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NORTH AMERICAN AIR DEFENSE COMMAND

WIR

WEEKLY INTELLIGENCE REVIEW (U)

K410.607-315

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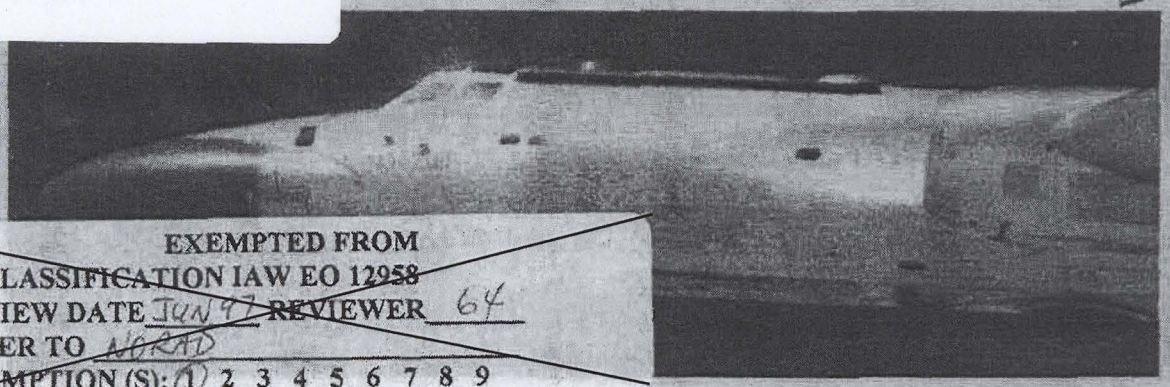

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The WIR in Brief

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MISSILE-SPACE LAUNCHES, 1 Dec-20 Feb. 7

Space

COSMOS 143 IS 3d SOVIET RECCE SATELLITE OF 1967 10
Launched from Tyuratam.

'MOLNIYA' SYSTEM FOR RELAYING TV SOUND HAS LIMITATIONS 11
Narrows bandwidth but cannot be used w/color.

NO MARS PROBE LAUNCHED BY SOVIETS; EFFORTS MAY BE FOCUSED ON SOMETHING MORE HISTORIC 11
Also may not have solved communications problems.

COSMOS 144 A METEOROLOGICAL SATELLITE 11
Announced by TASS as simply another Cosmos.

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Missile/Space Launches, 1 Dec 66-20 Feb 67

US sensors detected the following Soviet missile or space launches during the period 1 December 1966-20 February 1967:

Approximate Time & Date of Launch	Vehicle	Launch Site	Range (n. m.)
0719Z, 01 Dec 66	SS-11, ICBM	Tyuratam	3400
1205Z, 02 Dec 66	SS-4, MRBM	Kapustin Yar	950
1303Z, 02 Dec 66	SS-12, MRBM	Kapustin Yar	450
1703Z, 02 Dec 66	SS-12, MRBM	Kapustin Yar	450

0816Z, 03 Dec 66	Cosmos 134*	Tyuratam	Orbital
0910Z, 06 Dec 66	Vertical	Kapustin Yar	----
0600Z, 08 Dec 66	SS-7, ICBM	Plesetsk	3100
0640Z, 08 Dec 66	SS-4, MRBM	Kapustin Yar	950
0757Z, 08 Dec 66	SS-7, ICBM	Tyuratam	3400
1110Z, 08 Dec 66	SS-11, ICBM	Tyuratam	3400
0658Z, 09 Dec 66	SS-7, ICBM	Tyuratam	3400
0153Z, 10 Dec 66	SS-9, ICBM	Tyuratam	7000
1100Z, 10 Dec 66	SS-7, ICBM	Plesetsk	3100
0733Z, 12 Dec 66	SS-11, ICBM	Tyuratam	3400
0907Z, 12 Dec 66	SS-4, MRBM	Kapustin Yar	1050
1739Z, 12 Dec 66	Vertical	Kapustin Yar	----
2044Z, 12 Dec 66	Cosmos 135#	Kapustin Yar	Orbital
0635Z, 14 Dec 66	SS-4, MRBM	Kapustin Yar	950
0645Z, 16 Dec 66	SS-4, MRBM	Kapustin Yar	950
0803Z, 16 Dec 66	SS-11, ICBM	Tyuratam	3400
0800Z, 17 Dec 66	KY-8 (R&D)	Kapustin Yar	1050
1200Z, 19 Dec 66	Cosmos 136*	Tyuratam	Orbital
1600Z, 20 Dec 66	Vertical	Kapustin Yar	----
1017Z, 21 Dec 66	Luna 13**	Tyuratam	Lunar
1230Z, 21 Dec 66	Vertical	Kapustin Yar	----
1327Z, 21 Dec 66	Cosmos 137#	Kapustin Yar	Orbital
1435Z, 22 Dec 66	SS-4, MRBM	Kapustin Yar	950
0600Z, 24 Dec 66	SS-7, ICBM	Plesetsk	3100
0815Z, 24 Dec 66	KY-8 (R&D)	Kapustin Yar	1050
0600Z, 26 Dec 66	SS-7, ICBM	Plesetsk	3100
0743Z, 26 Dec 66	SS-11, ICBM	Tyuratam	3400
0800Z, 26 Dec 66	SS-12, MRBM	Kapustin Yar	330
1900Z, 26 Dec 66	SS-12, MRBM	Kapustin Yar	330
0430Z, 27 Dec 66	SS-12, MRBM	Kapustin Yar	330
0733Z, 27 Dec 66	SS-11, ICBM	Tyuratam	3400
0805Z, 27 Dec 66	SS-4, MRBM	Kapustin Yar	950
1730Z, 29 Dec 66	SS-12, MRBM	Kapustin Yar	350
05 Jan 67	Vertical	Kapustin Yar	
1212Z, 09 Jan 67	SS-4, MRBM	Kapustin Yar	1050
0615Z, 11 Jan 67	SS-5, IRBM	Kapustin Yar	2000
0703Z, 14 Jan 67	SS-11, ICBM	Tyuratam	3400
1240Z, 19 Jan 67	Cosmos 138*	Plesetsk	Orbital
1002Z, 21 Jan 67	SS-7, ICBM	Plesetsk	3100
1213Z, 24 Jan 67	SS-4, MRBM	Kapustin Yar	1050
1355Z, 25 Jan 67	Cosmos 139 (SS-X-6)	Tyuratam	Orbital
0707Z, 28 Jan 67	SS-7, ICBM	Plesetsk	3100
0847Z, 28 Jan 67	SS-4, MRBM	Kapustin Yar	1050
0700Z, 03 Feb 67	SS-7, ICBM	Plesetsk	3100
1405Z, 03 Feb 67	SS-4, MRBM	Kapustin Yar	950

2202Z, 03 Feb 67	Vertical	Plesetsk	----
1247Z, 04 Feb 67	SS-4, MRBM	Kapustin Yar	1050
0320Z, 07 Feb 67	Cosmos 140	Tyuratam	Orbital
1018Z, 08 Feb 67	Cosmos 141*	Plesetsk	Orbital
1620Z, 08 Feb 67	SS-4, MRBM	Kapustin Yar	950
0759Z, 09 Feb 67	KY-6, (R&D)	Kapustin Yar	1050
2009Z, 10 Feb 67	Vertical	Kapustin Yar	----
0355Z, 11 Feb 67	Vertical	Kapustin Yar	----
1006Z, 14 Feb 67	Cosmos 142#	Kapustin Yar	Orbital
0348Z, 15 Feb 67	Vertical	Kapustin Yar	----
0912Z, 17 Feb 67	SS-4, MRBM	Kapustin Yar	1050

*Launched by SS-6 ICBM, injected into orbit by an upper stage.
**Launched by SS-6 ICBM, injected into parking orbit by heavy Venik upper heavy Venik upper stage, injected toward moon by 4th stage.
#Launched by 2-stage vehicle.

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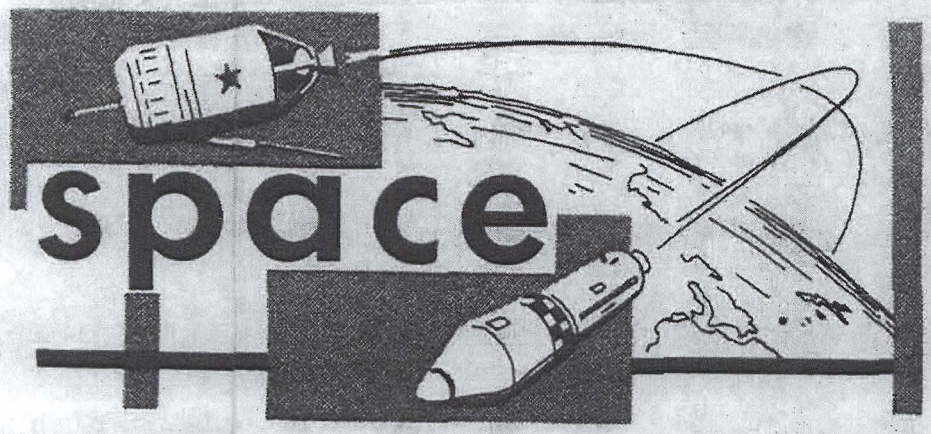

significant intelligence on space developments and trends

Cosmos 143 is 3d Soviet Recce Satellite of 1967

The Soviets launched Cosmos 143 from the Tyuratam Missile Test Range at about 0830Z, 27 February, into an orbit with an inclination of about 65 degrees. It will probably be de-orbited on 7 March.

Cosmos 143 is the Soviets' 3d recce satellite of 1967. The first two were launched from the missile-space complex at Plesetsk.
(NORAD)
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'Molniya' System for Relaying TV Sound Has Limitations

The Soviets have boasted that the system by which their Molniya communications satellites relay the sound portion of TV signals results in a stronger signal because a narrower bandwidth can be used.

The method used was not identified in these boasts, but it very likely is one described in a Soviet article of August 1964, in which the sound was sent by pulse modulation during the retrace of the video signal horizontal sweep. This would result in a narrower bandwidth, as the Soviets claim, since the sound portion of TV ordinarily is transmitted on the bandwidth along with the video signal.

Perhaps significantly, the information in the Soviet article was supplied by S. V. Borodich, who is known to have participated in the Franco-Soviet negotiations which resulted in the Paris-Moscow test of color TV transmissions by Molniya satellite in late 1965.

This system, however, has its drawbacks:

- It cannot be used with color TV, since the space which the sound pulse would use is already occupied by the color burst. This would explain why the sound portion of the Paris-Moscow color

TV transmission via a Molniya satellite in late 1965 was sent by landline.

- For black and white TV, it limits audio bandwidth to about 7 kc.

(CIA)
~~(SECRET)~~

No Mars Probe Launched by Soviets; Efforts May be Focused on Something More Historic

There is no evidence that the USSR launched or even tried to launch a Mars probe during the recent period favorable for such an event.

Soviet reluctance to launch would seem surprising, since the USSR has launched one or more probes each time since October 1960 that the launch window has opened for either Mars or Venus. In all, 16 Soviet interplanetary attempts are known -- all of them failing to send to Earth any data about their target planets. (See listing on page 42.)

The Soviets may have decided not to launch during the recent launch window for Mars because:

- They may be concentrating their efforts on more spectacular events scheduled for 1967, the 50th year of Communism in the USSR.
- They may not have solved some of the problems, particularly in the field of communications.

(NORAD)
~~(SECRET)~~

Cosmos 144 a Meteorological Satellite

The Soviets launched Cosmos 144 from the Plesetsk space and missile complex at about 1435Z, 28 February.

Cosmos 144 is believed to be a meteorological satellite, since its orbital parameters (apogee 346 n.m., perigee 321 n.m.) are similar to those of Cosmos 122 (an acknowledged Soviet meteorological satellite) and its experimental predecessors -- Cosmoses 44, 58, 100, and 118. As an exception, Cosmos 144 has an orbital inclination of 81 degrees, which is even better for weather surveillance than the 65 degrees used by past Soviet meteorological satellites.

The Soviets, however, gave no explicit information on the mission of the new satellite, except to say that it is another in the Cosmos series of research satellites which allegedly are studying the space environment and the Earth's cloud cover.

The Soviets probably will not state specifically that Cosmos 144 is a weather satellite until they can verify that it is operating properly. They did not state the specific mission of Cosmos 122, their first operational weather satellite, until nearly 2 months after launch.

Two unprecedented features of this launch:

- The orbital inclination of 81 degrees is the highest yet for any Soviet satellite.
- Cosmos 144 is the first spacecraft other than military reconnaissance satellites to be launched from Plesetsk. Eight vehicles of the latter type have been launched from Plesetsk in the past year.

The 81-degree inclination will permit the Soviets to maintain weather surveillance of the Arctic region, in which they naturally have a deep interest. (NORAD)

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SOVIET INTERPLANETARY PROBES (1960-1966)

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DATE	TARGET	SOVIET NAME	CAUSE OF FAILURE	SUBSTANCE OF SOVIET ANNOUNCEMENTS
10 Oct 1960	Mars	None	Premature cutoff of 3d stage engine	None
14 Oct 1960	Mars	None	Premature cutoff of 3d stage engine	None
04 Feb 1961	Venus	Heavy Sputnik	Stabilization failed in parking orbit prior to feasible time for 4th stage ignition.	A satellite collecting data on the near-Earth space environment.
12 Feb 1961	Venus	Venus 1	Communications failed 11 days after launch.	A Venus probe successfully launched into transfer trajectory. Payload details given.
25 Aug 1962	Venus	None	Tumbling 4th stage produced no useful thrust.	None
01 Sep 1962	Venus	None	Tumbling 4th stage produced no useful thrust	None
12 Sep 1962	Venus	None	Partial failure of attitude stabilization.	None
24 Oct 1962	Mars	None	Malfunction subsequent to 4th stage ignition.	None
01 Nov 1962	Mars	Mars 1	Communications failed about 5 months after launch; stabilization failed.	Mars probe successfully launched. Payload details given. Later it was announced that stabilization had failed.
04 Nov 1962	Mars	None	4th-stage injection failure.	None
27 Mar 1964	Venus	Cosmos 27	4th-stage injection failure.	A Cosmos satellite collecting data on near-Earth space environment.
02 Apr 1964	Venus	Zond 1	Communications failed less than 2 months after launch.	Launched to assist in development of equipment for "distant interplanetary flight."
30 Nov 1964	Mars	Zond 2	Last known signal received 7 April 1965	Launched "toward" Mars, but power supply only half that expected.
12 Nov 1965	Venus	Venera 2	Communications failed before reaching Venus	Venus probes successfully launched, #2 to pass close to Venus, #3 to soft-land on that planet; missions: to get data on Venus's atmosphere and surface.
16 Nov 1965	Venus	Venera 3		
23 Nov 1965	Venus	Cosmos 96	4th stage exploded on ignition.	A Cosmos satellite collecting data on the near-Earth space environment.

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