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# Defense Intelligence

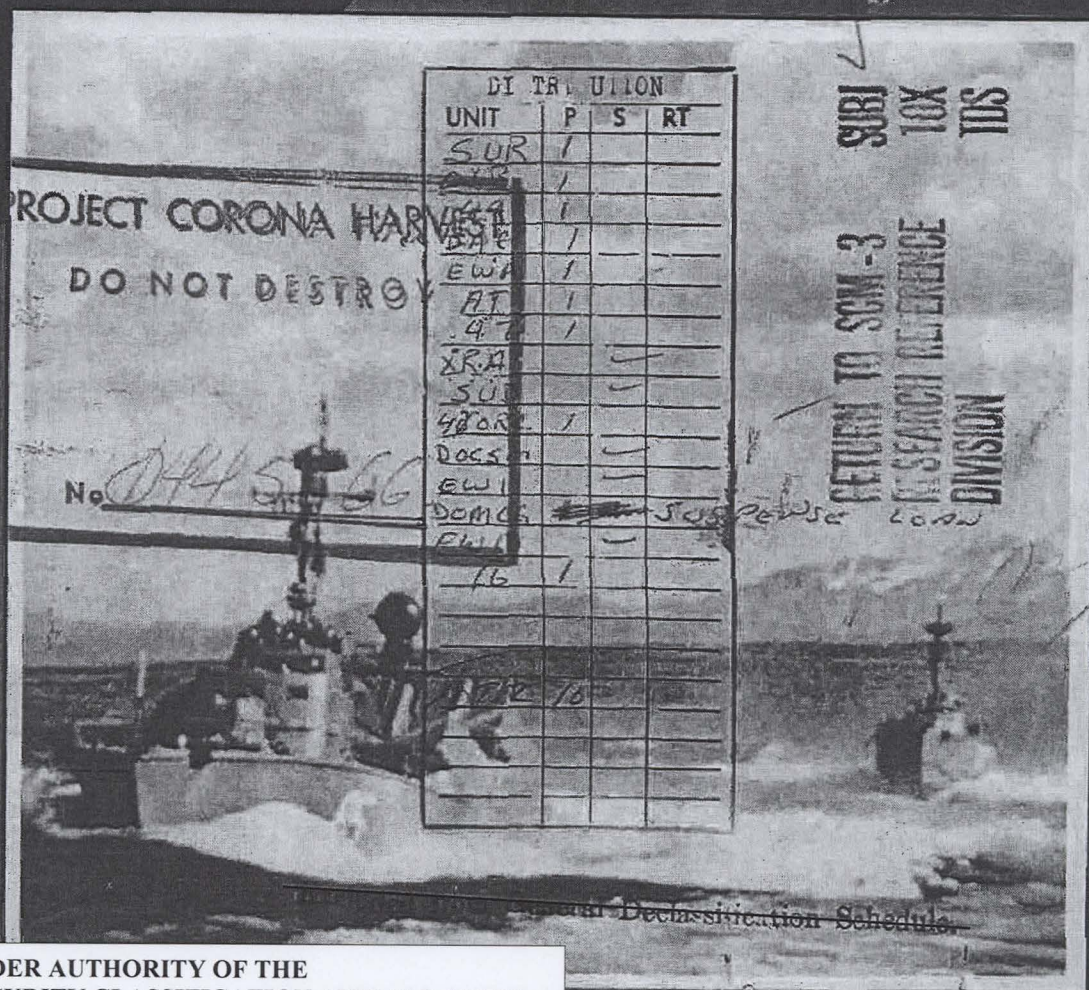
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July 1970 • Volume 8 • Number 7

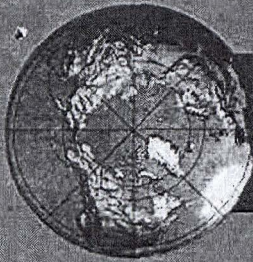


DECLASSIFIED UNDER AUTHORITY OF THE INTERAGENCY SECURITY CLASSIFICATION APPEALS PANEL, E.O. 13526, SECTION 5.3(b)(3)  
ISCAP APPEAL NO. 2009-068, document no. 289  
DECLASSIFICATION DATE: May 14, 2015

EXCLUDED FROM AUTOMATIC REGRADING: DOD DIR. 5200.10 DOES NOT APPLY

DEFENSE INTELLIGENCE AGENCY

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## FOREWORD

**MISSION:** The mission of the monthly *Defense Intelligence Digest* is to provide all components of the Department of Defense and other United States agencies with timely intelligence of wide professional in-

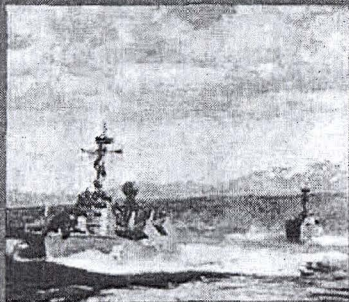
terest on significant developments and trends in the military capabilities and vulnerabilities of foreign nations. Emphasis is placed primarily on nations and forces within the Communist World.

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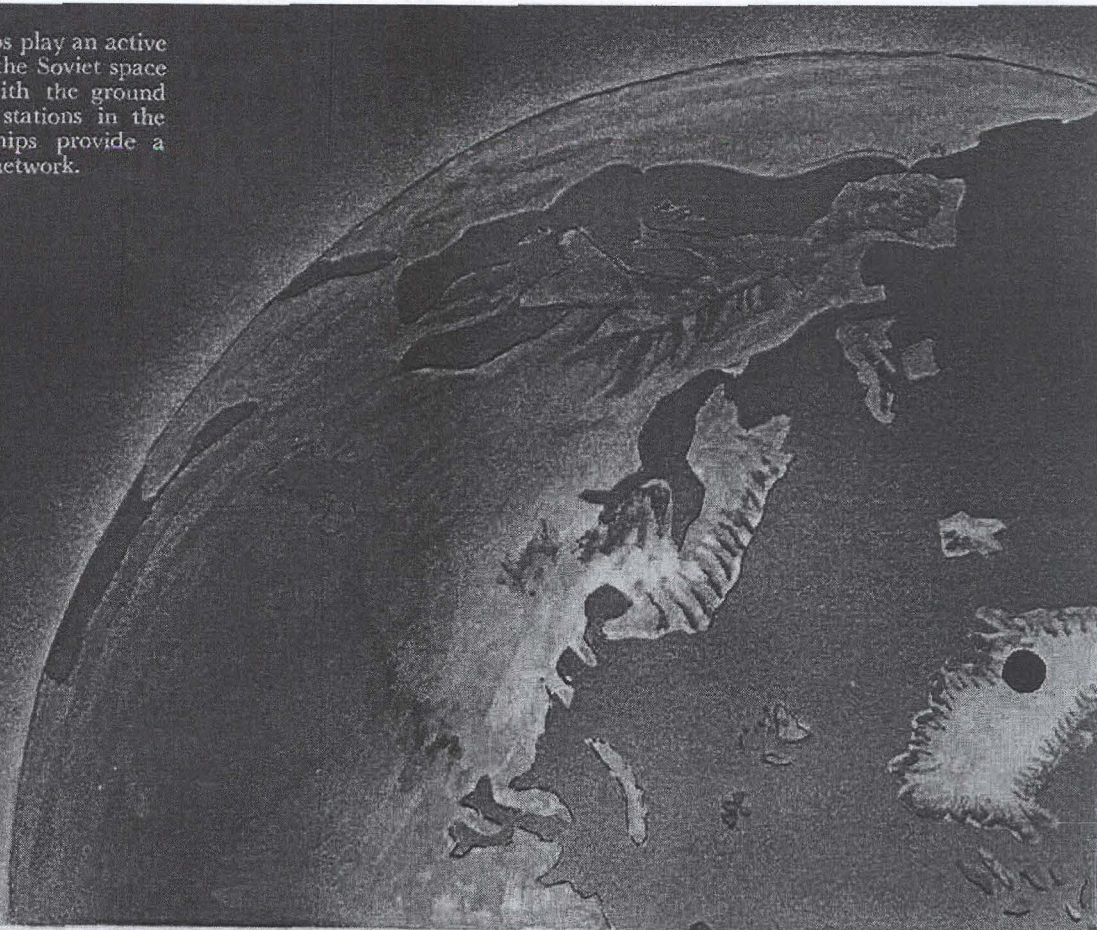
*D.V. Bennett*

D. V. BENNETT  
 Lieutenant General, USA  
 Director



*Osa I class large guided missile patrol boats (PTPG). For details on 1969 activities in the East European Warsaw Pact navies, see article beginning on page 4. [U]*

INSTRUMENTATION ships play an active role in supporting the Soviet space program. Together with the ground control and tracking stations in the Soviet Union, the ships provide a worldwide tracking network.



Deployment of these ships generally is a good indicator of Soviet intentions in pending space activities. (See map on pages 20 and 21).

#### Indian Ocean deployment

Ships in the Indian Ocean are positioned to cover landing and recovery of lunar-mission spacecraft returning to the Earth's mid-latitude and equatorial zones. Prime mission of the Soviet Special Space Support Ships is search and recovery of space capsules. The Soviets made their first water recovery on 21 September 1968, when Zond 5, an unmanned circumlunar spacecraft, splashed down in the Indian Ocean.

#### Pacific Ocean support ships

The prime mission of the Soviet Missile Range Instrumentation Ships (SMRIS) deployed in the Pacific Ocean is emergency search and rescue of manned space flights. SMRIS are well equipped for rescue, should upper-stage propulsion failure occur early during the flight or in de-orbit phase when recovery in the Soviet Union would be impossible.

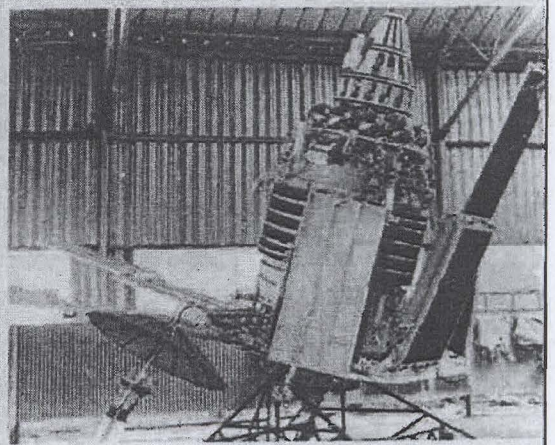
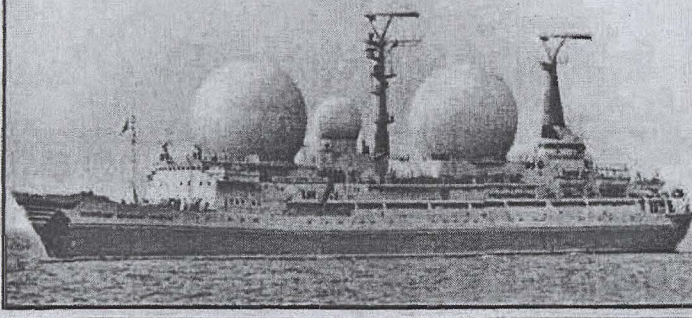
Their facilities include:

- Equipment capable of communicating with Moscow and the spacecraft.
- Radars and other electronic devices to track descending spacecraft.
- Helicopters to retrieve the cosmonauts.

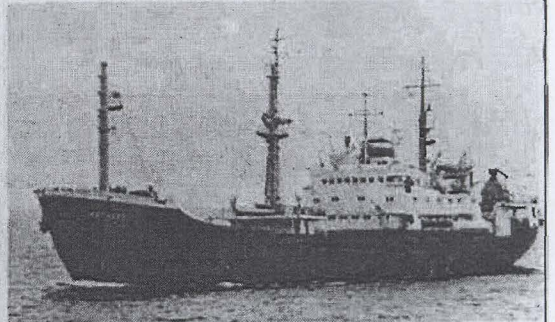
SMRIS assume their space support stations when a launch is impending. The most distant station is near the equator and requires about 14 days to reach from the home port of Petropavlovsk. These ships are usually deployed to widely separated stations astride the earth trace of the projected zero revolution. In this manner, they extend effective coverage of the vehicle for the greatest possible distance over the Pacific Ocean.

In contrast to the widespread deployment of SMRIS when supporting a space operation, the ships operate as a team of two, three—or in a few instances—four, when participating in an extended-range ICBM operation.

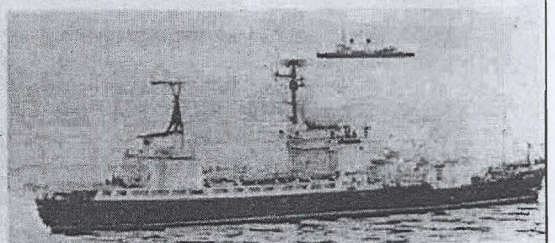
KOSMONAUT VLADIMIR KOMAROV



Molniya-I Communications Satellite [S]



Modified Vytegrales class SSESS Vagales. [S]



Chumikan, one of six SMRIS [S]

### Atlantic Ocean deployment

Soviet Space Event Support Ships (SSESS) are usually deployed off the west and east coast of Africa, east coast of South America, and in the Mediterranean Sea. Such deployment provides satisfactory coverage of the injection phase of lunar/interplanetary space probes and the de-orbit phase of recoverable earth satellites. The primary mission of the SSESS is to provide specific data to Moscow immediately after orbital transfer. This permits early and reliable acquisition of the spacecraft by Crimea instrumentation facilities.

There are two categories of SSESS: older, lightly instrumented ships, and

a newer heavily instrumented group. Older ships include the *Dolinsk*, *Ristna*, and *Bezhitsa*.

Newer SSESS include the *Kegostrov*, *Borovich*, *Morzhovets*, and *Nevel*. They are about 400 feet long and have a speed of 16 knots; all are converted timber carriers. This group of SSESS is used primarily for telemetry reception, communications relay, and as a potential recovery force. In previous space events, these ships provided support while stationed in the Mediterranean Sea, the South Atlantic, and the Gulf of Guinea. On some occasions they were deployed to the Indian Ocean.

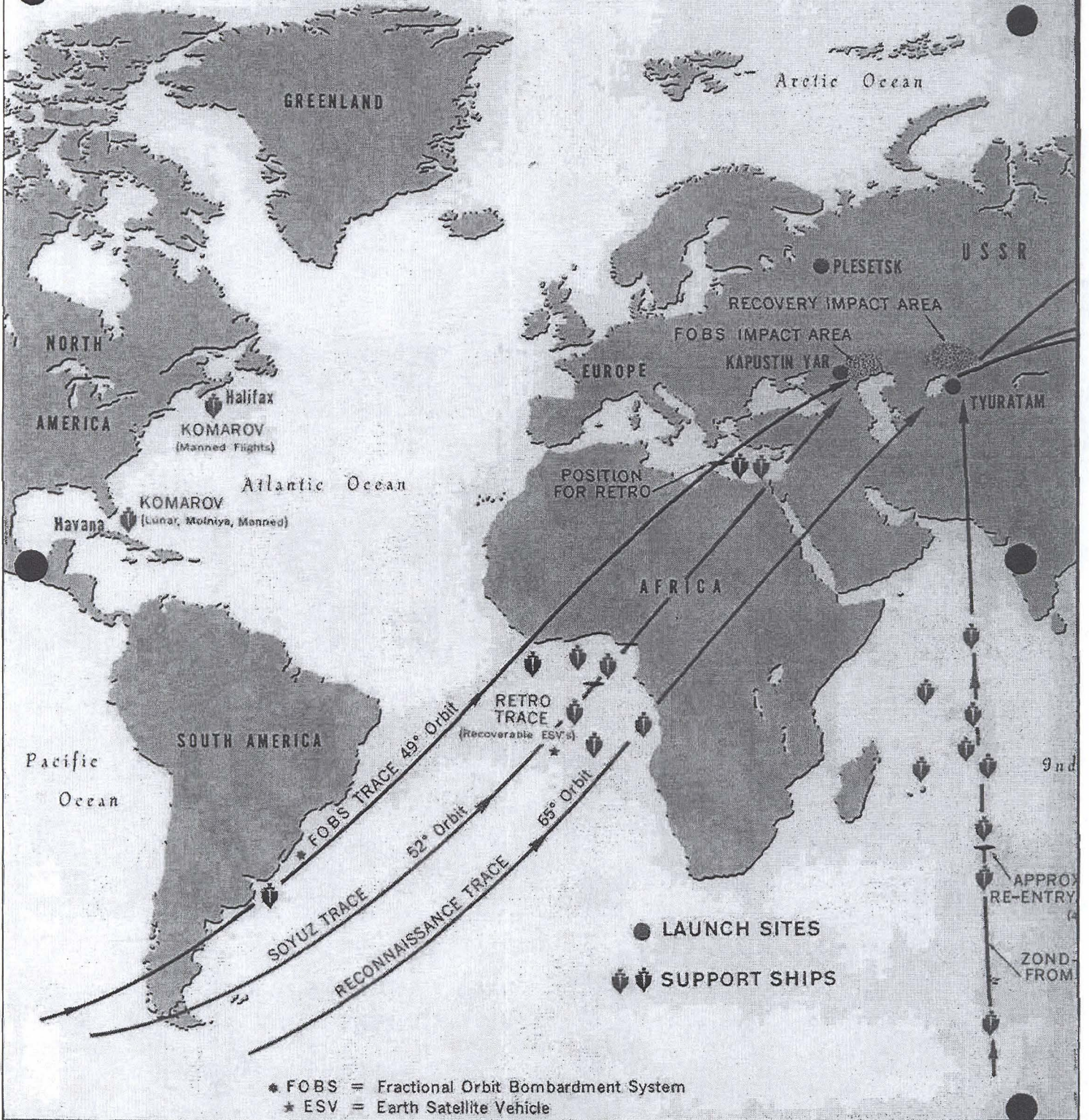
### Komarov—one of a kind

The newest operational SSESS is the *Komarov*—a “one of a kind” instrumented ship that was converted in Leningrad during 1967. The conversion consisted of joining the *Poltava*-class merchant ship *Ginchevsk*'s bow and stern sections to a new center section containing the electronic instrumentation.

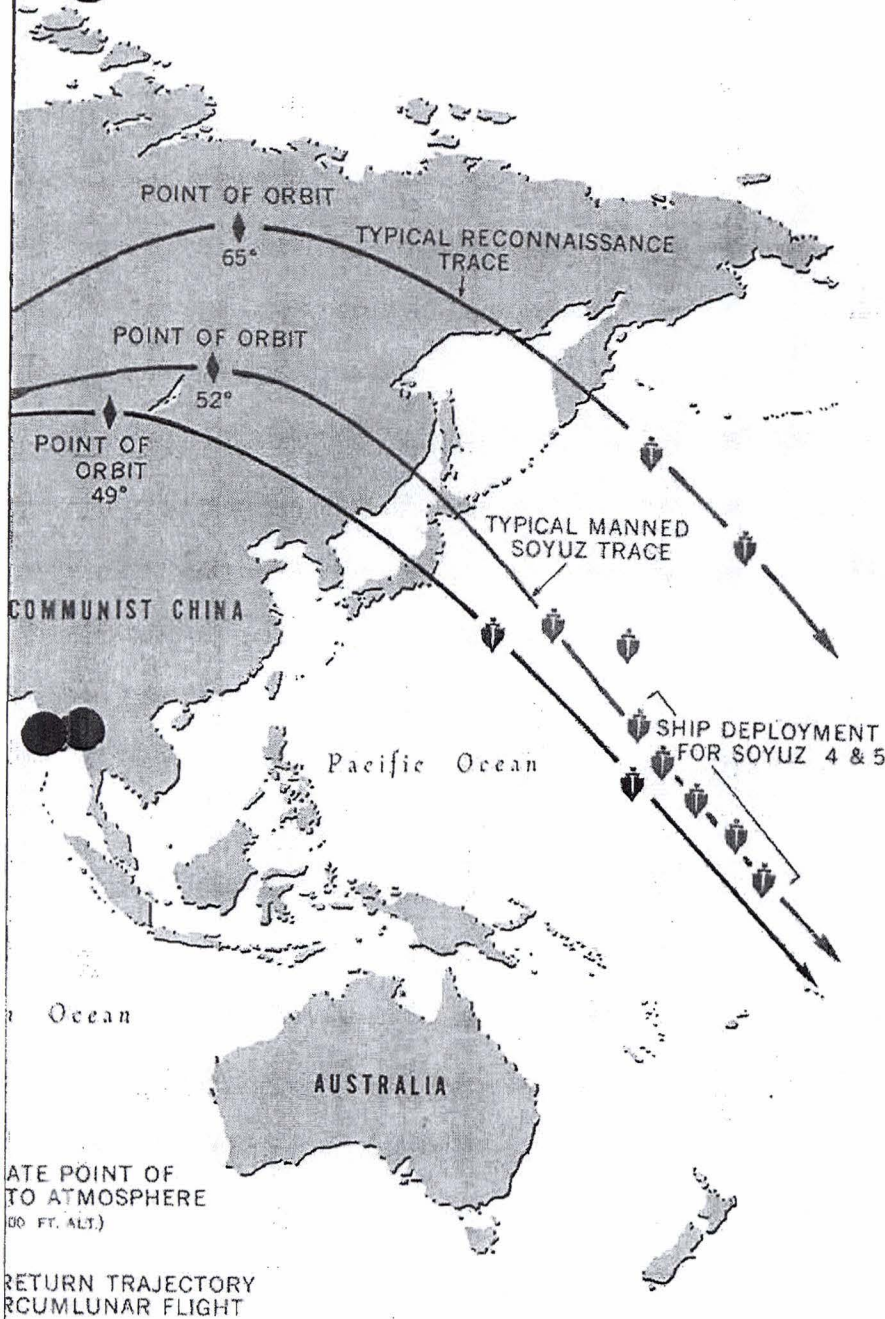
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(Continued on page 21)

# APPROXIMATE SHIP POSITIONS for SUPPORT of SO



# NET SPACE OPERATIONS



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During lunar and interplanetary missions the *Komarov's* instrumentation facilities marginally supplement the deep space tracking stations at Yevpatoriya in the Crimea and Galenki in the Soviet Far East.

The ship's major instrumentation includes:

- Two 65-foot domes, each covering a dish antenna about 30 feet in width.
- A 25-foot dome covering a 8.5-foot dish antenna.
- Two Quad Ring antennas.
- Two Vee Cones, a Stub Brace, and a large assortment of whip antennas.

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Existing support ships are considered adequate to meet the present requirements of the Soviet near-earth space program. For interplanetary mission coverage, improved system performance and reliability would be required.

A large new instrumentation ship, the *Kosmonaut Yuri Gagarin* is being fitted out at the Baltic Shipyard, Leningrad. This ship will probably augment the deep space stations at Yevpatoriya and Galenki.

These ground facilities, coupled with the *Gagarin* at Havana, would be located roughly 120 degrees apart in longitude, providing 24-hour coverage of lunar/deep space missions.

The *Gagarin* would be used in conjunction with a communications satellite for passing and receiving data. It would also be used for tracking/commanding of deep-space probes, lunar missions, and earth orbiting missions, such as performed by a manned space station. [END]

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