulsion systems

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