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basic imagery interpretation report

SRF Army-Level Radio Communications Transmitter Stations (S)

DEPLOYED COMMO/ELEC/RADAR FACILITIES

BE: Various

USSR

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INSTALLATION OR ACTIVITY NAME					COUNTRY
SRF Army-level Radio Communications Transmitter Stations					UR
UTM COORDINATES	GEOGRAPHIC COORDINATES	CATEGORY	BE NO.	COMIREX NO.	NIETB NO.
NA	See below	See below	See below	See below	See below
MAP REFERENCE					
See below					
LATEST IMAGERY USED			NEGATION DATE (if required)		
See REFERENCE Section			NA		

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Installation Name	Geographic Coordinates
Chita SRF Army Hq Radcom Xmtr/Bnk/Hd	52-02-57N 113-11-08E
Smolensk SRF Army Hq Rad Xmtr/Bnk/Hd	54-41-10N 031-51-00E
Omsk SRF Army Hq Radcom Xmtr/Bnk/Hard	54-56-13N 074-07-39E
Orenburg SRF Army Hq Rad Xmtr/Bnk/Hd	52-01-52N 055-18-18E
Vinnitsa SRF Army/LRA Radcom Xmtr Sta	49-12-37N 028-17-11E
Vinnitsa SRF Army Hq Rad Xmtr/Bnk	49-30-30N 028-00-10E
Vladimir SRF Army Hq Rad Xmtr/Bnk/Hd	56-13-51N 040-05-51E

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ABSTRACT

1. This report consolidates imagery-derived information on seven Soviet Strategic Rocket Forces Army-level transmitter communications facilities and updates information in NPIC reports
2. (U) The report includes a detailed description of the facilities, a location map, seven annotated photographs, and seven tables of antenna information.

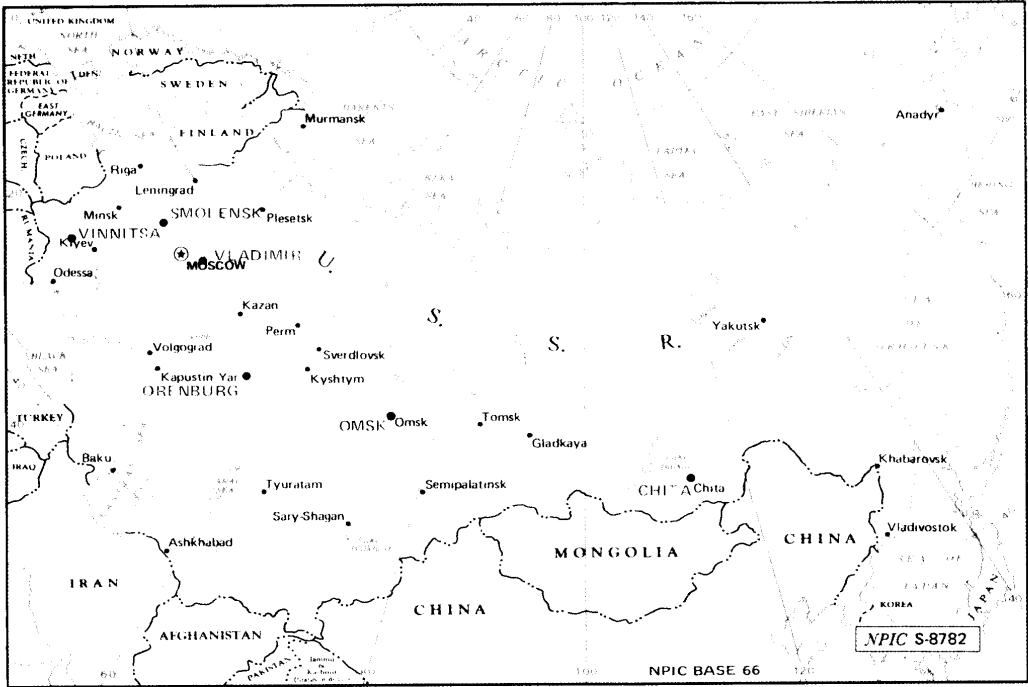


FIGURE 1. LOCATIONS OF SRF ARMY-LEVEL TRANSMITTER STATIONS

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INTRODUCTION

3. [] The facilities of the Soviet Strategic Rocket Forces (SRF) command and control network can be grouped into four general categories: National-level facilities, Army-level facilities, ICBM complex communications facilities, and IR/MRBM complex communications facilities. Typically, SRF Army-level command and control communications facilities consist of a command post bunker with a contiguous receiving antenna field and a remote transmitter facility. This report describes the Army-level transmitter facilities identified at Chita, Omsk, Orenburg, Smolensk, Vinnitsa, and Vladimir (Figure 1). Each of these SRF army locations consists of one transmitter facility with the exception of Vinnitsa which consists of two. The most recently constructed transmitter facility at Vinnitsa, Vinnitsa SRF Army Headquarters Radio (Rad) Transmitter (Xmtr)/Bunker, probably replaced the Vinnitsa SRF Army/Long-range Aviation (LRA) Radio Communications (Radcom) Xmtr Station as the primary transmitter for the Vinnitsa SRF Army. The older facility, however, may still function as an alternate transmitter for the SRF since no antenna modifications or removals have been observed.

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4. [] With the exception of the older Vinnitsa SRF Army/LRA Radcom Xmtr Station, all of the Army-level transmitter facilities are similar. They all have bunkered control buildings, bunkered type-B hardened antennas, aboveground high-frequency (HF) communications antennas, a type-C communications satellite (comsat) building, and a permanent support area.

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BASIC DESCRIPTION

Chita SRF Army

5. [] Chita SRF Army Headquarters Radcom Xmtr/Bunker/Hard is 9 nautical miles (nm) west of Chita and 14 nm southwest of the Chita SRF Army Command Post/Bunker/Hard []. It is fence-secured (Figure 2) and consists of an earth-mounded, single-arch-roofed control bunker, a surrounding antenna field which is separated into fields A and B, a type-C comsat building, and a permanent support area.

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6. [] Antenna field A (Table 1) consists of eight double rhombic antennas, five horizontal dipole antennas, and two quadrant antennas.

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7. [] Antenna field B (Table 1) consists of 18 double rhombic antennas, ten horizontal dipole antennas, three type-B hardened antennas, two tower-mounted FORK REST antennas, and a mast supporting a probable very high frequency/ultra-high frequency (VHF/UHF) communications antenna.

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8. [] Since the previous reports,^{1,2} the two-story control building in antenna field A has been modified and is serving as a type-C comsat station. The modification began in 1975 and had been completed by September 1977. Three lattice towers (items 16, 17, and 18) near this comsat station (two of which support a FORK REST antenna) were removed. In antenna field B, two horizontal dipole antennas (items 25 and 26) were removed, one horizontal dipole antenna (item 36) was added, and FORK REST antennas were installed on two towers (items 34 and 35) near the control bunker.

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Omsk SRF Army

9. [] Omsk SRF Army Headquarters Radcom Xmtr/Bunker/Hard is 23 nm east of Omsk and 21 nm southeast of the Omsk SRF Army Command Post/Bunker/Hard []. It is fence secured and consists of an earth-mounded, arch-roofed control bunker, a surrounding antenna field which is separated into fields A and B, a type-C comsat station, and a permanent support area.

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10. [] Antenna field A (Table 2) consists of ten double rhombic antennas, seven horizontal dipole antennas, two dual-shunted-angle dipole antennas, and one mast supporting a probable VHF/UHF communications antenna.

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11. [] Antenna field B (Table 2) consists of eight double rhombic antennas, six horizontal dipole antennas, two dual-shunted-angle dipole antennas, two type-B hardened antennas, and one mast supporting a probable VHF/UHF communications antenna.

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12. [] Since the previous reports,^{1,3} the following changes to the facility have occurred. In antenna field A, a type-C comsat station situated near the support area was constructed and appeared to be operational. The comsat station was first seen under construction in January 1975 [] and had been completed by May 1978. A horizontal dipole antenna (item 24), [] was constructed near the support area. Two horizontal dipole antennas (items 1 and 2), [] and two masts (items 21 and 22) had been removed. In antenna field B, four double rhombic antennas (items 3, 4, 5, and 6), [] had been removed and replaced by two nested pairs of double rhombic antennas (items 20, 21, 22, and 23) [].

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Orenburg SRF Army

13. [] Orenburg SRF Army Headquarters Rad Xmtr/Station/Bunker is 16 nm north of Orenburg and 18 nm north of the Orenburg SRF Army Command Post/Bunker/Hard []. It is fence secured and consists of a single earth-mounded, arch-roofed control bunker, a surrounding antenna field, a type-C comsat station and a permanent support area (Figure 4).

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14. [] The antenna field consists of 14 double rhombic antennas, 22 horizontal dipole antennas, two quadrant antennas, two type-B hardened antennas, and one mast supporting a probable VHF/UHF communications antenna (Table 3).

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15. [] Since the previous reports,^{1,4} the following changes to the facility have occurred. The control bunker, which was in the midstage of construction in early 1976, was complete in January 1978. A pair of type-B hardened antennas (items 38 and 39), [] and a mast supporting a probable VHF/UHF communications antenna (item 37), have been added near the bunker. The type-C comsat station, which was probably started in the spring of 1976, had been completed and appeared to be operational by May 1978. Two previously reported single rhombic antennas can now be identified as double rhombic antennas (items 9 and 10). Three additional double rhombic antennas (items 30, 31, and 32) and four horizontal dipoles (items 33, 34, 35, and 36) were also added to the antenna field. A permanent support area has been completed and consists of five support buildings and two quadrant antennas (items 40 and 41). The construction support area has been razed.

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Smolensk SRF Army

16. [] The Smolensk SRF Army Headquarters Rad Xmtr/Bunker/Hard is 9.5 nm southwest of Smolensk and 16 nm east of the Smolensk SRF Army Command Post/Bunker []. It was in early stages of construction in August 1974 [] and was probably complete in August 1979 []. The facility is fence secured and consists of an earth-mounded, dual-arch-roofed control bunker, a surrounding antenna field, a type-C comsat building, and a permanent support area (Figure 5). The antenna field consists of six double rhombic antennas, at least 50 horizontal dipole antennas, and eight type-B hardened antennas (Table 4). A complete analysis of all the horizontal dipole antennas could not be made from the available imagery.

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17. [] This is the only Army-level transmitter facility with a dual-arch-roofed control bunker. All other Army-level transmitter facilities have single-arch-roofed control bunkers. This facility also consists of a larger number of type-B hardened antennas and horizontal dipole antennas than the other Army-level transmitters.

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18. [] Since the previous report,⁵ the following changes have occurred to the facility. The control bunker had been completed by September 1977 and the antenna field had probably been completed by August 1979. The type-C comsat station was complete when first observed in September 1977. It was not present when the facility was observed in October 1976 []. Eight type-B hardened antennas (items 57 through 64) and at least 28 horizontal dipole antennas (items 29 through 56) were added to the antenna field.

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Vinnitsa SRF Army

19. [] Vinnitsa SRF Army Headquarters Rad Xmtr/Bunker serves as the primary transmitter for the Vinnitsa SRF Army. It is 25 nm northwest of Vinnitsa and 15 nm west of the Vinnitsa SRF Army Command Post/Bunker/Hard []. The facility was first identified in the early stages of construction in June 1975 although activity had been observed in the area as early as December 1973. The facility, which had been completed by at least February 1978, is fence secured and consists of an earth-mounded, arch-roofed control bunker; a surrounding antenna field; a Type-C comsat building; and a permanent support area (Figure 6). The antenna field consists of ten double rhombic antennas, 30 horizontal dipole antennas, two type-B hardened antennas, and one mast supporting a probable VHF/UHF communications antenna (Table 5).

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20. [] Since the previous report,⁶ the following changes have occurred to the facility. The control bunker, comsat station, and support area have been completed and 18 horizontal dipole antennas (items 25 through 42) have been added to the antenna field.

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21. [] Vinnitsa SRF Army/LRA Radcom Xmtr Station, which probably serves as an alternate transmitter for the Vinnitsa SRF Army, is 8 nm west of Vinnitsa and 21 nm southeast of the newly completed Vinnitsa SRF Army Headquarters Rad Xmtr/Bunker. It is one of the oldest identified SRF radcom facilities and the only Army-level transmitter which has no hardened antennas and no bunkered control buildings. The facility was complete when first identified in 1961 and has undergone few changes since that time. It is probably still shared by the SRF and the LRA, is fence secured and consists of two control buildings, an antenna field surrounding each control building, a type-C comsat building, and a permanent support area (Figure 7). The antenna fields consist of 24 double rhombic antennas, 14 horizontal dipole antennas, eight dual-shunted-angle dipole antennas, two mast-mounted FORK REST antennas, and three masts probably supporting VHF/UHF communications antennas (Table 6).

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22. [] The type-C comsat building was first observed under construction in June 1975 and had been completed by October 1978. Type-C comsat stations have been deployed at all of the other SRF transmitter facilities and the construction of this building is probably an indication of the continued use of this facility by the SRF. The comsat station and the identification of three masts in antenna field A are the only changes to the antenna fields since the previous reports.^{1,6}

23. [] In April 1979, a TWIN PLATE mobile troposcatter communications unit was observed at the type-C comsat station. This was the first observation of mobile communications equipment at this facility.

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Table 1.
Chita SRF Army Headquarters Radcom Xmtr/Bunker/Hard (Items keyed to Figure 2)
This table in its entirety is classified TOP SECRET RUFF

Item	Antenna Type	Soviet Designator	Prob Correspondent	Item	Antenna Type	Soviet Designator	Prob Correspondent
ANTENNA FIELD A				ANTENNA FIELD B			
1	Double rhombic	RGD 65 1	Omsk/Orenburg/Kapustin Yar	9	Double rhombic	RGD 65 1	Tyuratam
2	Double rhombic	RGD 65 1	Omsk/Orenburg/Kapustin Yar	10	Double rhombic	RGD 65 1	Tyuratam
3	Double rhombic	RGD 65 1	Svobodnyy/Kurgancha	11	Double rhombic	RGD 70 1.25	Kurgancha
4	Double rhombic	RGD 70 1.25	Svobodnyy/Kurgancha	12	Double rhombic	RGD 65 1	Zhangiz-Tobe
5	Double rhombic	RGD 70 1.25	Moscow/Vladimir	13	Double rhombic	RGD 65 1	Omsk/Orenburg/Kapustin Yar
6	Double rhombic	RGD 65 1	Moscow/Vladimir/Smolensk	14	Double rhombic	RGD 70 1.25	Zhangiz-Tobe
7	Double rhombic	RGD 70 1.24	Moscow/Vladimir/Smolensk	15	Double rhombic	RGD 70 1.25	Vinnitsa
8	Double rhombic	RGD 65 1	Moscow/Vladimir/Smolensk	16	Double rhombic	RGD 65 1	Vinnitsa
9	Horizontal dipole	VGDSH 25	Drovyannaya	17	Double rhombic	RGD 70 1.25	Moscow/Vladimir/Smolensk
10	Horizontal dipole	VGDSH 25	Drovyannaya	18	Double rhombic	RGD 65 1	Moscow/Vladimir/Smolensk
11	Horizontal dipole	VGDSH 25	Irkutsk area	19	Horizontal dipole	VGDSH 8	Irkutsk area
12	Quadrant	UGD 44	—	20	Horizontal dipole	VGDSH 16	Undet
13	Horizontal dipole	VGDSH 25	Olovyannaya	21	Horizontal dipole	VGDSH 16	Undet
14	Horizontal dipole	VGDSH 25	Olovyannaya	22	Horizontal dipole	VGDSH 16	Irkutsk area
15	Quadrant	UGD 20	—	23	Horizontal dipole	VGDSH 8	Irkutsk area
16	Tower	—	Removed	24	Horizontal dipole	VGDSH 8	Olovyannaya
17	Tower	—	Removed	25	Horizontal dipole	—	Removed
18	Tower	—	Removed	26	Horizontal dipole	—	Removed
ANTENNA FIELD B				27	Horizontal dipole	VGDSH 25	Olovyannaya
1	Double rhombic	RGD 57 0.5	Svobodnyy	28	Horizontal dipole	VGDSH 25	Irkutsk area
2	Double rhombic	RGD 57 0.5	Svobodnyy	29	Horizontal dipole	VGDSH 8	Irkutsk area
3	Double rhombic	RGD 70 1.25	Omsk/Orenburg/Kapustin Yar	30	Hardened antenna	—	Dzhambul
4	Double rhombic	RGD 65 1	Moscow/Vladimir/Smolensk	31	Hardened antenna	—	Dzhambul
5	Double rhombic	RGD 65 1	Moscow/Vladimir/Smolensk	32	Hardened antenna	—	Dzhambul
6	Double rhombic	RGD 70 1.25	Moscow/Vladimir/Smolensk	33	Mast	—	—
7	Double rhombic	RGD 65 1	Moscow/Vladimir/Smolensk	34	FORK REST	—	—
8	Double rhombic	RGD 65 1	Undet	35	FORK REST	—	—
			Undet	36	Horizontal dipole	VGDSH 20 15	Olovyannaya

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Table 2.
Omsk Army Headquarters Radcom Xmtr/Bunker/Hard (Items keyed to Figure 3)
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Item	Antenna Type	Soviet Designator	Prob Correspondent
ANTENNA FIELD A			
1	Horizontal dipole	—	Removed
2	Horizontal dipole	—	Removed
3	Horizontal dipole	VG D 30	Imeni Gastello
4	Horizontal dipole	VG D 15	Imeni Gastello
5	Double rhombic	RG D 65 1	Moscow/Vladimir
6	Double rhombic	RG D 65 1	Moscow/Vladimir
7	Double rhombic	RG D 65 1	Moscow/Vladimir
8	Double rhombic	RG D 65 1	Moscow/Vladimir
9	Double rhombic	RG D 65 1	Perm - Kirov
10	Double rhombic	RG D 57 0.5	Perm - Kirov
11	Double rhombic	RG D 57 0.5	Uzhur/Gladkaya/Chita
12	Double rhombic	RG D 65 1	Uzhur/Gladkaya/Chita
13	Double rhombic	RG D 57 0.5	Uzhur/Chita
14	Double rhombic	RG D 57 0.5	Uzhur/Chita
15	Horizontal dipole	VG D 30	Novosibirsk
16	Horizontal dipole	VG D 30	Novosibirsk
17	Horizontal dipole	VG D 15	Zhangiz-Tobe
18	Horizontal dipole	VG D 15	Zhangiz-Tobe
19	Dual-shunted-angle dipole	VG Dsh2U 16	—
20	Dual-shunted-angle dipole	VG Dsh2U 8	—
21	Mast	—	Removed
22	Mast	—	Removed
23	Mast	—	—
24	Horizontal dipole	VG D 30	Perm/Tyumen/Aleysk
ANTENNA FIELD B			
1	Horizontal dipole	VG D 30	Imeni Gastello/Itatka
2	Horizontal dipole	VG D 15	Imeni Gastello/Itatka
3	Double rhombic	—	Removed
4	Double rhombic	—	Removed
5	Double rhombic	—	Removed
6	Double rhombic	—	Removed
7	Double rhombic	RG D 65 1	Dzhambul
8	Double rhombic	RG D 65 1	Dzhambul
9	Double rhombic	RG D 65 1	Moscow/Vladimir
10	Double rhombic	RG D 65 1	Moscow/Vladimir
11	Horizontal dipole	VG D 20	Novosibirsk
12	Horizontal dipole	VG D 20	Novosibirsk
13	Horizontal dipole	VG D 8	Novosibirsk
14	Horizontal dipole	VG D 8	Novosibirsk
15	Dual-shunted-angle dipole	VG Dsh2U 16	—
16	Dual-shunted-angle dipole	VG Dsh2U 8	—
17	Hardened antenna	—	Orenburg/Chita/ Uzhur/Gladkaya
18	Hardened antenna	—	Orenburg/Chita/ Uzhur/Gladkaya
19	Mast	—	Itatka/Gladkaya
20	Double rhombic (nested pair)	RG D 65 1	Itatka/Gladkaya
21	Double rhombic (nested pair)	RG D 65 1	Itatka/Gladkaya
22	Double rhombic (nested pair)	RG D 57 0.5	Itatka/Gladkaya
23	Double rhombic (nested pair)	RG D 57 0.5	Itatka/Gladkaya

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Table 3.
Orenburg Army Headquarters Radcom Xmtr/Station/Bunker (items keyed to Figure 4)
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Item	Antenna Type	Soviet Designator	Prob Correspondent
1	Double rhombic	RGD 65 0.6 2.8	Vinnitsa/Imeni Gastello/ Tatishchevo/Zangiz-Tobe
2	Double rhombic	RGD 65 1 4	Vinnitsa/Imeni Gastello/ Tatishchevo/Zangiz-Tobe
3	Double rhombic	RGD 65 0.6 2.8	Moscow/Vladimir
4	Double rhombic	RGD 57 0.5 1.7	Moscow/Vladimir
5	Double rhombic	RGD 57 0.5 1.7	Moscow/Vladimir
6	Double rhombic	RGD 65 1 4	Moscow/Vladimir
7	Double rhombic	RGD 65 1 4	Moscow/Vladimir
8	Double rhombic	RGD 57 0.5 1.7	Moscow/Vladimir
9	Double rhombic	RGD 65 1 4	Omsk
10	Double rhombic	RGD 70 1.25 6	Omsk
11	Double rhombic	RGD 65 1 4	Sary-Ozek
12	Horizontal dipole	VGDsh 25 30.2	Vinnitsa/Imeni Gastello/ Tatishchevo/Zangiz-Tobe
13	Horizontal dipole	VGDsh 25 30.2	Sary-Ozek
14	Horizontal dipole	VGDsh 25 16.6	Kubyshev
15	Horizontal dipole	VGDsh 25 28.8	Kubyshev
16	Horizontal dipole	VGDsh 25 29.9	Perm
17	Horizontal dipole	VGDsh 25 26.1	Tyumen/Shadrinsk
18	Horizontal dipole	VGDsh 25 30.1	Vinnitsa/Imeni Gastello/ Tatishchevo/Zangiz-Tobe
19	Horizontal dipole	VGDsh 25 30.2	Kubyshev
20	Horizontal dipole	VGDsh 8 15.3	Kubyshev
21	Horizontal dipole	VGDsh 8 15	Kubyshev
22	Horizontal dipole	VGDsh 25 30	Kubyshev
23	Horizontal dipole	VGDsh 25 30	Kubyshev
24	Horizontal dipole	VGDsh 25 29.7	Perm/Verkhnyaya Salda
25	Horizontal dipole	VGDsh 25 29.7	Verkhnyaya Salda
26	Horizontal dipole	VGDsh 8 15.6	Perm
27	Horizontal dipole	VGDsh 8 15.6	Perm/Verkhnyaya Salda
28	Horizontal dipole	VGDsh 25 14.8	Verkhnyaya Salda
29	Horizontal dipole	VGDsh 25 30.1	Omsk
30	Double rhombic	RGD 65 0.6 2.8	Sary-Ozek
31	Double rhombic	RGD 65 1 4	Tyuratam/Kurgancha
32	Double rhombic	RGD 65 1 4	Tyuratam/Kurgancha
33	Horizontal dipole	VGD 8 14.5	Tyumen/Shadrinsk
34	Horizontal dipole	VGD 8 16.6	Vinnitsa/Imeni Gastello/ Tatishchevo/Zangiz-Tobe
35	Horizontal dipole	VGD 8 15.0	Vinnitsa/Imeni Gastello/ Tatishchevo/Zangiz-Tobe
36	Horizontal dipole	VGD 8 15.4	Kubyshev
37	Mast	—	—
38	Hardened antenna	—	Moscow/Vladimir
39	Hardened antenna	—	Moscow/Vladimir
40	Quadrant	VGD 20	—
41	Quadrant	VGD 32	—

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Table 4.
Smolensk SRF Army Headquarters Rad Xmtr/Bunker/Hard (items keyed to Figure 5)
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Item	Antenna Type	Soviet Designator	Prob	Item	Antenna Type	Soviet Designator	Prob Correspondent
1	Double rhombic	RGD 65 1	Vladimir	32	Horizontal dipole	VGd 15	Moscow area
2	Double rhombic	RGD 65 1	Vladimir	33	Horizontal dipole	VGdsh 25	Moscow area
3	Horizontal dipole	VGdsh 25	Moscow	34	Horizontal dipole	VGdsh 31	Voru
4	Horizontal dipole	VGdsh 25	Moscow	35	Horizontal dipole	VGdsh 25	Moscow area
5	Horizontal dipole	VGdsh 25	Moscow	36	Horizontal dipole	VGdsh 16	Moscow area
6	Horizontal dipole	VGdsh 25	Moscow	37	Horizontal dipole	VGdsh 8	Moscow area
7	Horizontal dipole	VGd 20	Moscow	38	Horizontal dipole	VGd 15	Yedrovo
8	Horizontal dipole	VGdsh 25	Moscow	39	Horizontal dipole	VGd 25	Yedrovo
9	Horizontal dipole	VGdsh 25	Moscow	40	Horizontal dipole	VGd 27.5	Yedrovo
10	Double rhombic	RGD 65 1	Orenburg	41	Horizontal dipole	VGdsh 15	Rakvere
11	Double rhombic	RGD 65 1	Orenburg	42	Horizontal dipole	VGd 30	Aluksne/Valga
12	Horizontal dipole	VGdsh 25	Kisti	43	Horizontal dipole	VGdsh 25	Jelgava/Dina/Nigrande
13	Horizontal dipole	VGdsh 25	Torva	44	Horizontal dipole	VGdsh 12.5	Undet
14	Horizontal dipole	VGdsh 25	Torva	45	Horizontal dipole	VGdsh 22	Krasnoznamen/Sovetsk/Kaunas
15	Horizontal dipole	VGdsh 25	Tula area	46	Horizontal dipole	VGdsh 25	Sateikiai
16	Horizontal dipole	VGd 25	Moscow	47	Horizontal dipole	VGdsh 25	Gusev
17	Horizontal dipole	Unknown	Vinnitsa	48	Horizontal dipole	VGdsh 30	Molokovitsy
18	Horizontal dipole	VGdsh 25	Ostrov	49	Horizontal dipole	VGdsh 8	Undet
19	Horizontal dipole	VGdsh 25	Polotsk/Zagare	50	Horizontal dipole	VGdsh 8	Gresk/Brest
20	Horizontal dipole	VGd 20	Postavy	51	Horizontal dipole	VGdsh 15	Kuzhany/Pruzhany/Slonim
21	Horizontal dipole	VGdsh 25	Siauliai	52	Horizontal dipole	VGdsh 8	Undet
22	Horizontal dipole	VGdsh 25	Ukmerge/Taurage	53	Horizontal dipole	VGdsh 15	Undet
23	Horizontal dipole	VGdsh 25	Lida	54	Horizontal dipole	VGdsh 15	Smorgon
24	Horizontal dipole	VGdsh 25	Vsielub/Dyatlovo	55	Horizontal dipole	VGdsh 8	Smorgon
25	Horizontal dipole	VGdsh 25	Pinsk	56	Horizontal dipole	VGdsh 15	Gvardeysk/Znamensk
26	Horizontal dipole	VGdsh 25	Undet	57	Hardened antenna	—	Ostrov
27	Double rhombic	RGD 65 1	Taybola	58	Hardened antenna	—	Yedrovo
28	Double rhombic	RGD 65 1	Taybola	59	Hardened antenna	—	Yedrovo
29	Horizontal dipole	VGd 30	Moscow	60	Hardened antenna	—	Ostrov
30	Horizontal dipole	VGdsh 25	Moscow	61	Hardened antenna	—	Moscow
31	Horizontal dipole	VGdsh 25	Tula area	62	Hardened antenna	—	Vladimir
			Moscow area	63	Hardened antenna	—	Moscow
				64	Hardened antenna	—	Vladimir

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Table 5.
Vinnitsa SRF Army Headquarters Rad Xmtr/Bunker (items keyed to Figure 6)
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Item	Antenna Type	Soviet Designator	Prob Correspondent
1	Hardened antenna	—	Moscow
2	Hardened antenna	—	Moscow
3	Double rhombic	RGD 65 1	Yoshkar Ola
4	Double rhombic	RGD 65 1	Tatishchevo
5	Double rhombic	RGD 70 1.25	Tatishchevo
6	Double rhombic	RGD 65 1	Yoshkar Ola
7	Horizontal dipole	VGDbh 25	Belokorovich
8	Horizontal dipole	VGDbh 25	Mozyr
9	Double rhombic	RGD 65 0.6	Ukn
10	Double rhombic	RGD 65 0.6	Ukn
11	Horizontal dipole	VGDbh 25	Nadvornaya/Derazhyya/Romny
12	Horizontal dipole	VGDbh 25	Dolina/Khmelnitkiy
13	Horizontal dipole	VGDbh 25	Sokal
14	Horizontal dipole	VGDbh 25	Granov/Pervomaysk
15	Horizontal dipole	VGDbh 25	Borshchev/Kolomyia
16	Horizontal dipole	VGDbh 25	Krolevets
17	Horizontal dipole	VGDbh 25	L'vov area
18	Horizontal dipole	VGDbh 25	L'vov area
19	Horizontal dipole	VGDbh 31	Brody
20	Horizontal dipole	VGDbh 25	Kivertsy
21	Double rhombic	RGD 57 0.5	Moscow
22	Double rhombic	RGD 57 0.5	Moscow
23	Double rhombic	RGD 65 1	Ordzhonikidze
24	Double rhombic	RGD 65 1	Ordzhonikidze
25	Horizontal dipole	VGDbh 8	Yelsk/Mozyr
26	Horizontal dipole	VGDbh 25	Yelsk/Mozyr
27	Horizontal dipole	VGDbh 25	Zhmerinka
28	Horizontal dipole	VGDbh 8	Brody
29	Horizontal dipole	VGDbh 8	Dolina/Khmelnitkiy
30	Horizontal dipole	VGDbh 15	Lutsk/Ostrog
31	Horizontal dipole	VGDbh 8	Gomel
32	Horizontal dipole	VGDbh 8	Moscow
33	Horizontal dipole	VGDbh 8	Moscow
34	Horizontal dipole	VGDbh 8	Moscow
35	Horizontal dipole	VGDbh 8	Moscow
36	Horizontal dipole	VGDbh 25	Pervomaysk
37	Horizontal dipole	VGDbh 25	Moscow
38	Horizontal dipole	VGDbh 25	Moscow
39	Horizontal dipole	VGDbh 25	Moscow
40	Horizontal dipole	VGDbh 25	Moscow
41	Horizontal dipole	VGDbh 25	Gomel
42	Horizontal dipole	VGDbh 25	Kozhanovich/Belokorovich
43	Mast	—	—

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Table 6.
Vinnitsa SRF Army/LRA Radio Communications Transmitter Station (Items keyed to Figure 7)

This table in its entirety is classified TOP SECRET RUFF

Item	Antenna Type	Soviet Designator	Prob Correspondent	Item	Antenna Type	Soviet Designator	Prob Correspondent
ANTENNA FIELD A				2	Double rhombic	RGD 65 1 4	Undet
1	Double rhombic	RGD 65 1 4	Undet	3*	Double rhombic	RGD 65 1 4	Weather broadcast (LRA)
2	Double rhombic	RGD 65 1 4	Undet	4*	Double rhombic	RGD 65 1 4	Weather broadcast (LRA)
3*	Double rhombic	RGD 65 1 4	Weather broadcast (LRA)	5*	Double rhombic	RGD 65 1 4	Undet
4*	Double rhombic	RGD 65 1 4	Weather broadcast (LRA)	6*	Double rhombic	RGD Undet	Undet
5*	Double rhombic	RGD 65 1 4	Moscow/Vladimir (SRF)	7*	Double rhombic	RGD 65 1 4	Undet
6*	Double rhombic	RGD 65 1 4	Moscow/Vladimir (SRF)	8*	Double rhombic	RGD 65 1 4	Ordzhonikidze (SRF)
7	Double rhombic	RGD 65 1 4	Undet	9*	Double rhombic	RGD Undet	Ordzhonikidze (SRF)
8	Double rhombic	RGD 65 1 4	Undet	10*	Double rhombic	RGD 65 1 4	Ordzhonikidze (SRF)
9*	Double rhombic	RGD 65 1 4	Stryi (LRA)	11*	Double rhombic	RGD 65 1 4	Stryi (LRA)
10*	Double rhombic	RGD 65 1 4	Stryi (LRA)	12*	Double rhombic	RGD 65 1 4	Stryi (LRA)
11*	Double rhombic	RGD 65 1 4	Weather broadcast (LRA)	13	Dual shunted angle dipole	VGDbsh-2U 16	Omnidirectional
12*	Double rhombic	RGD 65 1 4	Weather broadcast (LRA)	14	Dual-shunted-angle dipole	VGDbsh-2U 8	Omnidirectional
13	Dual-shunted-angle dipole	VGDbsh-2U 16	—	15	Horizontal dipole	VGDbsh 8	Smolensk (LRA & SRF)
14	Dual-shunted-angle dipole	VGDbsh-2U 8	—	16	Horizontal dipole	VGDbsh 25	Smolensk (LRA & SRF)
15	Dual-shunted-angle dipole	VGDbsh-2U 16	—	17	Horizontal dipole	VGD 21	Moscow
16**	Dual-shunted-angle dipole	VGDbsh-2U undet	—	18	Horizontal dipole	VGD 20	Moscow
17	Horizontal dipole	VGDbsh 8	Balta (SRF)	19	Horizontal dipole	VGDbsh 8	Belaya/Tserkov/Priluki (LRA) & Zhmerinka (SRF)
18	Horizontal dipole	VGDbsh 25	Balta (SRF)	20	Horizontal dipole	VGDbsh 25	Belaya/Tserkov/Priluki (LRA) & Zhmerinka (SRF)
19	Horizontal dipole	VGDbsh 8	Korosten (SRF)	21	Horizontal dipole	VGDbsh 8	Poltava (LRA)
20	Horizontal dipole	VGDbsh 25	Korosten (SRF)	22	Horizontal dipole	VGDbsh 25	—
21	Horizontal dipole	VGD 8	Skomorokhi (LRA)/Mozyr (SRF)	23	Dual-shunted-angle dipole	VGDbsh-2U 16	—
22	Horizontal dipole	VGD 14	Skomorokhi (LRA)/Mozyr (SRF)	24	Dual-shunted-angle dipole	VGDbsh-2U 8	—
23	Mast	—	—	25	FORK REST	—	Undet
24	Mast	—	—	26	FORK REST	—	Undet
25	Mast	—	—				
ANTENNA FIELD B							
1	Double rhombic	RGD 65 1 4	Undet				

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Table 7. Vladimir Army Headquarters Rad Xntr/Bunker/Hard (Items keyed to Figure 8)
This table in its entirety is classified TOP SECRET RUFF

Item	Antenna Type	Soviet Designator	Prob Correspondent
1	Double rhombic	RGD 65 0.6	Omsk
2	Double rhombic	RGD 65 1	Omsk
3	Double rhombic	RGD 65 1	Omsk
4	Double rhombic	RGD 65 0.6	Omsk
5	Double rhombic	RGD 57 0.5	Orenburg
6	Double rhombic	RGD 57 0.5	Orenburg
7	Horizontal dipole	VGDbh 12.5	Tatishchevo
8	Horizontal dipole	VGDbh 25	Tatishchevo
9	Horizontal dipole	VGDbh 25	Kozelsk/Yurya
10	Prob dual-shunted-angle dipole	VGDbh-2U 31	—
11	Horizontal dipole	VGDbh 12.5	Moscow/Kirov
12	Horizontal dipole	VGDbh 25	Moscow/Kirov
13	Horizontal dipole	VGDbh 25	Smolensk/Yoshkar-Ola
14	Horizontal dipole	VGDbh 25	Smolensk/Yoshkar-Ola
15	Horizontal dipole	VGDbh 25	Smolensk/Yoshkar-Ola
16	Horizontal dipole	VGDbh 25	Yedrovo area
17	Horizontal dipole	VGDbh 12.5	Yedrovo
18	Horizontal dipole	VGDbh 25	Yedrovo
19	Horizontal dipole	VGDbh 12.5	Smolensk/Yoshkar-Ola
20	Horizontal dipole	VGDbh 25	Smolensk/Yoshkar-Ola
21	Dual-shunted-angle dipole	VGDbh-2U 31	—
22	Horizontal dipole	VGDbh 12.5	Yoshkar-Ola area
23	Horizontal dipole	VGDbh 25	Yoshkar-Ola area
24	Horizontal dipole	VGDbh 25	Yoshkar-Ola area
25	Horizontal dipole	VGDbh 25	Yoshkar-Ola area
26	Horizontal dipole	VGDbh 25	Kozelsk/Yurya
27	Horizontal dipole	VGDbh 12.5	Yedrovo area
28	Dual-shunted-angle dipole	VGDbh-2U 16	—
29	Hardened antenna	—	Moscow/Chita
30	Hardened antenna	—	Moscow/Chita
31	Hardened antenna	—	Penza
32	Hardened antenna	—	Penza
33	Mast	—	—
34	FORK REST	—	Undet
35	Mast	—	—
36	FORK REST	—	Undet
37	Prob FORK REST	—	Undet
38	FORK REST	—	Undet
39	Mast	—	Removed
40	Mast	—	—
41	Mast	—	—
42	Mast	—	—
43	Mast	—	—

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Vladimir SRF Army

24. [] Vladimir Army Headquarters Rad Xmtr/Bunker/Hard is 11.5 nm northwest of Vladimir and 18 nm northwest of the Vladimir SRF Army Command Post/Bunker/Hard []
25. [] It is fence secured and consists of an earth-mounded, arch-roofed control bunker, a surrounding antenna field, a type-C comsat building, and a permanent support area (Figure 8).
26. [] The antenna field consists of six double rhombic antennas, four type-B hardened antennas, three dual-shunted-angle dipole antennas (one probable), 19 horizontal dipole antennas, four mast-mounted FORK REST antennas (one probable), and six masts supporting probable VHF/UHF communications antennas (Table 7).
27. [] Since the previous reports,^{1,7} the following changes have occurred. The type-C comsat station, which was in the late stages of construction in August 1975, was complete in September 1977. One mast (item 39) near the control bunker had been removed. The small earth-mounded bunker near the entrance to the facility was modified in 1977 and appeared to be complete in April 1978. Three new masts (items 41, 42, and 43), which appear to be in support of this modified bunker, were identified in September 1977. An area of unidentified construction was observed in April 1978 along the facilities northwest fenceline.

REFERENCES

MAPS OR CHARTS

SAC. US Air Target Chart: Series 200; Sheets 0199-22 (Chita), 0163-10 (Omsk), 0236-02 (Orenburg), 0167-07 (Smolensk), 0233-17 (Vinnitsa SRF Army Hq Rad Xmtr), 0233-17 (Vinnitsa SRF LRA Radcom Xmtr), and 0154-24 (Vladimir), scale 1:200,000 (SECRET)

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2. NPIC [] RCA-03/0010/75, *Command and Control Communications Facilities, Chita SRF Army*, Apr 75 (TOP SECRET C-R) []
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*Extracted material is TOP SECRET R []

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