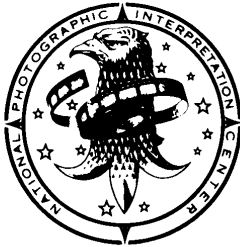


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PHOTOGRAPHIC
INTERPRETATION
REPORT

NATIONAL PHOTOGRAPHIC
INTERPRETATION CENTER

SOVIET TROPOSCATTER EQUIPMENT LOCATIONS IN EUROPE (TSR)

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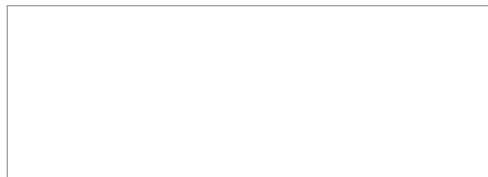
SEPTEMBER 1977

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DISSEMINATION CONTROL ABBREVIATIONS

NOFORN-	Not Releasable to Foreign Nationals
NOCONTRACT-	Not Releasable to Contractors or Contractor/Consultants
PROPIN-	Caution-Proprietary Information Involved
USIBONLY-	USIB Departments Only
ORCON-	Dissemination and Extraction of Information Controlled by Originator
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SOVIET TROPOSCATTER EQUIPMENT LOCATIONS IN EUROPE (TSR)

ABSTRACT

1. (TSR) This report discusses the fixed-station, TWIN DISH (R-408) network; the known garrisons housing TWIN PLATE (R-410) battalions; and the locations of TWIN PAN troposcatter equipment in the groups of Soviet forces in [redacted] Poland, Czechoslovakia, and Hungary. This information is current through 29 July 1977, the information cutoff date of this report.

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INTRODUCTION

2. (TSR) Twenty-four TWIN DISH (R-408) stations, six TWIN PLATE (R-410) battalions, and three TWIN PAN locations have been identified from photography of Eastern Europe. A map of troposcatter equipment locations (Figure 1) shows the well-defined groups of Soviet forces troposcatter network. Table 1 provides a list of the TWIN DISH stations (by country name) and the location, geographic coordinates, number of pairs of antennas, azimuths, and probable correspondents for each station.

BASIC DESCRIPTION

TWIN DISH

[redacted]

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TWIN PLATE

4. (TSR) TWIN PLATE troposcatter relay battalions are housed at the following installations: Rembertow Army Barracks 203, Poland [redacted] Miedzyrzecz Army Barracks Keszycza 201, Poland [redacted] Legnica Army Barracks 201, Poland [redacted] [redacted] and Milovice Army Barracks Northwest 201, Czechoslovakia [redacted]. The TWIN PLATE system is very mobile. Figure 3 shows TWIN PLATES in an operational configuration at Torun Training Area Podgorz 416, Poland [redacted] Figure 4 shows elements of a TWIN PLATE battalion in travel mode at Legnica Training Area 226, Poland [redacted]

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TWIN PAN

5. (TSR) The TWIN PAN system has been identified only with the NGF. Two pairs of TWIN PAN antennas (Figure 5) are at Borne Army Barracks Sulnowo 201, Poland [redacted] and at Miedzyrzecze Army Barracks Keszycze 201, Poland. An additional TWIN PAN pair was identified on the south edge of Swinoujscie [redacted] The garrison housing this pair has not been confirmed.

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REFERENCES

[redacted]

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MAP

CIA. Base Map, Sheet 501967, scale 1:3,500,000

REQUIREMENT

Project 121200NG

[redacted]

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[redacted]

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Table 1. TWIN DISH Stations in Eastern Europe
 This table in its entirety is classified TOP SECRET RUFF

Station Location	Geo Coordinates	No of Pairs of Antennas	Prob Correspondents
Kluki, PL	52-14-58N 021-46-00E	2	Undetermined Lodz, PL
Legnica, PL	51-12-20N 016-07-00E	1	Keszycza, PL
Lodz, PL	51-48-40N 019-34-10E	2	Kluki, PL Wrzesnia, PL
Lubin, PL	51-22-35N 016-12-00E	2	Wrzesnia, PL Milovice
Lutol Suchy, PL	52-21-20N 015-42-05E	2	Wrzesnia, PL Wunsdorf, GC
Keszycza, PL	52-24-20N 015-28-40E	2	Borne, PI Legnica, PL
Stargard, PL	53-15-10N 015-00-00E	1	Undetermined
Wrzesnia, PL	52-21-50N 017-35-10E	3	Lodz, PL Lubin, PL Lutol Suchy, PL
Doupov, CZ	50-11-05N 013-11-10E	1	Milovice Area, CZ
Milovice Jirice, CZ	50-15-05N 014-49-30E	2	Lubin, PL Vysoke Mytol, PL
Milovice South, CZ	50-13-02N 014-51-48E	Single Single	Olomouc, CZ Olomouc Jaromerice, CZ Undetermined
Olomouc, CZ	49-34-04N 017-12-22E	3	Zvolen, CZ Zvolen, CZ Vysoke Myto and Milovice South, CZ
Olomouc Jaromerice, CZ	49-37-20N 016-52-10E	1	Vysoke Myto and Milovice South, CZ
Vysoke Myto, CZ	49-56-00N 016-06-20E	2	Olomouc and Olomouc Jaromerice, CZ Milovice Jirice, CZ
Zvolen, CZ	48-35-45N 018-59-30E	1 Single	Olomouc, CZ Olomouc, CZ
Budapest, HU	47-29-00N 019-22-45E	2	Polgar, HU Undetermined
Budapest Matyasfold, HU	47-29-20N 019-13-00E	1	Kunmandaras, HU
Kunmandaras, HU	47-23-28N 020-47-07E	1	Budapest Matyasfold, HU
Polgar, HU	47-50-30N 021-09-20E	2	Mukachevo, UR Budapest, HU

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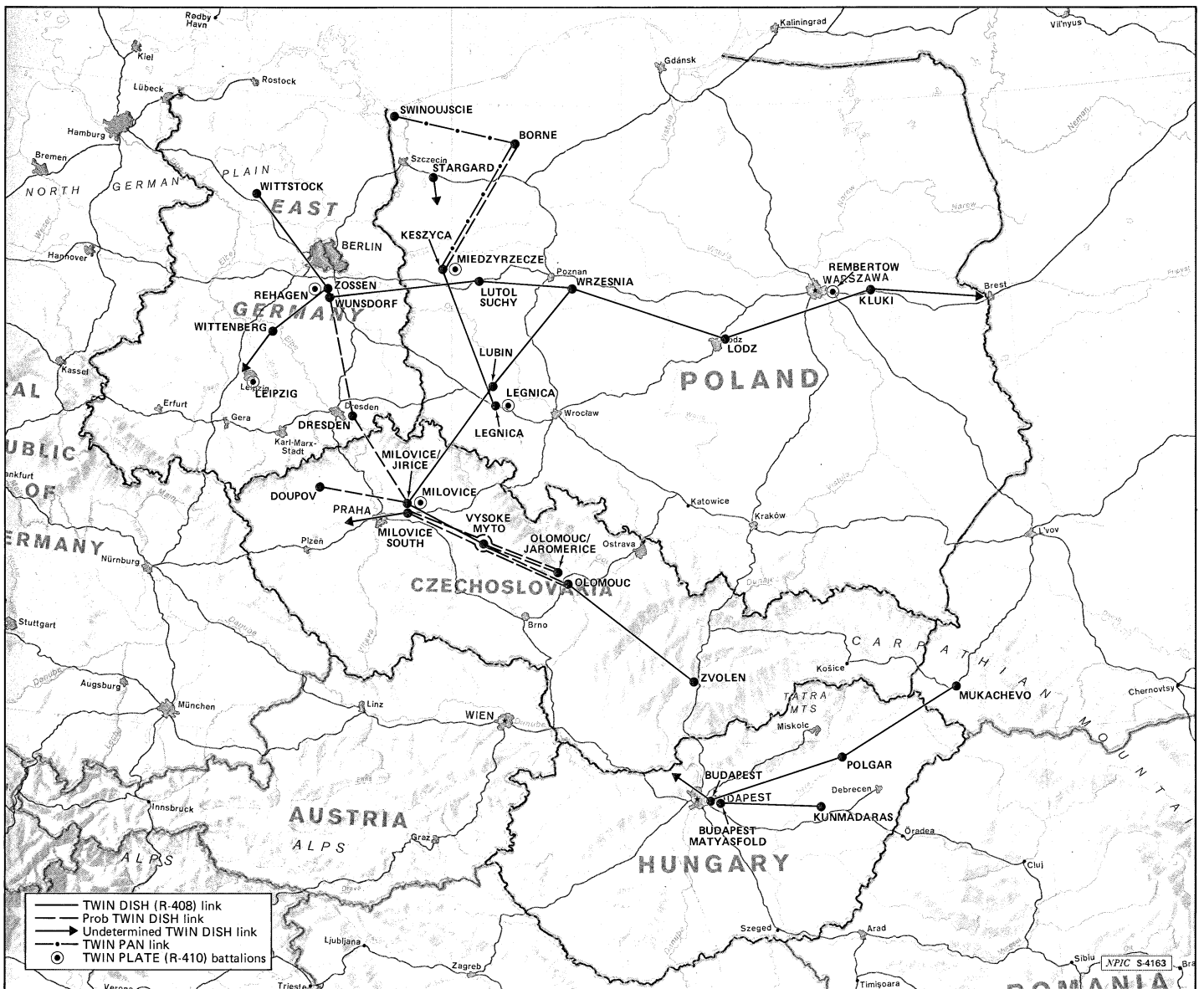


FIGURE 1. LOCATION OF TROSCATTER NETWORK IN EASTERN EUROPE

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List of Conversion Factors by Classification

UNITS OF LENGTH

<i>IF YOU HAVE</i>	<i>MULTIPLY BY</i>	<i>TO OBTAIN</i>
MILLIMETERS	0.0394	INCHES
CENTIMETERS	0.3937	INCHES
INCHES	25.4000	MILLIMETERS
INCHES	2.5400	CENTIMETERS
FEET	0.3048	METERS
FEET	0.0003	KILOMETERS
YARDS	0.9144	METERS
METERS	3.2808	FEET
METERS	0.0005	MILES(NAUTICAL)
METERS	1.0936	YARDS
KILOMETERS	3280.8400	FEET
KILOMETERS	0.6214	MILES(STATUTE)
KILOMETERS	0.5400	MILES(NAUTICAL)
MILES(STATUTE)	1.6093	KILOMETERS
MILES(NAUTICAL)	6076.1154	FEET
MILES(NAUTICAL)	1.8520	KILOMETERS
MILES(NAUTICAL)	1852.0000	METERS

UNITS OF AREA

<i>IF YOU HAVE</i>	<i>MULTIPLY BY</i>	<i>TO OBTAIN</i>
SQUARE CENTIMETERS	0.1550	SQUARE INCHES
SQUARE INCHES	6.4516	SQUARE CENTIMETERS
SQUARE FEET	0.0929	SQUARE METERS
SQUARE YARDS	0.8361	SQUARE METERS
SQUARE METERS	10.7639	SQUARE FEET
SQUARE METERS	1.1960	SQUARE YARDS
SQUARE METERS	1.0000	CENTARES
SQUARE METERS	0.0002	ACRES
SQUARE METERS	0.0001	HECTARES
ACRES	4046.8564	SQUARE METERS
ACRES	0.4047	HECTARES
HECTARES	10000.0000	SQUARE METERS
HECTARES	2.4711	ACRES

UNITS OF MASS

<i>IF YOU HAVE</i>	<i>MULTIPLY BY</i>	<i>TO OBTAIN</i>
KILOGRAMS	2.2046	POUNDS(AVOIR.)
POUNDS(AVOIR.)	0.4536	KILOGRAMS
SHORT TONS	0.9072	METRIC TONS
METRIC TONS	1.1023	SHORT TONS
METRIC TONS	0.9842	LONG TONS
LONG TONS	1.0160	METRIC TONS

UNITS OF VOLUME

<i>IF YOU HAVE</i>	<i>MULTIPLY BY</i>	<i>TO OBTAIN</i>
LITERS	0.2642	GALLONS
LITERS	0.0063	BARRELS(POL)
LITERS	0.0010	CUBIC METERS
GALLONS	3.7854	LITERS
GALLONS	0.1337	CUBIC FEET
GALLONS	0.0238	BARRELS(POL)
GALLONS	0.0038	CUBIC METERS
BUSHELS	0.0352	CUBIC METERS
CUBIC FEET	7.4805	GALLONS
CUBIC FEET	0.1781	BARRELS(POL)
CUBIC FEET	0.0283	CUBIC METERS
CUBIC YARDS	0.7646	CUBIC METERS
BARRELS(POL)	158.9873	LITERS
BARRELS(POL)	42.0000	GALLONS
BARRELS(POL)	5.6146	CUBIC FEET
BARRELS(POL)	0.1590	CUBIC METERS
CUBIC METERS	1000.0000	LITERS
CUBIC METERS	264.1721	GALLONS
CUBIC METERS	35.3147	CUBIC FEET
CUBIC METERS	28.3776	BUSHELS
CUBIC METERS	6.2898	BARRELS(POL)
CUBIC METERS	1.3080	CUBIC YARDS

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