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November 1964

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CENTRAL INTELLIGENCE AGENCY
PHOTOGRAPHIC INTELLIGENCE REPORT

FIXED COMMUNICATIONS STATIONS, NORTH VIETNAM

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NATIONAL PHOTOGRAPHIC INTERPRETATION CENTER

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INTRODUCTION

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A search of photography of North Vietnam covering the period from [REDACTED] to [REDACTED] has revealed the presence of one large point-to-point transmitting station, one large international receiving station, one large

international broadcasting station, and 3 small point-to-point communications stations (Figure 1). This report locates and describes these stations, and furnishes pertinent mensural and technical data for each.

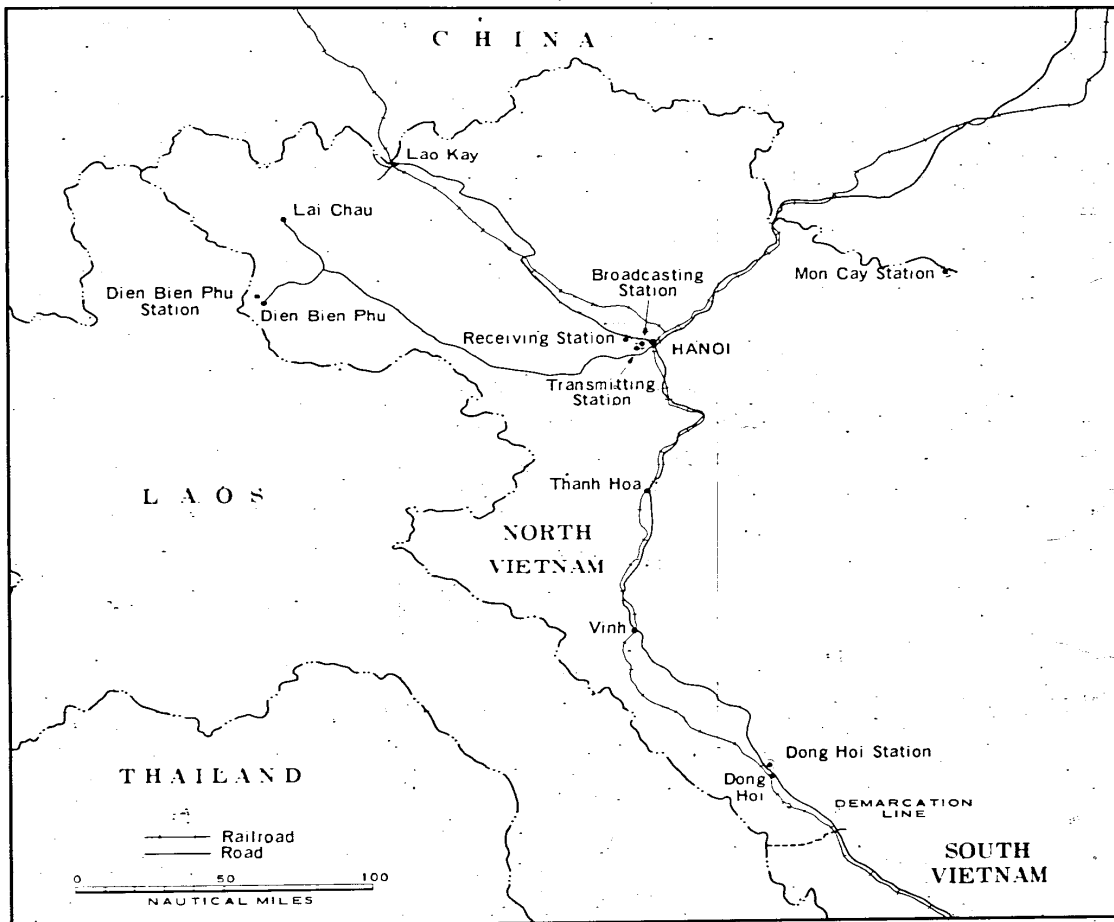


FIGURE 1. LOCATION MAP.

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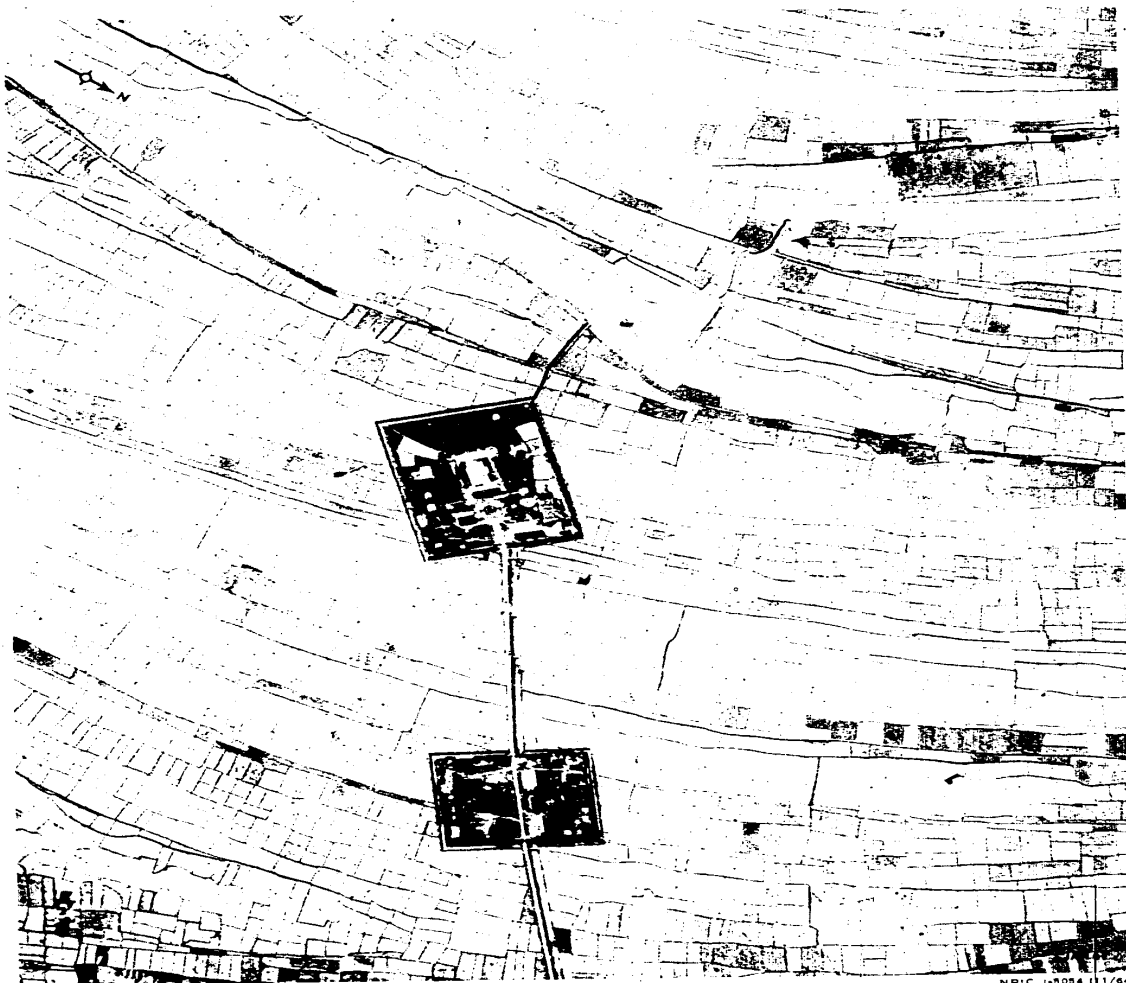


FIGURE 2. HANOI POINT-TO-POINT TRANSMITTING STATION.

NPIC J-0084 (11/64)

**HANOI POINT-TO-POINT
TRANSMITTING STATION**

A large point-to-point high-frequency (HF) transmitting station (Figures 2 and 3) is situated approximately 5.7 nautical miles (nm) south-

west of the Hanoi Marshaling Yards at 20-59N 105-46E. Two separate walled areas at the station are a control area and a support area. The control area contains a transmitter building, 2 cooling ponds, and 7 other buildings.

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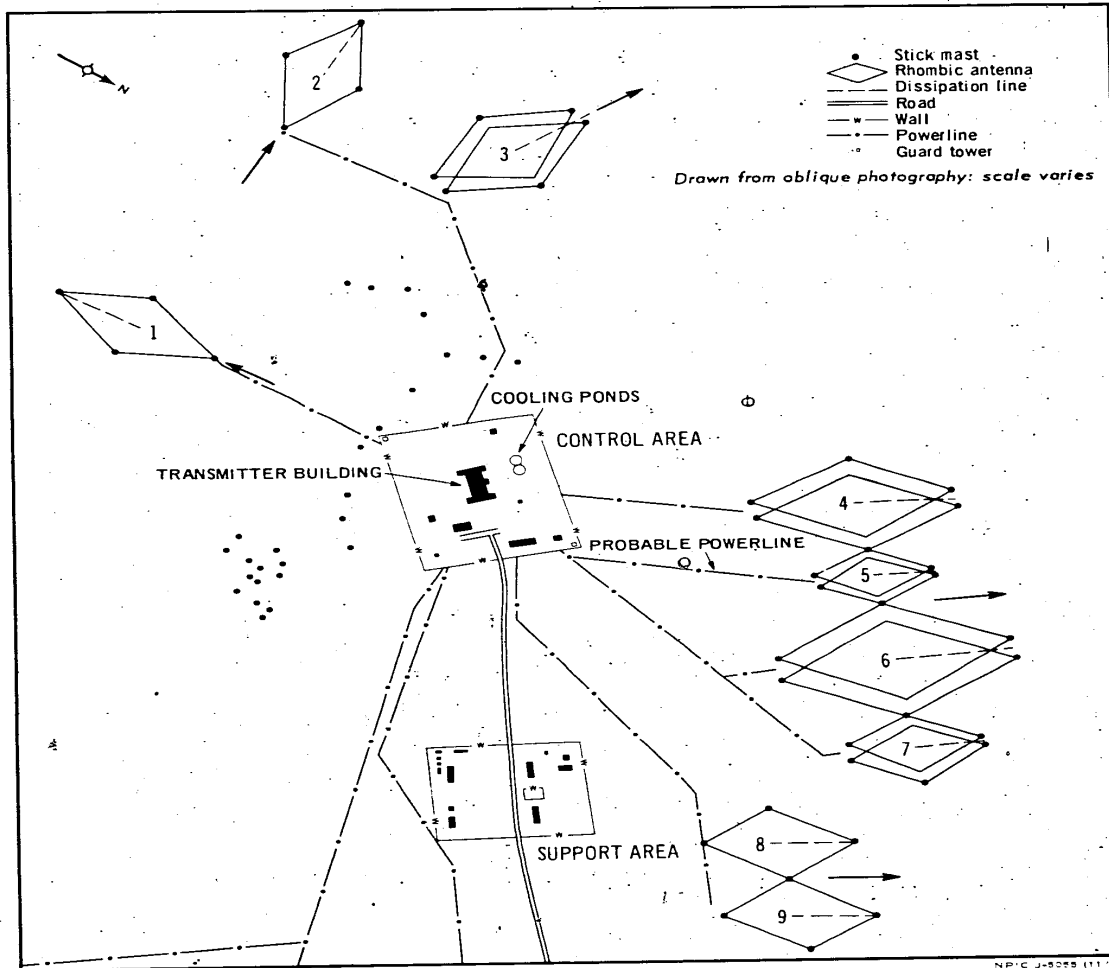


FIGURE 3. LAYOUT OF HANOI TRANSMITTING STATION.

NPIC J-9059 (11/64)

The support area contains approximately 13 administration and housing-type buildings. Surrounding these areas are 2 large and 2 small double rhombic antennas arranged as pairs for day-night operations, one double rhombic

antenna, 2 medium-sized single rhombic antennas arranged as a pair, 2 medium-sized single rhombic antennas, and approximately 27 scattered stick masts. Pertinent mensural and technical data are given in Table 1.

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FIGURE 4. HANOI-QUE DUONG INTERNATIONAL RECEIVING STATION.

HANOI-QUE DUONG INTERNATIONAL
RECEIVING STATION

A large point-to-point receiving station (Figures 4 and 5) is situated approximately 8.6 nm west-northwest of the Hanoi Marshaling

Yards at 21-03N 105-41E. The absence of cooling ponds and the presence of the large Hanoi point-to-point transmitting station indicate that this is most probably a receiving station. It has a walled area that contains a control building and approximately 17 other

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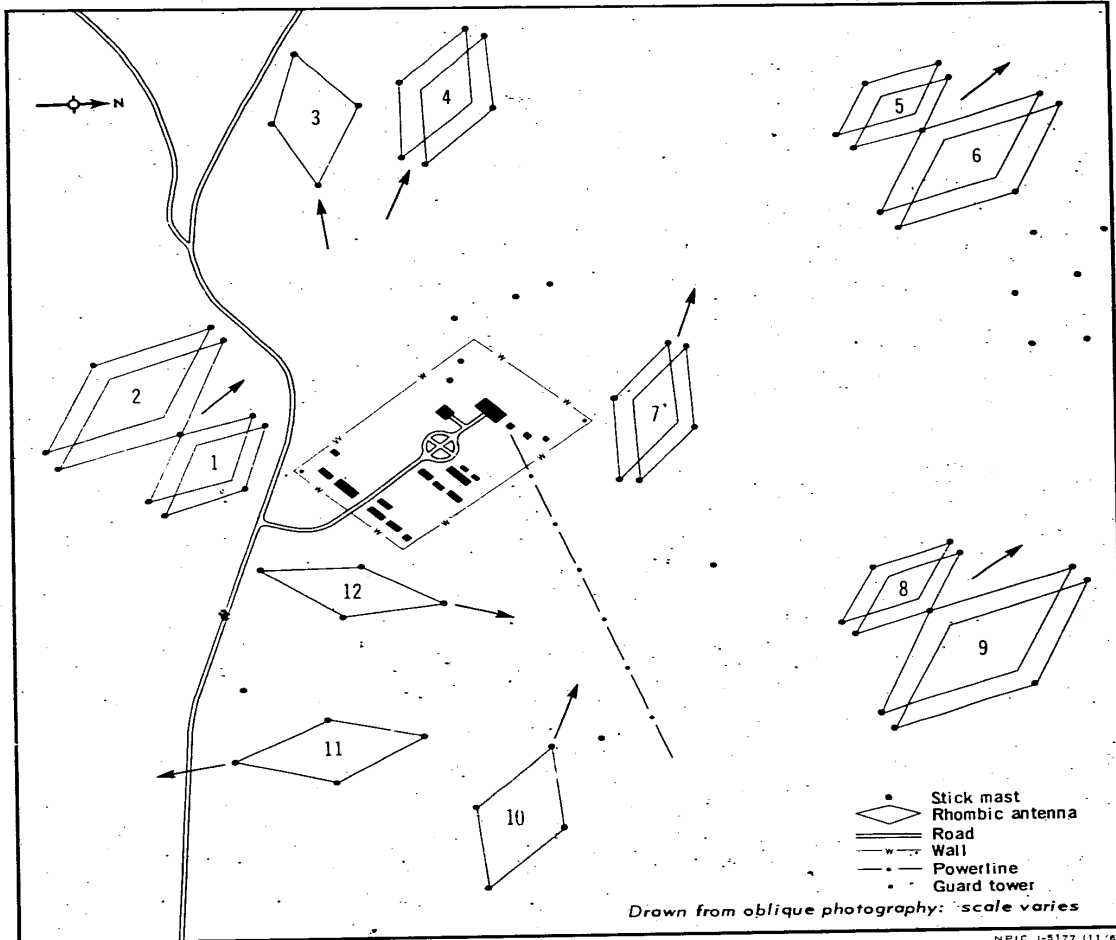


FIGURE 5. LAYOUT OF HANOI-QUE DUONG RECEIVING STATION.

housing and related buildings. Antennas are arranged in a roughly circular pattern surrounding the walled area, and include 3 large and 3 small double rhombics arranged in pairs for day-night operations, 2 other double rhombics,

and 4 single rhombics. The antennas are dispersed for diversity reception. In addition, there are at least 14 stick masts scattered throughout the area. Pertinent mensural and technical data are given in Table 2.

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FIGURE 6. HANOI-ME TRI INTERNATIONAL BROADCASTING STATION.

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**HANOI-ME TRI INTERNATIONAL
BROADCASTING STATION**

A large HF radio station (Figures 6 and 7), used for international broadcasting, is situated approximately 4.3 nm southwest

of the Hanoi Marshaling Yards at 21-00N 105-47E. The station contains two large self-supporting lattice towers, each with a 55-foot crossboom on top, supporting the director-reflector curtains of a horizontal cur-

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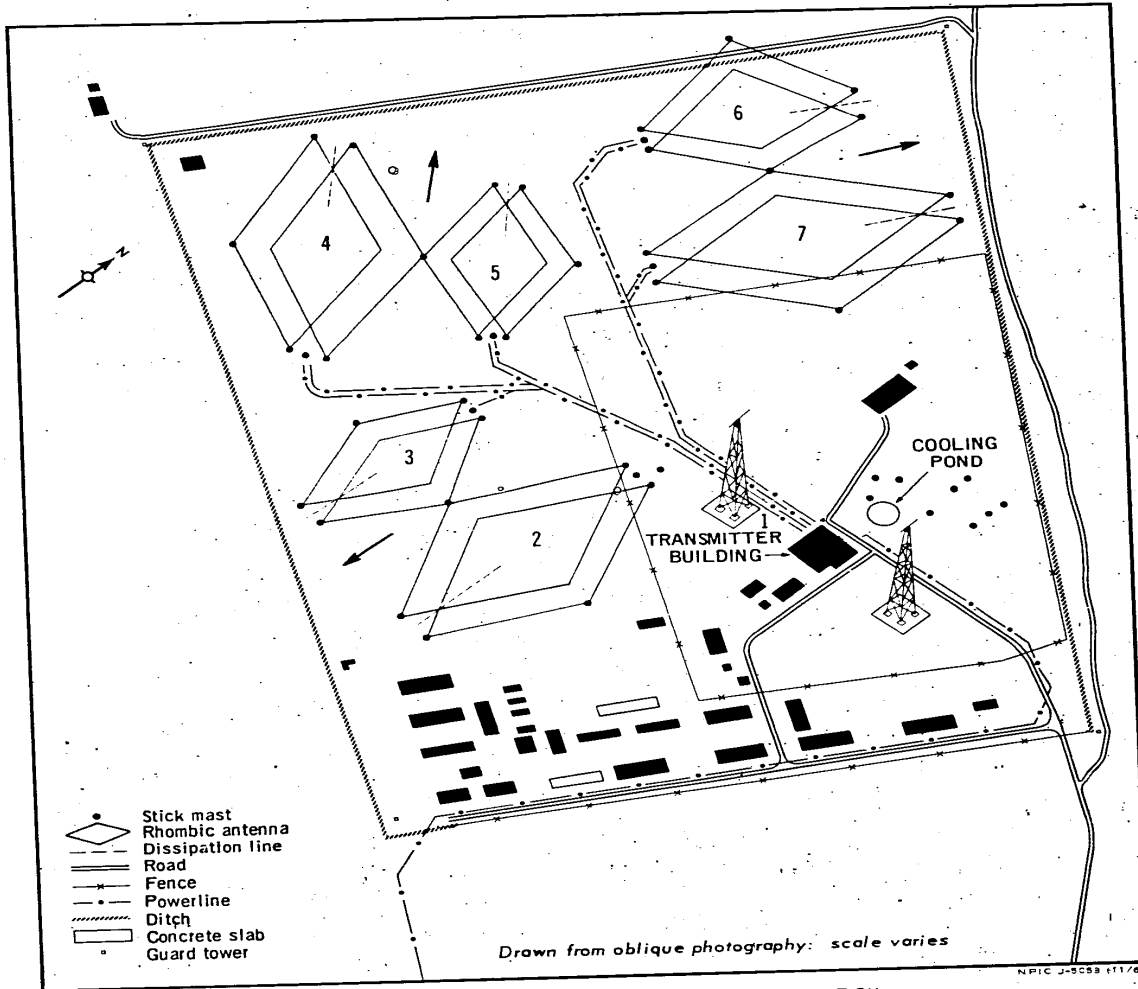


FIGURE 7. LAYOUT OF HANOI-ME TRI BROADCASTING STATION.

tain array. The station also contains 3 large and 3 small double rhombic antennas arranged as pairs for day-night operations. Pertinent mensural and technical data are given in Table 3. In addition, approximately 10 stick masts are

scattered throughout the antenna area. Support facilities located within a large fenced area include a transmitter building, a cooling pond, and 8 other buildings; over 20 other buildings are in an adjacent, partially fenced area.

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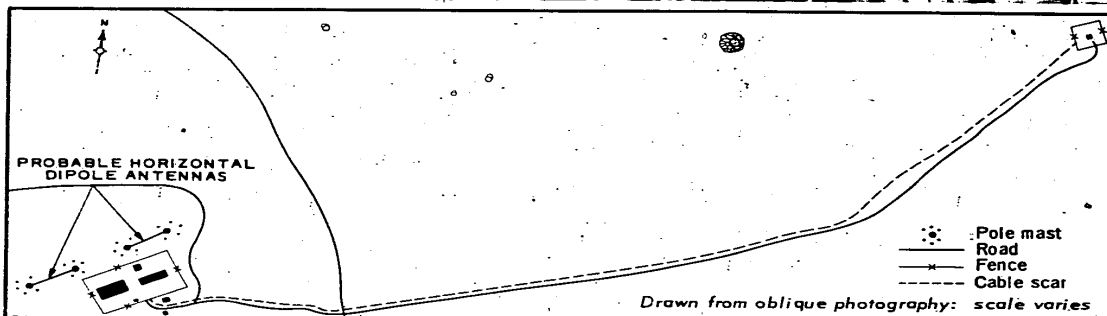


FIGURE 8. DONG HOI POINT-TO-POINT COMMUNICATIONS STATION.

NPIC J-5178 (11/64)

DONG HOI POINT-TO-POINT COMMUNICATIONS STATION

A small HF point-to-point communications station (Figure 8) is situated approximately 4 nm north-northeast of Dong Hoi at 17-32N 106-35E. The station consists of a fenced area, 6 control/support buildings, and, immediately north-northwest, 4 pole masts that probably support two horizontal dipole antennas. Each probable antenna has a 145-foot mast separation and is oriented on an azimuth of [REDACTED]. A fenced area of unidentified activity is approximately 3,500 feet to the east-northeast and is connected to the station by road and by cable scar.

DIEN BIEN PHU POINT-TO-POINT COMMUNICATIONS STATION

A small point-to-point communications station (not illustrated) is situated approximately

3.3 nm south-southwest of Dien Bien Phu Airfield at 21-22N 103-00E. This station has the same general layout and size and almost identical components as the Dong Hoi station, and for this reason is not covered in greater detail. The two probable antennas are oriented on an azimuth of [REDACTED]

MON CAY POINT-TO-POINT COMMUNICATIONS STATION

A small point-to-point communications station (not illustrated) is situated approximately one nm southeast of the center of Mon Cay at 21-32N 107-59E. The general layout, size, and components are essentially the same as at the Dong Hoi station. The two probable antennas are oriented on an azimuth of [REDACTED]

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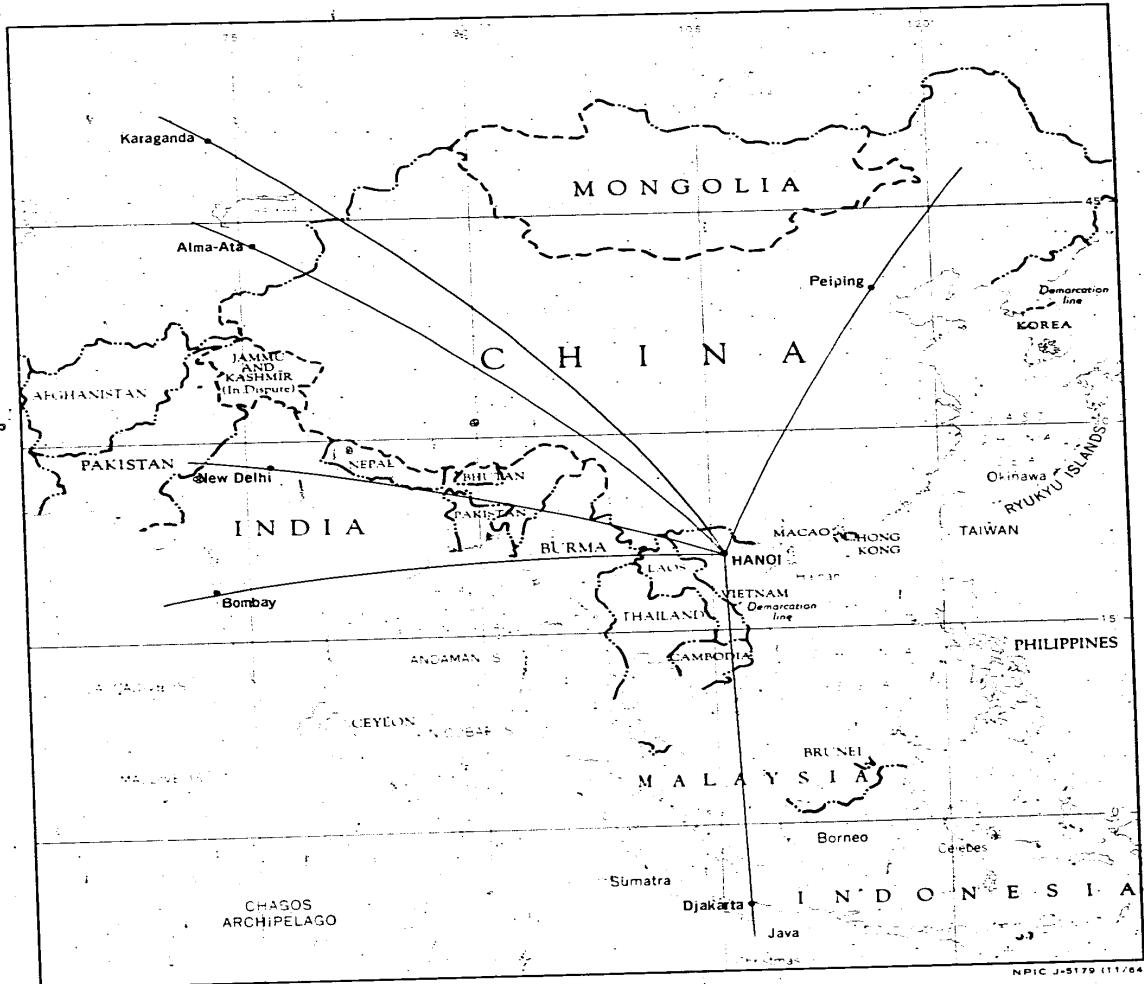


FIGURE 9. GENERAL ORIENTATION OF ANTENNAS.

GENERAL ORIENTATION

The azimuths of the antennas at the three Hanoi area stations, as listed in the pertinent tables, have been plotted on their great-circle

projection in order to illustrate their general orientation (Figure 9); because of the numerous technical limitations involved, these projections should be considered only as approximations.

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Table 1. Hanoi Point-To-Point Transmitting Station*

Antenna		Length (ft)			Mast Height (ft)		Tilt Angle** (° ')	Azimuth (°)	General Orientation
No	Type	Major Axis	Minor Axis	One Side**	Major Axis	Minor Axis			
1	Single rhombic	605	290		85	85		Djakarta, Indonesia	
2	Single rhombic	600	290		70	75		Bombay, India	
3	Double rhombic	610	295		85	100		New Delhi, India	
4	Double rhombic	730	345		100	115		Alma-Ata, USSR	
5	Double rhombic	435	210		65	120		Alma-Ata, USSR	
6	Double rhombic	850	405		110	135		Alma-Ata, USSR	
7	Double rhombic	490	235		80	110		Alma-Ata, USSR	
8	Single rhombic	540	340		80	90		Karaganda, USSR	
9	Single rhombic	540	340		70	85		Karaganda, USSR	

*All measurements are very approximate because of extreme difficulty in locating exact position of masts and obliquity of photography

**Computed measurement

Table 2. Hanoi-Que Duong International Receiving Station*

Antenna		Length (ft)			Mast Height (ft)		Tilt Angle** (° ')	Azimuth (°)	General Orientation
No	Type	Major Axis	Minor Axis	One Side**	Major Axis	Minor Axis			
1	Double rhombic	435	210		55	70		Alma-Ata, USSR	
2	Double rhombic				85	115		Alma-Ata, USSR	
3	Single rhombic	600	295		90	85		Bombay, India	
4	Double rhombic	615	305		85	80		New Delhi, India	
5	Double rhombic	425	200		***	***		Alma-Ata, USSR	
6	Double rhombic	730	360		80	70		Alma-Ata, USSR	
7	Double rhombic	610	285		75	***		New Delhi, India	
8	Double rhombic	490	235		70	***		Alma-Ata, USSR	
9	Double rhombic	850	400		90	130		Alma-Ata, USSR	
10	Single rhombic	600	290		85	***		New Delhi, India	
11	Single rhombic	610	295		75	85		Djakarta, Indonesia	
12	Single rhombic	600	290		80	85		Peiping, China	

*All measurements are very approximate because of extreme difficulty in locating exact position of masts and obliquity of photography

**Computed measurement

***Measurement precluded by photographic limitations

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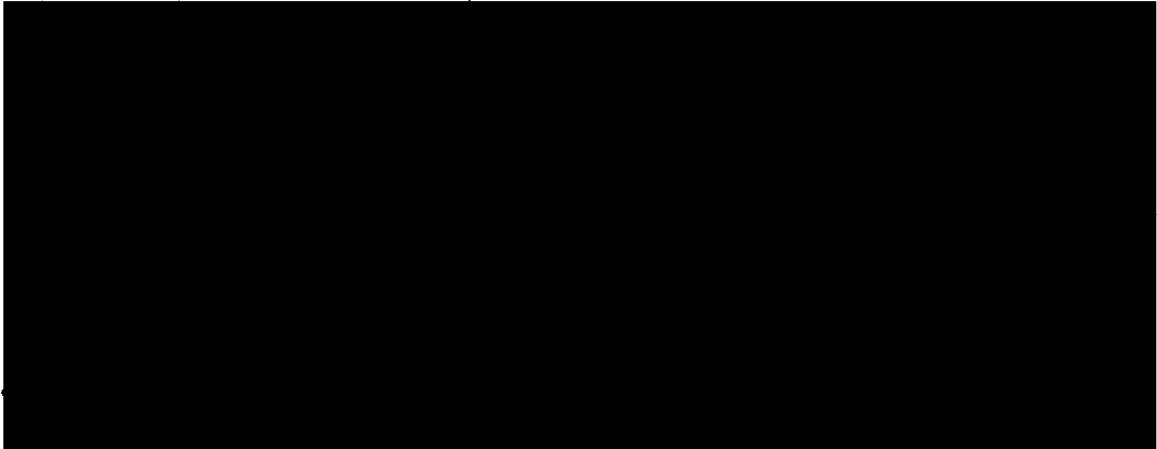
Table 3. Hanoi-Me Tri International Broadcasting Station*

No	Antenna Type	Length (ft)			Tilt Angle** (° ')	Azimuth (°)	General Orientation
		Major Axis	Minor Axis	One Side**			
1	Curtain array			Tower			
2	Double rhombic	480	240				
3	Double rhombic	330	175				
4	Double rhombic	415	240				
5	Double rhombic	300	190				Alma-Ata Area, USSR
6	Double rhombic	360	210				Alma-Ata Area, USSR
7	Double rhombic	520	250				Peiping, China Peiping, China

*All measurements are very approximate because of extreme difficulty in locating exact position of masts and obliquity of photography
**Computed measurement

REFERENCES

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MAPS OR CHARTS

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- Mon Cay
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